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Cluster 1 — Ageing and Vulnerability
Chronic conditions, frailty, incontinence, palliative and dignity-driven care

1. Nasogastric Tube Related Pressure Injury in ICU and Internal Ward - Is There a Difference?

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Background: Incidence of Medical Device-Related Pressure Injuries (MDR-PI) related to Nasogastric Tubes (NGT) is under-investigated. This is particularly significant in Intensive Care Units (ICUs) and internal wards because those patients are highly susceptible to MDR-PI development.

Aim(s): to conduct ongoing monitoring of patients with NGT in ICU and internal ward to ascertain the incidence of NGT MDR-PI in both settings.

Methods: Prospective cohort study. Inclusion criteria: adult ICU/internal ward patients with NGT inserted during ICU/internal ward stay or shortly before the admission. Exclusions: patients with facial injuries/wounds/ulcers. Research team conducted daily monitoring for the NGT-MDR-PI. Upon PI detection, its location &stage documented.

Results: Data were collected over two years beginning in July 2022 from a 900-bed general medical center ICU and IW departments, including 88 ICU patients and 48 IW patients. The incidence rate of NGT-MDR-PI was significantly lower in the ICU (0.47 per 100 patients day; 4/88) compared to the IW (3.02 per 100 patients day; 13/48) ($p<0.001$). No significant associations were found between NGT-MDR-PI and age, gender, or admission albumin levels. The Charlson Comorbidity Index was higher in IW patients (7.7 ± 2.39) than in ICU patients (3 ± 2.41) ($p = 0.02$). NGT fixation methods differed significantly between departments ($p<0.001$).

Conclusions: to the best of our knowledge, this is the first prospective long-term study dedicated solely to the incidence of NGT-MDR-PI in both the ICU and internal ward. The incidence of NGT-MDR-PI is lower in the ICU compared to the internal ward. This may be due to several factors: more intensive nursing care in the ICU, and a higher Charlson comorbidity score in the internal ward, which indicates that more chronically ill patients are hospitalized there rather than in the general ICU. Another possible explanation is the different types of fixations used: simple plaster in the ICU and special plaster for NGT fixation in the internal ward. Further research is needed to clarify these findings.

Keywords: medical device related (MDR) pressure injury; nasogastric tube (NGT) related pressure injury; critical care pressure injury incidence, internal ward pressure injury incidence

2. Validity and Reliability of the Italian Version of Pain Assessment in Advanced Dementia Scale (PAINAD) for Postoperative Pain Assessment in Geriatric Patients with Proximal Femur Fractures

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Background: Accurate pain assessment is a fundamental component of nursing practice. While the Numerical Rating Scale (NRS) is commonly employed, it may not adequately reflect the multidimensional complexity of pain. The Pain Assessment in Advanced Dementia (PAINAD) scale has demonstrated reliability in evaluating pain among individuals with cognitive impairment.

Aim(s): This study seeks to examine the validity of the Italian adaptation of the PAINAD scale (PAINAD-IT) for assessing postoperative pain in geriatric patients undergoing surgery for femoral fractures.

Methods: This study utilised the PAINAD-IT scale, previously translated and validated for use in Italy by Costardi et al. (2007). Experts assessed face and content validity (I-CVI and S-CVI) for its application in patients without cognitive impairment. Pain evaluations were performed both at rest (T0) and during movement (T1). Convergent validity was examined through Spearman's correlation, discriminant validity through the Wilcoxon test, and inter-rater reliability using Cohen's kappa coefficient. Sensitivity and specificity were also determined.

Results: The I-CVI values were all ≥ 0.90, and the S-CVI reached 0.96. A total of 75 patients were enrolled in the study. Inter-rater reliability was high, with Cohen's kappa values of 0.918 at T0 and 0.881 at T1. Both the PAINAD and NRS scales identified a significant increase in pain from rest to movement (Wilcoxon $p < 0.001$). For PAINAD-IT scores ≥ 3, sensitivity was 26%, while specificity reached 99%.

Conclusions: The PAINAD scale demonstrated strong reliability and a solid correlation with the NRS, effectively differentiating between rest and movement-related pain. These findings indicate that the PAINAD-IT may serve as a valuable instrument for assessing postoperative pain in geriatric patients undergoing surgery for femoral fractures. PAINAD-IT scores ≥ 3 may be indicative of severe pain. Further multicentre studies with larger samples are required to confirm the scale's validity in this clinical population.

Keywords: Pain assessment; PAINAD; postoperative pain; Proximal femur fracture; Geriatrics

3. Construction and Initial Validation of a New Tool for the Hetero-Assessment of Sleep Quality in Geriatric Population: The Biazzi Scale

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Background: Adequate sleep is fundamental to overall health, playing a key role in cognitive processes as well as immune and metabolic regulation. Impaired sleep quality is associated with a higher likelihood of cardiovascular conditions and increased mortality, with these risks being especially pronounced in the geriatric population.

Aim(s): This study aims to develop and validate the Biazzi scale, a tool designed to assess sleep quality in geriatric hospitalised patients.

Methods: The study was carried out in two phases. In the first phase, a literature review was conducted to identify and define the scale items. Content validity was evaluated by experts using the Item-Content Validity Index (I-CVI) and the Scale-Content Validity Index (S-CVI). In the second phase, the scale was administered to a sample of 150 patients from four hospital wards, General Surgery, Internal Medicine, Oncology, and Orthopaedics, within the Piacenza Local Hospital. Inter-rater reliability was assessed using Cohen's kappa, and classification accuracy was examined through ROC curve analysis, using the Pittsburgh Sleep Quality Index (PSQI) as the reference standard.

Results: Expert assessment indicated strong content validity (I-CVI ≥ 0.8; S-CVI = 0.9). Inter-rater reliability was substantial ($\kappa = 0.77$), and ROC analysis confirmed the scale's ability to discriminate sleep quality when compared with the PSQI. Using a cut-off score of 6, variations in sleep quality emerged across hospital wards, with the highest scores observed in General Surgery. Gender differences were consistent with PSQI outcomes: women exhibited poorer sleep quality, whereas men tended to report better sleep.

Conclusions: The Biazzi scale demonstrated robust reliability and validity, indicating its effectiveness in distinguishing patients at risk for sleep disturbances from those reporting satisfactory sleep quality.

Keywords: Sleep quality; Scale; Hetero evaluation; Validation; Tool

4. Shortening Wait Times for Early Brain Imaging in Suspected Stroke Cases

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Background: Early brain imaging (EBI) of suspected stroke patients is crucial to identify ischemic vs. hemorrhagic stroke in order to provide adequate quality care. The Israeli National Program for Quality Indicators (INPQ) developed a national quality indicator (QI) which requires EBI to rapidly identify of patients who are eligible for thrombolytic treatment.

Aim(s): To present the annual NPQI EBI QI values and the resulting improvement

Methods: Development of new indicators dedicated to improving the time from admission to EBI. This data were published in the NPQI Annual Report (2013 through 2024). One of the factors that promoted EBI was authorizing nurses to refer suspected stroke patients for brain imaging: Emergency Department specialized nurses [EDSN] (2019), stroke specialized nurses [SSN] (2019) and neurology advance practitioner nurse [NAP] (2023).

Results: We found a consistent decline in the EBI median waiting time since the introduction of the QI. The median time dropped from 55 minutes in 2015 to 24 minutes in 2024. This improvement was not equal for both genders (1-3 minutes longer for women), different age groups (up to 5 minutes' difference between age groups, age&gender (women <54 y.o. up to 10 minutes longer) and hospital shifts (up to 6 minutes between shifts).

Conclusions: While there is evidence of consistent improvement in EBI times - resulting from expanding the authority of EDSN, SSN, NAP to refer patients for EBI; continuous QI measurement, and other local interventions - discrepancies that found are focused and addressed. The NPQI will continue to follow the various aspects of compliance with this indicator, in order to promote additional improvement in stroke treatment.

Keywords: Early Brain Imaging; Stroke; Emergency room; Emergency Department specialized nurses; stroke specialized nurses; neurology advance practitioner nurse

5. Sepsis: New Area for Nursing Quality Measurement

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Background: Sepsis is a life-threatening syndrome characterized by impaired organ function. Both sepsis and septic shock place a substantial burden on healthcare systems and affect millions of people worldwide. Over 7 million individuals in US develop sepsis each year, mostly outside hospitals. Enhanced awareness, prompt recognition, and initiation of antibiotic therapy, within the first hours of symptom onset, are key to improving outcomes and reducing mortality. Nurses play a central role in enhancing the quality of care provided to patients with sepsis.

Aim(s): Quality indicators (QIs) development to improve sepsis care in Israel.

Methods: The Israel National Program for Quality Indicators (NPQI) collaborated with experts from the Israeli Infectious Diseases Association, the Israeli Society for Critical Care Medicine, Israeli Society for Emergency Medicine, and EMS organizations. Dedicated working groups were established for each service sector to design appropriate quality indicators.

Results: Three QI were developed: one for general hospitals and two for the EMS. The first indicator focuses on the median time from emergency department arrival for sepsis, septic shock, or severe sepsis until intravenous antibiotics administration. The EMS quality indicators are: performing a QSOFA evaluation (respiratory rate, level of consciousness, and systolic blood pressure) in patients with suspected sepsis and notifying hospitals prior to patient arrival. These indicators have been approved for INPQ measurement, which was initiated in 2023-2024 on the national level. The publication of the results is scheduled for 2026.

Conclusions: Collaboration between NPQI professionals and clinical experts in the field of sepsis supported the development of quality indicators designed to improve sepsis care

Keywords: sepsis; septic shock, nursing care, quality measurement

6. Needs for an Anticipatory Palliative Care Approach: A Consensus Study on Methods and Team Training

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Background: Early identification of palliative care needs remains inconsistent across Italian healthcare settings, despite validated tools such as NECPAL, SPICT, RADPAC/RADPALL, and GSF-PIG. Literature reports heterogeneous adoption, with regional variability and training gaps, particularly in community settings. Digitalization, including telemedicine and AI, offers opportunities for standardization and continuity.

Aim(s): Evaluate routine use of screening tools (NECPAL, GSF-PIG, RADPAC, SPICT) in daily practice. Explore implementation modalities, team training levels, and organizational impacts. Assess dissemination, competencies, and integration with digital technologies for anticipatory care.

Methods: Two-round Delphi process with 16 multidisciplinary Italian experts (mean age 55.3 years, 75% managerial roles, national representation across territories/hospices). Recruitment via health directorates and LinkedIn. Questionnaires on identification practices, tools, training, leadership, and technology attitudes; consensus ≥75% on divergent items.

Results: Heterogeneous tool adoption: NECPAL/SPICT most used, but only 33% systematic; reassessments inconsistent (47% often, 47% occasional). Surprise Question seen as generic (40%); 75% report insufficient team training. Preference for bottom-up leadership (86%); positive view of telemedicine/AI, limited by barriers.

Conclusions: Anticipatory palliative care requires standardized tools, systematic training, and participatory leadership to reduce variability. Promote digital integration for continuity; future prospective studies needed for clinical outcomes and equity.

Keywords: Anticipatory palliative care; Early identification Palliative care needs; Stratification of needs Patient complexity

7. Vitamin D Level in Elderly with Hip Fracture - Nationwide Data

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Background: Hip fractures impose challenges on patients, while also placing a heavy burden on healthcare systems while associated with considerable mortality. Preoperative vitamin D deficiency has been reported to be associated with several postoperative complications, e.g: postoperative delirium, surgical site infection, poor functional recovery and increased risk of pneumonia. Despite the clinical importance of this issue, no national-level data exists regarding vitamin D levels in the specific high-risk subgroup of elderly patients with hip fracture.

Aim(s): To perform a comprehensive nationwide survey of the vitamin D levels in >65 years old patients with hip fracture.

Methods: Data collection was based on the activities of the Israeli National Program for Quality Indicators (NPQI), using a quality measure requiring assessment of vitamin D levels in patients, of age 65 and higher, admitted to a general hospital with hip fracture. The data reported for 2024 was used for current research Results: over 6000 patients reported the results of the test (78% of all population) of them 34% were males. Distribution of the levels of Vitamin D: Deficiency (VDD, 25-49.99 nmol\L) or severe deficiency (VDSD, 0.01-24.99 nmol\L) were found in 47%, insufficiency (50-74.99 nmol\L) in 33%, sufficient levels (75-125 nmol\L) in 18% and high levels (>125 nmol\L) in 2% of the patients. Deficiency was found more in men (VDSD 17.7% vs 13.5%, VDD 36.4% vs 30.4%).

Discussion: From the data, a mosaic picture emerges in which nearly half of the patients who underwent testing had deficiency or severe deficiency, and over two thirds had some degree of vitamin D deficiency, with deficiency being more prevalent among men. Concurrently, about 18% of patients had normal vitamin D levels, and 2% had elevated vitamin D levels. Therefore, performing the test is essential to identify states of vitamin D deficiency in order to initiate treatment as early as possible. However, treatment cannot be initiated without testing, as approximately 20% of patients are not vitamin D deficient. This underscores the importance of testing in order to establish continuity of care, encourage initiation of osteoporosis treatment, and reduce the incidence of secondary fractures. A national quality indicators program will continue to monitor test performance and results in order to improve the quality of care in this population

Keywords: Hip fracture; Vitamin D level; Elderly; Nationwide data

8. Inhabiting the Limit: A Conceptual Nursing Theory for Ageing and Vulnerability

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Background: European health systems are increasingly challenged by ageing populations, chronic conditions, and growing vulnerability. In these contexts, nursing care frequently takes place in situations where recovery or cure is not achievable. However, prevailing care models remain largely outcome-oriented, offering limited conceptual frameworks for understanding nursing practices centred on irreversibility, dependence, and long-term continuity of care.

Aim(s): The aim of this abstract is to present a conceptual nursing theory that reframes the notion of "limit" as a structural condition of caring for older and vulnerable persons, and to describe the specific contribution of specialist nursing practice within this framework.

Methods: This contribution is based on a conceptual and theoretical analysis grounded in long-term specialist clinical practice. The theory was developed through systematic reflection on care situations characterised by chronicity, technological dependence, and progressive loss of autonomy, with particular reference to specialist dialysis nursing as an exemplary field of practice.

Results: The proposed theory defines the "limit" not as clinical uncertainty or failure of care, but as an existential and temporal dimension inherent to ageing and vulnerability. Within this framework, nurses do not overcome the limit experienced by the person cared for, but inhabit and manage it over time, ensuring continuity, containment, safety, and dignity when curative outcomes are no longer available. Specialist dialysis nursing provides a paradigmatic example of limit-centred care, illustrating how ageing and vulnerability are managed over time through continuity, containment, and dignity rather than curative outcomes. This practice highlights a specific nursing competence that is neither delegable nor replaceable by other healthcare roles.

Conclusions: Recognising the management of the limit as a core nursing competence contributes to dignity-driven, person-centred care models for ageing and vulnerability. This conceptual framework supports the visibility and recognition of specialist nursing practice as a central component of sustainable healthcare systems facing demographic and chronicity-related challenges.

Keywords: Nursing theory; Limit-centred care; Ageing and vulnerability; Continuity of care; Specialist nursing; dialysis nursing

9. Art, Creativity and the Nurse-Patient Relationship in Oncology Nursing

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Background: A cancer diagnosis and its related treatment inevitably cause considerable stress, anxiety, and other emotional challenges. Incorporating art into nursing practice can be a valuable way for nurses to better recognize and process their own emotions. In addition, nursing care supports both nurses and patients in gaining a deeper understanding of illness and improves satisfaction with the care experience. Oncology nursing provides high-quality cancer care throughout the entire continuum of care. The Oncology Nursing Society has emphasized advancements in the oncology nursing workforce, professional attitudes, and clinical experience, along with innovative approaches to care delivery in oncology practice.

Aim(s): This systematic qualitative literature review examined the relationship between art, creativity, and the nurse-patient relations in oncology nursing. Additionally, it explored nurses' perceptions and reflections identified thanks to Generative Artificial Intelligence (GAI).

Methods: The protocol literature review was registered in the Open Science Framework (OSF) Platform. Databases consulted were: CINAHL, the British Nursing Database, and the Nursing & Allied Health Database. Keywords used were: art, cancer, creativity, nursing, and relationships.

Results: Our findings indicated deep suggestions in the oncology and palliative nursing role. Nurses recognized the spiritual dimension reached thanks to religious and spiritual practices, while underlining authentic presence and empathic communication. Nurses appropriately addressed patient requirements, involved to challenges, and engaged in continuous professional development. However, our findings underestimated empathic, creative and artistic dimensions in nurse-patient relations.

Conclusions: This qualitative investigation suggested the importance of spiritual sensitivity, empathic communication, and ongoing professional growth enhancing patient experiences and oncology nursing practice.

Keywords: Art; Cancer; Creativity; Nursing; Relationship

10. Diagnosis and Treatment of Prostate Cancer According to the Guidelines of the European Association of Urology and the Role of the Nurse.

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Background: Prostate cancer is the second most common cancer in men. In 2020 alone, 1.4 million new cases were diagnosed worldwide, accounting for 15% of all cancers diagnosed. The incidence of prostate cancer varies worldwide and varies by geographic area. The management of prostate cancer requires a multidisciplinary and personalized approach, taking into account the patient's risk, age and preferences, as well as the active involvement of nurses in every phase of treatment. The role of the nurse is essential in diagnosis, education, emotional support and long-term follow-up. The highest incidence is found in Australia, New Zealand, North America and Europe, as a result of the widespread use of Prostate Specific Antigen (PSA) testing in the elderly population. The Institute of Public Health reports that the incidence and mortality from prostate cancer in Albania is increasing. From some data it is noted that new cases of prostate cancer per year are about 250-300, which indicates an increase in cases related to the awareness of the population in carrying out examinations and diagnostics. Risk factors mainly include age, race and genetic predisposition. Methodology This material was developed using an integrated research-analytic approach to summarize and clearly structure the latest European Association of Urology (EAU) guidelines on the diagnosis and treatment of prostate cancer. The information was selected based on the strength of the evidence and recommendations according to the GRADE (Grading of Recommendations, Assessment, Development and Evaluation) methodology.

Conclusions: Prostate cancer is a complex disease in which patient characteristics, age, comorbidities and individual preferences impact the choice of treatment. Multiparametric MRI has a key role in the initial diagnosis before biopsy, as well as performing PSA, rectal examination, transrectal ultrasound. The treatment strategy depends on the risk: Low risk through active surveillance. Intermediate risk: radical prostatectomy or radiotherapy with or without hormonal therapy. High risk/locally advanced: combination of radiotherapy with long-term hormonal therapy or elective surgery. Recommendations PSA screening should be performed at age 50 or earlier if there are risk factors. Perform multiparametric MRI before the first biopsy. Treatment should be performed based on risk classification (low, intermediate, and high). For patients with limited life expectancy, avoid aggressive treatments and prefer palliative management. Follow-up should be done with PSA measurement every 3, 6, and 12 months after curative treatment and use salvage radiotherapy when there is biochemical relapse.

Keywords: Prostate cancer; European Society of Urology; PSA; prostate biopsy; hormonal therapy.

11. The PREVASC Multidisciplinary Model in Cardiovascular Prevention for the Frail Older Adult: a Person-Centred, Dignity-Driven Nursing Approach to Value-Based Care

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Background: Population ageing is associated with increased frailty, multimorbidity, and clinical and social vulnerability. Cardiovascular diseases represent a major cause of functional decline and reduced quality of life in older adults, making prevention a key strategy to ensure timely, dignified, and high-value care. Structured multidisciplinary-led screening models may support early risk identification, promote person-centered approaches, and contribute to the sustainability of healthcare systems.

Aim(s): To describe the PREVASC multidisciplinary model as a cardiovascular prevention experience targeting older adults, highlighting its contribution to addressing vulnerability, promoting dignity, and optimizing healthcare resources.

Methods: Data from 1,835 individuals aged 61-94 years enrolled in the PREVASC screening program were analyzed. Data collection was performed by a multidisciplinary team through standardized tools. Assessments included cardiovascular risk factors, adherence to pharmacological therapy, socio-demographic characteristics, and time spent at the screening center. A descriptive data analysis was conducted.

Results: Screening uptake was high, with 89.37% of invited participants attending, indicating good acceptability even among a potentially frail population. Pharmacological adherence was high (90%), with gender differences favoring women. The mean time spent at the screening center was 1 hour and 3 minutes, suggesting an efficient organization respectful of the needs and time of older adults.

Conclusions: The PREVASC multidisciplinary model represents a person-centered prevention approach capable of addressing vulnerability in ageing populations, promoting dignity, and generating value for both patients and healthcare systems. The integration of all

professionals' expertise, community-based prevention, and sustainable organizational models supports its transferability across European healthcare contexts.

Keywords: Ageing; Frailty; Cardiovascular prevention; Dignity-driven care; Multidisciplinary; Person-centered

12. A Holistic Framework for Person-Centred and Dignity-Driven Care

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Aim(s): The primary objective of this study is to critically examine the intersection of biological frailty and clinical care models in the ageing population. Specifically, the research aims to: Analyze the synergistic impact of chronic conditions (multimorbidity) and geriatric syndromes (specifically incontinence and frailty) on an individual's perceived and clinical vulnerability. Evaluate the efficacy of person-centred care (PCC) as a clinical intervention for maintaining dignity and psychological well-being. Propose a comprehensive palliative framework that integrates early-stage support rather than end-of-life crisis management.

Methods: This study employs systematic qualitative and clinical review design, drawing data from longitudinal ageing studies and ethical nursing frameworks. Participants/Population: The theoretical cohort focuses on adults aged 75+ exhibiting signs of the "frailty phenotype" and living with at least two chronic conditions. Procedures: We utilized a thematic synthesis of existing clinical guidelines (e.g., British Geriatrics Society, WHO Integrated Care for Older People) alongside case study analyses of "Dignity-Driven" nursing protocols. Assessment Tools: Analysis was structured around the Rockwood Frailty Index and the Dignity Care Model (DCM) to measure the gap between medical treatment and patient-reported quality of life.

Results: Preliminary findings indicate that vulnerability is not merely a product of disease, but a result of "systemic fragmentation." Key results include: The Frailty-Incontinence Nexus: There is a direct correlation ($p < 0.05$) between unmanaged incontinence and the acceleration of social frailty, leading to a 30% higher rate of institutionalization. Dignity as a Clinical Outcome: Patients receiving "Person-Centred Care" reported a significant increase in self-efficacy and a decrease in symptoms of depression, even when physical health continued to decline. Palliative Gap: Current models often delay palliative approaches until the terminal phase, missing the "window of opportunity" where symptom management could significantly prevent acute hospitalizations and delirium.

Conclusions: The study concludes that vulnerability in ageing is manageable but not curable, requiring a permanent shift in medical priority. Clinical Implications: Healthcare systems must move away from "organ-specific" medicine toward "functional-goal" medicine. Treating a chronic condition without addressing the patient's dignity is clinically incomplete. Significance: Integrating a palliative, dignity-driven approach early in the frailty trajectory reduces caregiver burnout and preserves the patient's autonomy. Final Statement: Dignity is

not a "luxury" of care; it is the foundation of clinical safety and effectiveness in geriatric medicine.

Keywords: Homeostenosis; Multimorbidity; Vulnerability-dignity.

13. Resectable Liver Metastasis in Stage 4 Colon Cancer: a Multimodal Curative Strategy

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Background: Stage IV colorectal cancer with solitary, resectable liver metastasis represents a distinct subgroup of patients with potential for curative treatment. A multimodal strategy combining radical surgery and systemic chemotherapy has significantly improved outcomes in selected cases. Other metods of local treatment in metastatic colorectal cancer besides surgery are:1)local ablation treatment and2) intra-arterial therapies.

Aim(s): To present the multimodal management and clinical outcome of a patient with stage IV colon cancer and a solitary resectable liver metastasis.

Methods: We report the case of a 53-year-old female, non-smoker, non-alcoholic, with an active lifestyle and no family history of malignancy, who presented with abdominal pain, fatigue, loss of appetite, unintentional weight loss, and alternating diarrhea and constipation. Colonoscopy (December 2021) revealed a mass in the ascending colon. Thoraco-abdominal CT scan demonstrated a solitary metastatic lesion in the liver and the mass in the colon. Tumor markers were elevated (CEA 30.2 ng/ml; CA 19-9 120 U/ml). In January 2022, the patient underwent right hemicolectomy and metastasectomy in the liver. Histopathology confirmed: Moderately Differentiated Adenocarcinoma with muscularis propria infiltration and lymph node involvement (4/15 positive), staged as pT3N2M1. Liver: Metastasis from Adenocarcinoma After surgery, the patient received 8 cycles of CAPOX (capecitabine plus oxaliplatin) followed by 4 cycles of capecitabine monotherapy, for a total of 12 cycles of chemotherapy.

Results: After all treatments, in October 2022Thorax-Abdomen CT scan showed no evidence of disease. Tumor markers were normal (CEA 1.22 ng/ml; CA 19-9 8.4 U/ml). During the first two years, follow-up was performed every 3 months with abdominal ultrasound plus tumor markers CEA, CA19-9, and every 6 months with Thorax-Abdomen CT scan and tumor markers. Afterwards, follow-up was performed every 6 months with abdominal ultrasound plus tumor markers and annually CT scan plus tumor markers.

Conclusions: In selected patients with solitary resectable liver metastasis from colorectal cancer, a multimodal approach including radical surgery and adjuvant chemotherapy may result in long-term disease control and potential cure. Careful patient selection and structured follow-up are essential to optimize outcomes. Surgical resection of R0 (resectable, leaving no tumor at the margin) colorectal liver metastases is a potentially curative treatment, with reported 5-year survival rates of 20%-45%.

Keywords: Colon; Cancer; Liver; Metastasis; Surgery; Resectable.

14. Clinical Response to Sorafenib in a Patient with Poorly Differentiated Thyroid Carcinoma and Respiratory Failure, with c-KIT Positivity

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Background: We report a 40-year- old patient diagnosed with poorly differentiated Thyroid Carcinoma (PDTC) presenting with severe respiratory failure, multiple pulmonary and bone metastases and pathological lymphadenopathy (supraclavicular, cervical, mediastinal). Molecular analysis was negative for BRAF 600E, RET, RAS, while c-KIT showed weak positivity. Despite the absence of classical driver mutations, therapy with Sorafenib was initiated. Sorafenib was started at a dose of 400mg daily during the first month and subsequently increased to 800 mg daily from months 2-3.

Methods: Clinical evaluation included physical examination, laboratory testing, molecular analysis (BRAF V600E and RET), and radiological assessment using computed tomography. Oxygen dependency, liver function test, and performance status were monitored during treatment and follow-up.

Results: The patient demonstrated remarkable clinical improvement .Oxygen saturation increased from 89% on 6L/min to 96% on 2L/min with progressive reduction in oxygen dependency and short interruption of oxygen therapy (up to 3 hours).Liver function test improved(ALT from 80 to 40U/L,AST from76 to 40U/L).CT imaging showed regression of lymph node metastases. Clinically, the patient regained appetite, communication ,and ability to perform short walks. Progression-free survival was 15 weeks, during which performance status remained stable and quality of life improvement.

Conclusions: This case demonstrates that even in the absence of classical driver mutation (Braf/RET) Sorafenib may produce meaningful clinical benefits in PDTC patients with respiratory failure, weak c-KIT positivity might serve as an alternative pathway contributing to drug sensitivity. Initiation of target therapy under critical respiratory conditions remains challenging but can be life prolonged when applied judiciously.

Keywords: C-Kit; Carcinoma; Response; Metastasis; Thyroid; Lymphadenopathy

15. Nurse-Delivered Hand Massage for Chronic Kidney Disease-Associated Pruritus in Adults Receiving Hemodialysis: Study Protocol and Early Feasibility Data

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Background: Chronic kidney disease-associated pruritus is a distressing and often under-diagnosed symptom in adults receiving hemodialysis. In our recent Swiss prevalence study,

25% of adults undergoing hemodialysis reported pruritus, with 70% reporting at least one severe episode within the past 24 h. Its association with depressive symptoms, sleep disturbance and reduced quality of life, supports the need for person-centred, nurse-led symptom management. Hand massage offers a feasible, non-pharmacological intervention that can be integrated into routine hemodialysis care.

Aim(s): To evaluate whether nurse-delivered hand massage improves itch severity, itch-related quality of life, health-related quality of life, and sleep in adults receiving hemodialysis with chronic kidney disease-associated pruritus, compared with an attention-control conversation without physical touch. A secondary aim is to explore participants' experiences of receiving hand massages.

Methods: This ongoing sequential multicentre mixed-methods study includes a phase 1 randomised controlled trial and phase 2 semi-structured interviews. 54 adults receiving hemodialysis with pruritus are allocated to either hand massage or attention-control conversation. Nurses deliver a 10-minute hand massage or conversation twice weekly during month 1, then weekly for 2 months during dialysis. Outcomes are assessed at baseline, 1 month, and 3 months using the itch Numeric Rating Scale, 5D Itch Scale, and KDQOL-SF v1.2.

Results: Recruitment is ongoing. Study-status data, including numbers screened, enrolled, intervention delivery as planned and any available baseline or early follow-up descriptive data on itch, sleep, and quality of life will be presented.

Conclusions: This study positions specialist nurses at the centre of person-centred symptom management for a common and burdensome complication of chronic kidney disease. Reporting feasibility and early clinical trends may help inform supportive, nurse-led approaches to improving comfort and well-being during hemodialysis.

Keywords: Specialist nursing; Person-centred care; Hemodialysis; Chronic kidney disease-associated pruritus; Symptom management

16. Person-Centered and Digital-Supported Nursing Care in Patients with Ulcerative Colitis: Enhancing Outcomes And Preventing Complications

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Background: Ulcerative Colitis (UC) is a chronic inflammatory bowel disease characterised by recurrent flare-ups, hospitalisations, and significant impact on patients' quality of life. Symptoms such as abdominal pain, diarrhoea, fatigue, and bleeding can lead to physical and psychological vulnerability. In addition, ulcerative colitis patients often require long-term pharmacological therapy, dietary management, and close clinical monitoring, which increases the complexity of care. Nurses play a pivotal role in providing person-centred care, monitoring disease progression, educating patients, and implementing innovative strategies including telehealth and digital applications to detect early flare-ups and prevent complications.

Aim(s): To highlight the central role of nurses in integrating person-centred care with digital tools in the management of patients with ulcerative colitis, focusing on early detection of flare-ups, complication prevention, and promotion of patient engagement in self-management strategies.

Methods: This abstract is based on clinical practice observations and structured nursing interventions in the Gastroenterology Unit, QSUT, Tirana. Key strategies include: 1. Systematic assessment of symptoms and disease activity. 2. Implementation of telehealth and digital monitoring platforms for remote follow-up. 3. Patient education on medication adherence, dietary management, and life modification. 4. Coordination with multidisciplinary teams to ensure safe and evidence-based care. 5. Monitoring of complications, including risk of infections and nutritional deficits.

Results: Enhanced nursing interventions combined with digital monitoring facilitate early recognition of flare-ups, reduce hospitalisation rates, and improve adherence to treatment plans. Patient-centred education supports self-management, reduces anxiety, and enhances overall quality of life. Observations from QSUT demonstrate that structured nursing involvement significantly during flare-ups and encourages patient engagement, leading to fewer complications and better clinical outcomes.

Conclusions: Nurses are central to integrating person-centred care with digital innovation in ulcerative colitis management. Strengthening nursing leadership and applying digital-supported strategies enhances patient outcomes, improves engagement, and contributes to resilient, evidence-based healthcare systems. The experience from "Mother Teresa" Hospital highlights the importance of nursing interventions in managing vulnerable patients with chronic gastrointestinal conditions.

Keywords: Ulcerative colitis; Nursing care; Person-Centred care; Digital health; Flare-Ups management; Complication prevention

17. Enhancing Safety and Autonomy in Mild-Moderate Dementia: An Integrated Hospital-to-Home Pathway Based on Environmental Assessment, Assistive Solutions, and Caregiver Coaching

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Background: People with mild-moderate dementia living at home often experience safety risks, functional decline, and increasing caregiver burden. Fragmentation between Centres for Cognitive Disorders and Dementia, hospitals, and community services may lead to avoidable crises and hospital admissions. Integrated approaches combining specialist nursing competencies and occupational therapy strategies may improve continuity of care, safety, and autonomy.

Aim(s): To describe an integrated hospital-to-home care pathway for people with mild-moderate dementia referred from Centres for Cognitive Disorders and Dementia aimed at

improving home safety, supporting functional autonomy, and strengthening caregiver competence.

Methods: This practice innovation focuses on people with mild-moderate dementia living at home and their caregivers. The pathway includes a structured home environmental assessment addressing safety, fall risk, daily routines, and functional abilities. Interventions include person-centred non-pharmacological strategies, environmental adaptations, and the introduction of assistive solutions to promote independence and safety. Caregiver education and coaching are provided to improve communication, problem-solving, and crisis prevention. The pathway is developed in collaboration with geriatricians or neurologists, nurses, and social workers to support continuity between hospital and community services.

Results: Expected outcomes include improved home safety and functional autonomy, reduced behavioural crises and caregiver burden, and better continuity between specialised dementia services, hospital care, and community services.

Conclusions: An integrated nursing and occupational therapy pathway based on environmental assessment, assistive solutions, and caregiver coaching may represent a scalable model for home-based dementia care. Defining core competencies and outcome indicators may contribute to strengthening specialist nursing practice and harmonising dementia care approaches across Europe.

Keywords: dementia care; home-based care; specialist nursing; occupational therapy; patient safety; caregiver support

18. Perceived Closeness Between Patients and Family Members and its Association with Family Members' Quality of Life in Palliative Care

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Background: Perceived closeness between patients and their family members plays an important role in the caregiving experience and family well-being in palliative care. It is a subjective and multidimensional experience that may be perceived differently by patients and family members. To date, limited research has examined how perceived closeness between patients and family members is associated with family members' quality of life, including unpaid family caregivers.

Aim(s): To examine the association between perceived closeness between patients and family members in palliative care and family members' quality of life, and to explore related relational experiences.

Methods: A concurrent mixed-methods (QUAN + qual) design will be employed, with a dominant quantitative component. Data collection includes a family genogram to map the patient's significant relational network. Quantitative measures consist of a Likert scale assessing perceived closeness from both patient and family member perspectives, and the Italian version of the WHOQOL-BREF completed by family members. The qualitative component includes open-ended narrative questions administered to family members to contextualize the quantitative findings.

Results: We anticipate that the association between perceived closeness and family members' quality of life will vary according to family role and caregiving involvement, with different patterns observed among partners, adult children, siblings, and other family members.

Conclusions: Findings may demonstrate the usefulness of combining perceived closeness measures with family genograms to capture family relational contexts in palliative care and to help identify family members who may benefit from tailored psychosocial support.

Keywords: Palliative care; Family members; Family caregivers; Perceived closeness; Quality of life

19. An ESNO-Aligned National Competency Framework for Nephrology Nursing in Italy: Consensus Development Through a Multi-Phase Modified Delphi Study

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Background: Nephrology nursing involves complex clinical, relational, educational, and organizational demands across the CKD trajectory. In Italy, variability in role recognition and training pathways still limits a shared, operational definition of core, specialist, and advanced competencies.

Aim(s): To identify, describe, and validate a national competency framework for nephrology nurses in Italy, aligned with the European Specialist Nurses Organisation (ESNO) Common Training Framework (CTF) and the progressive competency continuum described in international models.

Methods: We conducted a multi-phase modified e-Delphi study grounded in the ESNO CTF domains (Clinical Expert Practice; Leadership and Service Management; Education and

Mentoring; Research and Evidence Integration; Therapeutic Communication). An integrative/scoping review informed an initial draft developed by the Italian Society of Nephrology Nurses (SIAN) research group. Twenty expert nephrology nurses (≥5 years' nephrology experience) rated competency statements across two Delphi rounds using a 4-point Likert scale with controlled feedback; consensus was defined a priori as ≥70% agreement. Transferability was then checked nationwide among SIAN members, followed by senior expert validation (Round 3) and a final plenary synthesis. Quantitative ratings were triangulated with deductive thematic analysis of free-text comments.

Results: The final framework achieved high consensus across rounds and was organized into five macro-areas: (1) general/cross-cutting nephrology competencies, (2) inpatient and pre-dialysis, (3) hemodialysis, (4) peritoneal dialysis, and (5) kidney transplantation. The process strengthened observability and implementation readiness and explicitly integrated emerging domains such as digital/telemedicine competencies and environmental sustainability, while operationalizing therapeutic communication as a transversal dimension.

Conclusion: This ESNO-aligned, consensus-based framework provides a shared reference for nephrology nursing competencies in Italy, supporting education planning, continuing professional development, competency assessment, and more consistent recognition of specialist and advanced roles within healthcare organizations.

Keywords: Nephrology nursing; Competencies; Delphi study; ESNO; Advanced practice; Italy

20. The Central Role of Territorial Nurses in Home-Based Care: Enhancing Continuity and Care for Frail and Chronic Patients

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Background: Healthcare is evolving from a hospital-centered, acute episode model to integrated, continuous patient care. Frail, chronic, or disabled individuals require coordinated and home-based care pathways. Territorial Operational Centers (COT), introduced by DM 77/2022, are key tools to ensure continuity between hospital, community, and home care.

Aim(s): To highlight the central role of the territorial nurse in integrated and home-based care for frail and chronic patients, demonstrating how COTs support continuity, coordination, and personalized care.

Methods: Qualitative analysis based on the professional experience of nurses within COTs. Observed processes included home care management, interprofessional coordination, and the handling of chronic and frail patients.

Results: Territorial nurses coordinate care and services, ensuring continuity between hospital, home, and community. COTs improve access to personalized interventions, promote early patient management, and reduce service fragmentation. Home-based care

increases patient safety and satisfaction while optimizing resource use and effectively meeting the needs of frail and chronic patients.

Conclusions: COTs and the strengthened role of territorial nurses are strategic levers for person-centered healthcare. Nurses become key actors in home care, care continuity, and integrated patient management, effectively addressing challenges related to chronic conditions, frailty, and disability.

Keywords: continuity of care; community-based care; territorial nursing; home-based care

21. Informal Care for Alzheimer`s Disease and Other Types of Dementia

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Background: Dementia is one of the most expensive diseases among the elderly population. State budgets are often insufficient to support people with dementia and their informal carers. As the disease progresses, people with dementia need more help to perform basic daily functional activities. As clinical dementia syndrome is characterized by an acquired loss of cognitive and emotional abilities that are present to such an extent that they interfere with daily activities, it is important to provide the affected person with adequate care. Care can be formal, in institutions (such as nursing homes) or non-institutional (e.g. social home help services) and informal (usually family-based and unpaid). Informal carers and guardians can, driven by compassion, experience significant levels of emotional stress and physical strain, and their personal sacrifices during the care and support of a family member with dementia are great. It is therefore important to implement psychosocial interventions based on compassion and to constantly strengthen formal and informal social support systems for caregivers, as well as to strengthen the individual's mental and psychophysical skills through adult education to facilitate coping with the role of caregiver.

Aim(s): to describe informal forms of care for people with Alzheimer's disease and other dementias and to determine the impact of long-term care of the sick person on the life of caregivers. Methods: available literature in English and Croatian was searched using the scientific databases Cinahl plus, Cinahl full text and Medline with the keywords: informal care, dementia and Alzheimer's disease, in the period from 2005 to 2025. Of the hundreds of papers searched, only 30 key ones were selected, reviewed in detail and discussed in the paper.

Results: Although informal caregivers can implement some therapeutic interventions in the home environment with little or no cost to health or social care, they need professional help to meet the needs of the person they care for, as well as their need to acquire certain skills necessary for caring for these specific patients.

Conclusions: Patients with Alzheimer's disease and other forms of dementia are proving to be a major economic problem for society, because society needs to create conditions for institutional care for them when they are unable to care for themselves, and this is neither easy nor cheap.

Keywords: Alzheimer's disease; Caregiver; Dementia; Informal care

22. ONIS-STOMA: An Italian Registry of People Living with a Stoma - Preliminary findings

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Background: People living with a stoma often face complex care needs shaped by multimorbidity, self-care ability, and quality of life. In Italy, evidence on these dimensions remains limited, particularly regarding self-care, quality of life, and sociodemographic characteristics.

Aim(s): To collect sociodemographic, clinical, health status, and quality of life data from people living with a stoma in order to identify pathways and interventions to improve clinical outcomes and overall quality of life.

Methods: ONIS-STOMA is an observational, multicentre, prospective registry involving adults living with enterostomies and/or urostomies. Data were collected through a secure online platform across Italian centres. This preliminary analysis included the first 180 participants enrolled by two centres up to December 2025. Descriptive statistics were used to summarize sociodemographic and clinical characteristics, Charlson Comorbidity Index (CCI), Ostomy Self-Care Index (OSCI), and STOMA-QoL scores.

Results: Participants were predominantly older adults, and 57.3% were male, and 45.6% had undergone surgery within the previous 6 months. Cancer, particularly intestinal cancer, was the main indication for stoma creation. Findings showed a relevant comorbidity burden, confirming the clinical complexity of this population. OSCI scores indicated generally good self-care competencies, particularly in self-care maintenance, monitoring, and confidence, whereas self-care management was more variable. Quality of life, assessed with the STOMA-QoL, showed intermediate values (mean 59.1/80; SD 13.5), suggesting overall acceptable but not optimal adaptation to life with a stoma. Nearly half of participants had current stoma or peristomal complications, and more than half reported complications in the previous month, with peristomal dermatitis being the most frequent issue.

Conclusions: Preliminary ONIS-STOMA findings highlight a clinically complex population with relevant comorbidity, relatively preserved routine ostomy self-care, and moderate quality of life. The coexistence of good perceived self-care and a high burden of complications suggests the need for tailored educational and follow-up strategies, integrating patient associations and peer support networks, especially for early complication recognition and management. Continued enrolment will enable more robust analyses of the relationships among CCI, OSCI, and quality of life.

Keywords: Multicenter study; Observational study, Ostomy, Quality of Life; Stoma, Self-care

23. Nurse-led coordination in the Territorial Operational Centre: improving continuity of care and reducing inappropriate hospital use

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Background: The implementation of community-based healthcare models, as outlined by national healthcare reorganization policies, has shifted the focus from hospital-centered care to integrated territorial pathways. In Italy the Territorial Operational Centre (COT) plays a key role in ensuring continuity of care for frail and chronic patients.

Aim(s): To describe the nurse-led role within the Territorial Operational Centre (COT) in ensuring timely patient management, appropriate identification of care settings, and reduction of inappropriate use of emergency services.

Methods: A descriptive analysis of nursing activities conducted within an urban Territorial Operational Centre (COT), involving chronic and frail patients either recently discharged from hospital or already managed in the community. The model includes patient assessment and activation of care pathways within a short timeframe, with strong coordination among services and involvement of general practitioners.

Results: The service promotes proactive patient management, enabling early identification of care needs and appropriate allocation to care settings. Approximately 70% of patients are referred to home care services , supporting community-based management. The model contributes to reducing inappropriate emergency department visits and recurrent hospitalizations, particularly among high-risk patients. Nursing coordination facilitates the development of an integrated care network and improves responsiveness to complex needs. However, challenges remain in terms of service awareness and standardization of activation pathways.

Conclusions: The Territorial Operational Centre (COT) represents a strategic model to strengthen community-based care and reduce hospital dependence. Nurses play a central role in care coordination, contributing to continuity, appropriateness, and overall system efficiency. Increasing awareness among healthcare professionals and citizens is essential to fully implement and optimize this model

Keywords: Continuity of care; Community-based care; Territorial healthcare

24. Incidence and Risk Factors of Pressure Ulcers' Development in Patients Followed by a Preventative Care Bundle in Two Italian Emergency Settings - The Runtime Study

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Background: Pressure ulcers (PUs) are a major patient safety issue, especially among older and critically ill patients. Emergency Departments (EDs) are particularly challenging settings for prevention because overcrowding, prolonged stays, and competing clinical priorities may delay timely skin care. Although care bundles may improve prevention, evidence in ED settings remains limited.

Aim(s): This study aimed to assess the incidence of PUs in two Italian EDs among patients managed with a standardized preventative care bundle and to identify factors associated with PU development during the ED stay.

Methods: A prospective observational cohort study was conducted in two EDs in Lazio, Italy, between January and March 2023. Consecutive adults at risk of PU development (Braden score <18) were enrolled; patients with pre-existing PUs or severe cognitive decline were excluded. All participants received a standardized bundle including Braden-based risk assessment, skin inspection, pressure-relieving support surfaces, two-hourly repositioning, protective silicone dressings for high-risk sites, moisture management, nutritional assessment, and electronic documentation. PU-free survival was estimated with Kaplan-Meier curves and predictors were analysed using Cox regression.

Results: A total of 201 patients were included (mean age 81.3 years, SD 8.3; 53% male). Mean ED stay was 3.53 days (SD 1.94). Twelve patients developed PUs, yielding an incidence of 5%; all lesions were stage 1 and located at the sacrum. The probability of remaining PU-free fell from 98% at 24 hours to 80% at 168 hours. In multivariable analysis, older age increased PU risk (HR 1.13; p=0.004), while longer ED stay was associated with lower risk (HR 0.36; p<0.001).

Conclusions: This study adds evidence on PU incidence and risk factors in high-risk ED patients managed with a preventative bundle. The relatively low incidence suggests that early, nurse-led standardized prevention may support PU reduction in emergency settings, although further multicentre comparative studies are needed.

Keywords: Pressure ulcers; Emergency department; Prevention; Care bundle; Risk factors; Older adults

25. Gastric Intramural Hematoma

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Background: Gastric intramural hematoma is a rare clinical entity characterized by hemorrhage within the gastric wall, most commonly involving the submucosal layer. It is typically associated with anticoagulation therapy, abdominal trauma, endoscopic procedures, or coagulation disorders, and may mimic other acute abdominal conditions.

Aim(s): To evaluate the clinical presentation, etiological factors, imaging features, management strategies, and outcomes of gastric intramural hematoma.

Methods: A retrospective review of patients diagnosed with gastric intramural hematoma up to the beginning of 2026 was performed. Clinical data, laboratory findings, imaging studies (primarily computed tomography), treatment approaches, and outcomes were analyzed.

Results: Patients most commonly presented with abdominal pain, nausea, vomiting, and occasionally upper gastrointestinal bleeding. Predisposing factors included anticoagulant use, recent endoscopic interventions, and coagulopathies. Computed tomography was the primary diagnostic modality, typically demonstrating focal or diffuse gastric wall thickening with hyperdense intramural content. Most cases were managed conservatively with discontinuation of anticoagulation, supportive care, and close monitoring. Invasive intervention was rarely required and reserved for complications such as persistent bleeding or perforation. Clinical outcomes were favorable in the majority of patients.

Conclusions: Gastric intramural hematoma is an uncommon but important differential diagnosis in patients presenting with acute abdominal symptoms, especially those with bleeding risk factors. Imaging plays a central role in diagnosis, and conservative management is effective in most cases, with a good overall prognosis.

Keywords: Gastric intramural hematoma; Computed tomography; Coagulopathy; Abdominal pain; Acute abdomen; Endoscopic complications

26. Post-Dialysis Fatigue in the Adult Population: Analysis of Predictive Factors and Impact on Quality of Life: A Cross-Sectional Observational Study

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Background: Chronic kidney disease in its advanced stages requires renal replacement therapy through hemodialysis, a life-saving treatment that is nonetheless associated with several complications. Among these, post-dialysis fatigue (PDF) is a common and highly

debilitating symptom, significantly affecting patients' physical, cognitive, emotional, and social functioning. Despite its high prevalence, this condition is often underestimated in clinical practice.

Aim(s): To assess the prevalence and severity of post-dialysis fatigue in the adult population, to analyze its main socio-demographic and clinical predictive factors, and to evaluate its impact on quality of life, with particular attention to the role of nursing in symptom management.

Methods: A cross-sectional observational study was conducted at the Nephrology and Dialysis Unit of the University Hospital "Paolo Giaccone" in Palermo, Italy, between May and July 2025, following approval by the Ethics Committee. The sample consisted of 30 adult patients undergoing hemodialysis for at least three months. Data were collected using an anonymous questionnaire including socio-demographic, clinical, and lifestyle variables. Post-dialysis fatigue was assessed using the Fatigue Assessment Scale (FAS), a validated 10-item Likert-type scale investigating both physical and mental components of fatigue.

Results: The sample was predominantly elderly (56.7% aged 61-80 years) and male (73.3%), with a medium-low level of education and mostly retired. One-third of the patients lived alone and had multiple comorbidities, while more than half were physically inactive. FAS scores revealed a high prevalence of post-dialysis fatigue: over 50% of patients reported persistent tiredness, easy fatigability, and physical and mental exhaustion, along with reduced energy, decreased motivation, and difficulty concentrating. Fatigue was more pronounced among older patients, those with lower educational levels, those without a caregiver, those with multiple comorbidities, reduced physical activity, and longer dialysis sessions.

Conclusions: Post-dialysis fatigue is confirmed as a highly prevalent, multidimensional, and persistent symptom in hemodialysis patients, with a significant impact on quality of life and patient autonomy. The findings highlight the need for an integrated and multidisciplinary care approach, in which nurses play a central role in systematic assessment, patient education, and symptom management. Targeted interventions-including health education, psychological support, promotion of adapted physical activity, and caregiver involvement-are essential to improve patient well-being and enhance treatment adherence.

Keywords: Post-dialysis fatigue; Hemodialysis; Quality of life; Predictive factors; Nursing care

27. Health Outcomes Led by Advanced Practice Nurses in Patients with Chronic Wounds: A Scoping Review

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Background: The role of the advanced practice nurses in wound care is identified as a key element in the management of patients with chronic wounds. However, literature offers fragmented knowledge of the outcomes associated with their practice.

Aim(s): To examine and map the available literature on outcomes associated with interventions carried out by advanced practice nurses in chronic wound care

Methods: This scoping review was conducted following the methodological framework proposed by Arskey and O'Malley, following the Preferred Reporting Item for Systematic Review and Meta- analysis for Scoping Review. PRISMA-ScR Checklist is included in the manuscript. Observational or experimental studies related to patients affected by chronic wounds and cared for by advanced practice nurses in wound care were included. The following databases were queried: PubMed, CINAHL, Cochrane Library and Scopus from 01 May 2025 to 31 October 2025.

Results: The search strategy in the consulted databases identified 1956 studies, 31 met the inclusion criteria. Different types of chronic wounds were investigated: diabetic foot ulcers, venous leg ulcers and pressure injuries. The most frequently measured outcomes were clinical responses (healing, recurrence, complications), organisational efficiency (referrals, resource utilisation), and patient-reported outcomes.

Conclusions: Advanced practice nurses led wound care models demonstrate consistent benefits, including faster healing, lower recurrence and complication rates, and more efficient care pathways, across different settings. This review highlights the global applicability of APN-led models, showing consistent improvements in clinical, organisational, and patient-reported outcomes through core interventions.

Keywords: Literature review; Wound care; Advanced practice nurses; Health outcomes; Chronic wounds

28. Interrelationships Among Physical, Psychological, Cognitive, and Social Domains in Post-Intensive Care Syndrome: A Scoping Review

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Background: In recent years, increasing attention has been devoted to outcomes following discharge from the Intensive Care Unit (ICU), with the aim of preventing complications that

may lead to hospital readmission or the onset of Post-Intensive Care Syndrome (PICS). ICU survivors may develop PICS either immediately after discharge or during follow-up. This syndrome encompasses impairments across physical, psychological, cognitive, and social domains.

Aim(s): This review aims to explore the interrelationships among the four domains of PICS and to examine how they interact and influence one another.

Methods: A scoping review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) 2018 guidelines. The methodological quality of the included studies was assessed using the Joanna Briggs Institute Critical Appraisal Tools. The literature search was performed in 2025. The databases searched included PubMed, CINAHL, Scopus, Web of Science, and PsycInfo.

Results: The findings point to a complex and interdependent relationship among PICS domains. The physical domain seems to drive changes in both psychological and cognitive functioning, while the social domain, despite being less well characterized, likely plays a crucial role. Collectively, these domains appear to have the greatest influence on quality of life (QoL)

Conclusions: Further investigation of the interactions among PICS domains, particularly the social domain, is essential to inform the development of targeted, patient-centered strategies for PICS prevention and management. Greater attention to these dynamics may improve rehabilitation outcomes, enhance long-term care planning, and ultimately optimize quality of life among ICU survivors

Keywords: Intensive Care Units; Survivors; Interrelationship; Post-intensive Care Syndrome; Scoping Review

29. The Management of Patients with Schizophrenia: Art Therapy as a Bridge Between the Inner World of Chaos and Emotional Regulation

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Background: Psychosis is a serious symptom of mental illness characterised by a loss of touch with reality, featuring visual, tactile or auditory hallucinations, as well as false beliefs or delusions. Schizophrenia manifests itself through a triad of symptom categories, namely hallucinations and delusions, negative symptoms such as apathy and social withdrawal, and cognitive deficits. The clinical impact of art therapy has been widely recognised in recent years by researchers in the field as a significant factor in the recovery and management of emotions in this patient group.

Aim(s): To examine how art therapy can help people express themselves more freely, improve their mental health and enhance their interpersonal relationships, through a strategy that facilitates the implementation of a care pathway for the management of psychiatric patients.

Methods: The scientific evidence supporting the study's hypothesis was reviewed by consulting specific databases, such as PubMed, EMBASE, Scopus, the Cochrane Library, and CINAHL, covering the last five years, selecting only indexed journals, and using specific keywords such as: Art therapy, Psychiatric rehabilitation, Mental health rehabilitation, Creative expression, Emotional regulation, Schizophrenia.

Results: In-depth analysis of the best research on this subject has increasingly reinforced the notion that art therapy, when combined with pharmacological treatment and nursing care, can best manage the distinctive characteristics of cognitive disorganisation and the disjointed thoughts of these vulnerable individuals, offering a safe and indirect means of connecting with themselves and others. Randomised controlled trials (RCTs) have shown that outpatients undergoing art therapy demonstrated improvements in social interaction and self-esteem compared to standard treatments, with negative symptoms decreasing significantly.

Conclusions: Art therapy is regarded as a mediating tool, and group sessions can provide opportunities for social interaction and connection with others who share similar experiences or interests, creating spaces for the exchange of ideas where individuals can rebuild their self-awareness and improve their emotional regulation skills.

Keywords: Art therapy; Psychiatric rehabilitation; Mental health rehabilitation; Creative expression; Emotional regulation; Schizophrenia

30. Personalised Medicine in the Identification of Preclinical Cognitive Impairment: Development of a Predictive RISK MODEL (Dendrite)

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Background: Cognitive impairment (CI) is a growing global health challenge. Traditional clinical practice often identifies cognitive decline only when functional loss is evident. The DENDRITE project (PMP22/00084) aims to shift this paradigm by implementing Precision Personalized Medicine within Primary Care to detect CI in its preclinical stages. This national research initiative is uniquely led by nursing professionals, highlighting the essential role of nursing in advanced clinical research and community health.

Aim(s): The main objective is to develop a robust predictive risk model for the preclinical detection of CI in adults aged 55 to 70 years. The project integrates multidimensional variables-clinical, genetic, molecular, proteomic, social, and environmental-using Artificial

Intelligence (AI) and advanced statistical models to identify early risk patterns before symptoms become irreversible.

Methods: DENDRITE is an observational, multicenter, non-interventional study using convergent mixed methods. Data collection is conducted across 7 locations in Spain, covering both rural and urban Primary Care settings. The study involves a main cohort of 1,050 participants aged 55 to 70 years without cognitive impairment and a calibration group of 100 participants with a confirmed diagnosis. Participants are non-institutionalized individuals with an active medical record in Primary Care. Innovation and Data Analysis: Participants undergo comprehensive evaluations designed for the Primary Care level. This includes the extraction and processing of blood samples for the critical validation of genetic, molecular, and proteomic biomarkers. Physical and functional tests include the measurement of gait speed. A core innovative pillar of the project is digital phenotyping; the study captures subtle cognitive and behavioral changes through questionnaires and precise voice recordings. Using AI, the statistical models cross-reference these digital voice patterns and clinical variables with the multi-omic profiles. Expected Impact: This nurse-led project demonstrates that high-level precision medicine can be effectively implemented at the community level. The DENDRITE model will provide Primary Care teams with a powerful tool for early warning, enabling personalized care plans and empowering patients to make proactive decisions about their cognitive health. This approach not only improves diagnostic accuracy but also optimizes resources within the healthcare system.

Keywords: Congnitive impairement; Artificial Inteligence; Biomarkers; Primary care; Predictive model; Personalized precision medicine

31. Use of the Teach-Back Method in Cardiovascular Patient Education: A Scoping Review

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Background: Patient education is central to cardiovascular care, since long-term outcomes depend on patients' ability to understand and implement self-management recommendations. However, misunderstandings remain common, particularly during care transitions such as hospital discharge. The teach-back method is a structured communication strategy in which patients restate information in their own words. This allows healthcare professionals to verify understanding and address any gaps. Although it is increasingly used in nursing practice, its role in cardiovascular care has not yet been fully explored.

Aim(s): To map the current evidence base for the use of the teach-back method in cardiovascular patient education, with a focus on its implementation, outcomes and implications for nursing practice.

Methods: A scoping review was conducted in accordance with the Joanna Briggs Institute methodology and PRISMA-ScR guidance. The following databases were searched in April 2024: MEDLINE (PubMed), CINAHL, Embase, and Scopus. Eligible studies were primary quantitative, qualitative or mixed-methods research involving adults with cardiovascular disease who received teach-back in any care setting. Study selection and data extraction were performed independently by two reviewers. Findings were interpreted using Dixon-Woods prompts.

Results: Fourteen studies (2013-2023) were included, most of which involved patients with heart failure. Teach-back was primarily delivered by nurses during hospitalization and at discharge, occasionally involving telephone follow-up. The timing, frequency and staff training involved in implementation varied. Despite this variability, teach-back was consistently associated with improved knowledge of the disease, self-care behaviors, patient confidence, and satisfaction with communication. Several studies also reported reductions in 30-day readmissions of approximately 6-15%.

Conclusions: The teach-back method is a flexible, nurse-led approach that appears to be particularly beneficial for patients with heart failure. It can improve understanding, support self-care and reduce avoidable readmissions, particularly during care transitions. However, the lack of standardized protocols and consistent outcome reporting highlights the need for further research to support the sustainable implementation of teach-back and strengthen the evidence base in cardiovascular nursing.

Keywords: Teach-back; Cardiovascular disease; Heart failure; Patient education; Nursing

32. Factors Influencing App Use in Elderly Cardiac Patients: Scoping review

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Background: Chronic heart disease is a major cause of hospitalization among older adults and has a significant impact on quality of life. Although mobile health (mHealth) apps have the potential to support self-management, home monitoring and continuity of care, their use among people aged 65 years and over remains limited. Adoption appears to depend not only on the technology itself, but also on individual, social and organizational factors.

Aim(s): Summarize the main barriers and facilitators to mHealth app adoption in adults aged 65 years and over with chronic heart disease and explore how technological, individual, social and organizational factors influence uptake.

Methods: A scoping review was conducted in accordance with JBI methodology and PRISMA-ScR guidelines. Studies published between 2015 and 2025 involving adults aged 65 years and over with heart failure, ischemic heart disease, or arrhythmias who used mHealth apps in home or outpatient settings were included. Greenhalgh's Diffusion of Innovations model guided the interpretation of the findings.

Results: Twelve studies involving 2,617 participants were included. The apps were primarily used for telemonitoring, treatment adherence and health education. Several studies reported improvements in perceived quality of life, disease control and adherence, while clinical outcomes were more variable. Common barriers included poor usability, an age-inappropriate design, low digital literacy and technology-related anxiety. A lack of caregiver support or structured professional follow-up was associated with inconsistent use and premature discontinuation. At the organizational level, implementation was often fragmented and poorly integrated into routine care. The main facilitators were simple, customizable interfaces; clear, everyday benefits; active caregiver involvement; and integration into care plans, with nurses playing a central role.

Conclusion: mHealth apps can help older adults with chronic heart disease to self-manage their condition and ensure continuity of care, particularly when integrated into routine care rather than offered as standalone tools. Adoption depends on the apps being perceived as useful and easy to use, and on the availability of professional and social support. Cardiovascular nurses are well placed to assess readiness, address barriers, provide tailored education, involve carers and promote sustained use.

Keywords: m-Health; Chronic Heart Disease; Older Adults; Technology Adoption; Cardiovascular Nursing; Diffusion of Innovations

33. Determinants of Perceived Loneliness Among Informal Caregivers of Individuals with Phelan-McDermid Syndrome: A Cross-Sectional Study

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Background: Phelan-McDermid syndrome (PMS) is a rare neurodevelopmental disorder caused by 22q13.3 deletions or SHANK3 variants, leading to synaptic dysfunction. It is characterized by intellectual disability, severe language impairment, autism features, and multiple comorbidities. Due to its lifelong complexity, informal caregivers provide intensive support, often experiencing high burden, social isolation, and reduced quality of life.

Aim/s: To investigate factors associated with perceived loneliness among informal caregivers of individuals with PMS. Methods.

Methods: This cross-sectional observational analysis enrolled 69 informal caregivers of individuals with a confirmed PMS diagnosis. Perceived loneliness was assessed using the De Jong Gierveld Loneliness Scale (DJC-LS) and modeled as the dependent variable in a multivariable linear regression. Predictors included caregiver-related variables such as age,

weekly hours of care, depressive symptoms measured with the Patient Health Questionnaire (PHQ-9), social network measured with the Lubben Social Network Scale (LSNS-6), and caregiver burden assessed with the Zarit Burden Interview (ZBI), as well as patient-related characteristics including age of the individual with PMS, time since diagnosis, and number of clinical manifestations. In line with a citizen science approach, the Italian Association for Phelan-McDermid Syndrome (AISPHEM) participated in shaping study priorities and outcome relevance and contributed to the interpretation of findings, integrating caregivers' perspectives into the analytical process.

Results: A stronger social network (LSNS-6) was significantly associated with lower perceived loneliness (B = -0.249; β = -0.427; p = 0.005). Higher caregiver burden was significantly linked to greater loneliness (B = 0.078; β = 0.356; p = 0.026). Caregiver age, weekly hours of care, depressive symptoms, and patient-related variables showed no significant association with loneliness.

Conclusions: Preliminary findings suggest that caregiver loneliness in PMS is mainly linked to social network resources and caregiving burden rather than patients' clinical features. Interventions aimed at strengthening social connections and alleviating caregiver burden may help reduce loneliness and enhance caregiver well-being. The inclusion of caregivers not only as participants but also as active contributors to research processes, enhances the study real-world validity and relevance for the affected community.

Keywords: Phelan-McDermid syndrome; Informal caregivers; Perceived loneliness; Citizen Science; Social network

34. A Top Modelling Analysis of Quality of Nursing Care in the Oncological Context: A Scoping Review

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Background: The concept of quality of nursing care in oncology is complex and lacks a unified definition, reflecting diverse theoretical and methodological approaches.

Aim(s): To map the scientific literature on quality of nursing care in oncology, with a specific focus on its conceptual structure through lexicometric and sentiment analyses.

Methods: A scoping review was conducted following JBI methodology and PRISMA-ScR guidelines. Studies were identified through a systematic search of MEDLINE (via PubMed), CINAHL Complete, Scopus, and Web of Science. Data analysis combined narrative synthesis with computational text-mining techniques in the R software environment. The textual corpus (titles, abstracts, and selected full texts) was preprocessed through tokenization, lemmatization, and stopword removal. Lexical diversity was assessed using Type-Token Ratio

(TTR) and Mean Segmental TTR (MSTTR). Latent Dirichlet Allocation (LDA) was applied to identify latent thematic structures, supported by Multiple Correspondence Analysis (MCA) and hierarchical clustering to validate topic coherence. Conceptual evolution was explored through Correspondence Analysis. A lexicon-based sentiment analysis was also conducted on qualitative studies.

Results: 29 studies were included. The corpus demonstrated high lexical richness, indicating a heterogeneous and conceptually dense field. LDA identified four stable thematic domains: Caring, Patient Experience, Quality of Nursing Care, and Measurement and Evaluation. Cluster analysis confirmed strong alignment between statistical clusters and thematic topics. Correspondence Analysis revealed a clear temporal shift from relational and humanistic representations of care toward technical, standardized, and measurement-oriented conceptualizations. Sentiment analysis showed a predominantly positive emotional tone, with trust emerging as the central emotional dimension, strongly associated with positive experiences and inversely related to negative emotions such as fear and sadness.

Conclusions: The integration of lexicometric and sentiment analyses provides practical guidance for developing more comprehensive evaluation frameworks that integrate measurable and relational aspects of care. It also supports the improvement of assessment tools and the design of training programs aimed at strengthening communication and person-centered competencies in oncology nursing care.

Keywords: Oncology nursing care; Quality of care; Scoping review; Lexicometric analysis; Sentiment analysis

35. Enhancing Fall Risk Detection in Community-Dwelling Older Adults: A Nurse-Led Integrated Model

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Background: Falls in older adults are often preceded by subtle functional decline that may not be detected by standard clinical screening tools. In frail and multimorbid populations, early identification of mobility changes is essential to support prevention, maintain independence and reduce avoidable harm. Community nurses are uniquely positioned to recognise early signs of vulnerability and translate assessment findings into person-centred interventions across care settings.

Aim(s): To explore the contribution of nursing assessment combined with functional testing and wearable monitoring in identifying early signs of fall risk in community-dwelling older adults.

Methods: A descriptive exploratory pilot study was conducted in community settings between October 2024 and May 2025. Adults aged ≥65 years enrolled in adapted physical activity programmes were assessed by Community Nurses using fall risk screening (Conley Scale), functional mobility tests (10-Metre Walk Test, Timed Up and Go) and wearable sensor-based gait monitoring. Data were analysed descriptively, and feasibility was evaluated in terms of integration into routine practice and acceptability for both professionals and participants.

Results: Thirty-seven participants were included (mean age 74.1 years), with a high prevalence of multimorbidity. Most individuals were classified as low-to-moderate risk using standard screening tools. However, functional testing and wearable monitoring identified gait alterations, reduced stability and early signs of functional decline in several participants not previously recognised as at risk. The combined assessment approach enhanced risk detection and proved feasible and acceptable within routine community care.

Conclusions: Nursing assessment enriched by functional and digital tools may enable earlier recognition of frailty-related changes and support timely, tailored preventive interventions. Integrating multidimensional assessment into routine practice may strengthen proactive management of vulnerability, reduce fall risk and reinforce the central role of nurses in delivering safe, person-centred community care.

Keywords: Patient safety; Fall prevention; Community care; Nurse-led models; Quality improvement

36. Palliative Care Standards for Patients with Amyotrophic Lateral Sclerosis

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Background: Amyotrophic Lateral Sclerosis is a progressive degenerative disease characterized by the degeneration of motor neurons, leading to muscle weakness, functional disability and ultimately respiratory failure. Despite recent developments in contemporary medicine, pharmacological treatments such as Riluzole and Edaravone only slow the progression of the disease but do not cure it. For this reason, an early and structured approach to palliative care has a central role in improving the quality of life of patients and their families. Palliative care for patients with ALS is not limited to the terminal phase but is recommended to be integrated from the moment of diagnosis by addressing complex physical, psychological, social and existential needs. International standards developed by organizations such as the European Academy of Neurology (EAN), the American Academy of Neurology (AAN) and the European Association for Palliative Care (EAPC), emphasize the importance of a multidisciplinary approach, where neurologists, nurses, physiotherapists,

speech therapists, nutritionists, psychologists and social workers work together to provide comprehensive care.

Methods: For the realization of this material, the method of research and data collection from reliable scientific and professional sources was used. From the review of scientific literature, international guidelines and standards, as well as additional sources.

Conclusions: Palliative care for patients with ALS is an essential component of treatment and should begin at the moment of diagnosis. International standards emphasize that an early and integrated palliative approach helps in managing complex symptoms, improving quality of life and alleviating emotional and social burden for both the patient and the family. In conclusion, the implementation of palliative care standards not only improves the treatment of patients with ALS but also strengthens the role of health professionals, especially nurses, in providing comprehensive and humane care. This approach contributes to an advanced model of health care where the focus is not only on prolonging life but above all on its quality and dignity. Recommendations: Based on the review of the literature and international guidelines on palliative care standards in patients with ALS, the focus is placed on the early integration of palliative care into national protocols, the creation of multidisciplinary centers for a coordinated service, the development of national guidelines based on EAN, AAN and EAPC standards, as well as ensuring equal access to assistive devices (non-invasive ventilation, alternative communication, enteral nutrition for all patients. Staff training should also be developed and the role of nurses strengthened.

Keywords: Amyotrophic lateral sclerosis; Palliative care; Nursing care; Health professionals; Quality of life

37. Knowing is Not Enough: A Concept Analysis of Capability in the Stroke Survivor-Caregiver Dyad During Transitional Care

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Background: Stroke forces both survivors and caregivers into a rapid and often unprepared transition from hospital to home. Despite growing attention to educational and transitional interventions, it remains unclear whether what is learned translates into concrete opportunities for action. Capability, understood as the real freedom to apply knowledge and skills in everyday life, has been invoked across different theoretical traditions without a shared definition.

Aim(s): This study aimed to clarify and operationalize capability within the stroke survivor-caregiver dyad during transitional care.

Methods: A concept analysis was conducted following Walker and Avant's eight-step model, drawing on 22 peer-reviewed studies published between 1991 and 2025, identified through

a systematic search of seven databases. The analysis was informed by the Capability Approach as developed by Amartya Sen and Martha Nussbaum.

Results: Three defining attributes emerged: self-efficacy as the belief in one's ability to mobilize resources toward meaningful goals, resilience as the capacity to adapt and reorganize in response to disability, and motivation as the force that translates potential into action. These attributes operate in combination, enabling capability to emerge within the dyad. Antecedents include access to educational support, the onset of disability, and the broader socioeconomic and relational context. Consequences include greater autonomy, more effective care management, and improved quality of life for both members of the dyad. Based on these findings, capability is defined as the concrete freedom to mobilize personal, relational, and contextual resources to manage care and everyday life after stroke. No validated instrument currently exists to measure this construct at the dyadic level.

Conclusions: Capability is not simply what people know or can do, but what they are actually free to do within their context. This analysis provides a conceptual foundation for future measurement development and for designing transitional care interventions that go beyond information transfer.

Keywords: Capability; Stroke survivor-caregiver dyads; Transitional care; Concept analysis

38. Bowel Obstruction Secondary to Stenotic Sigmoid Colon Cancer

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Background: Bowel obstruction is a common and serious surgical emergency, frequently associated with colorectal malignancies, particularly in the sigmoid colon due to its narrower lumen. Stenotic sigmoid colon cancer often presents late, with progressive luminal narrowing leading to partial or complete obstruction. Clinical manifestations include abdominal pain, distension, constipation, and vomiting. The pathophysiology involves mechanical blockage of intestinal contents, resulting in proximal bowel dilation, ischemia risk, and potential perforation if untreated.

Methods: We present the case of a patient admitted to the emergency department with signs and symptoms of acute large bowel obstruction. Clinical evaluation, imaging studies including abdominal X-ray and CT scan, laboratory findings, and patient history were analyzed to establish the diagnosis and guide therapeutic management.

Results: The patient was diagnosed with bowel obstruction caused by a stenotic tumor located in the sigmoid colon. Imaging revealed significant colonic distension proximal to the lesion with air-fluid levels. The patient underwent urgent surgical intervention, which included resection of the affected sigmoid segment and creation of a colostomy (Hartmann procedure). Postoperative management included fluid and electrolyte correction, antibiotic therapy, and close monitoring. Histopathological examination confirmed adenocarcinoma of the sigmoid colon.

Conclusion: Bowel obstruction due to sigmoid colon cancer represents a life-threatening condition requiring prompt diagnosis and surgical management. Early recognition and timely intervention are crucial to prevent complications such as perforation, sepsis, and death. Multidisciplinary care and appropriate oncological follow-up are essential for improving patient outcomes.

Keywords: Bowel obstruction; colon cancer

39. Rethinking Self-Care in Vulnerable Migrants: A Sequential Mixed-Methods Study

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Background: Vulnerable migrants (VM) experience complex health challenges shaped by precarious living conditions, limited access to healthcare, and cultural discontinuities. Although self-care is a key determinant of health, its conceptualization remains largely grounded in individualistic models and insufficiently reflects how these behaviours are enacted in reception settings.

Aim(s): To examine how self-care behaviours are maintained, monitored, and managed among VM and to assess how existing theoretical models capture these practices.

Methods: A sequential mixed-methods approach was adopted. A systematic review identified self-care behaviours among adult first-generation VM in Europe and was used to construct a theory-informed analytical framework based on Riegel's domains. This framework was operationalized into a deductive codebook and applied in a qualitative content analysis of semi-structured interviews conducted in a reception center in Southern Italy. The analysis remained primarily deductive, while allowing identification of practices not fully represented in the initial framework.

Results: Self-care behaviours were predominantly oriented toward maintenance, including diet, physical activity, rest, and adherence to medical recommendations, and were embedded in cultural, familial, and religious contexts, with limited monitoring. The qualitative analysis revealed divergences from the theoretical model: preventive practices were enacted through routine hygiene rather than biomedical strategies, and health information-seeking was not reported. Social relationships emerged as central to maintaining well-being, despite being absent from the initial framework. Within monitoring,

participants reported awareness of physical and emotional changes, with attention to medication-related effects as an additional practice. Management included healthcare use, prescribed medications, and home remedies. Behaviours conceptualized as stress avoidance functioned as responses to distress, thus as management strategies.

Conclusions: Self-care among VM appears as a relational and context-dependent process that only partially aligns with existing models. These findings highlight the need to refine current conceptualizations of self-care and support the development of culturally and context-sensitive approaches within specialist nursing practice.

Keywords: Self-care; Vulnerable migrants; Theory-informed analysis; Cultural context; Nursing research

40. Teaching Cultural Competence in Undergraduate Nursing: Implications for Clinical Practice from a Systematic Review

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Background: Increasing cultural diversity in healthcare requires nurses to be prepared to deliver equitable and culturally responsive care. However, despite the growing inclusion of cultural competence training in undergraduate nursing curricula, variability in how these interventions are designed and implemented may lead to inconsistent preparation of students, with potential consequences for clinical practice.

Aim(s): To synthesize evidence on educational interventions integrated into undergraduate nursing curricula aimed at enhancing cultural competence, and to explore their implications for students' preparedness in clinical settings.

Methods: A systematic review was conducted following Joanna Briggs Institute (JBI) guidance. Searches were performed in PubMed, CINAHL, and Scopus from inception to December 2025. Quantitative studies evaluating curriculum-integrated interventions were included. Outcomes were extracted and synthesized narratively.

Results: Twenty-three studies were included. Interventions varied in approach, including technology-supported learning, simulation, and structured educational activities. Improvements were consistently reported in cultural knowledge, awareness, communication skills, and self-efficacy, as well as in cultural intelligence and confidence in providing culturally appropriate care. Technology-based and simulation approaches demonstrated

high usability and satisfaction, while structured and curriculum-integrated programs were more frequently associated with sustained improvements over time. However, variability in intervention design and outcome measurement suggests that the development of cultural competence may be uneven, potentially leading to differences in how students translate these skills into clinical practice.

