

Medication Safety, Polypharmacy, and Clinical Decision-Making in Palliative Nursing Care: A Multidisciplinary Perspective

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Abstract

Medication use in palliative care is shaped simultaneously by symptom relief, prevention of avoidable harm, changing prognosis, multimorbidity, polypharmacy, treatment burden, professional responsibility, and patient and family priorities. These dimensions are often considered separately, creating uncertainty about how medication safety should be interpreted when goals of care change. To integrate multidisciplinary evidence on medication burden, medication-related harm, potentially inappropriate medication use, deprescribing, professional roles, care-setting variation, and participation by patients and families in palliative medication decisions. An integrative multidisciplinary review was conducted using a reproducible search and selection process covering literature published from 2017 through 2026. Eighty-eight records were identified through structured searches, 24 duplicates were removed, and 64 unique records underwent screening. Thirty-seven reports were sought, 34 were assessed in sufficient detail, and 27 independent evidence units were included. Results: Medication burden was common across palliative, advanced-cancer, long-term-care, hospice, and community populations, but medication number, anticholinergic or sedative burden, potentially inappropriate prescribing, and medication-related harm represented different constructs. Professional contributions also differed: nurses were positioned principally within administration, surveillance, recognition, communication, and escalation; pharmacists contributed medication reconciliation, medication review, drug-related-problem identification, and recommendations; prescribing and multidisciplinary decisions incorporated prognosis, indication, symptom priorities, benefit–burden judgments, and patient preferences. Medication safety in palliative care cannot be inferred from medication count or deprescribing activity alone. A defensible interpretation requires distinguishing medication burden, realized harm, prescribing appropriateness, medication change, professional responsibility, patient and caregiver participation, and the care environment in which decisions occur.

Keywords: Palliative care, Medication safety, Polypharmacy, Deprescribing, Potentially inappropriate medications, Pharmaceutical care

Introduction

Medication use near the end of life presents a distinctive safety problem because several clinically important questions coexist without being interchangeable. Polypharmacy can increase regimen complexity and exposure to interactions, yet medication count alone does not establish that treatment is inappropriate [1-4].

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International work on essential palliative medicines demonstrates broad agreement about the importance of access while also showing persistent variation in availability, prescribing guidance, dosing recommendations, and implementation [5, 6]. A medication-safety approach centered only on reducing treatment could therefore overlook undertreatment, whereas an approach centered only on symptom control could underestimate cumulative medication risk [7, 8].

Qualitative evidence from community palliative populations indicates that willingness and capacity to deprescribe are shaped by beliefs about medicines, professional confidence, communication, continuity, and the relationships among patients, caregivers, general practitioners, pharmacists, nurses, and specialist teams [9, 10]. These influences make medication safety an interpersonal and organizational problem as well as a pharmacological one. This review therefore treats medication burden, medication-related harm, prescribing appropriateness, deprescribing, medication review, medication reconciliation, and pharmaceutical care as analytically distinct constructs. The purpose is not to produce a universal numerical threshold for safe prescribing.

Review aim and scope

The synthesis focused on six connected but distinct domains: medication burden and polypharmacy; medication-related harm and adverse drug events; potentially inappropriate medication use; deprescribing for changing goals of care; professional responsibilities in nursing, pharmacy, and medical decision-making; and patient or family participation [11].

The review included evidence from specialist palliative services, hospice, home care, long-term care, primary care, and relevant advanced-cancer populations where medication decisions were sufficiently close to palliative practice to inform interpretation. Evidence from broader geriatric or oncology populations was used only when its transfer boundary was explicit.

Nursing medication surveillance was not treated as equivalent to pharmacist medication review; pharmacist recommendations were not assumed to carry prescribing authority in every jurisdiction; and physician prescribing authority was not interpreted as solitary decision-making when patients, families, nurses, pharmacists, and other professionals materially shaped the decision [12].

Materials and Methods

An integrative multidisciplinary review design was used because the review question required synthesis of evidence generated through substantially different methodological traditions. Relevant evidence included randomized and non-randomized intervention studies, observational cohorts, record reviews, qualitative studies, systematic and scoping reviews, Delphi consensus studies, implementation evaluations, and realist synthesis.

