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Hypertension management in multimorbid patients: Insights from internal medicine

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Abstract

Hypertension is one of the most prevalent chronic conditions worldwide and frequently coexists with other non-communicable diseases, creating a challenging clinical scenario referred to as multimorbidity. This paper critically reviews current strategies for managing hypertension in multimorbid patients, with a focus on the integrative role of internal medicine. Through a narrative review of clinical trials, cohort studies, and clinical guidelines from 2010 to 2025, the paper synthesizes evidence surrounding individualized blood pressure targets, polypharmacy, deprescribing, and guideline conflicts. Findings indicate that major hypertension trials, such as SPRINT and ACCORD, often exclude patients with multimorbidity, limiting the generalizability of their conclusions. Observational data and real-world evidence underscore the risks of aggressive BP lowering in frail populations, suggesting a need for tailored targets. The analysis identifies clinical inertia, adverse drug interactions, and conflicting disease-specific guidelines as major barriers to optimal care. It also highlights the growing relevance of deprescribing strategies, multidisciplinary collaboration, and digital health tools. Internal medicine's holistic and systems-based approach is positioned as central to navigating these complexities. The paper argues for the evolution of clinical practice from disease-centric to patient-centered models, incorporating social determinants, patient preferences, and long-term functionality as key metrics of success. It concludes with actionable recommendations for personalized care, integration of decision support systems, and expansion of multidisciplinary care models. Ultimately, this work aims to realign hypertension management strategies with the realities of multimorbidity, leveraging the strengths of internal medicine to enhance outcomes.

Keywords: Hypertension, multimorbidity, internal medicine, blood pressure, Polypharmacy

Introduction

Hypertension, often termed the "silent killer," is a pervasive global health concern, affecting over 1.3 billion individuals and contributing significantly to morbidity and mortality worldwide. It is a primary modifiable risk factor for several severe health outcomes, including stroke, myocardial infarction, heart failure, chronic kidney disease (CKD), and peripheral artery disease. Despite advances in pharmacotherapy and public health interventions, blood pressure control remains suboptimal in many populations, especially among patients with multiple coexisting medical conditions. This underscores the need for nuanced and integrated management strategies that go beyond isolated disease frameworks. Multimorbidity, defined as the coexistence of two or more chronic conditions in a single patient, has emerged as a critical issue in contemporary clinical practice ^[1]. As populations age and chronic disease burdens increase, the prevalence of multimorbidity continues to rise, posing profound challenges to health care systems globally. For hypertensive patients, multimorbidity complicates the therapeutic landscape through polypharmacy, drug-drug and drug-disease interactions, overlapping symptomatology, and conflicting disease management priorities. Conditions such as type 2 diabetes mellitus, CKD, coronary artery disease, heart failure, and chronic obstructive pulmonary disease (COPD) commonly coexist with hypertension, each necessitating specific management protocols that may not always be congruent ^[2].

Internal medicine, as a discipline, offers a unique lens through which to address these complexities. Internists are trained to approach patient care holistically, integrating pathophysiological understanding with a systems-based approach that considers the entire spectrum of a patient's health. This comprehensive view is essential in navigating the intricacies of multimorbid care, where the goal shifts from disease-specific targets to

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optimizing overall health outcomes and quality of life. The internist's role is particularly vital in identifying therapeutic redundancies, assessing risk-benefit profiles of medications, prioritizing treatment goals, and facilitating interdisciplinary collaboration. In clinical practice, managing hypertension in the context of multimorbidity necessitates careful consideration of individual patient characteristics, life expectancy, frailty status, and patient preferences. For example, while intensive blood pressure lowering may be appropriate in younger patients with diabetes, the same approach may pose risks in older adults with multiple comorbidities and increased susceptibility to orthostatic hypotension, falls, or cognitive impairment ^[3]. Consequently, a one-size-fits-all approach is inadequate; personalized care plans that weigh the risks and benefits of interventions are essential. Current hypertension guidelines, such as those from the American College of Cardiology/American Heart Association (ACC/AHA) and the European Society of Hypertension (ESH), acknowledge the importance of individualization, yet often fall short in providing actionable strategies for patients with multimorbidity. These gaps necessitate a more nuanced interpretation of evidence and the incorporation of real-world clinical judgment an area where internal medicine excels. Moreover, clinical trials frequently exclude patients with significant comorbidities, limiting the generalizability of their findings to real-world populations. Another critical challenge is polypharmacy, which is both a consequence and a driver of multimorbidity. The need to treat multiple conditions often leads to complex medication regimens that heighten the risk of adverse drug reactions, reduced adherence, and therapeutic inertia. In this context, strategies such as medication reconciliation, deprescribing when appropriate, and aligning pharmacologic choices with multiple disease targets become imperative. For instance, angiotensin-converting enzyme (ACE) inhibitors may be favored in patients with both hypertension and diabetic nephropathy due to their dual benefit ^[4].

