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REVIEW

# Developing a Structured Framework for Pharmacist-Led Prescription Medication Counselling: A Scoping Review Integrating Structural Domains and Patient-Centered Operational Features

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**Abstract:** Medication counselling is a core element of pharmaceutical care that supports safe, rational, and adherent medication use. However, despite its importance, medication counselling remains suboptimally implemented in routine practice. A clearer description of how counselling is structured in practice is therefore required. This study aimed not only to map existing practices but to develop a structured framework for pharmacist-led prescription medication counselling by integrating procedural components with patient-centered operational behaviors. The review followed the PRISMA Extension for Scoping Reviews checklist. MEDLINE, Embase, the Cochrane Library, and grey literature were searched for publications from January 2015 to January 2025. Fourteen sources, including both regulatory guidance documents and empirical studies, met the inclusion criteria. Using an adapted TIDieR framework, intervention components were deductively extracted and analyzed. Subsequently, content analysis was conducted to inductively synthesize them into structural domains and patient-centered operational features. Six structural domains were identified: patient identification and encounter framing; risk screening; information provision; understanding verification and engagement; adherence and self-management support; and documentation and referral or escalation. Four patient-centered operational features were also identified: patient context elicitation and prioritization; tailored communication adaptation; interactive understanding verification; and adherence support practices. Structural detail varied across sources, particularly for documentation and adherence-related elements.These operational features function as implementation-level elements within structural domains, linking procedural structure to observable patient-centered behaviors. This integrated framework conceptualizes medication counselling as an operationalized service and provides a foundation for its standardization, implementation, and evaluation in real-world practice.

**Keywords:** prescription medication counselling, patient-centered care, pharmacy practice, dispensing, scoping review

## Introduction

Dispensing is defined as a pharmacy service that involves the preparation and supply of prescribed medicines following an assessment of both the prescription and the patient. It includes verification of the legal and technical validity of the prescription, evaluation of patient-specific factors to ensure safe and appropriate use, and the provision of information to support correct administration. Beyond product supply, dispensing is recognized as a structured process integrating clinical assessment, regulatory responsibility, and patient communication within pharmaceutical care.[1,2]

Dispensing provides an opportunity for medication counselling in pharmacy practice. During this process, pharmacists not only deliver information on the medicine, including its purpose, drug usage, and adverse drug event, but also assess patient-specific factors and document their professional interventions.[3] As a healthcare professional in medication

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management, pharmacists are well positioned to address patients' therapeutic needs at the point of dispensing.[4] Previous research has shown that counselling delivered during dispensing improves medication knowledge, enhances adherence, and reduces healthcare utilization. Medication counselling can therefore be regarded as an essential component of pharmaceutical care embedded within the dispensing process.[5]

Although pharmacist-led dispensing has been associated with improved patient outcomes,[6] implementation of counselling in routine practice remains inconsistent.[7] Multiple barriers have been identified, including pharmacist-related factors such as limited communication competencies and competing priorities, patient-related factors such as low engagement and passive participation in communication, as well as broader cultural, regulatory, and workflow constraints. Time pressure and workload imbalance further limit the feasibility of comprehensive counselling.[8–11]

In addition, the absence of a defined and standardized work process contributes to variability in counselling practice.[12] Pharmacists' time may be diverted to non-clinical or administrative tasks, potentially reducing counselling quality. From the patient perspective, the scope and core components of medication counselling during dispensing remain insufficiently examined. Clarifying patient-centered process can be therefore essential for advancing a pharmaceutical counselling framework.[13]

Despite these findings, there remains a lack of a clearly defined and operationalized framework that specifies how medication counselling is structured and delivered in practice. Existing literature is fragmented across guidance documents and empirical studies, with limited integration of procedural components and patient-centered operational behaviors.

This scoping review aimed to map the structural components of pharmacist-led prescription medication counselling and to identify observable patient-centered operational features. The findings may provide a basis for standardizing counselling practice, supporting future evaluation of patient-centered care during dispensing.

