Interpretation of the Italian Scientific Alliance Position Statement: Medication Review and Deprescribing Postprint

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Abstract

Multimorbidity readily leads to polypharmacy, thereby increasing the risks of drug-drug interactions and adverse drug reactions. Medication review and deprescribing constitute important strategies for optimizing pharmacotherapy, aiming to improve patients'overall health status and quality of life through the review and reduction of inappropriate medication use. In March 2024, the Italian Scientific Alliance issued a position statement on medication review and deprescribing, which articulated the key elements, methodologies, available tools, and application value of these practices. This article, based on an analysis of the statement' s main content, introduces the concepts and objectives of medication review and deprescribing, elaborates on their primary processes from four aspects: comprehensive medication history review, pharmacotherapy assessment, multidisciplinary pharmacotherapy planning, and follow-up, summarizes their implementation effectiveness in various healthcare settings, analyzes the challenges faced by our country and corresponding strategies, with the aim of providing a theoretical basis for promoting clinicians to conduct medication review and deprescribing for patients.

Full Text

Interpretation of a Position Statement from an Italian Scientific Consortium: Medication Review and Deprescribing

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Abstract

Multimorbidity often leads to polypharmacy, increasing the risk of drug interactions and adverse drug reactions. Medication review and deprescribing are crucial strategies for improving therapeutic regimens, aiming to enhance patients' overall health and quality of life through reviewing and reducing inappropriate medication use. In March 2024, the Italian Scientific Consortium issued a position statement on medication review and deprescribing, outlining their key elements, methods, available tools, and clinical value. Based on an analysis of this statement, this article introduces the concepts and objectives of medication review and deprescribing. It elaborates on the main processes from four aspects: comprehensive medication history review, medication therapy assessment, multidisciplinary medication therapy planning, and follow-up. The article reviews implementation outcomes across different healthcare settings, analyzes challenges and coping strategies in China, and aims to provide theoretical support for promoting medication review and deprescribing by clinicians for their patients.

Keywords: Drug prescriptions; Medication review; Deprescribing; Polypharmacy; Inappropriate medications; Position statement; Interpretation

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As multimorbidity and polypharmacy become increasingly prevalent, patients face significantly elevated risks of inappropriate medication use, drug interactions, and adverse drug reactions, which can lead to deteriorating health, falls, hospitalization, and even death [1]. Medication review and deprescribing represent essential strategies for identifying and reducing inappropriate medication use, thereby decreasing potential medication-related risks and burdens. Their safety and effectiveness are well-supported by extensive evidence [2]. However, due to complex procedures and constraints within healthcare environments, implementing medication review and deprescribing in clinical practice remains challenging. In response, the Italian Scientific Consortium published a position statement on "Medication Review and Deprescribing" in March 2024, which outlines key elements, methods, available tools, and application values, providing important reference for addressing inappropriate medication use [3]. Given the current lack of clinical practice guidelines for medication review and deprescribing in China, this article interprets the main content of this position statement, elaborates on the concepts, objectives, and processes, summarizes implementation outcomes across different healthcare settings, and analyzes challenges and strategies in China to provide theoretical support for improving clinical prescribing practices.

1 Basic Concepts and Objectives

Medication review refers to a comprehensive audit of a patient' s current medications by healthcare professionals, encompassing identification, assessment, and resolution of potential drug-related problems. The International Pharmaceutical Federation and the European Network for Pharmacy Services define medication review as a structured evaluation of patient medication use, including detection of drug-related problems and recommendation of interventions to optimize medication use and improve health outcomes [4-5]. The UK' s National Institute for Health and Care Excellence further emphasizes the practical value of medication review as a structured and critical examination process, particularly highlighting the importance of patient-physician consensus to prevent drug-related problems and avoid healthcare resource waste [6]. Although specific definitions vary across institutions and organizations, there is unanimous agreement on the core value of medication review in enhancing medication safety, efficacy, appropriateness, and cost-effectiveness to ensure patients derive maximum benefit while minimizing potential risks. Research on medication review in China started relatively late, and while domestic scholars are actively exploring models suitable for China' s context, a systematic, standardized, and intelligent management model has yet to be established.