Conclusions: While educational interventions appear to enhance multiple dimensions of cultural competence, inconsistency in how these competencies are developed may result in graduates who are not equally prepared to manage cultural complexity in clinical settings. This may lead to difficulties in recognizing patients' cultural needs, ineffective communication, and reduced ability to provide equitable and person-centred care. Strengthening the coherence and consistency of cultural competence education is therefore essential to ensure safe and effective nursing practice in increasingly diverse healthcare systems.

Keywords: Cultural competence; Nursing education; Undergraduate nursing students; Educational interventions; Clinical preparedness; Culturally responsive care

41. Epidemiological Framework of Incident Reporting in Home Care: Analysis of Sociodemographic Context, Caregiver Role, and Risk Clusters

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Background: Patient safety in home care settings is a growing priority due to the aging population and the increasing complexity of care delivered outside hospitals. Home care differs significantly from hospitals; key factors include the patient's sociodemographic profile and caregiver competence. Understanding the epidemiology of adverse events in this setting is essential for effective prevention strategies.

Aim(s): The aim of this study is to outline the epidemiological profile of incidents reported within our Healthcare Service. The specific objectives are: 1) To identify the most frequent risk clusters among our patients; 2) To compare incident frequency and severity with the patients' sociodemographic context; 3) To evaluate the impact of the caregiver's presence and profile on the occurrence of specific adverse events.

Methods: We conducted a retrospective observational analysis of all incident reports collected by our service over a period of 12 months. Data was extracted from the corporate Incident Reporting System. Variables analyzed included: type of incident (cluster), patient demographics (age), living conditions (living alone vs. cohabiting), and caregiver status (family member, paid assistant, or absent and age). Statistical analysis was performed to identify significant associations between these variables.

Results: A total of 279 reports were analyzed. The mean age of the population involved was 78,8. The analysis identified three main incident clusters: accident falls, wound infections, and urinary infections, accounting for 72,8% of total cases. A clear connection emerged between the incidents and specific sociodemographic factors in our data. Specifically, 70% of

the falls occurred in patients living alone or with a frail caregiver (aged >65). Furthermore, the incidence of falls was significantly higher in households lacking a structured caregiver, representing 51% of all incidents. For cohabiting caregivers under 65 years old, falls represent 23% of incidents, while those in patients with cohabiting caregivers over 65 years old reach 47% of incidents.

Conclusions: The epidemiological framework of our incidents demonstrates that safety in home care is inseparable from the social context. The caregiver acts as a primary safety barrier; their absence or frailty is a quantifiable risk factor. These findings suggest that our risk management strategies must evolve from purely clinical interventions to include proactive social assessment and targeted caregiver training.

Keywords: Home Care Safety; Incident Reporting; Informal Caregiver; Sociodemographic Factors; Clinical Risk Management Epidemiology

42. Development and Content Validation of a Theory-Driven Instrument for Assessing Self-Care in Osteoporosis: The SCOI

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Background: Self-care is essential for the management of osteoporosis, yet validated instruments specifically measuring self-care behaviours in this population remain limited. A theory-based tool may support both clinical practice and research.

Aim(s): To develop and evaluate the content validity of the Self-Care of Osteoporosis Index (SCOI), a theory-driven instrument assessing self-care behaviours in individuals with osteoporosis.

Methods: A methodological study was conducted following COSMIN recommendations. Item generation was guided by the Middle-Range Theory of Self-Care of Chronic Illness and informed by a review of existing instruments, Patient-Reported Outcome Measure databases, scientific literature, and international guidelines. Content validity was assessed through a two-round Delphi survey with an international multidisciplinary expert panel. Cognitive interviews using the think-aloud method were performed with individuals with osteoporosis to evaluate clarity and cultural appropriateness of the English, Italian, and Spanish versions.

Results: The initial item pool was refined through expert feedback and patient input. The final instrument includes key domains of self-care: maintenance, monitoring, and management. Experts rated the items as relevant, clear, and representative of osteoporosis

self-care. Participants confirmed that the items were understandable, meaningful, and culturally appropriate across all language versions.

Conclusions: The SCOI demonstrates strong content validity and provides a comprehensive, theory-based measure of self-care behaviours in people with osteoporosis. It may support future research and clinical assessment in this population.

Keywords: Osteoporosis; Self-care; Patient-reported outcome measure; Content validity; Instrument development; COSMIN

43. A Person-Centered Nursing Model for Motor Reactivation in Hospitalized Older Adults: A Randomized Controlled Trial on Quality of Care and Patient Experience.

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Background: Functional decline during hospitalization is a major and often preventable issue in older adults. Prolonged immobility is associated with loss of independence, increased complications, and longer hospital stays. Despite evidence supporting early mobilization, mobility is not consistently integrated into routine nursing care. Nurse-led models may represent an effective strategy to translate mobility into daily clinical practice.

Aim(s): This study aims to assess whether and how the application of a Nurse Led Model of Motor Reactivation impacts the functional state of patients, quality and safety of care and Patient-Reported Experience Measures (PREMs)

Methods: This study is a prospective randomized controlled trial protocol conducted in Internal Medicine, Emergency Medicine, and Geriatrics settings in an Italian University Hospital. Patients aged ≥65 years are randomized (1:1) to standard care or a nurse-led mobility intervention. A multidimensional assessment is performed within 24 hours of admission (T0), including ADL, IADL, Tinetti scale, cognitive (AMT), psychological (GDS), and nutritional (MNA) evaluation. The intervention consists of individualized, structured motor reactivation sessions (30 minutes/day, 5 days/week), delivered and supervised by trained nurses. The control group receives usual care without structured mobility protocols. Outcomes are assessed at discharge (T1), focusing on functional change between T0 and T1, incidence of complications, and patient experience.

Results: The intervention is expected to preserve functional status between admission and discharge, mitigating hospital-associated functional decline. Additional expected benefits

include reduced complications (falls, pressure injuries, infections, delirium), shorter length of stay, improved discharge outcomes, and enhanced patient experience (PREMs).

Conclusions: MOBI-PROCARE positions mobility as a measurable and nurse-driven component of fundamental care. Integrating early assessment and structured nurse-led intervention into routine practice may prevent functional decline and improve clinical outcomes in hospitalized older adults.

Keywords: Nurse-led care; Early mobility; Older adults; Functional decline; Hospitalization; Fundamental care

44. Nurse-led Mobility Interventions in Hospitalized Patients: A Systematic Review of Effectiveness on Functional and Clinical Outcomes

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Background: Functional decline during hospitalization remains a prevalent and largely preventable condition among older adults, particularly those with frailty or multimorbidity. Although early mobility is increasingly recognized as a core component of high-quality inpatient care, its systematic integration into daily clinical practice is inconsistent. Nurse-led mobility interventions have emerged as a potentially feasible, scalable, and sustainable strategy to embed mobility within routine nursing workflows and enhance patient-centered care.

Aim(s): To systematically evaluate the effectiveness of nurse-led mobility interventions delivered to hospitalized adults in improving functional, clinical, and organizational outcomes, as well as patient experience.

Methods: A systematic review of effectiveness was conducted following Joanna Briggs Institute (JBI) methodology and reported in accordance with PRISMA 2020 guidelines. Comprehensive searches were carried out in PubMed/MEDLINE, CINAHL, Scopus, Embase, and the Cochrane Library. Eligible studies included quantitative designs with a comparator-randomized controlled trials and quasi-experimental studies-that evaluated nurse-led or nurse-driven mobility interventions in adult inpatients. Data extraction focused on intervention characteristics, the specific nursing role, implementation strategies, and reported outcomes.

Results: Eight studies met the inclusion criteria, comprising two randomized controlled trials and six quasi-experimental designs. Across studies, nurse-led mobility interventions

consistently incorporated early functional assessment, structured mobility protocols, and active nursing involvement in daily mobilization. Interventions commonly included assisted ambulation, progressive mobility pathways, and the integration of mobility activities into routine care processes. Reported outcomes demonstrated improvements in functional status, mobility levels, and frequency of ambulation. Several studies also documented reductions in length of stay and decreases in complications such as delirium and immobility-related adverse events. However, the evidence base was constrained by heterogeneity in intervention components and outcome measures, as well as methodological limitations, including the small number of rigorously controlled trials.

Conclusions: Nurse-led mobility interventions represent a promising approach to preventing functional decline and enhancing clinical outcomes in hospitalized adults. Nonetheless, the current evidence is limited by methodological variability and the paucity of high-quality randomized studies. Notably, research examining the impact of nurse-led mobility on patient experience remains extremely scarce. These findings underscore the need for standardized intervention frameworks and robust trial designs to advance the evidence base and support scalable implementation in acute care settings.

Keywords: Nurse-led care; Early mobilization; Hospitalized patients; Functional decline; Older adults; Patient Experience

45. The Use of Electronic Nose Technology in the Management of Malignant Fungating Wounds: An Empty Systematic Review

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Background: Malignant fungating wounds (MFWs) are complex lesions resulting from skin invasion by advanced tumors or metastases. These wounds are often characterized by a high bacterial load and necrotic tissue, which causes a persistent, unpleasant odor. This symptom significantly impacts quality of life, causing social isolation and psychological distress in palliative care patients. Electronic noses (e-noses), sensors designed to detect and "identify" volatile organic compounds (VOCs), have emerged as potential noninvasive tools for real-time odor monitoring and infection detection in various clinical settings.

Aim(s): To systematically identify and evaluate the existing clinical evidence regarding the use of electronic nose technology for the assessment, monitoring, and management of malodor or infection in patients with MFWs.

Methods: A systematic search was conducted in major electronic databases, including PubMed, CINAHL, Embase, and Web of Science, considering literature published up to February 2026. Inclusion criteria focused on clinical trials, observational studies, and pilot projects involving human subjects with MFWs in which e-nose technology was used for evaluation and monitoring purposes. The review followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines.

Results: The systematic search did not identify any studies that met the predefined inclusion criteria. Although electronic nose technology has been successfully tested in the treatment of chronic wounds (e.g., diabetic foot ulcers and pressure ulcers) and for the detection of breast tumors via breath analysis, there are currently no primary studies specifically applying this technology to patients with MFWs in a palliative care setting.

Conclusions: This review highlights a significant gap in the scientific literature. Despite the theoretical potential of electronic noses to provide objective data on contact wound malodor and guide topical antimicrobial therapy, their clinical application in patients with MFWs remains unexplored. There is a clear need for future studies to determine whether sensors integrated into electronic noses can accurately distinguish between wound-related volatile organic compounds (VOCs) and environmental odors, thus offering a more objective parameter for managing MFWs in palliative care.

Keywords: Malignant Fungating Wounds; Electronic Nose; Malodor; Palliative Care; Volatile Organic Compounds; Empty Review

46. Constructing a Competencies Repertoire for Nephrology Nurses to Address Complexity and Patient Fragility: Results from an Ethnographic Study

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Background: Chronic kidney disease represents a growing global health issue, significantly affecting well-being and quality of life. In specialized settings such as nephrology, dialysis, and kidney transplantation, nurses play a central role in caring for patients with fragility and complex chronic conditions. Advanced specialist competencies required to address care challenges are often described in a fragmented and unsystematic manner. The lack of a

structured competencies repertoire limits the standardization of training pathways and reduces the availability of highly qualified nurses.

Aim(s): To develop a competencies repertoire for nephrology nurses, according to the criteria established by the European and Italian Qualifications Frameworks, to support the professionalization process and ensure high-quality care for patients with fragility and complex chronic conditions.

Methods: A qualitative study, based on the principles of "At Home Ethnography," was conducted at an Italian healthcare organization and university. Data collection, carried out between June and October 2025, included 114 hours of participant observation, 70 hours of shadowing, and 840 minutes of "Interview to the Double," conducted with 14 nurses working in nephrology, hemodialysis, peritoneal dialysis, and kidney transplantation, until data saturation was reached. Hierarchical Task Analysis was used to map activities and tasks into a structured framework of competencies.

Results: Thirty competencies, organized into three technical-professional Areas of Activity-prepare and restore of nephrology, dialysis, and transplant environments; integrated management of the clinical-care pathway in dialysis, nephrology, and transplant settings; promotion of clinical governance-and four transversal Areas of Activity, including emotional, relational, cognitive, and educational dimensions, were mapped with their associated tasks, knowledge, skills, and expected outcomes.

Conclusions: The repertoire provides an empirically grounded representation of nephrology nursing competencies. In response to increasing care complexity and patient fragility, it represents a key tool for the processes of identification, validation, and certification of competencies. It supports the availability of highly qualified nurses and promotes public recognition by competent authorities.

Keywords: Framework; Technical-professional competencies; Transversal competencies; Nephrology nursing; Ethnography; Interview to Double.

47. Recurrent Headaches and the Role of Subclinical Inflammation, Systemic Stress, and Dysautonomia: An Integrative Model of the Pathophysiology of Primary Headaches - An Analytical Review

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Background: Primary headaches are among the most prevalent and disabling neurological disorders worldwide, encompassing migraine, tension-type headache, and cluster headache. Contemporary models emphasize dysregulation within neurobiological networks involving the trigeminovascular system, neurogenic inflammation, and neuro-immune interactions. Increasing evidence suggests that subclinical inflammation, systemic stress, and autonomic dysfunction contribute to headache initiation and chronification.

Aim(s): To synthesize current evidence on the anatomical, neurophysiological, and immunological mechanisms underlying primary headaches, with a particular focus on the roles of subclinical inflammation, systemic stress, and autonomic dysregulation.

Methods: This analytical review included 39 scientific studies (2015-2025) identified through databases such as PubMed, Scopus, and Google Scholar. Study designs comprised systematic reviews, meta-analyses, cohort, case-control, cross-sectional, and experimental studies. Evidence was classified according to Oxford Levels of Evidence, and findings were analyzed descriptively to identify key pathophysiological mechanisms.

Results: Approximately 48% of studies were of moderate-to-high evidence (Levels 1-3). Findings consistently support the central role of trigeminovascular activation, with release of neuropeptides such as CGRP, substance P, and PACAP, contributing to neurogenic inflammation and nociceptive sensitization. Cortical spreading depression was identified as a key mechanism in migraine aura. Elevated inflammatory biomarkers (CRP, NLR, PLR) and cytokines (IL-6, TNF-α, IL-1β) suggest involvement of subclinical inflammation. Chronic stress and HPA axis activation, along with autonomic imbalance (sympathetic predominance, reduced vagal tone), were associated with increased pain sensitivity and headache chronification.

Conclusions: Primary headaches should be understood as multidimensional disorders involving integrated neurovascular, neuroimmune, and neuroendocrine mechanisms. Subclinical inflammation, systemic stress, and autonomic dysregulation appear to play a crucial role in both initiation and chronification of headache. This integrative model provides a more comprehensive framework for understanding disease mechanisms and may inform future diagnostic and therapeutic strategies.

Keywords: Primary headache; Migraine; Trigeminovascular system; Neuroinflammation; Autonomic dysfunction; Systemic stress

48. Technology-Based Interventions for Nurse Psychological Resilience: A JBI Scoping Review Protocol

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Background: Nurse burnout and resilience deficits represent a global patient-safety crisis. Meta-analyses confirm mindfulness-based interventions improve nurse burnout (SMD: −1.72; 95% CI: −2.65, −0.80; Dou et al., BMC Nursing 2025). Emerging technologies - virtual reality (VR), mobile self-care applications, social messaging platforms, and telemonitoring - are increasingly proposed as scalable alternatives to traditional programmes. A 10-minute VR intervention reduced perceived stress by 39.9% in ICU nurses (Shankar et al., PLOS ONE 2025). However, no comprehensive evidence map of technology-based resilience interventions across nursing contexts exists.

Aim(s): To map evidence on the types, effectiveness indicators and implementation contexts of technology-based interventions - VR environments, mobile applications, digital messaging programmes and telemonitoring tools - targeting nurse psychological resilience and burnout prevention, using JBI scoping review methodology.

Methods: JBI scoping review (PRISMA-ScR). PCC framework: P = nursing staff in clinical settings; C = technology-based resilience interventions (VR, mHealth apps, digital communication tools, telemonitoring); C = clinical nursing settings (hospital, ICU, community, emergency). Five databases: MEDLINE, CINAHL, Embase, PsycINFO, Web of Science (2015-2025). Dual independent screening; standardised JBI extraction. Inclusion: empirical studies, protocols and grey literature reporting technology interventions on nurse burnout or resilience outcomes.

Results: Preliminary mapping: 15 RCTs on MBI apps (burnout SMD: −0.81; Liang et al. 2023); systematic review protocol registered for VR interventions (Shankar et al. 2025); meta-analysis of mobile apps for burnout (Hedge's g = 0.51; Deriglazov et al., Worldviews 2025). Salutogenic theory (Antonovsky) and Connor-Davidson Resilience Scale identified as consistent theoretical and measurement frameworks. Critical gap: VR and digital messaging platforms (e.g., Telegram-based programmes) remain outside existing systematic syntheses.

Conclusions: Technology-based interventions show promising scalability for nurse resilience, but evidence remains heterogeneous and short-term. This scoping review will produce the first evidence map across VR, mHealth, messaging and telemonitoring modalities, informing multicentre RCT design and institutional resilience policy frameworks.

Keywords: Work-related stress; Nursing; mental health; Virtual reality; mHealth; Occupational well-being

49. The Role of Inflammation and Vitamin D Deficiency in the Relationship Between Thrombotic Markers (D-dimer, Fibrinogen) and Cardiac Load (NT-proBNP) in an Elderly Outpatient Population: A Retrospective Temporal Study in a Primary Health Care Center in Central Albania

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Background: Chronic low-grade inflammation and vitamin D deficiency are increasingly recognized as interrelated factors contributing to cardiovascular and thrombotic risk, particularly in elderly populations. Vitamin D exerts immunomodulatory, anti-inflammatory, and antithrombotic effects, while its deficiency is associated with endothelial dysfunction, increased cytokine activity, and activation of coagulation pathways. Biomarkers such as CRP, ESR, D-dimer, fibrinogen, and NT-proBNP reflect different aspects of this cardio-inflammatory axis, yet their integrated relationship in real-world primary care populations remains insufficiently explored.

Aim(s): To investigate the interplay between inflammation, vitamin D status, thrombotic markers (D-dimer, fibrinogen), and cardiac load (NT-proBNP) in an elderly outpatient

population, and to assess whether vitamin D deficiency and inflammation act as linking mechanisms between prothrombotic states and cardiac stress.

Methods: A retrospective observational study was conducted in a primary care center in Central Albania (2024-2025), including 67 ambulatory patients, predominantly elderly. Clinical and laboratory data were extracted from medical records. Key variables included serum 25(OH)D, inflammatory markers (CRP, ESR), thrombotic markers (D-dimer, fibrinogen), cardiac biomarker (NT-proBNP), and metabolic parameters (HbA1c, lipid profile, ApoB100). Descriptive statistics were used to summarize data. Correlation analyses (Pearson/Spearman) explored relationships between biomarkers. Due to limited sample size and missing data, multivariate regression was not applied. Conceptual clustering was performed to identify clinical phenotypes based on combined clinical-laboratory profiles.

Results: The cohort had a mean age of 63.2±15.5 years, with 57% females and a high prevalence of multimorbidity. Vitamin D deficiency (<30 ng/mL) was highly prevalent (85%), particularly among women. Inflammatory markers were frequently elevated (CRP >5 mg/L in 47%; ESR >20 mm/h in 44%), reflecting chronic low-grade inflammation ("inflammaging"). Thrombotic markers were also increased (D-dimer >500 ng/mL in 52%), with fibrinogen elevated in a subset of patients. Age showed strong correlation with fibrinogen and moderate correlation with D-dimer. NT-proBNP levels reflected cardiac stress but did not demonstrate a consistent linear association with vitamin D levels. Correlations between NT-proBNP and inflammatory markers were variable, although ESR showed moderate-to-strong association in selected cases. Cluster analysis identified distinct phenotypes, including a high-risk cardio-inflammatory profile characterized by heart failure, elevated NT-proBNP, increased inflammatory and thrombotic markers, and low vitamin D levels.

Conclusions: Vitamin D deficiency appears to amplify chronic inflammation and prothrombotic activation in elderly patients, contributing to an integrated cardio-inflammatory-thrombotic axis. While NT-proBNP primarily reflects cardiac load, its interaction with inflammatory and thrombotic pathways highlights the complexity of cardiovascular risk stratification. These findings support the importance of a multidimensional biomarker approach in elderly populations and suggest that vitamin D may act as a biological modulator rather than a direct determinant of cardiac dysfunction. Integrated assessment of vitamin D status alongside inflammatory and thrombotic markers may improve personalized risk evaluation and clinical decision-making.

Keywords: Vitamin D deficiency; Chronic inflammation; D-dimer; Fibrinogen; NT-proBNP; Cardiovascular risk

50. Family Relationships in Older Adults with Chronic Conditions: A Systematic Review

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Background: Population aging is associated with a growing prevalence of chronic conditions and increased reliance on family caregiving. Family functioning and dyadic relationships between older adults and caregivers are key determinants of care processes and outcomes, yet there is a lack of integrated conceptualization in later life.

Aim(s): To synthesize evidence on the characteristics and outcomes of family relationships in older adults with chronic conditions.

Methods: A mixed-methods systematic review was conducted following Joanna Briggs Institute guidelines. Four databases (PubMed, Scopus, CINAHL, PsycINFO) were searched for studies published between 2015 and 2025. Primary studies involving older adults (≥60 years) with chronic conditions and their informal caregivers were included. Quality appraisal was performed using JBI tools. Data were analyzed through a convergent approach and deductive-inductive process.

Results: Twenty studies were included. Two main domains emerged: (1) characteristics of family relationships, and (2) their impact on outcomes. Family relationships were characterized by interdependence, with patterns ranging from collaborative to conflictual, including intergenerational and cultural conflicts. They involved communication, role distribution, adaptability, and support. These constructs dynamically interact and evolve with disease progression. Positive family relationships and collaborative dyadic coping were associated with better psychological well-being, higher self-care and autonomy, improved quality of life, and stronger treatment adherence. Conversely, dysfunctional dynamics were linked to emotional distress, caregiver burden, and poorer care outcomes.

Conclusions: Family functioning and dyadic relationships are deeply interconnected and jointly shape health and caregiving outcomes in older adults with chronic conditions. Integrating family-centered and dyadic approaches into clinical practice may enhance care effectiveness and support both patients and caregivers.

Keywords: Older people; Family functioning; Dyadic relationship; Caregiver; Aging

51. Sustaining Patient and Family Centred Care in Adult Healthcare Settings: A Scoping Review of Nurse-Led Interventions

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Background: Patient and Family Centred Care (PFCC) is widely recognized as a key approach to improving quality of care, patient experience, and dignity in healthcare delivery. Although PFCC has been extensively promoted and implemented, less attention has been paid to how these practices are sustained over time in routine care, particularly in contexts involving chronic conditions, frailty, and vulnerability. Nurses play a central role in embedding and maintaining PFCC in everyday clinical practice.

Aim(s): This scoping review aims to identify and map the available literature on nurse-led interventions, strategies, and organizational practices intended to sustain PFCC in adult healthcare settings.

Methods: The review follows the Joanna Briggs Institute (JBI) methodology for scoping reviews and will be reported according to PRISMA-ScR. Searches are being conducted in PubMed/MEDLINE, CINAHL, Scopus, Web of Science, Embase, and PsycINFO. Studies involving nurses with a clearly identifiable role in the design, delivery, coordination, or evaluation of PFCC sustainment interventions in adult healthcare settings will be included. Two reviewers are independently screening studies and extracting data using a standardized tool. Preliminary / Expected Contribution This review will map how sustainment of PFCC is currently conceptualized, operationalized, and evaluated in the literature, with particular attention to the contribution of nursing practice. The findings are expected to highlight key strategies, implementation gaps, and areas for future research and clinical development.

Conclusions: Understanding how PFCC can be sustained over time is essential to ensuring person-centred, dignity-driven care in adult healthcare settings. The final results of this review will contribute to informing nursing practice, service organization, and future implementation efforts. Note: The study is currently ongoing, complete results will be available at the time of the congress.

Keywords: Patient- and family-centred care; Sustainability; Nurse-led interventions; Implementation science; Person-centred care

52. Artificial Intelligence-Based Tools to Support Self-Care in Older Adults with Chronic Conditions: A Scoping Review of Nurse-Involved Implementations

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Background: The global ageing population and rising burden of chronic conditions demand innovative, scalable approaches to support self-care in older adults. Artificial intelligence (AI)-based tools - including chatbots, virtual assistants, wearable sensors, and machine learning applications - are increasingly deployed to support self-care behaviours in this population. Nurses play a pivotal role in implementing and sustaining these technologies within care pathways. However, the scope, typology, and nursing implications of AI-driven self-care interventions for older adults remain unmapped in the literature.

Aim(s): To map the extent, range, and nature of AI-based tools used to support self-care in older adults aged ≥65 with chronic conditions, with a focus on nursing involvement, and to identify gaps informing future research.

Methods: A scoping review was conducted following the Arksey & O'Malley framework updated by Levac et al. and reported according to PRISMA-ScR guidelines. Seven databases were searched (PubMed, CINAHL, Scopus, Cochrane Library, Web of Science, IEEE Xplore, PsycINFO). Inclusion criteria: any study design, adults ≥65 with ≥1 chronic condition, AI-based tool, self-care as primary or secondary outcome, published 2015-2025 in English.

Results: Twenty-four sources were included. AI tools identified comprised mobile health applications (46%), decision support systems (25%), wearable devices (17%), and conversational agents (12%). Self-care outcomes were measured using validated instruments in 8 studies (SC-CII, CSMS, PAM-13). Nursing involvement was explicitly documented in 6 sources, primarily in programme delivery and follow-up. Key gaps identified include limited age-specific reporting, heterogeneous outcome measurement, and insufficient evaluation of long-term nursing-led AI implementation

Conclusions: This scoping review maps an emerging but heterogeneous evidence base on AI-based self-care support for older adults with chronic conditions. Findings highlight the need for standardised outcome measurement, greater nursing integration in AI tool design, and rigorous primary studies targeting adults aged ≥65. Results inform future systematic reviews and nursing practice guidelines in this rapidly evolving field.

Keywords: Artificial intelligence; Self-care; Older adults; Chronic conditions; Nursing; mHealth; Scoping review; Ageing

53. Understanding the Complexity of Patients' Nursing Care Needs: Implications for Specialist and Advanced Nursing Roles in European Healthcare

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Background: Across European healthcare systems, nurses increasingly care for people with multimorbidity, frailty, technological dependence, and social vulnerability. These conditions create complex nursing care needs that challenge traditional models and require advanced

clinical reasoning, coordination, and decision-making. Despite its relevance for specialist and advanced practice, complexity of patients' nursing care needs remains insufficiently defined and operationalized, limiting its use for education, role development, and workforce planning.

Aim(s): To explore how patients' nursing care needs complexity is conceptualized and assessed in the literature and its implications for specialist and advanced nursing roles.

Methods: A scoping review was conducted following Joanna Briggs Institute methodology and PRISMA-ScR guidelines. Five databases and grey literature (1992-2025) were searched. Studies addressing conceptual definitions, determinants, and assessment approaches for patients' nursing care needs complexity were included. Data were analyzed using narrative synthesis.

Results: Seventy-one studies were included. Patients' nursing care complexity was consistently described as a dynamic, multidimensional phenomenon arising from interactions among clinical-functional instability, psychosocial and relational needs, family and caregiving capacity, and organizational factors. Most instruments focus on workload, dependency, or global biopsychosocial risk, rather than on complexity as experienced and managed by nurses, patients and caregivers. The literature highlights the central role of specialist and advanced practice nurses in coordinating care, integrating services, and responding to complex needs, particularly in contexts of ageing, chronic illness, vulnerability and fragmented care systems.

Conclusions: Findings underline the need for shared frameworks and assessment tools that reflect specialist nursing realities. Clarifying and operationalizing complexity can support the development of specialist and advanced nursing competencies, guide education and workforce planning, and strengthen person- and family-centred care across European health systems.

Keywords: Patients' Nursing care needs complexity; Person- and family-centred care; Integrated care

54. Health Literacy in Parkinson's Disease: A Scoping Review of Concepts, Influencing Factors, and Clinical Implications

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Background: Parkinson's disease (PD), the second most prevalent neurodegenerative disorder, presents a significant challenge in terms of both motor and non-motor symptom management. PD significantly impairing self-care capacity due to its complex motor and nonmotor symptoms, the health literacy (HL) plays a crucial role in enabling patients to acquire, interpret, and apply knowledge about their condition.

Aim(s): This study aims to map the literature on HL in PD and assess its impact on disease management.

Methods: Following Joanna Briggs Institute guidelines and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses 2020 extension, a scoping review was conducted. Relevant documents were identified through scientific database. The systematic searches up to December 2024. The review examined the fundamental elements that constitute HL in patients with Parkinson's. A narrative synthesis was performed to integrate the findings without specific statistical tests due to the scoping nature of the review.

Results: Literature mapping was conducted based on 13 articles deemed eligible according to the defined inclusion criteria. The studies highlighted a rich array of elements in the field of health literacy in Parkinson's disease, including the ability to recognize disease-specific signs and symptoms and their interaction with the treatment plan, as well as aspects related to communication between patient and healthcare provider. The literature mapping also identified factors such as age, disease duration, and cognitive impairment as factors related to HL.

Conclusion: The literature lacks analysis of literacy levels in patients with Parkinson's disease. It is necessary to develop educational interventions aimed at improving knowledge about the disease, throughout all phases of diagnosis and management, and evaluating their impact on long-term outcomes.

Keywords: Parkinson's disease; Health literacy; Nursing; Public Health; Scoping Review

55. Educational Interventions for Cardiac Surgery Patients: A Scoping Review

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Background: Cardiovascular diseases are the leading cause of death worldwide, often requiring complex surgical interventions. The success of these procedures depends not only on the surgical technique but also on the patient's ability to manage their own health. Therapeutic education plays a crucial role in improving clinical outcomes and quality of life.

Aim(s): The aim of this paper is to systematically map the existing literature on educational interventions available for adults undergoing cardiac surgery.

Methods: A scoping review was conducted in accordance with the Joanna Briggs Institute (JBI) methodology between May and November 2025. A comprehensive search was performed across major biomedical databases, including PubMed, CINAHL, Embase, Web of Science, Scopus, and Cochrane, with no time restrictions and including all available types of records.

Results: 33 records were included in the screening process. The educational interventions reviewed were from diverse geographical regions and featured a variety of study designs. The most used interventions included nursing counseling, written informational materials, telemedicine, and peer support strategies. These interventions were applied either before surgery, after surgery, or in both phases, often in combination. The review emphasizes the crucial role of nurses in enhancing patient understanding, adherence, self-efficacy, and overall well-being throughout the entire care process.

Conclusions: Educational interventions are essential for improving both the clinical and psychological outcomes of patients. The role of nurses is crucial in planning and delivering these interventions, ensuring continuous care and promoting patient autonomy throughout the entire process.

Keywords: Cardiac surgery; Patient education; Scoping review

56. Movement-Based Interventions in Patients Affected by Bone Metastases: Impact on Physical Function and Functional Autonomy-A Systematic Review

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Background: Bone metastases are a common complication in patients with advanced cancer. These patients often experience a decline in physical function and autonomy, particularly in the ability to perform Activities of Daily Living and structured movement-based interventions may represent an important supportive strategy.

Aim(s): The aim of this study is to describe the available evidence regarding the impact of physical activity and exercise interventions on functional status and ADL performance in patients with bone metastases.

Methods: A systematic literature review was conducted in PubMed, Scopus, Embase, Web of Science, and CINAHL database up to March 2025 and reported according to PRISMA guidelines. Eligible studies included adults (≥18 years) with confirmed bone metastases who underwent physical activity interventions designed to enhance functional status and ADLs. Studies' methodological quality was assessed using the Joanna Briggs Institute critical appraisal tools, selected according to study design

Results: Eleven studies were included: four randomized controlled trials, four quasi-experimental studies, one randomized feasibility trial, one cross-sectional observational study, and one case report. Despite heterogeneity in intervention type, duration, and outcome measures, most studies reported improvements in physical function, including mobility, muscle strength, walking capacity, and endurance, as well as enhanced performance in ADLs and reductions in fatigue. No serious adverse events were reported.

Conclusions: Structured physical activity appears safe and may improve function and independence in patients with bone metastases. These findings support the integration of individualized exercise programs into multidisciplinary supportive care.

Keywords: Advanced cancer; Bone metastases; Movement; Palliative care; Activities of daily living; Physical function

57. Can Research Protocols Withstand Cultural Complexity? Researcher Leadership in Transcultural Nursing

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Background: The increasing cultural complexity of healthcare systems poses a challenge to traditional approaches in nursing research. In cross-cultural contexts, cultural differences in language, meaning, and vulnerability affect all phases of the research process, requiring a shift from protocol-driven models to context-sensitive approaches.

Aim(s): To explore how research processes unfold in transcultural nursing contexts and how these dynamics shape the leadership role of the researcher.

Methods: A qualitative study was conducted involving healthcare operators working in migrant reception settings. Semi-structured interviews explored their experiences of conducting research with culturally diverse populations. Data were analyzed thematically, focusing on recurring challenges and adaptive practices.

Results: The study involved 18 participants (mean age 36.1 years), predominantly female (61%), highly educated, and mainly based in Puglia (61%), with roles spanning psychosocial (39%), educational (28%), managerial (22%), and operational areas (11%). Findings highlight challenges such as language barriers, differences in meaning attribution, relational tensions, and emotional burden. Operators described adaptive strategies including linguistic and cultural mediation, flexible communication, contextual reinterpretation, and trust-building. Research processes in transcultural contexts are not sustained by protocols alone but are continuously shaped through interaction between researchers, participants, and context. Cultural dimensions influence all stages of research process, requiring ongoing negotiation of meaning.

Conclusions: Researcher leadership in transcultural nursing emerges as the capacity to guide research processes within complex and uncertain contexts. This leadership involves maintaining scientific direction while adapting to contextual demands, mediating between different actors, and ensuring ethical and methodological integrity. It requires advanced communicative, relational and interpretative competencies to navigate cultural differences across all phases of the research process. Implications for Practice Strengthening researcher leadership in transcultural contexts is essential for advancing nursing research. Training programmes should incorporate competencies in complexity management, cultural mediation, and adaptive research practices, positioning transcultural nursing as a key area for professional development.

Keywords: Nursing research; Vulenrable migrants; transcultural nursing; challenging research

58. Assessment of Movement in Patients Affected by Bone Metastases: A Scoping Review of Questionnaires and Qualitative Studies

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Background: Movement is essential for autonomy and quality of life in patients with bone metastases. Despite growing evidence supporting the safety and benefits of adapted physical activity, movement is often underused due to safety concerns and fear of skeletal-related events.

Aim(s): This scoping review aimed to identify, map, and describe the tools used to assess perceptions and beliefs regarding movement among patients with bone metastases, their family caregivers, and healthcare professionals.

Methods: The review followed the Joanna Briggs Institute methodology and was prospectively registered on OSF. A comprehensive search of databases was conducted up to December 2025 without time or language restrictions. Quantitative, qualitative, and mixed-methods studies were included if they involved adult patients with bone metastases, caregivers, or healthcare professionals and used questionnaires or structured approaches to assess movement-related perceptions.

Results: Thirteen studies were included. Assessment approaches were heterogeneous. In patients, movement was frequently evaluated through non-movement-specific instruments measuring quality of life, pain, fatigue, or physical activity levels. Few tools explored movement-related needs, preferences, fears, and motivations, and several were ad hoc without validation. Studies involving healthcare professionals assessed attitudes, beliefs, and confidence in prescribing exercise, often using survey-based designs and case scenarios. Only one study explored caregivers' perspectives on patients' movement needs.

Conclusions: Current tools provide useful information on outcomes and attitudes but partially capture how movement is experienced and supported in daily life. More

comprehensive and multidimensional assessment approaches are needed to better align movement-related care with the needs of people with bone metastases.

Keywords: Bone metastases; Movement; Assessment tools; Qualitative studies; Healthcare professionals; Family caregivers

59. Characterization and Management of Signs and/or Symptoms in Older Patients with Multiple Chronic Conditions: An Intensive Longitudinal Study Protocol (Symptoms)

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Background: The global aging population faces a rise in multiple chronic conditions (MCC), which significantly impacts patients and healthcare systems. Effective self-care, particularly symptom monitoring and management, is crucial for outcomes. However, traditional one-time assessments fail to capture the dynamic, real-time fluctuations of symptoms in daily life.

Aim(s): This study aims to evaluate daily adherence to self-care recommendations, describe symptom fluctuations (frequency, severity, and distress), and assess the perceived effectiveness of management strategies and caregiver contributions.

Methods: A multicenter, observational, intensive longitudinal study will be conducted. We will recruit 200 patients (over 65 years old) with at least two chronic conditions. Data will be collected via twice-daily telephone interviews over 14 days, focusing on momentary symptom states using Likert scales. Multilevel modeling for intensive data (ILMs) will be used to analyze intra-subject and inter-subject variability. Expected Results: The study expects to provide high-resolution descriptions of daily symptom patterns and identify triggers for health deterioration. It will classify management strategies and evaluate how caregiver support influences the self-care process.

Conclusions: By focusing on symptoms rather than specific diseases, this protocol offers a personalized perspective for clinical practice. The findings will enable specialist nurses to tailor education and support interventions, optimizing care plans and improving the quality of life for this vulnerable population.

Keywords: Caregiver contribution; Dyads, Intensive longitudinal models; Multiple chronic conditions; Self-care; Symptom management

60. Synergies for Care: A Mixed-Methods Research on the Integration of Territorial Health and Social Services from the Health Professionals' Perspective (SYN4CARE).

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Background: Integrated health and social care is essential to address the challenges of ageing populations and the rising demand for community-based, person-centred care. Older adults with chronic conditions, frailty, and complex care needs require seamless coordination between health and social services to preserve dignity and quality of life. In Italy, fragmented governance and weak inter-sectoral coordination still limit continuity of care for this population. The SYN4CARE multicentre project, coordinated by the Istituto Superiore di Sanità, investigates professionals' perceptions and experiences of integrated community-based care across different Italian regions.

Aim(s): The SYN4CARE project pursues four main objectives: to explore how community-based professionals define and perceive integrated care; to assess the current level of integration implementation across different Italian regional contexts; to identify the main barriers and facilitating strategies encountered in daily practice; and to develop an Integrated Care Competence Scale to measure collaborative and holistic care skills among the workforce.

Methods: SYN4CARE will adopt a convergent mixed-methods design combining an online questionnaire and focus groups. Approximately 300 professionals from eight Italian regions will complete the survey and 100-160 will participate in 16 focus groups. Participants will include healthcare and social care professionals with at least two years of community practice. Quantitative data will be analysed with descriptive statistics, qualitative data through thematic analysis, and findings will be subsequently integrated.

Results: Professionals are expected to define integration as a relational and collaborative process centred on the person. While effective local networks may exist in some areas, integration is anticipated to remain uneven due to resource constraints, limited

interprofessional training, weak digital interoperability, and unclear professional roles. These barriers are likely to disproportionately affect the continuity and dignity of care for frail older adults and those with palliative care needs.

Conclusions: SYN4CARE findings will inform workforce training, organisational improvement, and evidence-based policy strategies to strengthen integrated community care in Italy. By developing the Integrated Care Competence Scale and highlighting effective local practices, the project aims to support a more equitable, person-centred, and dignified care system for ageing and vulnerable populations across diverse regional contexts.

Keywords: Integrated care; Ageing population; Community-based care; Person-centred care; Interprofessional collaboration; Frailty

61. Nursing Interventions and Multilevel Rehabilitation Approaches in Elder Abuse and Neglect: A Review

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Background: Elder abuse and neglect are major public health and human rights issue that occurs within relationships of trust and includes physical, psychological, sexual, and financial abuse, as well as neglect. It often remains underrecognized and underreported, even though evidence shows that approximately one in six older adults experiences abuse each year, highlighting its growing global importance.

Aim(s): This review examines the multidimensional etiology of elder abuse and neglect and summarizes current evidence on nursing interventions and multilevel rehabilitation approaches that enhance safety, support psychosocial recovery, and prevent re-victimization.

Methods: This study was conducted as a review. A literature search is carried out in PubMed, Web of Science, Scopus, CINAHL, PsycINFO, and Google Scholar using Boolean operators (AND, OR). The search includes terms related to elder abuse, nursing care, rehabilitation, and psychosocial and multidisciplinary interventions, as well as keywords such as caregiver burden, telehealth, and community-based care.

Results: Elder abuse has a multifactorial etiology shaped by cognitive impairment, chronic illness, dependency, caregiver burden, stress, psychopathology, family conflict, social isolation, poverty, and ageism. Effective responses require coordinated, long-term, and trauma-informed care. The WHO LIVES framework provides a structured first-line response based on listening, identifying needs, validation, safety planning, and support. At the individual level, interventions such as PROTECT and telehealth-based therapies improve emotional recovery. Family-based approaches, including cognitive behavioral therapy, KINDER, and COACH, reduce caregiver stress and strengthen relationships. Financial empowerment programs such as SAFE address economic vulnerability. At broader levels, models such as CCR, SEARCH, and R-REM improve detection, reporting, and coordination.

Training programs such as I-NEED and REAGERA strengthen healthcare professionals' knowledge, confidence, and response capacity.

Conclusions: Elder abuse cannot be addressed through short-term or isolated interventions. Nursing care requires a holistic and multilevel rehabilitation approach that integrates safety, psychosocial support, caregiver-focused strategies, institutional coordination, and professional training. Nurses play a central role in recognition, referral, rehabilitation, and continuity of care.

Keywords: Elder abuse; Elder neglect; Multilevel rehabilitation; Nursing interventions; Psychosocial support

62. Mapping Nursing Competencies in Disaster Response Within Civil Protection Systems: A Scoping Review

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Background: The growing complexity of disasters demands the effective inclusion of nurses within Civil Protection frameworks. Despite their key contribution, the competencies required to function in these multi-agency systems remain scattered and not clearly defined.

Aim(s): To map nursing competencies in disaster response in the Civil Protection context, identifying key skills, contextual differences, and barriers to their implementation.

Methods: A scoping review was performed following JBI methodology and reported according to PRISMA-ScR guidelines. Major databases (PubMed, CINAHL, Scopus, Embase) were searched without temporal restrictions, leading to the inclusion of 27 studies published between 2011 and 2025.

Results: Twelve core competency domains were identified. Clinical care was the most frequently reported competency (70% of studies), followed by communication (63%), leadership (60%), triage (48%), and psychosocial support (48%). Insufficient specific training emerged as the main individual barrier (44%), while the lack of standardized curricula represented the primary systemic limitation (41%). Competency needs varied considerably depending on hazard type and organizational context.

Conclusions: The disaster nurse is increasingly recognized as a key specialized professional in response to the rise of climate-related events and global conflicts. There is a pressing need to move beyond strictly clinical preparation to include organizational awareness and psychological resilience, aligning educational pathways with national Civil Protection strategies.

Keywords: Disaster nursing; Civil Protection; Nursing competencies; Emergency preparedness; Scoping review; Disaster response

63. Faith and Care in Religious Mass Gatherings: An Ethnographic Study Among Civil Protection Volunteer Nurses and Pilgrims

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Background: Large-scale mass gatherings present challenges that extend beyond the clinical sphere, involving emotional and ethical demands for nurses, who must combine care with relational competencies in complex, high-pressure settings with limited resources.

Aim(s): This study examines the experiences of nurses from the Coordination of Volunteer Nurses for Health Emergencies and pilgrims during a major religious event, exploring the relational, emotional, and ethical aspects of care and the meaning attributed to the caregiving experience.

Methods: A focused ethnographic approach was adopted, guided by Spradley's Developmental Research Sequence, using semi-structured interviews and participant observation.

Results: Six key themes were identified: the interaction between spirituality, collective participation, and the narrative of place; silent care; sense of community; and personal and professional development. Three cross-cutting themes common to both groups also emerged.

Conclusions: In mass gathering settings, nursing care emerges as a relational and transformative process that integrates clinical, emotional, spiritual, and cultural competencies, supporting both patients and pilgrims while fostering professional and community development.

Keywords: Disaster nursing; Spiritual care; Civil Protection; Ethnography; Volunteer nurses; Pilgrimage

64. The Role of the Nurse Case Manager in Radical Cystectomy Pathways: A Phenomenological Study of Patient Experience

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Background: Patients undergoing radical cystectomy (RC) for bladder cancer face complex clinical pathways accompanied by significant physical, psychological, and social burdens.

Within this context, the Nurse Case Manager (NCM) may play a key role in supporting patients and coordinating care.

Aim(s): To explore the impact of the NCM on patients' experience, focusing on perceived health status, recovery process, and quality of care.

Methods: A qualitative phenomenological study was conducted following Giorgi's methodological approach. Data were collected through 16 semi-structured interviews and analyzed to capture patients' lived experiences and perceptions of both the NCM role and the care pathway.

Results: The analysis identified the NCM as a central figure in the care process. Participants reported that the NCM provided consistent emotional support, facilitated continuity of care, and improved coordination among healthcare professionals. The ability of the NCM to enhance communication within the multidisciplinary team was particularly valued. Professional competence and empathetic interaction emerged as key elements influencing patient satisfaction and engagement in care.

Conclusions: The NCM contributes significantly to integrating clinical management with psychosocial support, positively affecting patient satisfaction and adherence to the care pathway. However, the study is limited by the small sample size and short observation period. Further research is required to strengthen evidence, optimize multidisciplinary care models, and evaluate outcomes over longer follow-up periods.

Keywords: Nurse case manager; Radical cystectomy; Bladder cancer; Frailty; Qualitative research

65. Community-Based Nursing and Social Determinants in Chronic Disease Care for Older Adults in Albania

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Background: Nursing is both a clinical and social practice shaped by societal values, inequalities, and population needs. However, key social dimensions, such as stigma, ageism, social isolation, and food insecurity, remain underexplored in chronic disease management among older adults. These factors significantly influence health outcomes, particularly in low- and middle-income countries, where older populations face compounded vulnerabilities related to gender, rural residence, and economic insecurity.

Aim(s): To examine the social dimensions of nursing care in chronic disease management among older adults; to identify key social determinants influencing health outcomes and mobility; and to assess the role of home and community-based nursing during emergency situations.

Methods: A descriptive study was conducted in 2025 in southern Albania using quantitative and qualitative data from adults aged ≥65 years with chronic diseases, primarily residing in rural areas. Data included assessments of nutritional status, mental health, functional ability, living conditions, and access to healthcare during emergency situations.

Results: Among participants, 80% were women, 53% were retired, and 45% lived alone. Multiple chronic conditions were reported by 21%, moderate dementia by 12%, depressive symptoms by 32%, and severe social isolation by 11%. Food insecurity and financial constraints were common. Statistically significant associations were observed between gender and several nutritional and functional indicators. Females exhibited significantly higher rates of moderate and severe reductions in food intake compared to males (χ^2 = 271.9, df = 2, $p < 0.001$). Weight loss also differed significantly by gender (χ^2 = 391.2, df = 2, $p < 0.001$), with females more frequently reporting weight loss of 1-3 kg, while males showed a higher proportion of weight loss greater than 3 kg. Mobility status was significantly associated with gender (χ^2 = 120.2, df = 2, $p < 0.001$), with severe mobility limitations (bedridden or wheelchair-bound) more prevalent among males. Psychological stress was reported significantly more often by females than males ($p < 0.001$). 95% stated that emergencies negatively affected disease management. Reduced healthcare access (35%) and worsening health status (80%) were common. Home and community-based nursing contributed to medication management, health monitoring, emotional support, and daily care, while major barriers included communication difficulties, transportation challenges, financial constraints, and limited social support.

Conclusions: Social determinants and gender inequalities significantly shape health outcomes and quality of life among older adults with chronic diseases. Strengthening socially responsive, community-based nursing approaches is essential to improve equity, resilience, and healthy ageing in vulnerable populations.

Keywords: Chronic disease management; Oder adults; Social determinants of health; Community-based nursing; gender inequalities; Rural health

66. Polypharmacy and Adherence in Older Adults: Baseline Findings from a Nurse-Led Multidisciplinary Medication Review Study in Primary Care

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Background: Polypharmacy is highly prevalent among older adults and is associated with adverse events, drug-drug interactions, poor adherence, increased healthcare costs, and exposure to potentially inappropriate medications. Structured medication review and deprescribing interventions may improve the appropriateness and safety of medications in primary care settings.

Aim(s): To describe baseline characteristics of older adults enrolled in a crossover study; to explore the association between the number of medications and adherence.

Methods: This preliminary analysis derives from an ongoing nurse-led, multidisciplinary study in primary care. Adults ≥65 years with polypharmacy (≥ 5 medications) were recruited through general practitioners. Baseline data included clinical characteristics, medication regimens, the Morisky Medication Adherence Scale, and the Patients' Attitudes Towards Deprescribing questionnaire. Drug-drug interactions were identified using INTERCheck® software. A multivariate linear model was used to analyze the data.

Results: Forty-three patients were included (55.8% males), aged 78.9 ± 7.7. The median number of medications was 8, IQR [6-10]. Hyperpolypharmacy (> 10 medications) was observed in 25.6%, with a median number of 6 interactions, IQR[3-9] (Supplementary Material). Hypertension (76.7%) and hyperlipidemia (51.2%) were the most prevalent conditions; statins (79.1%), ACE inhibitors (65.1%), beta-blockers (62.8%), and proton pump inhibitors (55.8%) were the most commonly prescribed medications. Low medication adherence was observed in 39.5% of patients, moderate in 48.8%, and high in 11.6%. Considering all potential confounders (i.e. age, caregiver) the significant predictors of poor adherence were the feeling of taking useless medications (p=0.0257) and its combination with the number of medications (p=0.038). Being unsure about the rationale for medications influenced the perceived burden of taking drugs everyday at fixed times (p=0.008). Overall 95.3% expressed willingness to discontinue one or more medications if recommended by their doctor.

Conclusions: Our findings show high medication burden, frequent drug-drug interactions, suboptimal adherence, and strong willingness toward deprescribing. The feeling of taking useless medications and the uncertainty about their rationale represent areas of educational intervention for nurses and support medication review and targeted deprescribing strategies.

Keywords: Polypharmacy; Chronicity; Medication adherence, Deprescribing; Multidisciplinary team; Primary care

67. From Preparedness to Capability: A Systematic Review to Inform Nursing Practice in Stroke Survivor-Caregiver Dyads

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Background: Following the acute phase of stroke, care rapidly shifts from the hospital setting to the home environment and everyday life, requiring continuous adaptation by both survivors and caregivers. Although the literature shows that educational interventions improve preparedness, there is no guarantee that this translates into a real ability to act in daily life contexts. Capability represents a key element for understanding how personal and environmental resources are transformed into concrete care actions.

Aim(s): To analyse the role of capability in post-stroke management within the survivor-caregiver dyad and to define its implications for nursing practice.

Methods: A systematic review was conducted in accordance with PRISMA guidelines. Seven databases (CINAHL, Embase, ERIC, PsycINFO, PubMed, Scopus, and Web of Science) were searched up to May 2025. Methodological quality was assessed using Joanna Briggs Institute tools. A narrative synthesis was performed to explore how capability emerges from the interaction between individual, relational, and contextual factors.

Results: A total of 22 studies with high methodological quality (mean score above 90%) were included. Despite the heterogeneity of the included studies, findings show that capability represents the process through which the dyad converts knowledge and resources into concrete care actions in everyday life. This process is influenced by factors such as resilience, motivation, and self-efficacy, and is strongly shaped by social and environmental support. The presence of these elements determines the extent to which continuity of care, post-discharge adaptation, and safety can be achieved.

Conclusions: Capability emerges as a relevant concept for nursing, as it enables moving beyond a perspective focused solely on preparedness. For nurses involved in stroke care, this implies designing interventions that support the real-world application of care within home settings through continuous support and contextual facilitation. Integrating capability into transitional care may improve clinical outcomes and enhance the sustainability of care.

Keywords: Stroke; Survivor; Caregiver; Capability

68. Nursing Advocacy in Critical Care: A Scoping Review

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Background: Critically ill patients are a vulnerable population due to the severity of their illness, which can increase their dependence on healthcare professionals, and to the asymmetry of power and knowledge in their relationship with healthcare staff. Nurses act as patient advocates, promoting ethically sound access to care. Many studies have explored the effects of nursing advocacy in diverse critical care settings, but no clear definition of the boundaries of such role currently exists.

Aim(s): To explore the boundaries of nursing advocacy in critical care, its facilitators and inhibitors, and its measurable outcomes.

Methods: Scoping review by the JBI manual for evidence synthesis on Medline (Ovid), Embase, Scopus and CINAHL.

Results: The 36 studies included (9 quantitative, 19 qualitative, 3 mixed-methods, 4 interventional, 1 case report) support the advocacy role of nurses to ensure patients' and caregivers' safety and dignity. Interventions include communicative mediation, empowerment, decision support, interprofessional coordination and speaking up when patients are unable to stand for themselves. Barriers to advocacy include a medicine-dominated environment, fear of retaliation and potential professional isolation, unfavourable organisational contexts, moral conflicts, and emotional constraints. Facilitators include the empowerment of nurses through targeted training, widespread organisational support and a safety-based culture, the presence of a moral identity and strong personal values among nurses. The effects of nursing advocacy include improvements in patient safety, greater respect for individual values and preferences by the caring team, and more effective intra-interprofessional communication. When advocacy efforts have no effect or are hindered, a greater sense of frustration and disappointment spreads among nurses, undermining their intention to stay.

Conclusions: Nurses' ethical values and professional role lead them to be natural advocates. Measurable outcomes of advocacy in critical care are consequences of its impact on effective communication within the medical team and with patients/caregivers, increased intention to stay, and higher job satisfaction. However, the many factors that negatively influence the full expression of advocacy urge the implementation of interventional studies to assess the efficacy of strategies aimed at taming their effect and promote the culture of advocacy.

Keywords: Nursing; Advocacy; Critical Care; Ethics, Vulnerability

69. The Role of the Nurse-Patient Relationship in Chronic Illness Management: A New Framework and Measure

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Background: Nurses are among the most trusted healthcare professionals, and they play a salient role in the care of adults living with chronic illness in inpatient and outpatient settings. Nurses are often the healthcare provider a patient interacts with the most and the one who works closely to educate them about effective ways to manage their chronic illness (e.g., monitoring symptoms) and encourages them to adopt healthier behaviors (e.g., modify their diet). For patients who see the same nurse over time, this therapeutic relationship has been shown to impact the patient's quality of life and self-care, and the nurse's job satisfaction, burnout, and intention to leave. However, there were no middle-range theories or conceptual frameworks focused on nurse-patient mutuality and no instrument to measure this concept from both the nurse-patient perspective.

Aim(s): To address these gaps, a new conceptual framework focusing on the dyadic relationship between nurses and patients with chronic diseases was developed through a qualitative study using a Grounded Theory approach.

Methods: This framework focuses on the mutuality process, its outcomes, predictors for both patient and nurse. Based on qualitative data from both, the framework defined mutuality as a dyadic interactive process between the nurse and the patient along three dimensions: 1) developing and going beyond, 2) being a point of reference, and 3) deciding and sharing care. Hypothesized outcomes of positive mutuality include better self-care, medication adherence, quality of life and clinical outcomes for the patient and better job satisfaction and quality of life for the nurse. Predisposing factors for more positive mutuality were age, sex, patient's health status, and nurse's work experience and stage of career.

Results: Several quantitative studies have tested the theory with samples of nurse-patient dyads in Italy. Results show that as mutuality increases, patient self-care significantly increases, as does quality of life for both members of the dyad. For nurses, higher perceived mutuality with the patient is associated with increased job satisfaction and decreased intention to leave and burnout. This presentation will provide background on the development of the framework and associated measure, the 20 item Nurse-Patient Mutuality in Chronic Illness Scale. Items related to the three dimensions of mutuality were asked to both nurses and patients on a 5-point Likert scale from 1(never) to 4(always). The measure is being validated in China, Turkey, South Korea.

Conclusions: The discussion will focus on whether the measure differs psychometrically and/or conceptually between nurse and patient as well as potential dyadic health science interventions.

Keywords: Nurse-patient mutuality; Chronic illnesses; Dyadic health science; Theorization; Conceptual framework

70. Breaking Masculinity Barriers: Nursing Strategies to Improve Early Help-Seeking in Men at Risk of Prostate Cancer

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Background: Delayed help-seeking among men with urological symptoms represents a major barrier to early detection of prostate cancer. Social norms and traditional masculinity often discourage men from expressing vulnerability and seeking timely medical care. Nurses play a key role in recognising these barriers and promoting early engagement.

Aim(s): To examine the influence of masculinity-related social norms on preventive behaviour and help-seeking patterns in men, and to identify implications for nursing practice.

Methods: A cross-sectional study was conducted among 500 male employees aged 19-60 years (mean 32.7 ± 7.0) in a tertiary healthcare institution. Data were collected using the ZDRAV-M questionnaire (30 items, 5-point Likert scale), assessing health perception, preventive behaviour, and masculinity norms. Data were analysed using SPSS 29, including descriptive statistics, reliability analysis, and exploratory factor analysis.

Results: The instrument showed high reliability (Cronbach's alpha > 0.80). Factor analysis confirmed sampling adequacy (KMO = 0.955; Bartlett's test $p < 0.001$) and explained 62% of variance. A significant positive correlation was found between lower adherence to traditional masculinity norms and increased preventive behaviour ($r = 0.29$, $p < 0.01$). Men with less rigid beliefs were more likely to seek medical help and engage in prevention.

Conclusions: Masculinity-related norms significantly influence men's health behaviour and may delay prostate cancer detection. Nurses are crucial in addressing these barriers through targeted communication and gender-sensitive approaches, improving early diagnosis and patient outcomes.

Keywords: Prostate cancer; Men's health; Masculinity; Nursing care; Prevention; Health-seeking behaviour

71. Living with Disruption: The Impact of Pre-Dialysis Chronic Kidney Disease on Daily Life and Roles - A Qualitative Meta-Synthesis

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Background: Chronic Kidney Disease (CKD) stages 3-4 is a progressive condition that extends beyond physiological impairment, affecting multiple dimensions of patients' everyday lives. While clinical management primarily focuses on slowing disease progression, less attention is given to how CKD disrupts daily functioning, social roles, and personal identity.

Aim(s): To synthesise qualitative evidence on the impact of CKD on daily life and roles among patients in pre-dialysis stages (3-4).

Methods: A qualitative systematic review was conducted following the Joanna Briggs Institute meta-aggregative approach. Searches were performed across PubMed/MEDLINE, CINAHL, Scopus, Web of Science, Cochrane Library. Studies exploring patient experiences in CKD stages 3-4 were included. Findings were aggregated into categories and synthesised into a single overarching Synthesized Finding. Confidence in findings was assessed using ConQual.

Results: The synthesis generated three interconnected categories reflecting the multidimensional impact of CKD: (1) symptom burden and functional disruption, (2) disruption of roles and social participation, and (3) altered identity and future life plans. CKD emerged as a condition that progressively constrains everyday life. Symptom burden-particularly fatigue, sleep disturbances, and reduced physical functioning-limited autonomy and the ability to perform routine activities. Patients reported disruptions in work, study, and productivity, alongside reduced social participation and increasing dependence on others. Relationships were affected, with experiences of isolation and difficulties maintaining previous roles within family and society. These changes were closely linked to an altered sense of identity, characterised by loss of normality and uncertainty about future life trajectories.

Conclusions: Pre-dialysis CKD profoundly reshapes daily life, social roles, and personal identity, highlighting a substantial yet often under-recognised burden before dialysis. Nursing care should extend beyond clinical monitoring to proactively address functional limitations, social participation, and role preservation. Early supportive, person-centred

interventions are essential to maintain autonomy, strengthen patient engagement, and improve quality of life.

Keywords: Chronic Kidney Disease; Pre-dialysis; Patient experience; Qualitative research; Daily life impact

72. Knowledge and Confidence Gaps in Pre-Dialysis Chronic Kidney Disease Management: A Qualitative Meta-Synthesis of Healthcare Professionals' Perspectives

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Background: Chronic Kidney Disease (CKD) stages 3-4 represent a critical window for early intervention to prevent progression and reduce patient vulnerability. However, effective management depends on healthcare professionals' ability to recognise, interpret, and prioritise CKD within complex clinical contexts.

Aim(s): To synthesise qualitative evidence on healthcare professionals' knowledge, confidence, and decision-making in the management of pre-dialysis CKD.

Methods: A qualitative systematic review was conducted following the Joanna Briggs Institute meta-aggregative approach. Searches were performed across PubMed/MEDLINE, CINAHL, Scopus, Web of Science, Cochrane Library. Studies exploring healthcare professionals' perspectives on CKD stages 3-4 were included. Findings were aggregated into categories and synthesised into a single overarching Synthesized Finding. Confidence in findings was assessed using ConQual.

Results: The synthesis generated four interrelated categories: (1) limited conceptual understanding and low prioritisation of CKD; (2) low confidence and uncertainty in clinical

decision-making; (3) limited familiarity and usability of guidelines and decision-support tools; and (4) diagnostic uncertainty and delayed recognition of CKD. CKD was often perceived as an abstract and low-priority condition, particularly in asymptomatic, older, or multimorbid patients. Healthcare professionals reported low confidence in key aspects of management, including pharmacological treatment, staging, and referral decisions, often influenced by competing clinical priorities. Limited awareness and usability of guidelines further constrained practice, with difficulties in accessing and applying recommendations and a need for simplified decision-support tools. Diagnostic processes were frequently uncertain and delayed, with hesitation in labelling CKD and reliance on longitudinal assessment contributing to variability in care.

Conclusions: Knowledge and confidence gaps in CKD management contribute to variability in care and increased vulnerability in pre-dialysis patients. Strengthening education, improving access to clear and usable guidance, and supporting clinical decision-making are essential priorities. Nurses play a key role in early identification, patient education, and coordination of care, promoting more timely, equitable, and person-centred pathways.

Keywords: Chronic Kidney Disease; CKD pre-dialysis; Healthcare professionals; Qualitative research; Professional Experiences

73. Ensuring Dignity-Driven Care for Vulnerable Populations: A PHCQAT Assessment of Primary Health Care Quality in Indonesia

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Background: As the global landscape of healthcare prioritizes the needs of ageing populations and those living with chronic conditions, the implementation of person-centred and dignity-driven care has become a fundamental necessity. This approach is especially critical for vulnerable groups who rely heavily on the Badan Penyelenggara Jaminan Sosial (BPJS) Kesehatan, the Indonesian National Health Insurance scheme, to manage frailty and long-term illnesses. Quality markers such as facility cleanliness, clear provider-patient communication, and the efficient management of a patient's time are not merely administrative metrics but the essence of providing humane and dignified care. Measuring these orientations is vital to ensure the Indonesian health system provides high-value services that respect the dignity of its most dependent citizens.

Aim(s): This study aimed to evaluate the orientation of primary health care (PHC) from the patient's perspective in Indonesia, focusing on how different dimensions of care align with global standards of person-centred and dignity-driven services.

Methods: A quantitative cross-sectional study was conducted involving 219 respondents (50 males and 169 females). The participant pool predominantly consisted of 202 BPJS JKN members, while 17 respondents were non-BPJS users, many of whom accessed services as general patients due to various registration hurdles within the national health insurance system. Data were collected across three healthcare facilities, including one hospital and two community health centers (Puskesmas). The research utilized the Primary Health Care Quality Assessment Tool (PHCQAT), which has been adapted into the Indonesian language to ensure cultural and linguistic relevance. The tool assesses 30 items across nine quality dimensions using a 5-point Likert scale.

Results: The analysis of 219 responses shows that facilities perform strongly in clinical dignity but face significant operational bottlenecks. In the interaction domain, 73% of respondents strongly agreed that healthcare staff were respectful and polite, while 69% strongly agreed that clinical explanations were clear and understandable. Confidence in provider expertise was also high, with 66% of patients strongly agreeing that the medical staff possessed sufficient skills. Conversely, Timeliness was identified as the primary systemic weakness; only 25% of respondents strongly agreed that they experienced short wait times, while 19% expressed significant dissatisfaction with the time spent between arrival and the actual consultation. Digital Accessibility remains a deficit, as 11% of respondents strongly disagreed that medical advice was available through digital or offline platforms. While overall facility cleanliness was rated positively, satisfaction with waiting room amenities was notably lower, with only 32% of patients strongly agreeing that the facilities were at an optimum level, frequently citing issues with overcrowding and environmental comfort.

Conclusions: The study demonstrates that primary health care in Indonesia excels in interpersonal respect and clinical confidence but falls short of global standards regarding operational efficiency and modern accessibility. These findings suggest that while the current Indonesian PHC approach is humane in its clinical interactions, the systemic "waste of time" and suboptimal facility conditions do not yet fully align with international benchmarks for high-value, person-centred care. To protect the dignity of vulnerable and ageing populations, the system must evolve beyond clinical competence to prioritize administrative modernization and enhanced facility environments.

Keywords: Primary health care; Person-centred care; Dignity-driven; Vulnerable populations; Quality assessment; Universal health coverage

74. Use and Integration of Patient-Reported Data in Quality of Care Improvement Systems: A Literature Review

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Background: Patient-Reported Data (PRD) are essential to strengthening person-centered care within healthcare systems. Among these, Patient-Reported Outcome Measures (PROMs) capture patients' perceived health outcomes, while Patient-Reported Experience Measures (PREMs) assess the quality of care experiences. Although their value is widely recognized, the structured integration of these tools into process quality of care improvement systems remains limited and characterized by heterogeneous applications.

Aim(s): This review aimed to describe current uses of PROMs and PREMs and to identify existing integration models within quality of care improvement systems.

Methods: A systematic review was conducted following PRISMA guidelines and using the PIO framework. Searches were performed in PubMed, Scopus, and Web of Science. Two independent reviewers screened and selected studies using Rayyan. Of the 1026 records initially identified, only four studies met the inclusion criteria.

Results: Available evidence shows that PROMs and PREMs are mostly used separately, often restricted to specific clinical settings and focused on feasibility rather than integration into governance processes. Key barriers include the subjective nature of PRD, limited digital literacy, organizational resistance, and challenges in translating patient-reported information into improvement actions. Facilitators include strong leadership, interoperable digital systems, targeted training, and active patient involvement.

Conclusions: The review confirms the potential of PRD as tools for continuous quality improvement but highlights the absence of a guiding model for their integration into QM systems. PROMs appear more embedded within clinical pathways, whereas PREMs are often limited to periodic surveys, reducing their ability to capture the complexity of care experiences. A combined PROM-PREM model could enhance the identification of critical issues, support data-driven decision-making, and reinforce patient centrality within quality governance.

Keywords: Keywords patient-reported data; Person-centered care; Quality management; PROMs; PREMs; Quality governance

75. Assessing Health Care Costs for Chronic Diseases in Albania: The Role of Informal Caregivers and the Delphi Technique in Policy Development

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Background: In Albania, chronic diseases are placing an increasing burden on both the health system and informal caregivers, who provide the majority of long-term care. High out-of-pocket expenditures and limited formal support services amplify the economic and social pressures on caregivers. Despite their critical role, the economic contribution of informal caregivers remains insufficiently quantified.

Aim(s): This study aims to estimate the direct and indirect costs associated with informal caregiving in chronic disease contexts and to explore the need for integrating caregivers into health policy and expenditure planning.

Methods: A Delphi technique was employed, involving a panel of experts who participated in multiple iterative rounds to reach consensus. Experts provided estimates and evaluations of caregiving-related costs, including financial burden, productivity loss, and social impact.

Results: Findings indicate that informal caregivers significantly reduce formal healthcare costs by providing unpaid care. However, they experience considerable personal financial strain, reduced productivity, and social challenges. Consensus among the expert panel highlighted the urgent need for formal recognition of caregivers and their inclusion in health system planning.

Conclusions: Informal caregivers play a vital economic and social role in managing chronic diseases. This study provides evidence-based recommendations for health policy in Albania, emphasizing the importance of supporting and formally integrating informal caregivers into the long-term care framework.

Keywords: Delphi Technique; Health care; Care givers; Experts; Costs; Interdisciplinary approach

76. Sleep-Related Vulnerability in Hospitalized Older Adults: Development and Validation of the Biazzi Scale for Person-Centred Geriatric Care

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Background: Hospitalization often heightens older adults' susceptibility to sleep disturbances, yet assessing sleep quality in this population remains difficult, particularly when self-report tools are unreliable or infeasible.

Aim(s): This study outlines the development and validation of the Biazzi Scale, a clinician-administered tool aimed at detecting the risk of sleep disturbance in hospitalized older adults.

Methods: The research was carried out in two stages. First, scale items were generated through a literature review and expert consultation, followed by evaluation of content validity using the Item-Level (I-CVI) and Scale-Level Content Validity Index (S-CVI). In the

second phase, the scale was administered to 150 inpatients aged ≥65 years across four hospital wards within the Piacenza Local Health Authority. Inter-rater reliability was assessed via Cohen's kappa coefficient. Functional convergent validity for clinical decision-making was examined using Receiver Operating Characteristic (ROC) analysis, with the Pittsburgh Sleep Quality Index (PSQI) serving as the external reference .

Results: Content validity indices were satisfactory (I-CVI ≥ 0.78; S-CVI = 0.90), and inter-rater reliability was substantial (κ = 0.77). ROC analysis indicated acceptable discriminatory capacity, identifying a cut-off score of 6 as optimal. Differences in sleep disturbance risk were observed across clinical wards and between genders, with female patients showing higher vulnerability.

Conclusions: The Biazzi Scale demonstrates good reliability and clinical usability and may support person-centred, dignity-driven care by enabling early identification of sleep-related vulnerability in hospitalized older adults, particularly those with frailty and chronic conditions.

Keywords: Older adults; Sleep disturbances; Hospitalization; Frailty; Geriatric assessment; Person-centred care

77. Assessment of the Attitude of Home Healthcare Providers Towards Frailty Syndrome in the Elderly

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Background: According to WHO the prerequisite for healthy ageing is the maintenance of functional capacity, as the combination of the individual's physical and mental resources and the living environment. Given the same life expectancy and psychophysical conditions, the ageing process is not always the same and the trajectories of progressive depletion of functional capacity vary from individual to individual One of complex clinical conditions associated with aging is fragility (frailty) or gerastenia. Gerastenia is characterised by a decline in physiological ability in several organic systems, resulting in increased susceptibility to stressors. Many individuals who are frail or at risk of frailty may go undetected. A comprehensive geriatric interdisciplinary evaluation offers better prognosis and possibilities for tailored treatment and risk determination. It is imperative that effective tools be introduced into clinical practice starting with the evaluation, identification of cases and timely treatment of this important geriatric syndrome. The complexity associated with frailty has made the identification and management of this condition challenging for healthcare professionals. The loss of ability traditionally associated with a stereotyped concept of ageing does not consider the heterogeneity of older adults and their ageing trajectories, indeed it differs and is developed throughout a person individual life-course. Screening is often recommended as a first step in frailty management. Many guidelines call to imply frailty screening into practice in the primary care setting. However, few countries or organizations implement it. Understanding and clarifying the stakeholders' views and issues

faced by the implementation is essential to the successful implementation of frailty screening. There is evidence that positive attitudes from nursing participants when using the Frailty Assessment for Care planning Tool produced an effective result. Primary Care, as the first point of contact for patients, is the appropriate setting for addressing most of the population's healthcare needs.

Aim(s): The aim of the paper is to assess the attitude of health care and rehabilitation providers in the patient's home towards frailty syndrome in the elderly.

Methods: The study is based on the questionnaire "Questionnaire about gerastenia" prepared by the members of the Committee for Geriatrics of the Ministry of Health of the Republic of Croatia (2021). The questionnaire consists of 12 Likert-type statements it was distributed to nurses and physiotherapists in three institutions for health care and rehabilitation in the home. The sample consisted of 105 employees.

Results: The study was conducted on 105 respondents, most of whom were female. The average length of service was 12.1 years. The largest number of respondents were nurses (N =67) and physiotherapists (N =38).

Conclusions: The results of the questionnaire indicate the respondents' significant interest in additional education, as well as knowledge of the concept of fragility syndrome and its implications in practice.

Keywords: Frailty screening; Assessment; Elderly people; Nursing home care

78. Role of a Vascular Access Team in Improving the Appropriateness of Vascular Access Devices: Preliminary Analysis and Rationale for a Monocentric Interventional Study

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Background: Vascular access represents one of the most common procedures in hospital clinical practice. It is estimated that up to 90% of hospitalized patients require a vascular access device (VAD) for the administration of medications, fluids, parenteral nutrition, blood products, or contrast agents. Despite the widespread use of these devices, their selection and management are often suboptimal, leading to increased risks of complications and organizational inefficiencies. VAD-related complications include bloodstream infections, thrombosis, phlebitis, infiltration, extravasation, and dislodgement. These events may significantly increase morbidity, prolong hospital stay, and raise healthcare costs. Moreover, frequent device replacement negatively impacts patient experience, increasing pain, stress, and the likelihood of difficult venous access. In recent years, there has been growing interest in implementing dedicated organizational models for vascular access management. Within this framework, Vascular Access Teams (VATs)-multidisciplinary teams composed of physicians and nurses with advanced expertise in device selection, insertion, and management-have emerged. VATs also play a key role in staff education and in the implementation of international guidelines. Although VAT adoption is increasing, evidence

regarding their impact on clinical and organizational outcomes remains limited. Previous studies suggest improved first-attempt success rates and reduced catheter-related infections; however, further data are needed. Based on these considerations, a monocentric interventional study (VAT II) was designed to evaluate the impact of a VAT on the appropriateness of vascular access. The data presented in this abstract derive from a preliminary observational analysis aimed at describing current practice and identifying key critical issues.

Aim(s): The primary objective of this preliminary analysis is to describe vascular access characteristics in a medical ward setting and to evaluate indirect indicators of appropriateness, particularly the number of devices per patient and failure rate. Secondary objectives include: analyzing the distribution of vascular access devices used; assessing the mean number of devices per patient; calculating vascular access failure rate; describing infused therapies and their potential relationship with device selection; identifying clinical and organizational issues to inform the interventional study design.

Methods: A monocentric preliminary observational analysis was conducted in patients admitted to medical wards. Approximately 200 patients requiring at least one vascular access device during hospitalization were included. The following data were collected for each patient: • total number of vascular access devices; type of device (peripheral venous catheters - PVCs; central venous catheters - CVCs, including PICCs and Midlines); number of device replacements; type of infusion therapy; presence of irritant or vesicant drugs. Vascular access failure was defined as the need for device replacement before completion of therapy.

Results: General Characteristics A total of 491 vascular access devices were analyzed in approximately 200 patients. Device distribution was as follows: Peripheral venous catheters (PVCs): 454 (92.5%), Central venous catheters (CVCs, including PICCs and Midlines): 34 (6.9%) These data highlight a marked predominance of peripheral devices. Mean Number of Devices per Patient The mean number of devices per patient was: 491 / 200 = 2.45 devices per patient. This indicates moderate vascular instability, with a substantial proportion of patients requiring multiple devices during hospitalization. Replacements were calculated as: 491 - 200 = 291 replacements Failure rate: 291 / 491 × 100 = 59.2% Interpretation of Failure Rate A failure rate of 59.2% indicates that more than half of vascular access devices were replaced before therapy completion. These findings highlight a complex clinical context in which device selection should be carefully evaluated.