# Material and Methods

## Study Design

This study employed a scoping review design based on the framework proposed by Arksey and O'Malley.[14] A scoping review approach was selected due to the heterogeneous and fragmented nature of the existing literature, which spans regulatory guidance, practice frameworks, and empirical studies across diverse healthcare settings. Given the lack of a unified conceptual framework and the variation in how counselling components are described, a scoping review was considered appropriate to systematically map, integrate, and synthesize these diverse sources. The review followed the five-stage framework outlined by Arksey and O'Malley: identifying the research scope, identifying relevant studies, study selection, charting the data, and collating, summarizing, and reporting the components.

## Eligibility Criteria

Study selection was conducted independently by two reviewers (EJ and YW) in accordance with PRISMA guidelines.[15] The eligibility criteria were guided by the PCC framework. The Population comprised pharmacists, the Concept included pharmacist-led counselling, and the Context was prescription-based medication counselling across healthcare settings. Publications were eligible if they were published in English, available in full-text format, and described pharmacist-conducted counselling within prescription contexts. Both empirical studies and practice-based documents, including regulatory guidelines and clinical practice guideline, were included. Review articles, editorials, commentaries, conference abstracts, and opinion papers were excluded.

## Search Strategy

MEDLINE, Embase, and the Cochrane Library were searched for studies published between January 2015 and January 2025 to capture recent pharmacist-led counselling practices. The search strategy included keywords related to pharmacists, medication counselling, guidelines, and prescription contexts. Boolean operators were used to optimize the search strategy (Supplementary Material 1). In addition to database searches, grey literature was explored using Google and Google Scholar, and the first 200 relevant records were screened for eligibility. Manual hand-searching was

conducted by reviewing the reference lists of relevant reviews concerning clinical pharmacy guidelines to identify additional eligible studies.

## Selection of Studies

Two reviewers independently screened titles and abstracts. Full texts of potentially eligible articles were then reviewed in detail. Discrepancies during the selection process were resolved through discussion. When necessary, a third reviewer was consulted for further evaluation. All eligible articles were organized and managed using EndNote 7 software, and duplicate records were removed prior to screening.

## Data Extraction and Synthesis

Data extraction was guided by an adapted TIDieR framework to chart intervention rationale, materials, core procedures, and tailoring criteria related to medication counselling (Supplementary Material 2).[16] The TIDieR framework was adapted to accommodate the inclusion of heterogeneous sources, which often lack standardized reporting formats. This adaptation provided a structured approach for systematically extracting counselling components and enabled the identification of both observable behaviors and intervention processes. An inductive content analysis approach was applied to organize extracted procedural elements. Intervention descriptions were grouped into categories based on similarities in explicitly reported actions, using an inductive process grounded in the source texts. Patient-centered operational features were identified through analysis of reported tailoring and communication practices across sources. Extracted data were coded based on explicitly reported counselling actions and procedures. Codes were iteratively compared and grouped into categories reflecting similar intervention components. These categories were subsequently synthesized into higher-order structural domains and patient-centered operational features using an inductive content analysis approach. The final categorization was established through discussion and consensus within the research team.

# Results

## Study Selection

Fourteen sources were included in the review (Figure 1 presents the PRISMA flow diagram). Publications originated from diverse geographical regions, including the United Kingdom (n = 4), Australia (n = 1), Ireland (n = 1), the United States (n = 1), Oman (n = 1), Canada (n = 1), Saudi Arabia (n = 1), Brazil (n = 1), Spain (n = 1), the Netherlands (n = 1), and Nigeria (n = 1). The types of sources included regulatory guidelines, practice standards, practice development reports, practice frameworks, and empirical studies. Empirical studies comprised cross-sectional studies, observational studies, controlled trials, quasi-experimental studies, and Delphi-based validation research. Regulatory and professional guidance documents were developed by organizations such as the Pharmaceutical Society of Australia, the Pharmaceutical Society of Ireland, the National Institute for Health and Care Excellence, and the Nova Scotia Pharmacy Regulator. Practice frameworks were identified from hospital and primary care settings.