The concept of deprescribing was first proposed by Australian pharmacy expert

Woodward in 2003 and officially translated into Chinese by experts from the Guangdong Pharmaceutical Association in 2017 [7-8]. Deprescribing emphasizes the systematic reduction or discontinuation of unnecessary or potentially harmful medications through comprehensive evaluation of indications and efficacy under the supervision of healthcare professionals, thereby optimizing prescribing regimens and reducing adverse drug events [7]. The core objective is to improve medication safety and effectiveness while reducing the burden of drug-related problems. Compared with traditional pharmaceutical services, deprescribing not only addresses existing medication issues but also focuses on early identification and prevention of potential drug-related problems through systematic evaluation and intervention strategies, enabling dynamic management throughout the patient' s medication journey [9]. Based on full consideration of individual patient differences and specific needs, deprescribing develops optimal medication regimens through shared decision-making, making implementation more feasible and personalized.

Medication review and deprescribing constitute a multi-stage optimization approach for medication therapy. Medication review serves as the prerequisite and foundation for deprescribing, providing necessary information and decision-making basis by systematically evaluating and reviewing patient medication regimens and identifying potential problems. Deprescribing represents the practical step following medication review, optimizing treatment plans by rationally adjusting or discontinuing inappropriate medications. Both emphasize patient-centeredness and prioritize improving medication safety and effectiveness as core objectives. Their synergy enables better whole-process management of patient medication, minimizing adverse event risks and maximizing therapeutic outcomes. Therefore, the position statement addresses them as an integrated whole.

2.1 Comprehensive Medication History Review

In the initial phase of medication review and deprescribing, the position statement emphasizes the importance of comprehensive clinical assessment. History evaluation should include patient height, weight, hepatic and renal function, and underlying conditions that may increase treatment complexity, such as hypertension, diabetes, heart failure, chronic kidney disease, and malignancies. Laboratory and imaging examinations are essential tools for evaluating clinical status and prescription effectiveness and safety. Depending on the specific healthcare environment, healthcare professionals may need to select appropriate multidimensional or functional assessment scales. Simultaneously, social and environmental factors potentially affecting treatment adherence should be comprehensively considered.

Regarding medication history assessment, the position statement requires obtaining a complete list of all medications taken by patients, including over-the-counter drugs and dietary supplements. When patient cooperation is low, relatives or caregivers may be consulted for supplementary information. For each

medication, the following elements require comprehensive retrieval and evaluation: drug indication, dosage, administration frequency, treatment duration and start date, medication adherence level, and regimen complexity. Additionally, special attention should be paid to documentation of drug efficacy and history of previous drug allergies or adverse reactions. Due to differences in family circumstances, economic conditions, cultural background, and medication experience, each patient' s understanding and attitude toward current pharmacotherapy varies [10]. Therefore, when reviewing medication history, healthcare professionals should fully attend to patient medication experiences and personal circumstances, selecting affordable medications with favorable expected efficacy based on their economic status to ensure high medication adherence, laying the foundation for subsequent deprescribing decisions.

2.2 Medication Therapy Assessment

Medication therapy assessment represents the second stage of medication review and deprescribing. The position statement advocates systematic evaluation of medication regimens using recognized tools and information sources. Assessment content includes drug-drug interactions, adverse drug reactions, prescribing cascades, inappropriate medication recommendations, relevant clinical practice guidelines, and patient-specific conditions, culminating in optimized treatment plans. Furthermore, patients and their caregivers should participate as important stakeholders in decision-making to co-develop personalized treatment plans [15].