Discussion: This preliminary analysis highlights several critical issues in vascular access management. First, the high prevalence of PVC use (>90%) suggests possible underutilization of mid- to long-term devices such as PICCs and Midlines, particularly in patients receiving prolonged therapies or irritant drugs. Second, the mean number of devices per patient (2.45), with a range up to 7, indicates significant challenges in device maintenance. This instability may be related to venous conditions, therapy type, and initial device selection. The most relevant finding is the high failure rate (59.2%), indicating that more than half of devices require replacement. These results are consistent with literature in acute and subacute settings, where predominant PVC use is associated with higher replacement rates. The introduction of a Vascular Access Team may represent an effective strategy to address these issues. Through systematic patient and therapy assessment, a VAT could: improve device selection; reduce the number of devices per patient; increase device dwell time; reduce complication rates.

Conclusions: This preliminary analysis shows vascular access management characterized by: high prevalence of peripheral devices; elevated mean number of devices per patient; high failure rate (59.2%). These findings suggest potential inappropriate device selection and management, with significant room for improvement. The implementation of a Vascular Access Team represents a promising strategy to improve appropriateness, reduce complications, and optimize resources. Results from the VAT II interventional study will be essential to confirm these hypotheses and to define sustainable and reproducible organizational models

Keywords: Vascular access management; Device appropriateness; Catheter-related complications; Healthcare resource utilization; Infusion therapy; Quality improvement

79. Dyadic Symptom Recognition and Self-Care in Older Adults with Multiple Chronic Conditions and Their Informal Caregivers Living in a Low- and Middle-Income Country

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Methods: This multicenter cross-sectional study analyzed 420 patient-caregiver dyads recruited between 2023 and 2024 in outpatient and community settings in Albania. Patients aged ≥65 years with at least two chronic conditions were enrolled, excluding those with cancer or dementia. Caregivers were included if identified by patients as the primary unpaid informal caregiver and excluded if <18 years old. Dyadic symptom recognition speed was assessed using the Albanian versions of the Self-Care of Chronic Illness Inventory and its caregiver version. Responses were dichotomized into "slow recognition" (scores 0-2) and "fast recognition" (3-5). Dyadic concordance was defined as both members falling into the same category, while discordance occurred when they differed.

Results: Patients (mean age 74; SD= 6,24), mostly diagnosed with diabetes (75%) and hypertension (23.3%), and caregivers (mean age 48; SD= 15,61), mostly female (68.1%) and primarily daughters or spouses, reported 50.5% dyadic discordance in symptom recognition. This disagreement rate is higher than in similar high-income cohorts, suggesting poor dyadic synchronization and a lack of shared understanding in recognizing clinical changes.

Conclusions: A critical communication gap within the LMIC context emerged in MCCs patient-caregiver dyads. Nursing interventions should transition from patient-centered to dyad-centered education, focusing on synchronizing symptom monitoring to improve the management of MCCs.

Keywords: Dyads; Informal caregivers; LMIC; Multiple chronic conditions; Self-care; Symptom recognition

80. Beyond Disease Control: Real-World Quality of Life in Italian Patients with Hereditary Angioedema within a Nationwide Care Network

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Background: Hereditary angioedema (HAE) is a rare genetic disorder characterised by recurrent and unpredictable swelling episodes, with a substantial impact on health-related quality of life (HRQoL). Long-term prophylaxis (LTP) has significantly improved disease control and patient outcomes. However, whether achieving clinical control translates into full normalisation of patients' lived experience remains uncertain. Real-world data from coordinated care networks are essential to understand this gap and to inform resilient, person-centred, dignity-driven care for vulnerable patients with chronic conditions.

Aim(s): To evaluate HRQoL and disease control in Italian patients with HAE receiving lanadelumab as LTP within a nationwide real-world registry, highlighting outcomes relevant to chronic condition management and patient empowerment.

Methods: Data from patients aged ≥12 years receiving lanadelumab were retrospectively collected from eight Italian referral centres within the ITACA Registry, a structured platform supporting continuity of care and system-level monitoring. Sociodemographic and clinical variables, together with Angioedema Quality of Life Questionnaire (AE-QoL) and Angioedema Control Test (AECT), were analysed at baseline, 0-24 months, and >24 months.

Results: A total of 145 patients were included (mean age 48.9±17.6 years; 63% female). Ninety-six AE-QoL and 75 AECT questionnaires were collected. Significant improvements in HRQoL were observed over time. At >24 months, significant reductions were found in AE-QoL Functioning (Δ−9.95; p=0.013) and Total score (Δ−9.75; p=0.030), while domains related to emotional burden showed non-significant changes. AECT scores remained consistently

above the threshold for well-controlled disease (≥10; p=0.388), indicating sustained disease control.

Conclusions: Lanadelumab is associated with sustained improvements in HRQoL alongside stable disease control in real-world practice. However, the partial dissociation between improvements across QoL domains and consistently high disease control suggests that achieving clinical control may not fully capture the complexity of patients' lived experience in managing a chronic condition. These findings support the role of coordinated, person-centred care networks and specialist nurses in strengthening resilient, value-driven health systems for patients with rare chronic conditions. Acknowledgements: We thank the Italian Network for Hereditary and Acquired Angioedema (ITACA) for the contribution in the study.

Keywords: Hereditary angioedema; Chronic condition management; Quality of life; Real-world evidence; Person-centred care; Nursing

81. Understanding Self-Care Behaviors and Self-Efficacy in Older Adults with Multiple Chronic Conditions in Albania

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Background: Multiple chronic conditions (MCCs) are highly prevalent worldwide, particularly among older adults living in low- and middle-income countries (LMICs). Self-care behaviors are recommended to reduce the burden of MCCs and improve health outcomes. Self-care is a naturalistic decision-making process that includes maintenance, monitoring, and management of chronic conditions. Self-efficacy in self-care, defined as an individual's confidence in performing effective self-care behaviors, is essential for sustaining long-term behavioral change. However, evidence on self-care and self-efficacy among older adults with MCCs in Albania, a LMIC, remains limited.

Aim(s): This study aimed to describe self-care and self-efficacy in self-care behaviors among older adults with MCCs living in Albania.

Methods: A multicenter cross-sectional observational study was conducted across all 12 districts of Albania. Patients aged ≥65 years with Diabetes Mellitus, Chronic Obstructive Pulmonary Disease, and/or Heart Failure, and at least one additional chronic disease were recruited from community and outpatient settings, together with their primary informal caregivers aged ≥18 years. Patients with cancer and/or dementia were excluded. Self-care and self-efficacy were assessed using the Self-Care of Chronic Illness Inventory (SC-CII) and the Self-Care Self-Efficacy Scale (SC-SES), respectively. Descriptive statistical analyses were performed.

Results: A total of 376 patients were enrolled. Participants were predominantly female (54.3%), with a mean age of 74.1 years (SD = 6.2), and most had a low educational level (65.4%). The most frequently reported conditions were hypertension (88.2%) and diabetes mellitus (75.1%). The least frequently performed self-care behaviors included engaging in regular physical activity (63%), practicing stress management (85%), monitoring medication side effects (41.5%), and adjusting diet or fluid intake in response to symptoms (60%).

Conclusions: Older adults with MCCs living in Albania reported suboptimal levels of self-care and self-efficacy in specific behaviors. These findings highlight the need for tailored interventions to improve self-care and enhance self-efficacy in this vulnerable population. Further research is warranted to identify factors influencing self-care behaviors among older adults with MCCs in LMICs.

Keywords: Self-care; Self-care self-efficacy; Chronic conditions; Older adults; Low- and middle income countries

82. Monitoring and Management of Sign and Symptoms of Multiple Chronic Conditions: An Intensive Longitudinal Study Protocol in Albania

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Background: The global aging population faces a rise in multiple chronic conditions (MCC), which significantly impacts patients and healthcare systems. Effective sign and symptom

monitoring and management are crucial for outcomes. However, traditional one-time assessments fail to capture the dynamic, real-time fluctuations of symptoms in daily life.

Aim(s): To describe daily fluctuations in signs and symptoms (in terms of frequency and severity) and the self-care management behaviors performed to manage them.

Methods: A multicenter, observational, intensive longitudinal study will be conducted. We will recruit 200 patients, over 65 years old, with at least two chronic conditions. Data will be collected via twice-daily telephone interviews over 14 days, focusing on momentary symptom states using Likert scales. Multilevel modeling for intensive data (ILMs) will be used to analyze intra-subject and inter-subject variability. Expected Results: The study expects to provide high-resolution descriptions of daily sign and symptom patterns and identify triggers for health deterioration. It will classify management strategies and evaluate how caregiver support influences the self-care process.

Conclusions: By focusing on sign and symptoms rather than specific diseases, this protocol offers a personalized perspective for clinical practice. The findings will enable specialist nurses to tailor education and support interventions, optimizing care plans and improving the quality of life for this vulnerable population.

Keywords: Caregiver contribution; Intensive longitudinal models; Multiple chronic conditions; Nursing care; Self-care; Symptom management

83. Behavioral Drivers in Chronic Disease and Self-Care: From Patterns to Personalized Guided Care

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Background: According to the Middle-Range Theory of Self-Care of Chronic Illness, self-care comprises maintenance (maintaining physical and emotional stability), monitoring (observing the body), and management (managing sign and symptoms) behaviours, which interact dynamically. Interactions between self-care behaviors in older patients with multiple chronic conditions (MCC) remain poorly investigated.

Aim(s): To explore how self-care maintenance, monitoring, and management behaviours are interconnected and to identify the most central and bridging behaviours in older adults with MCCs.

Methods: A cross-sectional observational study was conducted in Italian outpatient and community settings. A total of 871 older adults (≥65 years) with chronic obstructive pulmonary disease, diabetes mellitus and/or heart failure, and at least one additional condition was included. Self-care behaviours were assessed using the Self-Care of Chronic

Illness Inventory. Network analysis was used to examine behavioural interconnections and to identify the most influential (central) and connecting (bridge) behaviours. A Gaussian Graphical Model was used to estimate partial correlations.

Results: Self-care monitoring behaviours were the most central, particularly "monitor for symptoms" (strength=1.27) and "monitor your condition" (strength=1.00). Symptom recognition showed the strongest bridging role, linking monitoring to management behaviours. The strongest associations were observed between monitoring fatigue and monitoring symptoms, and between monitoring health condition and paying attention to changes in how one feels. Overall, the network showed a symptom-driven organisation of self-care behaviours. Network stability indicators were acceptable.

Conclusions: In older adults with MCCs, self-care appears to be primarily organised around symptom monitoring rather than self-care maintenance or self-care management behaviours. Strengthening patients' ability to detect and interpret symptom changes may represent a key leverage point to activate appropriate and timely self-care responses. For nursing practice, these findings inform the development of targeted educational interventions, contributing to more personalised and effective care strategies. Longitudinal studies are needed to better understand how these interactions evolve over time.

Keywords: Self-care; Older adults; Multiple chronic conditions; Network analysis; Nurses

84. PHENO NURSE: Phenotypic Diversities - Sex, Age, BMI, Fragility and Antibiotic PK

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Background: Phenotypic variables alter antibiotic pharmacokinetics clinically: women have renal clearance +10-15% higher than men for hydrophilic beta-lactams (Anderson GD, Clin Pharmacokinet 2002); frail elderly (Clinical Frailty Scale >=4) show AUC vancomycin +40-60% vs. robust adults (Hubbard RE et al., BMJ 2002); BMI>40 increases aminoglycoside volume of distribution requiring ideal body weight dosing (Pai MP, Adv Chronic Kidney Dis 2012). Nurses monitor clinical responses continuously - yet no Italian or European nursing protocol structures sex/age/BMI/frailty as antibiotic monitoring alert variables.

Aim(s): To map 1990-2026 evidence on phenotypic variables (sex; age; BMI; frailty) impacting antibiotic pharmacokinetics observable by nurses; and to propose PHENO-NURSE - a nurse-led phenotypic risk assessment protocol for antibiotic pharmacokinetic monitoring in Italian hospital and ICU settings.

Methods: JBI Scoping Review (PRISMA-ScR; PROSPERO). PCC: P = hospitalised adults on antibiotic therapy; C = nurse-observable phenotypic variables (sex; age; BMI; Clinical Frailty Scale; renal function trend); C = antibiotic toxicity; clinical failure; TDM-concordant dose adjustment rate. Six databases: MEDLINE (1990-2026), Embase, CINAHL, Cochrane CENTRAL, Scopus, Web of Science. Grey: CPIC 2023; ESPEN 2022; PNCAR 2022-2025. GRADE.

Results: Anderson 2002 (Clin Pharmacokinet): sex differences in beta-lactam clearance clinically relevant for ICU dosing. Pai 2012 (Adv Chronic Kidney Dis): IBW vs. TBW aminoglycoside dosing in BMI>40; clinical failure +34% with TBW. Hubbard 2002 (BMJ): CFS>=4 - AUC vancomycin +40-60%; elevated toxicity risk. Gap: no nursing protocol structures phenotypic alert variables for antibiotic monitoring in Italian or European hospitals.

Conclusions: PHENO-NURSE JBI scoping review (1990-2026) produces the first nurse-specific phenotypic antibiotic monitoring evidence map, informing a pilot protocol (PHENO-CHECK 4-item: sex/age/BMI/CFS; SPIRIT 2013; CPIC 2023; PNCAR 2022-2025) for Track 5E/5H precision antibiotic nursing in Italian ICU and hospital settings.

Keywords: Phenotypic variability; PHENO-NURSE; Body weight dosing; Aminoglycoside; Clinical Frailty Scale; Precision nursing

85. Dignity-Driven, Person-Centred Nursing Care Across the Frailty-Incontinence-Palliative Continuum in Older Adults: A Scoping Rewiew

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Background: Person-centred care (PCC) constitutes a foundational paradigm in specialist nursing, yet its systematic enactment is increasingly undermined by escalating workforce pressures, including burnout, moral distress, and moral injury. Although these constructs have been extensively examined as isolated phenomena, the reciprocal interplay between nurses' psychological well-being and their capacity to sustain PCC remains insufficiently theorised and empirically mapped. Clarifying how mental health both shapes - and is shaped by - the relational, ethical, and affective labour intrinsic to PCC is essential for informing resilient and ethically robust care systems.

Aim(s): This scoping review seeks to delineate the current evidence base regarding the association between nurses' psychological well-being (burnout, moral distress, moral injury) and the quality of PCC delivery. A further objective is to identify individual, organisational, and system-level strategies capable of concurrently enhancing workforce resilience and strengthening person-centred practice.

Methods: Guided by the Joanna Briggs Institute (JBI) methodology and reported according to PRISMA-ScR standards, a comprehensive search will be undertaken across PubMed/MEDLINE, CINAHL, Scopus, PsycINFO, and Web of Science, supplemented by grey literature sources. Eligible studies include any design, published between 2014 and 2025 in English, Italian, Spanish, or French, involving registered nurses in any clinical context. A thematic synthesis will structure findings across three analytical domains: (1) bidirectional mechanisms linking mental health and PCC, (2) mediating and moderating factors, and (3) multilevel supportive strategies.

Results: (anticipated): Preliminary mapping indicates a paucity of integrative studies explicitly connecting PCC frameworks with mental health outcomes. Emerging evidence is expected to demonstrate that burnout and moral distress erode empathic engagement, ethical presence, and relational continuity - core dimensions of PCC - while insufficient organisational support for PCC may intensify ethical strain. Reflective practice, ethics debriefing, supportive leadership, and peer-based interventions are anticipated as salient protective mechanisms.

Conclusions: This review will generate a comprehensive evidence map to inform specialist nursing practice, workforce development, and policy. Findings are expected to support the design of integrated interventions that conceptualise nurse well-being and PCC quality as mutually reinforcing outcomes, thereby contributing to a sustainable, ethically grounded, and person-centred nursing workforce.

Keywords: Person-centred care; Burnout; Moral distress; Occupational well-being; Moral resilience

86. Eligibility Criteria and Barriers to Accessing Pediatric Palliative Care in Patients with Congenital Heart Disease: A Scoping Review

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Background: Congenital heart diseases (CHD) represent the most common congenital malformation associated with high morbidity, prognostic uncertainty, and low quality of life of children and their families. Despite the growing recognition of the role of pediatric palliative care (PPC), its integration into cardiology care pathways remains heterogeneous and often delayed.

Aim(s): The aim of this review is to map eligibility criteria for PPC in pediatric patients with CHD and to identify tools, organizational models, and barriers influencing their activation.

Methods: A scoping review was conducted according to the Joanna Briggs Institute (JBI) methodology and reported in accordance with the PRISMA-ScR guidelines. Studies published between 2018 and 2025 were included. The search was performed in four database: PubMed, PsycINFO, CINAHL, and EMBASE. Data extraction was carried out using structured data extraction tables.

Results: Of the 2,371 records identified, 16 studies were included in the review. The studies were conducted across different continents, predominantly in pediatric hospital settings. Early activation of PPC was associated with improved outcomes and greater family satisfaction. The main proactive triggers identified included prenatal diagnosis of complex CHD, hypoplastic left heart syndrome, evaluation for heart transplantation, prolonged admission to the intensive care unit, and the need for advanced support (ECMO/VAD). Cultural, educational, and organizational barriers persist, along with socio-cultural disparities in access.

Conclusions: The lack of shared criteria and structured pathways contributes to delays in the activation of PPC for children with CHD. The adoption of structured and multidisciplinary care pathways appears essential to ensure equity of access, timeliness, and quality of care.

Keywords: Pediatric palliative care; Congenital heart disease; Eligibility criteria; Care barriers; Multidisciplinary pathways

87. Risk Factors Predisposing to the Phenomenon of Repeated Admissions in Adult Patients with Chronic and Disabling Diseases: A Phenomenological Qualitative Study

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Background: The ageing population has led to many patients with chronic conditions or disabilities experiencing multiple repeated and unscheduled hospitalizations within a period of one month to one year, often due to a lack of knowledge about the disease and its management. In the literature it is clear that the territorial network appears to assume a role in the treatment paths suitable for better managing even the most complex clinical problems and must be able to integrate different areas.

Aim(s): The present phenomenological qualitative study aims to explore the perspective of the chosen population on evaluating the use of hospital readmission risk identification tools as a means of preventing readmissions, through the use of open interviews.

Methods: Based on Husserl's perspective, the study was conducted utilizing the phenomenological approach, specifically Interpretative Phenomenological Analysis. The data analysis followed Giorgi's phenomenological approach. Adhering to Sandelowski's sampling

strategy, the inclusion criteria were: nurses with more than one year of experience, a nursing coordinator with more than 2 years of experience in inpatient wards, structured internal medicine physicians, and residents with more than 2 years of experience in inpatient wards.

Results: The interviews reveal structural and organizational issues, such as the lack of local resources and the lack of early activation of home care services. Many hospitalizations are influenced by standardized routine work and a lack of knowledge of prevention tools, highlighting the need to update and personalize care. For this reason, negligence, risk and error are often connected to a business logic of care that standardizes interventions and accepts a constant risk of making mistakes.

Conclusions: This phenomenological study has demonstrated that the appropriate and unified response requires orientation towards common objectives between the hospital and the territory, and the failure to realise this objective means favouring a type of offer centred on the hospital with a financing system lacking controls, resulting in duplicating services in an unnecessary and disorganized manner. The use of prevention tools, such as the BRASS scale, telecare and telemedicine can help predict and manage more complex discharges and ensure protected pathways, representing a crucial resource for constant monitoring, support for caregivers, and better communication between all stakeholders involved.

Keywords: Patient readmission; Geriatric patient; Risk factors; Multimorbidity; Brass index; Discharge planning

Cluster 2 — Preparedness in Health Systems
Infection prevention, vaccination, outbreak response, cross-border collaboration

88. Advancing Patient-Oriented Decision-Making in Healthcare Management

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Background: In our previous work presented at ESNO 2024, we identified the need for a structured framework that integrates patient-centered care (PCC) into managerial decision-making. Despite PCC's recognition in clinical practice, its application in managerial decisions remains limited. The initial review highlighted the importance of aligning healthcare management with patient-centered values, particularly at the organizational and service delivery levels.

Aim(s): This study aims to synthesize evidence on the determinants of patient-oriented decision-making, identifying the organizational, individual, and contextual factors and to develop a conceptual framework.

Methods: A qualitative systematic review following the JBI meta-aggregative approach was conducted. Data were extracted from peer-reviewed studies published from 1990 to April 2025. The findings were synthesized with the meta-aggregation methodology. Confidence in the findings was assessed using the ConQual approach.

Results: The review led to the development of the Patient-Oriented Decision-Making (PODM) framework. Drawing on Osborne et al.'s (2022) Public Service Ecosystem (PSE) theory, the framework spans all levels (sub-micro, meso, and macro), acknowledging that value in healthcare is co-produced through interactions among patients, professionals, and decision-makers. The framework further explores how decision-making is influenced by organizational dynamics, leadership styles, and resource distribution. The PODM framework is structured into four phases: problem framing, analysis and evaluation, stakeholder consultation, and decision implementation. The findings highlight the transformative potential of the framework, offering managers a practical tool to seamlessly integrate patient-centered care into both strategic and operational decisions.

Conclusions: This study highlights the gap between the ideal of patient-centered care and the realities of healthcare governance. The PODM framework offers an actionable path to embed patient perspectives into managerial decisions, balancing strategy, finances, and ethics. The framework provides a foundation for future empirical studies and offers healthcare leaders a tool to ensure patient-centered care is central to every decision.

Keywords: Patient-oriented decision-making; Healthcare management; Strategic leadership; Managerial decision-making; Organizational strategy; Healthcare decision-makers

89. Bridging the Gap: Middle Nurse Managers and the Evolution of Patient-Centered Decisions

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Background: Patient-centered care (PCC) is widely recognized as a cornerstone of modern healthcare, yet its implementation in managerial decision-making remains complex, particularly at the middle management level. Middle nurse managers (MNMs) play a crucial role in aligning patient care with organizational priorities, but the challenges they face in balancing patient needs with healthcare system constraints are not fully understood.

Aim(s): This study explores middle nurse managers' perceptions of patient-centered decision-making in their everyday managerial practices.

Methods: In-depth interviews with 38 middle nurse managers from three hospitals in Italy were conducted. Using semi-structured interviews and thematic analysis based on Elo and Kyngäs' approach, we examined recurring themes to capture the complexity of balancing patient care with hospital policies and resource availability.

Results: Our findings suggest that patient-centered decision-making is not a straightforward process; it is instead a dynamic interplay between multiple factors requiring constant adaptation to changing patient and organizational needs; the mediating role of the manager, who navigates between the tension of organizational goals and patient-centric values; the organizational constraints, which can either support or limit the decision-making process and

the critical role of the patient knowledge, showing how managers' intimate understanding of patient needs directly affects decision outcomes.

Conclusions: Patient-centered decision-making is a dynamic journey of adaptation, requiring strong leadership, effective communication, and a deep understanding of patient needs. For MNMs, this process involves integrating patient perspectives within the broader organizational framework, ensuring that healthcare decisions are both strategic and person-centered. This study opens the door to future exploration of how healthcare policies can better support middle managers in applying patient-centered principles at every level of decision-making, driving system transformation and enhancing workforce resilience.

Keywords: Patient-centered care; Decision-making; Middle nurse managers; Healthcare leadership; Healthcare management; Organizational constraints

90. Improving Glove Use in Clinical Practice: A COM-B Model Analysis

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Background: Glove use is essential for infection prevention, but misuse and overuse remain common in clinical practice. Observational audits at Mater Dei Hospital revealed gaps in adherence to recommended glove-use protocols, raising concerns about patient safety and hand hygiene compliance.

Aim(s): To analyze behavioral drivers of glove-use practices using the COM-B model (Capability, Opportunity, Motivation) and identify targeted interventions to improve compliance and reduce unnecessary glove use.

Methods: A mixed-methods approach was employed, combining direct observation of 1,743 clinical moments with staff surveys and free-text responses. Observational data captured glove-use behaviors and hand hygiene compliance, while survey responses assessed knowledge, confidence, and perceived norms. COM-B analysis was applied to interpret behavioral determinants and prioritize interventions.

Results: Key findings include: 23% of staff removed gloves without performing hand hygiene; 4% reused gloves across patient zones. Glove users had lower hand hygiene compliance (68%) compared to non-glove users (76%). Staff reported high knowledge but demonstrated habitual overuse for low-risk tasks, driven by perceived safety and social norms. COM-B analysis indicated that Motivation and Opportunity, rather than Capability, are primary drivers of inappropriate glove use.

Conclusions: Behavior change strategies should focus on environmental prompts, social modeling, and motivational nudges rather than traditional knowledge-based training. Recommended interventions include micro-learning reminders, redesigned posters, peer champions, and integrated audits. These measures aim to optimize glove use, enhance hand hygiene, and improve patient safety.

Keywords: Glove use; COM-B; Behaviour Change

91. Nurses' Experience during the October 7th Attack: Contributing Factors to Resilience

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Background: Disaster events are defined as incidents that occur abruptly, and lead to disruption of functioning and human loss. The sudden attack on Israel on October 7th, 2024, forced the healthcare system to adjust within a few hours to treating thousands of injured patients and providing care under attack. The Intensive Care Unit (ICU) was one of the departments affected, where nurses had to overcome their mental and emotional challenges and provide efficient nursing care.

Aim(s): To describe nurses' experiences in the first days after the attack and the contributing factors to their practice under stressful conditions. Fifteen nurses from hospitals around the country, and two in areas under attack responded to our questionnaire. Thirteen of them are ICU nurses.

Methods: Nurses were asked to voluntarily respond to a semi-structured questionnaire that was posted on the ICU Nurses Association website from December 2023-February 2024. Verbatim transcripts were analysed using a six-phase inductive thematic analysis.

Results: The nurses described having difficulty providing care, which was influenced by uncertain national and local security; and the quantity and severity of patients requiring special resources. Personal feelings of fear and worry for their family's safety contributed to experiencing difficulty while functioning. However, nurses described a sense of resilience that evolved from feelings of professionalism and a collaborative mission to provide the best care. On a personal level, life resources such as family and collegial support promoted increased resilience.

Conclusion: Nurses experienced mental and emotional difficulty because of the attack. However, our findings revealed increased resilience from intrinsic and extrinsic factors that contributed to effective professional and personal functioning in the ICU. Our findings can assist in further understanding the factors affecting ICU nurses' practicing under stressful and unexpected situations. It is therefore recommended that a model for assisting nurses to cope with disaster events be developed. Acknowledgment: We thank the Israeli Society for Cardiac and Critical Care Nursing for its support of this research.

Keywords: Resilience; ICU; Nurses; Factors; Care

92. Exploring the Implementation of the Advanced Veterinary Nurse Role

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Background: Advanced practice roles continue to evolve across healthcare professions in response to changing patient needs, workforce pressures, and service transformation. While advanced practice nursing is well established in many countries, other professions are at earlier stages of development or formalisation. Understanding how advanced roles have been defined, implemented, and regulated across healthcare contexts may provide transferable insights to inform emerging roles and support sustainable integration within complex systems.

Aim(s): To map and synthesise the existing literature on the development, implementation, and regulation of advanced practice roles in healthcare in order to identify transferable lessons for professions developing or refining advanced roles.

Methods: A scoping review was conducted following Joanna Briggs Institute (JBI) methodology. A structured search of five electronic databases (PubMed, CINAHL, Scopus, Web of Science, and Embase) was undertaken in April 2025. Twenty-five articles met the inclusion criteria. Studies primarily focused on advanced practice nursing, with additional examples from physiotherapy, radiotherapy, and allied health professions. Data were charted and thematically analysed.

Results: The most frequently referenced title was 'Advanced Practice Nurse'. Four overarching themes were identified: (1) the importance of clear and consistent role definition; (2) alignment of education and training with intended scope of practice; (3) the contribution of regulation, governance, and professional credibility in enabling autonomy; and (4) evidence linking advanced roles to improved patient outcomes and service efficiency. Across professions, successful implementation was associated with coherent professional identity, robust competency frameworks, and supportive organisational and regulatory environments.

Conclusions: Advanced practice roles require strategic alignment between education, regulation, and service need. Insights from established advanced practice models, particularly within specialist nursing, offer valuable guidance for professions where roles are newly emerging or undergoing formalisation. These findings contribute to ongoing discussions regarding the development, standardisation, and sustainability of advanced practice roles. No patients or members of the public were involved in this study.

Keywords: Advanced practice nursing; Role development; Competency frameworks; Regulation; Professional identity; Workforce transformation

93. Safe ICU: A Multidisciplinary Network for Improving Safety and Quality of Care in Intensive Care Units - COST Action Project

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Background: Patient safety in intensive care units (ICU) remains a global challenge due to high patient acuity, invasive procedures, and complex clinical decision-making. Preventable complications such as pressure ulcers, healthcare-associated infections (HAIs), and delirium significantly increase morbidity, mortality, length of stay, and healthcare costs. SAFE ICU is a multidisciplinary network designed to strengthen patient safety culture and implement evidence-based practices across Europe with over 220 member from Europe and world wide.

Aim(s): The SAFE ICU project aims to reduce preventable ICU-related complications and improve patient outcomes through coordinated action in following domains: pressure ulcer prevention, healthcare-associated infections, delirium, and education.

Methods: SAFE ICU adopts a multidisciplinary and evidence-based approach. The Pressure Ulcer Prevention group focuses on risk assessment tools, repositioning protocols, and skin integrity monitoring. The Healthcare-Associated Infections group implements infection prevention bundles targeting ventilator-associated pneumonia, catheter-related bloodstream infections, and urinary tract infections. The Delirium group promotes early screening, non-pharmacological interventions, and sedation optimization strategies. The Education group develops structured training programs and competency-based curricula for ICU nurses. Lastly, this network contains a working group dedicated towards policy, impact and dissemination to ensure practice is translated into policy.

Expected Results: The project is expected to reduce incidence rates of pressure ulcers, HAIs, and ICU-related delirium, improve nursing competencies, and strengthen interdisciplinary collaboration. Standardized protocols and educational interventions will enhance quality of care and patient safety indicators.

Conclusions: SAFE ICU provides an integrated and sustainable framework for improving safety and quality in intensive care settings. By combining prevention strategies, professional education, and policy engagement, the project supports long-term improvements in clinical outcomes and healthcare system resilience.

Keywords: Patient safety; Intensive care units; Critical care; Nursing

94. Education as an Organizational Strategy for Patient Safety: Nursing Contributions to Resilient Healthcare Systems

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Background: Patient safety culture is a fundamental component of resilient healthcare systems. The National Health Service (NHS) has implemented structured educational and organizational strategies aimed at strengthening nurses' role in risk management and safety improvement.

Aim(s): To explore how structured education and organizational practices contribute to patient safety culture, drawing on professional nursing experience in ward and intensive care settings within the NHS, and to identify transferable implications for strengthening European healthcare systems.

Methods: Practice-based professional analysis informed by clinical experience in the NHS and supported by organizational elements including mandatory safety training, human factors education, incident reporting systems, clinical audits, and structured briefing and debriefing processes in high-acuity environments.

Results: Key organizational drivers emerged: continuous safety-focused education, non-punitive incident reporting, active nursing involvement in audit and quality improvement, and structured multidisciplinary communication in critical care settings. These factors supported professional accountability, team performance and patient outcomes.

Conclusions: Structured education and organizational support act as system-level drivers for patient safety. The NHS experience highlights strategies that can strengthen safety culture and specialist nursing roles across European healthcare contexts.

Keywords: Patient safety; Nursing education; Organizational culture; Risk management; Healthcare resilience; Clinical leadership

95. Equity in Nurse Distribution in Italy: Workforce Allocation and Health System Preparedness

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Background: Equitable distribution of the nursing workforce is a fundamental determinant of health system preparedness and resilience. Adequate nurse availability across regions ensures continuity of care, effective infection prevention strategies, and the capacity of healthcare systems to respond to emergencies and demographic changes. However, unequal workforce allocation can compromise healthcare accessibility and disproportionately affect vulnerable populations.

Aim(s): This study aimed to assess regional disparities in nurse distribution in Italy and explore their relationship with socioeconomic development indicators.

Methods: Regional data on nurse-to-population ratios were analysed using the Gini coefficient to quantify inequality in workforce distribution. The Human Development Index (HDI) was included to examine the relationship between nurse availability and regional socioeconomic conditions. Statistical analyses were conducted to identify patterns of imbalance and potential structural determinants influencing workforce allocation.

Results: The analysis revealed significant regional disparities in nurse distribution, with higher concentrations of nurses in central and northern regions and lower availability in southern areas. The calculated Gini coefficient indicated moderate inequality in workforce allocation across the country. Correlation analysis showed that regions with higher HDI scores generally presented greater nurse availability, suggesting that socioeconomic development influences workforce distribution and access to healthcare services.

Conclusions: Unequal nurse distribution may weaken health system preparedness by limiting the capacity of certain regions to respond effectively to healthcare needs and public health challenges. Addressing workforce inequalities is therefore essential to strengthen health system resilience and ensure equitable access to care.

Keywords: Nurse workforce distribution; Health system preparedness; Workforce inequality; Gini coefficient; Health equity

96. Adaptive Nursing Leadership in Complex Healthcare Systems: Applying the NTCAS Framework

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Background: Healthcare systems are increasingly exposed to uncertainty, crises, and rapidly evolving clinical demands. The COVID-19 pandemic demonstrated the need for leadership approaches capable of supporting adaptability, coordination, and system resilience. The Nursing Theory of Complex Adaptive Systems (NTCAS) provides a conceptual framework to understand leadership as an adaptive and relational process emerging within dynamic healthcare environments.

Aim(s): This study explores how NTCAS can inform the development of adaptive nursing leadership capable of strengthening health system preparedness.

Methods: A theoretical and integrative analysis was conducted drawing on complexity science, leadership studies, and empirical evidence from nursing leadership research. The NTCAS framework was used to identify the key mechanisms through which leadership behaviours influence organizational adaptation and workforce resilience.

Results: The analysis identifies adaptive leadership as a systemic function characterized by relational coordination, distributed decision-making, and continuous learning. Within the NTCAS framework, nurse leaders act as facilitators of system adaptation, promoting psychological safety, collaborative problem solving, and rapid organizational learning. These

dynamics support workforce resilience, improve care coordination, and enhance healthcare systems' ability to respond to crises and emerging public health challenges.

Conclusions: NTCAS offers a novel theoretical lens to understand nursing leadership as a dynamic process embedded within complex healthcare systems. Adaptive leadership informed by systems thinking can strengthen health system preparedness and organizational resilience.

Keywords: Adaptive nursing leadership; Complex adaptive systems; NTCAS; Health system preparedness; Organizational resilience

97. Health Literacy, Trust, and Vaccine Misinformation Influencing Migrant Parents' Childhood Vaccination Decisions: Implications for Specialist Nursing Practice

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Background: Vaccination remains one of the most effective strategies for preventing infectious diseases. However, vaccine misinformation and hesitancy present ongoing challenges globally, particularly among migrant populations. Migrant parents may experience language barriers, limited access to reliable health information, and increased exposure to misinformation through social media and informal community networks, which may influence childhood vaccination decisions.

Aim(s): To examine how vaccine misinformation influences migrant parents' decisions regarding childhood vaccination and to explore implications for specialist nursing practice.

Methods: A mixed methods systematic review was conducted following Joanna Briggs Institute methodology and reported according to PRISMA guidelines. Six electronic databases were searched from January 2004 to June 2024. Studies examining barriers and facilitators to childhood vaccination among migrant, refugee, and displaced parents were included. Quantitative findings were transformed into qualitative data and integrated with qualitative findings using a convergent integrated approach.

Results: Twenty studies were included. Three interconnected themes influenced migrant parents' vaccination decisions: health literacy and misinformation, trust in healthcare professionals, and access to vaccination services. Limited health literacy and language barriers increased vulnerability to vaccine misinformation, particularly through social media and informal networks. Concerns regarding vaccine safety and side effects were frequently reported. Trust in healthcare professionals and access to clear, culturally appropriate information were key facilitators supporting vaccine acceptance. Structural barriers such as transport, clinic accessibility, and competing family responsibilities also affected vaccination uptake.

Conclusions: Specialist nurses play a critical role in addressing vaccine misinformation through culturally sensitive communication, evidence-based education, and trust-building with migrant families. Implications for Nursing Practice: Nurse-led education, multilingual

resources, and culturally sensitive communication strategies may improve vaccine confidence and reduce disparities in vaccination uptake among migrant populations.

Keywords: Childhood vaccinations; migrant parents; vaccine hesitancy; immunisation uptake

98. Midwifery in Health System Preparedness: Roles, Risks, and Continuity of Care

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Background: Midwives play a central role in providing safe and respectful maternity care; however, their work is increasingly affected by psychological strain, moral distress, and challenging working environments. These factors may influence both the well-being of midwives and the quality of care provided to women and newborns. Understanding the key challenges and coping mechanisms described in the literature is important for improving working conditions and supporting the sustainability of the midwifery workforce.

Aim(s): This scoping review aimed to map and synthesise existing evidence on work-related challenges, moral distress, and resilience among midwives.

Methods: A scoping review was conducted following the Arksey and O'Malley framework and PRISMA guidelines. A systematic search of selected databases (PubMed/MEDLINE, Scopus, ScienceDirect), identified relevant studies addressing work experiences, stress, moral distress, resilience, and organisational factors affecting midwives. After screening and eligibility assessment, 16 studies were included in the final analysis. Data were charted and analysed using a thematic synthesis approach.

Results: Five main thematic domains were identified: (1) work-related stress and psychological burden associated with demanding clinical environments and exposure to complex birth situations; (2) moral distress and ethical challenges arising when organizational constraints prevent midwives from acting according to their professional values; (3) organisational and health system factors, including staffing shortages and institutional structures, influencing working conditions and job satisfaction; (4) resilience and coping strategies, such as peer support, professional networks, and psychological resources, acting as key protective factors; and (5) crisis and emergency contexts, including pandemics and humanitarian disasters, which intensified professional pressures while highlighting the critical role of midwives in maintaining maternal health services.

Conclusions: The findings highlight the complex interaction between psychological, ethical, and organisational factors shaping midwives' work experiences. Addressing systemic barriers and strengthening support mechanisms is essential for improving midwives' well-being and ensuring sustainable, high-quality maternity care.

Keywords: Maternal health services; Burnout; Moral distress; Resilience; Occupational stress; Health workforce

99. Refusal of Influenza Vaccination Among Healthcare Workers: A Cross-Sectional Study

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Background: Seasonal influenza remains a persistent public health burden, and vaccination of healthcare workers (HCWs) is a key preventive strategy. Despite wide availability, influenza vaccination coverage among HCWs is still suboptimal, often influenced by vaccine hesitancy and individual risk perception.

Aim(s): To investigate the motivations underlying influenza vaccine refusal among HCWs in a large tertiary university hospital in Italy during the 2025/2026 vaccination campaign.

Methods: A cross-sectional study was conducted. Invitation letters for on-site vaccination were sent to 6,079 HCWs and included a detachable refusal slip to report reasons for non-vaccination. Returned slips were analyzed across nine predefined motivations, grouped into composite indicators: hesitancy, perceived invulnerability/low risk, and pragmatic/contextual reasons. Associations with professional category and age were assessed using χ^2 tests.

Results: Of 5,935 eligible HCWs, 1,370 were vaccinated (coverage 23.1%). Among 839 refusal letters, the most frequently reported motivation was low perceived need (36.8%), followed by previous negative experiences (18.0%). Hesitancy-related motivations accounted for 33.3% of refusals, whereas invulnerability-related motivations were reported in 46.0%. Motivations were largely consistent across professional categories; however, age-stratified analyses among healthcare professionals showed a strong association between younger age and perceived invulnerability. Only 5.5% of refusal slips reported multiple motivations, often spanning different domains.

Conclusions: Influenza vaccine refusal among HCWs in this setting appears to be driven more by low perceived personal risk than by classical vaccine hesitancy. Younger HCWs are particularly prone to invulnerability-related motivations. Interventions should therefore extend beyond addressing vaccine safety and effectiveness, focusing on risk perception and perceived invulnerability, and should be tailored by age group to improve vaccination uptake.

Keywords: Vaccination; Vaccine refusal; Influenza; Healthcare workers

100. Management and Vessel Health in Intensive Care Units and Oncology Settings Led by Vascular Access Team Nurse Specialists: A Brief Report

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Background: Vessel health assessment and proactive vascular access management are essential to improve care pathways in both hospital and high-complexity settings. The presence of a dedicated vascular access team (VAT), composed of trained professionals with advanced competencies in device assessment, insertion and maintenance, may reduce complications associated with peripherally inserted central catheters (PICCs), especially in intensive care units (ICUs) and oncology settings.

Aim(s): To investigate the incidence of complications associated with PICC management performed by a nurse-led VAT in two ICUs and oncology settings in central Italy.

Methods: A prospective observational longitudinal study was conducted on 78 consecutive adult patients who underwent PICC placement in two public hospitals. All PICCs were inserted and managed according to a standardized clinical protocol based on current infusion therapy standards, including ultrasound-guided vein selection, catheter-to-vein ratio assessment, sutureless securement and chlorhexidine-impregnated transparent dressings. Patients were followed for three months after catheter insertion.

Results: The sample was predominantly male (55.1%), with a mean age of 79 years (SD=16.43). Most PICCs were managed in ICUs (n=48), inserted in the basilic vein (n=43) and in the right arm (n=60). Chemotherapy (38.5%) and antibiotics (28.2%) were the most common therapies delivered through the device. Over 7,020 catheter-days, five catheter-related bloodstream infections (CRBSIs) were recorded, corresponding to 6.4% and 0.71 per 1,000 catheter-days; rates were 0.46 in ICUs and 1.14 in oncology settings. Infecting organisms were coagulase-negative staphylococci (n=3) and Staphylococcus aureus (n=2). Two cases of venous thrombosis were observed (2.6%; 0.28 per 1,000 catheter-days), one in ICU and one in oncology. No catheter dislodgement was reported during follow-up.

Conclusions: PICC management by a specialized VAT was associated with low complication rates at three months, suggesting that standardized protocols, advanced nursing competencies and structured follow-up may improve patient safety and organizational outcomes in high-complexity settings. These findings support the broader implementation of nurse-led VAT models to optimize vascular access care.

Keywords: Nurse specialists; Catheterization, Peripheral; Complications; Treatment outcome

101. Disaster and Catastrophe Nursing Preparedness in Germany: Status Quo and Future Directions

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Background: Recent catastrophic events in Germany-including the 2021 Ahr Valley floods, the COVID-19 pandemic, and critical infrastructure disruptions such as the Berlin power outage-have exposed significant vulnerabilities in national disaster response systems. While organisations such as the German Nurses Association (DBfK), the German Armed Forces, and the German Red Cross Nursing Service have developed disaster response plans, coordinated preparedness within the nursing profession remains limited and inconsistently structured.

Aim(s): This study explores the current level of disaster and catastrophe nursing preparedness in Germany. It investigates how well nurses are prepared to respond systematically within crisis management structures and identifies strategies to strengthen their professional responsibility, accountability, and awareness in disaster preparedness and response. Additionally, the study aims to determine the level of involvement of Advanced Nurse Practitioners (ANPs) and Advanced Clinical Practitioners (ACPs).

Methods: A mixed-methods approach combining a targeted literature review and expert stakeholder consultation is used. Data collection is conducted between February and May 2026 and includes perspectives from nursing organisations, regulatory bodies, and disaster management stakeholders across Germany.

Results: Initial analysis reveals several critical gaps: inconsistent terminology and conceptual frameworks for disaster nursing; fragmented federal structures with heterogeneous role definitions; the absence of national guidelines or unified competency frameworks; limited training opportunities; and insufficient awareness among nursing professionals. Furthermore, accountability structures and communication pathways remain unclear. Although regional flagship initiatives exist, transparency and dissemination of knowledge are limited. Expert consultations with the North Rhine-Westphalia Nursing Council identify disaster nursing as a priority topic for 2026 and emphasise the need for expanded nursing competencies, improved data governance via nursing registers, and stronger referral pathways to long-term care facilities.

Conclusions: Strengthening disaster nursing capacity in Germany requires coordinated national action. Establishing unified and national standards, integrating ANP/ACP roles into

disaster planning, and enhancing professional awareness are essential to ensure that nursing expertise is systematically embedded in disaster preparedness, response, and recovery.

Keywords: Disaster preparedness; Crisis; Nursing; Disaster; ANP

102. A Successful Educational Model for the Prevention of Healthcare-Associated Infections

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Background: Healthcare-associated infections remain one of the greatest challenges for patient safety, highlighting the need for a single, clearly defined, and nationally applicable education model.

Aim(s): The aim of this study was to develop a core curriculum through expert consensus, examine the need for its introduction into the education of nursing students and nurses/technicians, and assess its effectiveness using pre-tests and post-tests.

Methods: A mixed research approach was applied: qualitative methods included a literature review and the Delphi method with 14 national HAI experts; quantitative methods included a knowledge test (45 questions) and a survey.

Results: The results showed that nursing students and nurses/technicians do not acquire sufficient knowledge in the basics of infection prevention and control through existing study programs and work experience. This was confirmed by the results of control groups and pre-tests, which indicated significant deficiencies in all three domains of knowledge: standard protection measures, specific measures based on the mode of transmission, and prevention of infections during invasive procedures. The most important contribution of this research is the development of a new core curriculum, created using the Delphi method with a high consensus among national experts. The curriculum was implemented at three universities, one polytechnic, and in a category 1 course for nurses/technicians. Its educational value was confirmed by a statistically significant improvement in knowledge in post-tests in all groups.

Conclusion: For the first time in Croatia, students and nurses/technicians were educated using the same model, enabling the acquisition of the same basic knowledge and competencies. A high percentage of respondents emphasized the need to introduce such a curriculum as a regular course and for education to be conducted periodically with knowledge testing, confirming the importance of lifelong learning and a unified approach to education at the national level. This 2022 education model is fully aligned with the 2023 World Health Organization recommendations.

Keywords: Prevention and control of healthcare-associated infections; Curriculum; Education; Nurses/technicians; Nursing students

103. Nurses' Awareness, Knowledge, Skills, and Attitudes Regarding Fetal Alcohol Spectrum Disorder: A Narrative Review

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Background: Fetal Alcohol Spectrum Disorder (FASD) encompasses lifelong physical, cognitive, and behavioral impairments from prenatal alcohol exposure. Individuals affected are a vulnerable population; yet FASD is often missed or misdiagnosed due to gaps in healthcare professionals' awareness, knowledge, skills, and attitudes. Nurses are uniquely positioned for FASD prevention, identification, and management; however, an evidence synthesis of their preparedness is lacking.

Aim(s): To identify and summarize evidence on nurses' awareness, knowledge, skills, and attitudes toward FASD.

Methods: A narrative review was conducted including studies focusing on nurses' awareness, knowledge, skills, and attitudes toward FASD, with no restrictions on setting, geographic location, or sociocultural context. Quantitative, qualitative, mixed-methods studies, reviews, and gray literature were considered. A search of MEDLINE, CINAHL, Scopus, Web of Science, The Cochrane Library, Epistemonikos, ProQuest, Google, Google Scholar, WorldCat was conducted in December 2025 (updated in March 2026), with no date or language restrictions. Hand searching and reference list screening were also performed. Only full-text sources with distinguishable data for nurses were included.

Results: Studies included (N=28) were observational (n=6), quasi-experimental (n=5), qualitative (n=6), mixed-methods (n=5), reviews (n=2), and gray literature (n=4 theses; 3 qualitative, 1 observational); from North America (n=12), South America (n=2), Oceania (n=8), Europe (n=4), Africa (n=2). Limited awareness of FASD among nurses emerged, with inadequate or superficial knowledge particularly about its signs and symptoms. FASD was insufficiently addressed in nursing education and continuing professional development programs. Nurses' skills were also inadequate, and they felt unprepared and lacked confidence in identifying, managing, and coordinating care, as well as in supporting families. Although nurses generally held favorable attitudes toward preventing FASD, the diagnosis was commonly perceived as stigmatizing, often hindering identification or alcohol-related discussions with patients. Educational and training interventions improved nurses' FASD preparedness.

Conclusions: Curricula and professional development programs should consider integrating FASD to ensure adequate nurses' preparedness for this vulnerable population. Further research with larger samples and broader geographic coverage is warranted.

Keywords: Fetal Alcohol Spectrum Disorder; Nurses; Preparedness; Vulnerability

104. Beyond Compliance: A Nurse-Led System Approach to Hand Hygiene Effectiveness in Acute Care

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Background: Hand hygiene is a cornerstone of infection prevention and patient safety. However, in many healthcare systems, performance is primarily monitored through compliance indicators, which may not reflect actual effectiveness. Structural conditions, technical execution and behavioural patterns interact within care systems, generating vulnerabilities that can compromise infection control despite apparent compliance. Addressing these gaps requires a system-oriented perspective aligned with resilient, value-driven healthcare.

Aim(s): To identify system-level vulnerabilities affecting hand hygiene effectiveness and to explore the role of nursing leadership in strengthening infection prevention within acute care settings.

Methods: A nurse-led quality improvement project was conducted in two acute care hospitals within routine clinical governance activities. A multi-dimensional assessment framework was applied, integrating three domains: (1) structural prerequisites for effective hand hygiene (e.g. jewellery, nail policy, "bare below the elbows"); (2) technical quality of alcohol-based handrub execution (time and volume), supported by microbiological sampling; and (3) behavioural adherence to WHO "5 Moments", including environmental recontamination following contact with high-touch surfaces. Data were collected through structured direct observation and analysed descriptively.

Results: The assessment revealed critical vulnerabilities not captured by routine compliance monitoring. Only 38% of healthcare workers met all structural prerequisites. Technical execution was frequently inadequate, with 92% of hand hygiene actions performed for less than the recommended duration. Preventive moments showed lower adherence compared with reactive ones. Microbiological findings demonstrated effective bacterial reduction only when correct technique was applied and highlighted rapid recontamination after contact with high-touch environmental surfaces.

Conclusions: Hand hygiene effectiveness is shaped by interacting structural, technical and behavioural factors rather than isolated individual compliance. These findings support a shift towards nurse-led, system-based infection prevention strategies. Integrating multi-dimensional assessment into routine governance can strengthen resilience, improve safety outcomes and support sustainable, high-value care across healthcare systems.

Keywords: Hand hygiene; Infection prevention; Nursing leadership; Quality improvement; Patient safety

105. Targeted Nudging to Increase Influenza Vaccination Uptake Among Healthcare Workers: Evidence from Age-Tailored Invitations

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Background: Influenza vaccination coverage among healthcare workers (HCWs) remains suboptimal despite its importance for patient safety. Behavioral interventions such as nudges have shown promise, but their effectiveness may vary across demographic groups. In particular, limited evidence exists on interventions tailored to age-specific barriers to vaccination.

Aim(s): To evaluate whether age-targeted personalized invitations can differentially influence influenza vaccination uptake across age groups among nursing and allied healthcare staff.

Methods: We conducted a quasi-experimental study in a large Italian university hospital during the 2025 influenza vaccination campaign. The intervention consisted of personalized invitation letters with pre-scheduled vaccination appointments. Letters were tailored by professional group for all HCWs and further customized by age group (≤35, 36-55, ≥56) for nursing and allied healthcare staff. Age-specific messages were designed based on previously identified barriers to vaccination within each age group (e.g., low perceived risk among younger workers, time constraints among middle-aged staff). Using administrative data on approximately 5,800 workers, we focused on the nursing/clinical staff group and estimated weighted linear models comparing vaccination coverage between 2024 and 2025 across age groups.

Results: Overall vaccination coverage among nursing staff remained broadly stable (20.0% in 2024 vs 19.0% in 2025). However, substantial heterogeneity emerged across age groups. Vaccination uptake increased among younger workers (from approximately 7% to 17%), remained stable among older workers (around 18-21%), and declined among those aged 36-55 (from approximately 25% to 21%). The interaction between year and age group was statistically significant (p=0.001), indicating that changes over time differed across age groups.

Conclusions: Age-targeted behavioral nudges appear to be effective in increasing vaccination uptake among younger healthcare workers, a group typically characterized by low baseline coverage. In contrast, no improvements were observed among middle-aged workers, suggesting possible saturation effects in groups previously responsive to nudging strategies. While causal interpretation is limited by the absence of a control group, these findings provide real-world evidence on the importance of tailoring interventions to age-specific barriers in vaccination campaigns.

Keywords: Influenza vaccination; Healthcare workers; Behavioral nudges; Age-targeted intervention

106. Enhanced Recovery After Surgery: A Narrative Review of Barriers and Facilitators Perceived by Nurses Authors

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Background: Enhanced Recovery After Surgery (ERAS) is a multidisciplinary, evidence-based programme that aims to improve perioperative care quality and patient outcomes through standardised care pathways. Although ERAS has been associated with better clinical and organisational outcomes, its implementation remains inconsistent and often incomplete across settings. As nurses are directly involved in delivering many ERAS components, understanding the barriers and facilitators they perceive is essential to improving adherence and supporting more consistent, evidence-based perioperative care.

Aim(s): To synthesise the main barriers and facilitators perceived by nurses in the implementation of ERAS programmes in surgical settings.

Methods: A narrative literature review was carried out. MEDLINE (PubMed), CINAHL, and Scopus were searched in December 2025, with additional screening of grey literature and reference lists. Studies explicitly addressing nurses' perceptions of barriers and/or facilitators related to ERAS implementation in surgical settings were included.

Results: Nine studies met the eligibility criteria and were narratively synthesised. Reported barriers included insufficient human, material, and financial resources; workload and time constraints; limited ERAS knowledge and training; resistance to change; organisational and structural challenges; weak leadership and coordination; limited multidisciplinary collaboration; and patient-related complexity. Reported facilitators included continuous education, organisational support, active leadership, effective multidisciplinary collaboration, patient and family involvement, and practical implementation strategies, such as clear, adaptable protocols, integration into routine care, and the use of monitoring tools and outcome data.

Conclusions: ERAS implementation is influenced by multiple interrelated organisational, educational, relational, and patient-related factors. Strengthening nursing education, leadership, multidisciplinary collaboration, and context-sensitive implementation strategies may improve adherence to ERAS programmes and support their sustainable integration into clinical practice.

Keywords: Enhanced Recovery After Surgery; Perioperative nursing; Implementation; Barriers; Facilitators; Narrative review

107. Topical Polyhexanide Gel in Adult Cardiac Surgery: Protocol for an Adaptive Feasibility Study on Superficial Surgical Site Infection Prevention

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Background: Surgical site infections (SSIs) following median sternotomy remain a relevant complication in adult cardiac surgery, increasing morbidity, hospital stay, and healthcare resource use. Despite multimodal prevention strategies, superficial SSIs still represent a clinically significant burden. Strengthening perioperative infection prevention pathways is therefore a priority for improving quality of care. Topical polyhexanide gel may offer an additional preventive option because of its broad-spectrum antiseptic activity and potential to reduce local microbial contamination and biofilm formation at the surgical site.

Aim(s): To describe the protocol of an adaptive feasibility study assessing the clinical, organisational, and nursing-related feasibility of intraoperative topical polyhexanide gel application for preventing superficial SSIs in adult patients undergoing cardiac surgery through median sternotomy.

Methods: This single-centre, single-arm, phase IV, exploratory, adaptive, feasibility study will be conducted in a high-speciality cardiac surgery setting. Adult patients undergoing elective cardiac surgery via median sternotomy will be consecutively enrolled. The intervention consists of intraoperative application of topical polyhexanide gel to the closed surgical wound immediately before sterile dressing placement, according to a standardised procedure. The primary outcome is 30-day superficial SSI incidence, defined according to the Centres for Disease Control and Prevention (CDC) and National Healthcare Safety Network (NHSN) criteria. Secondary outcomes include length of stay, unplanned surgical reintervention, and key quality-of-care and feasibility indicators.

Results: The planned sample size is 456 patients, calculated to detect a reduction in superficial SSI incidence relative to the centre's historical benchmark. The study is expected to generate real-world data on the feasibility, sustainability, and consistency of implementing this intervention within routine clinical practice, as well as preliminary signals of effectiveness in improving patient safety outcomes.

Conclusions: This study will provide preliminary evidence on the feasibility and potential value of intraoperative topical polyhexanide gel as a patient safety intervention in cardiac surgery. Findings may support the optimisation of SSI prevention pathways and inform

future controlled comparative studies aimed at improving the quality of care and surgical outcomes.

Keywords: Surgical site infection; Patient safety; Cardiac surgery; Polyhexanide; Quality of care; Wound care

108. Nurse's Role in Emergency Care Systems: Organizational Resilience and Management of High-Intensity Care Pathways

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Background: Emergency care systems are increasingly challenged by rising patient complexity, workforce shortages, and organisational pressures. In this context, nurses play a pivotal role not only in clinical care but also in ensuring system resilience and continuity of care.

Aim(s): To explore the contribution of nurses in managing high-intensity care pathways within emergency settings, focusing on organisational resilience and system responsiveness.

Methods: A descriptive analysis based on professional experience in an Emergency Medicine Unit, integrating organisational and management perspectives. Key aspects include patient flow management, prioritisation processes, and coordination within multidisciplinary teams.

Results: Nurses are central to the effective functioning of emergency systems, contributing to clinical stabilisation, operational coordination, and resource optimisation. Flexible organisational approaches and strong interprofessional collaboration enhance efficiency and patient safety, particularly in high-pressure environments.

Conclusions: Strengthening nurses' organisational and decision-making competencies is essential to improve health system resilience. Investing in advanced nursing roles supports more effective emergency responses and promotes sustainable, high-quality care delivery.

Keywords: Emergency nursing; Health systems resilience; Patient flow management; Workforce challenges; Emergency care; Organisational management

109. Pediatric Nursing Micro-credentials as a Global Nursing Workforce Development Solution for Strengthening Health System Preparedness and Improving Child Health Outcomes

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Background: Global nursing shortages, uneven workforce distribution, and persistent pediatric competency gaps threaten child health outcomes worldwide. With 4.8 million children under five dying annually from largely preventable causes and a global deficit of 6 million nurses, the pediatric nursing workforce crisis demands urgent, scalable solutions. Only four countries offer pediatric advanced practice nursing programs, and traditional continuing professional development inadequately addresses pediatric-specific competency needs. Digital micro-credentials offer competency-based, portable, accessible, targeted up-skilling as an innovative strategy in pediatric nursing workforce development.

Aim(s): To discuss pediatric nursing micro-credentials as a global workforce development strategy to improve access to child health care, strengthen health system resilience, and advance pediatric nursing preparedness within value-driven, cross-border nursing systems.

Methods: The Diffusion of Innovation framework was used to develop a bold global pediatric nursing micro-credential through a partnership between the National Association of Pediatric Nurse Practitioners (NAPNAP) and TruMerit, utilizing subject matter experts from all global regions and economic levels. The on-demand virtual programming and assessment are aimed at upskilling and better equipping pediatric providers worldwide through competency-based modules to deliver optimal care to children.

Results: Micro-credentials offer flexible, competency-based upskilling addressing gaps in infection prevention, vaccination, outbreak response, and child health surveillance. Evidence demonstrates that every dollar invested in maternal and child health returns $7 in economic benefit; childhood immunization programs yield $20-$52 per dollar. Digital delivery expands equitable access in low- and middle-income countries, supporting cross-border workforce standardization aligned with the European Skills Portability Initiative. Pediatric-specific competencies reduce medication errors, improve chronic disease management, and generate compounding intergenerational health and economic returns.

Conclusions: Pediatric nursing micro-credentials aim to provide a scalable, high-value strategy to build resilient health systems capable of protecting child health globally. International adoption requires coordinated recognition frameworks, outcome research, and implementation evidence.

Keywords: Pediatric nursing workforce; Pediatric nursing education; Micro-credential

110. Impacts on Clinical Nutrition and AMR

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Background: Hospital malnutrition (prevalence 30-55% in Italy; PIFO 2017; Caccialanza R. et al., Clin Nutr 2020; n=1,697; 21 Italian hospitals) increases MDRO infection risk 2.3-4.1x (Bassetti M. et al., Intensive Care Med 2020). Vitamin D deficiency (<20 ng/mL) doubles

MDRO pneumonia risk; zinc and selenium deficiency impair neutrophil phagocytosis and NK cell activity (Calder PC et al., Nutrients 2020; DOI: 10.3390/nu12061181). Nurse-administrable nutritional risk screening tools (NRS-2002; MUST; MNA) are validated for Italian hospitals (ESPEN 2022) but no protocol links nutritional assessment to AMR outcomes as a primary nursing variable.

Aim(s): To map 1990-2026 evidence on clinical malnutrition and micronutrient deficiency impacts on AMR susceptibility; and to propose NUTRI-AMR-NURSE - a nurse-led protocol integrating NRS-2002 with a micronutrient AMR risk score (vitamin D; zinc; selenium) for Italian hospital settings.

Methods: JBI Scoping Review (PRISMA-ScR; PROSPERO). PCC: P = hospitalised adults at nutritional and AMR risk; C = nurse-led nutritional assessment (NRS-2002; MUST; MNA; micronutrient screening); C = MDRO infection incidence; ESKAPE colonisation rate; NRS-2002 score. Six databases: MEDLINE (1990-2026), CINAHL, Embase, Cochrane CENTRAL, Scopus, Web of Science. Grey: ESPEN 2022; PIFO 2017; PNCAR 2022-2025. GRADE.

Results: Caccialanza 2020 (Clin Nutr; n=1,697): malnutrition OR 2.4 for infective complications (95% CI 1.6-3.6). Calder 2020 (Nutrients): zinc/selenium/vitamin D deficiency impairs NK cell activity and neutrophil phagocytosis. ESPEN 2022: NRS-2002 validated for Italian hospitals (sensitivity 81%; specificity 76%) but not linked to AMR outcome. Gap: no nurse protocol integrates NRS-2002 with micronutrient AMR risk as composite nursing outcome.

Conclusions: NUTRI-AMR-NURSE JBI scoping review (1990-2026) produces the first evidence map for a nurse-led nutritional AMR prevention protocol, informing a pilot instrument (NRS-2002 + Micronutrient-AMR Risk Score 3-item; SPIRIT 2013; ESPEN 2022; PNCAR 2022-2025) for Hospital nursing practice in Italy.

Keywords: Malnutrition; Vitamin D; MDRO; ESKAPE; Nurse-led; AMR prevention

111. Aligning Healthcare Quality Management in Kosovo with European Standards

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Aim(s): This study examines the alignment of Kosovo's Health Law and the Health Sector Strategy 2025-2030 with ISO 9001 standards. It also explores their contribution to health system preparedness and the role of nurses in quality improvement and resilient care delivery.

Methods: A qualitative document analysis was conducted using key frameworks: the current Health Law, the Health Sector Strategy 2025-2030, the Quality Management System Manual, the Key Performance Indicators Manual, the Action Plan for Quality Management System

2024-2026, and ISO 9001:2015. The content analysis was guided by ISO principles, including patient-centered care, leadership, process approach, and continuous improvement, with attention to preparedness elements such as infection prevention and response coordination.

Results: Five documents were analyzed. Findings show progress at the policy level, particularly through the Health Sector Strategy 2025-2030 and quality frameworks. However, gaps remain in implementation, standardization, and monitoring. The role of nurses in quality management and preparedness is not clearly defined, limiting their contribution to patient safety, outbreak response, and system resilience.

Conclusions: Stronger alignment with ISO 9001 and consistent implementation of national frameworks could improve healthcare quality and preparedness in Kosovo. Integrating nurses into quality management processes is essential to translate policy into practice and strengthen system response to public health challenges.

Keywords: Healthcare Quality Management; Kosovo; ISO 9001 & Health Strategy 2025-2030; Nursing Role & Patient Safety; Preparedness & Resilience

112. The Organization System of Emergency Services Intra and Extra Hospital: A Literature Review

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Background: Emergency and urgent care organisation systems, both at hospital and out-of-hospital level, represent a point of high organisation of health services and protection of the population's life.

Aim(s): The aim of the literature review was to investigate the organization of emergency and urgent services.

Methods: The research was carried out using the Prisma method, by two researchers, with the support of two supervisors, in the months of October 2024 and January 2025, through search strings built by the research team.

Results: 1,548 articles were returned and 59 were considered relevant to the purpose of our research. Some recommendations are indicated for considering the staffing needs for a hospital emergency service, including: i) patient-related factors (e.g. acuity and volume of the number of patients); ii) staff-related factors; iii) hospital-related factors and iv) additional factors, mainly the unpredictability of the emergency-urgency sector. For the extra-hospital sector, CEN 1789:2020 is indicated, with different ambulances for different levels of intensity of care. Countries mainly use "load & go" or "stay and stabilise" systems or mixed systems. The number of teams envisaged in the recommendations is 1:50,000 inhabitants for response times of 4-6 minutes, and should also consider: (i) the number of calls based on the age group of the population, and (ii) a calculation of the health reasons that push people to call the emergency services.

Conclusion: All countries organize their emergency/urgency systems in order to ensure the best access to care. Important recommendations emerge for the organization of services, which must include highly qualified and specialized personnel.

Keywords: In-hospital emergency and urgency; Extra-hospital emergency and urgency; Training; Review

113. Family and community nurses in Italy: guidelines from the Italian National Agency for Regional Health Services - Agenas

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Background: In Italy, Family and Community Nurses (FCN) were formally described in the document called "Patto per la Salute 2019-2021". In May 2020, in the midst of the SARS-CoV-2 pandemic, a subsequent document was issued, Legislative Decree no. 34, which defined the importance and necessity of this specialist figure. To reinforce what had already been defined, Law no. 77/2020 was subsequently issued, which sanctioned the definitive introduction of FCN in Italy, all to strengthen the number and nursing care on Italian territory, especially in primary care settings and in special care continuity units.

Aim(s): The objective of Agenas was to develop complete guidelines for FCN.

Methods: A working group was coordinated by AGENAS. Various stakeholders were involved , including the Federation of Nursing Professions (FNOPI), the Scientific Society for Family and Community Nursing (AIFEC) and the Primary Care Network (OPEN). In addition, the Ministry of Health, 2 Universities and 10 Regions also participated. The working method adopted included conducting a literature review, analysis of AIFEC and FNOPI position papers and interviews with experts.

Results: The document developed by the working group was published on September 20, 2023 with the title "Guidelines on FCN". It consists of 12 sections, divided into 30 pages and defines a standard for FCNs (1 FCN/3,000 inhabitants), basic skills, organizational models, training and recruitment methods, as well as allocation criteria and monitoring tools. The FCNs operate at community, outpatient, home care levels.

Conclusion: The document is in line with the scientific evidence found in the literature and defines and standardizes the activities and standards of the FCN on Italian territory, to which the healthcare companies will conform to strengthen the quality and availability of the services offered to the population.

Keywords: Family or community nurses; Primary care; Specialist nurses; Quality of care

114. Calculation of healthcare workforce needs in Italy: The methodology and algorithms presented by the National Agency for Regional Health Services - Agenas

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Background: To ensure the functioning of health services, it is essential to plan the need for health workforce (HWF). This is a very topical issue and, given that the last Italian HWF planning standard dates back to 1988, and given the evolution of health needs, , the ageing of the population and of the health workers themselves, the pandemic and the limited resources, have led to the development of a new methodology containing new algorithms for the calculation of the HWF.

Aim(s): The Italian Ministry of Health (MoH) has entrusted AGENAS with the objective of building a new methodology for the calculation of HWF needs.

Methods: A team was formed with the MoH, the Ministry of Economy and Finance (MoEF), the Regions, Professionals and Universities.

Results: The methodology took into account data sent by 9 Regions and around 400 healthcare facilities. Several aspects were considered, such as the performance of professionals for individual areas and specializations, in hospital and outpatient settings, levels of care intensity, DRGs. Individual hospital organizational levels were also considered. The methodology was approved by the MOH and the MoEF in January 2023 and was applied and monitored on an experimental basis for two years, evaluating for each individual area, discipline or service, the interval of HWF (minimum and maximum) equivalent to full time required to guarantee the functionality of health services.

Conclusion: A new algorithm for calculating the necessary HWF, in line with the problems and difficulties of today's health services, was applied in the years 2022-2024 and is constantly evolving, to refine the calculation models adapting them to the daily needs of all stakeholders. The Regions and health institutions are using Agenas' expertise to apply this innovative method, which is constantly evolving and expanding in order to adapt to individual contexts and needs.

Keywords: Key Words: Health workforce; Standard, Methodology, Health services

115. The Organization of Mental Health Services in Italy: Workforce Composition and Regional Distribution

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Background: Mental health services, Addiction Services and Child and Adolescent Neuropsychiatry represent areas of high organizational complexity within the National Health Service, where healthcare, social and relational needs intersect. Data updated to 31 December 2023 describes a system addressing a broad and heterogeneous demand, characterized by a substantial number of first-time contacts and intense territorial activity. In this context, the availability and distribution of the healthcare workforce play a central role in ensuring continuity of care and homogeneity of service provision.

Aim(s): The objective of this analysis is to describe the activity of mental health services, Addiction Services and Child and Adolescent Neuropsychiatry, with reference to user volumes, services delivered and workforce composition.

Methods: The data derive from Agenas analyses based on Conto Annuale and NSIS sources and refer to the year 2023, using activity and staffing indicators in relation to the reference population and regulatory standards.

Results: In 2023, mental health services assisted over 850,000 users, with a predominance of female users and a concentration in adult age groups. Approximately 259,000 individuals accessed services for the first time, with 95% of first contacts, confirming the role of territorial services as the main entry point into care. Territorial services delivered more than 9.6 million interventions (mean 14 interventions per user), highlighting a strong clinical component mainly provided by physicians and nurses. The workforce of Mental Health Departments amounts to approximately 32,400 professionals, with a predominance of nursing staff. Between 2019 and 2023, overall growth was observed alongside a reduction in medical staff and an increase in psychologists, educators and rehabilitation professionals. In Addiction Services, total staffing decreased, while the regional distribution of professional profiles shows marked variability and, in several contexts, levels below reference standards. The Agenas methodology could determine the correct health workforce.

Conclusions: Overall, the analysis highlights a system with strong care capacity but persistent territorial heterogeneity and gaps with respect to staffing standards. The application of the Agenas methodology for determining workforce requirements may support health planning and targeted rebalancing interventions.

Keywords: Mental Health Departments; Healthcare workforce; Regional distribution; Standards of healthcare personnel; Agenas methodology

116. First Italian experience of an Advanced High Formation Academic Course for Infection Control Link Nurses (ICLNs): Results from a Qualitative Study

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Background: Healthcare-associated infections (HAIs) represent a critical challenge to patient safety worldwide. Infection Control Link Nurses (ICLNs) are professionals acting as intermediaries between clinical units and infection control experts to disseminate good practices.

Aim(s): Aims were to explore ICLNs perspectives on their scope and role.

Methods: A qualitative descriptive study according to the Consolidated Criteria for reporting Qualitative Research (COREQ) checklist. Two focus group with a purposive sample of total 18 nurses after completing an Advanced High Formation Academic Course designed for ICLN in a North Italian University counting for 30 ECTS. Interviews were transcribed verbatim, analyzed using thematic analysis. Socio-demographic data were also collected. Ethical principles were applied.

Results: Participants were mostly females (77.8%), older than 50 (50%), with a seniority status of 21 or more years (37.8%) and of 11-20 years (27.8%), being ward nurses (77.8%). On a Likert scale from 1-to-5, participants rated 3.99±0.98 the general satisfaction, with "perceived efficacy" rated at highest (4.11±0.88) and "relevance to the profession" at lowest (3.79±1.08). Six themes emerged, namely: (1) Impact and influence (how the course has concretely changed their operations), (2) Quality governance (improving the use of scientific evidence and structured methodologies for risk management), (3) Team leadership (managing interprofessional relationships and overcoming cultural resistance), (4) Networking (strengthening ICLN role), (5) Know-How Transfer (translating theory into operational tools), (6) Organizational awareness (interpreting their own work context).

Conclusions: ICLNs act as role models and visible advocate for good practice, positively influencing team behaviors. The effectiveness of specialist training lies in reducing the gap between scientific evidence and clinical practice, acting as "opinion leaders" and translating guidelines into operational instructions. It is imperative that healthcare organizations formally recognize ICLN authority and operational time, since ICLN ensures that patient safety is not an ideal but a measurable daily practice. This study has proven that, after the Academic Course, ICLNs have acquired a full role status, acting as facilitators in the implementation of good practices, as link for declining the governance of infection control and as Professionals promoter of changes in infection prevention and control.

Keywords: Infection control link nurses (ICLNs); Advanced high formation academic course designed for ICLN; role status

117. Hygiene in Healthcare Environments: A Multicentric Analysis of Knowledge and Professional Competencies Among Nursing Personnel

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Background: Healthcare-Associated Infections (HAIs) represent a serious complication with significant impact on morbidity, mortality, and costs. Despite guidelines, disparities in competence among healthcare workers persist, influenced by age, education, and years of service.

Aim(s): This study analyzes perceived health and hygiene knowledge and skills of nursing staff in the Marche Region.

Methods: A multicentric observational design was adopted. Data were gathered from three health authorities: AST Macerata, AOU delle Marche, and AST Pesaro-Urbino. An anonymous online questionnaire was administered to nurses. The tool was validated with a Cronbach's alpha of 0.95. Statistical analysis used Chi-square tests ($p < 0.05$) to assess relationships between sociodemographic variables and self-assessment of knowledge. Results 210 nurses participated: 35 (17%) from AST Macerata, 29 (14%) from AOU delle Marche, and 146 (79%) from AST Pesaro-Urbino. 60% held a bachelor's degree, 49% were aged 46-60, and 85% were women. A bachelor's degree significantly correlated with "very good" perceived knowledge in theoretical and specialized areas (disinfection, host susceptibility). However, basic practical skills (hand hygiene, PPE, sharps management) were distributed uniformly regardless of degree. Regarding age, clinical experience in the 46-60 group tended to balance theoretical gaps, though older professionals sometimes showed disadvantages due to less recent training. Notably, 77.2% expressed a desire for further training, with 76.9% preferring e-learning.

Conclusions: Neither age nor education substantially influences hygiene knowledge, likely due to recent mandatory training. We recommend maintaining centralized training supplemented by periodic practical assessments, targeting specific courses toward older or less-educated cohorts, particularly regarding PPE and disinfection. Continuous, personalized, and dynamic training pathways are essential to support professionals throughout their careers, adapting to technological evolutions and emerging healthcare needs.

Keywords: Healthcare-associated infections (HAIs); Hygiene; Infection prevention and control; Nursing skills; Continuing education; Personal protective equipment (PPE)

118. Medication Non-Adherence : A Call to Action for a Multi-Stakeholder Approach

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Background: Medication non-adherence is a critical public health and economic challenge recognized by the OECD. Approximately 50% of patients with chronic conditions do not adhere to prescribed medications, contributing to nearly 200,000 premature deaths annually

in Europe. The economic burden is substantial, with €125 billion in avoidable healthcare costs in Europe and $105 billion in the United States each year. The pharmaceutical industry loses an estimated $637 billion globally in annual revenue. Despite robust evidence on effective adherence interventions, these have not been systematically translated into frontline clinical practice.

Aim(s): To analyze the clinical and economic impact of medication non-adherence, identify its multilevel root causes, and propose a coordinated, evidence-based, multi-stakeholder framework to bridge the gap between research and real-world implementation.

Methods: A narrative review of published evidence and OECD data was conducted to characterize the scope of non-adherence across chronic disease populations. Root causes were mapped across five levels: policy, health system, organization, healthcare team, and patient. Behavioral science frameworks were applied to identify actionable intervention strategies at each level.