Transparent reporting followed PRISMA 2020 principles where these were applicable to identification and selection of evidence [13, 14]. The synthesis did not assume that heterogeneous clinical, qualitative, professional-role, implementation, and consensus evidence could be combined through one effect measure or a single hierarchy of evidence.

The unit of inclusion was an independent empirical study, directly relevant structured evidence synthesis, or consensus evidence unit capable of contributing to at least one substantive review domain. Where multiple reports arose from the same underlying study or patient allocation, they were linked rather than counted as separate evidence units.

Search strategy and information sources

Structured scholarly searches were executed on 16 September 2026 using a PubMed-focused discovery route supplemented by verification against PubMed, PubMed Central, publisher records, and authoritative bibliographic metadata. Searches combined palliative-care and end-of-life terms with medication-safety concepts including polypharmacy, medication burden, potentially inappropriate prescribing, deprescribing, adverse drug events, medication review, clinical pharmacy, medication administration, caregiver medication management, long-term care, hospice, hospital, community care, and advanced cancer.

Six structured search sets were executed. Search logic was deliberately divided across medication burden, deprescribing, pharmacy practice, nursing and caregiver medication work, adverse drug events, and care-setting variation so that the review would not be determined by a single disciplinary vocabulary.

The searchable interface used for this review did not provide a native bibliographic export comparable with direct database RIS or NBIB output. This constraint is retained as a methodological limitation rather than represented as a conventional multi-database export process.

Eligibility criteria

Evidence was eligible when it was published from 2017 through 2026 and addressed medication use in a palliative, hospice, end-of-life, life-limiting-illness, advanced-cancer, or closely relevant serious-illness context. Eligible evidence needed to contribute directly to medication burden, prescribing appropriateness, adverse drug events,

deprescribing, pharmaceutical care, professional responsibility, patient or caregiver medication work, or medication-safety variation between care settings.

STOPPFrail was retained as an important population-specific framework because it was developed for frail older adults with limited life expectancy [15, 16], while its updated version provided a more recent operational basis for medication review in older people approaching the end of life [17, 18]. Evidence from palliative oncology further demonstrates that deprescribing instruments differ in population specificity and that general geriatric tools cannot automatically be treated as interchangeable with cancer- or palliative-specific approaches [19, 20].

Evidence was excluded when palliative or serious-illness context was peripheral, medication decision-making was not a substantive focus, the publication was a protocol or non-analytic commentary, or an included report duplicated the same underlying evidence without providing an analytically distinct contribution.

Journal quartile was not used as an inclusion or exclusion criterion for review evidence. Methodological relevance and evidence quality were assessed directly.

Study selection

After the six searches, 88 records had been identified. Twenty-seven were excluded at this stage because the palliative context was absent or peripheral, medication safety or decision-making was not central, the publication was non-analytic, the report duplicated an existing evidence unit, or it fell outside the date window.

Three could not be retrieved to a level sufficient for report-level extraction, leaving 34 reports assessed in full or sufficient report-level detail. Seven were excluded after this assessment: three were peripheral to the review question, two did not contain usable medication-role, medication-decision, or medication-safety evidence, and two represented overlapping reports from evidence units already retained.

The executed search and selection pathway is summarized in **Figure 1**.