Following completion of medication therapy assessment, healthcare professionals should produce written reports to support subsequent medication decisions. Recommendations in these reports should be evidence-based, including drug discontinuation, dose adjustment, administration frequency modification, initiation of new drug therapy, or monitoring of specific clinical indicators. Chen et al. [13] analyzed inappropriate medication use among elderly outpatients in a Chinese hospital based on the 2023 Beers Criteria, including 24,217 elderly outpatients, with results showing 4,934 patients (20.37%) using potentially inappropriate medications (PIMs) long-term. Wang et al. [14] studied PIMs among 178 inpatients in a geriatrics department of a Chinese hospital, finding that while the control group showed no significant differences in medication adherence or Medication Appropriateness Index (MAI) scores before and after intervention ($P>0.05$), the study group demonstrated significant improvement post-intervention, with the proportion of patients having MAI scores >10 decreasing from 60% to 40% ($P<0.05$). These studies demonstrate that evaluating medication therapy can effectively improve patient medication adherence and appropriateness.

In assessing PIMs, the position statement recommends using multiple algorithms, criteria, and tools such as the Medication Appropriateness Index (MAI), Beers Criteria, and STOPP/START criteria [11]. These tools effectively help identify high-risk medications and propose alternative treatment options. As

an implicit screening tool, MAI focuses on individualized medication therapy assessment, while explicit screening tools like Beers Criteria identify inappropriate medications through comparison with preset standards. Compared with Beers Criteria, MAI emphasizes comprehensive evaluation integrated with patient clinical context, whereas Beers Criteria focuses on drug categories with relatively fixed screening standards. The STOPP/START criteria adopt a physiological system-based format, serving not only for PIM screening but also for identifying omitted appropriate medications, providing further recommendations for regimen optimization. In-depth research on localized PIM screening tools and process development, along with integration of PIM screening tools into electronic health records, represents important measures for enhancing medication therapy assessment quality [12].

Assessment should extend beyond drug indications, dosages, and timing to include medications contraindicated due to age or multimorbidity, drugs without indications, and medications with minimal clinical benefit. For elderly patients with cognitive decline and patients with mental disorders, additional assessment of anticholinergic drug burden is required.

2.3 Multidisciplinary Medication Therapy Plan

In the third stage of medication review and deprescribing, the position statement emphasizes the central role of multidisciplinary teams (MDT) in developing medication therapy plans. This stage requires close collaboration and joint efforts among clinicians, pharmacists, and other healthcare professionals, integrating clinical evidence, professional experience, and patient family background and preferences to ensure medication safety, appropriateness, and individualization. Clinical pharmacists are responsible for assessing the appropriateness of multiple medications and providing optimization plans; clinicians combine pharmacists' recommendations with patient-specific conditions to develop final treatment plans.

Multidisciplinary collaboration led by clinical pharmacists has matured and gained wide acceptance in countries such as the United States, United Kingdom, and Australia [16]. Clinical pharmacists regularly review therapeutic drugs for outpatients or home-based patients, identify medication use problems, and provide timely interventions, with extensive reports on this collaborative model. In contrast, practice and research on patient medication therapy interventions based on multidisciplinary collaboration models are relatively scarce in China. The role of clinical pharmacists has not been fully recognized by other healthcare professionals, and cross-collaboration mechanisms between pharmacists and clinicians remain imperfect. However, Chinese hospitals have begun innovating traditional management models by encouraging clinical pharmacists to participate in treatment decision-making and enhancing interaction with clinicians [17]. Therefore, exploring multidisciplinary collaboration models suitable for China' s national conditions is recommended, enabling pharmacists to actively participate in clinical medication use, including fixed-point services, regular par-

ticipation in ward rounds, consultations, and discussion of difficult cases, to assist clinicians in treatment [17].