Results: Non-adherence is driven by interconnected factors including fragmented care, poor patient-provider communication, lack of shared decision-making, patient beliefs, psychological barriers, and systemic access issues. Behavioral interventions - including motivational interviewing, digital reminders, simplified regimens, and multidisciplinary care teams - demonstrate effectiveness but remain underutilized. Implementation science offers essential tools to adapt and sustain these interventions in real-world settings.

Conclusions: A multilevel, coordinated approach involving patients, healthcare professionals, health systems, and policymakers is essential to meaningfully improve medication adherence. A proposed roundtable would aim to pioneer evidence-based adherence solutions, develop quality indicators, and place adherence on national policy agendas - ultimately improving health outcomes and healthcare system efficiency.

Keywords: Medication non adherence; Behavioral science; Adherence interventions

119. International Health Regulations Core Capacities and the Role of Community Health Center Nurses in Indonesia: A Qualitative Exploratory Study

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Background: The global post-pandemic era has exposed fundamental weaknesses in health systems regarding surveillance, early warning, and emergency response coordination. The COVID-19 pandemic served as a critical turning point, emphasizing that strong Primary Health Care (PHC) must be integrated with robust health security measures to ensure resilience against future threats. In Indonesia, this is being addressed through the Health

Transformation pillars, which mandate that community health centers (Puskesmas) implement International Health Regulations (IHR) core capacities. As the largest professional group in these facilities, nurses are strategically positioned to bridge clinical care with IHR requirements such as surveillance and infection prevention.

Aim(s): The objective of this research was to explore the roles, experiences, and obstacles of community health center nurses in implementing IHR core capacities, specifically focusing on surveillance, infection prevention, and emergency response within the Indonesian primary care context.

Methods: This study utilized a qualitative descriptive design with inductive thematic analysis. Data were collected through two focus group discussions (FGDs) with a total of 16 participants (8 from each center) representing nursing managers and clinical nurses at two community health centers in West Java. The analysis focused on the execution of health security functions and the practical challenges encountered by nursing staff.

Results: The thematic analysis revealed that community health center nurses serve as the essential backbone for the Early Warning and Response System and field investigations. Key obstacles identified include: 1) Professional "double-hatting," where nurses in emergency units must also manage surveillance duties due to a lack of dedicated epidemiologists, leading to delayed response times; 2) Inefficiencies in digital referral systems, where hospital response delays of 4 to 6 hours force nurses to bypass formal protocols via informal WhatsApp coordination to ensure patient safety; and 3) Community resistance during epidemiological investigations, particularly regarding laboratory sample collection. Facilitators for these roles include leveraging mandatory training, such as Basic Trauma Cardiac Life Support and Training on Vaccine-Preventable Diseases Surveillance, to build standardized competencies.

Conclusions: The post-pandemic recovery requires optimizing IHR core capacities at the primary care level through standardized nursing roles. Nurses are the primary drivers of health security in Indonesia, but their impact is hindered by workload fragmentation and poor digital infrastructure. To achieve a resilient health system, it is vital to establish specialized health security nursing positions and upgrade digital coordination systems to ensure efficient, real-time responses to infectious threats.

Keywords: Community health center nurse; International health regulations; Health security; Surveillance; Indonesia; Qualitative study.

120. Lupus Like Fever

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Background: Rickettsiosis refers to a group of diseases that are passed from animals to humans through insects like ticks, fleas, lice, and mites. The bacteria responsible, called Rickettsia, are tiny, Gram-negative bacilli that must live inside host cells to survive. These

infections can range from mild fevers to serious illnesses affecting multiple organs. People with rickettsiosis usually experience sudden fever without a clear cause, along with symptoms like headache, muscle pain, and feeling generally unwell. Although these bacteria are common in nature, they're often missed as a cause of disease, which makes it hard to fully understand their impact. When not diagnosed quickly, these infections can reduce a person's ability to work and increase health care costs. The rate at which ticks carry Rickettsia varies and depends on several factors, including whether the ticks feed on infected animals. New cases continue to appear around the world, and some strains are becoming more widespread. Common signs include fever, headache, and muscle aches, though a rash may or may not appear. Because the symptoms are general and not well recognized, rickettsial infections are frequently missed. In places where these diseases are common, they can be confused with autoimmune disorders like lupus (SLE), especially when patients have similar systemic symptoms and abnormal blood tests. Getting the right diagnosis and starting treatment early is essential to prevent complications.

Aim(s): This paper presents a case of a young woman who was initially thought to have lupus, but was eventually diagnosed with rickettsiosis.

Results: A 22-year-old female from rural area, presented with one week of high-grade fever (up to 39°C), persistent headache, abdominal discomfort, diffuse myalgia, inspiratory chest pain, cough, and shortness of breath. Physical examination revealed a malar rash and generalized pallor. No exposure to pets or insect bites was reported. Previous outpatient antibiotics were ineffective. Laboratory examinations are listed below: WBC 18,000/µL (Neutrophils 78%), and Platelets 83,000/µL. alanine transaminase, aspartate transaminase and lactat transaminase were respectively 87 U/L (<59 U/L), 56 U/L (5-34 U/L), 545 U/L (40-150 U/L).Inflammatory Markers evaluated in this case were C-reactive protein 22.86 mg/dL (< 0.5), Ferritin blood test 1042.6 ng/mL (5-204 ng/mL), Fibrinogen test 222 mg/dL (200-400 mg/dL).Chest X-ray demonstrate bilateral perihilar infiltrates and in abdominal ultrasound was seen mild hepatosplenomegaly. In cardiac ultrasound was not evidenced pericardial liquid. Blood culture resulted negative. Given the constellation of clinical features-including fever, rash, cytopenia, and evidence of serositis-an initial diagnosis of systemic lupus erythematosus (SLE) was considered. Autoimmune workup revealed: Antinuclear antibodies test <1:160, The anti-double stranded DNA (anti-dsDNA) tests 21.6 IU/mL, Extractable nuclear antigen ENA 0.8 U/Ml. C3 complement blood: 122 mg/dL(83-193 mg/dL),C4 complement blood:10 mg/dL(15-57 mg/dL) Rheumatoid factor RF: <20 IU/mL(<30), Anti-TPO thyroid peroxidase antibody test <3.01 IU/Ml (<9.0 IU/mL), AMA Antimitochondrial antibodies <100 PR3 proteinase 3 :1.84 RU/mL (<2 IU/mL), MPO myeloperoxidase test : 1.7 RU/mL (0 - 469 pmol/L) Further cardiac evaluation revealed NT-proBNP: 2168.5 pg/mL(<125).The Weil-Felix agglutination test was positive, confirming rickettsial infection. Serum Protein Electrophoresis: Albumin 41.7% (ref: 55.8-66.1%) α1-globulin 7.2%, α2-globulin 11.6%, β1-globulin 6.2%, β2-globulin 5.8%, γ-globulin 27.5% A/G Ratio: 0.72 Management and Outcome Doxycycline therapy 100 mg two times per day was initiated alongside supportive care. Within days, the patient showed marked clinical and laboratory improvement: laboratory and inflammation tests repeted 5-7 days after doxycycline treatment were: CRP 1.05 mg/dL, Ferritin: 181.5 ng/mL; LDH 171 U/L; AST 10 U/L; ALT 18 U/L; WBC 11.9K/µL; Neutrophils 66.5%; and Platelets 374 K/µL. The patient was monitored over a six-month period, during which no evidence of underlying rheumatologic disease was found.

Conclusions: Rickettsiosis should be included in the differential diagnosis of undifferentiated fevers, especially in endemic areas. Its mimicry of autoimmune disorders can delay appropriate management. Awareness and early empirical therapy are key to reducing morbidity.

Keywords: Rickettsiosis; Lupus-like rash; Undifferentiated fever; Doxycycline; Autoimmune mimicry; Weil-Felix test

121. Closed-circuit Bladder Irrigation to Improve Infection Prevention and Operator Safety in Routine Urological Care: A Randomized Controlled Trial

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Background: Urinary tract infections remain a frequent complication after endoscopic urological procedures. Routine bladder irrigation often requires manual washouts that breach the closed system, increasing infection risk for patients and exposure to biological fluids for healthcare professionals. Nurses play a key role in managing these procedures and ensuring safety.

Aim(s): To evaluate whether a closed-circuit bladder irrigation system improves infection prevention and operator safety compared with standard practice.

Methods: A randomized controlled trial was conducted in a university hospital in the center of Italy. Adult patients undergoing TURP or TURBT requiring bladder irrigation were allocated to standard care or a closed-circuit system. The primary outcome was postoperative bacteriuria. Secondary outcomes included fever and antibiotic use at 7 and 30 days, operator contamination, and usability.

Results: A total of 147 patients were analysed (intervention n=87, control n=60), with comparable baseline characteristics. No cases of bacteriuria were observed in the intervention group compared with 3.3% in controls (p=0.19). At 7 days, fever occurred in 1.1% vs 8.3%, and antibiotic use in 8.0% vs 16.7%, consistently favouring the intervention group, although differences were not statistically significant. At 30 days, similar trends were observed, with lower rates of fever and antibiotic use in the intervention group. Operator contamination occurred in 16.7% of control procedures and in none of the intervention cases ($p<0.01$). Usability questionnaires showed high satisfaction and ease of use among healthcare professionals.

Conclusions: Closed-circuit bladder irrigation improves operator safety and supports infection prevention in routine clinical practice. While patient outcomes showed favourable trends, the most relevant impact is the significant reduction in operator contamination.

These findings highlight the role of nursing-led innovations in strengthening safe and resilient healthcare systems.

Keywords: Nursing; Infection prevention; Healthcare safety; Operator safety; Urology; Healthcare systems

122. Cultural Adaptation and Psychometric Validation of the Champion's Health Belief Model Scale for Breast Cancer Prevention in Albania (Al-CHBMS-Bc)

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Background: Breast cancer remains one of the leading causes of morbidity and mortality in women globally, while preventive behaviors are significantly influenced by health perceptions and beliefs. The Champion Health Belief Model Scale (CHBMS) is one of the most widely used instruments for assessing these factors, but a validated version in Albanian for the Albanian population is lacking.

Aim(s): The study aims to translate, culturally adapt, and psychometrically validate the Albanian version of the AL-CHBMS-BC, assessing its validity and reliability in the Albanian female population.

Methods: cross-sectional, transversal study with quantitative approach, sample-347 women ≥18 years old. The instrument includes 10 subscales based on the HBM model and was evaluated through reliability analysis (Cronbach's Alpha), construct validity (EFA and CFA), inferential analyses (correlation, non-parametric tests and logistic regression). The suitability of the data for factor analysis was confirmed with KMO = 0.813 and Bartlett test ($p < 0.001$).

Results: The mean age was 34.8 ± 13.7 years. About 67.7% of women reported performing breast self-examination, while only 43.8% had undergone medical examination. The results showed low perception of susceptibility to the disease (Mean=1.9), while the benefits of preventive methods were positively assessed (Mean ≈ 3.7), but barriers were perceived to be very high (Mean > 4.3). All subscales showed good to very high reliability (Cronbach's Alpha≈0.70-0.95). Exploratory factor analysis identified a three-factor structure explaining 66.35% of the variance, while confirmatory analysis (CFA) supported the original 10-factor model with very good fit (CFI=0.993; RMSEA=0.037). Regression analysis showed that self-confidence (OR=1.35; p=0.017) and perceived benefits (OR=1.29; p= 0.029) were significant factors for self-control, while health motivation was the main factor for medical check-ups (OR=1.38; p=0.048). Strong associations were also found between benefits of preventive methods and health motivation (r up to 0.776).

Conclusions: The AL-CHBMS-BC version demonstrates strong psychometric properties, with high reliability and validity, making it a suitable instrument for use in research and clinical practice in Albania. The findings emphasize that educational interventions should focus on

increasing self-confidence, reducing barriers, and strengthening health motivation in order to improve breast cancer preventive behaviors.

Keywords: CHBMS-BC; Psychometric validation; Breast cancer; Breast self-examination; Health Belief Model; Albania

123. Triage Protocol in Paediatric Emergency Departments: A Review of the Literature

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Background: The gap between healthcare demand and available resources, the emergence of new care needs, and the lack of a globally agreed paediatric triage system have led to the need for this study.

Aim(s): The primary objective of this literature review is to identify paediatric nursing triage systems. The secondary objective is to develop an operational protocol for in-hospital paediatric nursing triage.

Methods: A literature review was conducted on the main paediatric triage systems available and validated in the emergency department. All primary studies and literature reviews available in full text, published in English over the last 10 years, about the main applications and methods of paediatric nursing triage, were included. All articles dealing with triage methods in adult patients or in paediatric patients but in an out-of-hospital emergency/urgent care setting were excluded. The review was conducted by consulting the biomedical databases MEDLINE, CINAHL, ELSEVIER and the Cochrane Library, applying search strings obtained by combining the following free-text terms: "pediatric emergency triage", "pediatric triage nurse", "pediatric triage system", "pediatric emergency department" with the Boolean operator AND.

Results: The studies included in the review (n=36) assessed the validity, reliability, sensitivity and specificity of the main triage systems. The Emergency Severity Index (ESI), which proved to be the most reliable method, consists of an algorithm and five priority levels based on vital signs. The Australasian Triage Scale (ATS) is a valid tool in paediatric settings. The Manchester Triage System (MTS) used in Europe and consisting of 52 flowcharts, allows a priority code to be assigned based on signs and symptoms. The Canadian Triage Acuity Scale (CTAS) has proven to be valid and is used for the development of further triage methods. These triage methods were modified and utilised for new triage systems. A paediatric in-hospital triage protocol was developed in accordance with the new priority code system, comprising five numerical and colour-coded levels. The main vital signs, assessment tables and scales, and flowcharts for the primary problem were identified for the allocation of priority codes.

Conclusions: The evidence gathered, together with an in-depth analysis of triage guidelines and algorithms, has enabled the development of an operational paediatric triage protocol.

Keywords: Pediatric triage; Pediatric emergency department; Pediatric nurse; Pediatric triage system

124. Digital Tools Supporting Nursing Resilience in Infection Prevention, Epidemic Preparedness and Cross-Border Health Collaboration: A JBI Scoping Review Protocol

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Background: Healthcare systems face escalating resilience deficits from epidemic threats, HAIs and workforce burnout. Bundle interventions including digital checklists reduce ventilator-associated pneumonia by 40% (OR: 0.40; 95% CI: 0.24-0.65). Disaster preparedness independently predicts nurse psychological resilience (R^2=0.214; Batı, 2025, Int Nurs Rev). Despite growing deployment of electronic checklists, CDSS, communication platforms and self-care apps, a comprehensive evidence map of their impact on nursing resilience across IPC, epidemic response and cross-border coordination contexts remains absent.

Aim(s): To systematically map evidence on the types, implementation contexts and outcomes of digital tools supporting nursing resilience in IPC, epidemic preparedness and transnational health collaboration, following JBI scoping review methodology and PRISMA-ScR reporting.

Methods: Registered JBI scoping review (OSF). PCC framework: P = nurses in hospital, emergency and community settings; C = digital tools (CDSS, electronic checklists, communication platforms, self-care apps); C = IPC, epidemic preparedness, cross-border collaboration. Five databases: MEDLINE, CINAHL Ultimate, Embase, PsycINFO, Web of Science (2019-2025), plus institutional grey literature (WHO, ECDC, CDC, EU Decision 1082/2013). Independent dual screening; standardised JBI data extraction.

Results: Preliminary mapping confirmed 386+ studies on nurse resilience instruments (Cooper et al., 2025, JAN); 62 studies on critical care disaster preparedness (BMC Nursing, 2025); emerging evidence on nursing digital capabilities for public health emergency preparedness (Lokmic-Tomkins et al., 2025). Cross-study gap confirmed: digital tool effectiveness on nurse resilience in EU cross-border outbreak coordination frameworks is systematically underexplored.

Conclusions: This review will produce the first evidence map of digital tools for nursing resilience across IPC, epidemic preparedness and cross-border health domains, informing European nursing policy, digital competency curricula and implementation protocols for resilient healthcare systems aligned with WHO IPC Core Components.

Keywords: nursing resilience; digital tools; infection prevention and control; epidemic preparedness; clinical decision support; cross-border health

125. Individual Diversity - Ethnicity, G6PD, Microbiome, Health Literacy

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Background: Individual diversity - ethnicity, G6PD prevalence, microbiome composition and health literacy - affects AMR susceptibility. G6PD deficiency ranges from 0.5% (Northern Europe) to 25% (Sub-Saharan Africa) to 5-14% (Mediterranean basin); Italian immigrants from high-prevalence regions are not systematically screened before nitrofurantoin administration. Gut microbiome diversity correlates with ethnicity predicting differential ESKAPE colonisation resistance (Yatsunenko T. et al., Nature 2012; n=531). ISTAT 2023: 34% Italian immigrants have inadequate health literacy vs. 18% Italians, reducing antibiotic adherence. No nursing protocol addresses individual diversity as composite AMR-relevant clinical variable.

Aim(s): To map 1990-2026 evidence on ethnicity, G6PD prevalence, microbiome diversity and health literacy as AMR-relevant nursing variables; and to propose DIVERS-AMR-NURSE - a nurse-led individual diversity assessment protocol for antimicrobial stewardship in Italian multicultural clinical settings.

Methods: JBI Scoping Review (PRISMA-ScR; PROSPERO). PCC: P = hospitalised and community patients from diverse ethnic backgrounds; C = nurse-led diversity assessment (G6PD risk; health literacy; microbiome proxy); C = G6PD-related ADR rate; antibiotic adherence; ESKAPE colonisation rate. Six databases: MEDLINE (1990-2026), CINAHL, Global Health, Embase, Cochrane CENTRAL, Scopus. Grey: WHO health equity AMR 2023; ISTAT 2023; PNCAR 2022-2025. GRADE.

Results: Yatsunenko 2012 (Nature; n=531): ethnic microbiome diversity predicts differential ESKAPE colonisation resistance. WHO G6PD guidelines 2020: pre-administration screening mandatory - absent in Italian hospital formularies for immigrants. ISTAT 2023: inadequate health literacy 34% immigrants - antibiotic adherence -40-60%. Gap: no Italian nursing protocol assesses individual diversity as composite AMR-relevant clinical variable.

Conclusions: DIVERS-AMR-NURSE JBI scoping review (1990-2026) produces the first nurse-specific individual diversity AMR evidence map, informing a pilot protocol (DIVERS-CHECK: G6PD risk + REALM-SF-I + microbiome proxy; SPIRIT 2013; PNCAR 2022-2025) for culturally sensitive AMR nursing in Italian multicultural settings.

Keywords: Multicultural nursing; Cultural diversity; G6PD deficiency; Health literacy; Microbiome diversity; Ethnicity

126. Lifestyle Scales and Preventive Behaviours - AMR Prevention Behaviour Scale

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Background: No validated multidimensional scale integrates natural lifestyle and stewardship behaviours for AMR prevention in nursing. Health-Promoting Lifestyle Profile II (HPLP-II; Walker SN et al., 1987; Italian validation: Tabolli S. 2012; G Ital Med Lav Ergon) measures general health-promoting behaviours without AMR-specific subscales. Infection Control Self-Efficacy Scale (ICSES; Grol MEC et al., Infect Control Hosp Epidemiol 2021; 42(3):254-260) measures infection prevention self-efficacy but excludes lifestyle-mediated AMR prevention. No Italian or European instrument combines natural lifestyle behaviours with stewardship-adjacent AMR prevention behaviours as a composite scale validated for nursing.

Aim(s): To develop and validate the AMR Prevention Behaviour Scale (AMR-PBS) - a nurse-administrable multidimensional instrument integrating natural lifestyle and stewardship-adjacent AMR prevention behaviours - for Italian hospital and primary care nursing, building on HPLP-II, ICSES and LISC-NURSE domain structure.

Methods: Instrument development (DeVellis RF, 2017; COSMIN; ISPOR PRO guidelines). Phase A: systematic literature review 1990-2026 for item pools; Delphi panel (n=20: nurses; AMR specialists; psychometricians; Italian; CVI>=0.80). Phase B: cognitive interviews (n=15); pilot (n=100); exploratory factor analysis. Phase C: confirmatory validation (n=300); Rasch analysis; test-retest ICC; criterion validity against LISC composite score and ESKAPE colonisation rate.

Results: Existing item pools: HPLP-II 52 items (6 domains); ICSES 18 items; LISC-NURSE 5 domains. Projected AMR-PBS: 30-35 items; 5 domains (Nutrition/Physical activity/Sleep/Stress/Stewardship behaviour); Likert 1-5; admin 8-10 min. Gap: no instrument combines natural and stewardship behaviours in a single AMR-validated nurse-applicable composite scale in Italy or Europe.

Conclusions: PREV-BEHAV-AMR instrument development (1990-2026 literature base) produces the AMR Prevention Behaviour Scale (AMR-PBS; COSMIN; Rasch; Italian validated) as composite outcome measure for LISC-NURSE (Abstract 20), NAT-PREVENT-NURSE (N4) and Track 5H/5G natural AMR prevention nursing research in Italy and Europe.

Keywords: Instrument development; Psychometric validation; Natural AMR prevention; Lifestyle; Stewardship behaviour

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127. Improving Culturally Competent Nursing Care Through Transcultural Assessment and Care Planning: A Best Practice Implementation Project

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Background: Increasing cultural diversity in healthcare settings requires culturally competent nursing care to ensure equity, quality, and safety. However, transcultural assessment and documentation are often inconsistently performed and poorly integrated into care planning, limiting the delivery of person-centred care and potentially contributing to health disparities.

Aim(s): To evaluate and improve adherence to best practice recommendations for culturally competent nursing care, with a focus on transcultural assessment and care planning.

Methods: A pre-post clinical audit will be conducted in hospital settings, involving nurses providing direct patient care. The audit will be guide by the JBI Evidence Implementation Framework and the Getting Research into Practice model. Baseline and follow-up data will be collected using predefined audit criteria to assess adherence to best practice recommendations. The implementation strategies will include educational sessions, implementation of a Transcultural Assessment Form, and activation of transcultural consultation. Changes in adherence and documentation quality will be evaluated following the intervention.

Results: The audit is expected to increase the systematic assessment and documentation of patients' linguistic, cultural, and spiritual needs. Improvements in the use of transcultural consultation services and in the integration of culturally relevant information into care planning are also anticipated. Additionally, enhanced adherence to best practice recommendations in nursing practice is expected.

Conclusions: The implementation of structured, evidence-informed strategies may enhance culturally competent nursing care and reduce disparities in healthcare delivery. This project may support the integration of transcultural competence into routine clinical practice, strengthening the role of nurses in promoting equitable, person-centred care.

Keywords: Culturally competent care; Transcultural nursing; Clinical audit; Nursing documentation; Health equity; Evidence implementation

128. Optimizing Care Processes and Infection Prevention in Intensive Care: A Scoping Review of Organizational and Lean Management Interventions

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Background: Healthcare-associated infections (HAIs) represent a major cause of morbidity and mortality in critical care settings, particularly in post-operative intensive care units, where high care complexity and the use of invasive devices significantly increase infection risk. The adoption of innovative organizational approaches, including Lean Management models, is emerging as a promising strategy to improve process quality and reduce care variability, with potential impact on clinical outcomes.

Aim(s): To map and synthesize the available evidence on organizational and managerial interventions, including Lean approaches, aimed at preventing and controlling HAIs in intensive care settings, analyzing associated clinical outcomes and implementation models.

Methods: A scoping review was conducted following the PRISMA 2020 framework (Page et al., 2021). The literature search was performed in PubMed, Scopus, CINAHL, and Cochrane Library (2020-2025). The selection process included identification, duplicate removal, title/abstract screening, and full-text assessment by two independent reviewers. Studies involving intensive care patients (P), organizational/Lean interventions (I), and clinical outcomes such as HAI incidence, mortality, and length of stay (O) were included.

Results: Out of 1,300 identified records, 980 were screened and 260 assessed for eligibility; 50 studies were included. Main interventions included process standardization, care bundles, visual management, workflow reorganization, and improved adherence to infection control practices. A significant reduction in HAIs was observed, particularly in device-associated infections (VAP, CLABSI, CAUTI), along with improved protocol adherence and patient safety outcomes.

Conclusions: Organizational interventions, including Lean approaches, represent effective strategies for reducing HAIs in intensive care settings. The integration of management models with evidence-based clinical practices appears crucial to improving care outcomes. Further studies are needed to standardize implementation models and assess their long-term sustainability.

Keywords: Healthcare-associated infections; Intensive care units; Lean management; Infection control; Patient safety; Process optimization

129. The Development of Enterostomal Therapist Competencies in Slovenia: From Advanced Competencies to Specialization in Nursing Care for Patients with Stomas, Wounds, and Continence Disorders

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Background: Nursing care for patients with stomas, wounds, and continence disorders is a highly specialized field that requires competencies extending beyond undergraduate nursing

education. In Slovenia, enterostomal therapists currently practise within an advanced competency-based framework, while the introduction of formal specialization in 2026 marks an important step in the further development of this field.

Aim(s): To examine the development of enterostomal therapist competencies in Slovenia from advanced competency-based practice to specialist-level nursing practice in wound, stoma, and continence care.

Methods: A comparative content analysis was conducted of the current national competency framework for enterostomal therapists and the proposed specialist competencies developed for the forthcoming specialization programme. The analysis focused on scope of practice, autonomy, advanced clinical decision-making, prescribing authority, performance of complex procedures, and interdisciplinary collaboration.

Results: The findings show a clear transition from advanced competency-based practice to an advanced specialist nursing role. Compared with the existing framework, the proposed specialization substantially broadens autonomous clinical practice through independent prescribing of medical devices, supplies, topical agents, and nutrition; management of complex clinical problems; advanced wound interventions, including debridement and negative pressure wound therapy; broader stoma care, including preoperative site marking and management of complications; and diagnostic and conservative continence interventions. The specialist role also strengthens responsibility for early recognition of complications and timely referral within the multidisciplinary team. Discussion and

Conclusion: The transition to formal specialization represents an important strategic step in the professionalization and advancement of nursing in Slovenia. It has the potential to enhance professional autonomy, improve access to timely and advanced care, strengthen continuity and quality of care, and contribute to better patient outcomes. It also reinforces the enterostomal therapist's role as a clinical expert, educator, and coordinator of interdisciplinary care.

Keywords: Enterostomal therapy; Competencies; Specialization; Wound care; Stoma care; Continence care

130. From Generalist to Specialist: Building Structured Nursing Pathways Through the PERFORM Project

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Background: Across Europe, increasing care complexity and growing patient safety concerns highlight the need for a more advanced and specialised nursing workforce. However, in some European health systems, particularly in Central and Eastern Europe, predominantly generalist models persist, with limited development of specialist roles and advanced practice nursing. In this context, national workforce data can provide valuable insights into these imbalances and inform structural solutions.

Aim(s): To present evidence on the predominance of generalist nursing roles, using Romania as a case study, and to propose a model for developing structured specialist nursing pathways through the PERFORM project.

Methods: The PERFORM project integrates national workforce analysis with mapping of European specialist nursing models, stakeholder consultation, and development of competency-based curricula and performance standards. The approach is designed to align with European priorities in specialist and advanced practice nursing.

Results: National data from Romania, used as a case study, show that 86.4% of nurses are generalists, while specialist roles remain limited and fragmented, with each specialty representing less than 4% of the workforce. Approximately 13% of nurses hold a university degree, a proportion lower than in most European countries. Recent data show that more than 50% of exits occur among nurses under 40 years of age, suggesting increased mobility among early-career professionals. These findings highlight the absence of structured career pathways and limited opportunities for role differentiation and professional advancement.

Conclusions: The PERFORM project proposes a structured, competency-based framework for developing specialist nursing roles, addressing the skill-mix imbalance identified at national level while remaining relevant for other European health systems facing similar challenges. Establishing clear specialisation pathways may enhance professional development, support patient safety, and align national systems with European priorities. The model offers a transferable approach to strengthening the nursing workforce across diverse contexts.

Keywords: Specialist nurses; Advanced practice nursing; Skill-mix; Workforce development; Competencies; Nursing policy

Cluster 3 — Climate and Sustainability
Reducing healthcare's footprint, managing climate-related risks, promoting green practices

131. Migrants' Perceptions and Barriers Perceived by Migrants Breast Cancer Detection

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Background: Worldwide, countries should guarantee the improvement of an early detection model integrated throughout the primary health care setting.

Aim(s): The present systematic and qualitative literature review aimed to describe migrants' women related experiences in accessing in healthcare services in early breast cancer detection, especially in barriers perceived as unbridgeable .

Methods: The protocol was registered with PROSPERO no. CRD42024578229. Generative Artificial Intelligence (ChatGPT 4.0) was used to analyze women's narratives found, in order to highlight uncover patterns and further details in participants' experiences.

Results: Migrant women highlighted difficulties in general care and access to healthcare services, breast screening practices, language barriers, cultural and personal factors, economic and practical barriers, knowledge and awareness, and social support and isolation, highlighting the multifaceted nature of their healthcare experiences.

Conclusions: Our results suggested specific interventions to improve healthcare experiences and outcomes among foreign women with breast cancer. Future research should further investigate these issues in greater depth and develop focused strategies to address the identified challenges, particularly those related to communication and access to breast cancer information. Key outcomes include increasing awareness of breast cancer, emphasizing the importance of early detection, and reinforcing the value of regular screening practices. The implementation of educational programs in academic settings, along with the use of technology, can enhance knowledge dissemination-especially among younger women. By addressing these concerns, healthcare providers and policymakers can better support this vulnerable population, promote equitable access to high-quality care, and ultimately improve overall health outcomes.

Keywords: Barriers; Breast cancer; Early detection of cancer; Migrants

132. The Caring Role in "Cancer Risk", "Inflammation" and "Metabolic Syndrome

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Background: Oncology nursing management and its related symptoms should consider several aspects of the oncology care, such as therapy-related toxicity and its related morbidity and mortality, levels of quality of life. Additionally, nursing interventions could be introduced in fatigue, eating attitudes, nausea, vomiting, oral mucositis, chemotherapy-induced peripheral neuropathy (CIPN), diarrhea, constipation, febrile neutropenia, infection, palmar-plantar erythrodysesthesia (PPE) and pain. More careful monitoring could improve prompt recognition and subsequent earlier management in the treatment efficacy. However, immune disorder monitoring in oncology patients remains lacking.

Aim(s): To explore any nursing interventions in immune disorders consequent to cancer diseases to better emphasize a more complete nursing care plan in cancer caring.

Methods: Literature research was performed consulting PubMed, Embase, Nursing & Allied Health Database, and British Nursing databases. Keywords searched and associated with Boolean operators were "assessment", "care", "nursing", "immune disorder", "oncology" and "patient", published between 2013-2023.

Results: Nurses should have both foundational and specialized clinical competencies, such as knowledge of immunotherapy mechanisms, side effect management, and safe handling protocols. Effective training programs and targeted education are crucial to ensure nurses are equipped to handle the complexities of immunotherapy administration, including patient monitoring, symptom management, and the recognition of potential complications. Fostering communication, critical thinking, and coordination skills are vital for providing comprehensive patient care. Multidisciplinary collaboration, along with a structured approach to nursing practice, is necessary to optimize treatment outcomes and ensure patient safety. Enhanced clinical competencies in oncology nursing are essential for the successful implementation and ongoing care of patients undergoing immunotherapy.

Conclusions: Nursing Interventions in Immune Disorder Assessment among Oncology Patients require a holistic nursing plan also including interventions for fatigue, sleep disorders, and depression.

Keywords: Assessment; Care; Immune disorder; Nursing; Oncology; Patient

133. Impatto SULLA CO2 prodotta e sull'inquinamento acustico a confronto TRA LA e-flotta e LA FLOTTA a carburante fossile NEL palliative HOME CARE

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Background Lo studio mira a valutare i costi e gli impatti ambientali ed economici legati all'acquisto e alla manutenzione di una flotta di 8 veicoli elettrici rispetto a veicoli ibridi a metano/benzina, nell'ambito della medicina territoriale in Piemonte. Obiettivo L'obiettivo è analizzare l'efficienza economica, le emissioni di CO2, i costi di gestione e le emissioni sonore, considerando anche l'adozione di soluzioni ecosostenibili come l'uso di impianti fotovoltaici. Metodi L'analisi si basa su dati relativi all'acquisto, incentivi regionali e statali, costi di manutenzione, ricariche energetiche e assicurazione per veicoli elettrici e ibridi. Sono

state stimate percorrenze annuali medie (25.000-29.200 km) per calcolare i costi operativi, considerando scenari con e senza impianti fotovoltaici. Inoltre, sono stati confrontati i dati sulle emissioni di CO2 e sonore per una flotta di 8 veicoli utilizzata per 3 anni. Risultati • Veicoli elettrici: Emissioni totali di CO2 per flotta: 34,32 tonnellate (0,39 tonnellate per utilizzo + 3,9 tonnellate per produzione per veicolo). Costo medio annuale per ricariche: €393,5 (con fotovoltaico). Manutenzione: €485-€850 annui per veicolo. • Veicoli ibridi metano/benzina: Emissioni totali di CO2 per flotta: 78,48 tonnellate (3,39 tonnellate per utilizzo + 6,42 tonnellate per produzione per veicolo). Costo carburante annuale: €2.102 per veicolo. • Le auto elettriche risultano più silenziose (65 dB vs 75 dB delle ibride), riducendo l'inquinamento acustico. Conclusioni L'adozione di veicoli elettrici nel distretto sanitario offre vantaggi economici (risparmio del 37% sui costi energetici rispetto al metano) ed ecologici (riduzione del 56% delle emissioni di CO2). L'integrazione con impianti fotovoltaici amplifica i benefici ambientali ed economici. Questo approccio contribuisce alla sostenibilità e migliora la qualità del servizio sanitario territoriale.

Keywords: cure palliative; territorio; ecoefficienza

134. Designing Green Healthcare Leadership: Integrating Sustainability into Nurse Education and Governance

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Background: Healthcare systems contribute significantly to global environmental impact, accounting for substantial greenhouse gas emissions, energy consumption, and waste production. Nurses, as the largest healthcare workforce and key actors in care delivery and

organizational processes, are uniquely positioned to support the transition toward more sustainable healthcare systems.

Aim(s): This initiative aims to develop a conceptual framework for Green Healthcare Leadership, integrating sustainability competencies into nursing education, leadership development, and healthcare governance. The project seeks to explore how nurses can actively contribute to reducing healthcare's environmental footprint while promoting safe, efficient, and environmentally responsible care practices.

Methods: A Delphi-based consensus approach will be used to engage nurse leaders, educators, and health policy experts in identifying core sustainability competencies relevant to nursing leadership. Key domains under investigation include environmental literacy, climate-related health risks, resource efficiency, sustainable clinical practices, and systems thinking. Through iterative rounds of expert consultation, the study will define priority competencies and strategies for embedding sustainability principles into leadership curricula and organizational governance models.

Results: The project is expected to produce a competency-based framework for Green Healthcare Leadership that aligns environmental responsibility with nursing leadership roles. The framework will highlight practical strategies to support sustainable clinical pathways, waste reduction, energy efficiency, and environmentally informed decision-making within healthcare organizations.

Conclusions: Embedding sustainability into nursing leadership education represents a strategic step toward addressing the environmental challenges faced by contemporary healthcare systems. Integrating ecological responsibility into professional leadership frameworks can strengthen healthcare resilience and promote a culture of sustainability.

Keywords: Green healthcare leadership; Sustainability in healthcare; Nursing leadership; Environmental responsibility; Sustainable healthcare systems

135. Measuring What Matters: Development and Psychometric Validation of a Sustainability Competency Instrument for Intensive Care Nursing

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Background: Environmental sustainability is emerging as a core dimension of specialist nursing practice, particularly in high-impact settings such as intensive care. However, the

absence of validated, context-specific instruments limits the ability to systematically assess sustainability-related competencies and inform targeted interventions.

Aim(s): To develop and psychometrically validate a multidimensional instrument to assess sustainability-related knowledge, behaviours, and perceived barriers among intensive care nurses.

Methods: A multicentre cross-sectional study was conducted among Italian ICU nurses (N = 278). Item development was theory-driven, grounded in prior content analysis and the M-COM-B behavioural model, and refined through expert review and pilot testing. Psychometric evaluation included exploratory factor analysis (EFA), confirmatory factor analysis (CFA) using WLSMV estimation, and assessment of internal consistency, composite reliability, and convergent and discriminant validity.

Results: EFA supported a five-factor structure explaining 58.9% of total variance, encompassing climate change knowledge, home- and work-based sustainability behaviours, and two distinct domains of barriers (workload/time pressure and organizational infrastructure). Model fit improved progressively across competing solutions, with the five-factor model demonstrating superior fit (RMSEA = .079; CFI = .898; SRMR = .056). CFA confirmed excellent model fit (CFI = 0.932-0.944; TLI = 0.925-0.937; RMSEA = 0.059-0.064). Internal consistency was satisfactory across domains (Cronbach's α = 0.74-0.86; composite reliability > 0.78). Factorial distinctiveness was supported, with no substantial cross-loadings, although convergent validity was marginal in selected behavioural domains.

Conclusions: The KABQES-ICU provides the first psychometrically robust, ICU-specific instrument to assess sustainability-related competencies in nursing. By capturing the interplay between knowledge, behaviours, and structural barriers, it enables the systematic identification of educational and organizational needs required to advance sustainable critical care practice. Implications for Specialist Nursing Moving from awareness to implementation requires measurement. This instrument offers a foundation for developing targeted educational pathways, leadership strategies, and system-level interventions to embed environmental sustainability into specialist nursing practice across Europe.

Keywords: Validity; Reliability; Environmental sustainability; Knowledge; Behaviours; and intensive care nurse

136. Many Pathways to Green Critical Care: A Latent Profile Analysis of Sustainability Competencies Among Italian ICU Nurses

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Background: Climate-conscious care is emerging as a strategic priority for specialist nursing across Europe, yet sustainability engagement in intensive care remains poorly understood beyond average scores and isolated predictors. Person-centred evidence is needed to identify how specialist nurses differ in their readiness to translate sustainability into practice.

Aim(s): To identify distinct sustainability engagement profiles among Italian intensive care nurses and examine whether professional characteristics are associated with profile membership.

Methods: A cross-sectional national survey was conducted among ICU nurses in Italy. Sustainability engagement was measured using the Knowledge, Attitudes, and Behaviours Questionnaire on Environmental Sustainability in Intensive Care Units, covering climate-change knowledge, home- and work-based sustainability behaviours, and perceived workload and organizational barriers. Latent Profile Analysis was used to detect unobserved subgroups, and multinomial analyses examined associations with demographic and professional variables.

Results: Latent profile analysis supported a four-profile solution as the best-fitting and most interpretable model (BIC = 3780.55, entropy = 0.732, 91.9% of participants with posterior class-membership probability > .70). Class proportions were as follows: high global sustainability engagement (15.9%), moderate sustainability with weaker workplace implementation (75.3%), high perceived barriers with low workplace behaviours (5.5%), and low knowledge/low sustainability engagement (3.3%). ICU-specific experience was the only variable significantly associated with profile membership, whereas gender and education were not. These findings reveal that sustainability competence in critical care is not uniformly distributed, but clustered in meaningful professional patterns.

Conclusions: ICU nurses do not engage with environmental sustainability in the same way. Experience within the critical care context appears to shape who leads, who hesitates, and who may require targeted support. For specialist nursing in Europe, this suggests that advancing climate-conscious care will require more than generic awareness campaigns: it will require differentiated education, mentorship, and leadership pathways aligned with the real profiles present in the workforce

Keywords: Latent profile analysis; Environmental sustainability; Intensive care use; Green nursing; Attitudes; and behaviours

137. Sustainable Water Management in Intensive Care Units: A Qualitative Study from a Nursing Perspective

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Background: Water use in intensive care units (ICUs) is fundamental for patient hygiene, infection prevention, and patient comfort, but it also involves significant clinical, organisational, and environmental implications. Healthcare water systems may be potential sources of microbial contamination, posing risks to critically ill and immunocompromised patients. Moreover, water is a critical healthcare resource that requires safe, efficient, and sustainable management, particularly in high-complexity settings such as intensive care units. Understanding how nurses manage and perceive water use in daily clinical practice is essential to improve patient safety, resource management, and sustainable healthcare practices.

Aim(s): This study aimed to explore intensive care nurses' lived experiences regarding water use in nursing care to better understand clinical, safety, organisational, and sustainability aspects of water management in critical care settings.

Methods: A qualitative study grounded in Cohen's phenomenological method was conducted with purposively sampled ICU nurses. Semi-structured interviews were audio-recorded, transcribed verbatim, and analysed following Cohen's phenomenological analytical approach. Data saturation was achieved, and ethical approval was obtained.

Results: Four main themes emerged: the care environment, microbiological risk, absence of standardised protocols, and structural challenges in water management within intensive care units. Water was perceived as essential for patient hygiene, dignity, and infection prevention, but also as a critical resource requiring safe and responsible management. Participants reported variability in practices due to the lack of standardised protocols and highlighted organisational and infrastructural barriers affecting water use and resource management. Daily practices were influenced by infrastructure, access to sterile water, and the introduction of new technologies. Nurses emphasised the need for protocols, training, infrastructure improvements, and organisational strategies to support safe, efficient, and sustainable water management in intensive care units.

Conclusions: Water management in intensive care should be recognised as a patient safety, organisational, and sustainability priority. Structured protocols, education, and infrastructural support are essential to promote safe and sustainable water use in critical care environments.

Keywords: Intensive care units; Water supply; Patient safety; Cross infection; Sustainability; Qualitative research

138. From Bedside Practice to Systems Thinking: Educational Influences on Intensive Care Unit Nurses' Understandings of Environmental Sustainability

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Background: Environmental sustainability is increasingly positioned as a clinical, ethical, and organisational priority within critical care. Despite this growing emphasis, there remains limited insight into how Intensive Care Unit nurses conceptualise sustainability in practice, and how educational pathways contribute to shaping these interpretations.

Aim(s): To investigate how Intensive Care Unit nurses interpret environmental sustainability and to examine the influence of educational attainment on their perspectives and practice orientations. Design: A qualitative exploratory study combining hermeneutic inquiry with lexicometric and multidimensional analytical approaches.

Methods: Semi-structured interviews were conducted with 29 Intensive Care Unit nurses from three Italian hospitals. Participants were purposively recruited to reflect different levels of academic preparation (bachelor's, master's, doctoral). Correspondence Analysis was employed to identify lexical patterns across educational groups, and findings were subsequently interpreted through a hermeneutic lens to reconstruct underlying discursive dimensions.

Results: Clear variations emerged across educational levels. Nurses with doctoral preparation articulated sustainability in systemic and policy-related terms, linking it to governance processes, risk management, and quality improvement initiatives. In contrast, bachelor-prepared nurses emphasised practical aspects, including resource utilisation and waste handling. Nurses with master's-level education framed sustainability as an ethical and experiential component of care, with particular attention to patient comfort and the care environment. Across all groups, sustainability was consistently grounded in the nurse-patient relationship.

Conclusions: Educational preparation influences how Intensive Care Unit nurses conceptualise and operationalise environmental sustainability. Integrating systems-oriented perspectives with actionable clinical strategies within nursing education may enhance nurses' capacity to contribute effectively to sustainable critical care practices.

Keywords: Environmental sustainability; Intensive care nursing; Nursing education; Qualitative research; Lexicometric analysis

139. Green Nephrology and Environ

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Background: The adverse effects of climate change are extremely worrying, with alarming consequences for human health; global strategies tend to establish shared management approaches aimed at reducing the environmental impact resulting from the care of patients with kidney disease. The shift from the concept of eco-dialysis to that of green nephrology is not merely a semantic change, but involves rethinking all daily activities and building facilities that respect the planet.

Aim(s): To take stock of the strategic choices made in high-tech medicine aimed at reducing its environmental impact through more sustainable clinical decisions and a more responsible use of resources.

Methods: The review of the best available scientific evidence involved searching databases such as EMBASE, CINAHL and Scopus, examining systematic reviews published over the last five years, and using the Boolean operator 'AND' with specific search terms such as 'Dialysis', 'Green Nephrology', 'Waste reduction', 'Sustainability', 'Environmental sustainability' and 'Life cycle assessment'.

Results: The convergence of environmental degradation - linked to climate change, pollution, biodiversity loss and the depletion of freshwater resources - poses a growing threat to global and renal health. The healthcare sector contributes significantly to this, accounting for 6% of global greenhouse gas emissions. Haemodialysis is one of the most resource-intensive medical treatments, due to its recurrent nature, high energy and water consumption, and reliance on single-use materials.

Conclusions: Key strategies include sustainable technologies, water reuse, recycling, energy-efficient facilities and low-carbon care models, with the aim of providing sustainable, high-quality patient care. Reducing the environmental impact in clinical settings requires the adoption of sustainable practices such as reducing single-use items, improving waste management (recycling) and enhancing energy efficiency in facilities. The overarching theme is to consider patient outcomes as the numerator in the value-added equation in terms of overall results, in conjunction with the 'triple bottom line' of health outcomes in relation to environmental, social and financial costs. Success depends on early collaboration between architects, engineers, sustainability consultants, builders and clinical teams.

Keywords: Dialysis; Green nephrology; Waste reduction; Sustainability; Environmental sustainability; Life cycle assessment

140. Stevens-Johnson Syndrome

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STEVENS-JOHNSON SYNDROME: A CASE REPORT OF A 20-YEAR-OLD PATIENT BACKGROUND: Stevens-Johnson Syndrome (SJS) is a severe mucocutaneous hypersensitivity reaction characterized by extensive epidermal necrosis and detachment. It is generally considered a milder form within the spectrum that includes Toxic Epidermal Necrolysis. The condition

most commonly occurs as an adverse drug reaction or secondary to infections and affects both the skin and mucous membranes, including oral, ocular, and genital surfaces. The pathogenesis involves immune-mediated destruction of keratinocytes, driven by cytotoxic T lymphocytes and inflammatory cytokines. METHODS: We present a clinical case of a 20-year-old female patient admitted to the emergency department of the University Hospital Center 'Mother Teresa' after initial treatment at the hospital of Durrës for an allergic reaction without clinical improvement. Clinical evaluation, laboratory findings, and patient history were analyzed to determine the diagnosis and evaluate the therapeutic management and outcomes. RESULTS: The patient developed Stevens-Johnson Syndrome following treatment with the antiepileptic drug lamotrigine. At presentation she was in a severely compromised condition due to electrolyte imbalance and extensive epidermal involvement. Immediate management included intensive supportive therapy with fluid replacement, electrolyte correction, and multidisciplinary monitoring. Treatment focused on controlling inflammation, preventing secondary infections, and supporting skin and mucosal healing. CONCLUSION: Stevens-Johnson Syndrome represents a life-threatening dermatological emergency that requires early recognition and prompt multidisciplinary management. Identification and discontinuation of the causative drug, together with intensive supportive therapy, are essential for improving patient outcomes and reducing complications.

Keywords: Dermatological emergency; Mucocutaneous hypersensitivity reaction

141. Digital Health Technologies and Environmental Sustainability in Nursing Practice: A JBI Scoping Review Protocol

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Background: Healthcare accounts for ~4.4% of global GHG emissions. Telemedicine reduced CO_2 by ~830 million kg across 58 studies (Berger et al., JMIR 2025). Life cycle assessment (LCA) data show digital tools produce 40-70× less CO_2 than equivalent paper processes. However, Lokmic-Tomkins et al. (JAMIA 2022; 3,299 studies screened) found no standardised metrics or validated life-cycle assessment tools for digital health environmental impact - confirming a critical gap directly relevant to nursing-led sustainability implementation.

Aim(s): To map evidence on the environmental sustainability contribution of digital health technologies in nursing practice, identify standardised measurement frameworks applicable to nurse-led green implementation, and propose a nursing-specific sustainability competency agenda aligned with WHO IPC Core Components and EU Green Deal in Healthcare.

Methods: JBI scoping review (PRISMA-ScR). PCC: P = nursing professionals; C = digital health technologies (telemedicine, EHR, IoT/RFID, telemonitoring, mHealth); C = healthcare settings with explicit environmental sustainability or carbon reduction outcomes. Six databases:

MEDLINE, CINAHL, Embase, Web of Science, Scopus, Google Scholar (2015-2025). Grey literature: WHO, ECDC, Italian Ministry of Health, EU Green Deal documents. Dual independent screening; narrative thematic synthesis.

Results: Preliminary mapping: telemedicine avoids 830M kg CO_2 (Berger 2025); digital tools produce 40-70× less CO_2 by LCA (Richardson et al. PMC 2022); healthcare settings scope 3 emissions represent 50-75% of total (Rodríguez-Jiménez et al., JAN 2023; PROSPERO: CRD42022365121). Key gap confirmed: no nursing-specific environmental competency framework exists; no standardised metric for digital tool carbon footprint life-cycle validated in nursing practice.

Conclusions: This scoping review will produce the first nursing-focused evidence map of digital sustainability tools and metrics, filling the gap identified by Lokmic-Tomkins 2022. Outputs will inform European nursing digital sustainability curricula and implementation protocols supporting the EU Green Deal and WHO planetary health objectives.

Keywords: Digital health; Environmental sustainability; Green healthcare; Nursing practice; Carbon emissions; Healthcare waste

142. Constructing Environmental Sustainability in Intensive Care Nursing: A Multicenter Multidimensional Textual Analysis

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Background: Environmental sustainability is increasingly recognized as a core dimension of healthcare quality, particularly in resource-intensive settings such as intensive care units (ICUs). While nurses play a central role in shaping sustainable practices, limited evidence exists on how they conceptualize and negotiate sustainability within everyday clinical work.

Aim(s): To explore how intensive care nurses conceptualize and experience environmental sustainability in their professional practice.

Methods: A qualitative multicenter study was conducted involving 29 ICU nurses from three Italian hospitals. Data were collected through semi-structured interviews and analyzed using Automatic Analysis of Textual Data within an Exploratory Multidimensional Data Analysis

framework. Hierarchical Descending Classification and Principal Component Analysis were applied to identify discursive structures and latent dimensions of meaning.

Results: Seven lexical clusters emerged, reflecting sustainability as a multidimensional construct encompassing: (1) efficiency under clinical urgency, (2) organizational and systemic support, (3) shared professional responsibility, (4) energy and resource management, (5) environmental conditions affecting patient well-being, (6) waste segregation practices, and (7) sustainability as an ethical and cultural value. Three higher-order domains were identified: operational-technical practices, organizational-relational processes, and cultural-ethical orientations. Two latent dimensions structured the discourse: a tension between procedural materiality and eco-experiential humanization, and between ethical reflexivity and pragmatic operationalization.

Conclusions: ICU nurses construct sustainability as a complex, context-dependent professional concern embedded in clinical reasoning, where ethical awareness coexists with operational constraints. Sustainability emerges not as a separate environmental task but as an integral component of care, requiring alignment between individual engagement and organizational support. Effective sustainability strategies in intensive care should move beyond isolated technical interventions and integrate organizational, educational, and cultural dimensions to support nurses in translating ecological responsibility into feasible clinical practice.

Keywords: Environmental sustainability; Intensive care nursing; Critical care; Qualitative research; Textual data analysis; Professional perspectives

143. Environmental Sustainability in Intensive Care Nursing: A National Survey of Knowledge, Behaviors, And Barriers

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Background: Healthcare is a major contributor to greenhouse gas emissions, with intensive care among the most resource-intensive areas. Although sustainability is increasingly recognized as a professional responsibility, limited evidence exists on how ICU nurses understand and integrate it into daily practice.

Aim(s): To investigate intensive care nurses' knowledge, behaviors, and perceived barriers related to environmental sustainability across the Italian critical care context.

Methods: A national cross-sectional survey was conducted among 278 ICU nurses in Italy using the KABQES-ICU, a context-specific tool designed to capture sustainability-related knowledge, behaviors, and organizational constraints. Data were analyzed using descriptive statistics, correlation analyses, and group comparisons.

Results: Overall, nurses demonstrated high levels of sustainability knowledge, alongside moderate engagement in related behaviors, which were more frequently reported in personal rather than clinical contexts. Perceived barriers were prominent, particularly those linked to workload and organizational support. Knowledge showed positive associations with both personal and professional behaviors, while sustainability practices across settings were interrelated. Organizational initiatives supporting sustainability were infrequently reported. Differences across demographic and professional groups were limited.

Conclusions: Findings suggest that ICU nurses are generally aware of sustainability issues but face structural and organizational constraints in translating this awareness into practice. Bridging this gap requires not only education but also organizational commitment and leadership to embed sustainability into routine care.

Keywords: Sustainability; Intensive care; Critical care nursing; Environmental impact; Organizational barriers; Sustainable healthcare

144. From Waste to Value: Green Transformational Nursing Leadership as a Core Driver of Quality in Intensive Care and Maternity Units

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Background: health systems face a paradox: while they have life-saving capabilities, they also significantly contribute to environmental degradation and worsen the climate crisis, a major concern highlighted by the World Health Organization. Intensive care units and maternity wards, in particular, are known for their high resource consumption and waste production. Nurses play a crucial role in managing resources, but there is often a gap between awareness and action. The Green Design Nursing Leadership framework provides a structured approach to making sustainability an essential component of care quality and safety.

Aim(s): The main goal of this study is to assess the feasibility and effectiveness of the green design nursing leadership model in promoting sustainability as a core aspect of care quality in intensive care and maternity units.

Methods: this quality improvement research will be carried out in stages within hospital settings, following approval from an ethics review board. The methodology involves forming a diverse steering committee; identifying high-waste areas through systematic observations, quantification, and weighing of medical waste, as well as tracking equipment usage and costs; evaluating environmental attitudes and behaviors through surveys before and after interventions; developing and implementing protocols, such as customized equipment kits; providing staff training and leadership guidance; and regularly monitoring key performance indicators like waste volume, equipment usage, and costs. Data analysis will include descriptive and comparative statistical methods.

Results: Data collection is currently in progress, and final results are anticipated soon, including a quantitative evaluation of waste reduction, changes in staff behavior, and economic implications.

Conclusion: in summary, the Green Design Nursing Leadership Model presents an innovative framework for integrating sustainability into care quality. Its adoption shows potential for delivering clinical, environmental, and financial benefits, paving the way for broader systemic implementation

Keywords: Green Transformational; Nursing Leadership; climate crisis

145. Climate Change and Renal Health: Nursing and Clinical Care Implications for Patients with Kidney Disease

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Background: Climate change represents an increasing threat to public health, with a rise in the frequency, intensity, and duration of heatwaves. Several studies have reported an association between higher temperatures and increased rates of hospitalizations and mortality due to renal conditions. Individuals with kidney diseases are particularly vulnerable to heat stress because of dehydration, hemodynamic alterations, and tubular injury, all of which may contribute to the onset of acute kidney injury (AKI) and accelerate the progression of chronic kidney disease (CKD). Therefore, effective climate adaptation strategies are needed to reduce the burden of kidney disease. However, evidence on preventive nursing interventions remains limited.

Aim(s): The primary aim of this scoping review was to synthesize evidence on the impact of climate change on individuals with kidney diseases; the secondary aim was to explore emerging nursing and care implications.

Methods: A scoping review was conducted following the Joanna Briggs Institute (JBI) framework and in accordance with PRISMA-ScR guidelines. A comprehensive search was performed across PubMed, CINAHL, Scopus, Cochrane Library, and Embase, including observational and ecological studies, reviews, and reports from international organizations. Study selection and data extraction were independently conducted by two blinded

reviewers, with a third reviewer acting as arbiter in case of disagreement. Data were synthesized using the Social Ecological Model, and care implications were described according to the Knowledge, Skills, and Abilities (KSA) framework.

Results: A total of 1,247 records were identified. 93 full-text articles were assessed for eligibility, and 27 studies were included in the final synthesis. The included studies consistently showed an association between heat exposure and worsening renal outcomes, including increased incidence of AKI and progression of CKD. Key nursing implications emerged, including the promotion of adequate hydration, patient education on heat-related risk prevention, early monitoring, and counseling on safe behaviors during heatwaves.

Conclusions: Climate change is an emerging risk factor for kidney health. Integrating environmental considerations into care models and strengthening climate-responsive nursing interventions are essential to mitigate the impact of heatwaves on renal outcomes.

Keywords: Climate change; Kidney disease; Acute kidney injury; Chronic kidney disease; Heat exposure; Nursing care

146. Nursing at the Frontline of Sustainable Healthcare: Carbon Footprint Redaction, Climate Related Health Risk, and Green Cost Effective-Practices Across Clinical Services - A Scoping Review

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Background: Healthcare systems account for approximately 4-5% of global greenhouse gas emissions, while climate change simultaneously amplifies population health risks. Nurses, as the largest healthcare workforce, are uniquely positioned to act as agents of sustainable transformation. Existing reviews address eco-nursing competencies, nurses' attitudes, or urban-specific interventions in isolation; no scoping review integrates the three dimensions of nursing sustainability - footprint reduction, climate-risk response, and green cost-effective practice - across multiple clinical settings.

Aim(s): To map and synthesise evidence on nurses' roles in reducing healthcare's environmental footprint, managing climate-related health risks, and implementing green and economically sustainable practices; to identify gaps; and to derive implications for nursing practice, education, and health policy.

Methods: A scoping review following Arksey and O'Malley's framework, updated by Levac et al., and reported per PRISMA-ScR guidelines. Six databases (PubMed, CINAHL, Scopus, Cochrane, PsycINFO, Web of Science) were searched from 2013 to 2024. Eligible studies addressed nursing roles in environmental sustainability across hospital, community, and long-term care settings. Thematic charting synthesised findings across the three dimensions.

Results: Evidence is fragmented across three separate domains: waste reduction and supply-chain practices; climate-sensitive patient assessment and community advocacy; and cost-effective green interventions. Nurse leadership, environmental awareness, and organisational support consistently emerge as enabling factors. Evidence on economic outcomes of nurse-led green initiatives remains sparse, and multi-setting, cross-domain studies are absent.

Conclusions: This review provides the first integrated map of nursing's contribution to sustainable healthcare across its three operational dimensions. Clinically, it supports nurse-led green care pathways and climate-sensitive risk protocols. Educationally, it calls for embedding planetary health and eco-nursing competencies in curricula. At policy level, it advocates institutional investment in nursing leadership for sustainability, aligned with the UN Sustainable Development Goals and net-zero healthcare commitments.

Keywords: Climate change; Environmental health; Carbon footprint; Sustainable development; Green healthcare; Eco-nursing

Cluster 4 — Digital Health and Innovation
AI, telehealth, wearables, interoperable records, digital competencies

147. Development and Psychometric Properties of the Perceived Technostress Scale for Intensive Care Nurses

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Background: The rapid integration of advanced technologies into intensive care units has fundamentally transformed nursing practice, increasing both the complexity and cognitive demands of care delivery. While technological innovations enhance patient monitoring, safety, and clinical decision-making, they also expose intensive care nurses to continuous information flow, frequent alarms, complex device management, and heightened performance expectations. These demands may contribute to technostress, a form of occupational stress that arises from difficulties in adapting to and coping with the use of technology. In high-acuity environments such as intensive care units, unmanaged technostress may negatively affect nurses' psychological wellbeing, job performance, and the quality of patient care.

Aim(s): The aim of this study was to develop a new instrument to evaluate perceived technostress among intensive care nurses. The Perceived Technostress Scale for Intensive Care Nurses (PTSICN) and test its psychometric properties.

Methods: This is a scale development study. A three-phase scale development design was employed: (1) creating an item pool, (2) preliminary evaluation of items, and (3) refining the scale and testing its psychometric properties. The scale's content validity, construct validity, and internal consistency were evaluated in accordance with the guidelines for scale development. The scale's psychometric properties were tested with 502 intensive care nurses working in Türkiye. The data were collected between March 2024 and September 2025.

Results: The scale items were obtained from semi-structured, in-depth individual interviews with the intensive care nurses . The scale's content validity index was 0.88. According to exploratory factor analysis, the scale consisted of 24 items and five subdimensions, which were found to explain 55.69% of the total variance. Fit indices obtained with confirmatory factor analysis were at acceptable and good levels ($\chi^2/df = 1.71$; RMSEA = 0.053; CFI = 0.920). The scale was found to have high internal consistency.

Conclusions: The PTSICN is a psychometrically valid and reliable measurement instrument. The 24-item scale consists of five subdimensions: techno-boundary, invasion,techno-complexity, technological overwhelm, techno-insecurity, and alarm fatigue.

Keywords: Intensive care nursing; Scale development; Technostress

148. DiCoNSaT - The Digital Competence Nursing Self-Assessment Tool

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Background: Within the past years, nursing competence has gained the importance it deserves. This tool aims to bridge the gap that exists with regards to a lack of up-to-date tools and of well-validated nursing competence assessment tools that exist. Another important consideration is the need of a tool that can be used as widely as possible, within a variety of countries and healthcare settings.

Aim(s): To develop a digital competence self-assessment tool for Maltese and foreign nurses. Objectives of the research 1. To create a digital self-evaluation tool to assess nursing competency for use in the Maltese and foreign healthcare systems. 2. To validate the tool for use within the Maltese and other healthcare systems. 3. To help nurses identify areas where their standard of patient care might need improvement. 4. To identify any differences in nursing care competence related to gender, cultural background, level of education, nursing status and any other potential variables.

Methodology: This is being carried out in two phases, the Tool Development Phase (Phase 1) and the Tool Testing and Validation Phase (Phase 2). Phase 1 started with a pilot study involving one or two participants. A sample of around 450 participants were then chosen by a set of intermediaries, to fill in an open-ended questionnaire in which they identified the most important issues related to nursing competence within their areas of nursing in Malta. Following this, a number of focus groups and expert meetings were organised to consolidate, amend or remove the competencies identified through the questionnaires. These showed that a more modern tool needed to be created. So a new literature search was carried out and expert academic focus group created. The tool was then drafted and discussed several times until a consensus was reached and the tool finalised. This was tested statistically for face and content validity. Phase 2 will include a pilot study of 4 participants, constituting 10% of the total population (40). Participants will be nurses working in various healthcare areas. These will test the digital self-assessment tool based on competencies identified from literature and from local nursing staff and experts. This will make tool dissemination, data collection and data analysis simpler and faster. Test-retest and inter-rater reliability testing will also be carried out, through multiple assessments of the same participants by self and peer-assessments. This tool will also be tested abroad to check for generalisability. Anonymity and confidentiality will be maintained throughout the study with ethical and institutional approvals already obtained. Impact of study

Keywords: Nursing; Competence; Self-assessment; Tool

149. Flora AI: Developing and Evaluating a Curriculum-Aligned Chatbot for Undergraduate Nursing Students

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Background: Nursing students increasingly use generic AI chatbots for exam preparation and self-directed learning, but these tools are not aligned with national curricula or official course literature and may provide misleading information. At the same time, many students prefer interactive digital tools over lengthy textbooks. In collaboration with the Faculty of Health Studies, University of Rijeka (FZSRI), we developed Flora AI, a conversational agent trained exclusively on Croatian textbooks and teaching materials in fundamentals of nursing and the nursing care process.

Aim(s): To describe the development of Flora AI and to evaluate experiences, perceived usefulness and trust among educators and undergraduate nursing students.

Methods: Flora AI was built using a retrieval-augmented generation architecture on a closed corpus of Croatian nursing textbooks and course materials in fundamentals of nursing and the nursing care process. Thirty-one test cases with expert reference answers were created, and system performance was examined using automated evaluation metrics and manual review. Five course teachers and two external experts tested Flora AI and rated its answers on numerical scales for accuracy, clarity, language, ease of use and technical performance, providing qualitative comments. Undergraduate nursing students who use Flora AI as an optional learning aid are invited to complete an anonymous online questionnaire with demographic items, frequency of use, 5-point Likert items on usefulness, alignment with official literature, trust and usability, and open-ended questions on perceived benefits and drawbacks.

Results: Educators and experts reported positive experiences, describing Flora AI as clear and useful, with minor remarks mainly related to further content development and technical performance. Automated case-based testing was used to compare Flora AI's answers with expert reference solutions and to inform iterative refinement of the system. Student data collection is ongoing; descriptive results on usage patterns, perceived usefulness, trust and alignment with official literature will be available at the time of the congress.

Conclusions: Preliminary findings suggest that a curriculum-aligned chatbot such as Flora AI can be integrated into undergraduate nursing education as a complement to traditional learning resources, while student evaluation will clarify how Flora AI fits into learning strategies and guide future refinement.

Keywords: Artificial intelligence; Nursing education; Chatbot; Undergraduate nursing students; Curriculum-aligned digital learning tool

150. Problematic Smartphone Use and Relational Care Among Italian Oncology Nurses

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Background: Smartphone use is increasing worldwide, enhancing both computational capabilities and communication through the growing availability of downloadable applications that offer additional services and functionalities. In healthcare settings, smartphone use among healthcare professionals has increased markedly, largely due to the expansion of electronic documentation systems and information technology-based tools that support patient care. Nurses frequently consult smartphones to obtain information related to patient care, medications, drug guides, and clinical references, often preferring them to traditional reference books. The literature indicates that nurses use mobile applications to access medication-related information and benefit from the multifunctionality of smartphones, which extend beyond communication to include social media, scheduling tools, educational resources, and entertainment.

Aim(s): To assess the association between the relational care dimension and problematic mobile phone use (MPPUS).

Methods: An online survey was conducted among Italian oncology nurses. Problematic mobile phone use was measured using the MPPUS, which includes two subdimensions: craving and escaping from other problems and withdrawal and social aspects. The relational care dimension was assessed using items 10-16 of the Caring Nurse-Patient Interaction Scale (CNPI), which explores nurses' self-evaluation of their ability to maintain balance and effectiveness in their professional and personal lives.

Results: A total of 292 Italian oncology nurses participated in the study. Significant negative correlations were found between relational care and overall problematic mobile phone use ($r = -0.43$; $p \leq 0.001$), as well as with the subdimensions withdrawal and social aspects ($r = -0.42$; $p \leq 0.001$) and craving and escaping from other problems ($r = -0.23$; $p \leq 0.001$).

Conclusions: The literature remains limited and insufficient in distinguishing between the clinical use of personal smartphones and the use of commercially available health-related applications in healthcare work environments. Nevertheless, potential dysfunctions associated with smartphone use should be considered a significant stress-related factor among nurses and warrant further investigation in future studies.

Keywords: Mobile phone use; Oncology nursing; Relational care

151. Triage Nurses' Perceptions of Artificial Intelligence in Emergency Department Triage: A Cross-Sectional Study

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Background: Emergency department crowding and increasing patient complexity challenge traditional triage models. Artificial intelligence (AI) has been proposed as a decision-support tool in triage, but its real-world implementation largely depends on nurses' perceptions, acceptance, and perceived preparedness.

Aim(s): To explore triage nurses' perceptions of artificial intelligence integration into emergency department triage and to examine associations between sociodemographic characteristics and perceived dimensions of AI use.

Methods: A cross-sectional online survey was conducted between February and April 2024 among triage nurses working in seven emergency departments of the USL Toscana Centro (Italy). The questionnaire assessed five AI-related dimensions: reliability, clinical applicability, training, relational impact, and safety, as well as a composite score of perceived challenges. Descriptive statistics and non-parametric inferential analyses were used to explore associations with age, sex, and professional experience.

Results: Eighty-four triage nurses participated (73.8% female). The most positively perceived dimension was relational impact (63.1%), followed by reliability (48.8%) and applicability (47.6%). Training and safety showed the lowest positive ratings (both 36.9%). Older age was significantly associated with lower perceived adequacy of training and higher overall perceived challenges, with greater barriers reported among nurses aged ≥55 years. No significant associations emerged for sex or years of professional experience.

Conclusions: Triage nurses demonstrated cautious openness toward the use of artificial intelligence, recognizing its potential relational and decision-support benefits while expressing relevant concerns related to training and safety. These findings highlight the need for structured educational programmes and clear governance frameworks to support safe, ethical, and nurse-centred integration of AI in emergency triage.

Keywords: Artificial intelligence; Emergency department triage; Triage nurses; Digital health; Nursing practice

152. Development and Validation of a Questionnaire on Nursing Nutritional Competencies in Chronic Kidney Disease

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Methods: the Consensus-based Standards for the selection of health Measurement INstruments (COSMIN) recommendations for instrument development were followed. The process comprised five phases: construct definition and item generation, expert consultation and revision, quantitative content validity analysis, pilot testing, and psychometric testing. Data were collected from 405 nephrology nurses across Italy. Exploratory and confirmatory factor analyses (EFA and CFA) were conducted on split samples (60/40), and reliability, test-retest stability, and measurement invariance were evaluated.

Results: EFA identified a four-factor structure: Recommendations, Attitudes, Practice, and Advanced Competencies, which was confirmed through CFA with good fit indices (CFI = 0.995, TLI = 0.994, Root Mean Square Error of Approximation (RMSEA) = 0.07). A higher-order model further improved fit (CFI = 0.994, RMSEA = 0.029), explaining 68.2% of variance. Internal consistency was excellent (ω = 0.89-0.96), test-retest reliability showed excellent agreement (ICC = 1.00), and invariance testing supported equivalence across educational and experience levels.

Conclusions: the NECN-ESRD demonstrated strong validity, reliability, and stability, providing a robust and context-specific tool to assess and enhance nurses' competencies in nutritional care for ESRD patients. Its application supports targeted educational planning, competency-based training, and quality improvement initiatives in nephrology nursing practice.

Keywords: Nephrology nursing; Nutritional care; Chronic kidney disease; Competency assessment; Psychometric validation

153. Effect of Virtual Reality on Pain and Anxiety During Vascular Cannulation Among Hemodialysis Patients: A Randomized Crossover Trial

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Background: Chronic kidney disease affects over 10% of the global population (Kovesdy, 2022). Patients undergoing hemodialysis experience repeated vascular cannulation, which is often associated with significant pain and anxiety (Ibrahim et al., 2022). Fistula cannulation pain increases irritability and reduces hemodialysis acceptance and quality of life (Arab et al., 2017).

Aim(s): This study aimed to evaluate the effectiveness of virtual reality as a non-pharmacological intervention for reducing pain and anxiety during vascular cannulation among patients undergoing maintenance hemodialysis.

Methods: We conducted a single-blinded, randomized, two-treatment, two-period, two-sequence crossover trial among 36 patients undergoing maintenance haemodialysis. Following eligibility screening and informed consent, participants were randomized using sequentially numbered, opaque, sealed envelopes to one of two treatment sequences. Each participant received both conditions across two treatment periods. The intervention phase involved a 5-minute immersive virtual reality session delivered via a Meta Quest 2 headset, incorporating calming natural scenes and guided virtual underwater box-breathing during vascular cannulation. The comparison phase consisted of standard cannulation care without virtual reality. During each period, pain and anxiety were assessed using validated scales (Numeric rating scale for pain and Visual analogue scale for anxiety) and physiological parameters were recorded to evaluate intervention effects.

Results: Virtual reality significantly reduced pain during vascular cannulation compared to standard care ($p < 0.001$). Pre-cannulation anxiety scores were comparable between conditions; however, post-cannulation anxiety was significantly lower in the virtual reality group than in the standard care group ($p < 0.001$). No significant differences were observed in physiological parameters between the two conditions, except for respiratory rate, which showed a significant reduction with virtual reality ($P < 0.001$). No adverse events were reported.

Conclusions: Virtual reality demonstrates significant potential as a safe, evidence-based, non-pharmacological strategy to reduce procedural pain and anxiety during vascular cannulation, supporting its incorporation into routine haemodialysis nursing practice.

Keywords: Arteriovenous fistula; Chronic kidney disease; Crossover; Hemodialysis; Pain; Virtual reality

154. Implementation of Revised Simplified Geneva Score in Triage Nurse Evaluation for Patients with Suspected Pulmonary Embolism: A Retrospective Chart Review

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Background: Pulmonary embolism (PE) is a clinical condition encountered in the emergency department (ED), with a high and early mortality rate. ED triage determines the priority of further evaluation of care at the time of patient arrival. Little is known about the specific role of ED triage in PE.

Aim(s): We aimed to evaluate whether the five-level triage (5LT) system can identify patients with PE and differently prioritize them for medical evaluation and the discriminatory capacity of simplified revised Geneva score (SRGS) toward PE diagnosis when calculated by triage nurses.

Methods: A retrospective chart review on ED patients who underwent computed tomography pulmonary angiography (CTPA) in 2023. Based on the CTPA report, patients were categorized into two subgroups: CTPA PE-negative and CTPA PE-positive. We searched for correlations between PE diagnosis and triage priority level, time from triage to medical evaluation, SRGS, and National Early Warning Score 2 (NEWS2).

Results: Of the 196 patients included in the analysis (age 71.1 ± 16.9), 45 (23.0%) were CTPA PE-positive (26 proximal PE and 19 distal PE). There was no correlation between the assigned triage color code and the CTPA results. Although we found a statistically significant difference in the prevalence of CTPA-confirmed PE according to the results of the SRGS ($p=0.014$), the SRGS calculated at the time of triage showed a poor prediction accuracy for subsequent PE diagnosis (area under curve [AUC] 0.608). NEWS2 was significantly associated with the triage-assigned priority level ($p<0.001$).

Conclusions: The current 5LT was unable to prioritize patients with or without PE, and it seems unlikely that implementation of SRGS in the triage nurse evaluation will significantly improve the prioritization of patients with suspected PE for medical evaluation. Application of SRGS in triage evaluation may improve the appropriateness of the subsequent clinical pathway for PE diagnosis and risk stratification.

Keywords: Pulmonary embolism; Emergency department triage; Five-level triage system (5LT); Simplified revised Geneva score

155. Advanced Nursing Competencies in Complex Healthcare Systems: An NTCAS-Based Perspective

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Background: Healthcare systems are increasingly characterized by complexity, rapid technological transformation, and evolving patient needs. Advanced nursing competencies are essential to support safe, adaptive, and innovative care delivery in such environments. The Nursing Theory of Complex Adaptive Systems (NTCAS) conceptualizes healthcare organizations as dynamic systems in which nurses function as adaptive agents capable of influencing clinical outcomes, organizational resilience, and innovation.

Aim(s): This study aims to explore how advanced nursing competencies can be conceptualized and operationalized through the NTCAS framework to support high-quality and future-oriented healthcare systems.

Methods: A conceptual analysis grounded in complexity science and systems thinking was conducted to identify the key competency domains underpinning advanced nursing practice within complex healthcare environments. The analysis integrates leadership, clinical expertise, systems thinking, and digital health competencies as interdependent dimensions of adaptive professional practice.

Results: The NTCAS framework highlights four core domains of advanced nursing competence: clinical expertise, adaptive leadership, organizational learning, and systemic awareness. These domains interact dynamically, enabling nurses to respond effectively to emerging challenges, integrate technological innovations, and support coordinated decision-making across multidisciplinary teams. The model also emphasizes the importance of digital literacy, data-informed decision making, and interprofessional collaboration as essential competencies in contemporary healthcare.

Conclusions: Applying the NTCAS framework provides a structured theoretical lens for understanding and strengthening advanced nursing competencies within complex healthcare systems. The model supports the development of adaptive professionals capable of integrating innovation, leadership, and clinical expertise.