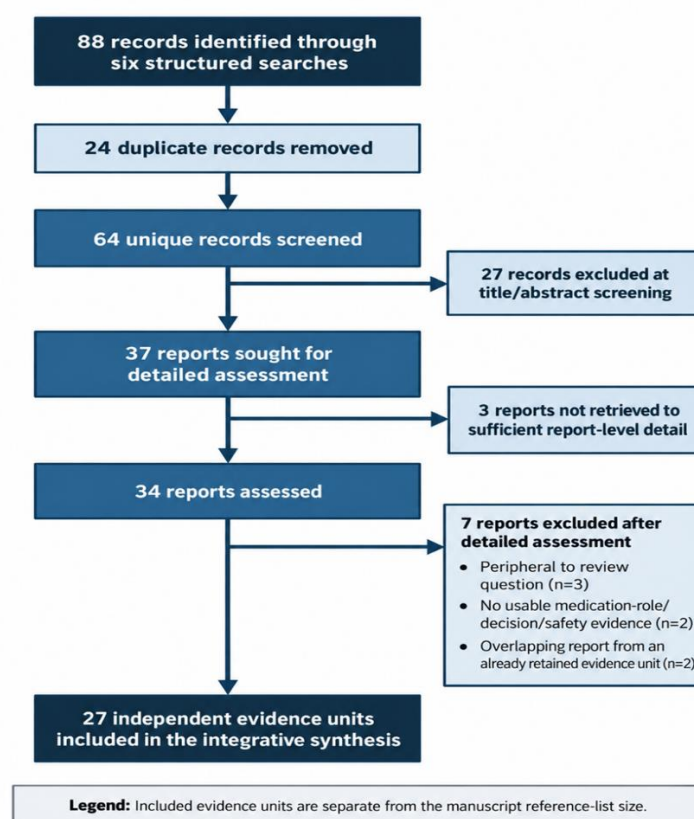


Figure 1. Executed Search and Selection Architecture for the Integrative Review of Medication Safety in Palliative Care

Data extraction and critical appraisal

For every evidence unit, extraction included study or review design, country or region, care setting, population, professional groups, sample size where reported, palliative or serious-illness context, medication construct, intervention or exposure, comparator where applicable, data source, analytical method, temporal design, principal findings, contradictory or null findings, alternative explanations, authors' limitations, and applicability boundaries.

Critical appraisal was design-specific. Randomized evidence was interpreted through standard risk-of-bias domains; non-randomized intervention and service evaluations were examined for selection effects, confounding, comparator limitations, and secular change; cohort and cross-sectional studies were appraised for exposure and outcome measurement, confounding, and temporal ambiguity; qualitative studies were assessed for congruity between research question, method, representation of participants, and interpretation; structured reviews were assessed for search, selection, appraisal, and synthesis rigor; and Delphi studies were interpreted according to panel composition, round transparency, consensus procedures, and the distinction between consensus and demonstrated clinical benefit.

Operational tools were also assessed within their intended populations rather than treated as universal standards. STOPPFrail and related palliative deprescribing instruments were therefore used to understand how prescribing appropriateness had been operationalized, while acknowledging differences between frailty, cancer, hospice, and community populations.

Integrative synthesis

Because the included evidence differed markedly in population, exposure definitions, intervention type, outcome selection, setting, professional role, and study design, quantitative pooling was not considered methodologically defensible.

Evidence was first organized by substantive construct: medication burden, observed medication-related harm, potentially inappropriate medication use, deprescribing, professional activity, patient or caregiver participation, and care setting. Within each construct, findings were compared according to design, population, professional group, setting, and temporal position in the palliative trajectory.

Consequently, a report showing that a pharmacist identified a medication-related problem or that a physician accepted a recommendation was not treated as equivalent to evidence of improved symptoms, reduced hospitalization, better quality of life, or longer survival [21, 22].

Contradictory and null results were retained rather than collapsed into a directional vote count. New integrative relationships were reserved for the later multidisciplinary synthesis and were not treated as empirically validated pathways.

Results and Discussion

They included systematic and qualitative reviews, retrospective and prospective cohorts, hospital record reviews, a randomized deprescribing trial, non-randomized clinical and service evaluations, qualitative interview studies, consensus work, an implementation pilot, and a realist synthesis. This diversity allowed several medication-safety domains to be examined but prevented a single evidence hierarchy from adequately representing the full review question.

A substantial proportion of the quantitative literature concerned older adults with cancer, advanced cancer, or hospice referral. Longitudinal prescribing data from older patients with advanced cancer showed that potentially inappropriate medication use remained common near the end of life, although discontinuation increased as death approached [23, 24]. In a separate advanced-cancer cohort, polypharmacy and potentially inappropriate medication exposure were associated with selected measures of functional decline, but associations differed according to the medication construct and outcome considered [25-27].

Cancer populations contributed much of the quantitative evidence, whereas qualitative evidence provided broader insight into community, primary-care, caregiver, and professional decision processes. Long-term-care, hospital, hospice, home, and telehealth studies also differed substantially in how medications were recorded and how medication safety was operationalized.

Table 1 summarizes the characteristics and methodological profile of the 27 included evidence units.