Domestic and international practice has proven that multidisciplinary diagnosis and treatment models offer significant advantages in improving treatment outcomes for patients with polypharmacy. For example, Beijing Hospital established a geriatric medicine team comprising multidisciplinary professionals to provide comprehensive medication assessment and treatment plans for elderly patients with polypharmacy through MDT consultation based on comprehensive geriatric assessment [18]. The Geriatrics Center of West China Hospital implemented a multidisciplinary collaboration model primarily involving "cadre healthcare/geriatric physicians, special appointment/geriatric outpatient nurses, and clinical pharmacists from the pharmacy department," intervening in elderly patients with polypharmacy and finding that multidisciplinary collaboration could achieve full integration of medication management and refined services, improving therapeutic effects while modifying inappropriate medication behaviors, reducing adverse drug reaction incidence, and enhancing medication adherence and rationality among elderly patients [19]. Multiple hospitals have established geriatric outpatient clinics and clinical pharmacy clinics to conduct comprehensive geriatric assessments for elderly patients and enter assessment reports into electronic health records for reference by clinicians and pharmacists in collaborative plan development and prescription review [20,21]. Bryant et al. [22] demonstrated that community pharmacist participation in clinical medication review and collaboration with general practitioners could significantly improve patients' MAI scores. However, ensuring timely and accurate information transfer and preventing privacy leakage risks during information sharing remain urgent issues requiring further research in clinical practice.

2.4 Follow-up

Follow-up represents the final stage of medication review and deprescribing, aiming to ensure long-term management of treatment effectiveness and safety through continuous observation, assessment, and documentation of patient outcomes. Core objectives include evaluating patient adherence to new treatment regimens, monitoring health issues that may arise after medication adjustment, and identifying potential adverse reactions. Follow-up primarily encompasses two aspects: first, re-evaluating the patient' s current medication regimen—patients with good efficacy and safety may receive regular follow-up, while those requiring further medication adjustments may re-enter the medication review and deprescribing process or be referred to specialists or higher-level medical institutions as needed; second, assessing patient treatment burden, particularly for patients with stable or improved conditions after medication reduction, evaluating cost savings from deprescribing while considering patients' economic status and new drug prices to assess their ability to afford medication expenses.

Although the position statement does not specify exact follow-up formats and frequencies, it emphasizes individualized principles for follow-up timing and

content. Follow-up intervals can be flexibly set based on patient conditions and drug characteristics, typically recommending follow-up every 1-3 months. For patients with recent medication adjustments, intervals should be appropriately shortened according to disease severity and drug action characteristics. Standardized questionnaires can reduce inter-professional follow-up variations to some extent, ensuring consistency and accuracy of follow-up content. As follow-up may involve multiple healthcare professionals, this diversified participation model, while helpful for meeting needs across different healthcare environments, may also lead to uneven follow-up quality. Therefore, optimizing information sharing and efficient communication among different professionals during follow-up to avoid omissions or errors in information transfer represents a key area for improvement.

China' s large population base and serious aging challenges make follow-up relatively difficult. For primary healthcare professionals, community-based methods such as outpatient visits, telephone calls, WeChat, or home visits are recommended for more detailed assessment of patients' post-medication condition development and guidance for subsequent treatment plans [23]. Simultaneously, actively conducting health education during follow-up can improve patient treatment adherence and ensure smooth implementation of medication review and deprescribing. For example, Yang [24] studied elderly chronic disease patients in community health service centers and found that applying rational medication education helped improve patients' cognition of rational drug use and follow-up compliance.

3.1 Primary Care Institutions

Medication review and deprescribing offer unique advantages in primary care settings. Primary care services are characterized by accessibility, comprehensiveness, continuity, coordination, and individualization. In primary care institutions, healthcare professionals maintain closer contact with patients, enabling timely medication review and treatment adjustment when patients' conditions change to ensure medication safety and effectiveness. Additionally, the position statement advocates using telemedicine technology as an important means for communication and collaboration between general practitioners, specialists, and clinical pharmacists. Multiple studies have confirmed that interdisciplinary collaboration in primary care environments yields positive outcomes across clinical outcomes, economic benefits, and standardized medication use [25].