Most sources focused on community pharmacy settings, while several were conducted in hospital or primary care environments. The general characteristics of the included sources are presented in Table 1.

## Study Characteristics

Across the included sources, intervention descriptions were extracted according to four reporting domains: rationale or goal, intervention materials, core intervention procedures, and tailoring criteria, based on the adapted TIDieR framework The stated rationales for medication counselling referred to safe and effective medicine use, structured counselling delivery, medication review processes, or support for patient knowledge. Intervention materials ranged from verbal counselling alone to structured written or electronic tools. Core intervention procedures were reported across sources and generally included provision of medicine-related information and interaction with patients during prescription encounters, although the level of procedural detail varied.

Tailoring criteria referred to prescription status, patient characteristics or identified medication-related risks. Detailed domain-level extraction is provided in Supplementary Material 2.

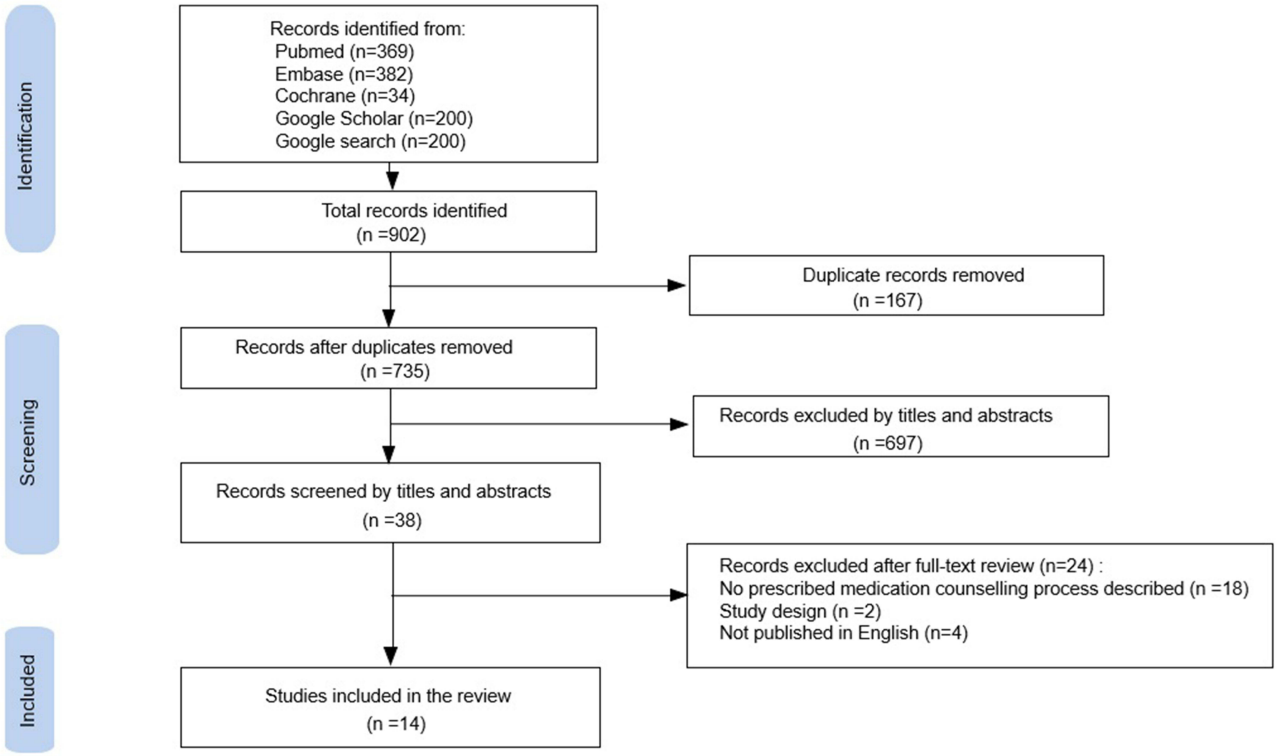


**Figure 1** PRISMA flow diagram of guideline selection process.

## Structural Components and Patient-Centered Operational Features of Prescription Medication Counselling

Six structural domains of prescription medication counselling services were identified (Table 2). Information provision and patient identification were reported in all sources (n = 14), including confirmation of patient identity, clarification of prescription status, and structured explanation of medicine purpose, dosing, administration, duration, monitoring, and safety information. Understanding verification was described in 13 sources, emphasizing confirmation of comprehension through

**Table 1** Study Characteristics of the Included Studies

| Study & Guidelines | Organization & Author | Country | Year | Target Clinical Setting | Type of Source |
|---|---|---|---|---|---|
| Community pharmacist counsellingpractices in the Bisha health directorate,Saudi Arabia–simulated patient visits[3] | Alrahbini T et al | Saudi Arabia | 2020 | Community pharmacies | Cross-sectional study |
| Development and content validation of an instrument to support pharmaceutical counselling for dispensing of prescribed medicines[17] | Rocha KSS et al | Brazil | 2020 | Community pharmacy | Delphi-based content validation study |