Table 1. Included-Evidence Characteristics and Methodological Profile Across the 27 Evidence Units

Evidence unit	Design	Principal population/context	Care setting	Primary medication-safety contribution	Main interpretive boundary
Life-limiting-illness deprescribing synthesis	Systematic review	People with life-limiting conditions	Multiple	Deprescribing outcomes	Heterogeneous populations and endpoints
Cancer comorbidity deprescribing synthesis	Systematic review	Patients with cancer	Multiple	Deprescribing of preventive/comorbidity medicines	Cancer-specific evidence

Drug-burden cohort	Retrospective cohort	Older palliative inpatients	Specialist inpatient palliative care	Anticholinergic/sedative burden	Exposure does not equal harm
Essential-medicine consensus	Guideline synthesis/Delphi	Palliative populations	International	Access and prescribing consensus	Consensus does not establish comparative efficacy
End-of-life adverse-event review	Retrospective record review	Hospital decedents	Acute hospitals	Medication-related adverse events	Retrospective causal attribution
Community deprescribing synthesis	Qualitative systematic review	Patients, caregivers and professionals	Primary/community care	Influences on deprescribing	Themes are not prevalence estimates
Barrier/enabler synthesis	Systematic review	Life-limiting illness	Multiple	Multilevel implementation determinants	Implementation evidence is not outcome evidence
Advanced-cancer prescribing trajectory	Retrospective cohort	Older adults with advanced cancer	Community/hospital/palliative unit	Potentially inappropriate medication trends	Claims-based clinical context
Functional-decline cohort	Secondary cohort analysis	Older adults with advanced cancer	Oncology practices	Polypharmacy/PIM associations with function	Residual confounding
Vulnerable-older-cancer medication profile	Secondary analysis	Older adults with advanced cancer	Community oncology	Polypharmacy, PIMs and interactions	Baseline cross-sectional profile
Community telehealth pharmacy study	Cross-sectional service study	Palliative patients	Community telehealth	Pharmacist medication review	No causal service-effect estimate
National cancer PIM cohort	Retrospective cohort	Patients with cancer	National health system	PIM associations with frailty/outcomes	Cancer population not exclusively palliative
Long-term-care prescribing cohort	Retrospective cohort	Long-term-care decedents	Long-term care	End-of-life prescribing variation	Prescribing rate alone is not care quality
Oncology-palliative pharmacy study	Prospective non-randomized	Palliative oncology patients	Outpatient oncology	Drug-related problem identification	No randomized comparator
Hospital pharmaceutical-care study	Non-randomized clinical study	Palliative inpatients	Hospital	Drug-related problems and interventions	Secular/team effects
Home-hospice appropriateness study	Retrospective observational	Advanced-cancer hospice patients	Home hospice	PIMs and prescribing omissions	Single-center context
Advanced-cancer deprescribing study	Observational	Older adults with advanced cancer	Palliative referral	Medication reduction	Selection into palliative care
STOPPFrail deprescribing trial	Randomized controlled trial	Older adults with advanced frailty	Hospital/nursing-home transition	Criterion-guided deprescribing	Population-specific transferability
Specialist-palliative pharmacist study	Service/observational	Cancer palliative patients	Specialist palliative care	Pharmacist deprescribing recommendations	Recommendation uptake is not patient benefit
Palliative-consultation cohort	Retrospective cohort	Patients with cancer	Hospice referral	Medicines optimization	Confounding by indication
Deprescribing-timing cohort	Comparative cohort	Older cancer patients	Hospice	Timing of medication optimization	Non-randomized timing

Primary-care deprescribing interviews	Qualitative study	Patients and practitioners	Primary care	Continuity and decision processes	Context-specific experiences
Medication-specific Delphi	International Delphi	People with limited life expectancy	Multiple	Medication-specific deprescribing recommendations	Consensus is not outcome validation
Professional decision interviews	Qualitative study	Palliative-care professionals	Multiple	Culture, responsibility and planning	Professional views do not equal patient preference
Caregiver medication study	Qualitative study	Family caregivers	Home end-of-life care	Medication administration burden and safety	Country-specific transferability
Pharmacist opioid clinic	Quality-improvement pilot	Cancer survivors within palliative service	Outpatient	Pharmacist-led opioid tapering	Small uncontrolled implementation study
Antithrombotic decision synthesis	Realist synthesis	People with cancer in the last phase of life	Multiple	Shared decision-making and prescribing inertia	Mechanisms depend on context

Polypharmacy and medication burden in palliative care

Some studies used simple medication counts or thresholds for polypharmacy and hyperpolypharmacy; others used potentially inappropriate medication criteria, medication complexity measures, or pharmacological burden instruments such as the Drug Burden Index.