Socioeconomic and psychosocial factors further complicate hypertension management in multimorbid patients. Financial constraints, limited health literacy, social isolation, and psychological distress can hinder treatment adherence and engagement with healthcare services. Therefore, comprehensive care must also address these social determinants of health, integrating patient education, support systems, and community resources into the management plan. The integration of multidisciplinary care teams is increasingly recognized as a cornerstone of effective management in this patient population. Collaborative care models involving internists, cardiologists, nephrologists, endocrinologists, pharmacists, nurses, and social workers have demonstrated improvements in clinical outcomes, patient satisfaction, and resource utilization. Internal medicine practitioners often serve as coordinators within these teams, leveraging their broad clinical perspective to ensure coherent and patient-centered care. In addition to clinical strategies, emerging technologies offer promising avenues for enhancing hypertension management in multimorbid patients ^[5]. Digital health tools, remote monitoring devices, electronic health records, and clinical decision support systems can facilitate more responsive and individualized care. Artificial intelligence and machine learning algorithms are beginning to assist in predicting adverse events, optimizing therapy, and identifying at-risk patients, although their integration into routine practice remains in the early stages. Ultimately, managing hypertension in patients with multimorbidity is a

multifaceted challenge that requires a balance between evidence-based guidelines and individualized patient care. Internal medicine provides a strong foundation for addressing these complexities through its emphasis on comprehensive assessment, patient-centered decision-making, and interdisciplinary coordination. This paper aims to synthesize current evidence, highlight practical management strategies, and advocate for the pivotal role of internal medicine in advancing care for this vulnerable patient population.

Literature Review

The body of literature examining hypertension in the context of multimorbidity has expanded significantly in recent years, reflecting the growing awareness of the need for integrative management strategies. Traditional hypertension research has largely focused on single-disease models, often excluding patients with multiple chronic conditions. However, contemporary studies increasingly emphasize the complexity of real-world patients and the challenges faced in managing concurrent illnesses. Pivotal trials like the Systolic Blood Pressure Intervention Trial (SPRINT) have shaped current guidelines, demonstrating that intensive blood pressure control (targeting systolic <120 mmHg) can significantly reduce cardiovascular morbidity and mortality. However, SPRINT notably excluded patients with diabetes, prior stroke, and advanced CKD conditions frequently co-occurring with hypertension thereby limiting the applicability of its findings to multimorbid populations. Similarly, the ACCORD trial, which focused on individuals with type 2 diabetes, failed to show a significant reduction in cardiovascular events with intensive blood pressure lowering, further complicating the interpretation of optimal targets in diverse patient groups ^[6]. Observational studies and cohort analyses have attempted to fill these gaps by examining the outcomes of hypertensive patients with multimorbidity in routine clinical settings. Data from the English Longitudinal Study of Ageing (ELSA) and the National Health and Nutrition Examination Survey (NHANES) suggest that aggressive blood pressure targets in older adults with multiple comorbidities may increase the risk of adverse events, including falls, acute kidney injury, and cognitive decline ^[7]. These findings underscore the need for individualized treatment plans that consider the broader health context rather than rigid adherence to numerical targets. Systematic reviews and meta-analyses provide further support for personalized care. A Cochrane review on multimorbidity interventions found moderate evidence that tailored, patient-centered strategies can improve quality of life and reduce healthcare utilization. Interventions such as shared decision-making, comprehensive medication review, and goal-setting have been shown to enhance patient engagement and adherence. These elements are critical in hypertensive patients who are often burdened by complex drug regimens and conflicting treatment advice ^[8].

Current guidelines, while attempting to address comorbid scenarios, still largely rely on disease-specific evidence. The 2017 ACC/AHA guidelines recommend lower blood pressure thresholds and treatment targets but caution against a one-size-fits-all approach, particularly in frail older adults or those with high comorbidity burden. The European Society of Hypertension (ESH) and European Society of Cardiology (ESC) guidelines similarly emphasize the importance of clinical judgment in tailoring therapy to individual patient characteristics.