It should be noted that the position statement provides relatively limited discussion on patient participation issues in primary care settings. Patients' active involvement and cooperation are key factors determining whether primary care advantages can be fully realized and whether medication therapy management can achieve desired outcomes. Previous studies have shown that patients'trust in community general practitioners, mastery of medication knowledge, and understanding of their own diseases significantly influence their willingness to accept deprescribing recommendations [26]. Therefore, when implementing medication

review and deprescribing in primary care settings, greater emphasis should be placed on enhancing patient participation, encouraging shared decision-making with doctors based on informed understanding rather than relying solely on community doctors or pharmacists' leadership.

3.2 Hospital Wards

The inpatient environment provides important opportunities for assessing and addressing polypharmacy issues, enabling healthcare professionals to comprehensively review medication regimens based on patients' disease status and treatment goals. Studies show that a considerable proportion of unplanned hospitalizations and in-hospital adverse events among elderly patients are related to adverse drug reactions, most of which are preventable [27]. The position statement emphasizes that medication review and deprescribing should run through the entire hospitalization process. Clinical pharmacists conducting medication review at admission and implementing systematic medication assessment after patients' conditions stabilize can effectively identify and correct irrational drug use. Related research shows that the total incidence of adverse drug reactions among elderly inpatients decreased from 9.11% before intervention to 4.68% after pharmaceutical intervention, demonstrating significant effectiveness [28].

Clinicians in inpatient settings need to rationally determine the timing and process of medication review and deprescribing to ensure continuity and efficiency of medical work. Meanwhile, clinical pharmacists participating in morning reports and ward rounds, communicating with doctors at any time, jointly evaluating patient treatment plans, and considering drug affordability based on patients' economic conditions can help select appropriate medications. On the premise of ensuring therapeutic effects are not compromised, treatment burden can be minimized and individualized medication regimens developed for patients. Ward physicians, based on comprehensive assessment of patient conditions, can combine professional opinions from clinical pharmacists and fully utilize nurses' role in patient monitoring to optimize medication regimens.

Clinical decision support systems can provide strong support for the feasibility and effectiveness of medication review and deprescribing during hospitalization. Skalafouris et al. [29] used a clinical decision support system to conduct daily screening of electronic health records of internal medicine inpatients, sending alerts to clinical pharmacists when abnormalities were detected to encourage them to call clinicians and propose necessary treatment adjustments. However, whether recommendations from clinical pharmacists can be recognized and adopted by doctors faces considerable challenges due to differences in patient characteristics, disease spectra, and medication regimens across different departments. Therefore, when expanding application scope, further exploration of interdisciplinary collaboration models and development of personalized implementation plans according to department characteristics are needed to ensure broad applicability of medication review and deprescribing.

3.3 Long-term Care Institutions

Long-term care institutions, as healthcare facilities for non-emergency and chronic medication therapy, encompass community hospitals and nursing homes, playing important roles in medication management. A systematic review by Morin et al. [30] showed that the prevalence of PIMs among patients aged 60 and older in long-term care institutions reached 43.2%. Medication management in these settings typically includes medication documentation at admission and subsequent regular medication reviews. Regular medication assessment can better meet patients' actual needs, ensuring appropriateness and continuity of medication management. Additionally, clinical pharmacists in this environment should manage medication irrationality events and actively participate in medication education, management, and guidance. A randomized controlled trial in the Netherlands showed that polypharmacy patients in long-term care institutions who received community pharmacist-led medication review demonstrated improved cognitive function and significantly reduced adverse reactions from sedative medications [31].

For elderly patients with limited life expectancy in long-term care institutions, weighing the pros and cons of long-term benefit medications represents a major challenge in medication management. Such patients often prioritize quality of life over mere life extension. Therefore, when developing deprescribing plans, patient preferences should be fully respected, comprehensively considering medication benefits, risks, and treatment burden, avoiding a "one-size-fits-all" approach. Through individualized assessment and communication that balances efficacy and safety, optimal therapeutic effects and quality of life can be achieved simultaneously. To actively address health and disease challenges brought by population aging, China' s integrated medical and elderly care institutions and services have developed rapidly. These institutions should assess patients' ability to self-manage medications, identify adverse drug effects, and encourage healthcare professionals to regularly provide medication review and deprescribing services without affecting disease treatment goals [32].