Among older palliative inpatients, anticholinergic and sedative exposure measured through the Drug Burden Index was common and could increase after admission because symptom-directed treatment frequently required centrally acting medicines [3, 28]. This finding illustrates why medication burden should not be treated as synonymous with medication-related harm.

Medication count nevertheless identifies an important structural feature of care. Community palliative-care services similarly encounter patients with extensive regimens requiring reconciliation, review, and decisions about whether long-standing treatments remain aligned with current priorities [25, 26, 29, 30].

Large-scale cancer data also indicate that potentially inappropriate medication exposure can cluster with frailty and worse clinical outcomes [31]. Such associations strengthen the rationale for review but do not establish that the medications themselves caused frailty, hospitalization, or death.

Care-setting context further modifies medication burden. In long-term care, prescribing of medications commonly used for end-of-life symptom management varies substantially between facilities [32, 33]. Higher prescribing cannot automatically be interpreted as excessive treatment because access to symptom-relieving medication may be clinically appropriate. Conversely, low medication counts cannot be assumed to indicate optimal care.

Medication-related harm and adverse drug events

Medication-related harm is analytically narrower than medication burden because it concerns adverse consequences, drug-related problems, or safety events rather than exposure alone. This provides direct evidence that medication safety remains clinically meaningful near death even when the overall goals of care are primarily palliative [7].

In oncology palliative medicine, prospective clinical-pharmacy involvement identified drug-related problems and medication-management concerns during repeated patient encounters [34, 35]. These findings support the presence of modifiable medication-management problems but should not be interpreted as randomized evidence that pharmacist involvement independently reduces morbidity or mortality [36, 37].

The distinction matters because these conditions require different responses: adverse drug events call for recognition and management of realized or suspected harm, whereas potentially inappropriate prescribing calls for reassessment of expected benefit, treatment burden, prognosis, and available alternatives.

Potentially inappropriate medication use

Potentially inappropriate medication (PIM) use represents a distinct medication-safety construct because it evaluates whether the expected benefit, risk, burden, or time horizon of a medicine remains appropriate for a particular patient context. However, the classification itself does not establish that the medicine has caused an adverse outcome.

Evidence from hospice and advanced-cancer populations demonstrates that potentially inappropriate prescribing remains common near the end of life. This duality is important because palliative medication decisions frequently involve simultaneous withdrawal of low-benefit preventive therapy and continuation or escalation of medicines directed toward comfort [38, 39].

Among older adults with advanced cancer, deprescribing and PIM assessment occur within a context of multimorbidity, frailty, and changing treatment goals. Patients with advanced disease may receive more medications precisely because they are sicker, have more symptoms, or require more intensive care [31].

The use of explicit criteria can support medication review. However, these tools are decision-support instruments rather than autonomous prescribing algorithms. Their value depends on integration with prognosis, symptom burden, patient priorities, caregiver capacity, and clinical judgment [15, 18].

Cancer-specific evidence further reinforces the need for contextual interpretation. Reviews of deprescribing tools in palliative oncology indicate that instruments developed for general older populations may not always capture the priorities and trade-offs present in advanced cancer care [19].

Deprescribing and changing goals of care

Deprescribing is the structured process of reducing, stopping, or modifying medications when expected benefit no longer outweighs burden, risk, or inconsistency with current goals of care.

Across systematic reviews, randomized evidence, and service evaluations, the most consistent finding is that deprescribing can reduce medication exposure and potentially inappropriate medication use. The randomized STOPPFrail trial similarly demonstrated the feasibility of criterion-guided medication reduction in frail older adults approaching the end of life, while emphasizing the population-specific nature of the intervention [1, 40].

Pharmacist-led and specialist palliative-care approaches provide further evidence regarding implementation. However, these studies primarily evaluate processes of care and medication changes rather than definitive patient-important outcome effects [41, 42].