Pharmacologic management in multimorbid patients

remains an area of active research. Studies support the use of certain drug classes that confer benefits across multiple conditions. For example, ACE inhibitors and angiotensin receptor blockers are widely recommended for patients with hypertension and comorbid diabetes or CKD due to their renal-protective and cardioprotective effects. Calcium channel blockers and thiazide diuretics also remain first-line options but require careful monitoring for metabolic disturbances and electrolyte imbalances, particularly in the elderly. The role of deprescribing in hypertension management is gaining prominence, especially in geriatric populations. Randomized controlled trials such as the OPTIMISE trial have explored the feasibility and safety of withdrawing antihypertensive medications in older adults without compromising blood pressure control or cardiovascular outcomes ^[9]. These findings advocate for regular reassessment of therapy, especially in patients experiencing adverse effects or reduced functional capacity. Multidisciplinary and integrated care models are increasingly validated by empirical evidence. Studies demonstrate that team-based interventions involving primary care physicians, pharmacists, nurses, and specialists can significantly improve hypertension control, reduce medication errors, and enhance patient satisfaction. The STITCH trial and other cluster-randomized studies have shown the benefits of collaborative care in chronic disease management, including improved adherence and more timely medication adjustments. Emerging technologies also contribute to the literature on multimorbid hypertension care ^[10]. Telehealth, remote blood pressure monitoring, and mobile health applications have demonstrated effectiveness in enhancing self-management, especially among patients with limited mobility or geographic barriers to care. These tools can facilitate early intervention and enable more responsive titration of antihypertensive therapy ^[11]. Patient perspectives are increasingly represented in qualitative research, highlighting themes of confusion, frustration, and fatigue associated with managing multiple conditions ^[12]. Patients often report difficulties in reconciling disparate medical advice and express a desire for more cohesive and personalized care. Providers echo these sentiments, citing the challenges of navigating guideline contradictions, time limitations, and the cognitive load of managing complex patients ^[13]. In conclusion, the literature converges on several key principles: the need for individualized blood pressure targets, the prioritization of therapies with cross-cutting benefits, the value of multidisciplinary care, and the integration of patient-centered frameworks. While randomized trials remain the gold standard for clinical evidence, real-world studies, qualitative research, and systems-based analyses are essential for developing pragmatic strategies applicable to multimorbid populations ^[14]. Internal medicine, with its broad scope and integrative philosophy, is well-positioned to interpret and implement these findings in practice.

Clinical Challenges in Multimorbid Hypertensive Patients

- **Polypharmacy and Drug Interactions:** The need to manage multiple chronic diseases often leads to complex medication regimens, increasing the risk of adverse drug events.
- **Conflicting Guidelines:** Disease-specific guidelines may provide contradictory recommendations, making it difficult to balance therapeutic priorities.
- **Reduced Treatment Adherence:** Cognitive impairment, socioeconomic factors, and regimen

complexity can lower adherence.

- **Clinical Inertia:** Physicians may hesitate to intensify therapy due to fears of adverse effects in frail patients.

Evidence-Based Management Strategies

- **Individualized Blood Pressure Targets:** Adjusting targets based on age, comorbidities (e.g., diabetes, CKD), and frailty status.
- **Medication Selection:** Prioritizing agents with benefits across multiple conditions, such as ACE inhibitors for both hypertension and diabetic nephropathy.
- **Non-Pharmacologic Approaches:** Emphasizing lifestyle interventions like DASH diet, sodium restriction, and physical activity.
- **Multidisciplinary Care:** Collaboration among primary care, cardiology, nephrology, and geriatrics to ensure coordinated care.

Internists are uniquely positioned to manage multimorbidity due to their comprehensive training. They provide continuity of care, assess drug interactions, and prioritize interventions based on patient preferences and global health status.

Methodology

This paper employs a narrative review methodology to explore current strategies for hypertension management in multimorbid patients. The review synthesizes findings from clinical trials, observational studies, meta-analyses, and current clinical guidelines.