| Dispensing Practice Guidelines[18] | Pharmaceutical Society of Australia | Australia | 2019 | All settings | Regulatory guideline |
| Effectiveness of a protocolized dispensing service in community pharmacy for improving patient medication knowledge[19] | Abaurre-Labrador R et al | Spain | 2016 | Community pharmacy | Pre–post quasi-experimental study |

(*Continued*)

**Table 1** (Continued).

| Study & Guidelines | Organization & Author | Country | Year | Target Clinical Setting | Type of Source |
|---|---|---|---|---|---|
| Guide to undertaking person- centered inpatient (ward) outpatient (clinic) and dispensary- based pharmacy consultations[20] | Pharmacy Dept,London NW UniversityHospitals Trust, UK | United Kingdom | 2020 | Hospital settings | Practice development report |
| Medicines adherence: involving patients in decisions about prescribed medicines and supporting adherence[21] | National Institute for Health and Care Excellence | United Kingdom | 2009 | All settings | Regulatory guideline |
| Patient medication counselling in community pharmacy: evaluation of the quality and content[22] | Showande SJ et al | Nigeria | 2022 | Community pharmacy | Cross-sectional study |
| Patient-centered consultations in a dispensary setting: a learning journey[23] | Barnett NL et al | United Kingdom | 2017 | Hospital settings | Practice development report |
| Patient–provider communication about medication use at the community pharmacy counter[24] | Van Dijk M et al | Netherlands | 2016 | Community pharmacy | Observational study |
| Patients' knowledge of new medicines after discharge from hospital: What are the effects of hospital-based discharge counseling and community-based medicines use reviews (MURs)?[25] | Elson R et al | United Kingdom | 2017 | All settings | Controlled trial |
| Policy and Procedure of Preparation and Dispensing of Medications[26] | Al Masarra Hospital | Oman | 2025 | Hospital settings | Practice framework |
| PSI Guidelines to support Medicines Therapy Review, Counselling, and Prescription Extension[27] | Pharmaceutical Society of Ireland | Ireland | 2024 | Community pharmacy | Regulatory guideline |
| Standards of Practice: General Pharmacy Practice[28] | Nova Scotia Pharmacy Regulator | Canada | 2025 | Community pharmacy | Practice standard |
| The Patient Care Process for Delivering Comprehensive Medication Management[29] | Comprehensive Medication Management in Primary Care Research Team | USA | 2018 | Primary care | Practice framework |