Timing is a central issue in deprescribing. Late recognition of changing goals may reduce opportunities for shared discussion, while early discontinuation without adequate reassessment may remove treatments that remain meaningful to patients [43].

Qualitative evidence demonstrates that deprescribing decisions are influenced by continuity, professional responsibility, communication, and confidence. International consensus work has attempted to clarify medication-specific deprescribing recommendations for people with limited life expectancy, although consensus should not be interpreted as evidence of universal patient benefit [44, 45].

A central implication is that medication optimization cannot be defined by numerical reduction alone. Conversely, failure to reduce medication count does not necessarily indicate unsafe prescribing when medicines remain aligned with current goals.

Nursing responsibilities in pharmaceutical care

Nurses frequently observe the relationship between prescribed regimens and patients' lived experiences, including symptom response, adverse effects, swallowing difficulties, adherence barriers, caregiver concerns, and changes in functional ability.

Hospital pharmaceutical-care studies involving multidisciplinary teams have documented medication discrepancies, drug-related problems, and opportunities for intervention that require communication among professionals rather than isolated prescribing decisions [37].

Home-based care further highlights the importance of nursing and caregiver interfaces. Qualitative evidence from home-care contexts demonstrates that caregivers experience medication management as both a practical and emotional responsibility, involving uncertainty, access challenges, and concerns about correct administration [46]. These responsibilities position nurses as essential contributors to medication safety through observation, documentation, communication, education, and escalation. However, nursing medication-safety work should not be interpreted as equivalent to pharmacist medication review or physician prescribing authority.

Pharmacist contributions

Pharmacists contribute specialized medication expertise through reconciliation, medication review, identification of drug-related problems, assessment of interactions, counseling, and recommendations for medication optimization.

A scoping review of pharmacists in inpatient hospice and palliative care identified recurring activities including medication review, medication reconciliation, patient and caregiver education, and participation in multidisciplinary decision-making [47].

Clinical studies further demonstrate how pharmacist involvement operates in practice. Hospital-based pharmaceutical-care interventions documented pharmacist identification of discrepancies and recommendations that were frequently accepted by multidisciplinary teams [34, 37].

Expanded pharmacist roles can include protocol-based medication adjustment in some healthcare systems. However, such findings remain context-specific. They cannot be interpreted as evidence that every pharmacist role includes independent prescribing authority or that pharmacist involvement alone guarantees improved clinical outcomes [48, 49].

Pharmacist recommendations become clinically meaningful when combined with patient goals, symptom priorities, nursing observations, physician assessment, and multidisciplinary communication.

Physician and multidisciplinary decision-making

Medication decisions in palliative care require integration of pharmacological knowledge, clinical judgment, prognosis, symptom priorities, patient preferences, and professional responsibilities. Physicians and multidisciplinary teams frequently encounter situations in which several reasonable options exist, but no option completely eliminates uncertainty.

Prescribing inertia is one challenge identified in palliative medication decision-making. Realist synthesis demonstrates that deprescribing outcomes depend not only on medication characteristics but also on communication processes, organizational context, professional beliefs, and patient involvement [50, 51].

Multidisciplinary decision-making does not imply that all professional roles are identical. Pharmacists contribute medication-specific assessment. Patients and families contribute preferences, values, and knowledge of lived experience.

It is the decision that best aligns treatment purpose, expected benefit, burden, risks, and patient-defined goals within the available clinical context.

Patient and family participation

Patients and families interpret medicines through personal experiences, beliefs about illness, expectations of care, and concerns about symptom control or abandonment.

Professional perspectives also indicate that deprescribing decisions are shaped by responsibility, uncertainty, and the ability of teams to involve patients and families meaningfully [10, 52].

Realist synthesis of deprescribing and antithrombotic decision-making in cancer care highlights the influence of communication, professional confidence, organizational structures, and patient empowerment on medication decisions [50, 53].

Family participation becomes especially important when patients lose the ability to manage medications independently. This work is clinically important but can create additional burden and uncertainty if adequate support is unavailable [47, 54].

Patient and family participation should therefore not be viewed as an additional step after clinical decision-making.

Medication-safety challenges across care settings

Medication safety changes as patients move between hospital, hospice, home, primary care, long-term care, and specialist services.