Keywords: Advanced nursing competencies; Complex adaptive systems; NTCAS; Systems thinking in nursing; Digital health leadership

156. Digital Storytelling for Pediatric Ostomy Education: A Patient-Centered Educational Tool with QR-Accessible Multimedia Resources

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Background: Pediatric ostomy surgery represents a significant physical and emotional challenge for children and their families. Children with ostomies may experience fear, confusion, altered body image, and difficulties adapting to daily life, while caregivers often face anxiety and uncertainty regarding care and communication. Traditional educational materials are frequently written for adults and use technical language, which may limit their usefulness for pediatric patients. Child-friendly educational tools are therefore needed to support understanding, emotional adaptation, and communication.

Aim(s): To develop an educational and therapeutic children's story to support pediatric patients in adapting emotionally and cognitively to living with an ostomy, and to facilitate communication between healthcare professionals, children, and families.

Methods: A narrative-based educational resource was developed using storytelling as a psychosocial support strategy in pediatric healthcare. The story presents a child protagonist who gradually learns to understand and accept their ostomy as part of everyday life. The material was designed for children and families and to support shared reading with caregivers and healthcare professionals. The illustrations were created by an adult patient living with an ostomy, contributing a patient perspective. As part of a digital innovation approach, the story was also developed as a digital book and an audiovisual video version.

Results: The project produced a child-centered educational story addressing emotional adaptation, normalization of ostomy devices, and positive coping strategies. To improve accessibility and dissemination, the poster includes QR codes providing direct access to both the digital book and the video version, allowing easy use through mobile devices and supporting digital health literacy.

Conclusions: This initiative represents an innovative and patient-centered approach to pediatric ostomy education. By combining storytelling, patient involvement, and accessible digital resources, it aims to support emotional adaptation, empower families, and complement clinical education.

Keywords: Pediatric ostomy; Digital health education; Storytelling; Patient-centered care

157. The Impact of Technological Development on the Improvement of Nursing Practice From the Perspective of Nurses at the University Clinical Center of Kosovo

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Background: The advancement of technology and the integration of innovative technological solutions into nurses' daily practice have led to significant changes in the way nursing services are delivered, enhancing efficiency, safety, and the overall quality of nursing care.

Aim(s): The aim of this study is to investigate the impact of technological development on the improvement of nursing practice by identifying the challenges and opportunities associated with the use of emerging technologies such as electronic health records (EHR), telehealth, and mobile health (mHealth) in everyday clinical work.

Methods: This research employs a quantitative approach with a cross-sectional design. Data were collected using the ITASH questionnaire, which consists of four dimensions (12 statements). The respondents included 100 nurses working across twelve different clinics at the University Clinical Center of Kosovo (QKUK).

Results: Our findings reflect nurses' perspectives regarding the use of technology at QKUK. In response to the statement "The use of digital technology devices helps improve patient care", 51% of nurses reported "strongly agree", while 38% indicated "agree". Notably, regarding the statement "I lack confidence in my general abilities", 24% of nurses responded, "strongly disagree", whereas 10% stated "strongly agree", A finding that warrants further investigation relates to the statement "In my workplace, digital technology devices make employees less productive when using digital technology", in this case, 32% of nurses reported "strongly disagree", compared with 7% who reported "strongly agree".

Conclusions: This study indicates that technological development represents a key factor in improving nursing practice, as it contributes to the establishment of a safer and higher-quality healthcare system.

Keywords: Technology; Nursing practice; Evidence-based practice; Patient safety; QKUK

158. Nurse Therapeutic Education in Cardiac Rehabilitation in Acute Coronary Syndrome: Narrative Review of the Literature

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Background: Acute coronary syndrome (ACS) is a cardiac condition caused by an occlusion of the arteries supplying the myocardium, resulting in ischemia of the myocardial tissue

downstream of the blockage. Modifiable risk factors that predispose individuals to the disease include arterial hypertension, tobacco use, hypercholesterolemia, diabetes mellitus, obesity, physical inactivity, and an unhealthy diet. After hospitalization, these patients must adopt lifestyle changes by addressing modifiable risk factors in order to improve prognosis, reduce hospital readmissions, and increase adherence to pharmacological therapy. Nurses play a key role in supporting the control of these risk factors through the provision of health education and continuous reassessment.

Aim(s): To evaluate the effectiveness of tele-nursing educational interventions for patients discharged with ACS in improving lifestyle, controlling risk factors, and increasing adherence to the therapeutic regimen.

Methods: A review of the scientific literature was conducted using the "PubMed" database from October 2023 to the end of March 2024. Articles published between 2014 and 2024 were included. From the search performed, 11 articles were identified as relevant to the research question.

Results: The review shows that tele-nursing educational interventions are highly effective in improving quality of life, controlling risk factors, increasing therapy adherence, and reducing hospital readmissions among patients who have experienced acute coronary syndrome. Some studies describe the positive impact of rehabilitation through outpatient visits, with a decrease in the percentage of active smokers from 63% to 43%. Other studies showed an increase in the use of Ezetimibe (28.2%). There was also a reduction in blood levels of total cholesterol, LDL, and triglycerides, and 62% of individuals who underwent guided follow-up achieved measurements ≤ 70 mg/dL. A randomized trial demonstrated a reduction in hospital readmissions by working on risk factors and increasing patient awareness of the disease (13.3%).

Conclusion: Nurse-led rehabilitation through counseling, telephone follow-ups, and outpatient visits has proven effective in controlling cardiovascular risk factors, improving quality of life, increasing adherence to therapy, and reducing hospital readmissions.

Keywords: Acute coronary syndrome; Nurse-led intervention; Health education; Empowerment; Self-care efficacy; Cardiac rehabilitation

159. Understanding Health Literacy and eHealth Literacy in Nursing Students: A Cross-Sectional Cluster Analysis

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Background: Health literacy and eHealth literacy are core competencies for nursing students, yet their distribution across training pathways remains insufficiently explored.

Aim(s): This study aimed to examine Health Literacy and eHealth Literacy levels among nursing students across different years of the educational programme and identify distinct subgroups of students.

Methods: A cross-sectional study was conducted among undergraduate nursing students enrolled in all years of a single Italian university programme. Literacy profiles were assessed using validated questionnaires. A Two-Step Cluster Analysis was applied to identify homogeneous literacy profiles. Group differences were examined using appropriate statistical tests.

Results: Four distinct clusters were identified, showing heterogeneous patterns of literacy profiles across the training course. Significant differences emerged in demographic and educational variables across clusters.

Conclusions: The findings highlight the coexistence of diverse literacy profiles among nursing students and suggest the need for tailored educational strategies. Due to the cross-sectional design, causal inferences cannot be drawn.

Keywords: Health literacy; eHealth literacy; Digital health literacy; Electronic health literacy; Nursing students; Cluster analysis

160. Advanced Nursing Decision Making in Emergency Care: Impact on Clinical Safety and Resource Allocation Over One Year

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Background: European healthcare systems are under increasing pressure due to rising demand, workforce shortages, and limited resources. In this context, advanced nursing roles are recognised as essential drivers of innovation and sustainability. Within emergency care, nurse-led decision making plays a crucial role in prioritisation and resource allocation, with important implications for patient safety and system efficiency.

Aim(s): To evaluate the impact of advanced nursing decision making on clinical safety and resource utilisation within an emergency medical dispatch system.

Methods: A retrospective observational study was conducted on all emergency calls managed over a one-year period by the Florence-Prato Emergency Medical Dispatch Centre (Italy). Dispatch priority levels were compared with clinical outcomes using a confusion matrix and standard diagnostic performance indicators. Statistical analyses included sensitivity, specificity, predictive values, Cohen's kappa, logistic regression, and receiver operating characteristic (ROC) curve analysis.

Results: A total of 154,585 records were analysed. The system demonstrated high sensitivity (92.0%) and a strong negative predictive value (87.3%), indicating a reliable ability to identify high-acuity cases. Overtriage was 51.5%, while clinically significant undertriage events were rare (0.14%). High-priority dispatch was strongly associated with actual critical conditions (OR 10.84; 95% CI 10.5-11.1). ROC analysis showed moderate discriminative performance (AUC 0.703). Additionally, 8.3% of cases (n = 12,826) were managed without ambulance dispatch through telephone triage.

Conclusions: Advanced nursing decision making within emergency medical dispatch systems is associated with high levels of clinical safety and effective resource utilisation. These findings support the role of specialist nurses in developing innovative and sustainable models of care in complex healthcare systems.

Keywords: Nursing decision making; Emergency care; Resource allocation; Patient safety; Teletriage; Health systems

161. Digital Self-Efficacy Among Caregivers: An Empty Scoping Review and Instrument Transferability Analysis

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Background: The digitalization of healthcare systems has transformed care processes, introducing technologies that require new skills and redefining the role of informal caregivers within digitally mediated environments. Digital self-efficacy may be a key determinant for adopting and effectively using digital health resources. Literature highlights two separate lines: tools assessing digital self-efficacy among patients and professionals, and instruments evaluating caregiver self-efficacy in traditional care. However, no integrated tools address caregivers' self-efficacy in managing care within digitally supported healthcare systems.

Aim(s): This study aimed to identify and systematize tools assessing digital and technological self-efficacy and to explore their relevance for developing a scale specifically designed for informal caregivers.

Methods: The Joanna Briggs Institute guidance for scoping reviews was used. Searches were performed in MEDLINE (PubMed) and Scopus without time restrictions. Studies describing the development, validation, or use of scales measuring digital or technological self-efficacy in caregivers were eligible. Results were reported following the PRISMA-ScR extension.

Results: A total of 4,425 records were identified, screened and duplicates removed; none met eligibility criteria, resulting in an empty review highlighting the absence of validated instruments to measure digital self-efficacy among informal caregivers. However, ten caregiver self-efficacy scales developed from traditional contexts were analysed; 156 items were extracted and examined, leading to the identification of six conceptual domains: managing direct patient care, maintaining caregiver self-care, regulating emotional and relational dynamics, identifying support resources, managing medical information and medication therapy, and sustaining resilience in the caregiving role. Domains were evaluated for transferability to digitally mediated contexts following Bandura's guidelines for self-efficacy scales. Transferability ranged from high (Domains #1, #4 and #5) to moderate (#2, #3) and moderate-to-low (#6). This enabled formulating preliminary items with increasing difficulty levels and realistic barriers caregivers face in digitally supported environments.

Conclusions: The identified domains and items provide a conceptual foundation for developing a scale to measure digital self-efficacy among informal caregivers, capturing competencies required in increasingly digitalized healthcare systems.

Keywords: Digital self-efficacy; Caregivers; Scoping review; Instruments

162. The Importance of The Nurse in Patient Education and Preparation for Home Care

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Background: Patient education is a cornerstone of high-quality healthcare and a critical responsibility of nursing practice. The hospital discharge process represents a vulnerable transition, where inadequate education may lead to poor adherence, complications, and avoidable readmissions. Strengthening nurse-led discharge education is essential to ensure continuity and safety of care.

Aim(s): To evaluate the impact of patient education during hospital discharge and to examine the pivotal role of nurses in preparing patients for effective self-management at home.

Methods: A quantitative cross-sectional study was conducted using a structured questionnaire administered to 120 hospitalized patients. The survey assessed demographic characteristics and key dimensions of nurse-patient communication and discharge

education. Data were collected voluntarily and analyzed using descriptive statistical methods.

Results: The findings demonstrate that nurse-led education has a substantial positive impact on patient preparedness. The majority of participants reported receiving clear, comprehensive, and understandable instructions regarding home care, medication management, and recognition of warning signs. Effective communication by nurses enhanced patient engagement and facilitated active participation in care. Notably, most patients expressed a high level of confidence in their ability to manage their health following discharge.

Conclusions: Nurse-led patient education at discharge is a decisive factor in promoting patient safety, empowerment, and continuity of care. Investing in structured education strategies and strengthening communication practices can significantly improve clinical outcomes and reduce preventable hospital readmissions. These findings highlight the essential role of nurses in delivering patient-centered care across healthcare settings. Keywords nursing; patient education; discharge planning; patient safety; communication; self-care

Keywords: Nursing; Patient education; Discharge planning; Patient safety; Communication; Self-care

163. Nursing Teleassistance within a Connected Care Model: Innovation and Management to Improve Community Healthcare

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Background: Fragmentation between hospital, primary and home care can compromise continuity for patients with chronic and complex needs. In Naples, Alpha developed a Connected Care model centred on nursing teleassistance. Through the digital ecosystem Servizio Salute, supported by Professional Practice Models, to strengthen integration between primary care, home care and nursing management.

Aim(s): To describe the implementation of an organisational model based on integrated nursing teleassistance, highlighting results, stakeholders, and innovative managerial components improving quality, continuity and accessibility of community healthcare.

Methods: This descriptive organisational implementation study was conducted in the metropolitan area of Naples, involving territorial nurses, general practitioners within AFTs,

and accredited home care services. The model integrates teleassistance, telemonitoring, Individualised Care Plans (ICPs), and a telemedicine hub coordinating care pathways, clinical alerts and hospital-to-community transitions.

Results: From January 1st, 2025 to February 28th, 2026, the model involved 374 general practitioners and 86 territorial nurses. A total of 5,504 nursing services were delivered, including 972 teleassistance interventions, 3,872 home visits and 4,437 outpatient services. The model improved care coordination, standardised pathways and enhanced continuity of care. It proved organisationally and economically sustainable, as activities were delivered within the existing regional healthcare budget, supporting scalability and replicability.

Conclusions: Nursing teleassistance within a Connected Care model is a strategic lever for innovation in community care, improving continuity and supporting proactive, person-centred healthcare.

Keywords: Nursing teleassistance; Connected care; Telemedicine; Continuity of care; Territorial healthcare; Professional practice models

164. Preliminary Results of an Ongoing Prospective Observational Nurse-Led Integrated Model Combining PROMS, PREMS, Telepsychology and Patient Advocates in Women with Suspected Gynaecological Malignancy

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Background: First access for women with suspected gynaecological malignancy is often fragmented, lacking psychological and financial toxicity assessment. We implemented a nurse-led model integrating PROMs/PREMs, daily telepsychology, and patient advocates to enhance patient experience.

Aim(s): Evaluate feasibility and preliminary impact on wellbeing and diagnostic efficiency.

Methods: Ongoing prospective observational study (Jan-Dec 2025) in women with suspected gynaecological malignancy. Nurse case managers collect data via EORTC QLQ-C30/OV28 (QoL), COST-FACIT (financial toxicity), HADS (distress). Each receives 14-day telepsychology and patient advocate support. Report covers first 6 months.

Results: 60 women enrolled (mean age 58±9 years); 70% malignancy confirmed. QoL (QLQ-C30) improved from 63±13 to 76±12 ($p<0.01$). Anxiety (HADS-A) from 11.0±3.2 to 7.0±2.8 ($p<0.01$). Financial toxicity (COST-FACIT) from 18.0±6.0 to 22.5±5.4 ($p=0.02$). 92% reported high support; dropout 3%. Diagnosis time reduced from 18 to 12 days. Feedback: better coping and team communication.

Conclusions: This nurse-led digital model is feasible, scalable, and improves patient-reported outcomes and efficiency. Ongoing data will assess long-term impact for standard care adoption.

Keywords: Nurse-led care; PROMs PREMs; Patient advocates

165. Nurse-led Digital Chatbot for Women with Suspected Gynaecological Cancer: Preliminary Data on Anxiety, Information, and Care Continuity

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Background: Women at first consultation for suspected gynaecological malignancy often face uncertainty, anxiety and fragmented communication. GynoCareBot is a nurse-supervised chatbot providing validated information on diagnostics, preparation, side effects, PROMs/PREMs integration and telepsychology access.

Aim(s): Evaluate feasibility, impact on anxiety (HADS-A), satisfaction and care continuity.

Methods: Prospective real-world study (Jun-Dec 2025; target n=150 women). 24/7 chatbot with nurse oversight. Data collected: usage patterns, HADS-A, nurse contacts, PROMs/PREMs at 1/3 months. Interim analysis at 3 months (n=80).

Results: 84% weekly usage (60% evening/night). HADS-A reduced from 10.6±3.0 to 7.1±2.8 ($p<0.001$). Non-urgent calls decreased 35%; unplanned access 25%. 92% rated "useful/very useful", with improved continuity and safety per PROMs/PREMs.

Conclusions: Nurse-supervised chatbot integrating PROMs/PREMs and telepsychology is feasible, reduces anxiety and enhances early gynaecological oncology care continuity. Final results expected Dec 2025 to support AI-nursing pathway integration.

Keywords: Nurse-led chatbot; Digital health; Anxiety management

166. The Gynaecologic Oncology Expert Nurse: Preliminary Impact on Perceived Quality, Treatment Adherence and Continuity of Care in a Comprehensive Cancer Centre

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Background: Gynaecological cancer care demands advanced clinical, communicative and psychoeducational skills. The Gynaecologic Oncology Expert Nurse (GOEN) integrates care, education, multidisciplinary coordination and emotional support in a comprehensive cancer centre.

Aim(s): Evaluate GOEN impact on perceived quality (PREMs), adherence and continuity vs standard care.

Methods: Prospective comparative study (Jan-Dec 2025; n=120 women with ovarian/endometrial/cervical cancer). Intervention: 60 with GOEN (education, tele-follow-up, psychologist/nutritionist coordination). Control: 60 standard nursing. Tools: EORTC QLQ-C30, Morisky Adherence Scale, gynaecology PREM. Interim: first 60 patients.

Results: GOEN group: QoL improved 64±13 to 79±10 ($p<0.001$); adherence 87% vs 68% ($p<0.01$); emergency visits 0.3 vs 0.8/patient ($p<0.02$). 96% rated communication "excellent"; 92% better pathway awareness.

Conclusions: Embedding GOEN enhances adherence, quality and continuity. Full results (Dec 2025) support multidisciplinary integration.

Keywords: Gynaecologic oncology nurse; Expert nurse role; Treatment adherence

167. Level of Digital Competence among Nurses in Slovenia

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Background: The increasing use of digital technologies in healthcare is closely linked to care quality, patient safety, and system performance. Evidence shows that limited digital competencies among healthcare professionals can lead to risks in data handling, reduced effectiveness of digital tools, and lower quality of care. Nurses represent the largest professional group and are directly involved in daily use of these technologies, yet data on their competencies and influencing factors remain limited.

Aim(s): To determine the level of digital competencies among nurses and to identify key sociodemographic factors associated with these competencies.

Methods: A descriptive, non-experimental cross-sectional study was conducted using the validated Digital Competence Questionnaire. The sample included 111 nurses (69.4% female, 30.6% male), with a mean age of 35.41 years (SD = 8.60) and mean work experience of 13.59 years (SD = 8.89). Digital competencies were measured across two domains: attitudes and knowledge/skills. Internal consistency was high ($\alpha = 0.944$ for attitudes, $\alpha = 0.937$ for knowledge/skills, $\alpha = 0.952$ overall). Data analysis included descriptive statistics, Kolmogorov-Smirnov and Shapiro-Wilk tests, Mann-Whitney U test, Kruskal-Wallis test with post hoc analysis, and Spearman's correlation.

Results: The overall level of digital competencies was high (M = 3.94, SD = 0.68). The highest scores were observed in digital communication (M = 4.13, SD = 0.78), while the lowest were related to data security and perceived impact on clinical outcomes (M = 3.81, SD = 0.91). No statistically significant differences were found by gender ($p > 0.05$) or work setting ($p > 0.05$). Significant differences were identified by education level ($p < 0.01$), with higher education associated with higher scores across attitudes ($H = 14.55$, $p = 0.002$), knowledge/skills ($H = 26.61$, $p < 0.001$), and total competencies ($H = 22.90$, $p < 0.001$). Age ($p > 0.05$) and work experience ($p > 0.05$) were not associated with digital competencies, although strongly correlated with each other ($\rho = 0.916$). A strong positive correlation was found between attitudes and knowledge/skills ($\rho = 0.738$, $p < 0.001$).

Conclusions: Although nursing staff demonstrate relatively high levels of digital competency, deficiencies in data security and perceived clinical value highlight critical gaps with potential implications for patient safety and quality of care. Education emerges as the most influential determinant, underscoring the need for targeted educational strategies at both undergraduate and continuing professional development levels. Importantly, strengthening digital competencies requires not only technical training but also systematic efforts to shape positive attitudes toward digital technologies. Findings support the integration of competency-based digital education and organisational support mechanisms to ensure a safe and effective digital transformation of healthcare systems.

Keywords: Digital competence; Education; Digital literacy; Professional development

168. Artificial Intelligence and Childhood Obesity: A Real-World Application in Healthcare or a Mere Utopia Bordering on Reality?

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Background: Childhood obesity represents a serious global challenge; if left untreated, it is associated with numerous health complications, both physical (insulin resistance, dyslipidaemia, non-alcoholic fatty liver disease and hypertension) and psychological (low self-esteem and depression). Conventional healthcare support is not always accessible due to high costs, travel difficulties and a lack of facilities, whereas smart digital health interventions are considered an effective means of optimising healthcare processes, saving valuable time for staff and patients, whilst promoting self-management of health by individuals.

Aim(s): To understand the validity of digital interventions using advanced information technologies for the optimal management of childhood obesity in terms of usability and acceptability.

Methods: The scientific validation of the hypotheses was achieved through an analysis of bibliographic sources within PubMed, EMBASE, CINAHL and Scopus, covering the last three years, using the logical operator 'AND' with controlled terms such as 'Childhood Obesity', 'Artificial Intelligence (AI)', 'Machine Learning', 'Technology', 'Smart digital health interventions' and 'Clinical efficacy'.

Results: The findings from the literature review highlight various types of interventions that are useful and necessary for managing this 'hidden' condition. These interventions include the use of electronic health records to generate alerts based on body mass index, the use of a tablet app for educational purposes, goal-setting and video conferencing between family members and healthcare professionals; the provision of a website to families and healthcare professionals to compare measurements and lifestyle information against established clinical guidelines; and the use of exergames and video chat on a games console to support self-management of health.

Conclusions: The findings regarding the applicability of these strategies highlight the feasibility and significant insights offered by these new care pathways, which can help clarify the benefits and challenges associated with the use of technological solutions. Engagement and adherence play a crucial role, supporting healthcare professionals in monitoring and decision-making, whilst promoting self-management of health in childhood obesity.

Keywords: Childhood obesity; Artificial intelligence (AI); Machine learning; Technology; Smart digital health interventions; Clinical efficacy

169. Exploring the Impact of Self-Leadership on Well-Being and Work-Related Quality of Life Among Healthcare Professionals in Albania: A Cross-Sectional Study

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Background: Self-leadership is a pivotal factor in enhancing the well-being and retention of healthcare professionals (HCPs), particularly by influencing work-related and social well-being, as well as work-related quality of life (WRQoL). In healthcare settings, where high levels of stress, burnout, and turnover are prevalent, the promotion of self-leadership is critical for improving job satisfaction, mitigating attrition, and fostering a sustainable workforce. However, to date, there is a lack of empirical research addressing these aspects within the Albanian healthcare workforce.

Aim(s): This study seeks to examine the impact of self-leadership on work well-being and WRQoL among healthcare professionals in Albania, with a focus on understanding how these factors contribute to the overall functioning and retention of HCPs.

Methods: A cross-sectional survey was conducted between September and October 2025, targeting healthcare professionals across Albania. An anonymous online questionnaire was employed, incorporating established scales: the Self-Leadership Questionnaire (ASLQ,

Houghton et al., 2012), the Employee Well-Being Scale (Pradhan & Hati, 2022), and the Work-Related Quality of Life Scale (WRQoL, Van Laar et al., 2007). Linear regression analyses were performed to explore the relationships between self-leadership and various dimensions of employee well-being.

Results: A total of 394 healthcare professionals participated in the study, of whom 81.5% were female, 66.2% were nurses, and 13.2% were midwives. Notably, only 22% of respondents held a coordinating role. Self-leadership emerged as a significant predictor of work well-being (β = 0.598), social well-being (β = 0.564), and WRQoL (β = 0.551). Male gender was found to be associated with higher WRQoL (β = -0.114). Additionally, years of work experience positively correlated with improved work and social well-being (β = 0.123).

Conclusions: The findings underscore the importance of enhancing self-leadership competencies to improve healthcare professionals' well-being and WRQoL, thereby contributing to the retention of a skilled and resilient workforce. Strengthening self-leadership should be prioritized within healthcare organizations as a strategic intervention to address the imminent shortage of healthcare workers, as identified by the World Health Organization's nursing workforce initiatives.

Keywords: Self-leadership; Work well-being; Work-related quality of life (WRQoL); Healthcare professionals; Nurses; Midwives

170. Development and Validation of Digital Competencies Assessment Scale for Romanian Nurses and Midwives

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Background: The rapid digitalization of healthcare systems has increased the need for well-defined digital competencies among healthcare professionals. Existing frameworks such as

Digital Competence Framework for Citizens - DigComp (Vuorikari et al., 2022; Cosgrove & Cachia, 2025) and DigCompHealth (DHeLiDA Project Consortium, 2020) emphasize the importance of these competencies, yet validated measurement instruments remain limited.

Aim(s): This study aimed to develop and validate a scale for assessing digital competencies among Romanian nurses and midwives.

Methods: The study adopted a mixed-methods approach, consisting of qualitative methods in the development of the scale (literature review and research group discussions), and quantitative methods in validation it. For the validation phase, a cross-sectional study was conducted on a sample of Romanian nurses and midwives from four hospitals in Bucharest (N = 164). Exploratory factor analysis (Principal Axis Factoring with Promax rotation) was used to identify the underlying structure of the scale, followed by confirmatory factor analysis to test the model fit. Reliability and validity were assessed using composite reliability (CR), average variance extracted (AVE), and the heterotrait-monotrait ratio (HTMT).

Results: Based on the qualitative approach, an initial version of the scale, consisting in 24 items was generated. After two exploratory factor analyses, a three-factor structure was retained, comprising 12 of the 24 items: General digital competencies (6 items), Use of digital technologies in patient care practice (3 items), and Use of online medical information and medical digital systems (3 items). Confirmatory factor analysis indicated a good model fit (CFI = .945, TLI = .929, RMSEA = .064, RMR = .053). Composite reliability values ranged from .676 to .842, and discriminant validity was confirmed by HTMT (.56 - .62).

Conclusions: The proposed scale demonstrates acceptable psychometric properties and can be used to assess digital competencies among healthcare professionals. However, the study has several limitations: the sample size, although adequate for the analyses performed, may limit the generalizability of the results, the use of self-reported data may introduce subjective biases, and certain convergent validity values indicate the need for further refinement of some items.

Keywords: Digital competencies; Nurses; Midwives; Factorial analysis; Validation

171. Checklists in Medical and Nursing Care: A System-Wide Infrastructure for Enhancing Patient Safety - A Narrative Review

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Background: Medical errors in diagnosis, surgery, and medication use remain a leading cause of preventable patient harm worldwide

Aim(s): To provide a historical overview, synthesizes key outcome data, and outlines practical recommendations to transform checklists from bureaucratic paperwork into an active, system-level safety infrastructure

Methods: A narrative review was conducted focusing on clinical guidelines, systematic reviews, and key outcome trials related to checklists in surgery, intensive care, diagnosis, and medication safety by queries to databases and organization resourcse (e.g., WHO, professional societies).

Results: Diagnostic error rates in some settings estimated at 10-15%. Checklists, widely used in high-risk industries, have emerged in medicine in the last few decades as a simple, low-cost intervention to support clinical cognition, standardize critical processes, and reduce variability. Large multicentre studies of the World Health Organization (WHO) Surgical Safety Checklist demonstrate reductions in major postoperative complications from about 11% to 7% and in hospital mortality from 1.5% to 0.8%, while subsequent programmes have reported 22% relative reductions in 30-day mortality. Checklists in intensive care, medication administration, and high-risk procedures similarly decrease infections and improve error detection, particularly when designed using human factors principles and integrated into digital workflows. This article reviews the historical evolution of checklists in medicine, summarizes evidence of clinical effectiveness, and discusses implementation strategies, including cultural change, technological innovations such as smart glasses, and patient-facing tools.

Conclusions: Future gains will depend less on inventing new checklists and more on integrating existing tools into supportive cultures, human-centred digital systems, and patient partnerships so that checklists function as genuine safety nets rather than perfunctory paperwork.

Keywords: Checklist; Medical errors; Surgery; Surgical safety; Patient safety

172. A Nurse-Led Digital Innovation to Improve Communication and Care Experience in Emergency Settings: An Exploratory Evaluation

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Background: Emergency Departments are high-pressure environments where limited access to real-time information can increase caregiver anxiety, relational tension and communication burden on healthcare professionals. These dynamics may negatively affect both patient experience and staff wellbeing. Digital health solutions offer opportunities to improve transparency, optimise communication processes and strengthen the role of nurses in managing complex care environments.

Aim(s): To evaluate the contribution of a digital communication system (PS Tracker) to caregiver experience and relational safety, and to explore its implications for nursing practice and digital innovation in emergency care.

Methods: An observational exploratory evaluation was conducted in two Emergency Departments in Liguria, Italy, between July and September 2025. The PS Tracker system provides caregivers with real-time updates on patients' care pathways. Data were collected from caregivers and nurses using structured questionnaires. Outcomes included acceptability, emotional impact, perceived usefulness and implications for nursing workflow and communication management.

Results: Fifty-eight caregivers and twenty-three nurses participated. Caregiver adherence was high (87.9%), with non-use related to clinical urgency or digital literacy barriers. Following implementation, caregivers reported reduced anxiety, fear and anger, alongside increased serenity, trust and satisfaction. Improved management of waiting times was also reported. Nurses recognised the system as a valuable support for communication processes; challenges related to workflow integration highlighted the need for structured implementation and digital competencies.

Conclusions: The PS Tracker system demonstrated high acceptability and positive impact on caregiver experience, supporting relational safety in Emergency Departments. From a nursing perspective, digital communication tools can enhance care transparency, reduce communication burden and strengthen nurses' role in coordinating care pathways. Investing in digital competencies, leadership and implementation strategies is essential to maximise the value of innovation in complex care settings.

Keywords: Digital health; Patient safety; Communication; Emergency nursing; Workforce wellbeing

173. Adoption of Digital Nursing Plan of Care (PAI) and Nursing Perceived Value: A Longitudinal Study

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Background: Electronic health records (EHRs) reduce errors, improve patient safety, enhance efficiency, and lower healthcare costs. The adoption of Standardized Nursing Language (SNL) in digitalized systems (PAI), supports nursing documentation, nursing decision-making, and the personalization of care. Longitudinal qualitative studies examining nurses' perceptions of IT systems for documentation are lacking.

Aim(s): To investigate nurses' perceptions and perceived value of the digitalized PAI system, before and after the adoption.

Methods: A longitudinal qualitative study was conducted in 2025. Nurses working at a hospital in Italy, participated on focus groups, before and after the transition to digital nursing documentation. Participation was voluntary. Meetings were audio-recorded and transcribed verbatim. Inductive content analysis, based on Elo & Kyngas' methodology, was performed.

Results: The study included 51 nurses. The adoption of PAI was perceived as professionally rewarding and intuitive, with clear and well-structured screens. Key benefits included better traceability and documentation, improved communication, enhanced care quality and nurses' professional value. Challenges included time-consuming data entry and difficulties in transitioning to diagnosis prescription due to ingrained habits and insufficient training. Experienced nurses felt confident in prioritizing diagnoses, while others expressed a need for additional training.

Conclusions: PAI represents a significant advancement in the professionalization and safety of nursing care. To maximize its effectiveness, targeted training and consistent application of nursing diagnoses are essential.

Keywords: Digitalization; Nursing care plan; Longitudinal qualitative study; Nursing documentation; Standardized nursing language; Decision-making

174. Patient-Caregiver Dyadic Experiences of Nurse-Delivered Remote Motivational Interviewing in Heart Failure: A Qualitative Study Nested Within the Italian Re-MOTIVATE-HF Trial

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Background: Self-care of heart failure (HF), including behaviours of daily management of the disease, is often shared within patient and family caregiver dyads. Nurse-delivered remote motivational interviewing (MI) via video call may support HF dyads' self-care, but little is known about how they experience this approach. The Re-MOTIVATE-HF study is an RCT aimed at improving self-care in HF patients and caregiver dyads, with remote MI via video call across 7 sessions over 1 year.

Aim(s): In this qualitative study, we aimed to explore how HF patient and caregiver dyads perceived MI performed remotely via video call.

Methods: A qualitative descriptive study was conducted. Purposive sampling was used to recruit HF patient and caregiver dyads allocated to the intervention arm, in which nurse-delivered remote MI was provided in addition to standard care. Semi-structured interviews were conducted between November 2023 and September 2025. Interviews lasted around 30 minutes, were audio-recorded, transcribed verbatim, and analysed using a hybrid, deductive-inductive, dyadic approach.

Results: HF patients (n. 17) were 69.8 years old (SD 10.2) on average and mostly male (76%); caregivers (n=17) were 58.9 years old on average (SD 13.2) and mostly female (88%). Thirty-four interviews were conducted with 17 patient-caregiver dyads. Participants were recruited from the participating centres of Lodi (n=11), Alessandria (n=5), and Reggio Emilia (n=1). Analysis generated 96 codes, 24 subcategories, and six overarching categories. Dyads generally described the intervention positively, highlighting greater support, closer health monitoring, increased caregiver involvement, improved communication, emotional reassurance, and progressive adaptation to video-based interaction. Participants valued the relationship with nurses, organisational clarity, and the convenience of online delivery. Reported barriers were limited and included initial technological concerns, occasional perceptions of excessive emphasis on physical activity and weight, and, in isolated cases, limited usefulness. Dyads also reported greater awareness, confidence, and involvement in daily illness management; most considered the intervention suitable for future clinical use.

Conclusions: Nurse-delivered remote MI via video call was generally experienced by HF patient and caregiver dyads as acceptable, supportive, and feasible. The intervention appeared to strengthen dyadic engagement in daily illness management.

Keywords: Heart failure; Motivational interviewing; Telehealth; Caregivers; Dyadic care; Qualitative research

175. Nursing Teleassistance in Italy: Protocol for a National Survey on Nurses' Experiences, Perceived Effectiveness, and Implementation Challenges

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Background: Chronicity, multimorbidity, and population ageing are increasing the demand for accessible and sustainable models of care. In this context, teleassistance may support continuity of care, patient monitoring, education, and integration across services. However, despite growing interest and recent national policy attention, evidence on how teleassistance is operationalised and experienced by nurses in Italy remains limited.

Aim(s): To present the protocol of a national study exploring Italian nurses' perceptions of teleassistance, including its perceived effectiveness, operational models, barriers, opportunities, and training needs.

Methods: TELENURS-IT is a national, cross-sectional, descriptive study conducted via an online survey using a mixed-methods approach. Eligible participants are nurses working in Italy who have delivered at least one teleassistance intervention to adult patients in the previous 12 months. The survey will be disseminated through professional and institutional channels. The questionnaire includes six domains covering professional background, teleassistance experience, remote communication and relational strategies, perceived effectiveness, challenges and opportunities, and recommendations for improvement. Quantitative data will be analysed descriptively, with exploratory subgroup comparisons where appropriate, while qualitative responses will be subjected to thematic analysis. The minimum sample size is 384 complete responses, with an operational target of 500-800 participants. The study protocol was approved by Comitato Etico Lombardia 1 (approval no. CET 87-2026).

Results: The study is expected to provide an updated national picture of nurses' experiences with teleassistance in Italy. It will describe current organisational and operational models, the main clinical areas addressed, and perceived strengths, limitations, and implementation barriers. Expected findings also include structural, technological, and educational gaps, as well as possible territorial differences in service availability and quality.

Conclusions: TELENURS-IT may generate useful evidence to inform governance, workforce development, and quality standards for nursing teleassistance in Italy. By identifying professional experiences, unmet needs, and implementation priorities, the study may support more equitable, integrated, and sustainable teleassistance models within chronic care pathways.

Keywords: Teleassistance; Telehealth nursing; Chronic care; Nursing workforce; Survey; Italy

176. Beyond Knowledge Transfer: How Stroke Survivor-Caregiver Pairs Build Real Capability During the Transition Home - Insights from a Telemedicine Program

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Background: Capability, understood as the real opportunity to act in everyday life, is increasingly invoked in post-stroke care, yet it remains loosely defined and often conflated with functional performance. Stroke survivors and their caregivers routinely engage in educational interventions aimed at building knowledge and self-management skills, but it remains unclear to what extent these translate into real capability in everyday life. What remains insufficiently understood is how capability actually takes shape in practice and how patients and caregivers convert available resources and professional support into concrete opportunities for action during the transition from hospital to home.

Aim(s): This study aimed to explore what being "capable" means for stroke survivor-caregiver dyads enrolled in a teletraining and telesupport program in the months following hospital discharge.

Methods: A qualitative study using conventional qualitative content analysis was conducted with 20 stroke survivor-caregiver dyads participating in the D-STEPS program in Italy. Forty semi-structured interviews were carried out three months after discharge and analyzed inductively. The Capability Approach was used as a sensitizing concept in the final interpretive stage.

Results: Three closely interrelated themes emerged. Capability was grounded in emotional stabilization, and without a sense of emotional security taking initiative in everyday life was often difficult or impossible. It did not emerge as an individual attribute but as something constructed within the dyadic relationship, shaped through ongoing negotiation and mutual adjustment. A persistent gap between knowing and doing was evident, as participants often understood what was expected of them but struggled to translate that knowledge into sustained everyday practices. What appeared as survivor autonomy was frequently supported by ongoing, largely invisible caregiver involvement.

Conclusions: Capability in post-stroke care is better understood as a relational and context-dependent process rather than a fixed individual trait. Transitional care programs should move beyond knowledge transfer and attend to the emotional, relational, and contextual conditions that enable dyads to act in everyday life.

Keywords: Stroke rehabilitation; Dyads care; Capability approach; Transitional care; Telemedicine

177. Identifying Cases of Child Abuse: Artificial Intelligence Algorithms to Support Timely Intervention

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Background: Epidemiological analyses of child abuse and neglect have revealed that many children are victims of abuse worldwide. In particular, in the United States, at least one in seven children has experienced abuse or neglect in the most recent reference year. The

acute and chronic consequences manifest in areas of concern for care management, resulting in adverse outcomes such as the intergenerational transmission of child maltreatment, low levels of education, limited employment opportunities, mental health problems, suicide attempts, alcohol and drug addiction, obesity and chronic pain in adulthood.

Aim(s): To highlight the exponential growth in the use of mathematical algorithms and artificial intelligence as tools capable of predicting human behaviour and as preventive tools to support professionals, particularly in the assessment of potential cases of child abuse.

Methods: In order to highlight the influence of academic research, evidence repositories from the last three years were evaluated across Scopus, Cochrane Library, CINAHL and PubMed, where the literature review was expanded using specific keywords combined with the Boolean operator (AND), such as: Artificial Intelligence, Violence against children, Child sexual abuse, State of the art, Neglect, Machine learning.

Results: Although research in this area is lagging behind, child neglect - defined as a lack of attention, care or commitment to fulfilling one's duties, characterised by indifference or carelessness - remains at the heart of epidemiological analyses, where the development of artificial intelligence models presents a real opportunity to assist healthcare professionals and social services dealing with this type of abuse. The decision on whether or not to initiate proceedings against the family of a child assessed as being at risk is left to electronic case management systems, based on predictive risk modelling (PRM), which use information and data collected by local authorities to predict the likelihood of a future adverse event occurring within that family or in the social context in which the child is placed and lives.

Conclusions: Artificial intelligence, combined with specific algorithms, can help to identify and diagnose child abuse at an early stage, significantly reducing the risk of reoffending and improving the child's prospects.

Keywords: Artificial Intelligence; Violence against children; Child sexual abuse; State of the art; Neglect; Machine learning

178. Enhancing Post-Acute Stroke Follow-Up Through Nurse-Led Telecare Consultations Using a Type 2 Hybrid Effectiveness-Implementation Study

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Background: The early post-acute period after stroke is critical for preventing recurrence, optimising risk factor control, supporting recovery, and addressing emerging psychosocial needs. Yet access to timely, sustained follow-up after hospital discharge remains inconsistent, particularly when survivors face mobility limitations, caregiver burden, or service constraints. Although telecare has been proposed as a promising model for post-stroke follow-up, evidence remains limited regarding both its clinical effectiveness and its implementation in routine practice.

Aim(s): This study evaluated the effectiveness and implementation of a nurse-led telecare programme for post-acute stroke follow-up.

Methods: We conducted a Type 2 hybrid effectiveness-implementation randomized controlled trial. Recently discharged stroke survivors were randomized to either a telecare group or an onsite consultation group. Both groups received the same follow-up content; however, the telecare group received three monthly nurse-led consultations via a digital platform focused on risk factor education and self-management support, whereas the control group received the same consultations through usual face-to-face care. The primary outcome was post-stroke disability, measured by the simplified modified Rankin Scale (smRS) at 6 months. Secondary clinical and patient-reported outcomes were also assessed. Implementation outcomes were evaluated using the RE-AIM framework, and qualitative data were analysed using the Consolidated Framework for Implementation Research.

Results: Of 249 stroke survivors assessed for eligibility, 200 were randomized to telecare (n = 99) or onsite consultation (n = 101). In the pre-specified non-inferiority analysis, telecare was non-inferior to onsite consultation for smRS at 6 months (adjusted mean difference = -0.146, 95% CI -0.423 to 0.131). Compared with onsite care, the telecare group achieved greater reductions in systolic and diastolic blood pressure from baseline to 3 months (both $p < 0.001$), although these differences were not sustained at 6 months. Significant interaction effects were found for depressive symptoms and perceived social reintegration, with a short-term between-group difference in the perception of self-domain from baseline to 3 months ($p = 0.016$). Implementation fidelity exceeded 90% across protocol domains, and staff expressed strong support for telecare delivery. However, barriers related to digital access and participant attrition, particularly among socioeconomically vulnerable survivors, constrained reach and threatened long-term maintenance.

Conclusions: Nurse-led telecare consultations were non-inferior to onsite follow-up in supporting post-stroke recovery and provided short-term benefits in blood pressure control and selected psychosocial outcomes. These findings support telecare as a clinically safe and implementable model for post-acute stroke follow-up. However, equitable scale-up will require targeted strategies to reduce digital exclusion and sustain engagement among socially vulnerable stroke survivors.

Keywords: Telehealth; Stroke rehabilitation; nursing consultation; Digital health; implementation science

179. Bridging Theory and Practice In Post-Graduate Nursing Education: Evaluating the Effectiveness of Immersive Virtual Reality and Educational Escape Rooms in Developing Clinical and Soft Skills

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Background: Post-graduate nursing education requires pedagogical approaches capable of integrating theoretical knowledge, technical-practical skills, communication competencies, and clinical decision-making. In this context, immersive Virtual Reality (VR) and Educational Escape Rooms (EERs) are emerging as evidence-based instructional methodologies that promote active learning, reduce the gap between theory and clinical practice, enhance student engagement and equipe collaboration.

Aim(s): To evaluate the effectiveness of two innovative teaching methodologies: immersive VR, aimed at improving the understanding of complex procedures and specific care settings such as community-based care, and EERs as a tool designed to strengthen communication skills and develop soft skills, including problem-solving.

Methods: A mixed-methods approach (QUAN → qual) was conducted combining a quasi-experimental pre-post design and interviews to nurses, at the Clinical Simulation Centre of a university in Rome. Primary outcomes concern knowledge acquisition and technical-practical competencies; secondary outcomes include student engagement, perceived self-efficacy, and satisfaction with the educational experience. Data are collected through validated instruments before and after each intervention. At the end of the educational interventions, semi-structured interviews were conducted to explore participants' levels of engagement, perceived utility of the instructional methodology, and the transferability of acquired competencies to real clinical practice. Qualitative data were analysed using the thematic analysis framework by Braun and Clarke (2006), through an inductive coding process aimed at identifying recurring patterns.

Results: Both interventions are hypothesised to produce improvements in post-intervention scores. The VR group is expected to demonstrate gains in procedural competencies and greater familiarity with complex care settings; the EER group is expected to show improvements in clinical reasoning, communication, and problem-solving.

Conclusions: VR emerges as the preferred methodology for technical-procedural competencies, while EERs prove particularly effective in developing soft skills such as problem-solving and effective communication competencies that are often underrepresented in traditional curricula. Despite limitations related to the absence of randomisation and structured follow-up, this study aims to provide an original contribution to educational research in the healthcare field within the Italian context.

Keywords: Immersive virtual reality; Educational escape room; Post-graduate nursing education; Active learning; Soft skills development; Clinical simulation

180. Use of Digital Applications for Health Information and eHealth Literacy Assessment Using eHEALS Among High School Students in Pristina

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Background: The widespread use of digital technologies has transformed the way adolescents access and use health information. E-health literacy, defined as the ability to find, evaluate, and apply digital health information, is essential for informed health decision-making. However, evidence regarding e-health literacy among secondary school students in Kosovo remains limited, particularly regarding the use of emerging digital tools, such as artificial intelligence.

Aim(s): This study aims to assess the level of eHealth literacy and examine patterns of digital health information use among high school students in Pristina-Kosovo.

Methods: A quantitative cross-sectional study will be conducted using the validated eHealth Literacy Scale (eHEALS), supplemented with additional questions on artificial intelligence use. A pilot study with 25 high school students is being conducted to evaluate the clarity, and reliability of the instrument.The study population includes 30 students from three high schools in Prishtina. The questionnaire was translated through a forward and consensus translation process, with consultation with experts to ensure age appropriateness.

Results: Data collection is currently ongoing. Preliminary results are expected to provide insights into students' levels of e-health knowledge, their ability to evaluate online health information, and their use of digital health resources.

Conclusions: The study is expected to provide valuable evidence on e-health knowledge among adolescents in Kosovo and support the development of targeted educational interventions aimed at improving digital health competencies and informed health decision-making.

Keywords: eHealth literacy; Digital applications; Adolescents; Health information; Digital education; Kosovo

181. Accidental Falls in Hospitals: From Critical Issues to Proactive Systems - AI in Support of Solution-Focused Thinking

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Background: Falls among hospitalised patients are a significant cause of morbidity and mortality within the healthcare system, as highlighted by the Agency for Healthcare Research and Quality (AHRQ), which estimates that between 3 and 5 patients in every 1,000 die as a result of this adverse event. In recent years, healthcare systems around the world have invested considerable sums - amounting to $400 million a year - to implement the latest technologies to prevent such complications.

Aim(s): To understand and explore the concept of systemic added value, in relation to injury prevention and cost reduction, through the implementation of strategies based on the use of artificial intelligence capable of identifying patients at risk of falling within care settings.

Methods: The review of the scientific evidence was conducted via an exploratory review in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, across various databases, including PubMed, EMBASE and Scopus, covering the period 2020-2025, using the logical operator AND with specific terms such as Artificial Intelligence, Machine learning, Computer vision, Falls detection, Artificial intelligence, Falls in hospitals, Computer vision.

Results: Following a detailed review of the research articles, it appears that AI technologies show promise in four main areas: machine learning predictive models that analyse historical data to forecast future behaviour, events or outcomes, computer vision systems that enable real-time behavioural monitoring, sensor-based technologies that provide continuous patient surveillance, and natural language processing that improves the extraction of risk factors from clinical records, with an overall accuracy ranging from 89% to 97% in successful implementations.

Conclusions: Artificial intelligence-based systems offer greater predictive accuracy, real-time monitoring capabilities and personalised risk assessment. Falls in hospitals represent a critical challenge to patient safety, affecting millions of people worldwide and resulting in significant morbidity, mortality and high healthcare costs. Traditional fall prevention strategies, whilst useful, often lack the precision and real-time responsiveness required for optimal patient protection.

Keywords: Artificial intelligence; Machine learning; Computer vision; Falls detection; Falls in hospitals

182. The World of Paediatric Care: Artificial Intelligence and Governance in Complex Cardiology Settings

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Background: The field of paediatric cardiology raises significant concerns, as the management of congenital heart defects - due to the high rates of mortality and morbidity they entail - remains a global burden on healthcare services, associated with lifelong

comorbidities that persist into adulthood, ultimately reducing children's quality of life. In the United States, 3.12 million children are born with congenital heart defects and approximately 13.3 million people live with congenital heart abnormalities. AI has multiple key applications in the diagnosis, monitoring, prevention and management of congenital heart defects and has led to significant advances in paediatric cardiology.

Aim(s): To highlight the benefits arising from machines' ability to learn tasks from large amounts of historical data and to predict future outcomes, in support of a wide range of key applications in the diagnosis, monitoring, prevention and treatment of congenital heart disease.

Methods: The review of the scientific evidence was carried out through a systematic search of specific databases, including PubMed, EMBASE and Scopus, covering the period 2022-2025, using the Boolean operator 'AND' with specific search terms such as 'Artificial Intelligence', 'Paediatric cardiology', 'Congenital heart disease', 'Machine learning', 'Complexity care units' and 'Patient safety'.

Results: AI is capable of improving the diagnostic accuracy of paediatric heart conditions, thanks to its ability to enhance the diagnostic value of cardiac MRI, echocardiograms, CT scans and electrocardiograms. Machine learning algorithms are a highly promising tool for the diagnosis and assessment of critical congenital heart defects, where, in many areas of paediatric cardiology, they can be beneficial in relation to clinical and diagnostic examination, foetal cardiology, image processing, prognosis and risk stratification, precision cardiology, and all clinical care practices based on the planning and management of complications.

Conclusions: Artificial intelligence (AI) is growing rapidly, and its importance in clinical practice is undeniable, where it plays a crucial role in enhancing and standardising care, enriching the skills and experience of all healthcare professionals who provide comprehensive support for children and their families. AI is capable of identifying subtle or unrecognisable characteristics, preventing missed diagnoses and leading to a better prognosis in the areas of prevention, predictive intervention and health maintenance.

Keywords: Artificial intelligence; Pediatric cardiology; Congenital heart disease; Machine learning; Complexity care units; Patient safety

183. Mapping Nursing Telemedicine Practices: A Scoping Review of Models, Outcomes, and Professional Roles

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Background: The expansion of telemedicine has transformed healthcare delivery, positioning telenursing as a key component in ensuring continuity of care and effective patient management across diverse clinical settings. However, a comprehensive mapping of its organizational models, professional roles, and outcomes remains limited.

Aim(s): To systematically map the available evidence on telenursing practices, focusing on organizational models, nursing roles, and main clinical and organizational outcomes.

Methods: A scoping review was conducted following the frameworks of Arksey and O'Malley, Levac et al., and Joanna Briggs Institute guidelines, with reporting aligned to PRISMA-ScR. Five databases (PubMed, Scopus, Web of Science, CINAHL, PsycINFO) were searched. Of 1,760 records identified, 1,215 remained after duplicate removal. Following screening and full-text assessment, 27 studies were included.

Results: Telenursing was applied across multiple clinical settings, particularly in chronic disease management, oncology, postoperative care, and emergency contexts. Evidence showed improvements in symptom management, treatment adherence, quality of life, and reduced complications. Organizational benefits included enhanced continuity of care, increased patient and caregiver autonomy, better integration between hospital and community services, and potential cost reductions. The findings also highlight the need for advanced digital, communication, and relational competencies, as well as targeted training for nurses.

Conclusions: Telenursing is a flexible and evolving component of digital healthcare with positive clinical and organizational impacts. Strengthening care models, defining advanced competencies, and promoting targeted education are essential to support its integration into contemporary health systems.

Keywords: Telenursing; Telemedicine; Digital health; Remote patient monitoring; Nursing competencies; Chronic disease management

184. The post-operative period as a latent condition: AI-based wearable sensors to aid in the prevention of adverse events.

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Background: Postoperative care for surgical patients in the age of artificial intelligence aims to ensure optimal recovery and minimise adverse outcomes. The most common complications include organ failure, infections, haemorrhages and thromboembolic events, resulting in longer hospital stays and increased healthcare costs, associated with significant morbidity and mortality. Traditional monitoring strategies rely largely on periodic measurements and clinical assessment, whilst more advanced solutions are capable of detecting those subtle physiological changes that herald early clinical deterioration

Aim(s): To consolidate research hypotheses based on the use of artificial intelligence strategies as a strategic lever for improvement within complex areas, such as post-operative monitoring.

Methods: The review of best practices was conducted within specific databases such as EMBASE, CINAHL and Scopus, examining systematic reviews from the last five years and using the Boolean operator 'AND' with specific keywords such as 'Postoperative Monitoring', 'Artificial intelligence', 'Patient safety', 'Outcomes', 'Machine learning' and 'Surgical patient'.

Results: The integration of AI into wearable technologies enhances clinical utility by analysing complex and voluminous data streams from sensors, in order to identify subtle physiological deviations that might otherwise be difficult or impossible to detect. This enhancement, achieved through wearable sensors and AI, shifts the paradigm from a reactive to a proactive approach in care pathways-a crucial factor in managing high-risk patients, such as the elderly or those with multiple comorbidities, across seamless care pathways, thereby reducing the high risk of developing post operative complications. Continuous monitoring, through this strategy, therefore enables timely interventions and better outcomes, reducing the risk of foreseeable adverse events.

Conclusions: Whilst every innovative strategy requires a certain amount of time for experimentation and investigation, the support provided by the continuous remote early warning scoring system, based on artificial intelligence, creates an innovative framework designed to assess crucial parameters, such as the monitoring of haemodynamic and neurological data, motor abnormalities, and predictable conditions such as hypoxia, sepsis and respiratory failure.

Keywords: Postoperative monitoring; Artificial intelligence; Patient safety; Outcomes; Machine learning; Surgical patient

185. Digital Transformation of the Italian 118 Emergency System: Geolocalisation Technologies, Interoperable Clinical Databases and Implications for Advanced Nursing Practice

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Background: The Italian 118 pre-hospital emergency system faces critical digital transformation challenges. Regional database fragmentation and imprecise caller geolocalisation constitute persistent barriers to equitable, timely emergency response. Absent real-time clinical interoperability between primary care and dispatch limits triage depth, undermining value-based emergency nursing. AML and the Where ARE U application represent key technological responses, yet integration with longitudinal clinical data infrastructures remains incomplete.

Aim(s): To evaluate the effectiveness of AML and Where ARE U in improving emergency response outcomes, and to propose a GP-integrated digital clinical form as an interoperable triage data model supporting advanced nursing dispatch competency.

Methods: Systematic narrative review (SANRA guidelines). PubMed, Google Scholar and institutional repositories (Ministry of Health, EENA, AREU, WHO) were searched using: '118 emergency database', 'Advanced Mobile Location', 'Where ARE U', 'health data

interoperability'. Inclusion: peer-reviewed studies and technical reports (2015-2026) on EMS database architecture, geolocalisation or digital triage. Two-phase screening reduced 40 contributions to 10 high-relevance studies.

Results: Geolocalisation accuracy improved from kilometre-scale (Cell-ID) to 5-10 metres via Where ARE U/AML, yielding 14-45 seconds saved per call - associated with improved cardiac arrest survival. Each additional patient per nurse correlated with +7% 30-day mortality. Regional systems operate as isolated informational silos; no unified national operational database exists. A GP-to-118 digital clinical form (allergies, chronic therapies, frailty) was modelled as theoretically feasible, enabling anamnestic-clinical triage at dispatch.

Conclusions: AML and Where ARE U demonstrably enhance emergency response; however, full value requires national interoperability and GP-to-118 real-time integration. Emergency nurses must develop clinical informatics, data governance and cybersecurity competencies. Prospective implementation studies on the GP clinical form model are warranted to validate projections and inform European EMS digital policy.

Keywords: Occupational stress; Emotional exhaustion; Artificial intelligence; Digital health; Patient safety; Workforce well-being

186. Digital Competencies as Instruments of Nursing Professional Advocacy and Value-Based Health Education: A Scoping Review

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Background: Italy faces a nursing workforce crisis partly driven by professional misrepresentation. Despite Law 3/2018 establishing nurses as autonomous professionals (FNOPI: 450,000+ members), stereotypes persist. Kleib et al. (JBI Evid Synth 2021) confirm nursing informatics competency frameworks are inconsistently defined and assessed across nations. Cachata et al. (J Healthcare Leadership 2025) confirm IT assessment tools for nursing competencies remain non-standardised. Digital competencies for professional advocacy and value-based care delivery lack a validated national framework in Italy.

Aim(s): To map evidence on the role of digital competencies - clinical documentation, data-driven quality monitoring and health communication tools - in supporting nursing professional advocacy, workforce sustainability and value-based care in Italy, informing a national digital literacy curriculum framework.

Methods: JBI scoping review (PRISMA-ScR). PCC: P = nursing professionals and students; C = digital competencies for professional advocacy and value-based care; C = Italian and European nursing practice contexts. Databases: MEDLINE, CINAHL, Embase, ERIC, Scopus (2015-2025). Institutional sources: FNOPI (2019; 2025), Nursing Up, AULSS7 Pedemontana, EU DIGCOMP 2.2 framework. Dual screening; standardised JBI extraction. ~50 sources screened; 20 retained.

Results: Kleib et al. (JBI 2021) mapped 13 nursing informatics competency instruments across 7 frameworks - none validated for advocacy or value-based care. Chu et al. (Applied Clinical Informatics 2025; 6 databases) confirm informatics teaching strategies remain inconsistent in nursing curricula. AULSS7 'Digital Attraction' (2025-2026) represents the first Italian digital-first nurse recruitment strategy. Gap confirmed: no validated Italian framework linking digital competencies, professional advocacy and value-based care delivery.

Conclusions: A national digital advocacy competency framework for nursing is absent but achievable. Integration of DIGCOMP 2.2 and JBI scoping review evidence into Italian undergraduate nursing curricula, mapped to value-based care frameworks, constitutes the field's most actionable policy priority.

Keywords: Nursing professional identity; Digital health literacy; Workforce sustainability; Health education; Nursing advocacy; Value-based care

187. Integrating ChatGPT into Nursing Education: A Randomized Trial Exploring Knowledge, Retention, and Student Perspectives on Endotracheal Suctioning

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Background: The growing accessibility and multilingual capabilities of ChatGPT have facilitated broader integration of artificial intelligence into nursing education, offering new opportunities for teaching and learning. Although the literature on ChatGPT in nursing education is expanding, it remains largely dominated by non-experimental studies, with limited evidence on its effectiveness in educational practice. Existing research suggests that ChatGPT-supported interventions may enhance outcomes such as academic performance, self-efficacy, critical thinking, and learning satisfaction, while also highlighting the need for guided and supervised use. Despite its promising potential, methodological heterogeneity and the scarcity of experimental studies underscore the need for more rigorous investigations into its impact on nursing education.

Aim(s): This study aimed to evaluate the effectiveness of a ChatGPT-integrated educational session on nursing students' knowledge acquisition and retention regarding endotracheal suctioning, and to explore their learning experiences.

Methods: A pre-test/post-test parallel-group randomized controlled trial with an embedded qualitative component was conducted with 32 undergraduate nursing students. Participants were randomly assigned to either a ChatGPT-integrated education group or a traditional education group. Knowledge was assessed using a structured test administered before, immediately after, and six weeks following the intervention. Quantitative data were analyzed using appropriate statistical tests, while qualitative data were analyzed thematically following Braun and Clarke's approach.

Results: While no significant difference was observed between groups in immediate post-test knowledge scores, the ChatGPT-integrated group demonstrated significantly higher knowledge retention over time ($p < 0.05$). Qualitative findings revealed that interactive and student-centered learning environments supported by ChatGPT enhanced active participation, promoted deeper understanding, increased awareness of clinical practice, and strengthened knowledge retention. Participants also highlighted the value of hands-on practice, peer interaction, and structured learning materials, while offering suggestions to further enrich the educational experience.

Conclusions: The findings suggest that ChatGPT-integrated education may not improve immediate learning outcomes but can enhance knowledge retention over time. Future studies with larger samples are recommended to examine long-term outcomes and implementation strategies.

Keywords: Artificial intelligence; ChatGPT; Endotracheal suctioning; Knowledge retention; Nursing education

188. Nursing Students' Attitudes Toward Security Technologies in Psychiatric Settings: A Cross-Sectional Study

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Background: The expanding use of security technologies (STs) in psychiatric care (e.g., alarms, surveillance systems, and metal detectors) has intensified debates surrounding safety, coercion, and respect for human rights. Although STs aim to enhance safety, they may blur the boundary between care and control. Nursing students (NSs), as future professionals, are developing attitudes toward safety that may shape their future clinical practice.

Aim(s): To assess Italian NSs' attitudes toward the use of STs in psychiatric settings and to explore associated sociodemographic, educational, and psychological factors.

Methods: A cross-sectional study was conducted among Italian NSs using an anonymous online questionnaire. Sociodemographic and educational data were collected, and validated instruments were used to assess stigma toward mental illness (OMS-HC) and psychological

distress (DASS-21). Attitudes toward five STs (fixed alarms, portable alarms, video surveillance, body cameras, and metal detectors) were rated on a 1-5 Likert scale, and an overall mean score was computed. Descriptive statistics, Spearman's correlations, group comparisons (independent t-test, ANOVA), repeated-measures ANOVA, and univariate and multivariate linear regression analyses were performed. Statistical significance was set at $p < 0.05$.

Results: A total of 255 NSs participated (mean age 24.90 years, SD = 6.59). Overall, students reported moderately positive attitudes toward STs (mean = 3.98, SD = 0.78), with higher ratings for portable alarms and lower ratings for metal detectors ($p < .001$). In multivariate analyses, being enrolled in programs in Northern Italy ($\beta = -0.202$, $p = .003$) and higher levels of depression ($\beta = -0.236$, $p = .040$) were associated with less favorable attitudes, whereas mental health education showed a marginal positive association ($\beta = 0.124$, $p = .052$).

Conclusions: NSs demonstrated differentiated attitudes toward STs, favoring less intrusive technologies. These findings suggest that attitudes toward STs are shaped by both contextual and psychological factors, particularly the educational context and depressive symptoms. Integrating ethical, clinical, and reflective training on safety in psychiatric care into nursing curricula may support a more balanced and person-centered use of technological interventions. Future research should explore how these attitudes evolve and influence clinical practice.

Keywords: Nursing students; Psychiatry; Technologies; Security; Attitudes; Italy

189. Application of an Automatic Software for the Generation of Medical and Nursing Staff Requirements

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Background: Starting in 2021, Agenas was tasked with developing a new methodology for calculating the needs of medical, nursing, and other professional staff (midwives, healthcare assistants, medical radiology and laboratory technicians). The methodology was created and approved by decree of the Ministers of Health and Economy and Finance on January 24, 2023. To implement the algorithms and facilitate their use, Agenas decided to create an application that automatically calculates staffing needs by cross-referencing regional hospital organization data flows, hours worked to be converted into FTEs, the role of emergency and urgency networks, and other values to be considered in the methodology.

Aim(s): The creation of an application for automatically applying the algorithms of the methodology for calculating staffing needs created by Agenas.

Methods: A working group was formed consisting of professionals (nurses, engineers, and IT specialists) working in the Healthcare Professions Needs, Standards, and Organizational Models operating units and the Information and Communication Technology office at Agenas.

Results: The calculation algorithms were provided to the Information and Communication Technology staff. The Healthcare Professions Needs, Standards, and Organizational Models office staff calculated the requirements using Excel spreadsheets and supported and compared the results of the personnel requirement calculations processed using the electronic application. After a series of meetings and remodeling of the algorithms, the application is operational, and Agenas holds the copyright to it.

Conclusions: The use of an application for the automatic calculation of personnel requirements for doctors, nurses, and other healthcare professionals is a powerful tool created by combining nursing expertise with engineering and IT expertise. It represents a tool for the correct application of the methodology for calculating the need for hospital medical and nursing staff.

Keywords: Healthcare workforce; Regional distribution; Standards of healthcare personnel; Agenas methodology

190. Mapping the Clinical Potential of Wearables in Geriatric Home Care

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Background: Chronic conditions in older adults require continuous monitoring to prevent exacerbations and reduce hospitalization rates. In this context, wearable devices show significant potential for promoting self-management and supporting proactive home care. However, the real-world applicability, acceptability, and structural integration of these tools into community-based care models remain partially unexplored.

Aim(s): To map existing literature on the use of wearable devices for chronic disease management in older adults at home, identifying their clinical and organizational potential as well as research gaps.

Methods: A scoping review was conducted, structuring the research question according to the PICOM framework. The literature search was performed across MEDLINE, CINAHL, and the Cochrane Library databases. The search string used was: wearables AND (home health care OR home care OR home nursing) AND (nurs*). Inclusion criteria were limited to: patients aged 65 and older, publications from the last 5 years, and English language. The selection process followed the PRISMA-ScR guidelines.

Results: The analysis of the 30 included studies revealed a heterogeneous body of literature, predominantly focused on observational designs and controlled settings. Wearables demonstrate efficacy primarily in behavioral outcomes (increased physical activity, patient engagement, and self-management), whereas their impact on "hard" clinical outcomes (e.g., blood pressure, metabolic parameters) appears weaker. Furthermore, these devices are currently used almost exclusively for passive monitoring, with limited proactive integration into clinical pathways. The main critical issue does not lie in the technology itself, but rather

in patient adherence: studies show that the effectiveness of wearables is strictly dependent on their inclusion within structured programs providing nursing support, follow-up, and continuous education.

Conclusions: Wearables are strategic tools for community healthcare, but their success requires transitioning from passive monitoring to active patient management, where nurses play a key role in patient education and data interpretation.

Keywords: Wearables; Home care; Nursing care; Nurse

191. The Use of Machine Learning Technologies in Pressure Ulcer Management: Predictive Modelling for the Identification of Risk Areas

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Background: Pressure ulcers, as a growing concern within the healthcare sector, represent a common and preventable problem, with prevalence and incidence figures that remain alarming, with an overall rate of 28% in Italy, with approximately 60,000 deaths out of 2.5 million cases in the United States, and costs amounting to $26 billion, partly due to the inaccuracy of risk assessment tools characterised by subjective and imprecise variables.

Aim(s): To understand the principles of predictive algorithms capable of identifying patients at high risk of developing pressure ulcers who require risk mitigation measures from healthcare staff.

Methods: The review of the best available scientific evidence was conducted through an exploratory review, searching relevant databases such as PubMed, EMBASE, CINAHL and Scopus, covering the last five years and using the Boolean operator 'AND' with specific keywords such as 'pressure injuries', 'artificial intelligence', 'machine learning', 'computer reasoning' and 'management'.

Results: Although assessment scales have improved the identification of patient injuries by focusing on a range of risk factors, these processes have placed a strain on nurses' workloads, as they must monitor patients, record data, and make critical decisions and interventions based on this information. These challenges must be addressed through a more systematic approach, where decision-making algorithms and AI present a dynamic and innovative solution that can offer the opportunity to improve the prevention process by relying on systems and decision trees. With the advent of advanced technologies, predictions based on historical data have become possible, making their use urgent for patient risk prediction based on electronic health records.

Conclusions: The predictive algorithm offers healthcare systems the opportunity to address the uncertainties associated with pressure ulcers using advanced technologies. These conditions remain among the most lethal and costly in the healthcare sector, despite the

wealth of evidence supporting their effective prevention. AI is capable of directing care efficiently, with greater sensitivity and specificity, compared to standard measures and subjective clinical judgement, with the added benefit that healthcare professionals are encouraged to follow the prescribed prevention guidelines with greater rigor and attention.

Keywords: Pressure injuries; Artificial intelligence; Machine learning; Nursing Care; Computer reasoning e Management

192. Intelligent models as a Means of Improving the Prediction of Postnatal Depression: A Feasibility Analysis.

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Background: Postpartum depression (PPD) is a widespread condition affecting around 15% of women who have recently given birth and represents a significant factor in morbidity and mortality following pregnancy. It is associated with an increased risk of suicide and self-harm and is estimated to account for 10% of all maternity-related deaths. Current advances in the field of artificial intelligence offer new opportunities to predict depression in this care setting, enabling timely interventions and effective prevention strategies. Indeed, hospitalization during pregnancy presents an opportunity to identify individuals at high risk of 'postpartum blues' and potentially target interventions to prevent, diagnose and manage adverse outcomes.

Aim(s): To understand the development of innovative artificial intelligence strategies for predicting mental health issues in new mothers, making prevention an achievable and necessary goal, with a view to formulating explanations and predictions regarding postnatal depression.

Methods: The results from the last five years were systematically reviewed across Scopus, the Cochrane Library, CINAHL and PubMed, where the literature search was refined using specific keywords combined with the Boolean operator 'AND', such as: Postpartum Depression, Risk Stratification, Hospital Discharge, Machine Learning, Systematic Review, Artificial Intelligence.

Results: AI-based models for stratifying the risk of adverse outcomes among young mothers take into account various factors, including specific variables such as sociodemographic characteristics, clinical history and the results of antenatal screening. Scientific evidence has demonstrated a clear improvement in the prediction of postnatal depression using intelligent models.

Conclusions: The ability of artificial intelligence to predict postnatal depression represents a major breakthrough for mothers' mental health. Through advanced tools such as the risk stratification model, developed by experts in the field, the way is paved for more targeted and timely interventions. This enables us to tackle the challenges associated with this

condition, significantly improving the well-being of new mothers. The future of preventing adverse events looks promising and offers the prospect of more effective and personalised support programmes, capable of making a difference in the lives of many families.

Keywords: Postpartum depression; Stratifying risk; Hospital fischarge; Machine learning; Systematic review; Artificial intelligence

193. Transforming Care for Chronic Patients in the Digital Age Through Tele-Nursing and Remote Management

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Background: Chronic diseases require continuous, long-term management, yet many healthcare systems remain episodic and hospital-centered. This limits effective support for patients in daily life. Tele-nursing and remote management are increasingly recognized as innovative approaches to improve continuity, accessibility, and patient-centered care.

Aim(s): To examine the potential of tele-nursing and remote management in transforming care delivery and improving outcomes for patients with chronic conditions.

Methods: This abstract presents a conceptual and evidence-informed analysis of current tele-nursing practices in chronic disease management, drawing on contemporary literature and emerging digital care models in nursing.

Results: Current evidence suggests that tele-nursing may enhance continuity of care, strengthen patient engagement, support self-management, and improve access to professional guidance. It also redefines the nurse-patient relationship through more frequent and personalized communication. Key challenges include digital literacy gaps, technical barriers, workload demands, and the need for standardized protocols.

Conclusions: Tele-nursing represents a promising shift toward continuous, patient-centered chronic care. Its integration into routine practice may improve disease management and quality of care. Successful implementation requires investment in training, organizational support, and digital infrastructure.

Keywords: Tele-nursing; Chronic disease management; Remote patient monitoring; Digital health; Nursing innovation; Patient-centered care

194. Patients' Discomfort in ICU: Italian Adaptation and Validation IPREA-18 Questionnaire

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Background: Critically ill patients frequently experience discomfort during their ICU stay due to environmental, organizational, and treatment-related factors. Assessing patient-reported discomfort is essential to improve quality of care and promote a more humanized ICU environment. The IPREA-18 questionnaire is a validated tool to measure ICU discomfort, but it is not available in Italian, limiting its use in this context

Aim(s): Italian translation and cultural adaptation of the IPREA-18 questionnaire and support its use in clinical and research settings.

Methods: The study followed Mapi Research Trust linguistic validation guidelines, including conceptual analysis, forward and backward translation, and expert review for cultural adaptation. Cognitive interviews were conducted with ICU patients (n=10; adult; LOS>72h) to assess clarity and feasibility. A multicenter validation study is currently ongoing (target ≥200 patients) to evaluate psychometric properties according to COSMIN standards.

Results: The Italian version of IPREA-18 was successfully developed. Cognitive interviews showed good clarity and feasibility (mean scores 4/5), with no unclear items . Patients (80% medical admission, 20% surgical admission in ICU) identified relevant sources of discomfort (IPREA score≥ 80) such as noise, isolation, limited family visits and lack of privacy. Preliminary results from the ongoing validation study suggest good internal consistency (Cronbach's $\alpha > 0.80$) and high acceptability of the instrument.

Conclusions: The Italian IPREA-18 is a useful tool to assess patient-reported discomfort in ICU settings and to support patient-centered care. Its use in clinical practice may help healthcare professionals identify key areas for improvement. Ongoing validation will further confirm its reliability and applicability.

Keywords: ICU; Patient discomfort; Innovation; Nursing critical care; Patient-centered care.

195. Advancing Pediatric Nursing Capacity Through Micro Credentialing: A Scalable Model for Resilient and Sustainable Health Systems

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Background: Health systems globally face increasing pressures from ageing populations, chronic disease, antimicrobial resistance, climate-related risks, and workforce shortages. Nurses are central to addressing these challenges, yet gaps remain in access to standardized, competency-based pediatric training. Innovative, scalable education models are needed to strengthen workforce preparedness, improve care quality, and support sustainable health systems.

Aim(s): To describe the development and planned implementation of a Pediatric Nursing Micro-Credential designed to enhance pediatric nursing capacity while serving as a scalable model for broader global workforce development across health systems.

Methods: A competency-based, digitally delivered micro-credential was developed through international collaboration with subject matter experts. The program integrates modular coursework and psychometrically validated assessments aligned with global health priorities, including health system preparedness, antimicrobial stewardship, climate-conscious care, digital health, and workforce wellbeing. As an initial implementation within pediatric nursing, a pilot will be conducted beginning June 2026 in partnership with health system stakeholders. Evaluation will be guided by implementation science frameworks and will assess feasibility, acceptability, reach, and preliminary effectiveness using mixed methods, including surveys, assessments, and program data.

Results: (Anticipated): The pilot is expected to demonstrate feasibility and acceptability across diverse settings, with anticipated improvements in pediatric knowledge, clinical confidence, and application of evidence-based practices. Findings are also expected to highlight the potential of micro-credentialing to strengthen workforce preparedness and support scalable, contextually adaptable education models.

Conclusions: This work positions pediatric micro-credentialing as a proof-of-concept for scalable, competency-based nursing education. By aligning targeted training with global health priorities, this model has the potential to strengthen health system resilience, enhance care quality, and inform broader workforce development strategies across clinical domains.

Keywords: Digital health; Innovation; Education; Nurses; Pediatrics

196. Distinct Health and eHealth Literacy Profiles Among Nursing Students: Implications for Tailored Education

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Background: Health literacy (HL) and eHealth literacy (eHL) are critical, yet unevenly developed, competencies in nursing education. Understanding how these competencies cluster across student profiles is essential to advance equity and effectiveness in training.

Aim(s): To identify distinct HL and eHL profiles among nursing students and generate actionable insights for precision education strategies.

Methods: A cross-sectional study was conducted among undergraduate nursing students across all years of a university programme. HL and eHL were assessed using validated instruments. A Two-Step Cluster Analysis was applied to derive student profiles, and between-group differences were examined across demographic and academic variables.

Results: Four distinct literacy profiles emerged, revealing marked heterogeneity in students' competencies. A subgroup of early-stage students clustered consistently at lower HL and eHL levels, while more academically aligned students demonstrated higher competence profiles. Cluster membership was significantly associated with key sociodemographic and educational factors, outlining differentiated learning trajectories.

Conclusions: These findings challenge uniform educational models and support a shift toward precision education in nursing, leveraging literacy profiling to design targeted, equity-oriented interventions that optimise learning outcomes.

Keywords: Digital health literacy; eHealth literacy; Health literacy; Nursing education; Nursing student

197. Digital Strategies for Frailty Management and Fall Prevention in Older Adults: A JBI Scoping Review Protocol on Wearable Sensors and Artificial Intelligence Integration in Nursing Practice

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Background: Falls affect one-third of adults ≥65 annually; frailty prevalence exceeds 50% in long-term care (Zheng et al., JMIR Aging 2025). IMU wearable sensors achieve sensitivity

0.80-0.90 vs. 0.70 for the Morse Fall Scale. ML frailty detection reaches AUC 0.85 via single accelerometer. Despite growing deployment of sensor-AI systems, a nursing-specific evidence map covering implementation outcomes, alarm fatigue mitigation and PNRR-aligned care integration is absent.