**Table 2** Domain-Based Synthesis of Prescription Medication Counselling Components Across Included Sources (n=14)

| Domain | Core components | Tailoring Considerations Described in Sources | Frequency (%) |
|---|---|---|---|
| Patient identification and encounter framing | Confirm patient identity; confirm intended medicine recipient; distinguish new vs ongoing therapy; assess consultation willingness; classify consultation level; confirm allergy status; identify newly prescribed medicines at discharge | New medicine; change in regimen; first vs repeat prescription; discharge context; patient willingness to engage | 14/14 (100) |
| Risk screening | Review prescribed, nonprescription, and supplementary medicines; assess indication appropriateness; assess dose and regimen; assess contraindications and precautions; assess drug–drug and drug–disease interactions; assess allergy history; identify potential medication-related problems; assess prescription scenario risk | Polypharmacy; high-risk medicines; narrow therapeutic index; controlled medicines; patient risk profile; newly prescribed medicines; medicines requiring monitoring | 12/14 (86) |

(*Continued*)


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**Table 2** (Continued).

| Domain | Core components | Tailoring Considerations Described in Sources | Frequency (%) |
|---|---|---|---|
| Information provision | Explain medicine name and purpose; explain dose and schedule; explain administration instructions; explain treatment duration; explain storage conditions; explain monitoring requirements; explain adverse effects; explain precautions and contraindications; explain interactions; explain missed-dose management; explain expected therapeutic response; provide cost or reimbursement information when relevant | Adapt information depth to patient knowledge gaps; emphasize safety for high-risk medicines; prioritize newly prescribed medicines; provide structured explanation for first prescriptions | 14/14 (100) |
| Understanding verification and engagement | Verify patient understanding; ask patient to restate instructions; assess baseline understanding; invite patient questions; explore patient concerns; clarify misconceptions; assess adherence in a non-judgmental manner; assess knowledge through follow-up questioning; respond with empathy; demonstrate appropriate nonverbal behavior | Use simplified language when appropriate; reinforce verification when risk or complexity is high; provide written information if discussion declined; adjust engagement according to consultation category | 13/14 (93) |
| Adherence and self-management support | Address adherence and missed doses; explore reasons for altered use; discuss adherence tools and options; align counselling with daily routine; empower patient participation in decisions; enable agreed self-management actions; direct to written information and support contacts | Tailor adherence support to perceptual or practical barriers; adapt counselling for long-term conditions or polypharmacy; differentiate new vs refill prescriptions; emphasize high-risk groups such as children, older adults, special needs | 11/14 (79) |
| Documentation and referral or escalation | Document professional advice and counselling interventions; document prescription extension decisions and rationale; maintain dispensing records; refer complex cases to specialist pharmacist when required; facilitate private counselling area when needed | Adjust documentation detail according to service type and clinical decision; refer based on medication complexity or patient-specific needs; relocate consultation when privacy required | 10/14 (71%) |

restatement or teach-back. Risk screening was reported in 12 sources and involved review of current medicines, assessment of contraindications and interactions, and identification of medication-related risks. Patient-centered operational features were also identified. Interactive understanding verification was the most frequently reported feature (n = 12), including teach-back and reinforced verification in complex or high-risk situations. Tailored communication adaptation involved adjustment of language, information depth, and caregiver involvement according to patient characteristics. Patient context elicitation and prioritization included assessment of willingness to engage and discussion based on patient-selected priorities. Adherence support practices comprised adherence assessment, exploration of barriers, and alignment of counselling with daily routines. An Assessment of Eligible Studies for Person-Centeredness is Presented in Table 3.