3.4 Palliative Care

Patients receiving palliative care at the end of life commonly face issues of potentially inappropriate prescribing. A Swedish cohort study covering over 500,000 elderly patients showed that polypharmacy and PIMs were particularly common among patients with life expectancy less than one year [33]. Riechelmann et al. [34] found that among advanced cancer patients receiving palliative care, approximately 22% used at least one PIM. When evaluating medications for terminally ill patients, multiple factors including life expectancy, administration difficulty, and discontinuation risks must be comprehensively considered. Clinical guidelines in this field are currently scarce. The applicability of some long-term medications for terminally ill patients requires special attention. For example, strict blood pressure or glucose control may pose greater risks, including decreased quality of life, poor medication adherence, administration errors,

and increased adverse reactions.

To address this issue, Lindsay et al. [35] developed the OncPal deprescribing guideline, proposing a list of potentially inappropriate medications and selection principles for advanced cancer patients, providing reference for medication optimization in palliative care. However, the applicability of this guideline in complex clinical situations requires further validation. Toscani et al. [36] studied 589 patients receiving palliative care and found that although total medication use and inappropriate preventive medication rates decreased with disease progression, significant variations in deprescribing practice existed across different healthcare institutions. Chuang et al. [37] investigated symptom-relief medication and polypharmacy use among elderly Taiwanese at the end of life across different death trajectories, finding that individuals dying from cancer received the most symptom-relief medications, and clinicians'perspectives varied when assessing medication regimen value and appropriateness for patients with different life expectancies and underlying diseases. Therefore, to promote standardization of medication optimization practice in palliative care, enhanced training and supervision of healthcare institutions are needed, along with development of more specific operational guidelines for different clinical situations to help healthcare personnel rationally optimize medication regimens during end-of-life stages and improve patient quality of life.

4.1 Implementation Complexity

The complex disease states and diverse medication regimens of patients with multimorbidity significantly increase deprescribing implementation difficulty. Deprescribing complexity primarily manifests in its progressive requirements. For patients requiring discontinuation of multiple medications, a stepwise principle should be followed, gradually reducing doses to accurately identify potential medication problems and enable timely intervention to ensure patient safety. However, this cautious discontinuation approach further increases implementation difficulty [38]. Additionally, deprescribing complexity varies across clinical environments. In palliative care, clinicians must comprehensively consider patients' life expectancy, treatment goals, medication duration of action, and administration difficulty, significantly increasing implementation complexity.

To address complex implementation challenges, the position statement particularly emphasizes the importance of establishing multi-level clinical decision support systems. Specific measures include using web applications (such as InterCheck and MedStopper) to assess drug interactions, employing standardized assessment scales to identify high-risk patients, and achieving long-term monitoring through medication therapy management databases. The central role of clinical pharmacists in this system is particularly critical, as they can assist in developing deprescribing plans and play irreplaceable roles in monitoring potential adverse reactions and evaluating efficacy [39]. Therefore, establishing multidisciplinary collaboration teams including clinical pharmacists is essential. As a bridge between doctors and patients, clinical pharmacists not only pro-

mote efficient information transfer but also ensure the scientific integrity and continuity of the deprescribing process, providing strong guarantees for patient treatment outcomes and safety.

4.2 Patient Resistance

Patient resistance to accepting medication review and deprescribing is a common barrier faced by clinicians. When clinicians attempt to change or discontinue medications that patients have taken long-term, especially those prescribed by specialists, patients may develop resistant attitudes. Reasons for patient resistance include psychological or physical dependence on long-term medications and insufficient understanding of potential medication risks [40]. Under long-term medication use, patients may view drugs as necessary guarantees for maintaining health, even when informed that medications may no longer be necessary or pose potential harm [41]. Therefore, when addressing patient resistance, clinicians need to explain the benefits of deprescribing, such as reducing medication-related adverse reactions and improving quality of life, and adopt shared decision-making approaches to increase patient engagement and trust.