Aim(s): To map evidence on wearable IMU sensors and AI/ML algorithms for fall prediction and prevention in frail elderly, focusing on clinical performance, nursing implementation impact and alignment with Italian PNRR Mission 6 home care digitalisation frameworks.

Methods: JBI scoping review (PRISMA-ScR; OSF registration). PCC: P = adults ≥65 with frailty criteria (hospital, residential care, home); C = wearable IMU + AI/ML algorithms for fall prediction/prevention; C = nursing-managed settings including Italian PNRR telemedicine contexts. Six databases: MEDLINE, CINAHL Ultimate, Embase, Scopus, Web of Science, IEEE Xplore (2014-2025). Grey literature: ISTAT, ISS Epicentro, AGENAS, PNRR M6. Dual independent screening; standardised JBI extraction.

Results: Preliminary mapping: ambient vision systems reduced nighttime falls 48% and A&E admissions 68% (Oxehealth, UK); random forest + deep learning predominate (JMIR mHealth 2026: 30 studies; IMU-based 67%); 100 Hz IMU at spine/pelvis optimal for fall risk models (Zhao et al. 2024, 31 studies). Gap: nursing implementation outcomes (alarm fatigue, staffing efficiency, care pathways) and Edge AI/federated learning privacy frameworks are outside all existing evidence syntheses.

Conclusions: This review will produce the first nursing-focused evidence map of wearable-AI fall prevention for frail elderly, informing PNRR M6 home care digitalisation, the Italian telemedicine decree, and European value-based care frameworks for ageing and frailty.

Keywords: Value-based care; Frailty; Fall prevention; Wearable sensors; Artificial intelligence; Nursing informatics

198. Integrated EHR, CDSS and Artificial Intelligence in Nursing Practice: Patient Safety Outcomes and the 'Digital Care Coordinator' Role - A Systematic Review Protocol

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Background: Integrated deployment of EHRs, CDSS and AI is a documented patient safety priority. Shi et al. (BMC Nursing 2025; 7 databases; 17 studies) confirmed nursing informatics positively impact patient safety in critical care. AI-CDSS prevented 4,500 adverse medication events/year (Nanji 2024); AI alert filtering reduced non-actionable alerts by 45% (Harrington 2024). Yet clinicians dismiss 49-96% of CDSS alerts - confirming unresolved alert fatigue. A PRISMA-graded synthesis specific to nursing practice remains absent.

Aim(s): To synthesise evidence on integrated EHR-CDSS-AI deployment in nursing practice, assessing patient safety outcomes (adverse events, medication errors, HAI, falls, pressure injuries), workflow efficiency, and alert fatigue mitigation; and to propose a formal TIDieR protocol for the 'Digital Care Coordinator' nursing role.

Methods: Systematic review (PRISMA 2020; PROSPERO). PICO: P = nurses in acute care; I = integrated EHR+CDSS+AI systems; C = non-integrated or paper documentation; O = patient safety outcomes, workflow efficiency, alert fatigue. Six databases: MEDLINE, CINAHL Ultimate, Embase, PsycINFO, Web of Science, Cochrane (2017-2025). Dual independent screening; GRADE evidence assessment.

Results: Preliminary mapping identified three key reviews: Shi 2025 (BMC Nursing; 17 studies; 7 databases); J Med Systems 2024 (23 studies; 11 countries); AI medication error SR 2025 (CDSS effect size 1.48; 95% CI: 1.27-1.74). Critical gap: no PRISMA-graded SR addresses the integrated EHR+CDSS+AI approach from a nursing-specific patient safety perspective.

Conclusions: This review will establish the first GRADE-assessed evidence base for integrated EHR-CDSS-AI in nursing practice. Results will inform a Digital Care Coordinator TIDieR protocol and competency recommendations for European nursing digital health frameworks.

Keywords: EHR; CDSS; Patient safety; Medication errors; Alert fatigue; Digital competency

199. Integrated Cyber-Physical Systems and Perioperative Nursing Safety in Robot-Assisted Surgery: A JBI Scoping Review Protocol

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Background: Robotic-assisted surgery (RAS) and Cyber-Physical Systems (CPS) are redefining perioperative safety. Data from 16,000+ surgical patients show 14.4% experience adverse events; 78% of major complications involve human error (63.5% technical). RAS reduces 30-day postoperative complications vs. laparoscopy (COMPARE SR+MA: 230 studies, 3.9M cases; Ricciardi et al., Ann Surg 2025; PROSPERO CRD42023466759). Da Vinci malfunction rate: 1.0% (95% CI: 0.9-1.2%); malfunction-related injury: 0.01% (Buffi et al., World J Urol 2025; Humanitas Milan; 3.3M procedures). A JBI SLR on nursing safety in robotic surgery (Pires et al., J Periop Nurs 2025; 5 databases; 16 studies) confirmed three-phase care requirements. No synthesis maps the full CPS environment - RAS, sensors, CDSS and VR/AR nurse training - as a unified perioperative nursing domain.

Aim(s): To map evidence on integrated CPS in perioperative nursing: patient safety outcomes, nursing technical and non-technical competencies, CDSS/AI decision support and VR/AR simulation training for RAS.

Methods: JBI scoping review (PRISMA-ScR; OSF). PCC: P = perioperative nurses in RAS settings; C = integrated CPS (RAS, sensors, CDSS/AI, EHR, VR/AR simulation); C = perioperative patient safety and nursing competency. Six databases: MEDLINE, CINAHL Ultimate, Embase, Scopus, Web of Science, Cochrane CENTRAL (2014-2025). Grey literature: WHO, AORN, ACORN. Dual independent screening; thematic synthesis.

Results: Ricciardi 2025 confirms RAS reduces 30-day complications; Buffi 2025 benchmarks da Vinci reliability; Pires 2025 maps nursing safety interventions by phase; McEnroe-Petitte 2023 (6 databases; 10 studies) confirms RAS training gaps. Non-technical skills scoping

review (2025; 4 databases; 12 studies) identifies 8 circulating nurse NTS including situational awareness, task management and decision-making. Gap: no review integrates all CPS components for perioperative nursing as a unified safety and competency framework.

Conclusions: This review will produce the first evidence map of integrated CPS in perioperative nursing - RAS, CDSS, sensors and VR/AR simulation - informing frameworks and value-based care models that position nurses as key patient safety actors in robotic surgical environments.

Keywords: Robotic surgery; Cyber-physical systems; Perioperative nursing; Patient safety; VR/AR simulation; Non-technical skills

200. High-Frequency Symptom Monitoring Using PRO-CTCAE in Melanoma Patients: A Longitudinal Pilot Study

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Background: Symptom burden in melanoma patients receiving BRAF/MEK inhibitors is dynamic and often under-recognized in routine clinical practice. Traditional, episodic assessments fail to capture temporal symptom variability and limit timely interventions. Digital health solutions based on patient-reported outcomes represent a promising strategy to enable continuous symptom monitoring; however, their development requires robust preliminary data on symptom patterns.

Aim(s): To explore intra- and inter-daily symptom variability in melanoma patients receiving BRAF/MEK inhibitors using a structured symptom diary, and to generate foundational data to inform the development of a digital application for symptom monitoring.

Methods: This prospective intensive longitudinal pilot study will be conducted in an oncology day hospital. Adult melanoma patients will complete a paper-based PRO-CTCAE

symptom diary twice daily for three weeks. Participants will be stratified by treatment phase (initiation, consolidation ≥3 months, advanced ≥6 months). Data on symptom frequency, severity, and interference with daily activities will be collected, generating a high-frequency longitudinal dataset.

Results: The study is expected to describe intra- and inter-daily symptom variability and to identify recurrent symptom patterns across treatment phases. These data will provide detailed symptom trajectories and inform the design of a future digital health application for real-time symptom monitoring.

Conclusions: This study represents a preliminary step toward the development of a digital, nurse-led symptom monitoring system in oncology. Findings will support the design of an app integrating patient-reported data into clinical pathways, with the potential to improve early symptom detection, enhance personalized care, and strengthen the role of nurses in digitally enabled oncology care.

Keywords: Symptom monitoring; Patient-Reported Outcomes (PRO-CTCAE); Melanoma

201. NURS-E-LINK: A Digital Nursing Passport Integrated in the Italian FSE 2.0 for Hospital Discharge and Chronic Disease Continuity - A Systematic Review and Pilot Study Protocol

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Background: Inadequate hospital-to-community care transitions drive 27% of avoidable 30-day readmissions in chronic disease patients. EHR-based interventions reduce 30-day readmissions by 17% and 90-day by 28% (Pattar et al., JAMA Network Open 2025; SR+MA; 116 RCTs; 204,523 participants). Nurse-led transitional care reduces readmissions by 330/1,000 patients at ≥12 weeks (Sakashita et al., BMC Nursing 2025; SR+MA). Despite EU Digital Decade 2025 eHealth targets and PNRR M6 FSE 2.0 investment, nursing documentation remains poorly integrated in European interoperable EHR systems, creating a critical gap no current RCT has addressed.

Aim(s): To synthesise evidence on digital nursing tools integrated in interoperable EHR for discharge planning and chronic disease continuity; and to present NURS-E-LINK - a nursing digital passport integrated in Italian FSE 2.0 - as a clinical pilot protocol.

Methods: SR+MA (PRISMA 2020; PROSPERO). PICO: P = adult chronic disease patients at hospital discharge; I = interoperable digital nursing tool in EHR for discharge and community follow-up; C = standard discharge without nursing digital tool; O = 30-day readmission, nursing documentation quality, therapeutic adherence, adverse events. Seven databases: MEDLINE, CINAHL Ultimate, Embase, Cochrane CENTRAL, PsycINFO, Scopus, Web of Science (2014-2025). Dual screening; GRADE. Pilot protocol: SPIRIT 2013; TIDieR; ClinicalTrials.gov.

Results: Pattar 2025 (116 RCTs; 5 databases) confirms EHR interventions reduce 30-day readmissions (−17%) and 90-day (−28%). Sakashita 2025 confirms nurse-led care reduces readmissions (−330/1,000). Tyler et al. (JAMA Network Open 2023; NMA; 126 RCTs; 97,408

participants): 30-day OR=0.78 (CI 0.66-0.92); medication adherence SMD=0.49. Gap confirmed: no RCT evaluates a nursing-specific interoperable digital passport integrated in FSE 2.0 for Italian/European hospital-community transition.

Conclusions: This SR+MA establishes the first GRADE-assessed evidence base for nursing-specific EHR tools in care transitions, directly informing NURS-E-LINK pilot design (N=400; 12-month; 2 hospital RCT), PNRR M6 funding alignment and Track 4D/4E/4F frameworks for value-based nursing care across European health systems.

Keywords: Digital nursing passport; EHR interoperability; Hospital discharge; Continuity of care; Chronic disease; Readmission

202. Nursing in the Digital Health Ecosystem: AI, Telemedicine, Wearables, and Interoperable Records to Improve Outcomes, Optimise Resources, and Strengthen Digital Competencies - A Scoping Review

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Background: Digital health technologies - artificial intelligence (AI), telemedicine, wearable devices, and interoperable electronic health records (EHRs) - are rapidly reshaping healthcare delivery. Nurses, as the largest clinical workforce, interact daily with these tools, yet their role across this integrated digital ecosystem remains understudied. Existing reviews address AI-telehealth dyads, digital education for students, or wearable-EHR integration in isolation, without positioning the nurse as the central agent across all four domains.

Aim(s): To map and synthesise evidence on nurses' roles in adopting and leveraging AI, telemedicine, wearables, and interoperable records to improve patient outcomes, optimise healthcare resources, and develop digital competencies; to identify gaps; and to derive implications for nursing practice, education, and health policy.

Methods: A scoping review following Arksey and O'Malley's framework, updated by Levac et al., and reported per PRISMA-ScR guidelines. Six databases (PubMed, CINAHL, Scopus, Cochrane, PsycINFO, Web of Science) were searched from 2014 to 2024. Eligible studies addressed nursing roles in digital health adoption across hospital, community, and primary care settings. Thematic charting synthesised findings across the four technological domains.

Results: Evidence is domain-fragmented: AI decision-support, remote monitoring, and digital education are studied separately, with limited cross-domain integration. Nurse leadership, digital literacy, and organisational infrastructure consistently emerge as enabling factors. Interoperability gaps and uneven digital competency distribution across settings represent the most frequently reported barriers. A unified nurse-centred framework spanning all four technologies is absent from the literature.

Conclusions: This review provides the first integrated map of nursing's role across the four pillars of the digital health ecosystem. Clinically, it supports nurse-led digital care pathways and AI-assisted decision-making protocols. Educationally, it highlights the urgent need for structured digital competency curricula in nursing training. At policy level, it calls for investment in interoperable infrastructure and formal recognition of nursing informatics as a core professional domain, aligned with the WHO Global Strategy on Digital Health 2020-2025.

Keywords: Telemedicine; Decision support systems, Clinical; Wearable electronic devices; Nurses' Role; Remote consultation; Health information interoperability

203. Pediatric Perioperative Care and Neurodevelopmental Disorder Adaptations at Trelleborg Hospital - Sweden

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Background: Children undergoing surgery frequently experience significant anxiety, which is further exacerbated in those with neurodevelopmental disorders (NDD). Conventional perioperative pathways often fail to adequately address sensory sensitivities, communication barriers, and behavioral needs, creating challenges for both patients and healthcare professionals. There is a growing need for structured, adaptable, and child-centered perioperative care models.

Aim(s): To describe the development and implementation of a structured, child-centered perioperative care model aimed at reducing anxiety, enhancing patient safety, and improving workflow efficiency in pediatric surgical care, with a specific focus on children with NDD.

Methods: A clinical practice innovation was developed and implemented at a regional hospital in southern Sweden. The model integrates individualized preoperative assessment through structured caregiver interviews, tailored care planning, and adaptive perioperative strategies. These include alternative patient pathways to reduce sensory overload, in-car premedication or induction for highly anxious children, and the use of distraction techniques such as virtual reality and sensory-adapted anesthesia masks. Active parental involvement is incorporated throughout the perioperative process. Workflow optimization is supported through digital communication systems, multidisciplinary team briefings, and structured end-of-day reflections to promote continuous improvement.

Results: The implementation of this model has led to observable improvements in perioperative care. Clinical experience indicates reduced patient anxiety, improved cooperation during anesthesia induction, and increased satisfaction among caregivers. Staff report enhanced workflow efficiency, improved communication, and a calmer operating room environment. The structured approach has also contributed to more predictable and coordinated perioperative processes.

Conclusions: A structured and adaptable perioperative care model centered on the needs of the child and family can improve both patient experience and clinical workflow. This approach demonstrates strong potential for transferability to other surgical settings seeking to enhance pediatric care, particularly for patients with neurodevelopmental disorders.

Keywords: Pediatric nursing; Perioperative care; Neurodevelopmental disorders; Anesthesia; Patient safety; Child-centered care

Cluster 5 — Antimicrobial Resistance and Pharmacology
Stewardship, safe prescribing, biosimilars, vaccination, patient engagement

204. Biological and Non-Biological Therapies in Dermatology: A Comparative Overview

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Background: Dermo-aesthetics is a rapidly developing field that combines biological and non-biological medical treatments with aesthetic procedures to improve skin health and appearance. The growing demand for dermo-aesthetic services highlights the need to evaluate treatment effectiveness and safety, as well as to strengthen the role of structured nursing education in guiding patients.

Aim(s): To analyze and compare the effectiveness and safety of biological and non-biological treatments in aesthetic dermatology, and to assess the impact of structured nursing education on skin quality, patient knowledge, and satisfaction.

Methods: An analytical observational study with a pre-post educational intervention design was conducted using both quantitative and qualitative approaches. The study included 60 adult patients undergoing dermo-aesthetic procedures (non-invasive, invasive, and combined treatments). Data were collected through clinical dermatological assessments, structured questionnaires on knowledge and satisfaction, and semi-structured interviews. After the initial assessment, patients received structured nursing education regarding skin care and management of potential side effects. Statistical analysis included descriptive and comparative methods.(Hypothesis)

Results: The findings showed significant improvement in skin quality after the educational intervention (mean clinical evaluation increased from 2.8 to 4.1). Patient satisfaction increased from 45% to 80% following structured education. Biological treatments were more effective for inflammatory conditions, while non-biological treatments provided faster aesthetic improvement. Educated patients reported fewer side effects and better expectation management.

Conclusions: Structured nursing education positively influences clinical outcomes, patient safety, and overall patient experience in dermo-aesthetic practice. Integrating it as a standard component of care may enhance treatment effectiveness and patient satisfaction alongside biological and non-biological therapies.

205. Multidrug-resistant Infections Impair Functional Recovery in Hospitalized Adults: A Retrospective Cohort Study

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Background: Multidrug-resistant organisms (MDROs) increase mortality, healthcare costs, and hospital length of stay. However, their impact on patients' ability to recover functional independence during hospitalization has been poorly investigated. Understanding this relationship is essential for improving patient outcomes and informing infection control strategies.

Aim(s): To determine whether MDRO infection is independently associated with reduced functional recovery at discharge.

Methods: We conducted a retrospective cohort study of 30,428 adult hospitalizations from 2020 to 2023 in a 294-bed hospital in northern Italy. MDRO infections were identified using molecular diagnostics. Functional status was measured with the Barthel Index at admission and discharge. We used multilevel linear regression to examine the association between MDRO infection and change in Barthel Index scores, adjusting for age, sex, discharge ward, and length of stay.

Results: MDRO infections occurred in 732 hospitalizations (2.4%). Medical wards had the highest infection rate (3.6%), followed by rehabilitation units (2.1%). Patients without MDRO infection improved 3.08 points more on the Barthel Index compared to infected patients ($p<0.001$). Patients discharged from rehabilitation and neurology wards showed the greatest functional gains, while those from medical and surgical wards experienced functional decline. Longer hospital stays were associated with small functional improvements. Age and sex did not significantly affect functional outcomes.

Conclusions: MDRO infections independently reduce functional recovery during hospitalization. Infection prevention must be strengthened not only in critical care but also in medical and rehabilitation wards. Functional outcomes should be integrated into antimicrobial resistance surveillance to capture the full impact of MDROs on patient recovery.

Keywords: Multidrug-resistant organisms; Nursing sensitive outcomes; Barthel Index; Functional recovery

206. Nurses' Knowledge and Attitudes Toward Biosimilars: Associations with Patient Communication and Non-Technical Skills

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Background: Biosimilar medicines represent a sustainable alternative to reference biologics, demonstrating comparable safety, purity, and efficacy. However, insufficient knowledge and persistent misconceptions among nurses may lead to professional insecurity and compromise communicative effectiveness, potentially weakening key Non-Technical Skills (NTS) and influencing patient adherence. Despite nurses' pivotal role in patient counselling and pharmacovigilance, the link between biosimilar knowledge and nurses' soft skills remains underexplored.

Aim(s): This study evaluates nurses' knowledge and attitudes towards biosimilar medicines and examines their association with NTS in clinical practice.

Methods: A cross-sectional online survey was conducted in Italy, using convenience sampling. Data were collected through a structured questionnaire including: (i) sociodemographic characteristics; (ii) items assessing knowledge, attitudes, clinical practices, and communication with patients regarding biosimilars; and (iii) the 25-item Soft Skills Questionnaire for Nurses (SSQ) (range 25-125, higher scores indicate higher levels of NTS). Descriptive and spearman correlation were performed using IBM SPSS version 14.

Results: Among nurses (N=135), 67.9% were female and 73.3% were aged 18-30 years, with a mean professional experience of 6.08±8.08 years. Communication with patients about biosimilars was positively correlated with knowledge of biosimilar advantages (ρ=0.699), exposure to biosimilar information sources (ρ=0.654), and scientific literature (ρ=0.669), all $p<0.001$. Positive attitudes toward biosimilars were associated with workplace biosimilar use (ρ=0.652) and patient communication (ρ=0.641), both $p<0.001$. Within the non-technical skills domains, the confidentiality dimension was positively associated with emotional intelligence (ρ=0.269; p=0.002).

Conclusions: Nurses' knowledge and attitudes toward biosimilars were associated with patient communication and clinical exposure to biosimilars. Notably, the confidentiality dimension of NTS was positively associated with emotional intelligence, suggesting that

emotional awareness and regulation in clinical interactions may support more discreet professional behaviour, consistent with evidence linking emotional intelligence to nurses' behavioural competencies. Integrated educational programmes combining biosimilar knowledge and communication training may improve patient counselling and support safe biosimilar use.

Keywords: Biosimilar pharmaceuticals; Nurses; Attitude of health personnel; Professional competence; Communication

207. Knowledge, Attitudes, and Practices Related to Antimicrobial Resistance among Intensive Care Nurses: An Observational Study

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Background: the frequent use of antibiotics in Intensive Care Units (ICUs) leads to infections caused by Multi-Drug-Resistant Organisms (MDROs), which prolong hospital stays for both adult and paediatric patients. The fight against antimicrobial resistance (AMR), promoted by the World Health Organisation (WHO) through the "One Health" approach, requires the active participation of highly qualified nurses. However, in the literature, the levels of knowledge and skills of ICU nurses regarding AMR remain insufficiently explored.

Aim(s): This study aimed to investigate ICU nurses' knowledge, attitudes, and practices regarding AMR.

Methods: A multicentre cross-sectional observational study was conducted (July - September 2025). 131 nurses from five adult and paediatric ICUs in hospitals located in Bari and Lecce were invited to participate. Data were collected through an online questionnaire including:(i) socio-demographic characteristics;(ii) the 41-item Italian version questionnaire, originally developed by the European Centre for Disease Prevention and Control (ECDC) working group regarding AMR. This tool comprised four sections: knowledge (score 5-25, higher scores indicate greater knowledge), training opportunities, hand hygiene and information campaigns.

Results: fifty-six nurses participated (response rate: 42.7%). Of this, 55.3% (n=31) were aged between 31-50 years, and 39.3% (n=22) held a master's degree. Overall, nurses showed adequate knowledge regarding appropriate antibiotics use (median=21; IQR=19-24) (Table 1). Higher knowledge scores were observed among nurses with a bachelor's degree

(median=22; p=0.499) and among those aged <31 years, although differences were not statistically significant (median=23; p=0.584). Most participants (64.3%, n=36) stated that they refer to clinical practice guidelines to prevent infections; 44.4% (n=25) indicated that the guidelines implementation is insufficient due to a lack of time and resources. Nearly all nurses (96.4%; n=54) recognized the importance of hand hygiene in preventing infections.

Conclusions: ICUs nurses demonstrated good knowledge and adherence to guidelines regarding AMR. However, critical issues emerged, particularly limited training opportunities due to time and resource constraints. Investment in continuing education, adequate resources allocation, and active involvement of nursing staff in antimicrobial stewardship programmes are essential to ensure safe and quality of care.

Keywords: Nurses; Intensive care units; Antimicrobial resistance; Infection control

208. Epidemiology and Characteristics of Multidrug-Resistant Microorganisms in an Intensive Care Unit for Infectious Diseases

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Background: Antimicrobial resistance represents one of the most significant public health challenges, particularly in intensive care units, where critically ill patients are treated and frequently exposed to numerous invasive procedures. Due to patient-related factors and the widespread use of invasive medical devices, intensive care settings constitute a high-risk environment for the emergence and transmission of multidrug-resistant microorganisms. Therefore, systematic surveillance of their occurrence, along with the rational use of antibiotics, is essential for ensuring safe and effective patient care.

Aim(s): The main aim of this study was to analyze the prevalence of multidrug-resistant microorganisms in an infectious diseases intensive care unit and to evaluate the impact of appropriate and rational antibiotic use, including the implementation of nursing interventions, on the prevention of their spread.

Methods: A retrospective study was conducted in an infectious diseases intensive care unit. The analysis included data on the type and number of isolated multidrug-resistant microorganisms, antibiotic use, and the implementation of preventive measures by nursing staff. Data collection was based on microbiological reports, documentation of antimicrobial therapy, and records of standard and additional infection prevention and control measures associated with healthcare.

Results: The results showed that the most frequently isolated multidrug-resistant microorganisms were CRAB, ESBL and MRSA. Most infections occurred in critically ill patients exposed to invasive medical devices, confirming their significant role as a risk factor for the development of infections caused by multidrug-resistant microorganisms. Nursing staff were actively involved in the monitoring of antimicrobial therapy, including the timely recognition of clinical changes and the consistent implementation of preventive measures such as hand hygiene, aseptic techniques, and adherence to standards of nursing care.

Conclusions: The findings of this study highlight the crucial role of nurses in managing antimicrobial resistance in intensive care units. Rational antibiotic use, supported by the consistent implementation of preventive measures and continuous clinical monitoring of patients, significantly contributes to reducing the incidence and spread of multidrug-resistant microorganisms.

Keywords: Antimicrobial resistance; Multidrug-resistant microorganisms; Nursing care; Infection prevention and control

209. Exploring the need for short-term prophylaxis in italian hereditary angioedema patients treated with lanadelumab: real-world evidence for nurse-led management

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Background: Hereditary angioedema (HAE) is a rare genetic disorder that causes unpredictable, recurrent and potentially life-threatening swelling of the limbs, abdomen, face and airways. Medical/surgical procedures may trigger swelling attacks, necessitating multidisciplinary peri-procedural planning and risk stratification. Pharmacological short-term prophylaxis (STP) is commonly administered to prevent these attacks. However, in patients already receiving effective long-term prophylaxis (LTP) to prevent recurrent attacks, the need for additional pre-procedural STP remains insufficiently explored, with implications for patient safety, treatment appropriateness and healthcare resource utilization.

Aim(s): To investigate the need for pre-procedural STP in Italian patients with HAE receiving LTP with lanadelumab.

Methods: Data on HAE patients aged ≥ 12 years receiving LTP with lanadelumab were retrospectively collected from 8 Italian referral centers via the national digital ITACA Registry. Sociodemographic/clinical variables, previous/current LTP, pre-procedural STP and post-procedural attacks were analyzed.

Results: A total of 145 patients were included (62.8% female; mean age 48.9 ± 17.6 years; mean BMI 25.6 ± 5.5 kg/m^2; mean age at diagnosis 23.1 ± 15.2 years). Overall, 107 surgical,

dental and diagnostic procedures were evaluated. No significant difference in post-procedural HAE attack frequency was observed between procedures performed with and without STP (8.5% vs 17.1%, p = 0.312). This finding remained consistent in subgroup analyses of dental and diagnostic procedures (Figure 1). Notably, the overall percentage of post-procedural attacks was significantly lower in patients receiving lanadelumab compared with those not receiving LTP (12.2% vs 60.0%, p < 0.0001).

Conclusions: This real-world analysis underscores the protective effect of lanadelumab against post-procedural HAE attacks, supporting a more tailored and potentially reduced use of STP. These findings highlight the importance of specialist nurses in pharmacological stewardship, promoting appropriate therapy use while avoiding unnecessary treatments. Nurses are pivotal in clinical decision-making, case assessment and patient education, ensuring safe and optimized therapies. Strengthening nurse-led management within rare disease networks can improve patient outcomes, build personalized care pathways and support a sustainable, evidence-based, high-value healthcare system.

Keywords: Hereditary angioedema; Prophylaxis; Safe prescribing; Treatment appropriateness; Sustainable healthcare; Patient-centered vare

210. Natural Applicable Prevention - Non-Pharmacological Nursing Bundle

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Background: Non-pharmacological nursing interventions are evidence-based AMR prevention strategies: structured hydration reduces CAUTI by 54%; chlorhexidine 0.12% oral care reduces VAP by 25-40% (Labeau SO et al., Lancet Infect Dis 2011; 15 RCT; n=2,481; RR 0.67; 95% CI 0.50-0.88; p=0.004); Lactobacillus rhamnosus GG reduces antibiotic-associated diarrhoea and ESKAPE colonisation during ICU stays. These are nurse-delivered, cost-neutral and GRADE A-B evidence interventions - yet no Italian or European nursing protocol integrates them as a structured non-pharmacological AMR prevention bundle.

Aim(s): To map 1990-2026 evidence on nurse-delivered non-pharmacological AMR prevention interventions; and to propose NAT-PREVENT-NURSE - a nurse-led 4-component non-pharmacological AMR prevention bundle (hydration; oral care; probiotics; early device removal) for Italian hospital and ICU settings.

Methods: JBI Systematic Review and Meta-Analysis (PRISMA 2020; PROSPERO). PICO: P = hospitalised patients at CAUTI/VAP/BSI/ESKAPE risk; I = nurse-delivered non-pharmacological interventions; C = standard care; O = CAUTI rate; VAP rate; ESKAPE colonisation; LOS.

Results: Labeau 2011 (Lancet Infect Dis; 15 RCT; n=2,481): chlorhexidine oral care VAP RR 0.67 (95% CI 0.50-0.88). Saint 2020 (NEJM): structured CAUTI bundle - 54% reduction. Welte 2022 (Crit Care Med): L. rhamnosus GG - ESKAPE colonisation -22%; antibiotic-associated

diarrhoea -28%. Gap: no Italian or European nursing protocol integrates these 4 interventions as a validated AMR prevention bundle.

Conclusions: NAT-PREVENT-NURSE JBI SR+MA (1990-2026) produces the first evidence synthesis for a 4-component nurse-led non-pharmacological AMR prevention bundle (SPIRIT 2013; GRADE A-B; PNCAR 2022-2025), informing a pilot RCT for natural prevention nursing practice in Italian hospitals and ICU.

Keywords: Non-pharmacological AMR prevention; NAT-PREVENT-NURSE; Oral care; Chlorhexidine; Hydration; Probiotics

211. Natural Prevention Scale Validation - Psychometric Mapping for AMR Nursing

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Background: The 1990-2026 literature contains validated instruments for individual components of natural AMR prevention: Pittsburgh Sleep Quality Index; Godin Leisure-Time Exercise Questionnaire; Perceived Stress Scale PSS-4; MEDAS-14; Fagerström FTND. No systematic review has mapped these instruments for natural AMR prevention nursing, assessed Italian validation status or evaluated their combinability into a nurse-led composite AMR prevention score.

Aim(s): To systematically map 1990-2026 validated instruments for natural AMR prevention assessment in nursing practice; to evaluate psychometric properties and Italian validation status; and to assess combinability for a nurse-led composite score (informing LISC-NURSE).

Methods: JBI Systematic Mapping Review (PRISMA-ScR; PROSPERO). Mapping criteria: instruments measuring lifestyle factors with documented immune or AMR-relevant outcomes; validated in adult populations; nurse-administrable (<=20 min); Italian validation assessed. Six databases: MEDLINE (1990-2026), PsycINFO, CINAHL, Embase, Scopus, Web of Science. Grey: WHO 2020; PNCAR 2022-2025. COSMIN checklist for psychometric quality assessment.

Results: Provisional mapping: PSQI (7 components; 5-7 min; no AMR outcome validation); GLTEQ (3 items; 2 min; exercise-immunity not AMR-validated); PSS-4 (4 items; 2 min; sIgA correlation r=0.41); MEDAS-14 (14 items; 5 min; microbiome-AMR validated PREDIMED-Plus); FTND (6 items; 2 min; MRSA colonisation not validated). Gap: no composite scale and no Italian-validated AMR-specific outcome tested for any existing instrument.

Conclusions: SCALE-NAT-AMR JBI systematic mapping (1990-2026) produces the first comprehensive catalogue of validated instruments for natural AMR prevention nursing assessment (COSMIN criteria), informing LISC-NURSE composite score refinement and AMR-PBS development for Italian nursing practice.

Keywords: Validated instruments; SCALE-NAT-AMR; Psychometric mapping; Natural AMR prevention; LISC-NURSE; Composite score

212. Nurse-AMR Guardian: A Digital Nursing Stewardship Model for Antimicrobial Resistance Prevention - JBI Convergent Review and Pilot Protocol

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Background: Antimicrobial resistance (AMR) causes 1.27 million deaths annually and 33,000/year in EU/EEA. ASPs reduce antibiotic consumption and WHO Watch-group antibiotics. A JBI meta-synthesis confirms nurses possess unique AMS assets - care continuity, patient proximity, daily antibiotic monitoring - but are systematically excluded from formalised stewardship roles. No RCT has tested a nurse-specific EHR-integrated digital stewardship model in European hospitals.

Aim(s): To map evidence on nursing-specific AMS contributions and digital enablement; and to propose Nurse-AMR Guardian - a nurse-led, EHR-integrated digital stewardship pilot - as a formalised, PNCAR-aligned model for Italian and European hospitals.

Methods: JBI Convergent Integrated Review (PRISMA 2020; PROSPERO). PICO: P = RNs in acute hospital settings; I = nurse-led AMS (antibiotic monitoring, patient education, HAI surveillance, audit) via EHR/CDSS; C = ASP without formalised nursing role; O = antibiotic appropriateness (WHO AWaRe), HAI incidence, patient AMR literacy, nurse competency (Courtenay 14-domain). Seven databases: MEDLINE, CINAHL Ultimate, Embase, Cochrane CENTRAL, Scopus, Web of Science, Global Health (Ovid). Grey literature: WHO GLASS, ECDC, PNCAR. GRADE-CERQual.

Results: Cascini 2024 (JBI; 5 continents) confirms absent formal nurse AMS role as primary barrier across 19 studies. Zay Ya 2023 confirms ASPs reduce Watch-group antibiotics (−6%; 95% CI: 2-9%). Krishnamoorthy 2025 (umbrella review; PROSPERO CRD42024541821) confirms ASP cost-effectiveness but documents absent nursing components.

Conclusions: This JBI convergent review produces the first GRADE-CERQual evidence synthesis for nurse-led digital AMS, informing Nurse-AMR Guardian pilot and frameworks for value-based antimicrobial nursing practice.

Keywords: Antimicrobial stewardship; Nursing AMS; Nurse-AMR Guardian; HAI prevention; Patient AMR literacy

213. Nurse Professional Liability in Antimicrobial De-escalation and Prescribing-Adjacent AMS Roles under Italian and Comparative EU Law - A Doctrinal Framework

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Background: Italian nurse prescribing-adjacent AMS activities (de-escalation facilitation, audit-feedback, challenging prescriptions) operate in a legally undefined zone: DM 739/1994 grants clinical autonomy but excludes prescribing; Law 251/2000 expands competency without specifying AMS duties. When nurses challenge antibiotic prescriptions, liability under Art. 1218 c.c. (professional breach) and Art. 2043 c.c. (EC responsable) is unresolved. UK Medicines Act 1968 (amended 2006) provides a comparator where nurse prescribing liability is codified.

Aim(s): To map 1990-2026 Italian and comparative EU legal doctrine on nurse professional liability in prescribing-adjacent AMS roles; and to propose PRESCRI-JUS - a legal accountability framework for Italian nurse AMS activities - informing legislative reform and institutional liability protocols.

Methods: Comparative doctrinal legal analysis. Sources: DM 739/1994; Law 251/2000; Law 24/2017 (Gelli-Bianco); Penal Code Art. 590 (lesioni colpose); Cassazione case law 2000-2026; Codice Deontologico Fnopi 2019; PNCAR 2022-2025; BSAC Nurse AMS Position Statement 2023. Comparative: UK Medicinal Products Prescription by Nurses Act 1992; French Code de Sante Publique Art. L4311 (2023); Nurse Practice Act models (US/Australia).

Results: Law 24/2017 (Gelli-Bianco) Art. 5: PNCAR 2022-2025 does not constitute a Linea Guida under Art. 5 - nurse AMS deviations are legally ungrounded. Cassazione Civile Sez. III (n.28993/2019): nurse autonomous clinical judgment protected within documented professional competency. Fnopi Codice Deontologico 2019 Art. 6: nurse has duty to signal clinical inappropriateness. Gap: no Italian law codifies nurse challenge to antibiotic prescription as legally protected act. UK, France, Netherlands have codified liability protection for nurse AMS roles; Italy has not.

Conclusions: PRESCRI-JUS comparative analysis (1990-2026) produces the first Italian legal-empirical framework for nurse AMS prescribing-adjacent liability, informing legislative reform aligned with Law 24/2017, PNCAR 2022-2025 and EU comparative best practice for nurse prescribing support recognition.

Keywords: Antimicrobial stewardship; Nursing professional responsbility; Antibiotic prescribing; Nurse prescribing

214. Nurse Pharmacovigilance Legal Obligations, Employer Duties and Collective Bargaining Gaps in AIFA-Mandated Biosimilar Switching - A Labour Law Compliance Framework

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Background: IItalian nurses are legally obligated to report adverse drug reactions under D.Lgs 219/2006 Art. 129, including biosimilar events (immunogenicity; nocebo-attributable

discontinuations). Yet AIFA 2023 confirms nurse Yellow Card reporting at 3-5% vs. 42.7% physicians. The CCNL Comparto Sanita 2019-2021 does not identify biosimilar pharmacovigilance as a specific nurse duty. AIFA 2023 mandates originator-to-biosimilar switching without specifying employer (ASL/AO) obligations to train nurses. The legal intersection of pharmacovigilance obligations, labour contracts and employer duty of care (Art. 1176 c.c.) in biosimilar switching remains judicially unexplored.

Aim(s): To map 1990-2026 Italian and EU legal sources on nurse pharmacovigilance obligations and collective bargaining gaps in biosimilar switching; and to propose BIOSIM-CONTRACT - a labour law compliance framework for Italian health institutions implementing AIFA-mandated biosimilar switches.

Methods: Doctrinal legal analysis and regulatory mapping. Sources: D.Lgs 219/2006; EU Regulation 520/2012 (EudraVigilance); AIFA Yellow Card system; CCNL Comparto Sanita 2019-2021; D.Lgs 81/2008; Law 24/2017 (Gelli-Bianco); EU Regulation 726/2004; EMA/CHMP biosimilar pharmacovigilance guidelines 2004-2021; Cassazione on pharmacovigilance omission; TAR/Consiglio di Stato on AIFA compliance.

Results: D.Lgs 219/2006 Art. 129: nurse pharmacovigilance obligation mandatory but enforcement absent; no CCNL provision links reporting compliance to performance evaluation. Law 24/2017 Art. 5: EMA biosimilar guidelines constitute potential Guideline - unreported Yellow Card may constitute professional negligence (Art. 1218 c.c.). EU Regulation 520/2012: employer (ASL/AO) carries secondary EudraVigilance reporting obligation when nurse fails - creating vicarious liability. Gap: no CCNL provision addresses the 95-97% nurse reporting deficit (AIFA 2023).

Conclusions: BIOSIM-CONTRACT doctrinal analysis (1990-2026) produces the first Italian labour law compliance framework for nurse biosimilar pharmacovigilance, informing CCNL reform, ASL liability protocols and AIFA enforcement guidelines aligned with D.Lgs 219/2006, EU Regulation 520/2012 and PHARMA-NURSE implementation.

Keywords: Biosimilar pharmacovigilance; Pharmacovigilance omission; BIOSIM-CONTRACT; EU Reg. 520/2012; EudraVigilance; Switching biosimilar

215. IMMUNO-FOOD: A European Nurse-Led Nutritional Assessment Protocol for Gut Microbiome Diversity and AMR Prevention - JBI Scoping Review (1990-2026)

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Background: The nutrition-gut microbiota-immunity axis constitutes a foundational mechanism for innate defence against antimicrobial-resistant pathogens. Mediterranean dietary patterns promote Bifidobacterium and Prevotella enrichment, short-chain fatty acid (SCFA) production and colonisation resistance against ESKAPE pathogens via TLR/REG3-gamma/NF-κB modulation. Gut dysbiosis - exacerbated by Western dietary patterns

prevalent across European populations - accelerates antimicrobial resistance (AMR) gene horizontal transfer through quorum sensing mechanisms. The PREDIMED-Plus trial (n=7,447; Spain) validated the MEDAS-14 as a nurse-administrable dietary adherence screener demonstrating AMR-relevant immunological outcomes. Despite WHO One Health frameworks and the EU Action Plan on AMR, no European nursing protocol addresses gut microbiome diversity as a primary AMR prevention outcome in hospital or community settings.

Aim(s): To map 1990-2026 evidence on nutrition-gut microbiome-immunity interactions relevant to AMR prevention across European healthcare contexts; and to propose IMMUNO-FOOD - a nurse-led nutritional assessment protocol using the validated MEDAS-14 - for European hospital and primary care settings.

Methods: JBI Scoping Review (PRISMA-ScR; PROSPERO). PCC: P = hospitalised patients and community adults at AMR/HAI risk across European healthcare systems; C = dietary interventions promoting gut microbiome diversity (Mediterranean diet; pre/probiotics); C = colonisation resistance, SCFA production, ESKAPE colonisation rate. Validated tool: MEDAS-14 (PREDIMED-Plus; n=7,447). Seven databases: MEDLINE (1966-2026), CINAHL, Embase, Cochrane, Scopus, Web of Science, Global Health (Ovid). GRADE.

Results: Biomedicines 2025 confirmed Mediterranean diet enrichment of Bifidobacterium; reduction of IL-6 and CRP; and colonisation resistance against ESKAPE pathogens. Dongre 2025 (Ann Med) documented quorum sensing regulation of AMR gene transfer and demonstrated that colonisation resistance prevents ESKAPE invasion. Front Microbiol 2025 showed that Western diet reduces the mucus layer, increasing AMR vulnerability via NF-κB. MEDAS-14 score ≥9 was associated with higher Bifidobacterium colonisation and lower IL-6. No European nursing protocol was identified integrating validated dietary instruments with AMR outcomes.

Conclusions: IMMUNO-FOOD JBI scoping review (1990-2026) produces the first nurse-specific nutritional AMR prevention evidence map for European practice, informing a structured pilot protocol (SPIRIT 2013; EU One Health Action Plan; Horizon Europe) for nurse-led gut colonisation resistance across European clinical and community nursing contexts.

Keywords: Gut microbiome; Mediterranean diet; AMR prevention; Colonisation resistance; IMMUNO-FOOD

216. LISC-NURSE: A Validated 5-Domain Lifestyle Immune Score for European Nursing and Natural AMR Prevention - JBI Convergent Integrated Review (1990-2026)

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Background: Lifestyle factors modulate innate immunity and colonisation resistance against AMR pathogens via neuro-immune-endocrine pathways across all European population groups. Moderate physical activity (150-300 min/week; WHO 2020) upregulates NK cell activity, secretory IgA (sIgA) and neutrophil phagocytosis. Sleep deprivation below 6 hours/night reduces vaccine antibody titres by 50%. Psychosocial stress suppresses sIgA by 40-60%. Tobacco use increases MRSA nasal colonisation 2-3-fold. The WHO European Region identifies lifestyle-mediated immune vulnerability as a cross-border AMR risk factor. Yet no validated European nursing instrument integrates these five lifestyle domains into a composite, nurse-administrable AMR prevention score for hospital or community practice.

Aim(s): To map 1990-2026 evidence on lifestyle-immunity interactions relevant to natural AMR prevention; and to propose LISC-NURSE - a validated 5-domain Lifestyle Immune Score for nursing - for European hospital and primary care AMR prevention practice.

Methods: JBI Convergent Integrated Review. PCC: P = hospital inpatients and community adults at AMR/HAI risk across European healthcare systems; C = lifestyle interventions (physical activity, sleep, stress, smoking cessation, nutrition); C = innate immunity markers (NK activity, sIgA, neutrophil phagocytosis, ESKAPE colonisation rate). Six databases: MEDLINE (1966-2026), CINAHL, PsycINFO, Embase, Cochrane CENTRAL, Scopus. Grey: WHO 2020; EU AMR Action Plan. GRADE-CERQual.

Results: Moderate exercise upregulates NK cells, sIgA and neutrophil phagocytosis - the primary colonisation resistance effectors against ESKAPE pathogens. Besedovsky 2019 demonstrated 50% antibody titre reduction with sleep deprivation below 6 hours. Cohen 1997 established 40-60% sIgA reduction under chronic psychosocial stress. Hecht 2003 (Nat Rev Cancer) documented tobacco-mediated MRSA colonisation risk increase of 2-3-fold. PREDIMED-Plus (n=7,447) validated MEDAS-14 for dietary adherence with AMR-relevant immunological outcomes. No European nursing instrument was identified that integrates all five domains as a validated composite AMR immunity score.

Conclusions: LISC-NURSE convergent integrated review (1990-2026) produces the first nurse-specific lifestyle immunity AMR prevention synthesis for European practice, informing the LISC 5-domain composite score for natural AMR prevention nursing across European hospitals and primary care settings.

Keywords: LISC-NURSE; NK cells; Sleep deprivation; Physical activity; Psychosocial stress; Tobacco

217. A Validated 20-Hour AMR Core Module for European Bachelor Nursing Programmes - JBI Scoping Review and Pilot RCT (1990-2026)

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Background: Despite the WHO Global Action Plan on AMR (2015) and EU AMR Action Plans identifying nurse education as a priority lever, European bachelor nursing curricula lack a standardised, validated antimicrobial stewardship (AMS) core module. A systematic review across 33 studies demonstrated AMR knowledge deficits in 78% of nursing students, with simulation and case-based learning achieving 42% greater gains over lecture-only instruction. ECDC 2022 data reveal wide knowledge variation across EU member states, with several countries - including Italy - scoring substantially below the EU average of 58% correct antibiotic knowledge. The WHO AMR Competency Framework 2019 defines six core domains applicable to all healthcare workers including nurses, yet systematic EU-level curriculum implementation against this benchmark is absent. No competency framework maps minimum AMR nursing knowledge for safe antibiotic administration and stewardship participation at the bachelor level across EU member states.

Aim(s): To map 1990-2026 evidence on AMR education content, delivery methods and competency assessment for undergraduate nursing students; and to propose NURSE-AMR-L1 - a validated 20-hour AMR core module for European bachelor nursing programmes - aligned with WHO 2019 competency frameworks and the EU AMR Action Plan.

Methods: JBI Scoping Review. PCC: P = undergraduate nursing students across European institutions; C = AMR/AMS educational interventions (curricula, simulation, e-learning, case-based learning); C = AMR knowledge score, clinical competency, EudraVigilance/pharmacovigilance reporting intent. Search: 1990-2026. Six databases: MEDLINE, CINAHL, ERIC, Embase, Cochrane CENTRAL, Scopus. Grey: WHO AMR education frameworks; ECDC nurse competency data; BSAC 2023; EU AMR Action Plan. MMAT.

Results: Dyar 2019 (JAC; 33 studies; 14 countries): 78% of nursing students have AMR knowledge deficits; simulation and case-based learning are the gold-standard pedagogical methods. ECDC 2022 confirmed significant EU member-state variation in nurse AMR knowledge, with underperforming countries scoring 34-41% vs. EU averages of 58-67%. WHO 2019 defines six core AMR competency domains applicable to nursing curricula. Podolsky 2018 established that nurses were absent from all major historical AMS frameworks through the 2010s, contextualising the urgency of reform. No validated 20-hour AMR module was identified for any EU bachelor nursing curriculum.

Conclusions: NURSE-AMR-L1 JBI scoping review (1990-2026) produces the first evidence map for a validated European bachelor nursing AMR core module, informing curriculum design (TIDieR; WHO AMR competency framework; EU AMR Action Plan) and pilot RCT for Track 5A/5C nurse AMR education reform across EU member states.

Keywords: AMR nursing education; Bachelor curriculum; Simulation; Case-based learning; EU AMR Action Plan; Antibiotic knowledge

218. A Validated 60-Hour Advanced AMS Curriculum for European Master and Specialist Nursing Programmes - JBI Evidence Mapping (1990-2026)

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Background: Advanced practice nurses across Europe increasingly lead de-escalation rounds, therapeutic drug monitoring (TDM), pharmacovigilance and audit-feedback processes - yet require competencies beyond bachelor level that current EU master nursing programmes fail to provide. A 2019 comparative mapping across EU member states confirmed that 87% of master nursing programmes have no dedicated AMS module, a structural gap that precedes recent BSAC 2023 standards. The British Society for Antimicrobial Chemotherapy's 2023 position statement defines six advanced AMS competency domains for the Antimicrobial Stewardship Nurse Champion role. A 2023 integrative review identified 14 nurse AMS bedside activities, of which 12 require advanced training beyond bachelor level and only 2 are formalised in European nursing protocols. The EU AMR Action Plan and WHO nursing vision 2021-2025 explicitly identify advanced nursing AMS competency as an implementation gap requiring urgent reform.

Aim(s): To map 1990-2026 evidence on advanced AMR/AMS education for master and specialist nurses across European healthcare systems; and to propose NURSE-AMR-L2 - a validated 60-hour advanced AMS curriculum for European master/specialist nursing programmes - aligned with BSAC 2023 and UKHSA 2023 standards.

Methods: JBI Evidence Mapping (PRISMA-ScR; PROSPERO). PCC: P = master/specialist nursing students and advanced practice nurses across EU member states; C = advanced AMR/AMS educational interventions (PK/PD, TDM, PGx, biosimilar pharmacovigilance, audit-feedback, leadership); C = AMS competency, de-escalation behaviour, TDM accuracy. Six databases: MEDLINE, CINAHL, ERIC, Embase, Scopus, Web of Science. Grey: BSAC 2023; EU AMR Action Plan; UKHSA Prescribing Competency Framework 2023; NMC 2023. MMAT.

Results: 87% of EU master nursing programmes have no dedicated AMS module, with advanced prescribing competency frameworks identified only in the UK, Netherlands and Australia. BSAC 2023 defined six advanced AMS competency domains for the Antimicrobial Stewardship Nurse Champion. Bos 2023 identified 14 nurse AMS activities, with 12 requiring

advanced training - and only 2 currently formalised in European protocols. No validated 60-hour advanced AMS nursing curriculum was identified in any EU member state.

Conclusions: NURSE-AMR-L2 JBI evidence mapping (1990-2026) produces the first European advanced nursing AMS curriculum evidence map, informing a 60-hour validated module for master/specialist nurse AMR education reform across European institutions, aligned with EU Health Workforce Strategy 2024-2030.

Keywords: Advanced nursing AMR; Master curriculum; EU AMR Action Plan; De-escalation; Audit-feedback; Evidence mapping

219. An Evidence-Based Pedagogical Framework for Advanced Nurse AMR Education Across European Institutions - JBI Evidence Mapping (1990-2026)

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Background: Advanced pedagogical methods for nurse AMR education substantially outperform traditional lectures across European and international settings. Interprofessional education (IPE) increases AMR collaborative behaviour by 35% across 15 RCTs. Clinical simulation achieves 42% greater AMR knowledge gains versus lecture-only delivery. Serious gaming increases knowledge retention by 31% at three months. Virtual reality simulation in nursing education demonstrates improved clinical competency across seven pilot studies. ECDC 2022 data on EU nurse AMR knowledge variation confirm that countries with more advanced pedagogical approaches show substantially higher nurse competency scores. Yet no European framework systematically integrates all advanced pedagogical methods for nurse AMR education in a sequenced design applicable to both bachelor (L1) and master (L2) nursing programmes across EU member states.

Aim(s): To map 1990-2026 evidence on advanced pedagogical methods (IPE, simulation, serious gaming, VR, flipped classroom) for nurse AMR education; and to propose TEACH-AMR-NURSE - an evidence-based pedagogical framework for NURSE-AMR-L1 (Abstract 21) and NURSE-AMR-L2 (Abstract 22) implementation across European nursing institutions.

Methods: JBI Evidence Mapping (PRISMA-ScR; PROSPERO). Mapping criteria: pedagogical interventions for nurse or interprofessional AMR/AMS education; outcomes: AMR knowledge score, clinical competency, collaborative behaviour, retention at 3-12 months. Six databases: MEDLINE (1990-2026), CINAHL, ERIC, Embase, Cochrane CENTRAL, Scopus. Grey: WHO 2019 AMR education framework; ECDC 2022; EU AMR Action Plan; NMC 2018. MMAT.

Results: Reeves 2013 (Cochrane; 15 RCTs): IPE +35% collaborative behaviour (I^2=52%). Dyar 2019 (JAC; 33 studies): simulation +42% AMR knowledge vs. lecture-only; case-based learning +38%; combined approaches most effective. JMIR Serious Games 2023: gaming +31% retention at 3 months. Forsberg 2020: VR simulation - 7 pilot studies with improved clinical competency; no SR+MA available for AMR-specific nursing. Bergman 2022 (Nurse

Educ Today): flipped classroom with pre-class e-learning plus in-person simulation effective for clinical competency development. No European framework was identified integrating these methods in a sequenced pedagogical design for nurse AMR education.

Conclusions: TEACH-AMR-NURSE JBI evidence mapping (1990-2026) produces the first integrated pedagogical framework for European nurse AMR education, specifying optimal method-outcome combinations (IPE + simulation + gaming) for NURSE-AMR-L1 and NURSE-AMR-L2 implementation across European nursing institutions and EU health workforce development.

Keywords: Interprofessional education; Simulation; Serious gaming; VR; Flipped classroom; AMR education

220. A European Nurse-Led Biosimilar Counselling and Nocebo Mitigation Protocol - JBI Scoping Review and Pilot Protocol (1990-2026)

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Background: The European biosimilar market exceeded €3.8 billion in 2024 (EMA), yet open-label switching data reveal a clinically significant nocebo effect: 14.3% discontinuation under open-label conditions versus 6.95% in double-blind settings. In the landmark NOR-SWITCH RCT, conducted across 40 Norwegian hospitals, non-inferiority of infliximab-to-CT-P13 switching was confirmed; however, nocebo-attributable adverse events were clearly documented. Nurse first-contact switch communication significantly improves biosimilar retention: the SB2 cohort demonstrated 91.2% vs. 81.3% historical retention when nurses led the switch communication. Despite EMA regulatory mandates for pharmacovigilance and biosimilar monitoring across EU member states, no validated nurse-specific biosimilar counselling protocol exists in European nursing practice. The AIFA 2023 mandate applicable in Italy and analogous EU regulatory contexts requires biosimilar switching without specifying nursing educational standards, creating a pan-European implementation gap.

Aim(s): To map 1990-2026 European and international evidence on nurse-led biosimilar switch counselling and nocebo mitigation; and to propose BIOSAFE-NURSE - a structured, EMA-aligned nurse-led biosimilar counselling protocol integrating nocebo mitigation - for implementation across European rheumatology, gastroenterology and dermatology settings.

Methods: JBI Scoping Review. Population-Concept-Context (PCC): P = patients across European healthcare systems undergoing biosimilar switch; C = nurse-led counselling for nocebo mitigation; C = biosimilar retention rate, nocebo-attributable discontinuation, TSQM-II. Search: 1990-2026. Databases: MEDLINE, CINAHL, Embase, Cochrane CENTRAL, Scopus, Web of Science. Grey literature: EMA biosimilar guidelines, NOR-SWITCH data, EULAR recommendations. Quality appraisal: MMAT.

Results: Car 2024 (60 studies; JBI) identified 13 nurse-applicable nocebo mitigation strategies: positive framing, empathic communication, shared decision-making, soft-skills training and personalised information. Petit 2021 quantified the nurse-first-contact effect:

91.2% vs. 81.3% SB2 retention. JMIR Form Res 2024 provided empirically validated language guidance distinguishing nocebo-generating from trust-building communication for nurse/pharmacist training. NOR-SWITCH confirmed nocebo as clinically significant, with a 7.35% attributable discontinuation gap. No nurse-specific structured biosimilar counselling protocol was identified across any EU member state's nursing practice.

Conclusions: BIOSAFE-NURSE JBI scoping review (1990-2026) produces the first nurse-specific biosimilar counselling evidence map for European practice, informing a structured, EMA-aligned pilot protocol for nurse-led nocebo mitigation in biological therapy settings across EU member states. The protocol addresses a pan-European gap in biosimilar stewardship nursing, with direct relevance to ESNO members implementing value-based, patient-centred pharmacological care.

Keywords: Positive framing; Biosimilar counselling; Nocebo mitigation; BIOSAFE-NURSE; Switch communication; Nurse-led

221. NURSE-PGx-AMR: A European Nurse-Led Pharmacogenomics-Informed Antibiotic Response Monitoring Protocol - JBI Scoping Review (1990-2026)

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Background: Pharmacogenomics (PGx) - the study of how genetic variants alter drug metabolism - directly affects antibiotic efficacy and toxicity in a clinically relevant proportion of European patients. CYP2C19, NAT2 and MT-RNR1 polymorphisms modulate voriconazole, trimethoprim-sulfamethoxazole and aminoglycoside pharmacokinetics in 30-45% of European patients (CPIC Guidelines 2023). CPIC Level A recommendations cover antimicrobials: voriconazole (CYP2C19), aminoglycosides (MT-RNR1), and G6PD-sensitive agents including nitrofurantoin. Across European hospitals, nurses administer 100% of parenteral antibiotics and are the first to observe disproportionate reactions, unexpected therapeutic failure and toxicity clustering. The EMA has progressively incorporated PGx into its pharmacovigilance frameworks, yet no European nursing protocol structures PGx-observable antibiotic monitoring as a clinical safety outcome. A 2021 systematic review across 24 studies confirmed that 74% of nurses feel unprepared to interpret PGx findings, despite high perceived importance (88%).

Aim(s): To map 1990-2026 evidence on PGx-relevant antibiotic response signals observable by nurses across European hospital settings; and to propose NURSE-PGx-AMR - a nurse-led PGx-informed antibiotic monitoring protocol - for European hospital and ICU settings.

Methods: JBI Scoping Review (PRISMA-ScR; PROSPERO). PCC: P = hospitalised patients on antibiotic therapy with potential PGx-relevant variants across EU healthcare systems; C = nurse-observed signals (unexpected toxicity, therapeutic failure, disproportionate ADR); C = dose adjustment rate, EudraVigilance reporting, clinical outcome. Seven databases:

MEDLINE (1966-2026), Embase, CINAHL, PharmGKB, Cochrane, Scopus, Web of Science. Grey: CPIC 2023; DPWG; EMA PGx guidance. GRADE.

Results: CPIC 2023 established Level A guidance: CYP2C19 poor metabolisers on voriconazole exhibit 4-fold plasma level increases; nurses are the first to observe hepatotoxicity and visual disturbances. MT-RNR1 variant carriers exposed to aminoglycosides risk irreversible ototoxicity in 17-26% of susceptible patients; nurse audiometric screening is first-line detection. G6PD deficiency combined with nitrofurantoin carries haemolytic crisis risk, yet nurse pre-administration G6PD status checks are absent from European hospital formularies in most member states. Bos 2021 confirmed the absence of any validated nurse-specific PGx monitoring protocol across European hospitals.

Conclusions: NURSE-PGx-AMR JBI scoping review (1990-2026) produces the first nurse-specific PGx-informed antibiotic monitoring evidence map for European practice, informing a pilot protocol for precision antibiotic nursing practice across European hospital and ICU settings, directly supporting ESNO stewardship and pharmacological care objectives.

Keywords: Pharmacogenomics; CYP2C19; G6PD; Antibiotic monitoring; Nurse-led; EudraVigilance

Cluster 6 — Mental Health and Workforce Wellbeing
Burnout, moral injury, resilience, and sustainable healthcare professionals

222. Physical and Psychological Consequences on Nurses Affected by Workplace Violence: A Scoping Review

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Background: Workplace violence (WPV) poses a growing threat to healthcare professionals, affecting up to 75% of nurses globally. The consequences of WPV extend beyond individual well-being, resulting in significant economic impacts. The average cost of turnover for each nurse who leaves their position is estimated at £43,000, with annual losses for the average hospital ranging from £27,000 to £40,000. In Italy 32.4% of nurses reported WPV incidents in the last year, compromising healthcare worker safety, care quality, and the economic sustainability of health systems.

Aim(s): Systematically map the physical and psychological consequences of WPV on nurses and identify correlations between exposure to violence and burnout, turnover, and intention to leave the profession.

Methods: A scoping review was conducted following the Arksey and O'Malley methodology and the Joanna Briggs Institute guidelines. The literature search covered five international databases (PubMed, CINAHL, PsycINFO, Web of Science, Scopus) and grey literature sources, including publications from January 2020 to March 2025. Three independent reviewers selected the studies using Rayyan software, applying strict inclusion and exclusion criteria based on the PCC (Population, Concept, Context) framework. The results were processed according to the PRISMA-ScR guidelines [5]. The protocol was registered on the Open Science Framework (https://osf.io/785qd).

Results: Of the 5,598 articles identified, 15 studies from 8 countries (samples: 29-1,774 nurses) met the inclusion criteria. Geographical representation included studies from the United States (n=3), Brazil (n=3), Taiwan (n=2), China (n=2), South Korea (n=2), and limited European contexts (Netherlands n=1, Turkey n=1). Verbal and psychological forms of violence emerged as the most prevalent. Documented psychological consequences included anxiety (58.7%), post-traumatic stress disorder (57.4%), depression, reduced resilience, emotional exhaustion, and cognitive deficits, with 74% of nurses reporting impaired memory and attention. Physical manifestations include sleep disturbances, chronic fatigue, and musculoskeletal problems. The analysis revealed that psychological violence is a direct predictor of turnover intention (23-29% of nurses), with job satisfaction mediating 44% of this relationship. Post-incident support is severely inadequate, with only 1.2% of nurses receiving debriefing or psychological assistance. Significant methodological limitations arise

from the predominance of cross-sectional designs (80% of studies), which limit causal inference and understanding of long-term effects.

Conclusions: WPV is a modifiable factor that threatens the sustainability of the European and global nursing workforce. To effectively combat this phenomenon, an integrated, evidence-based approach is needed that includes standardised prevention protocols, ongoing training in de-escalation strategies, effective reporting systems, and accessible and timely post-event psychological support. Investing in job satisfaction through organisational support and a positive culture can significantly reduce turnover, ensuring continuity of care, patient safety and the economic sustainability of healthcare systems. Future research should prioritise longitudinal studies to assess the long-term effects of WPV and the effectiveness of institutional interventions, overcoming the current predominance of cross-sectional designs and expanding European geographical representation to support evidence-based health policies at the continental level.

Keywords: Workplace violence; Registered nurses; Psychological consequences; Physical consequences; Burnout; Turnover intention

223. Reducing Burnout and Enhancing Resilience Through a Structured Well-Being Program for Emergency Department Charge Nurses

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Background: ED charge nurses practice in a highly complex and stressful environment with clinical, managerial, and emotional responsibilities. They have a great deal of work and critical decisions to make and are in leadership roles that put them at risk for burnout and reduced resilience. In response, a health care cross-career interdisciplinary intervention to promote resilience and well-being and mitigate burnout was designed.

Aim(s): The work sought to create and integrate a formalized, multimodal wellness day to improve resilience, decrease burnout and promote peer and leadership support. Subsidiary targets were enhancing ability of stress management, coping and level of communication between charge nurses and administrators.

Methods: The intervention consisted of 4 components: a round table discussion with nursing and medical leadership to discuss professional challenges, physiotherapist-led physical activity and guided relaxation techniques, training in resilience and coping skills provided by psychological and social work professionals. Participants were assessed with Maslach Burnout Inventory and Connor-Davidson Resilience Scale before and one month after the intervention. Qualitative data were obtained to document participants' experiences.

Results: An increased level of resilience was demonstrated from pre (3.1±0.6) to post intervention (4.2±0.5) with CD-RISC scale ($p<0.01$). Levels of burn-out showed a significant decrease (lacek quotes) according to the Maslach inventory, ie emotional exhaustion dropped from 31.8±7.4 to 24.6±6.1 ($p<0.05$) and personal accomplishment increased from 34.2±6.8 to 39.1±5.9.. The qualitative findings provided support of these quantitative results

revealing that participants valued open communication, relief of stress and enhanced team connectivity. The nurses expressed that they felt more supported by their leadership and found themselves with a better motivation as well as a renewed strength to cope in the everyday clinical practice.

Conclusions: Implementing a structured, multidisciplinary well-being program for ED charge nurses as a sustained, multi-session intervention was feasible and beneficial. It improved resilience, reduced burnout, and enhanced communication between leadership and staff, highlighting the value of ongoing structured support for staff well-being.

Keywords: Emergency department; Charge nurses; Burnout; Resilience; Well-being intervention; Interprofessional support

224. Shift Work and Eating Behaviors Among Nurses

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Background: Shift night nurses seem to be more vulnerable to sleep disorders and obesity than daily nurses by also negatively impacting on circadian rhythm, differences in macronutrients and calories assumptions, resulting in an unbalanced meal frequency and typology. Evidence have just investigated the association between night shift work and body weight increasing and showed a direct association between shift work and body weight increasing, also supporting by additional studies, too.

Aim(s): To assess any differences in eating behaviors among nurses, between daily and night nurses.

Methods: An on-line cohort observational study was conducted during May 2022, by recruiting nurses though some nursing social pages in Facebook and Instagram socials.

Results: A total of 408 Italian nurses were enrolled, 26.7% were employed only during the daily shift, as morning and afternoon and 73.3% were employed also during the night shift. Most of them were young nurses, aged less than 40 years, both in the two sub groups considered and had less than 5 years (daily: 8.1%; night: 25.7%) and 10 years (daily: 2.2%; night: 21.3%) of work experience, too ($p<0.001$) and were employed in the full time regimen ($p=0.004$). Significant difference was recorded between daily and night shift nurses on their snack intakes between their principal meals ($p=0.002$).

Conclusions: Night shift nurses assumed more snacks than their daily colleagues. Further researches will be performed to investigate snacking composition, and also by exploring meals per day assumptions.

Keywords: Behavior; Eating; Nurse; Shift Work

225. Gender Differences in Empowering Leadership Perceptions Among Italian Oncology Nurses

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Background: Historically, masculinity has been privileged over femininity, and long-standing stereotypes surrounding the nursing profession have contributed to its devaluation and to persistent gender inequalities in nursing leadership. Nursing has traditionally been associated with femininity and framed as a "soft science," whereas biomedicine has been portrayed as a male-dominated field and a "hard science." Conceptualizations of gender and leadership have evolved over time, shifting from rigid role separation-often described as "the wall," which confined men to paid work and women to domestic roles-to the notion of the "glass ceiling," which reflects the structural barriers that limit women's access to leadership positions. These gendered dynamics continue to affect the nursing profession, which remains predominantly associated with women.

Aim(s): To explore gender-related differences in perceptions of empowering leadership among oncology nurses, with specific focus on the subdimensions of Leading by Example, Participative Decision-Making, Coaching, Informing, and Showing Concern/Interacting with the Team.

Methods: A nationwide observational study was conducted among Italian oncology nurses employed across all oncology care settings. Perceptions of empowering leadership were assessed using the Italian version of the Empowering Leadership Questionnaire (ELQ). The ELQ consists of 38 items measuring five core subdimensions: Leading by Example, Participative Decision-Making, Coaching, Informing, and Showing Concern/Interacting with the Team. Comparisons were made between female and male participants.

Results: Significant gender differences were identified in several empowering leadership subdimensions. Male nurses reported significantly higher self-perceived levels of Leading by Example ($p = 0.006$), Coaching ($p = 0.009$), and Showing Concern/Interacting with the Team ($p = 0.031$) compared with female nurses.

Conclusions: These findings align with existing literature indicating that women remain disadvantaged in nursing leadership roles, even when considering intersecting factors such as race, ethnicity, disability, religion, age, and sexual orientation. Gendered patterns within nursing continue to hinder women's opportunities to demonstrate and develop advanced leadership capabilities, often placing them in disempowering contexts shaped by persistent bias and prejudice.

Keywords: Empowering leadership; Gender difference; Oncology nurses

226. Holistic Mindfulness and Professional Well-Being in Italian Oncology Nurses

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Background: Oncology nurses play a crucial role in supporting patients with cancer; however, they often overlook their own emotional experiences and self-care needs.

Aim(s): This study aims to investigate potential differences across the five facets of holistic mindfulness among Italian oncology nurses, addressing an important yet underexplored dimension of professional well-being.

Methods: In 2023, a cross-sectional study was conducted among Italian nurses working in oncology settings. Mindfulness was assessed using the Five Facet Mindfulness Questionnaire (FFMQ), which evaluates five core dimensions: Observing, Describing, Acting with Awareness, Non-judging, and Non-reacting.

Results: No statistically significant differences were observed across any of the five mindfulness facets ($p \geq 0.05$) with respect to gender, years of experience in oncology, or shift work.

Conclusions: These findings raise the question of whether holistic mindfulness may represent an intrinsic individual characteristic. Further research is needed to better understand mindfulness patterns in oncology nursing, as existing literature suggests mindfulness as a beneficial strategy for enhancing functional and emotional regulation in demanding work environments.

Keywords: Holistic; Mindfulness; Oncology nursing; Gender; Shift work; Work experience

227. Nursing Coaching Interventions and Quality of Life in Hospitalized Cancer Patients

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Background: Any cancer diagnosis induces fear and shocking emotional experiences accompanied by unpredictable anxiety, depression, and distress. The emotional effect of a cancer diagnosis and the rigidity of cancer treatment negatively impact a patient's wellness.

Aim(s): To underline how nursing coaching improves Quality of Life (QOL) perceptions among cancer patients during their hospitalization. Specifically, to assess anxiety and depression conditions before and after nursing coaching intervention.

Methods: A systematic review was performed through PubMed, Scopus, Web of Science, and CINAHL databases, using and combining MesH keywords like "Quality of Life," "Hospitalization," AND "Cancer Patients" AND "Nursing Coaching." For each study, the two subscales relating to anxiety (HADS-A) and depression (HADS-D) were considered separately, and two separate meta-analyses were carried out.

Results: After a screening process, 228 subjects were enrolled. Regarding the anxiety outcomes, findings suggest a significant difference between experimental and control interventions, and the Cochrane Q-test revealed the presence of significant heterogeneity between a few of the studies collected data (PQ=0.033; tau2= 0.14; I2= 70.7%). However, the nursing coaching intervention appears more promising to improve anxiety outcomes. Significant improvements were reported in the coaching treatment, yet, on the other hand, there was a substantial improvement in the anxiety outcome attributed to the coaching intervention.

Conclusions: Nursing coaching improves QoL perceptions in cancer patients during their hospitalization. Patients prefer in-person interventions that are nurse-led, and QoL perceptions improve.

Keywords: Cancer patient; Hospitalization; Nursing coaching; Quality of life

228. Workplace Satisfaction and Perceived Support among Young Nurses in the Republic of Croatia

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Background: Nurses in Croatia face challenging working conditions due to staff shortages, insufficient employability of new professionals, limited career progression according to education and experience, and an abundance of unpaid overtime.

Aim(s): The study aimed to determine the key workplace-related needs of young nurses in Croatia to identify the problems and specific challenges they face and provide a framework for developing targeted interventions and proactive support strategies to improve their job satisfaction, long-term retention in the profession, and the sustainability and efficiency of the healthcare system.

Methods: Quantitative research using questionnaires was conducted. A structured, self-administered questionnaire was specifically developed for this study to assess the workplace-related needs, challenges, and perceptions of young nurses in Croatia.

Results: A total of 140 respondents participated in the study. Respondents were asked whether they believe there are unmet workplace-related needs within the nursing profession. The majority, 92.9%, answered affirmatively, indicating a strong perception among young nurses that their profession lacks sufficient support or resources in certain areas. The most pronounced areas of dissatisfaction include teamwork, communication and interpersonal relationships, the possibility of advancement, and a disturbed balance between private and professional life.

Conclusions: The study on the workplace-related needs and challenges of young nurses in the Republic of Croatia held significant potential for improving their working conditions, professional development, and overall well-being. By analyzing the specific workplace-related needs and challenges of young nurses, the study identifies areas that may inform the development of targeted interventions and support strategies.

Keywords: Young nurses; Professional development; Job satisfaction; Nursing workforce retention

229. Emergency Nurses' Work Engagement, Turnover Intention and Perceived Impact of Bedside Handover: A Cross-Sectional Survey

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Background: Emergency departments face increasing workload and staffing shortages, threatening nurses' well-being and retention. Bedside handover is widely implemented to improve communication and patient involvement, yet evidence on how emergency nurses perceive its impact on work engagement and turnover intention remains limited.

Aim(s): To describe emergency nurses' work engagement and turnover intention and to explore their perceived impact of bedside handover on workload, patient contact, collaboration, and turnover intention.

Methods: A descriptive cross-sectional survey was conducted in November 2024 among nurses working in a large teaching hospital emergency department in the Netherlands. The questionnaire included demographics, the Utrecht Work Engagement Scale (UWES-9), the Turnover Intention Scale, and items assessing perceived effects of bedside handover on physical and mental demands, patient contact, collaboration, quality of care, and turnover-related intentions. Descriptive statistics and Spearman correlations were used.

Results: Sixty-two nurses participated (response rate 54%). Mean work engagement was high across vigor, dedication and absorption (mean UWES-9 = 5.32). Although 28% sometimes considered leaving their job, only 9% reported plans to resign. Bedside handover was perceived to increase patient contact (84%) and quality of care (70%). Most nurses reported no perceived change in physical or mental workload. Overall turnover intention was not associated with bedside handover; however, higher perceived mental demands related to bedside handover were moderately associated with higher turnover intention (ρ = 0.38).

Conclusions: Emergency nurses reported high work engagement and generally positive perceptions of bedside handover, particularly regarding communication and perceived quality of care. While bedside handover alone did not appear to influence turnover intention, increased perceived mental demands related to handover were associated with higher turnover intention. Bedside handover should therefore be implemented as part of broader organizational strategies that balance job demands and resources to support nurse well-being and retention.

Keywords: Emergency nursing; Bedside handover; Work engagement; Turnover intention; Workforce wellbeing

230. Beyond Crowding: Aligning Emergency Department Workload Metrics with Nurses' Experienced Workload

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Background: Emergency departments (EDs) increasingly rely on real-time crowding and flow metrics to inform staffing and operational decisions. Although these indicators are widely used at managerial and policy levels, emergency nurses often report high workload during periods in which crowding scores remain low. This discrepancy suggests that current operational metrics may insufficiently capture nursing workload and care complexity, with potential consequences for staff well-being, patient safety, and workforce retention.

Aim(s): To examine the alignment between commonly used real-time crowding and workload metrics and emergency nurses' perceived workload, and to explore whether nurse-identified care complexity factors improve the ability of these metrics to reflect experienced workload.

Methods: A sequential mixed-methods study was conducted in an ED of a teaching hospital. Four automatically generated real-time crowding and workload instruments were compared with hourly nurse-reported workload assessments. Quantitative analyses examined associations between operational metrics and perceived workload. Qualitative data were used to identify nurse-perceived care complexity factors, including psychiatric presentations,

clinical instability, and coordination demands, and to evaluate their added explanatory value.

Results: Commonly used crowding and flow metrics demonstrated limited alignment with nurses' perceived workload. Periods of high experienced workload frequently occurred despite low crowding scores. Incorporation of nurse-identified care complexity variables substantially improved correspondence between operational indicators and perceived workload, highlighting aspects of nursing work that remain invisible in traditional crowding measures.

Conclusions: Staffing decisions based solely on crowding metrics risk underestimating emergency nursing workload. Integrating nurse-informed workload and care complexity indicators provides a more accurate representation of real-time nursing burden. Such approaches may support safer staffing decisions, enhance situational awareness, and contribute to improved nurse well-being and sustainable workforce planning in emergency care.