# Discussion

## Principal Findings

This scoping review explored the components of pharmacist-led prescription medication counselling across regulatory guidance, professional standards, practice frameworks, and empirical studies published between 2015 and 2025. Through inductive content analysis, six structural domains were identified as core components of prescription medication counselling services: (1) patient identification and encounter framing; (2) risk screening; (3) information provision; (4) understanding verification and engagement; (5) adherence and self-management support; and (6) documentation and

**Table 3** Recurring Patient Centred Operational Features Explicitly Reported Across Included Sources (n=14)

| Patient Centered Feature Cluster | Explicit Contextual Triggers Described in Sources | Explicitly Reported Operational Practices | Frequency (%) |
|---|---|---|---|
| Patient context elicitation and prioritization | Counselling declined. Patient readiness. Knowledge gaps. Newly prescribed medicines. | Assess patient willingness to discuss medicines. Invite patient questions before providing information. Ask what the patient knows and understands about prescribed medicines. Assess knowledge of existing and newly prescribed medicines. Discuss medicines according to patient selected priorities. Emphasize information elements based on identified knowledge gaps. Provide written information when discussion is declined. | 7/14 (50.0) |
| Tailored communication adaptation | Older adults. Low literacy. Sensory or cognitive limitation. Language needs. | Adapt communication using plain language. Use large print or symbols. Adapt communication style according to literacy language sensory or cognitive status. Involve caregiver when appropriate. Adjust information depth according to patient characteristics and medicine complexity. | 8/14 (57.1) |
| Interactive understanding verification | Polypharmacy. Cognitive limitation. Complex regimens. Low baseline knowledge. | Verify patient understanding. Ask the patient to restate instructions. Confirm understanding of the care plan. Assess knowledge through follow up questioning. Reinforce understanding verification when risk or complexity is high. | 12/14 (85.7) |
| Adherence support practices | Long term therapy. Missed doses. Perceptual or practical barriers. | Address adherence and missed doses. Assess adherence in a non judgmental manner. Explore reasons for missed doses or altered use. Discuss adherence tools and options. Tailor adherence interventions to patient specific barriers. Align counselling with the patient daily routine when schedules are complex. Enable agreed self management actions. | 6/14 (42.9) |

referral or escalation. Additionally, four patient-centered operational features were identified as cross-cutting elements embedded within counselling processes: patient context elicitation and prioritization, tailored communication adaptation, interactive understanding verification, and adherence support practices. Using an adapted TIDieR framework, we systematically identified and organized intervention components to derive a consolidated, operationally coherent model that integrates structural domains with operational behaviors inductively derived from heterogeneous sources. The findings suggest that a structured framework for prescription medication counselling is required to support systematic development, piloting and feasibility assessment, outcome and process evaluation, and implementation of counselling interventions.[30]

The results indicate that structural domains and patient-centered operational features reflect related but distinct levels of prescription medication counselling. Structural domains represent the overarching components of the counselling process, whereas patient-centered operational features capture how these components are enacted in practice. These observations suggest that patient-centered operational features function within structural domains, linking procedural structure with observable patient-centered behaviors. This implementation-level structuring supports the translation of identified components into real-world counselling practice and advances pharmacy practice by enabling the standardization of counselling processes and the implementation of patient-centered elements in routine care.

## Interpretation of Structural Domains

Across the 14 included sources, patient identification and encounter framing, as well as information provision, consistently reflected core expectations of prescription medication counselling. The TIDieR-informed analysis showed that these components were consistently observed across heterogeneous sources, supporting their relevance across diverse practice contexts, although this interpretation requires caution due to variation in evidentiary weight among the included

sources. Most frameworks identified in this review described structured processes for gathering relevant patient information prior to counselling delivery. These domains align with previous research indicating that professional guidance documents emphasize confirmation of patient identity and provision of medicine-related information as foundational components of pharmacy practice.[31–33] In contrast, documentation and referral or escalation was less integrated into counselling workflows compared with other structural domains. However, prior literature consistently emphasizes the importance of documentation for improving counselling quality, ensuring continuity of care, and supporting quality assurance processes.[34,35] These findings suggest that documentation should be more clearly operationalized and reinforced as a core component of prescription medication counselling. Risk screening was also identified in most sources as a procedural domain, comprising review of current medicines and identification of potential medication-related risks, including drug–drug and drug–disease interactions. Studies suggests that structured counselling processes are associated with clinical outcomes, including reductions in hospital readmissions and emergency department visits.[36] Although such studies do not always isolate medication-related causality, these findings support the potential clinical relevance of structured counselling interventions and highlight their role in broader care transitions.