Hospitals provide access to multidisciplinary review but may involve rapid transitions, acute illness, and incomplete knowledge of long-term medication priorities. Community and home settings increase the importance of caregiver capability, communication, and access to professional support [32, 47].

Transitions between settings are particularly vulnerable periods. Qualitative evidence identifies discontinuity, reactive decision-making, and unclear responsibility as important influences on deprescribing processes [44, 52]. A pharmacist-led telehealth service may identify medication problems and support optimization, but its effectiveness depends on referral pathways, communication systems, professional authority, and patient access [29, 55, 56].

A medication decision that is appropriate in hospital may require reassessment after discharge, and a regimen that is manageable with professional support may become unsafe when caregiving capacity changes.

Integrated multidisciplinary medication-safety model

The evidence synthesized in this review supports a proposed integrative medication-safety model that links six interacting domains: medication state, medication-related harm, prescribing appropriateness, medication-change processes, professional contributions, and patient or caregiver priorities.

It is an evidence-informed synthesis designed to organize how medication decisions can be interpreted when multiple forms of uncertainty coexist.

The first domain concerns medication state, including medication number, regimen complexity, pharmacological burden, and treatment purpose. The second concerns observed or suspected harm, including adverse drug events, drug-related problems, and clinically meaningful toxicity. The third concerns appropriateness, including whether expected benefit remains aligned with prognosis and goals.

The fourth domain concerns medication change, including deprescribing, continuation, substitution, and initiation of symptom-focused therapies. The fifth concerns professional responsibility, where nursing surveillance, pharmacist medication expertise, and physician or multidisciplinary decision-making contribute different forms of knowledge. The sixth concerns patient and family priorities, which determine how benefit, burden, risk, and acceptable uncertainty are interpreted.

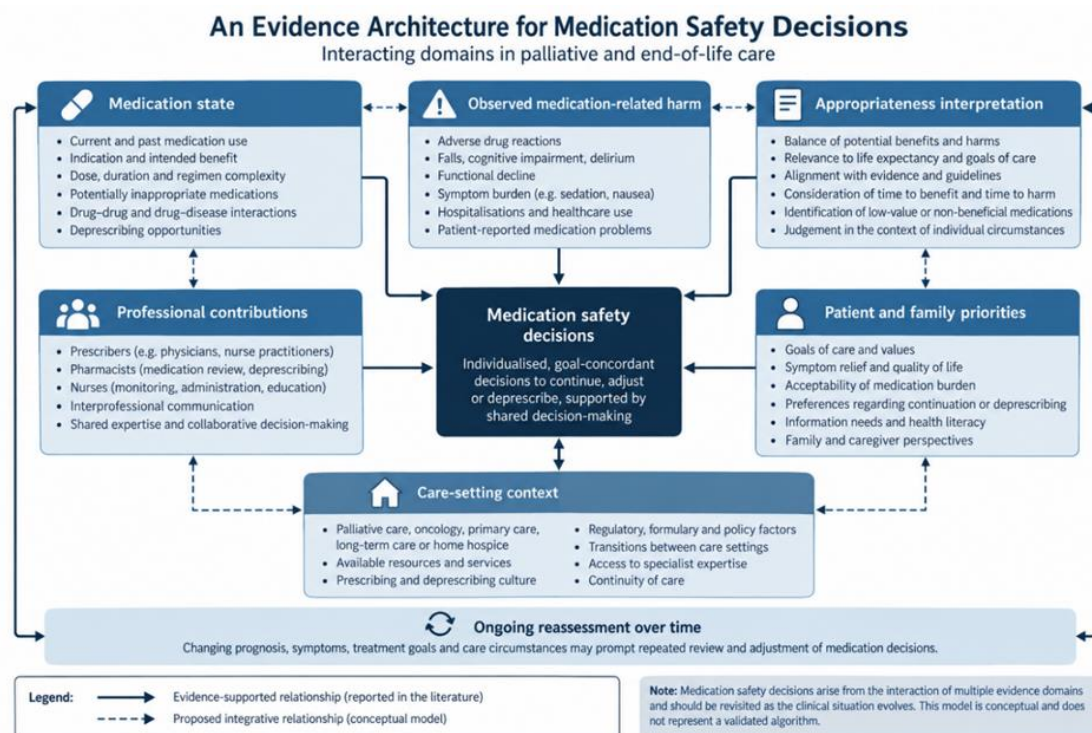


Figure 2. Integrated Multidisciplinary Medication-Safety Model for Palliative Clinical Decision-Making

Medication burden, potentially inappropriate medication use, adverse drug events, deprescribing activity, professional roles, and patient participation describe different but interacting aspects of medication decision-making.