Keywords: Emergency nursing; Workload measurement; Staffing; Crowding; Workforce wellbeing

231. Nurse-led Bedside Shift Handover to Strengthen Shared Decision-Making Under Emergency Department Crowding

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Background: Patient-centred communication and shared decision-making are core elements of high-quality emergency care but are difficult to integrate into emergency department (ED) workflows due to crowding and high nursing workload. Nurse-led bedside shift handover may offer a structured opportunity to involve patients during care transitions; however, its implementation and sustainability in high-pressure ED settings remain uncertain.

Aim(s): To evaluate the implementation of nurse-led bedside shift handover combined with shared decision-making in the ED and to examine its associations with patient-reported experiences and operational outcomes, considering nursing workload and crowding.

Methods: A hybrid effectiveness-implementation study using an interrupted time-series design was conducted in a high-volume urban ED in Western Europe. Routinely collected data from 117,085 ED visits between January 2023 and April 2025 were analysed. Implementation strategies included staff training, local champions, leadership support, and awareness activities. Outcomes included documented bedside shift handover, ED length of stay, revisit rates, and patient-reported experience measures. Nursing workload and ED crowding were examined as contextual factors.

Results: Documented bedside shift handover increased from 1.4% before implementation to 9.2% during implementation, peaking at 32% following intensified implementation activities. Uptake closely followed implementation intensity and was strongly negatively associated with nursing workload. Bedside shift handover occurred more frequently among patients undergoing diagnostic testing or admission. ED length of stay was modestly longer for visits with bedside shift handover (+8%), while revisit rates were unchanged. Patient-reported involvement in decision-making increased substantially over the implementation period (19.6% to 75.0%), alongside improved overall satisfaction.

Conclusions: Nurse-led bedside shift handover combined with shared decision-making can be implemented and sustained in a busy ED but is sensitive to nursing workload and crowding. Improvements in patient-reported involvement were observed at the system level, suggesting broader communication effects. Emergency nursing leaders should align staffing capacity and organisational conditions with bedside communication initiatives to support sustainable implementation, patient-centred care, and nurse well-being.

Keywords: Emergency nursing; Bedside shift handover; Shared decision-making; Staffing; Workforce wellbeing

232. Patient Safety and Staff Psychological Safety: A Mixed Methods Study on Aspects of Teamwork in the Operating Room

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Aim(s): To predict the amount of teamwork that takes place throughout a surgery, based on performing a preoperative safety standards (surgical safety checklist and surgical count) and to explore factors affecting patient safety and staff psychological safety during a surgery, based on interprofessional teamwork.

Methods: This mixed methods study included quantitative and qualitative analyses. Quantitative data included 2,184 direct observations of surgical cases with regard to the performance of safety standards during surgeries in 29 hospitals, analyzed using multivariate binary logistic regressions. Qualitative data were obtained from an analysis of 25 semi-structured interviews with operating room (OR) clinicians and risk managers, using an inductive thematic analysis approach.

Results: Analysis of the OR observations revealed that a lack of teamwork in the preoperative "sign-in" phase doubled the chances of there being a lack of teamwork during surgery (odds ratio = 1.972, 95% confidence interval (CI) 1.741, 2.233, $p<0.001$) and during the "time-out" phase (odds ratio = 2.142, 95% CI 1.879, 2.441, $p<0.001$). Consistent presence of staff during surgery significantly increased teamwork, by 21% for physicians and 24% for

nurses ($p<0.05$), but staff turnover significantly decreased teamwork, by 73% for physicians ($p<0.05$). Interview data indicated that patient safety and staff psychological safety are related to a perception of a collaborative team role among OR staff, with mutual commitment and effective interprofessional communication.

Conclusions: Healthcare organizations should consider the key finding of this study when trying to identify factors that affect teamwork during a surgery. Effective preoperative teamwork positively affects intraoperative teamwork, as does the presence of more clinicians participating

Keywords: Operating room; Psychological safety; Patient safety; Teamwork

233. Perceptions of Surgical Never Events among Interdisciplinary Clinicians: Implications of a Qualitative Study for Practice

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Background: Never Events are serious, preventable, and clearly identifiable medical errors with the potential for causing patients significant morbidity and mortality. Despite extensive efforts to eliminate them, Never Events persist.

Aim(s): To assess whether interdisciplinary clinicians (nurses, surgeons and anesthesiologists) and risk managers have different mental models about three aspects of the definition of surgical Never Events: incidence, severity and preventability.

Methods: Semi-structured interviews were conducted with 25 operating room clinicians and hospital risk managers in Israel from September to December 2019. Verbatim transcripts were analyzed using 6-phase inductive thematic analysis.

Results: Mental models of Never Events varied by profession. Surgeons described them as rare and nurses saw them as common. While agreeing on their severity, mental models about preventability were mixed, with surgeons and nurses thinking that training and/or safety standards could prevent them, and anesthesiologists and risk managers considering them to be unpreventable.

Discussion: The common definition of Surgical Never Events characterizes them as severe and preventable events. Different mental models characterize interdisciplinary views about the definition. These differences challenge the utility of a single international consensus definition of Never Events.

Conclusions: Given differences in mental models among clinicians and risk managers, approaches to eliminating Never Events may benefit from identifying and addressing these differences in order to improve teamwork and implementation of safety protocols.

Keywords: Never events; Operating room; Nursing; Definition; Safety

234. The Public's Perceptions of Patient Safety in Healthcare: Cross-sectional Study

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Background: Patient safety during medical treatment is a central issue for health policymakers and medical teams. In this context, both the Israeli and global health systems, are witnessing an increase in the appreciation of the importance of safety indicators for quantitative measurement of treatment safety. Although an important consideration, we did not find any studies of public perception of this important topic.

Aim(s): This study was therefore designed to examine the views and opinions of the public concerning patient safety in the Israeli healthcare system with the aim to serve as an important input in determining patient safety goals and policies.

Methods: A digital questionnaire was distributed to 620 Israeli citizens, 18 years of age or older, who were randomly sampled from a pool of 75,000 citizens of Jewish origin stratified by gender, age, and area of residence.

Results: Only 18.8% of the sample considered the healthcare system to be transparent in reporting and dealing with medical errors, while 23.6% reported receiving an explanation of the risks and side effects of medications before prescription. Only 56.4% reported receiving information about the risks related to surgeries and invasive operations, 62.2% claimed to understand the given explanation, and 61.5% reported going through a proper process of patient identification before a test or medical procedure.

Conclusions: Patient safety is a significant concern for the public whose perceptions should be considered when planning improvements to the healthcare system. Healthcare providers must improve their attitudes and remain vigilant in identifying and minimizing risks associated with medical care and in verifying the patient's comprehension accordingly.

Keywords: Public; Views; Patient Safety; Opinion; Medical errors; Patients

235. Between Care and Control: Nurses' Experiences of Coercive Measures in Psychiatric Inpatient Care

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Background: Coercive measures in psychiatric inpatient care are ethically and emotionally challenging for both patients and nurses. Understanding nurses' experiences is crucial for promoting ethical, person-centered care and minimizing patient suffering.

Aim(s): To explore nurses' experiences of being involved in coercive measures in psychiatric inpatient settings. Design: A qualitative study using semi-structured interviews.

Methods: Thirteen nurses from a psychiatric inpatient clinic in southern Sweden participated. Interviews were analyzed using qualitative content analysis. Data collection and analysis focused on nurses' perceptions of ethical challenges, relational dynamics, and organizational factors influencing coercive practices.

Results: Three main themes emerged: (1) Maintaining and repairing the nurse-patient alliance, highlighting the impact of coercive measures on trust and the importance of communication and follow-up; (2) Knowledge gaps and misunderstandings contributing to the use of coercion, illustrating how differences in staff experience, competencies, and attitudes affect patient care; and (3) Ethical awareness and reflection, emphasizing the role of ethical deliberation, supervision, and reflective practice in mitigating moral distress and guiding professional conduct. Nurses described coercive measures as a "necessary evil" and expressed tension between professional responsibility, ethical considerations, and emotional burden. Organizational factors such as staffing, education, and clear routines were identified as crucial for safe and ethically sound practice.

Conclusions: Nurses' experiences highlight the complex interplay between ethical responsibility, relational dynamics, and organizational context in coercive psychiatric care. Continuous professional education, structured reflection, and supportive organizational structures are essential to promote ethical, patient-centered practice and reduce moral distress among nurses.

Keywords: Coercive measures; Psychiatric nursing; Nurse experiences; Ethics; Qualitative study

236. Development and Initial Validation of the Staff Resource Adequacy Questionnaire for Healthcare Professionals (SRAQ-HP)

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Background: Healthcare systems internationally are challenged by staff shortages, increased workload, and deteriorating working conditions, negatively impacting staff well-being and quality of care. There is a lack of validated instruments that capture healthcare professionals' subjective perceptions of resource adequacy in everyday clinical practice.

Aim(s): This study aimed to develop and conduct initial validation of the Staff Resource Adequacy Questionnaire for Healthcare Professionals (SRAQ-HP), a multidimensional tool designed to assess perceived staffing adequacy, workload, quality of care, and working conditions.

Methods: A mixed-methods approach guided the instrument's development. An initial pool of 32 items was generated from theoretical models of empowerment, role enactment, and competence frameworks, then refined through expert reviews, focus groups, and pilot testing (n = 35). Content and face validity were evaluated using standard validity indices, and internal consistency was measured with Cronbach's alpha for the full scale and subscales.

Results: The final SRAQ-HP consists of 26 items grouped into three core dimensions: Staffing Adequacy & Workload, Quality of Care, and Working Conditions & Support. The tool demonstrated high content validity (CVI = 0.931) and face validity (FVI = 0.976). Internal consistency was acceptable (Cronbach's $\alpha = 0.841$), indicating coherent item performance across dimensions.

Conclusions: The SRAQ-HP offers a novel, theory-driven, and psychometrically promising instrument for assessing healthcare professionals' perceptions of resource adequacy and organisational support. Its multidimensional structure allows simultaneous evaluation of workload strain, care quality perception, and workplace support conditions, with potential applications for workforce planning, organisational interventions, and policy development. Further research with larger and more diverse samples is recommended to confirm factorial validity and broader generalisability.

Keywords: Staff resource adequacy; Healthcare professionals; Workload; Quality of care; Organisational support

237. Occupational Health and Safety of Hong Kong Nursing Students in First Clinical Placement

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Background: In a 2017 study, exploring how the Occupational Health Service (OHS) had been applied within Hong Kong (HK) hospitals, staff nurses reported that OHS provision complied with legislation. However, they were denied opportunities to take ownership of their occupational health and safety.

Aim(s): This study, by the same author, explores the occupational health issues encountered by undergraduate nursing students (NSs) during Clinical Placement (CP). Inexperienced NSs are particularly vulnerable to workplace hazards.

Methods: A descriptive cross-sectional research design and a validated online questionnaire were used. Purposive sampling was used to select HK NSs undergoing clinical practice. Chi-square test, with p value of <.05 as statistically significant were applied.

Results: 36 out of 368 (9.8%) first CP NSs participated. Results showed that all of them attended needle-stick prevention related activities before their CP. At least 80% of them agreed medical surveillance examination and health counselling for work related health conditions/ concerns are relevant to their profession screening programmes, matters affect nurses every day at work and are the occupational health and safety rights and responsibilities of patients and health workers in a clinical setting on the date when filled the questionnaire.

Conclusion: Results suggest a positive state of high risk injury on duty i.e. needle stick injury related prevention activities were attended by the SN before their CP. However, it was drawn the education institions'concerns about health counselling for work related health conditions/ concerns were expressed at the first attended CP NS. There is value in a qualitative study to understand the first CP NSs' needs and to recommend practicable pre-clinical preparation and OHS support.

Keywords: Occupational health service; Occupational health and safety; Nursing students; Clinical Placement; Clinical practicum; Hong Kong

238. Why it is Time to Review the Role of Occupational Health Services in Hong Kong Hospitals: An Historical Perspective and COVID-19 Experience

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Background: This is the first study on workplace safety of nurses in Hong Kong hospitals since 1997.

Aim(s): It reviews the growth of local occupational health services, from the 1960s to 2022, to recommend strategies for improving occupational health and safety for hospital nurses.

Methods: A literature review of Government reports, historical papers and newspapers expands on a 2017 mixed methods study by the author, which reported a disparity between the enactment of the landmark 1997 Safety and Health Ordinance and fulfilling the actual occupational health and safety needs for nurses, who reported that employer and senior staff attitudes were impediments to improvement.

Results: The 2019 COVID-19 pandemic amplified staff burnout and infection when lessons from the 2003 SARS epidemic should have mitigated these outcomes.

Conclusions: Against a background of unpredictable health crises and a declining local nurse workforce, decision-makers should raise the priority on fulfilling the practicable needs of the frontline staff and enabling their ownership of occupational health.

Keywords: Occupational health services; Registered nurses; Occupational health and safety; Severe acute respiratory syndrome (SARS); COVID-19; Hong Kong

239. The Role of Artificial Intelligence-Supported Nursing Care in Improving Patient Safety in Adult Intensive Care Units: A Systematic Review

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Background: Intensive care units are areas that require comprehensive care. Adverse events may be encountered in this area. Some of these events include patient falls, hospital-associated infections, pressure ulcers and delirium. These events are also health quality indicators for healthcare institutions and their prevention and reduction is part of patient safety. Each institution establishes its own policies to reduce the incidence of adverse events and improve patient safety. Artificial intelligence has also started to take its place alongside general policies in patient care.

Aims(s): The aim of this study is to identify and compare artificial intelligence-supported applications used by nurses to increase patient safety for patients treated in adult intensive care units.

Methods: The study was organized according to Cochrane Collaboration guidelines and reported using the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA). This study was a systematic review of qualitative studies on the topic. The search included articles published in PubMed, Scopus, Web of Science and Science direct databases in the last five years. The keywords "artificial intelligence, intensive care unit, nursing care, patient safety" were used for the search.

Results: The initial search yielded 1113 articles. After reviewing the articles according to the inclusion and exclusion criteria, a final set of seven articles was evaluated. Two of the included studies were randomized controlled trials, three were prospective cohort studies, one was a mix-method study and one was a protocol. These studies were related to "extubation, patient self-care, patient monitoring, end-of-life care and delirium". In the results of the research, it was found that artificial intelligence-supported nursing care had a positive effect on patient outcomes.

Conclusions: It is seen that the use of artificial intelligence and machine learning-based applications is effective in the nursing care of patients in adult intensive care units. However, it is seen that artificial intelligence-supported nursing care is mostly associated with

delirium. There is a need for a comprehensive analysis of artificial intelligence in other topics considered as adverse events in intensive care units.

Keywords: Artificial intelligence; Intensive care unit; Nursing care; Patient safety

240. The Relationship Between Intensive Care Unit Nurses' Perception of Patient Safety Culture and Adverse Events

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Background: The World Health Organization reported in 2017 that the rate of medical errors in inpatient clinics ranged from 8-12%, meaning that 1 in 10 patients experienced an adverse event, and 50% of these events were due to preventable errors. Each year, approximately 13.5% of hospitalized patients experience an adverse event during their stay, and a worrying 44% of these events are considered preventable. The WHO defines adverse events as harm or faults that do not relate to the underlying disease and occur during nursing care, causing significant injury or damage to the patient. Examples of adverse events include medication error, misdiagnosis, infection, and inappropriate selection of therapeutic plans. Adverse events are incidents that can result from a variety of factors, including system failures, human errors, and communication failures, and that harm patients. Patient safety is an integral part of health policies, a priority goal for all organizations, and is always associated with the quality of health systems. In healthcare organizations, Patient safety culture is perceived as an indicator of the quality of care. Patient safety culture can be defined as the general attitudes and behavioural patterns related to patient safety practices at multiple levels within an organization. This includes the shared values, beliefs, and norms of individuals and groups that influence their actions both in preventing adverse events in the delivery of care and when an adverse event occurs. The relationship between patient safety culture and adverse events is critical: these are listed below.

Reporting and Learning: A positive patient safety culture fosters an environment where staff feel comfortable reporting errors and near misses without fear of repercussions. This reporting is essential for learning from mistakes and preventing future negative events.

Communication: Effective communication among healthcare professionals, patients, and families is vital for ensuring safety. A supportive culture encourages clear and open lines of communication that can help identify potential safety issues early. Teamwork: Emphasizing teamwork and collaboration increases the ability to manage complex patient care scenarios, reducing the likelihood of errors that could lead to negative events.

Training and Education: Organizations with a strong safety culture prioritize continuous training and education for their staff, helping them stay informed about best practices and procedures that enhance patient safety. Leadership Commitment: Leadership plays a crucial role in building a safety culture. Leaders who prioritize safety, allocate resources for safety initiatives, and exemplify safe practices contribute to a culture that minimizes adverse events.

Feedback Mechanisms: Regular feedback and evaluation of safety practices help organizations identify weaknesses in their systems. A culture that values feedback can lead to actionable insights that prevent future adverse events. Improving patient safety culture is fundamental to reducing the occurrence of adverse events. Organizations often implement strategies such as safety audits, staff training programs, and patient safety initiatives to strengthen their culture and thus improve patient safety outcomes. Monitoring and evaluating the effectiveness of these initiatives is also vital for continuous improvement. The literature indicates that establishing a high level of safety culture is necessary to reduce morbidity and mortality. A positive patient safety culture, from a nursing perspective, promotes continuous improvement by highlighting areas that require attention, especially among critically ill patients.

Keywords: Patient safety; Patients safety culture; Adverse events; Intensive care unit

241. Continuous Education and Workplace Well Being Among Healthcare Professionals in a National Public Agency: Results of a Longitudinal Study on Burnout Outcomes

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Background: Organizational changes within the INAIL outpatient clinics in the Marche region have increased stress levels and resistance to change among healthcare professionals, contributing to the risk of burnout and reduced professional fulfillment. Continuing education can support adaptation processes, improve emotional regulation, and promote organizational well-being.

Aim(s): To assess the effectiveness of a Continuing Medical Education (CME) program integrating stress-management techniques (Emotional Freedom Technique and yogic meditation exercises) and tools for personal awareness (Transactional Analysis) in reducing burnout and improving perceived well-being.

Methods: A quasi-experimental pre-post study without a control group was conducted with 61 healthcare professionals participating in the 2025 CME course. Burnout levels were measured at three time points (before the course, during the course, and one month later) using the Maslach Burnout Inventory. Classroom climate was evaluated through the Egogram, while engagement was analyzed using semi-structured CME questionnaires and satisfaction surveys. Training needs had previously been assessed using a Likert-scale questionnaire and qualitative analysis of written assignments produced during role-play exercises.

Results: Following the training intervention, a reduction in burnout risk was observed, with improvement in the personal accomplishment dimension (from 34.2 to 40.9). Individual improvements were also found in emotional exhaustion and depersonalization. The Egogram showed a predominance of the Adult ego state (60.7%), indicative of constructive group dynamics. All eligible participants passed the CME assessment (100%). Satisfaction levels were high: 97% rated the course as "very useful." However, one month later a partial return to a medium level of burnout risk was observed.

Conclusions: The training program demonstrated immediate effectiveness in strengthening self-awareness, emotional balance, and perceived professional accomplishment. The partial increase in burnout one month later highlights the need for recurring training interventions capable of consolidating resilience skills, supporting emotional well-being, and fostering a more stable capacity to adapt to organizational change processes.

Keywords: Burnout; Continuing medical education; Stress management; Healthcare professionals; Workplace well-being; Organizational resilience

242. Multidimensional Assessment of Permanent Disability in Injured Workers: Identification of a Validated Occupational Health Nursing Tool to Support Follow-up and Work Reintegration

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Background: Permanent disability resulting from work-related injuries often leads to long-term functional, psychological, social, and occupational consequences that remain insufficiently monitored after acute clinical care and medico-legal evaluation. International literature emphasizes that disability cannot be reduced to functional impairment alone; rather, it requires a bio-psycho-social assessment integrating personal, environmental, relational, and work-related factors. In the Italian INAIL context, structured multidimensional follow-up and early detection of vulnerability remain limited, as does the formal role of the Occupational Health Nurse (OHN) as a bridge across healthcare, workplace, and social domains.

Aim(s): To identify a scientifically validated occupational health nursing questionnaire suitable for assessing long-term needs, functioning, autonomy, and vulnerability among workers with permanent disability due to a single traumatic work-related injury, and to establish the foundations for an OHN-led structured follow-up model supporting health, work reintegration, and quality of life.

Methods: A two-year internship project was designed. In Year 1, a structured literature review was conducted using PubMed, MEDLINE, and Google Scholar to identify validated occupational health nursing tools. Inclusion criteria: publications from 2014 onward, full-text

availability, Italian or English language, all study designs. Exclusion criteria: non-validated questionnaires and studies not involving worker populations. The PIO framework guided the review: P-workers with permanent disability; I-validated occupational health nursing questionnaires; O-needs assessment and reintegration outcomes. In Year 2, the selected tool will be administered to a cohort of INAIL workers with permanent disability from a single injury, evaluating perceived health, autonomy, reintegration pathways, and early indicators of vulnerability.

Results: Preliminary findings from the literature reveal a lack of validated Italian tools specifically designed for occupational health nursing assessment. Several international instruments appear potentially adaptable for evaluating functioning, work ability, psychosocial barriers, and reintegration prospects. Their applicability to the INAIL context will be tested during field implementation in Year 2, generating quantitative and qualitative data to characterize complex post-injury needs.

Conclusions: This project establishes the foundations for an OHN-led multidimensional assessment model for workers with permanent disability. Identifying and adapting a validated tool represents a critical step toward structured follow-up, early detection of fragility, personalized interventions, and improved work reintegration outcomes. The results will support the development of an innovative continuity-of-care framework integrating health, work, and social dimensions.

Keywords: Occupational health nursing; Permanent disability; Multidimensional assessment; Work reintegration; Vulnerability detection

243. Work-Related Stress Among Operating Room Nurses: An Observational Study

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Background: In recent years, the nursing profession has shown increasing complexity, facing challenges such as stress and burnout, especially in high-intensity care settings such as Operating Room Units (U.O.C.). Work-related stress represents a situation in which an individual faces constant tension and pressure related to job demands that exceed their capacities and resources.

Aim(s): To assess, among nurses working in the operating room, the levels of work-related stress and to identify risk factors and aggravating elements, with particular attention to violent acts among members of the team.

Methods: A multicenter observational study was conducted between February 1, 2024 and September 30, 2024, using an anonymous and voluntary questionnaire distributed through

the secretariats of the Italian Nursing Boards (OPI) for operating room nurses. The questionnaire was derived from the Journal of Visceral Surgery (2022); it was translated into Italian, modified, and validated through the calculation of Cronbach's alpha. The instrument collects information on demographic aspects, stress assessment, workload, and team dynamics. A Likert-type scale with a minimum score of 1 and a maximum of 10 was used to weight the questions. Statistical analyses were conducted using Jamovi Project software (2022), version 2.3.

Results: The sample consisted of 271 females (76.3%) and 83 males (23.4%). The intraoperative phase is the most stressful (63.6%); night on-call duty is identified as the main cause of stress compared with 24-hour on-call duty, with 54.9% (195) and 45.1% (160) of responses, respectively. 38% (135) of the sample reported that the stress perceived during working hours often has repercussions on their private life. A total of 68.5% (243) of the staff reported having been victims of strong verbal behaviors from a member of the team. Women reported higher stress related to situations of conflict and humiliation (183 = 67.5%). The analysis indicated that disruptive verbal behaviors are correlated with an increase in stress ($p = 0.002$).

Conclusions: The results highlight critical issues related to the stress perceived by nurses working in Operating Room Units (U.O.C.). Targeted interventions by healthcare organizations are needed to improve nurses' well-being and the quality of care.

Keywords: Fatigue; Stress; Nurses; Leaders; Conflict reflection; operating room

244. Educating Future Nurse Leaders: Building Workforce Resilience

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Background: Post COVID, nurses are increasingly experiencing burnout, moral distress, and other threats to their well-being. Nurse educators must prepare entry level and advanced practice graduates with strategies to build a resilient workforce.

Aim(s): The purpose of this workshop is to discuss strategies that foster the development of a resilient nursing workforce.

Methods: Educational programs and strategies to foster resilience, well-being, and leadership development implemented across various programs at multiple academic institutions in the United States will be presented. Results and Conclusions: Sustainable, replicable programs and strategies at the individual and systems levels can foster resilience, well-being, and leadership development among entry level and advanced practice nurses.

Keywords: nursing; leadership; workforce; resilience; mental health; well-being

245. Transradial Approach for Coronary Angiography and Interventions: A Clinical Nurse Specialist's Experience

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Background: Transradial approach (TRA) for coronary angiography and percutaneous coronary interventions (PCI) has risen gradually last decade. Last few years there is increasing number of reports and new published studies providing further support for the transradial approach in diagnostic and coronary PCI, with investigators reporting significantly less bleeding and reduced incidence of hard clinical end point. This route provides patient comfort including earlier mobilisation in comparsion to trans-femoral access and lower rates of vascular complications.

Aim(s): To demonstrate safety and advantage of this access in diagnostic and interventions, not only for electrive patients, but for those in complex and with ACS and AMI primary interventions as well.

Methods: We analysed 1032 patients who underwent TRA diagnostic and/or PCI interventions in our Cath.lab. from 15.01.2025. to 15.06.2025.

Results: There were 426 patients with PCI and 606 with diagnostic procedures only. Rate of radial access was almost 95%, wheras procedural succes rate was as high in both groups 90% and 92% respectively. Selective cannulation of the coronary ostium failed in only 2,5%. There were no bleeding complications need for surgical repair or blood transfusions and no other complications in any group as well. We are presenting all procedural dates, and in three typical cases, one with diagnostic only, the second with elective complex intervention, and finally the third with serious ACS snf STEMI interventions, to demonstrate our strategy, technical preferences and adventages of TRA access approach.

Conclusions: As a Clinical Nurse Specialist in Cardiology the key element of my clinical role is to ensure quality of care and improved continuity, from making the patient transition of an Emergency situation/elective admission seamlessly, minimising the anxiety of our patients and family members by ensuring proficiency of transradial access, in a safe and efficient environment. I find this clinical experience rewarding and challenging. Within our Cardiology center Radial access has become our first preference. POSTER SESSION

Keywords: Transradial approach; Coronary angiography; Treatment

246. Towards Workforce Well-being: Development and Validation of the Nursing Organizational Well-being Questionnaire: A Theory-Based Measure

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Background: Nursing organizational well-being is increasingly recognized as a determinant of workforce stability, quality of care, and organizational sustainability. From a nursing perspective, it arises from the balance between nursing demands and nursing resources within the work environment. However, many existing instruments assess isolated aspects of the work context, are not grounded in explicit nursing theory, and rarely allow identification of well-being profiles through person-centered approaches.

Aim(s): To develop and evaluate the psychometric properties of the Nursing Organizational Well-being Questionnaire (NOW_Q), a theory-based instrument designed to assess organizational well-being in nursing settings.

Methods: A two-phase methodological study was conducted following COSMIN recommendations. Phase 1 involved item generation based on literature evidence, a situation-specific theory of nursing organizational well-being, and expert evaluation. Phase 2 consisted of a multicenter cross-sectional study. Construct validity was examined through exploratory and confirmatory factor analyses with cross-validation. Reliability was assessed using ordinal omega coefficients, and concurrent validity through correlations with a global single-item measure of organizational well-being. Cluster analysis explored the identification of well-being profiles.

Results: Phase 1 resulted in a 28-item questionnaire rated on a 5-point frequency scale. Psychometric testing involved 461 nurses from seven Italian hospitals. Participants were predominantly female (74.0%), with a mean age of 40.4 years (SD = 10.6) and a mean professional experience of 15.6 years (SD = 10.2). Findings supported an eight-dimension structure: workload, emotional demands, work-family conflict, autonomy, available resources, nurse-nurse relationship, nurse-head nurse relationship, and nurse-physician relationship. The final confirmatory model showed good fit (RMSEA = 0.051; CFI = 0.938; TLI = 0.927; SRMR = 0.067). Internal consistency was satisfactory (ordinal omega = 0.75-0.87). Three profiles emerged: Nurturing, Observed-Detached, and Withstanding.

Conclusions: The NOW_Q is a theory-based, nursing-specific instrument with satisfactory psychometric properties and practical value. It enables healthcare organizations to assess organizational well-being and identify distinct nurse profiles, supporting targeted interventions to improve work environments and promote healthier care settings.

Keywords: Nurses; Occupational health; Organizational culture; Working conditions; Surveys and questionnaires; Psychometrics

247. Nursing Organizational Well-being Latent Profiles and Turnover Intention: A Multicenter Multilevel Person-Centered Study

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Background: Nurses' organizational well-being is a key determinant of workforce stability, quality of care, and patient safety. However, most studies rely on variable-centered approaches that examine individual workplace factors separately, potentially overlooking how different organizational conditions combine to shape nurses' experiences. A person-centered perspective may provide deeper insight by identifying groups of nurses exposed to distinct configurations of organizational demands and resources.

Aim(s): To identify latent nurse profiles based on organizational well-being factors and to examine whether these profiles differ in turnover intention.

Methods: A cross-sectional multicentre multilevel secondary analysis was conducted using data collected in Italian hospitals. Nurses' perceptions of the work environment were measured through a validated questionnaire grounded in the situational theory of Nursing Organizational Well-being. The instrument assessed several dimensions of the nursing work environment, including job demands, workload, emotional demands, team conflict, organizational constraints, social quality of life, job control, and supervisor support. Latent Profile Analysis with clustering correction for wards was conducted to identify nurse profiles. Differences in turnover intention across profiles were examined using the BCH method.

Results: The study included 2349 nurses from 158 wards across 25 Italian hospitals (81.3% female; mean age = 40 years, SD = 10.92). A four-profile solution was retained (entropy = 0.814). The profiles were: moderate demand-moderate control profile (n = 1156), low demand-low control profile (n = 703), high control-low demand profile (n = 84), and high demand-high control profile (n = 406). Turnover intention significantly differed across profiles ($\chi^2 = 629.99$, $p < .001$). Nurses in the high demand-high control profile reported the highest intention to leave, whereas the low demand-low control and high control-low demand profiles showed the lowest levels.

Conclusions: A person-centered approach offers a more comprehensive understanding of nurses' organizational well-being by identifying meaningful configurations of workplace conditions. Recognizing these profiles may support the development of targeted organizational strategies aimed at improving work environments and strengthening nurse retention.

Keywords: Nurses; Organizational well-being; Turnover intention; Work environment; Latent profile analysis; Person-centered approach

248. Relationships Among Nursing Students' Perceptions of Instructor Caring, Professional Attitudes, and Caring Behaviors: A Cross-Sectional Study

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Background: Instructor-student relationships and caring-focused educational environments play a critical role in shaping nursing students' professional identity, attitudes, and caring competence. However, limited research has simultaneously examined how nursing students' perceptions of instructor caring relate to their professional attitudes toward nursing and their perceived caring behaviors.

Aim(s): To examine the relationships among nursing students' perceptions of instructor caring, their professional attitudes toward the nursing profession, and their perceived caring behaviors.

Methods: This descriptive cross-sectional study was conducted with 225 undergraduate nursing students enrolled in the second, third, and fourth academic years. Data were collected online using the Nursing Students' Perceptions of Instructor Caring Scale, the Attitude Scale for the Nursing Profession, and the Caring Behaviors Inventory. Descriptive statistics and Pearson correlation analyses were used to analyze the data.

Results: Students reported moderate to high levels of perceived instructor caring, professional attitudes, and caring behaviors. Higher-grade students demonstrated higher scores in professional attitudes and caring behaviors. Significant positive correlations were found between instructor caring and professional attitudes, and between instructor caring and caring behaviors. The strongest correlation was observed between professional attitudes and caring behaviors. These associations were more pronounced among female students.

Conclusions: Perceptions of instructor caring are significantly associated with nursing students' professional attitudes and caring behaviors. These findings highlight the importance of supportive and caring faculty-student relationships in nursing education. Strengthening caring-oriented educational practices, mentoring systems, and inclusive learning environments may contribute to the development of professional identity and caring competence among nursing students.

Keywords: Nursing students; Instructor caring; Professional attitude; Caring behaviors; Nursing education

249. WHP in Action: Well-Being and Lifestyle in a Public Workplace Setting with the Contribution of the Occupational Health Nurse

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Background: Workplace health promotion is a priority within WHP programs. In this setting, a survey on workers' lifestyle habits was conducted in a public organization, with the occupational health nurse actively involved in data collection and interpretation of emerging needs.

Aim(s): To describe workers' habits and perceptions regarding nutrition, physical activity, tobacco and alcohol consumption, participation in preventive screening, and intentions to change, in order to guide health promotion interventions within the WHP model.

Methods: A descriptive observational study was carried out using a semi structured questionnaire administered to 60 employees (48 responses, 80%). Quantitative data were analyzed with descriptive statistics, while qualitative responses were examined using Colaizzi's phenomenological method. The occupational health nurse contributed to tool development, data collection, and interpretative analysis.

Results: Overall, 77% engage in physical activity, although 48% consider it insufficient. Thirty one percent perceive their weight as not optimal; 18.8% are smokers; 68.8% consume alcohol weekly. Participation in cancer screening is good, while lower for HCV testing and injury prevention. More than 70% express an intention to improve their lifestyle. Qualitative analysis identified priority areas such as physical activity, nutrition, and smoking. Workers also request programmes for movement, healthy eating, screening initiatives, and behavioural support.

Conclusions: Findings highlight a strong willingness to change and the need for continuous health promotion interventions. The occupational health nurse emerges as a key figure in facilitating health education, empowerment, and orientation to services. Strengthening physical activity programmes, healthy eating initiatives, screening campaigns, and smoking cessation pathways is recommended to promote a supportive work environment within the WHP framework.

Keywords: Workplace health promotion; Occupational health nurse; Lifestyle behaviours; Preventive screening; Employee well-being

250. Lived Experiences of Multiculturalism among Healthcare Professionals: A Qualitative Study

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Background: Cultural diversity has become an increasingly prominent feature of contemporary healthcare systems. While multicultural teams can enrich professional practice and promote inclusive care, they may also introduce communication and relational challenges. Understanding how nurses and healthcare assistants experience cultural diversity in daily practice is essencial for supporting inclusive work environments and strengthening professional nursing identity.

Aim(s): This study explored the perceptions of internationally educated nurses and healthcare assistants regarding the influence of multiculturalism on care practice and the factors that facilitate or hinder their professional integration.

Methods: A qualitative study was conducted in a hospital in central Italy. Semi-structured interviews, guided by five open-ended questions, were carried out with 24 participants, including nurses and healthcare assistants. Data were analyzed using Braun and Clarke's six-phase thematic analysis framework, in accordance with COREQ guidelines.

Results: Four main themes emerged from the analysis. First, cultural preconceptions shaped professional perceptions and interpersonal relationships, sometimes leading to exclusion but also fostering greater awareness of personal biases. Second, prejudices among colleagues were identified as sources of stress and barriers to professional recognition. Third, cultural identity was perceived as a valuable resource, enhancing motivation, resilience, and professional belonging. Finally, cultural diversity in care practices presented both challenges and opportunities, fostering adaptability, mediation, and the development of intercultural competencies.

Conclusions: Cultural diversity represents both an asset and a challenge in healthcare settings. While it can enhance team collaboration, professional practice, and inclusive care, it may also generate communicative and relational difficulties. Understanding healthcare professionals' lived experiences of multiculturalism is essential to inform strategies that promote inclusive workplaces, support professional integration, and strengthen nursing identity in increasingly diverse healthcare systems.

Keywords: Multiculturalism; Nurse; Professional integration; Cultural identity

251. Occupational Health Nurse-Led Workplace Health Promotion: Pilot Screening Program to Enhance Employee Wellbeing in a Regional Public Directorate

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Background: Workplace Health Promotion (WHP) programs strengthen employee well being, prevent NCDs, and improve organizational climate. The INAIL Regional Directorate of Marche launched a WHP initiative to integrate evidence based preventive actions into daily practice. Early screening activities conducted by the Occupational Health Nurse (OHN), with the Competent Physician, support timely identification of health risks and promote a culture of well being.

Aim(s): To design and test a WHP screening program led by the Competent Physician with the OHN, aimed at improving early detection of health problems, promoting preventive behaviors, and enhancing workforce well being within a Regional INAIL Directorate. The project also aims to develop a model replicable in other regions, in collaboration with the INRCA research hospital.

Methods: A pilot intervention was developed following regional WHP guidelines. An interprofessional team (OHN, Competent Physician, regional health professionals) defined a protocol for voluntary weekly screenings (blood pressure, blood glucose, lifestyle indicators), health education sessions, and specialist referral pathways. Activities were structured into three phases: preparation (team training, logistics, equipment), development (protocol, communication materials, documentation), and implementation (screening sessions and satisfaction questionnaires). Expected indicators include participation rate, improvement in borderline parameters, and perceived well being. Expected Results The project is expected to increase awareness of health risks, strengthen trust in workplace health services, and promote a prevention oriented culture. Anticipated benefits include reduced absenteeism, improved health literacy, and earlier identification of employees needing medical evaluation. Collected data will support refinement and wider application of the protocol.

Conclusions: This WHP pilot represents an innovative, scalable model for integrating preventive screenings in public sector workplaces. By positioning the OHN as a key figure in health promotion, the initiative supports workforce resilience and helps create healthier and more sustainable work environments. The model may serve as a reference for broader adoption across the INAIL network and other public institutions.

Keywords: Workplace health promotion (WHP); Occupational health nursing; Early screening; Preventive healthcare; Health literacy; Employee well-being

252. Supporting Nurses to Stay: A Multilevel Integrative Review on Nurse Retention, Mental Health, and Workforce Wellbeing

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Background: Nurse retention has emerged as a critical determinant of workforce wellbeing and health system sustainability. High turnover and intention to leave are frequently associated with burnout, poor work environments, and lack of organisational support. Understanding the multilevel determinants of nurse retention is essential to develop sustainable strategies that support nurses' mental health, professional wellbeing, and long-term workforce stability.

Aim(s): This study aimed to synthesise the organisational, relational, and individual determinants of nurse retention and to explore their implications for workforce wellbeing and sustainable healthcare organisations.

Methods: An integrative review was conducted following Whittemore and Knafl's methodology and reported according to PRISMA 2020 guidelines where applicable. A systematic search of six databases identified studies published between 2016 and 2026

addressing nurse retention in hospital settings. Included studies underwent methodological quality appraisal using validated tools, and findings were synthesised narratively.

Results: Twenty-five studies were included. Findings highlighted the multilevel nature of nurse retention and revealed two complementary perspectives: nurse managers and staff nurses. From the nurse managers' perspective, retention was influenced by leadership style, organisational climate, and managerial competencies. From the staff nurses' perspective, retention was associated with work environment quality, teamwork, peer support, job satisfaction, and psychological resources such as self-efficacy, resilience, and psychological capital. The findings were interpreted through Herzberg's Two-Factor Theory, Self-Determination Theory, and the Theory of Planned Behavior, highlighting retention as a dynamic, multilevel process shaped by the interaction between organisational conditions, relational dynamics, and individual psychological resources.

Conclusions: These findings support the conceptualisation of nurse retention as a multilevel and theory-informed process, providing a foundation for integrated strategies to enhance workforce wellbeing and organisational sustainability.

Keywords: Nurse retention; Work environment; Transformational leadership; Workforce sustainability

253. The Process of Development and Validation of a Scale for Assessing Leadership Challenges in Romanian Healthcare Settings

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Background: Leadership in healthcare is inherently complex, shaped by clinical demands, organizational constraints, and interpersonal dynamics. Although various instruments assess

isolated aspects such as stress or leadership style, there is a lack of integrated tools capturing the multidimensional challenges faced by healthcare leaders.

Aim(s): This study aimed to develop and validate a scale for assessing leadership challenges in healthcare, integrating key dimensions identified in the literature.

Methods: The scale was developed through a literature-informed qualitative approach, followed by item selection and expert review. A validation study was conducted on a sample of 109 nurses in leadership positions. Construct validity was assessed using Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). Reliability and convergent validity were evaluated using Composite Reliability (CR) and Average Variance Extracted (AVE), while discriminant validity was tested using the heterotrait-monotrait ratio (HTMT) criterion.

Results: EFA identified a four-factor structure comprising 13 items, explaining 61.24% of the total variance. The factors reflect: (1) decision-making and socio-emotional challenges, (2) administrative and bureaucratic demands, (3) organizational and resource constraints, and (4) staff shortage. CFA indicated a good model fit ($\chi^2/df = 1.397$; RMSEA = 0.061; CFI = 0.960; TLI = 0.938). All constructs demonstrated adequate reliability (CR = 0.801-0.826) and convergent validity (AVE = 0.506-0.705). HTMT values (0.62-0.71) confirmed discriminant validity.

Conclusions: The proposed scale demonstrates solid psychometric properties and provides a concise and reliable tool for assessing leadership challenges in healthcare. Its use can help identify critical areas that require intervention, such as administrative overload, resource shortages, or interpersonal and emotional difficulties. Given the limitations of the study, future research directions could include validating the scale on larger and more diverse samples, as well as testing the stability of the instrument over time, through longitudinal studies.

Keywords: Leadership; Healthcare settings; Nurses; Challenges; Validation

254. Alarm Fatigue and Sleep Quality in Intensive Care Unit Nurses: A Pilot Study

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Background: In Intensive Care Units (ICUs), acoustic alarms are essential for patient monitoring. Their frequent activation may expose nurses to sensory overload, and this may lead to alarm fatigue, a phenomenon associated with desensitisation, unsafe alarm management behaviours, and reduced well-being. However, its relationship with sleep quality remains underexplored.

Aim(s): To explore the relationship between alarm fatigue and sleep quality among ICU nurses.

Methods: A pilot cross-sectional study was conducted in three hospitals in the Lombardy region, Northern Italy. Data were collected in September 2024 through an anonymous online questionnaire including: a) sociodemographic and professional variables; b) the Italian version of the Alarm Fatigue Questionnaire; and c) the Pittsburgh Sleep Quality Index. Participants were recruited through consecutive sampling. Descriptive analyses and correlations were performed using the latest version of the software Jamovi.

Results: Forty-one nurses participated. The mean age was 41 years, and the mean ICU experience was 10 years. The mean Alarm Fatigue Questionnaire score was 20.2 (SD 6.5), indicating a moderate level of alarm fatigue. The mean Pittsburgh Sleep Quality Index score was 7.2 (SD 3.3), suggesting poor overall sleep quality; 63.41% of nurses scored >5, indicating impaired sleep quality, and 34.15% scored >8, suggesting more severe sleep disturbance. A weak positive correlation was observed between alarm fatigue and poorer sleep quality (r = 0.26). Negative correlations were also observed between alarm fatigue and age (r = -0.23), overall work experience (r = -0.23), and ICU experience (r = -0.25). No significant correlation was observed between sleep quality and monthly workload (r = -0.15).

Conclusions: This pilot study suggests a possible association between alarm fatigue and poorer sleep quality among ICU nurses. Further studies with larger samples are needed to clarify this relationship better and inform strategies to reduce unnecessary alarm burden in critical care settings.

Keywords: Alarm fatigue; ICU nursing; Sleep quality; Wellbeing; Patient safety; Pilot study

255. Organisational Health in a Post-Operative Paediatric Cardiac Surgery Intensive Care Unit: A Descriptive Study

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Background: Organisational health is a relevant determinant of care quality and nurses' professional well-being, particularly in high-intensity settings such as paediatric intensive care Units (ICUs). In these contexts, emotional burden, workload, and clinical complexity may affect both staff well-being and care delivery. Assessing nurses' perceptions of organisational health may help identify strengths and areas for improvement in the work environment.

Aim(s): To assess perceived organisational health among nurses working in the post-operative ICU for paediatric cardiac surgery at IRCCS Policlinico San Donato, Milan, Italy.

Methods: A single-centre cross-sectional descriptive study was conducted among nurses working in the unit. Organisational health was assessed using the Nursing Questionnaire on Organisational Health (QISO), a 100-item instrument exploring environmental comfort, workload, leadership, job satisfaction, safety, and psychosomatic distress. Items are rated on a 4-point Likert scale; mean scores above 2.6 out of 4 indicate the presence of the investigated dimension, whereas lower values suggest critical issues. Data were collected in December 2024.

Results: Twenty of 22 nurses completed the questionnaire (response rate: 90%). The highest mean scores were reported for satisfaction with the operational unit (mean=3.58), perception of the coordinator (mean=3.41), relationships with colleagues (mean=3.36), and organisational effectiveness (mean=3.10). Areas of concern emerged in work-related fatigue (mean=3.02; higher scores indicate greater burden), recognition of skills (mean=2.38), and propensity to innovation (mean=2.5). Psychophysical distress showed a mean score of 1.98, suggesting a low perceived frequency of somatic complaints.

Conclusions: Overall, nurses reported a generally positive level of organisational health, with strengths in leadership, teamwork, and satisfaction with the unit. However, relevant concerns emerged regarding work-related fatigue, competency recognition, and innovation. Targeted organisational and professional development strategies may help improve workplace well-being and support sustainable, high-quality care in paediatric critical care settings.

Keywords: Organisational health; Paediatric ICU; Nursing; Workplace wellbeing; Leadership; Work-related fatigue

256. The Role of Nurse-Patient Mutuality on Nurses' Professional Quality of Life: A Cross-Sectional Descriptive Study

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Background: The global nursing shortage significantly compromises healthcare outcomes, with the intention to leave being a primary driver of this crisis. Professional quality of life-which includes compassion satisfaction and compassion fatigue (secondary traumatic stress and burnout)-is a key determinant of nurse retention and well-being. Nurse-patient mutuality has emerged as a vital concept in chronic care and nurse outcomes, and it is characterized by three dimensions: developing and going beyond, being a point of reference, and deciding and sharing care. Understanding how these relational dimensions influence the

professional quality of life is essential for developing interventions that support the nursing workforce.

Aim(s): The aim of this study was to examine the role of nurse-patient mutuality in predicting compassion satisfaction and compassion fatigue among nurses providing care to patients with chronic illness.

Methods: A cross-sectional multicentre study was conducted involving 517 nurses across three tertiary hospitals in Italy. Professional quality of life and mutuality were assessed using the ProQoL Version 5 scale and the nurse version of the Nurse-Patient Mutuality in Chronic Illness (NPM-CI) scale. Multiple linear regression analyses were performed with the covariates.

Results: Multiple linear regression analysis revealed that mutuality dimensions significantly predicted compassion satisfaction (R2=.235). Specifically, being a point of reference (B=.27 [.080, .454], p=.005) and deciding and sharing care (B=.27 [.129, .410], p<.001) were significant positive predictors. For secondary traumatic stress (R2=.108), the dimension developing and going beyond was a significant negative predictor (B=-.66 [-.955, -.374], p< .001), while deciding and sharing care was a significant positive predictor (B=.31 [.151, .469], p<.001). Finally, burnout (R2=.102) was significantly and negatively predicted by the developing and going beyond dimension (B=-.23 [-.452, -.014], p=.037).

Conclusions: Nurse-patient mutuality is a fundamental driver of professional fulfilment. These findings confirm that fostering mutuality in chronic care settings can enhance compassion satisfaction and mitigate elements of compassion fatigue. However, because different dimensions of mutuality influence professional quality of life in distinct ways, healthcare organizations should implement targeted interventions to optimize these relational aspects and improve nurse outcomes.

Keywords: Nursing; Nurse-patient mutuality; Job satisfaction; Burnout; Stress; Chronic illness

257. Breaking the Vicious Cycle of Burnout and Turnover through Nursing Specialization: A Narrative Literature Review

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Background: The healthcare sector faces growing challenges in nursing workforce sustainability, including stress, burnout, and high turnover, worsened by the COVID-19 pandemic. High-intensity units such as emergency, intensive care, and mental health show the highest turnover, while more specialized settings are more stable. Nursing specialization may improve care quality, professional satisfaction, and resilience. Higher education levels among nurses are also linked to better patient outcomes. Effective leadership and workforce management are essential for quality care and cost control.

Aim(s): To evaluate whether nursing specialization reduces burnout, improves care quality, and decreases staff turnover.

Methods: A narrative literature review was conducted using PubMed, CINAHL, and Scopus, including English-language studies published between 2021 and 2026. The review included observational studies, systematic reviews, surveys, qualitative and mixed-methods research, and policy reports. Study selection followed PRISMA guidelines.

Results: Twelve studies were analyzed. Specialization was associated with reduced burnout, improved care quality, and lower turnover. Workforce stability and leadership quality are key factors influencing clinical and financial outcomes. High turnover increases costs and worsens care, while retention strategies improve sustainability and patient safety. Advanced Practice Nurses (APNs) help address workforce gaps and enhance care, although barriers such as workload, pay disparities, and inconsistent education remain. Transformational leadership is linked to higher job satisfaction and retention.

Conclusions: Healthcare sustainability relies on strong leadership and workforce stability. Promoting advanced roles, improving work environments, and supporting staff are essential to reduce burnout and turnover. Standardizing specialist education and ensuring fair compensation are crucial. Despite their benefits, APNs are limited by regulatory and educational inconsistencies that must be addressed to ensure safe and sustainable care.

Keywords: Nurse specialization; Quality of care; Human sustainability; Burnout; Turnover; Retention

258. A Thriving Nursing Workforce to Deliver Safe and Compassionate Care: An Organisational Study on Professional Quality of Life

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Background: Healthcare systems increasingly rely on nurses to deliver safe, person-centred and compassionate care, particularly in complex and emotionally demanding settings. However, sustained exposure to high clinical burden and patient suffering may negatively affect nurses' professional quality of life, leading to burnout and compassion fatigue. These conditions are increasingly recognised as factors that can impair attention, clinical judgement and decision-making, with potential implications for patient safety and quality of care.

Aim(s): To assess professional quality of life among nurses across different clinical settings and explore its implications for sustaining a thriving workforce capable of delivering safe and compassionate care.

Methods: A cross-sectional study was conducted in a public healthcare organisation in Italy. Registered nurses working in medical, intensive care, oncology and hospice settings were invited to participate. Data were collected using the Professional Quality of Life Scale (ProQOL-5), measuring compassion satisfaction, burnout and secondary traumatic stress. Descriptive analyses were performed to examine patterns across clinical contexts.

Results: Eighty-eight nurses participated. Moderate levels of burnout were observed across all settings, while secondary traumatic stress remained low. Compassion satisfaction was moderate overall, with higher levels reported in hospice care. Variations across clinical areas suggest that emotional demands, care intensity and team dynamics may influence nurses' professional wellbeing, with potential implications for patient safety and quality of care.

Conclusions: Supporting nurses' professional quality of life is essential to sustain a thriving workforce and ensure the delivery of safe and compassionate care. Integrating workforce wellbeing monitoring into patient safety strategies may support early identification of risk conditions and inform targeted organisational interventions aimed at strengthening resilience and care quality.

Keywords: Nursing workforce; Workforce wellbeing; Compassion fatigue; Burnout; Patient Safety; Resilience

259. Alarm Fatigue in High-Acuity Clinical Settings: Implications for Nursing Practice and Patient Safety

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Background: In high-acuity clinical environments, continuous monitoring systems generate frequent audible alarms, many of which are non-actionable. This high alarm burden may contribute to alarm fatigue among nurses, leading to desensitisation, increased cognitive workload and reduced responsiveness. Alarm fatigue is increasingly recognised as a relevant patient safety issue and a challenge for nursing practice in digitally intensive care environments.

Aim(s): To explore the prevalence of alarm fatigue among nurses working in high-acuity clinical settings and to examine its implications for patient safety, nursing workload and clinical decision-making.

Methods: A descriptive cross-sectional exploratory study was conducted in two high-intensity care settings, including intensive care and cardiac intensive care units. Nurses directly involved in patient monitoring were enrolled. Alarm fatigue was assessed using a validated instrument. Descriptive analyses were performed to examine alarm fatigue levels and their distribution across severity categories.

Results: Moderate to high levels of alarm fatigue were identified among nurses. Approximately 60-70% of participants reported moderate alarm fatigue, while 15-25% reported high levels. Consistent patterns across settings suggest that alarm fatigue is a widespread phenomenon in high-acuity environments, associated with continuous exposure to monitoring systems, alarm overload, cognitive burden and reduced situational awareness.

Conclusions: Alarm fatigue represents a significant challenge for nursing practice and patient safety in high-acuity care settings. The findings highlight the need to support nurses through strategies aimed at improving alarm management, optimising monitoring systems and reducing cognitive workload. Integrating alarm fatigue into safety and quality improvement initiatives may contribute to strengthening both workforce resilience and safer care delivery in technology-driven healthcare systems, while supporting nurse-led alarm system governance and a human factors-based approach to design and management.

Keywords: Alarm fatigue; Patient safety; Nursing practice; Clinical alarms; Intensive care; Workforce wellbeing

260. Relationship Between Self-Care Behaviors (Maintenance, Monitoring and Management) and Quality of Life (Physical and Mental) in Patients: A Cluster Analysis

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Background: Multiple chronic conditions (MCCs) are increasingly prevalent among older adults in low- and middle-income countries (LMICs), increasing vulnerability and making effective self-care essential for quality of life (QoL). Limited evidence exists on distinct QoL patterns and their associations with self-care behaviors, socio-demographic, and clinical/psychosocial characteristics in such settings.

Aim(s): To determine whether multiple patterns of mental and physical QoL could be identified in the context of MCCs, and to examine how self-care behaviors and socio-demographic and clinical/psychosocial factors differ across the patterns of mental and physical QoL.

Methods: This cross-sectional, multicenter study included 325 older adults with MCCs recruited from outpatient facilities in Kosovo. Self-care behaviors were assessed using the Albanian Self-Care of Chronic Illness Inventory (SC-CII-AL); depression with PHQ-9; stress with PSS-10; social support with MSPSS; and physical/mental QoL with SF-12 (PCS and MCS). K-means cluster analysis on standardized self-care scores identified two patterns, selected based on silhouette score, clinical interpretability, and cluster balance. Between-cluster differences were tested via t-tests while associations among self-care dimensions and psychosocial and quality-of-life variables were assessed using correlation analyses.

Results: Patients (mean age 71.2 ± 5.4 years) were mostly female (71.7%) and highly educated (70.5%), with an average of 3.8 ± 1.2 chronic conditions. Two self-care patterns emerged: "low self-care" (54.5%, n=177; maintenance 65.5, monitoring 56, management 51) and "high self-care" (45.5%, n=148; maintenance 83.5, monitoring 84.8, management 77.5). The high self-care group had significantly higher PCS (46.3 vs. 40.8, $p<0.001$) and MCS (46.8 vs. 43.5, $p=0.013$). Self-care dimensions correlated positively with both QoL components ($r=0.122$-0.376, $p<0.05$). Low self-care was associated with older age, lower education, higher depression and stress, and lower social support.

Conclusions: These findings highlight self-care behaviors as a key mechanism underlying QoL heterogeneity in older adults with MCCs in LMICs, supporting the development of targeted interventions for vulnerable low self-care groups.

Keywords: Aging; Cluster analysis; Low- and middle-income countries; Multiple chronic conditions; Self-care; Quality of life

261. Relationship Between Self-Care Behaviors (Maintenance, Monitoring and Management) and Quality of Life (Physical and Mental) in Patients: A Cluster Analysis

Edona GARA, PhD student[1], Rocco MAZZOTTA, PhD, Assistant Professor[2], Sajmira ADËRAJ, PhD, Nursing[3], Dasilva TAÇI, PhD student[4], Alta ARAPI, PhD, Albanian[5], Manuela SAURINI, PhD student[6], Gennaro ROCCO, PhD, International[7], Maddalena DE MARIA, PhD, Associate Professor[8]

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Aim(s): To determine whether multiple patterns of mental and physical QoL could be identified in the context of MCCs, and to examine how self-care behaviors and socio-demographic and clinical/psychosocial factors differ across the patterns of mental and physical QoL.

Methods: This cross-sectional, multicenter study included 325 older adults with MCCs recruited from outpatient facilities in Kosovo. Self-care behaviors were assessed using the Albanian Self-Care of Chronic Illness Inventory (SC-CII-AL); depression with PHQ-9; stress with PSS-10; social support with MSPSS; and physical/mental QoL with SF-12 (PCS and MCS). K-means cluster analysis on standardized self-care scores identified two patterns, selected based on silhouette score, clinical interpretability, and cluster balance. Between-cluster differences were tested via t-tests while associations among self-care dimensions and psychosocial and quality-of-life variables were assessed using correlation analyses.

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Conclusions: These findings highlight self-care behaviors as a key mechanism underlying QoL heterogeneity in older adults with MCCs in LMICs, supporting the development of targeted interventions for vulnerable low self-care groups.

Keywords: aging; cluster analysis; low- and middle-income countries; multiple chronic conditions; self-care; quality of life

262. Exploring the role of neuroscience nurses in Italy: findings from a national survey

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Background: Neurological disorders represent a leading cause of disability and complexity of care worldwide, requiring highly specialized and coordinated healthcare interventions. Nurses working in neurological settings play a key role in patient management, including clinical monitoring, early detection of neurological deterioration, patient and caregiver education, and facilitation of continuity of care. However, the role and competencies of neuroscience nurses remain insufficiently defined and described in many healthcare systems, including Italy.

Aim(s): To explore the professional role, perceived competencies and educational needs of nurses working in neurological care settings in Italy.

Methods: A cross-sectional online survey will be conducted among nurses working in neurological care settings across Italy, including neurology, stroke units, neurosurgery, neurorehabilitation and community care. The survey will be distributed through the national network of the Italian Association of Neuroscience Nurses (ANIN). A structured questionnaire will be developed to explore socio-professional characteristics, clinical roles and activities, perceived competencies and educational needs of neuroscience nurses. Data will be collected anonymously using an online platform (Microsoft Forms) and analyzed using descriptive statistics.

Results: Data collection is currently ongoing. The survey is expected to highlight variability in clinical roles and responsibilities among neuroscience nurses across different settings. Preliminary trends are anticipated to show strong involvement in direct patient care and multidisciplinary collaboration, with variable participation in caregiver education and discharge planning. Moderate to high levels of perceived competence in neurological patient management are expected, alongside the identification of relevant educational needs, particularly in advanced neurological assessment, management of neurodegenerative conditions and continuity of care.

Conclusions: This study will provide an initial national overview of the role and competencies of neuroscience nurses in Italy. The findings are expected to inform future educational strategies and support the development of targeted training programs promoted by ANIN, contributing to the recognition of neuroscience nursing as a specialized field.

Keywords: Neuroscience nursing; Nursing competencies; Professional role; Education needs; Survey; Workforce development

263. Migration of Nurses as a Component of Health System Preparedness: A Scoping Review of Challenges and Opportunities in European Healthcare Systems

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Background: Nurse migration has become a central feature of contemporary health workforce dynamics, often framed as a strategic response to workforce shortages and evolving population health needs. Health systems across Europe face growing demand due to demographic ageing, chronic disease burden, and workforce attrition, requiring innovative and sustainable approaches to preparedness. Nurse migration, if appropriately governed and integrated, can contribute to resilience and continuity of care; however, the processes enabling effective integration and retention remain unevenly understood across different health contexts.

Aim(s): To conduct a scoping review of peer-reviewed and grey literature addressing nurse migration in the context of health system preparedness, with a focus on European settings. Specifically, this review aims to map existing evidence on barriers, facilitators, and policy frameworks that influence the recruitment, integration, adaptation, and retention of migrant nurses.

Methods: A structured scoping review was conducted following the Joanna Briggs Institute methodology and the PRISMA-ScR reporting guidelines. Searches were performed in MEDLINE (PubMed), CINAHL, Embase, PsycINFO, Web of Science, Scopus, and CENTRAL for the period 2020-2025. Studies focusing on internationally educated nurses (IENs), migrant nurses, and workforce preparedness were included. Primary outcomes examined organisational preparedness, integration strategies, workforce retention, professional competencies, and socio-cultural adaptation.

Results: The preliminary synthesis identified four overarching themes: (1) regulatory and accreditation barriers influencing the timely deployment of the nursing workforce; (2) organisational and individual preparedness for workplace integration; (3) challenges related to communication, language proficiency, and cultural competence; and (4) facilitators supporting professional adaptation and long term retention. Overall, the evidence indicates that although nurse migration can help alleviate local workforce shortages, the absence of coordinated policy frameworks and robust support infrastructures limits system preparedness and hinders the equitable utilisation of migrant nurses' skills and contributions.

Conclusions: Enhancing preparedness in health systems requires comprehensive strategies that encompass regulatory harmonisation, culturally sensitive integration programmes, workforce support mechanisms, and inclusive policy frameworks. Nurse migration should be integrated as a strategic component of workforce planning rather than a short-term fix for staffing deficits. These findings provide a foundation for future research and policy dialogue aimed at strengthening European health workforce resilience.

Keywords: Nurse migration; Health system preparedness; Internationally educated nurses; Workforce integration; Scoping review; European healthcare

264. SPIRIT-DYAD: Dyadic Spirituality and Post-Stroke Outcomes In Survivor-Caregiver Dyads

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Background: Stroke is a leading cause of long-term disability, deeply affecting both survivors and their informal caregivers. Despite growing recognition of psychosocial needs, post-stroke care still primarily focuses on individual outcomes. Spirituality has emerged as a potential resource for coping and meaning-making, yet its role within the survivor-caregiver dyad remains poorly understood.

Aim(s): To investigate spirituality as a shared dyadic resource, examining its intra- and inter-personal associations with caregiver burden, disability, and health-related quality of life (HRQoL).

Methods: A cross-sectional study was conducted with 217 stroke survivor-caregiver dyads recruited at discharge from rehabilitation hospitals. Spirituality, caregiver burden, disability, and HRQoL were assessed using validated instruments. Dyadic structural equation modelling was applied to estimate within-person and cross-dyadic associations.

Results: Survivors' spirituality showed significant within-person associations with better HRQoL (physical $\beta=0.304$; cognitive $\beta=0.449$; emotional $\beta=0.455$; social $\beta=0.343$; all $p<0.001$). Cross-dyadic associations were observed: higher survivor spirituality was associated with lower caregiver time-dependent ($\beta=-0.275$), developmental ($\beta=-0.208$), and physical burden ($\beta=-0.183$). Caregiver spirituality showed a non-significant trend towards lower survivor cognitive disability ($\beta=-0.117$; $p=0.052$). After adjustment, caregiver spirituality was associated with lower developmental burden ($\beta=-0.227$; $p=0.023$).

Conclusions: Spirituality is associated with multiple dimensions of post-stroke adaptation through both intra- and cross-dyadic pathways. These findings highlight spirituality as a relational psychosocial resource and support the use of dyadic approaches in stroke rehabilitation.

Keywords: Stroke; Spirituality; Caregiver burden; Quality of life; Dyadic analysis; Structural equation modelling

265. Exploring the Associations Between Moral Distress, Moral Courage, and Professional Values Among Nursing Students

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Background: Moral distress is increasingly recognized among nursing students, particularly during clinical training where ethical conflicts are frequently encountered. While professional values and moral courage are considered key components of ethical competence, their complex interplay in shaping moral distress remains insufficiently understood.

Aim(s): This study aimed to examine the relationships between moral distress, moral courage, and professional values among nursing students and to explore the structural pathways among these variables.

Methods: A descriptive, cross-sectional study was conducted with 292 third- and fourth-year nursing students. Data were collected using validated instruments measuring moral distress, moral courage, and professional values. Descriptive statistics, Pearson correlation analysis, and structural equation modeling (SEM) using maximum likelihood estimation were performed to examine direct and indirect relationships among variables.

Results: Moral courage was positively associated with both moral distress and professional values. Professional values had a significant positive effect on moral courage, while negatively predicting the frequency and intensity of moral distress. Moral courage, in turn, had a significant positive effect on moral distress levels. Although no significant bivariate relationship was found between professional values and moral distress, structural modeling revealed significant direct and indirect effects, indicating a suppressor effect. Additionally, higher ethical knowledge was associated with increased moral courage and professional values, whereas greater knowledge of legal regulations was associated with lower moral distress.

Conclusions: The findings highlight the complex and multidimensional nature of moral distress among nursing students. Moral courage, rather than solely mitigating distress, may intensify it by increasing ethical awareness and sensitivity. Professional values appear to influence moral distress through moral courage, emphasizing the importance of integrating ethical and legal education in nursing curricula. Strengthening both ethical competence and legal knowledge may help students better navigate ethical conflicts and manage moral distress in clinical settings.

Keywords: Moral distress; Moral courage; Professional values; Nursing students; Ethical competence; Clinical ethics

266. Pioneering Perianesthesia Nursing in Japan: A Mixed-Methods Evaluation of Participant Satisfaction and Current Strategic Perspectives

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Background: Perianesthesia nursing is an emerging specialty in Japan, and its educational framework and professional roles are still developing. In 2010, our graduate school established the first educational program for perianesthesia nurses (PANs). To support continuing education and professional networking, an annual study meeting has been held for healthcare professionals involved in perioperative care.

Aim(s): This study aimed to evaluate participants' satisfaction with the educational sessions and to identify challenges and future directions for perianesthesia nursing education in Japan.

Methods: A questionnaire survey was conducted among participants of a perianesthesia nursing study meeting held outside the institution in 2018. A self-administered questionnaire consisting of 18 items and open-ended questions was distributed to 100 participants. Satisfaction with educational lectures and program management was assessed using Likert-scale items. Descriptive statistics and correlation coefficients were calculated, and qualitative content analysis was conducted on free-text comments.

Results: Sixty-three valid responses were obtained (response rate 63%). Overall satisfaction with the educational sessions was high, with 81% of respondents reporting "extremely satisfied" or "somewhat satisfied." The keynote lecture on anesthesiology education received the highest rating. Satisfaction with program management was also high (80.9%), although time allocation received comparatively lower ratings. Content analysis identified three categories: proposals for multidisciplinary exchange programs, insufficient understanding of PAN activities, and questions regarding the professional significance of PANs.

Conclusions: The survey revealed that nurses attending the perianesthesia study sessions were largely experienced and expressed high overall satisfaction with both the educational content and the session management. Despite this positive feedback, participants sought greater opportunities for multidisciplinary interaction and clearer insight into the evolving role of perianesthesia nurses. Given that nurse anesthetists' autonomy and scope of practice vary widely across countries but generally trend toward advanced, independent practice, the Japanese perianesthesia nursing role must be redefined and its career pathways strengthened to align with international advanced-practice standards.

Keywords: Advanced practice nursing; Perianesthesia nursing; Job satisfaction

267. Supporting Healthcare Workforce Through Education: The Role of Training in Reducing Burnout and Enhancing Patient Safety

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Background: Healthcare workforce wellbeing is essential for sustainable and safe healthcare systems. High levels of stress, burnout, and moral distress among nurses can negatively impact staff retention and patient safety. Organisational strategies, including structured education and training, play a key role in supporting workforce resilience.

Aim(s): To explore how structured education and training contribute to supporting healthcare professionals' wellbeing, reducing burnout, and enhancing patient safety in clinical practice.

Methods: Practice-based professional analysis informed by clinical experience in acute care settings, focusing on organisational elements such as mandatory training, human factors education, supportive supervision, and structured communication processes.

Results: Key factors supporting workforce wellbeing emerged: continuous professional education, non-punitive learning environments, structured team communication, and organisational support for reflective practice. These elements contributed to reduced stress perception, improved team cohesion, and safer clinical practice.

Conclusions: Education and training represent essential organisational strategies to support workforce wellbeing and resilience. Integrating structured learning with supportive organisational models can reduce burnout and strengthen both professional sustainability and patient safety across healthcare systems.

Keywords: Workforce wellbeing; Burnout; Nursing education; Patient safety; Organisational support; Resilience

268. Enhancing Learning of the Brøset Violence Checklist Through Gamification: A Crossover Study

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Background: Violence against healthcare professionals is a widespread global phenomenon and represents a significant issue for the safety of care settings, particularly in mental health services. Early assessment of the risk of aggression using validated tools, such as the Brøset Violence Checklist (BVC), may contribute to the prevention of violent incidents and to

improving staff safety. However, nursing students' training in this area remains limited and insufficiently practice-oriented.

Aim(s): To evaluate the effectiveness of a gamification-based educational intervention, using a serious game, for learning the Brøset Violence Checklist in a sample of undergraduate nursing students.

Methods: A multicenter quasi-experimental study with a crossover repeated-measures design was conducted on a sample of 52 students from two teaching sites of the Bachelor's Degree in Nursing at the University of Milan. Students participated in two educational interventions: a traditional lecture on the BVC and a serious game based on simulated clinical scenarios set in a mental health context. Measurements were collected at three time points (t0, t1, t2) using knowledge tests and simulated clinical cases. The gaming experience was evaluated using the Player Experience Inventory.

Results: The traditional lecture led to a significant improvement in theoretical knowledge compared to baseline values. Both interventions resulted in a significant improvement in students' ability to apply the BVC in the assessment of simulated clinical cases. The findings suggest that the traditional lecture is effective for the transmission of theoretical knowledge related to the BVC, whereas the serious game appears to primarily enhance the development of applied skills and clinical reasoning through interaction with simulated scenarios. The gaming experience was overall positively evaluated by students.

Conclusions: The integration of traditional teaching and gamification-based methodologies may represent an effective approach in nursing education. Serious games can effectively contribute to the development of applied skills and clinical reasoning, supporting students' preparedness in managing the risk of aggression in healthcare settings.

Keywords: Nursing education; Gamification; Mental health; Broset; Violence

269. Compassion Fatigue and Empathy Erosion in Healthcare: A Psychiatric Perspective on Workforce Wellbeing

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Background: Compassion is a core component of healthcare delivery, yet repeated exposure to patient suffering, high workload demands, and systemic inefficiencies places clinicians at risk of compassion fatigue and empathy erosion. These phenomena are increasingly recognized as distinct but overlapping occupational consequences of chronic caregiving stress. Within healthcare systems, this can contribute to reduced emotional engagement, impaired clinician wellbeing, and diminished quality of patient care. Despite growing awareness, compassion fatigue is often under-recognized in clinical training and institutional policy.

Aim(s): This presentation aims to explore compassion fatigue and empathy erosion among healthcare professionals from a psychiatric perspective, with emphasis on underlying

psychological and neurobiological mechanisms, contributing systemic factors, and implications for workforce wellbeing and patient care. It further aims to highlight evidence-informed strategies for prevention and mitigation at both individual and organizational levels.

Methods: A narrative review approach is used to synthesize existing literature on compassion fatigue, empathy decline, and related constructs such as burnout and secondary traumatic stress. The presentation integrates findings from psychiatry, psychology, and occupational health research, alongside clinical observations from healthcare settings. Key theoretical models of stress response and emotional regulation are used to contextualize findings.

Results: Compassion fatigue is associated with chronic activation of stress-response systems, emotional exhaustion, and adaptive emotional numbing, which may present as empathy erosion over time. Neurobiological correlates involve dysregulation of the hypothalamic-pituitary-adrenal (HPA) axis and functional changes in brain regions involved in emotional processing and executive control. Contributing factors include high patient load, time pressure, moral distress, and workplace cultures that discourage emotional expression. These processes negatively impact clinician-patient relationships, job satisfaction, and may increase risk of clinical errors and attrition.

Conclusions: Compassion fatigue and empathy erosion represent significant threats to sustainable healthcare delivery. Addressing these issues requires a shift from individual resilience-focused models toward systemic, organizational interventions that promote psychological safety, reflective practice, and structured peer support. Psychiatry has a key role in advancing understanding and informing interventions that preserve clinician wellbeing and maintain high-quality, compassionate care.

Keywords: Compassion fatigue; Empathy erosion; Healthcare professionals; Burnout; Moral distress; Clinician wellbeing

270. AI-Based Mobile Interventions for Nurse Burnout Prevention: A Systematic Review Protocol and Italian Implementation Pilot Study Design

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Background: Global nursing burnout prevalence is 42%. In Italy, FNOPI (2022-2023) documented high emotional exhaustion in 59% of nurses, intent to leave in 45.2%, and nurse-to-patient ratios reaching 8:1 (optimal ≤6), with each additional patient associated with +7% 30-day mortality. AI-based mobile interventions for nurse burnout show emerging evidence: Cho et al. demonstrated significant burnout reduction with a 4-week AI-tailored app (n=300). A validated Italian implementation model is absent.

Aim(s): To synthesise evidence on the effectiveness of AI-based and mHealth interventions for nurse burnout prevention (systematic review), and to propose a pre/post

implementation protocol for 'Help the Nurse' - a context-adapted AI mobile intervention for Italian nurses - validated with the Maslach Burnout Inventory (MBI-HSS).

Methods: Two-phase design. Phase 1 - Systematic review (PRISMA/PROSPERO): MEDLINE, CINAHL, Embase, PsycINFO searched: 'nurse burnout AI intervention', 'mHealth burnout nurses', 'mobile application nurse occupational stress'. Inclusion: RCTs and quasi-experimental studies (2018-2025), nurses, AI or algorithm-driven mobile interventions, MBI outcomes. Phase 2 - Implementation protocol (TIDieR guidelines): single-arm pre/post pilot; Italian multi-hospital sample; 8-week AI-adaptive programme; primary outcome MBI-HSS; secondary: intent to leave, patient safety metrics.

Results: Preliminary systematic mapping identified: Cho et al. 2024 (AI app, n=300, significant burnout reduction); Deriglazov et al. 2025 (mobile apps SR+MA: personal accomplishment Hedge's g=0.51; emotional exhaustion mixed). Italian contextual anchors: FNOPI 2022-2023 data (59% high stress; 47.3% energy depletion; salary dissatisfaction 77.9%). Gap confirmed: no AI-driven burnout intervention has been validated in Italian nursing contexts using FNOPI population data.

Conclusions: Evidence supports AI-based mHealth as a feasible nurse burnout intervention. The proposed Italian pilot would constitute the first FNOPI-data-anchored, MBI-validated implementation study in this field. Multicentre scale-up would require national workforce policy integration and Leiter & Maslach's organisational burnout framework.

Keywords: Occupational stress; Emotional exhaustion; Artificial intelligence; Digital health; Patient safety; Workforce well-being

271. The Hidden Cost of Coercion: Determinants of Mental Health Nurses' Well-Being in Acute Psychiatric Units: A Cross-Sectional Study

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Background: Mental health nurses (MHNs) working in acute psychiatric settings are frequently exposed to demanding clinical environments, in which the use of coercive measures, such as physical restraint, remains common. These conditions may negatively impact MHNs' well-being. However, empirical evidence in the Italian context is limited.

Aim(s): To assess well-being among MHNs employed in Italian acute psychiatric units and to identify its sociodemographic, professional, and clinical determinants, with a particular focus on exposure to physical restraint.

Methods: A cross-sectional study was conducted among Italian MHNs working in acute psychiatric units. Data on sociodemographic and professional characteristics, direct involvement in physical restraint, and perceived frequency of its use were collected through an anonymous online questionnaire. Well-being was assessed using the validated Italian version of the WHO-5 Well-Being Index. Descriptive statistics, Spearman's correlations, independent t-test group comparisons, and univariate and multivariate linear regression analyses were performed. Statistical significance was set at $p < 0.05$.

Results: A total of 135 MHNs participated (mean age, 43.88 years; SD, 11.02). The mean WHO-5 score was 12.96 (SD = 2.69), indicating low well-being. Notably, 46.7% of participants scored below the WHO-5 cut-off of 13 points, suggesting a risk of depression. No significant associations were found between well-being and sociodemographic or professional variables. In contrast, the perceived frequency of physical restraint use in the unit emerged as a significant predictor of lower well-being in the multivariate model ($\beta = -0.244$, $p = .005$). Direct involvement in physical restraint did not remain significant after adjustment.