Understanding verification was consistently reported as a core domain within counselling procedures. It was described through concrete practices such as teach-back, restatement, and iterative clarification in high-risk situations, although the degree of formalization varied across sources. Understanding verification is also closely linked to adherence support. Ensuring that patients comprehend their regimen enables pharmacists to identify barriers and align treatment with daily routines. Previous studies have shown that structured counselling is associated with improved adherence outcomes.[37] Our findings further support that understanding verification represents an essential step in the development and quality assurance of prescription medication counselling, particularly in recognizing that patient values, beliefs, and contextual realities significantly influence medication-taking behavior.

## Operationalization of Patient-Centeredness

Patient-centered operational features were identified through content analysis within the structural domains of prescription medication counselling. The findings indicate that patient-centeredness becomes operational through specific, observable behaviors reported across included studies. Patient engagement is recognized as essential in prescription medication counselling.[38] In this review, we identified four observable service elements through which patient engagement is operationalized: patient context elicitation and prioritization, tailored communication adaptation, interactive understanding verification, and adherence support practices.

Interactive understanding verification was the most frequently reported operational feature. Several sources described iterative teach-back methods, reinforcement in complex scenarios, and additional clarification for high-risk medicines. These practices may enhance patients' clarity and confidence, thereby supporting improved adherence, consistent with prior evidence linking structured counselling to better adherence outcomes.[5]

Tailored communication adaptation involved adjusting language complexity, depth of information, and caregiver involvement according to patient characteristics such as health literacy, cognitive status, or medication complexity across the included studies. This personalized approach may enhance medication knowledge,[19] improve patients' ability to manage potential adverse effects, and support safer and more appropriate treatment implementation.[19]

In contrast, patient context elicitation and prioritization and adherence support practices were less explicitly structured across sources. Nevertheless, prior studies indicate that these processes are essential components of medication counselling.[36] For example, distinguishing between new and refill prescriptions is an important step in determining counselling depth and content.[22,23] Furthermore, medication adherence is a major clinical outcome influenced by pharmacist-led counselling. The limited structural articulation of these domains may reflect the absence of clearly defined operational frameworks or standardized evaluation methods.[39] Strengthening both the service specification and measurement of these components may enhance the implementation of patient-centered prescription medication counselling.

## Limitations

This review has several limitations. Considerable heterogeneity was observed in the reporting depth and structure of included sources. Medication counselling is broadly defined in pharmacy practice, and its scope varies across settings.[40,41] Although this review focused specifically on prescription medication counselling, differences in terminology and practice environments may have influenced study identification and interpretation.

Geographical variation among sources may also limit interpretation across healthcare systems, as counselling expectations differ between practice contexts. The adapted TIDieR framework provided a structured extraction approach; however, its focus on behavioral and procedural elements may have limited capture of broader contextual factors.[42] This limitation is related to the application of TIDieR beyond its original purpose for experimental interventions, as its use in analyzing regulatory guidance documents and practice frameworks may not fully capture normative and system-level dimensions. In addition, although grey literature was searched, some relevant documents may not have been identified. In addition, potential selection bias may have arisen from the inclusion of English-language publications and selected data sources. Evidence coverage may also be incomplete due to variability in the depth and detail of heterogeneous sources.

## Conclusion

This scoping review identified six domains of prescription medication counselling and four patient-centered operational features from regulatory guidance, practice frameworks, and empirical studies. The findings indicate that counselling consists of defined procedural components alongside observable patient-centered behaviors. While information provision and patient identification were consistently described, documentation and adherence-related elements were less clearly operationalized. The proposed framework provides a structured basis for standardizing and implementing patient-centered medication counselling in clinical practice, while informing policy and professional guidelines. It also has potential applicability across diverse healthcare systems globally.

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## Disclosure

The authors declare no conflicts of interest related to this study.

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