To address patient resistance issues identified in the position statement, more comprehensive coping strategies can be developed. First, clinicians' patient education skills should be cultivated—not only clearly explaining the necessity of deprescribing but also helping patients understand each medication' s mechanism of action and benefit-risk balance. This process can be optimized through phased demonstration strategies, prioritizing medications with clear risk-benefit profiles for deprescribing to build patient confidence and adherence through initial successful discontinuation. Clinicians can encourage family members or other caregivers to actively participate throughout the deprescribing process as important components of the patient support system. Caregiver participation helps strengthen patient trust in deprescribing, supervise and document medication use and potential adverse reactions in daily life, and provide more comprehensive information support for clinicians [42]. With various patient-friendly medication education tools (such as brochures or electronic information platforms), clinicians can clearly communicate deprescribing purposes and potential benefits to patients, enhancing understanding and trust to improve acceptance and adherence to deprescribing plans.

4.3 Work Environment and Clinician-Level Barriers

During medication review and deprescribing implementation, clinicians face multiple challenges. First, limited time and heavy workload are common issues, often preventing comprehensive and detailed assessment of patient medication situations. A systematic review by Doherty et al. [43] indicated that lack of standardized workflows and quality standards represents important barriers to medication review and deprescribing. Second, some clinicians have cognitive

biases and insufficient knowledge and skills in medication review and deprescribing. Traditional medical education systems emphasize disease diagnosis and treatment more than rational medication use and adverse drug reactions, resulting in inadequate understanding of deprescribing importance and limited ability to comprehensively assess medication benefits and risks. Additionally, insufficient physician-patient communication represents another important barrier. When communicating with patients, clinicians may not fully understand patients' actual needs or clearly explain deprescribing purposes and potential benefits, making it difficult for patients to fully understand and actively cooperate with medication adjustment plans.

To address work environment and clinician-level barriers in medication review and deprescribing, comprehensive measures should be adopted to improve efficiency and scientific rigor. Establishing standardized workflows and quality management systems is recommended to provide clear operational guidelines and evaluation standards for medication review and deprescribing, reducing process uncertainty and alleviating clinicians' time pressure [44]. Continuing education and training on rational medication use should be strengthened through seminars, online courses, and case sharing to compensate for insufficient medication optimization content in traditional medical education. Particular emphasis should be placed on strengthening training in medication benefit-risk assessment to enable clinicians to more comprehensively understand the importance and scientific basis of deprescribing [23]. Additionally, attention should be paid to whether clinicians can deeply understand patients' needs and concerns during diagnosis and treatment processes.

Conclusion

As multimorbidity and polypharmacy become increasingly common, the complexity of clinical diagnosis, treatment, and decision-making has significantly increased, making further improvement of rational medication use an important issue. The 2024 position statement from the Italian Scientific Consortium proposes four key stages for implementing medication review and deprescribing: comprehensive medication history review, medication therapy assessment, multidisciplinary medication therapy planning, and follow-up. The statement affirms the positive impact of medication review and deprescribing across different healthcare settings in reducing PIMs, alleviating medication treatment burden, decreasing adverse drug reaction risks, and improving clinical outcomes, emphasizing that successful implementation depends on selecting appropriate tools, encouraging multidisciplinary collaboration, strengthening pharmaceutical capability training, and enhancing patient education and participation. Future research should further explore the adaptability and cost-effectiveness analysis of medication review and deprescribing across different healthcare environments to provide evidence for designing more practical implementation strategies. China should actively explore and build medication review and deprescribing models suitable for its national context while drawing on international advanced expe-

rience, to improve health outcomes and conserve public healthcare resources.

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Note: Figure translations are in progress. See original paper for figures.