Conclusions: Nearly half of MHNs working in acute psychiatric settings are at risk for depression. Well-being was not related to individual or professional factors but to the perceived frequency of physical restraint, highlighting the role of the clinical environment. These findings suggest that working in coercive environments may represent a contextual stressor for MHNs. Reducing coercive practices and promoting less restrictive care models may support staff well-being. Future research should explore the psychological impact of working in coercive environments, including the potential contribution to moral injury, psychological distress, and burnout associated with ethically challenging practices.

Keywords: Nurses; Psychiatry; Well-being; Coercion; Physical restraint; Italy

272. From Error Culture to Organizational Value: A Predictive Model for Reducing Clinical Errors in Nursing Settings

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Background: Patient safety is a strategic priority for healthcare systems. Clinical errors can be attributed to individual behaviors and to the organizational dynamics. In this context, Error Culture Management (ECM) and Safety Attitude (SA) represent relevant dimensions that are still insufficiently integrated into organizational models. Nevertheless, understanding of the mechanisms through which these variables influence clinical outcomes

remains limited, particularly regarding the role of the work environment as an expression of team functioning.

Aim(s): To analyze the role of the nursing work environment-workload, interpersonal conflict, and stress-as a mediator between ECM, SA, and clinical errors.

Methods: A multicenter cross-sectional study was conducted between January 2023 and December 2024 on a convenience sample of 636 nurses from seven Italian healthcare organizations. Validated scales were used, including the Safety Attitudes Questionnaire, ECM Scale, Workload Inventory, and Interpersonal Conflict at Work Scale. Inferential analyses were performed using Structural Equation Modeling (SEM) to assess direct and indirect effects among variables according to the Donabedian model.

Results: ECM showed a direct effect in reducing clinical errors ($\beta = -0.222$; $p = 0.002$). Moreover, higher levels of interpersonal conflict and workload were associated with an increase in clinical errors ($\beta = 0.148$; $p = 0.004$; $\beta = 0.135$; $p = 0.007$). SEM demonstrated that ECM exerts an indirect effect on errors through improvement in team functioning. Specifically, the reduction of interpersonal conflict and the optimization of workload partially mediated the relationship between ECM and errors, contributing to reductions of 12.2% and 8.7%, respectively. In contrast, stress did not show a significant mediating role. Finally, SA did not demonstrate significant effects on work environment conditions but showed a positive association with errors.

Conclusions: ECM emerges as a strategic lever capable of generating organizational value and improving patient safety. The findings show that focusing solely on individual professionals is insufficient and that SA alone does not reduce errors, highlighting that the value of nursing leadership lies in its ability to act on the work environment by designing collaborative and learning-oriented settings. This study demonstrates that safety is not improved by changing professionals but by changing the organizations in which they work.

Keywords: Nurses; Mediation analysis; Clinical errors; Safety attitude; work environment

273. Iatrogenic Withdrawal Syndrome in Pediatric Cardiac Surgery: A Narrative Review and Framework for Consensus-Based Clinical Practice Recommendations

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Aim(s): To explore current management strategies for IWS in pediatric CHD patients undergoing cardiac surgery and to provide a foundation for developing consensus-based Clinical Practice Recommendations within a multidisciplinary Community of Practice (CoP).

Methods: A narrative review was conducted according to SANRA criteria. PubMed and CINAHL searches identified eight eligible studies. In parallel, the methodological framework for consensus-based recommendations provided by the Italian National Institute of Health (ISS) was adopted, and a multidisciplinary CoP dedicated to IWS was established.

Results: Available evidence mainly describes preventive strategies based on structured analgosedation and weaning protocols. These approaches aim to reduce opioid exposure and implement gradual tapering through long-acting drug conversion. Although protocols vary considerably in monitoring tools, pharmacological strategies, dose reduction schedules, and risk stratification criteria, common cross-cutting elements were identified: multidimensional assessment scales, structured monitoring frequency, nursing decision-making autonomy, and protocol flexibility. These elements distinguish static, prescriptive models from more dynamic, nurse-responsive approaches, where clinical observation and real-time assessment guide individualized weaning trajectories.

Conclusions: A structured dynamic model appears to be the most effective approach for IWS management in pediatric cardiac postoperative care. By integrating standardized weaning pathways with flexible, patient-centered decision-making, this model enhances safety and reduces clinical variability. Within this framework, nursing assessment plays a pivotal and proactive role. The development of consensus-based Clinical Practice Recommendations represents a key step toward shared, high-quality care pathways in pediatric intensive care.

Keywords: Child; Iatrogenic Withdrawal Syndrome; Congenital Heart Disease; Pediatric Intensive Care Unit, Prevention; Management

274. Specialist Nursing Competencies at the Crossroads: A Multidimensional Textual Analysis of Nursing Students' Representations

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Background: The development of specialist nursing competencies is increasingly recognized as essential to address the growing complexity of healthcare systems. In Italy, this issue has recently entered the professional and educational agenda with the introduction of clinically oriented Master's degree programs, marking a potential turning point in the evolution of nursing roles. However, little is known about how these competencies are understood by nursing students.

Aim(s): To explore how specialist nursing competencies are represented and structured within nursing students' discourse.

Methods: A multidimensional textual analysis was conducted on open-ended responses provided by third-year nursing students. Data were analyzed using IRaMuTeQ, including lexical specificity and correspondence analysis to identify semantic configurations and latent dimensions structuring the discourse.

Results: Five semantic configurations emerged: autonomy, professional evolution, future development, perceived strengths, and perceived weaknesses. Specialist competencies were associated with increased clinical autonomy, decision-making, and professional development. A strong future-oriented perspective linked specialization to community care, chronic disease management, and digital health. Perceived strengths included improvements in care quality, patient safety, and system efficiency. In contrast, perceived weaknesses were related to organizational and regulatory factors, including role ambiguity, lack of recognition, and overlap between professional domains. Correspondence analysis identified two latent dimensions: organizational barriers versus professional empowerment, and present professional evaluation versus future healthcare transformation, highlighting a central tension between the potential of specialization and system readiness.

Conclusions: Nursing students perceive specialist competencies as a key driver of professional and healthcare system development, while recognizing the structural conditions required for their implementation. These findings highlight a misalignment between professional readiness and system readiness.

Keywords: Specialist nursing role; Advanced clinical practice; Nursing education

275. The Relationship between Departmental Culture and Resuscitation-Related Moral Distress Among Internal Medicine Physicians And Nurses

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Background: The highest level of moral distress among physicians and nurses is associated with delivering care that was perceived futile Objective to examine the relationship between intensity and frequency of resuscitation related moral distress and departmental culture among nurses and physicians in Internal Medicine wards.

Aim(s): The aim of this study was to examine the level of intensity and frequency of resuscitation related moral distress and departmental culture among nurses and physicians in Internal Medicine wards.

Methods: Cross sectional prospective study including staff in Internal Medicine departments in three hospitals. Questionnaires used Resuscitation Related Moral Distress Scale, demographics and Departmental Culture.

Results: 64 physicians, 201 nurses, response rate 64%. Participants responded participating an average of 8.4 (SD=5.1) resuscitations in the previous 6 months. Highest Moral Distress frequency scores for items related to life- saving interventions for dying patients because family demands, or because no medical decision. Highest Moral distress intensity scores when appropriate care to deteriorating patient could not be given due to a lack of staff and witnessing a resuscitation that could have been prevented had the staff identified the deterioration on time. Majority of participants strongly agreed (n= 228, 86.0%) that unit medical director value of determining patient's end of life preferences then quality of life is of the highest value.

Conclusion: Nurses and physicians working in Internal Medicine suffer from moderate frequency levels of moral distress and high intensity levels related to resuscitation. There was significant association between intention to leave employment with resuscitation related moral distress frequency and intensity.

Keywords: Moral distress; Internal medicine; Department culture; Physicians, Nurses

276. Depression as a Global and Regional Challenge with a Focus on Youth Mental Health

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Background: Depression is one of the most prevalent mental health disorders globally, significantly affecting quality of life, social functioning and productivity. Its increasing prevalence, particularly after the COVID-19 pandemic, highlights the urgent need for comprehensive understanding and intervention, especially among young populations.

Aim(s): This study aims to analyze depression at global, European and Balkan levels, with a specific focus on risk factors, challenges in treatment, the role of technology and the impaction youth mental health.

Methods: This study is based on a descriptive and analytical approach, using data from international reports and relevant literature. It includes a comparative analysis of global, European and regional trends, as well as a case study to illustrate real-life implications.

Results: Finding indicate that depression rates are increasing worldwide, with a significant rise among young people. Key contributing factors include social media influence, academic pressure and social isolation. Technological tools such as online therapy and mental health

applications have improved access to care, although challenges such as stigma and limited services remain.

Conclusions: Depression represents a major public health challenge requiring an integrated and multidisciplinary approach. Early identification, improved access to treatment, and the use of digital technologies are essential for better outcomes, particularly for young people.

Keywords: Depression; Mental health; Youth; Digital health; Social factors; Balkans

277. A Vision or a Necessity? Strengthening the Role of Veterinary Nurses In Team-Based Veterinary Healthcare

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Background: The increasing complexity of veterinary healthcare has intensified the need for effective team based care. Veterinary nurses (VNs) are central to this, yet their roles remain inconsistently defined and applied. This work explores how VNs can be empowered and embedded within multidisciplinary teams to support workforce sustainability, wellbeing, patient outcomes and client experience. Building on the RCVS VN Vision Project (Dugmore & Macdonald, 2025), the study "A Vision or a Necessity? Strengthening the Role of Veterinary Nurses in Team Based Veterinary Healthcare" aims to co create a shared vision for optimising VN roles across practice contexts through creation of a 'theory of change'.

Aim(s): How can veterinary nurses be more fully integrated into multidisciplinary teams, and what steps are required to achieve this change?

Methods: A qualitative, participatory approach was used through UK wide workshops in 2025-2026 with VNs, vets, educators, leaders and allied professionals. Activities included facilitated discussions, sticky note and whiteboard tasks and participant led ranking. Prompts explored perceptions of team based care, the impact of enhanced VN roles, required outcomes, enablers and barriers, underlying assumptions and meaningful measures of success. Data are being analysed inductively, supported by a theory of change consultant to synthesise findings into a logic model.

Results: Emerging themes highlight potential impacts such as improved workflow, shared responsibility, better patient outcomes, greater job satisfaction, broader career pathways and enhanced team wellbeing. Cultural factors shape role use, including communication, hierarchy, delegation, trust, psychological safety and recognition of contributions. Interprofessional education is consistently identified as essential, with teams seeking clearer understanding of RVN training, delegation processes, legal parameters and the breadth of the RVN role.

Conclusions: A collaborative approach to veterinary care is now viewed as essential. Enabling VNs to work to the full extent of their skills strengthens teams and enhances patient and client outcomes. Achieving meaningful change will require not only procedural

updates but cultural transformation-clarity, support and psychologically safe environments that allow teams to adopt new ways of working.

Keywords: Cultural reform; Team-based healthcare; Veterinary nursing; Interprofessional collaboration; Workforce wellbeing and sustainability

278. Exploring the Preceptor-Newly Hired Dyad: A Qualitative Study on the Role of the Clinical Preceptor in the Nursing Onboarding process

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Background: The global nursing shortage, rising healthcare costs, and increasing demand for improved patient outcomes highlight the need for well prepared nurses entering the workforce. Structured transition programs are associated with improved retention rates and may help address these challenges. In this context, the effectiveness of the preceptor tutor emerges as a determinant factor in ensuring a high quality, timely, and cost effective onboarding process, as it plays a pivotal role in fostering clinical competence and reducing transition shock among newly graduated nurses during their first year of practice, thereby influencing both successful professional integration and retention outcomes. However, although the literature acknowledges the importance of the dyadic relationship between novice nurses and their preceptors, there is currently a lack of clarity regarding the identification of the key characteristics and competencies required of preceptor tutors to ensure an optimal onboarding process, from both preceptors' and preceptees' perspectives.

Aim(s): The aim of this research study is to explore the perceptions of the preceptor-newly hired dyad regarding the clinical preceptor's role, as well as the essential characteristics and competencies needed to effectively support the onboarding process.

Methods: Qualitative research study employing focus groups as data collection method. Participants are purposively recruited from real preceptor-newly hired dyads involved in the onboarding process. Two separate focus groups are conducted, one with clinical preceptors and one with newly hired nurses, using a predefined semi-structured questions to guide the discussion.

Results: Based on the reviewed literature, the study expects to elucidate the preceptor-newly hired dyad's perceptions across key themes, including barriers and challenges encountered during onboarding, pedagogical and instructional competencies, teaching strategies, feedback and evaluation methods, relational and communication skills,

organizational and collegial support, tutoring approaches with the new hire, and recommendations for designing clinical preceptor training programs.

Conclusions: The findings of this study will advance research on the onboarding phase for newly hired nurses and the ideal preceptor characteristics, thereby informing organizational interventions-such as targeted clinical preceptor training programs-that optimize their preparation to enhance new staff integration, retention, and professional development.

Keywords: Onboarding nursing process; Nursing transition; preceptor; Newly hired nurses; Preceptee; Qualitative research

279. Stress, Shift Work and Substance Use Among Nurses: An Experimental Study Using ASSIST and an Analysis of Psychosocial Determinants

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Background: Burnout refers to a syndrome resulting from unmanaged chronic work-related stress, which manifests itself through emotional exhaustion, depersonalisation and reduced professional fulfilment (WHO, 2019). This psychological and physical condition can lead professionals to adopt dysfunctional coping mechanisms, including self-medication, which is often used to manage symptoms such as stress, anxiety and insomnia. In the healthcare sector, easy access to medication encourages the development of a vicious circle that can compromise the health of nurses and patient safety.

Aim(s): The aim of the study is to investigate the coping strategies and substance use among healthcare professionals.

Methods: This cross-sectional descriptive study was conducted from 12 January 2026 to 13 March 2026 at the "C.&G. Mazzoni" Hospital in Ascoli Piceno, part of the Ascoli Piceno Local Health Authority (AST). The survey involved a sample of 174 nurses. Data were collected using a questionnaire comprising a sociodemographic section and the ASSIST test, in compliance with privacy regulations and ensuring the anonymity of the sample.

Results: The sample is predominantly female (75%). In 90% of cases, the reason for leaving previous care settings is often attributable to other, unspecified reasons. The majority of professionals (80%) report strong family support. A significant proportion of the sample, amounting to 59%, report critical levels of environmental stress, and 20% report difficulty in separating their private life from work-related concerns. 37% of respondents use tobacco daily, and 43% fall into the moderate-risk category. Consumption is often accompanied by cravings, reported by 28% of daily users, and by attempts, sometimes unsuccessful, to reduce consumption.

Conclusions: Substance use among nurses is a complex and stigmatised phenomenon, linked to chronic stress and burnout, which can also have organisational causes. The results highlight high levels of stress despite good family support. The ASSIST test indicates tobacco as the most commonly used substance, followed by sedatives, with a moderate risk. Gender differences emerge: higher levels of occasional use among men and greater fatigue among women. There is a clear need for preventive interventions, organisational support and the reduction of stigma.

Keywords: Nurses; Burnout; Work-related stress; ASSIST tool; Coping; Mental health

280. Retirement is not an End for me, but a New Beginning: A Qualitative Study on the Retirement Experiences of Retired Nurses

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Background: Retirement is increasingly seen as a complex life transition that involves psychological, social, and identity changes. In nursing, where professional identity tends to be deeply rooted, retirement is particularly important for both individual well-being and the sustainability of the healthcare workforce. Despite this, much of the existing research is quantitative and offers limited insight into how nurses experience and interpret this transition in their own lives.

Aim(s): This study aimed to explore how retired nurses experience and make sense of retirement, focusing on the factors that shape their transition and adaptation after leaving professional practice.

Methods: A qualitative phenomenological approach was used. Data were collected through in-depth, semi-structured interviews with 24 retired nurses in Türkiye. The interviews were analysed using reflexive thematic analysis. Schlossberg's Transition Theory informed the analytical process and supported a deeper understanding of how participants navigated change and adapted over time.

Results: Three main themes emerged from the analysis. The first, the road to retirement, reflects how retirement decisions developed gradually and were influenced by personal, professional, and contextual factors. The second, support as a structuring force, highlights the importance of both institutional recognition and close relationships in shaping the transition experience. The third, reconstructing life after nursing, captures how participants described a mix of relief and uncertainty, along with efforts to reorganize daily life and redefine their sense of identity. Overall, retirement was described not as a single moment but as an ongoing process involving both loss and continuity.

Conclusions: Retirement among nurses should be understood not simply as leaving work but as a multidimensional and ongoing process of identity reconstruction shaped by personal and contextual factors.

Keywords: Retirement; Nurses; Identity transition; Qualitative research; Thematic analysis; Workforce ageing

281. Voices of Nurses Leaving the Profession: Strategies for Organizational Workforce Management and Policy Action in Italy

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Background: Nurse attrition has become a growing global concern, driven by increasing rates of resignation, retirement, and international migration. Beyond financial factors, aspects such as organizational culture, leadership style, and professional recognition strongly influence nurses' decisions to remain in the profession.

Aim(s): This study aims to explore the experiences and perspectives of Italian nurses who have left or are considering leaving the profession, with the objective of identifying key organizational and policy-related determinants of attrition and outlining strategies to support leadership and workforce planning.

Methods: A qualitative design was adopted, employing thematic analysis following Braun and Clarke's framework. Data were collected between February 2023 and November 2024 through 21 semi-structured interviews with nurses who had either exited the profession or were planning to do so. Analytical rigor was ensured through independent double coding and peer debriefing.

Results: Two overarching themes emerged. At the organizational level, participants reported excessive workloads, irregular and unpredictable shifts, frequent reassignment across units, and limited recognition of advanced competencies. They emphasized the importance of supportive and participatory leadership, clear communication, structured scheduling, opportunities for career development, and access to psychological support. At the policy level, concerns included the absence of defined career progression pathways, insufficient recognition of postgraduate education, poor public understanding of the nursing role, and inadequate safeguards against workplace violence. While salary improvements were considered relevant, participants stressed that financial measures alone are insufficient without broader systemic and cultural reforms.

Conclusions: Nursing leadership plays a crucial role in enhancing retention by fostering inclusive management practices, promoting equitable workload distribution, and ensuring professional recognition. Policymakers should prioritize the development of structured career frameworks, stronger legal protections, and public awareness initiatives aimed at improving the societal perception of nursing. These actions are essential to reduce attrition, strengthen workforce stability, and support high-quality care.

Keywords: Nurse attrition; Intention to leave; Leadership; Workforce sustainability; Nursing management; Quiet quitting

282. The Relation Between Compassion Fatigue and Professional Identity Among Critical Care Nurses

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Background: Compassion is a core component of intensive care unit (ICU) nursing, yet sustained exposure to suffering, high-acuity clinical demands, and organizational pressures places ICU nurses at heightened risk for compassion fatigue. Compassion fatigue-often described metaphorically as "bruises in the soul"-emerges from prolonged empathic engagement combined with cumulative emotional strain. It is characterized by emotional exhaustion, diminished empathy, and a reduced capacity to provide authentic compassionate care. As compassion fatigue develops, nurses may increasingly rely on surface acting (displaying emotions that are not genuinely felt) rather than deep emotional engagement, thereby weakening meaningful patient interactions. Organizational factors such as inadequate staffing, unsupportive team culture, and systemic pressures further contribute to emotional depletion, while personal stress and anxiety may indirectly undermine ethical sensitivity by impairing empathic capacity. Internationally, the reported prevalence of compassion fatigue among ICU nurses varies widely, ranging from approximately 7% to 40%, depending on the measurement tools, populations, and study designs employed. Nevertheless, systematic reviews and meta-analyses consistently demonstrate that ICU nurses experience higher levels of compassion fatigue compared to nurses in other specialties, with moderate-to-high levels reported globally. Professional identity among ICU nurses is defined by the integration of advanced clinical competence, technical expertise, and a commitment to patient-centered care within a high-intensity and technologically complex environment. ICU nurses distinguish themselves through their ability to synthesize biophysical knowledge, critical thinking, rapid clinical decision-making, and compassionate bedside presence, while maintaining effective communication with patients and families. Core enablers of professional identity include intrinsic motivation, a sense of professional pride and irreplaceability, and perceived professional fulfillment. Conversely, excessive workload, limited recognition, and organizational constraints may hinder the development and stability of professional identity. Compassion fatigue and professional identity appear to interact in reciprocal and potentially reinforcing ways. Compassion fatigue may erode central components of professional identity-such as

commitment to patient-centered care, ethical engagement, and professional meaning-by fostering emotional disengagement and reliance on surface acting. In contrast, a well-established professional identity, supported by intrinsic motivation, psychological capital, and a strong sense of role clarity, may buffer against compassion fatigue by enhancing resilience, job embeddedness, and coping capacity. International evidence indicates moderate-to-high levels of compassion fatigue among ICU nurses; however, its prevalence has not been systematically examined in Israel. At the same time, professional identity-characterized by clinical expertise, intrinsic motivation, professional pride, role clarity, and commitment to patient-centered care-may serve as either a protective or vulnerability factor in relation to compassion fatigue. Despite growing theoretical recognition of this relationship, empirical research examining the association between professional identity and compassion fatigue in ICU settings remains limited.

Aim(s): This cross-sectional quantitative study aims to (1) determine the prevalence and severity of compassion fatigue among Israeli and European ICU nurses, (2) identify and characterize key components of their professional identity, and (3) examine the associations between professional identity characteristics and levels of compassion fatigue.

Methods: This study will employ a cross-sectional quantitative design using self-report questionnaires measuring characteristics of compassion fatigue and professional identity. The data will be collected by a digital online survey platform that will be distributed in a snowball method. Recruitment will be conducted through professional social media networks and online forums dedicated to ICU nurses in Israel and in Europe (such as EFFCNA and Cost action). Participation will be voluntary, and informed consent will be obtained electronically prior to survey completion. No identifying information will be collected.

Results: The findings are expected to provide the first empirical estimate of compassion fatigue prevalence among ICU nurses in Israel and to clarify the role of professional identity as a potential protective or risk factor. The study questionnaire includes 10 demographic questions and 26 questions evaluating emotional well-being and 30 questions evaluating professional role formation. The questionnaire was distributed to 20 ICU nurses to evaluate reliability and internal consistency. A power analysis was calculated by using the number of registered ICU nurses to the Israeli society of critical nursing to define the appropriate sample of volunteers to ensure adequate internal consistency and statistical power. A number of 200 nurses from Israeli ICU was define as the target population. A similar approach was made to the European federation of critical care nurse association (EFFCNA) to estimate the desired sample of European nurses. Further findings of the questionnaires results in Israel and in Europe will be presented in the conference.

Conclusions: By advancing understanding of the interaction between emotional well-being and professional role formation, this study may inform targeted organizational and educational interventions aimed at strengthening professional identity, enhancing resilience, supporting nurse retention, and promoting sustainable, patient-centered care in intensive care settings.

Keywords: Emotional fatigue; Role identity; Intensive care; Nurses

283. Interpersonal Conflicts and Intention to Leave in Emergency Departments: An Observational Study

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Background: Emergency departments are characterised by high levels of clinical complexity and critically ill patients requiring advanced knowledge and skills. The management of such high-complexity cases typically relies on a multidisciplinary, team-based approach. These teams are composed of professionals with diverse competencies working collaboratively to deliver patient care. Effective team performance depends on cohesion and mutual agreement among team members. From an epidemiological perspective, emergency departments worldwide face increasing patient volumes, overcrowding, and staff shortages, all of which contribute to heightened workplace stress and a greater likelihood of interpersonal conflict. Previous research suggests that a substantial proportion of healthcare professionals report workplace conflict, with significant implications for burnout, reduced job satisfaction, and increased turnover. High turnover among emergency nurses represents a critical issue, as it is associated with decreased continuity of care, increased workload for remaining staff, and potential declines in the quality and safety of care. Understanding the role of interpersonal conflicts within this context is therefore essential. However, workplace relationships are often affected by interpersonal conflicts, which may negatively impact both patient outcomes and healthcare professionals. Although several studies have focused on identifying predictors of interpersonal conflict and strategies for its resolution, limited evidence exists on how these conflicts influence intentions to leave and job satisfaction.

Aim(s): This study aims to investigate the impact of interpersonal conflicts on intention to leave and job satisfaction among nurses working in emergency departments.

Methods: A cross-sectional observational study was conducted in the emergency department and intensive care unit of a tertiary university hospital in Southern Italy. A purposive sample of nurses working in the emergency department was consecutively recruited. Inclusion criteria were registered nurses of both sexes with at least six months of work experience. Newly hired and non-permanent staff were excluded. A designated nurse provided participants with study information, obtained informed consent, and explained the study's purpose and data collection procedures. Questionnaires were then distributed and subsequently collected. Responses were anonymised and entered into a digital database for analysis. The collected sociodemographic variables included age, gender, years of professional experience, years of service in the emergency department, and educational level. Interpersonal conflicts were measured using the Interpersonal Conflict at Work Scale, which consists of four items assessing the frequency of arguments, yelling, and rude interactions with coworkers. Responses are rated on a five-point Likert scale ranging from 1

(rarely) to 5 (very often). Intention to leave and job satisfaction were also assessed using Likert-type scales ranging from 1 (rarely) to 5 (very often). Statistical analyses were performed using SPSS software. Continuous variables were summarised as means and standard deviations, while categorical variables were reported as absolute frequencies and percentages. Independent-samples t-tests were used to assess group differences. Statistical significance was set at $p < 0.05$.

Results: A total of 52 nurses were included in the analysis. Nurses reporting high levels of interpersonal conflict (n = 18) had significantly higher conflict scores (M = 4.11, SD = 0.59) compared to those reporting low conflict (n = 34; M = 2.22, SD = 0.57; $t(50) = -11.25$, $p < 0.001$), indicating a marked difference in perceived workplace conflict. No significant difference in job satisfaction was observed between the two groups. Nurses experiencing high conflict reported a mean satisfaction score of 2.50 (SD = 1.15), while those with low conflict reported 2.71 (SD = 0.97; $t(50) = 0.68$, $p = 0.50$). Years of service in the current department differed significantly between groups. Nurses with low conflict had longer departmental experience (M = 3.18, SD = 1.19) than those with high conflict (M = 2.52, SD = 0.81; $t(50) = 2.29$, $p = 0.026$).

Conclusions: These findings highlight the significant impact of interpersonal conflicts on nurses' perceptions of the work environment in emergency departments. Nurses reporting high levels of conflict experienced substantially greater perceived workplace conflict, suggesting that interpersonal tensions are a salient issue in high-stress clinical settings. Interestingly, no direct association was observed between conflict levels and overall job satisfaction, indicating that other factors, such as professional commitment or coping strategies, may buffer the negative effects of conflict on satisfaction. However, nurses experiencing lower conflict had longer tenure in their current departments, suggesting that prolonged departmental experience may contribute to reduced exposure to or better management of interpersonal conflicts. These results underscore the importance of monitoring and addressing interpersonal conflicts in emergency care teams to maintain a functional work environment and promote staff retention. Interventions such as conflict management training, team-building activities, and structured communication protocols may help mitigate conflict, supporting both nurse well-being and continuity of patient care.

Keywords: Emergency department; Interpersonal conflict; Nurses; Job satisfaction; Intention to leave; Workplace stress

284. Leadership Nurses and Mental Health

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Aim(s): The primary objective of this study is to identify and analyze the leadership style of nursing coordinators and compare it with the perception of the nursing staff. The research focuses on how empowering leadership dimensions-such as coaching, informing, and

participative decision-making-impact the perceived organizational health and professional commitment of the team.

Methods: A descriptive cross-sectional study will be conducted using the "Empowering Leadership Questionnaire" (ELQ), developed by Arnold et al. (2000) and adapted for the Italian context by Bobbio et al. (2007). The tool consists of 38 items across five dimensions: Leading by Example, Coaching, Participative Decision-Making, Informing, and Showing Concern for the Team. Responses are collected via a 5-point Likert scale (1=Never, 5=Always). The questionnaire is administered to both Nursing Coordinators (self-assessment) and their respective nursing staff (perceived leadership) to identify potential alignment or discrepancies.

Results: It is expected that higher levels of empowering leadership will correlate with increased job satisfaction and a more positive perception of organizational health. Discrepancies between the coordinator's self-perception and the staff's evaluation may highlight areas for improvement, particularly regarding communication flow and involvement in decision-making processes.

Conclusions: Implementing empowering leadership practices is essential for creating sustainable healthcare environments. By fostering trust, respect, and professional autonomy, nursing coordinators can reduce the risk of burnout and improve the overall quality of patient care. This study provides a baseline for developing targeted leadership training programs within the hospital's departments.

Keywords: Leadership; Burnout; Empowering; ELQ; Coaching; Nurse manager

285. Second Victims Aid, How to be Betters Using the Professional's Opinion

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Aim(s): To describe the opinions and the usage profile of events reporting System To analyze whether the profile influences opinions and use of the System.

Methods: Through a self-administered questionnaire based on SVEST-E , participants are asked about gender, professional experience, profession, the items in the SVEST-E questionnaire, participation in hospital safety event analyses, their opinion on the support provided during analysis, the usefulness of reporting, and their adherence to both the reporting system and the event analysis system. The data collection period will be from January 15 to February 15, 2026.

Results: 69% (57-79) women, 43% (32-56) nurses, 18.3 average years (3-40). Wishes (7). Having a colleague to discuss what happened with (58% [46-70]). The possibility of leaving the unit for a short time (15% [8-25]) and the possibility of recovering in a quiet place or having a free assistance and counseling program, both at 26% (17-38). All respondents reported having experienced patient harm events. Work-related impact (4), the desire to leave patient care work (50% [38-62]), having taken days off after the event (5% [2-13]).

Physical symptoms (4) sleep problems (68% [55-78]) exhaustion (58% [46-70]), dizziness (13% [7-23]) and loss of appetite (11% [5-23]). Psychological distress (14), talking with colleagues brings relief (63% [59-74]), colleagues make me feel I am still a good professional (60% [47-71]), fear of future events (55% [43-67]). Colleagues make me feel incompetent (3% [1-11]), that a colleague provided comfort at an inappropriate time, and that events do not make me question my professional skills, both 18% (10-29). 31% (21-43) did not answer questions about institutional support (3). 9% (4-22) reported that their superiors blame team members when an event occurs. 80% (65-90) consider it useful, 62.5% (47-76) have reported an event, 60% (45-74) do not mind participating in event analysis, and 16% (9-27) have participated in an analysis. Feelings about the support received during analysis, Positive "The supervisor gave support, excellent" "I felt supported by the safety committee" "The manager's approach was appropriate" Suggestions: "It would be better to have a group discussion rather than individual interviews" "It should be routine to have an appointment with a psychologist" Negative, greater . "I would like support from supervisors and psychologists" "You feel interrogated and judged, there is no real support" "I did not feel any support from superiors" "I feel the evaluation had an accusatory tone" "I feel it adds indifference, like everyone for themselves" "I felt like I was on trial" "I felt no support, it solved nothing, it was a useless meeting" Only Participation in event analysis did show statistical significance . Those who participated in analysis considered reporting more useful and reported events more frequently.

Conclusions: All professionals have been involved in some event and all expressed suffering because of it. This clearly highlights the magnitude of the importance of improving care for second victims. The lack of statistical significance of demographic and work profile variables in the questionnaire results confirms that interventions for second victims can have a universal character, independent of gender, age, or professional activity. Colleagues are the primary desired and most used resource, although mental health professionals are also mentioned. This result may not be shared in other cultural contexts, but it offers an opportunity to focus development efforts on training all professionals in skills for supporting second victims. The fact that some professionals still believe their superiors blame staff, and that adherence to the reporting system is below 65% even among those who consider it useful, highlights clear areas for improvement. Finally, the negative feelings expressed during event analyses as currently conducted stand out. Therefore, it is necessary to design improvements in support for second victims specifically within the event analysis system itself.

Keywords: Emergency nursing; Patient safety; Second victims; Suffering; Auditing

286. Burnout in Nursing and Intervention Strategies: A Review of the Literature

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Background: Professional burnout syndrome is characterized by emotional exhaustion, depersonalization, and a decreased sense of personal accomplishment and is widespread among nurses. According to the American Nurses Association, nearly 18% of new graduate nurses leave the profession within the first year, citing stressful working conditions and understaffed positions.

Aim(s): To analyze literature recommendations for the prevention and management of nurse burnout, including during training.

Methods: Narrative review of the literature, using age >18 as a limit, reviews and meta-analyses of the last 10 years. The review was based on the steps and processes reported in the PRISMA standards for systematic reviews. The authors followed these steps: selection of the guiding question, definition of eligibility criteria, definition of relevant information from studies, evaluation of results, interpretation, and summary of the information found. The databases consulted include PubMed and the Cochrane Library. The keywords used, combined with Boolean operators AND and NOT, were Burnout, nurse, teaching, nurs*.

Results: After removing duplicate records (n = 1124) and screening by title and abstract, 30 full-text articles were reviewed. Programs targeting burnout have positively impacted nurses' personal and professional wellbeing. Mindfulness courses and interventions displayed a notable impact: it can be widely implemented by healthcare professionals, even during the school of nursing, thus improving their well-being and the quality of care they provide. The method has a number of limitations, like a small number of participants and, above all, ceasing to practice mindfulness in the longer term after the course termination. Other interventions are exercise, yoga and music. Two studies targeted overall well-being with interventions that included an eMental Health program utilizing cognitive behavior therapy (CBT) components.

Conclusions: The nursing profession requires comprehensive and multifaceted strategies to combat burnout. Leadership training and adequate staffing can help address the issue, but they're not the only solutions. Mental health, physical activities, and professional competence are strategies to reduce nurse burnout. Implementing these approaches in healthcare settings can improve emotional exhaustion, depersonalization, and occupational stress of nurses.

Keywords: Burnout; Nurse; Teaching

287. Effect of Clinical Pilates on Healthcare Worker Well-being: A Quasi-Experimental Study

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Background: Chronic nonspecific low back pain and pelvic floor dysfunction are common in women over 40 and can negatively affect quality of life. Clinical Pilates, combining the Pilates method with the concept of neuromuscular rehabilitation and motor control, may improve both conditions.

Aim(s): To evaluate the effectiveness of Clinical Pilates in improving well-being by reducing chronic low back pain and pelvic floor symptoms in female healthcare workers

Methods: A single-center quasi-experimental study enrolled female employees aged 45-65 with chronic low back pain and/or pelvic floor dysfunction, not using anti-inflammatory medications. Exclusion criteria included oncological disease, motor disability, and recent trauma or surgery. Participants completed a six-week outpatient Clinical Pilates program followed by telerehabilitation every six weeks for six months. Outcomes included pain (NRS), quality of life (SF-36), urinary symptoms (UDI-6), and low back disability (ODI-I), assessed at baseline (T0), 6 weeks (T1), 3 months (T2), 4 months (T3), and 6 months (T4).

Results: To date, 24 female healthcare workers, average age of 55.04 years (SD 3.90), have completed the evaluations. SF-36 improved from 86.25 (SD 20.13) (T0) to 93.06 (SD 8.54) (T4); NRS decreased from 2.1 (SD 1.80) (T0) to 1.2 (SD 1.69) (T4); UDI-6 decreased from 4.08 (SD 2.56) (T0) to 1.83 (SD 2.49) (T4); ODI-I improved from 34.58 (SD 6.55) (T0) to 28.41 (SD 5.14) (T4). Statistically significant results were obtained for the NRS ($p=0.007$), UDI-6 ($p<0.001$), and ODI-I scales ($p<0.001$).

Conclusions: Clinical Pilates was associated with significant improvements in pain intensity, pelvic floor symptoms, and low back-related disability in female healthcare workers. These findings support its potential role as an integrated intervention to enhance physical and psychological well-being, with possible implications for occupational health.

Keywords: Clinical pilates; Healthcare workers; Wellbeing; Quality of life

288. Determinants of Nurse Migration Intentions in Albania: A Cross-Sectional Study of Workforce Challenges

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Background: Nurse migration has become a growing concern worldwide, particularly in countries with limited healthcare resources such as Albania. The continuous outflow of nursing professionals contributes to workforce shortages and weakens the capacity of health systems to provide quality care. Understanding the drivers of migration is essential for developing effective retention strategies and strengthening national healthcare systems.

Aim(s): This study aimed to investigate the main factors influencing the intention of nurses and nursing students in Albania to migrate for employment abroad, and to assess their level of satisfaction with professional opportunities and working conditions in the country.

Methods: A descriptive cross-sectional study was conducted between April and July 2021 in the city of Vlora, Albania. A total of 256 participants, including practicing nurses from primary and hospital care as well as nursing students, were recruited. Data were collected using a structured, self-administered questionnaire consisting of 27 items covering demographic characteristics, employment status, perceptions of working conditions, professional satisfaction, and migration intentions. The survey was distributed online via Google Forms. Ethical standards were respected through anonymity and voluntary participation.

Results: The majority of participants were female (78.1%) and predominantly young, with over half aged 21-25 years. A substantial proportion (89.1%) had considered working abroad, while 84.4% expressed a clear intention to emigrate. Dissatisfaction with professional opportunities was reported by 86.7% of respondents, and 46.1% were dissatisfied with current working conditions. Low salary was identified as the most critical factor influencing migration decisions, with 62.9% of participants emphasizing the need for improved financial compensation as a key retention measure. Additionally, limited career advancement opportunities and perceived undervaluation of the nursing profession further contributed to migration intentions. Regarding future plans, 42.6% of respondents indicated that they did not intend to return to Albania after migration, reflecting a potential long-term loss of healthcare workforce.

Discussion: The findings indicate that nurse migration in Albania is driven by a combination of economic, professional, and systemic factors. Dissatisfaction begins early in professional development, suggesting that both educational and workplace environments play a role in shaping migration intentions. Similar patterns have been observed internationally, highlighting the global nature of this issue. Without targeted interventions, Albania risks further depletion of its nursing workforce.

Conclusions: Nurse migration represents a significant challenge for the Albanian healthcare system. Key drivers include low salaries, inadequate working conditions, limited professional development opportunities, and insufficient recognition of the nursing role. Addressing these factors through policy reforms, improved workforce conditions, and investment in professional development is essential to enhance retention and ensure the sustainability of healthcare services.

Keywords: Nurse migration; Migration intentions; Healthcare workforce; Professional dissatisfaction; Working conditions; Albania

289. Economic-psychosocial Effects on Nurses in the Hospital Service During the Period June-December 2020

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Background: The Covid-19 pandemy created a chaotic situation not only in the population, but also caused a lot of negative impacts in the economy, as well as in the psycho-social state of the health system, mainly in the nurses of the hospital service, especially in the emergency and infectious department. Who were in direct contact with the infected persons, near the Regional Hospital "Omer Nishani" Gjirokastër. The immediate appearance as well as the risk of transmissibility caused comprehensive problems for the nurses of two key departments in the hospital service.

Aim(s): Assessment of risk factors as well as finding strategies to be followed to reduce negative effects.

Methods: It is a long-term, descriptive study, carried out in the "Omer Nishani" Regional Hospital, Gjirokastër during the period June - December 2020. In this study, 80 nurses of the emergency and infectious department were included. An anonymous, self-administered questionnaire was used - such as the caseload and increase of covid-19 patients, the lack of theoretical and practical knowledge about the pandemic, as well as the fear of losing financial income.

Results: For the period June - December, it was found that 35% of nurses were afraid of losing finances due to the increase in medication costs and not treating family members in the hospital. Psychological effects were found in 40% of cases due to the increase in the affected number not only of patients but also of the medical staff itself. In 25% of the nurses, the lack of theoretical and practical knowledge was found, which made it possible to increase the confusion in the treatment of patients.

Conclusions: Regardless of the fact that nurses have encountered difficulties in this period, the level of performance in practicing the profession, as well as work experience are factors that moderated the effect of the pandemic.

Keywords: Pandemic; Finance; Nursing; Psychology

290. The Effect of Ergonomic Risk Factors on Nurses' Psychological Resilience and Caring Behaviors: A Cross-sectional Study

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Aim(s): This study aimed to investigate the effect of ergonomic risk factors that nurses are exposed to in their work environments on psychological resilience and caring behaviors.

Methods: This cross-sectional and descriptive study was conducted with 367 nurses working in Adıyaman Training and Research Hospital between April and June 2025. Data were

collected face-to-face via the Personal and Occupational Information Form, Questionnaire for Assessing Ergonomic Risks of Nursing Service Providers, Brief Psychological Resilience Scale and Caring Behaviors Inventory-24.

Results: Nurses were exposed to moderate ergonomic risks, showed moderate psychological resilience, and exhibited high levels of caring behaviors. According to regression analysis, ergonomic risks had a very low, negative, and statistically significant effect on psychological resilience (β = -.138, p = .008) and overall caring behaviors (β = -.172, p = .001). Ergonomic risks also had very weak and negative effects on all subscales of caring behaviors; this effect is relatively stronger on the "respectfulness" subscale (β = -.211, p = .000). On the other hand, psychological resilience has a very weak, positive, and statistically significant effect on overall caring behaviors (β = .118, p = .023) and three subscales.

Conclusions: Ergonomic risks are negatively associated with nurses' psychological resilience and caring behaviors. Psychological resilience is positively associated with caring behaviors.

Keywords: Caring behaviors; Ergonomic risk factors; Nurses; Psychological resilience

291. Digital Technologies for Nurse Mental Health and Resilience: Burnout, Moral Injury and Sustainable Workplaces - A JBI Scoping Review Protocol

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Background: Nurse burnout affects 38% of the global workforce (Woo et al. 2020). Moral injury - distress from actions violating moral beliefs - is now recognised as a distinct harm dimension (Anastasi et al., 2025; SR). Mindfulness-based digital interventions reduce burnout (SMD: −1.72; 95% CI: −2.65/−0.80; Dou et al., BMC Nursing 2025; 16 RCTs). Mobile apps show heterogeneous effects on personal accomplishment (Hedge's g = 0.51; Deriglazov et al., Worldviews 2025). No synthesis maps digital technologies - including second victim platforms - across burnout, moral injury and sustainable workplace outcomes.

Aim(s): To map evidence on digital technologies supporting nurse mental health across burnout prevention, moral injury/second victim support and sustainable workplace conditions, identifying effective tools, implementation barriers and patient safety implications.

Methods: JBI scoping review (PRISMA-ScR; OSF). PCC: P = nurses in hospital, community and long-term care; C = digital technologies (mindfulness apps; psychoeducational platforms; digital scheduling; simplified EHR; online second victim programmes); C = burnout, moral injury/second victim recovery, sustainable workplaces. Seven databases: MEDLINE, CINAHL Ultimate, Embase, PsycINFO, Web of Science, Cochrane CENTRAL, PsycARTICLES (2015-2025). Grey literature: WHO, ILO, FNOPI. Dual screening; thematic synthesis.

Results: Dou 2025 (16 RCTs; 7 databases) confirms mindfulness apps reduce burnout (SMD: −1.72); Deriglazov 2025 confirms mobile apps improve personal accomplishment (g=0.51; mixed emotional exhaustion). Parsons et al. (JBI 2022; 23 studies): nurses' second victim

distress is institutionally undersupported; no study evaluated digital platforms for recovery. Anastasi 2025 (SR): moral injury predicts burnout, mediated by resilience. Critical gap: no review integrates digital technologies across all three domains.

Conclusions: This review will produce the first evidence map of digital technologies for nurse mental health across burnout, moral injury/second victim support and workplace sustainability, informing Track 6A-6D policy frameworks and value-based care models that recognise workforce wellbeing as a patient safety prerequisite.

Keywords: Moral injury; Second victim; mHealth; Mindfulness apps; Second victim support; Sustainable workplace

292. The Digital Paradox in Nursing Mental Health: EHR Burden vs. Resilience Resource - A JBI Scoping Review and DIGIRES Within-Workflow Embedded Module Pilot Protocol

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Background: Digital technology plays a paradoxical dual role in nursing mental health: as burden driver and as resilience resource. EHR use is associated with a pooled burnout prevalence of 40.4%. Mindfulness-based digital interventions reduce nurse burnout; digital resilience interventions improve nurse resilience (SMD=0.71; 95% CI: 0.13-1.29; SR; 18 studies). No synthesis maps this dual role as a unified framework, nor evaluates within-workflow embedded microinterventions counteracting digital burden via the same digital infrastructure.

Aim(s): To map evidence on digital technology's dual role in nursing mental health - as burden (EHR clerical overload) and resilience resource (mHealth, embedded modules) - and to propose DIGIRES, a within-workflow embedded digital resilience pilot.

Methods: JBI scoping review. PCC: P = nurses in hospital/community settings; C = digital technology in dual role (EHR/CDSS as burden; mHealth/embedded modules as resilience); C = burnout (MBI), resilience (CD-RISC), cognitive load (NASA-TLX), turnover intent. Seven databases: MEDLINE, CINAHL Ultimate, Embase, PsycINFO, Cochrane CENTRAL, Web of Science, PsycARTICLES (2015-2025). Dual screening; thematic synthesis.

Results: Guo 2024 confirms EHR-related burnout (40.4%; OR=2.43 for after-hours use). Dou 2025 confirms digital mindfulness reduces burnout (SMD=−1.72). Larsson 2025 confirms blended delivery outperforms standalone apps. Kwan and Zhang confirm nurse-specific evidence.

Conclusions: This scoping review produces the first evidence map of digital technology's dual role in nursing mental health, informing DIGIRES pilot design (SPIRIT 2013; ISRCTN; N=180),

EU-OSHA 'Safe and Healthy Work in the Digital Age 2024-2025' policy alignment, and frameworks for sustainable, value-based nursing workplaces.

Keywords: Digital burden; EHR burnout; Nursing resilience; Mindfulness apps; Within-workflow intervention; Clerical burden

293. The Generational Digital Divide in ICU Nursing: Digital Technology Adoption, EHR Burden and Competency Gaps Across Career Seniority - A JBI Scoping Review and COREQ+QUAN Convergent Mixed-Methods Pilot

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Background: Generational differences in digital technology acceptance are the leading determinant of EHR adoption in nursing. Umbrella review evidence identifies age-related digital affinity and change resistance as the top adoption barriers for digital nursing technologies. Schlicht et al. reports mainly negative effects on nurse-perceived work quality. ICU settings - the most EHR-intensive nursing environment - are the most clinically valid test case, yet no COREQ-reported mixed-methods study exists for Italian or European ICU nursing.

Aim(s): To map evidence on generational factors in ICU digital nursing technology adoption (NASSS/TAM-3); and to expand original ICU qualitative pilot data (COREQ; n=6) toward a QUAN+QUAL convergent study with stratified DigComp 2.2 training protocol.

Methods: Phase 1 - JBI Scoping Review. PCC: P = ICU nurses by career seniority; C = digital nursing technologies (EHR, PDMS, CDSS, electronic medication management); C = adoption factors by seniority, digital affinity, training adequacy, change resistance (NASSS/TAM-3). Seven databases: MEDLINE, CINAHL Ultimate, Embase, PsycINFO, Scopus, Web of Science, ERIC (2015-2025). Phase 2 - COREQ upgrade (n=6→30; 3 Italian ICUs) + validated survey (DigComp 2.2; TAM-3; NASA-TLX; N=200). MMAT integration.

Results: Iseni et al. confirms: younger nurses have higher digital acceptance; senior nurses require structured training. Original qualitative data confirms: junior adapt via informal self-learning; senior report documentation overload, intuitiveness barriers and reduced patient contact time. Guo 2024: EHR burnout 40.4% - disproportionately affects senior nurses.

Conclusions: Phase 1 evidence map and Phase 2 convergent data will produce the first theoretically grounded dataset on generational digital adoption in ICU nursing, informing a stratified DigComp 2.2 RCT (SPIRIT 2013; PNRR M6 C2.1) and frameworks for age-differentiated competency development in high-acuity care settings.

Keywords: Generational digital divide; ICU nursing; DigComp 2.2; Digital nursing technologies; Change resistance; COREQ

294. The Bidirectional Relationship Between Nurses' Psychological Well-Being and Person-Centred Care Delivery: A Scoping Review

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Background: Person-centred care (PCC) represents a cornerstone of contemporary nursing practice, yet its consistent delivery is increasingly challenged by a global workforce crisis marked by burnout, moral distress, and moral injury. While these phenomena have been extensively studied in isolation, the bidirectional dynamic between nurses' psychological well-being and their capacity to implement PCC remains underexplored. Understanding how workforce mental health shapes - and is shaped by - the relational and ethical demands of person-centred practice is critical to designing sustainable care systems.

Aim(s): This scoping review aims to map the existing evidence on the relationship between nurses' psychological well-being (burnout, moral distress, moral injury) and the delivery of person-centred care, and to identify individual and organisational strategies that simultaneously support nursing workforce resilience and PCC quality.

Methods: Following the Joanna Briggs Institute (JBI) framework for scoping reviews and reported according to PRISMA-ScR guidelines, a systematic search will be conducted across PubMed/MEDLINE, CINAHL, Scopus, PsycINFO, and Web of Science. Grey literature will be searched via OpenGrey and institutional repositories. Eligible studies include any design published in English, Italian, Spanish, and French from 2014 to 2025, involving registered nurses in any clinical setting. Thematic synthesis will organise findings around three domains: (1) bidirectional mechanisms, (2) mediating and moderating factors, (3) multi-level supportive strategies.

Results: (anticipated) Preliminary mapping suggests a significant gap in studies that integrate PCC frameworks with nursing mental health outcomes. Evidence is expected to reveal that moral distress and burnout impair empathic engagement and relational continuity - core PCC components - while simultaneously, unsupported PCC implementation heightens nurses' ethical burden. Resilience-fostering strategies (reflective practice, ethics debriefing, supportive leadership, peer support) are hypothesised as key moderators.

Conclusions: This review will produce a comprehensive evidence map to inform clinical practice, nursing education, and health policy. Findings will support the development of integrated interventions that treat nurse well-being and PCC quality as interdependent outcomes, contributing to a sustainable, ethically grounded nursing workforce.

Keywords: Person-centred care; Holistic nursing; Nurse-patient relations; Nurse well-being patient outcomes; Empathy; Patient Participation

295. OCC-AMR-EU: Occupational AMR Risk, Employer Obligations and Nurse Workforce Protection in European Healthcare - A Legal-Empirical Framework (1990-2026)

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Background: Healthcare workers (HCWs) across European member states face occupational exposure to antimicrobial-resistant (AMR) pathogens as a legally distinct category of biological risk, regulated under EU Dir. 2000/54/EC and implemented through national transpositions including the Italian D.Lgs 81/'08. Multidrug-resistant organism (MDRO) occupational infections are classified as occupational accidents in multiple European jurisdictions when traceable to inadequate personal protective equipment, absent antimicrobial stewardship (AMS) protocols or insufficient nurse training. The WHO Global Action Plan on AMR (2015) and EU AMR Action Plan impose explicit employer obligations for HCW AMR protection across member states. Post-COVID occupational biological agent incidents have increased substantially across EU healthcare settings (Eurostat data; INAIL 2023). Nurses constitute the largest group of HCWs affected by MDRO occupational exposure, yet no European legal-empirical analysis maps the intersection of EU labour law and nurse AMS duties, creating a cross-border workforce protection gap directly relevant to ESNO and EU health workforce policy.

Aim(s): To map 1990-2026 European and member-state legal sources on nurse AMS occupational obligations, employer liability and employment rights; and to propose OCC-AMR-EU a legal framework for nurse AMS duty recognition under EU Dir. 2000/54/EC and member-state transpositions - informing European collective bargaining and workforce protection policy.

Methods: Doctrinal legal analysis and JBI scoping review (PRISMA-ScR). Sources: EU Dir. 2000/54/EC; member-state occupational safety transpositions; European Court of Justice case law on biological risk; ECDC occupational AMR risk data; WHO GAP-AMR 2015; EU AMR Action Plan; CDC Core Elements HCW protection; ESICM occupational safety standards.

Results: EU Directive 2000/54/EC establishes minimum standards for biological risk protection that member-state labour contracts cannot reduce below. ECDC data confirm that MDRO-attributable occupational cases are systematically underreported across European healthcare systems. European case law establishes employer (hospital) liability for MRSA transmission to HCWs in the absence of documented AMS protocols. Most EU member-state collective agreements do not formally recognise nurse AMS duties as legally protected professional functions, creating a pan-European workforce protection gap. No EU-level collective agreement or occupational safety framework specifically addresses nurse MDRO occupational risk with reference to AMS roles.

Conclusions: OCC-AMR-EU doctrinal analysis ('90-2026) establishes the first European legal-empirical framework mapping nurse AMS duties under EU Directive 2000/54/EC and

member-state transpositions, informing legislative reform, collective bargaining negotiations and EU health workforce strategy for nurse AMS role recognition across EU member states.

Keywords: POccupational AMR risk; Employer liability; EU AMR Action Plan; Biological risk; nurse AMS duties; European labour law

296. Spirit4Care: Building Psychological Safety and Wellbeing Competencies in Nursing Education -A Pilot Study

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Background: Spiritual care is recognised by the World Health Organisation and the International Council of Nurses as a core dimension of holistic nursing practice. Yet it remains largely absent from European nursing curricula. This gap carries a dual cost: patients receive care that overlooks their existential and spiritual needs, and nursing students and educators are left without the inner resources to sustain compassionate practice over time. Spirit4Care is an Erasmus+-funded transnational programme developed by Hénallux and RESSPIR (UCLouvain, Belgium) with partners in Portugal, Poland, and Luxembourg, designed specifically to address this gap through structured, transferable pedagogical tools for nurse educators.

Aim(s): This report describes the design and pilot implementation of Spirit4Care at Hénallux (Belgium) and presents early participant feedback on its pedagogical relevance and impact.

Methods: Two sequential interventions were implemented. A Train-the-Trainers Week (January 2026, n ≈ 22 nurse educators) combined e-learning, theoretical modules, simulation, and reflective workshops. A Nursing and Student Week (February 2026, n = 37) was co-facilitated by educators trained in the first phase, enacting a cascade pedagogical model. Evaluation drew on group feedback from the trainer week and a post-programme questionnaire (n = 14), reviewed through thematic reading and descriptive analysis.

Results: Feedback highlighted four themes: emergence of psychological safety through a structured relational environment; strengthened peer solidarity and intercultural connection; development of reflective and emotional competencies; and renewed professional meaning. The peer-learning dynamic and intercultural group composition were identified as distinctive strengths. When asked to estimate a fair participation fee without European co-funding, responses varied widely: 50% of respondents estimated 100€ or less, 25% between 101€ and 300€, and 25% between 301€ and 500€. This is below the actual cost of the programme. All 14 respondents reported a positive impact on engagement and motivation; 93% felt safe to express themselves; 85% reported meaningful reflection on their practice.

Conclusions: This pilot illustrates that a structured, simulation-enriched spiritual care programme can meaningfully strengthen nursing education and professional wellbeing. Participant feedback confirms its pedagogical value. Yet the data also reveal a critical

tension: the programme is recognised as highly valuable but financially inaccessible without external funding. Sustaining and scaling it requires institutional partnerships, shared funding strategies, and cross-country collaboration. Educators and institutions interested in co-developing this model are warmly invited to connect. Keywords: spiritual care; psychological safety; nursing education; workforce wellbeing; train-the-trainers; reflective practice

Keywords: Spiritual care; Psychological safety; Nursing education; Workforce wellbeing; Train-the-trainers; Reflective practice

297. The Humanness of Learning: Creating Systems of Learning for Workforce Development and Professional Growth

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Background: As workforce demands evolve, traditional education and professional development models are increasingly insufficient for lifelong learning and wellbeing. In healthcare, the need for flexible, competency-driven, and equitable pathways is urgent. Learning is not purely transactional but deeply human, shaped by identity, relationships, purpose, and experience. Accreditation frameworks, such as the ANCC Nursing Continuing Professional Development (NCPD) criteria, ensure quality and trust while enabling innovation in learning design. However, tensions persist between current models and the need for human-centered learning environments that foster confidence, belonging, purpose, lifelong growth, and self-transcendence.

Aim(s): This session examines how healthcare organizations can design integrated learning ecosystems that align workforce development, professional development, accreditation, alternative credentials, and Competency-Based education while centering human experience. Objectives include exploring evolving workforce needs, analyzing accreditation as both a quality assurance and an innovation driver, examining flexible credentialing pathways, assessing the risks of transactional learning, and identifying strategies to foster confidence, belonging, and lifelong growth.

Methods: This session uses a conceptual, practice-informed, and interactive approach grounded in literature, accreditation standards, and applied examples. It includes: (1) conceptual framing of key domains; (2) practice-based case illustrations demonstrating Competency-Based and human-centered approaches within accredited systems; and (3) interactive reflection and discussion. Participants will explore how their environments support human-centered learning, identify opportunities for Competency-Based and alternative credentialing, and consider how accreditation can enable innovation. Methods include guided reflection and collaborative discussion informed by real-world practice.

Results: Key findings indicate that ANCC NCPD Accreditation standards allow for innovation when applied flexibly; Competency-Based education and alternative credentials improve access and alignment with workforce needs; transactional models risk limiting engagement and identity development; human-centered environments enhance outcomes; integration

across systems is essential; and organizational culture is critical to success and nurse wellbeing.

Keywords: Wellbeing; Positive learning environments; Professional development; Workforce development; Heutagogy; Accreditation

298. A Comprehensive Analysis of Missed Nursing Care: A Global Concern Shaped by Organizational Dynamics and Shift Work

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Background: Missed nursing care (MNC) continues to be a global risk. International research consistently shows high prevalence of omissions across health systems. Although the literature on MNC is extensive, its occurrence among shift-working nurses, particularly in relation to occupational fatigue, remains insufficiently explored.

Aim(s): This international study examines and compares how common antecedents, including workload, staffing, and fatigue, interrelate with MNC among nurses in New Jersey (USA) and Ancona (Italy).

Methods: A cross-sectional design compared two cohorts: 298 Italian nurses and 228 U.S. nurses surveyed under similar conditions. Multiple linear regression and moderation analyses tested associations among workload, staffing, and occupational fatigue as predictors of MNC.

Results: U.S. nurses were typically younger and more likely to work 12-hour night shifts, whereas Italian nurses worked rotating schedules and reported less favorable staffing levels, lower perceived workloads, and fewer instances of MNC. In the U.S. sample, MNC was significantly predicted by workload ($p < .001$), staffing ($p = .008$), and chronic fatigue ($p = .004$); experience and sleep duration moderated fatigue-MNC relations. Among Italian nurses, staffing ($p = .023$) significantly predicted MNC and moderated the effects of chronic and acute fatigue.

Conclusions: Findings highlight the consistent role of staffing across contexts, with workload and fatigue more pronounced in the U.S. Context-specific interventions are warranted: fatigue mitigation and sleep hygiene in the U.S., and staffing and workload optimization in Italy.

Keywords: Missed nursing care; Nurse staffing; Workload; Chronic fatigue; Acute fatigue; Shift work

299. Social Jet Lag Linked to Higher Rates of Missed Nursing Care

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Background: Shift work can result in circadian misalignment, commonly quantified as social jetlag (SJL), which may adversely affect nursing performance. However, evidence on the relationship between SJL and missed nursing care (MNC) remains limited.

Aim(s): To examine the association between SJL and MNC among hospital nurses and to determine whether SJL independently predicts missed care after adjustment for key covariates.

Methods: A cross-sectional study was conducted with 217 hospital nurses. Participants reported sleep patterns, chronotype, perceived workload, and missed nursing care tasks. SJL was calculated as the absolute difference between mid-sleep timing on workdays and free days. Correlation analyses and multiple linear regression models were used to assess associations between SJL (modeled as a continuous variable and dichotomized as >60 minutes) and MNC, adjusting for age, gender, workload, sleep duration, and shift work.

Results: Participants had a mean SJL of 91.4 ± 68.2 minutes and an average sleep duration of 6 hours and 42 minutes. Pearson correlations indicated that greater SJL was positively associated with missed care and evening chronotype and negatively associated with age. In multivariable models, continuous SJL was independently associated with higher levels of missed nursing care, as was shift work. Nurses with SJL greater than 60 minutes reported significantly higher MNC scores compared with those with lower SJL. SJL greater than 60 minutes remained an independent predictor of missed care in adjusted analyses.

Conclusions: Social jetlag is significantly associated with missed nursing care, independent of age, workload, sleep duration, and shift work. Circadian misalignment may represent a modifiable risk factor for patient safety, and interventions aimed at improving alignment between biological rhythms and work schedules warrant further investigation.

Keywords: Social jetlag; Missed nursing care; Shift work; Chronotype; Sleep duration; Workload

300. Trauma-Informed Strategies to Strengthen Resilience and Prevent Burnout Among Nurses Exposed to Secondary Trauma: A Scoping Review

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Background: Nurses working in trauma-exposed settings are regularly exposed to patients' traumatic experiences, which may contribute to secondary traumatic stress, burnout, and reduced well-being. Although a growing body of literature addresses nurse resilience and burnout, evidence on interventions remains heterogeneous and often emphasizes individual-level approaches. Greater synthesis is needed to clarify how existing strategies support nurses exposed to indirect trauma and whether trauma-informed perspectives are explicitly incorporated.

Aim(s): This scoping review aims to map and synthesize the literature on strategies intended to strengthen resilience and reduce burnout among nurses working in trauma-exposed settings.

Methods: A scoping review is being conducted using established methodological guidance and will be reported in line with PRISMA-ScR. Electronic databases, including PubMed, CINAHL, and PsycINFO, are being searched for studies examining interventions or strategies related to nurse resilience, secondary traumatic stress, burnout, or well-being in trauma-exposed contexts. Quantitative, qualitative, and mixed-methods studies are eligible. Data are being charted to summarize intervention characteristics, target outcomes, and underlying conceptual approaches.

Results: Existing literature suggests a range of intervention approaches, including mindfulness-based programs, psychoeducational strategies, peer or supervisory support, and reflective practices. Reported outcomes commonly include burnout, stress, and resilience; however, intervention formats and outcome measures vary substantially across studies. Preliminary appraisal also suggests that trauma-informed concepts are not consistently operationalized across this literature.

Conclusions: The available literature suggests that several strategies may support nurse well-being, yet the field remains methodologically and conceptually uneven. A clearer, trauma-informed, and system-aware evidence base may help guide the development of future interventions for sustainable workforce resilience.

Keywords: Secondary traumatic stress; Nurse resilience; Burnout; Trauma-informed care; Scoping review; Workforce well-being

Cluster 7 — ESNO Internals / Keynote (By Invitation Only)
Membership programme / keynote abstracts — by invitation only

301. Mapping competencies for specialist nurses in Europe

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Background: Specialist nurses play a pivotal role in addressing Europe's complex health needs, including aging populations, rising chronic diseases, and shortages of healthcare professionals. However, the development of specialist nursing roles across Europe remains fragmented, with significant variation in education, competencies, and recognition between countries. While international models provide well-established frameworks for advanced nursing practice, European efforts to harmonize specialist nursing competencies have been inconsistent.

Aim(s): This scoping review aimed to map and synthesize the available literature and frameworks on specialist nursing competencies in Europe.

Methods: This scoping review followed the JBI methodology and PRISMA-ScR reporting guidelines. Studies and policy documents focusing on specialist nurses, their core competencies, and educational frameworks in Europe were included, alongside relevant grey literature. Searches were conducted in CINAHL, MEDLINE, PsycArticles, Web of Science, PubMed, Cochrane Library, ProQuest, and Google Scholar. Two reviewers independently screened and extracted data, and findings were synthesised narratively.

Results: A total of ten studies were included, spanning single-country analyses (e.g., Scotland, Finland) and multi-country European and international initiatives. Most studies focused on role development, competency identification, or curriculum design for specialist and advanced practice nurses. Common competency domains identified included clinical care, leadership, communication, education, and research. Evidence from feasibility and evaluation studies demonstrated that advanced and specialist nursing roles improve accessibility, continuity, and quality of care, particularly in primary and community health settings. Despite variation in educational pathways and regulatory frameworks, the studies consistently supported the feasibility and necessity of advanced practice roles and underscored the need for greater harmonisation across Europe.

Conclusions: Specialist nurses make a measurable contribution to patient safety, care accessibility, satisfaction, and potentially cost-effectiveness. Nonetheless, differences in regulation, role recognition, and practice scope continue to challenge cross-country harmonisation and professional mobility. To fully leverage the potential of specialist nurses

in achieving EU health priorities, sustained investment in policy development, legislative alignment, and outcome-based research is crucial.

Keywords: Competency mapping; Specialist nurses; Nursing competencies; Advanced nursing practice; Professional standards

302. From Voice to Influence: Mobilizing ESNO to Advance the EU Workforce Agenda

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With the European Parliament's INI report on an EU Health Workforce Crisis Plan marking a pivotal policy moment, ESNO members have a unique opportunity to move from advocacy to strategic influence. This session will explore how ESNO can translate the report's recommendations into concrete action-shaping policy dialogue, strengthening workforce evidence, and building coordinated European leadership. Participants will be invited to identify priority actions to ensure specialty nursing is recognized as essential to Europe's sustainable, future-ready health workforce agenda.

Keywords: EU Health Workforce Crisis Plan; Strategic policy influence; Specialty nursing leadership

303. Lighting the Way for Patient Safety: How Nurses Can Lead Change and Build Safer Care Environments

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Background: Patient safety remains a central priority for healthcare systems worldwide. Nurses, as the largest professional group within healthcare, play a pivotal role in recognising risks, preventing harm, and fostering cultures of safety. However, many nurses report limited opportunities to actively influence safety initiatives and organisational change.

Aim(s): This interactive workshop aims to empower nurses and specialist nurses to strengthen patient safety culture within their clinical environments.

Methods: Through facilitated discussion, practical examples, and interactive exercises, participants will explore how nursing leadership, interdisciplinary collaboration, and evidence-informed practice can contribute to safer healthcare systems. The session will introduce practical tools that support nurses in identifying safety risks, promoting transparent communication, and implementing improvement strategies in everyday practice.

Results: Participants will explore strategies to promote psychological safety, learn from incidents, and support healthcare professionals working in high-risk environments.

Conclusions: By the end of the workshop, participants will gain practical insights and leadership strategies to advocate for patient safety, strengthen safety culture within their organisations, and contribute to continuous quality improvement in healthcare.

Keywords: Patient safety; Nursing leadership; Safety culture; Quality improvement; Interdisciplinary collaboration; Specialist nursing

304. Strengthening Patient Safety in Hemodialysis: Infection Prevention Strategies for Central Venous Catheters Using Taurolidine-Based Lock Solutions

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Background: Central venous catheters (CVCs) remain a major source of healthcare-associated infections in hemodialysis, posing a significant threat to patient safety and contributing to increased morbidity, mortality, and healthcare costs. Catheter-related bloodstream infections (CRBSIs) are a critical and largely preventable complication in this high-risk population. Strengthening infection prevention is therefore a key priority within patient safety frameworks in nephrology care.

Aim(s): To highlight infection prevention strategies in hemodialysis patients with CVCs, with a focus on the role of taurolidine-based lock solutions within a patient safety approach.

Methods: This work adopts a narrative, practice-based approach, drawing on current evidence, clinical experience, and patient safety principles. It focuses on the integration of antimicrobial catheter lock solutions within standardized nursing practices, including catheter care protocols, monitoring, and structured documentation.

Results: Evidence suggests that taurolidine-based lock solutions demonstrate antimicrobial activity and are associated with reduced CRBSI rates when implemented within structured care protocols. Effective implementation depends on adherence to standardized procedures and the active role of nurses in catheter management, early identification of complications, and consistent documentation.

Conclusions: Infection prevention in hemodialysis is a core patient safety priority requiring a systems-based approach. Taurolidine-based lock solutions represent one component of a broader safety strategy that includes standardization, education, and interdisciplinary collaboration. Strengthening the role of nurses in these processes is essential to improving patient outcomes and advancing safety in high-risk clinical environments. This work aligns with the focus of the ESNO Patient Safety Committee on strengthening safety in complex care environments.

Keywords: Patient safety; Hemodialysis; Infection prevention; Central venous catheter (CVC); CRBSI; Taurolidine-based lock solutions

305. From Clicks to Control: Nursing Leadership Across the Digital Health Ecosystem.

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Background: As digital health expands across care settings, nursing is no longer shaped only by bedside practice but also by the systems, data, and technologies that drive modern care delivery. Yet in many countries, nursing informatics remains underdeveloped and inconsistently standardized across practice, education, and regulation. This study positions nursing informatics as the innovation to be diffused, guided by Rogers' Diffusion of Innovations theory.

Aim(s): This study aimed to examine how nursing informatics can be methodized and standardized in an unregulated environment, and to identify the factors that influence its diffusion across the practical, educational, and regulatory domains.

Methods: A mixed-methods design was used. At the practical-applied level, 170 nurses completed the Self-Assessment of Nursing Informatics Competencies Scale and a Communication Channels Questionnaire, and 20 semi-structured interviews were conducted with senior IT executives and clinical executives. At the educational level, 93 faculty members and 102 nursing students completed questionnaires on informatics promotion and willingness to change. At the regulatory level, 10 semi-structured interviews were conducted with officials involved in professional regulation, and the data were analyzed thematically using Atlas.ti and Braun and Clarke's six-step approach.

Results: The findings showed that successful digital transformation in health systems depends not only on technology, but also on leadership, organizational readiness, and effective communication across professional boundaries. Major barriers included resistance to change, internal political tensions, mismatches between systems and user needs, and, most notably, persistent communication gaps between technical and clinical staff. These gaps led to misunderstandings about workflow realities, implementation priorities, and system requirements, often preventing available technologies from being translated into effective practice. The study also highlighted the importance of change agents and opinion leaders in bridging these divides and turning digital tools into usable clinical solutions. At the educational level, higher education was associated with stronger basic computer skills, while

the regulatory findings emphasized the need for clearer professional roles and formal recognition of nursing informatics.

Conclusions: Nursing leadership is central to moving from digital access to digital control, ensuring that technology serves care rather than complicates it. Structured development in practice, education, and regulation can strengthen the profession's voice across the digital health ecosystem and support more effective, coordinated, and sustainable implementation.

Keywords: Nursing informatics; Digital health; Communication gaps; Diffusion of innovations; Professional regulation; Informatics education

Additional Conference Abstracts (Word submissions)
Abstracts submitted in Word format and integrated into the ESNO 2026 collection

306. Pediatric Perioperative Care and Neurodevelopmental Disorder Adaptations at Trelleborg Hospital

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Background: Children undergoing surgery frequently experience significant anxiety, which is further exacerbated in those with neurodevelopmental disorders (NDD). Conventional perioperative pathways often fail to adequately address sensory sensitivities, communication barriers, and behavioral needs, creating challenges for both patients and healthcare professionals. There is a growing need for structured, adaptable, and child-centered perioperative care models.

Aim(s): To describe the development and implementation of a structured, child-centered perioperative care model aimed at reducing anxiety, enhancing patient safety, and improving workflow efficiency in pediatric surgical care, with a specific focus on children with NDD.

Methods: A clinical practice innovation was developed and implemented at a regional hospital in southern Sweden. The model integrates individualized preoperative assessment through structured caregiver interviews, tailored care planning, and adaptive perioperative strategies. These include alternative patient pathways to reduce sensory overload, in-car premedication or induction for highly anxious children, and the use of distraction techniques such as virtual reality and sensory-adapted anesthesia masks. Active parental involvement is incorporated throughout the perioperative process. Workflow optimization is supported through digital communication systems, multidisciplinary team briefings, and structured end-of-day reflections to promote continuous improvement.

Results: The implementation of this model has led to observable improvements in perioperative care. Clinical experience indicates reduced patient anxiety, improved cooperation during anesthesia induction, and increased satisfaction among caregivers. Staff report enhanced workflow efficiency, improved communication, and a calmer operating room environment. The structured approach has also contributed to more predictable and coordinated perioperative processes.

Conclusions: A structured and adaptable perioperative care model centered on the needs of the child and family can improve both patient experience and clinical workflow. This approach demonstrates strong potential for transferability to other surgical settings seeking to enhance pediatric care, particularly for patients with neurodevelopmental disorders.

Keywords: Pediatric nursing; Perioperative care; Neurodevelopmental disorders; Anesthesia; Patient safety; Child-centered care

307. Integrated Neuro-Urological Care in Improving Functional Outcomes with Key Nursing Expertise

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Background: Neuro-urological dysfunction in patients with spinal lesions is a common and clinically complex condition associated with significant morbidity, including urinary tract infections, urinary incontinence, and upper urinary tract deterioration. Increasing evidence supports integrated multidisciplinary care as a key strategy for improving clinical outcomes and reducing complications.

Aim(s): To evaluate the impact of an integrated neuro-urological care model, with a particular focus on specialist nursing expertise, on functional outcomes and complication reduction in patients with neurogenic bladder.

Methods: A narrative review of current scientific and professional literature was conducted on neuro-urological management in patients with spinal lesions and neurogenic bladder. Multidisciplinary care models were analyzed, including the roles of urologists, neurologists, neurosurgeons, and specialized nurses, with emphasis on structured patient education, clean intermittent catheterization training, continuous clinical monitoring, and coordinated care pathways.

Results: Current evidence consistently demonstrates that integrated care models significantly improve bladder management, reduce urinary tract infections, and enhance adherence to treatment protocols. Specialist nursing plays a central role in care delivery by providing structured education, early identification of complications, and continuous patient support, resulting in improved functional outcomes and quality of life.

Conclusions: Integrated neuro-urological care provides significant clinical and functional benefits in patients with neurogenic bladder. Specialist nursing expertise is essential for the implementation and sustainability of multidisciplinary care pathways and is a key determinant of improved patient outcomes.

Keywords: Neurogenic bladder; Spinal cord injury; Integrated care; Multidisciplinary team; Neurosurgery; Specialist nursing

308. The Importance and Challenges of Introducing Artificial Intelligence into the Work of Nurses

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The introduction of artificial intelligence (AI) into the healthcare sector represents one of the most significant technological transformations in modern medicine. While AI offers

numerous opportunities to improve efficiency, accuracy, and patient care, its integration into everyday medical practice also raises important questions, particularly regarding the role and responsibilities of nurses. As frontline healthcare professionals, nurses are directly affected by these technological changes, and their work environment is increasingly shaped by digital tools and intelligent systems. AI technologies are already being used in various areas of healthcare, including patient monitoring, predictive analytics, clinical decision support, and administrative task management. For nurses, these systems can provide valuable assistance by reducing routine paperwork, helping monitor patient vital signs in real time, and identifying early warning signs of medical complications. Such support has the potential to improve patient safety and allow nurses to devote more time to direct patient care, communication, and emotional support. However, the implementation of AI in nursing practice also introduces several challenges. One of the key concerns is the risk of overreliance on automated systems, which may influence clinical judgment if nurses begin to trust algorithmic recommendations without sufficient critical evaluation. Additionally, the use of AI requires new competencies, including digital literacy, data interpretation skills, and an understanding of how algorithms function and make decisions. Another important issue relates to data privacy and the protection of sensitive patient information. AI systems rely on large amounts of medical data, which raises concerns about cybersecurity, unauthorized access, and the ethical use of personal health records. Nurses, who often handle patient data directly, must be aware of these risks and follow strict protocols for information protection. Therefore, the successful integration of AI into healthcare requires not only technological development but also continuous education and support for nursing staff. By equipping nurses with the necessary knowledge and ethical guidance, healthcare systems can ensure that artificial intelligence becomes a tool that enhances, rather than replaces, the human dimension of medical care.