The strongest evidence supports the ability of structured medication review and deprescribing approaches to reduce medication exposure or potentially inappropriate prescribing in selected populations [1, 40, 41].

An important finding is that apparent disagreement in the literature often reflects different questions rather than contradictory conclusions. Integrating these domains requires preserving their differences rather than forcing them into one outcome framework.

Hospital-based older-adult deprescribing trials contribute understanding about medication reduction and safety but involve different clinical circumstances from hospice, specialist palliative care, or home end-of-life management [57].

Safe medication practice requires ongoing interpretation of whether medicines continue to serve their intended purpose, whether harms have emerged, whether treatment remains feasible, and whether decisions remain aligned with patient priorities.

Implications for palliative nursing

Nurses are positioned to identify changes in symptoms, adverse effects, swallowing difficulties, adherence barriers, caregiver concerns, and discrepancies between prescribed plans and actual medication use.

The evidence suggests that nursing contributions are especially important at points where medication information must move between patients, families, pharmacists, physicians, and other members of the care team.

Implications include strengthening communication pathways, documenting medication-related concerns clearly, supporting shared discussions about treatment goals, and recognizing caregiver medication responsibilities as part of medication safety rather than as an invisible extension of care.

Evidence gaps

Several evidence gaps remain.

First, quantitative evidence is concentrated in older adults with cancer and may not fully represent non-cancer palliative populations, diverse cultural contexts, or lower-resource healthcare environments [1, 6, 10].

Second, many studies evaluate medication processes rather than patient-important outcomes. Pharmacist recommendations, medication reviews, and deprescribing activities are frequently measured, while their relationships with symptom control, quality of life, caregiver burden, and healthcare utilization remain less consistently established.

Third, professional-role evidence remains uneven. Although nursing, pharmacy, and multidisciplinary contributions are recognized, fewer studies directly compare how different professional contributions influence medication-safety outcomes.

Fourth, evidence on transitions between hospital, hospice, home, and long-term care requires further development. Medication safety is highly dependent on continuity, communication, and responsibility transfer, yet these mechanisms remain difficult to measure.

Strengths and limitations

This review has several strengths. It uses a structured evidence synthesis, separates included evidence units from methodological and contextual references, preserves distinctions between medication constructs, and applies design-specific appraisal rather than imposing a single inappropriate quality score.

The synthesis also intentionally integrates quantitative, qualitative, consensus, and implementation evidence because medication decisions in palliative care cannot be understood through one methodology alone.

Several limitations should be considered. First, the search route was conducted through a PubMed-focused scholarly discovery pathway with supplementary verification rather than a conventional exported multi-database systematic-review search. Second, evidence heterogeneity prevented quantitative pooling and limits direct comparison across populations and settings. Third, some included evidence came from advanced-cancer or older-adult populations rather than exclusively specialist palliative-care populations, requiring careful interpretation of transferability.

Finally, although the proposed multidisciplinary model is grounded in reviewed evidence, it represents an integrative synthesis rather than an externally validated clinical framework.

Conclusion

Medication safety in palliative nursing care cannot be determined by medication count, potentially inappropriate medication classification, or deprescribing activity alone. The meaning of a medication decision depends on the relationship among treatment purpose, patient goals, symptom priorities, medication-related risks, professional responsibilities, caregiver capacity, and care context.

Current evidence supports structured medication review, individualized deprescribing, and multidisciplinary collaboration, while also demonstrating that medication reduction is not synonymous with safer or better care in every circumstance. A balanced approach requires distinguishing medication burden from harm, appropriateness from adverse events, and medication change from patient benefit.

Future progress depends on developing evidence that connects professional contributions, medication processes, patient experiences, and clinically meaningful outcomes across the diverse settings in which palliative care is delivered.

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