- **Search Strategy:** A comprehensive search was conducted in databases including PubMed, Scopus, and Cochrane Library using keywords such as "hypertension," "multimorbidity," "internal medicine," "polypharmacy," "blood pressure management," and "chronic disease." Filters were applied to include studies published in English from 2010 to 2025.
- **Selection Criteria:** Studies were included if they addressed hypertension in the context of multimorbidity, discussed management strategies, or analyzed outcomes of interventions in complex patient populations. Priority was given to systematic reviews, large-scale randomized controlled trials, and real-world evidence.
- **Data Extraction and Synthesis:** Key findings were extracted, including study design, sample size, population characteristics, intervention type, and outcomes. Themes were organized under major categories such as guideline recommendations, pharmacologic strategies, integrated care models, and patient-centered interventions. The analysis focused on clinical applicability, limitations of current evidence, and opportunities for improvement.

Analysis

The synthesized literature presents a complex yet increasingly cohesive understanding of hypertension management in the context of multimorbidity. This analysis identifies and evaluates recurring themes and strategic approaches derived from high-impact trials, real-world evidence, and clinical guidelines, while assessing their application in internal medicine practice.

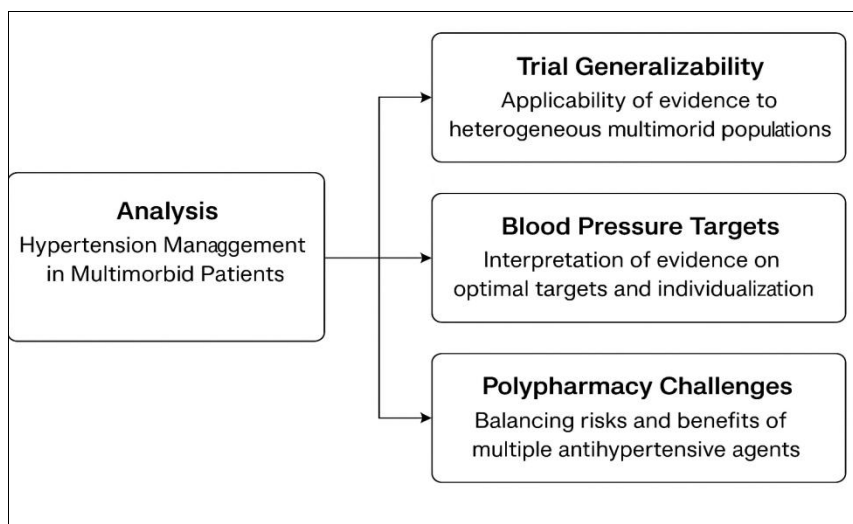


Fig1: Key Analytical Themes in Hypertension Management for Multimorbid Patients

Figure 1 illustrates the three primary analytical themes that emerged from the literature review and synthesis: *Trial Generalizability* emphasizes the limited applicability of controlled trial data to heterogeneous, real-world multimorbid populations; *Blood Pressure Targets* addresses the ongoing debate about optimal thresholds, highlighting the necessity for individualized treatment goals; and *Polypharmacy Challenges* reflects the delicate balance between therapeutic benefit and harm in patients prescribed multiple antihypertensive agents. These themes underscore the complexity of managing hypertension in multimorbid patients and the importance of tailored, system-aware clinical decision-making.

Clinical Trial Evidence vs. Real-World Populations

A central analytical insight is the discrepancy between the rigorously controlled populations in landmark trials and the heterogeneity of real-world multimorbid patients. Trials like SPRINT and ACCORD, though influential, have notable exclusions (e.g., frailty, polypharmacy, multiple coexisting diseases), thereby diminishing their external validity. In contrast, cohort studies and registries reveal a broader spectrum of patient experiences, highlighting complications such as treatment burden, adverse drug events, and nonadherence in multimorbid populations. Internal medicine must bridge this gap by contextualizing trial data within individual patient realities.

Blood Pressure Target Controversy and Individualization

A key area of tension is determining optimal blood pressure targets. Intensive control (SBP <120 mmHg) offers cardiovascular protection but may increase the risk of hypotension, falls, and acute kidney injury in older or frail patients. Analysis of meta-analyses suggests a J-curve phenomenon, where both excessively high and overly low blood pressures associate with increased risk. Clinical judgment, informed by comorbidity profiles, becomes essential. Internists, trained in managing system-level complexities, are well-positioned to calibrate targets based on global health status, rather than rigid guideline thresholds.

Polypharmacy and Deprescribing

Polypharmacy is both an inevitable consequence and a complicating factor in multimorbid hypertension. Analysis of pharmacologic studies reveals that while drug

combinations such as ACE inhibitors plus thiazides improve BP control, the cumulative effect of multiple medications across diseases often leads to adverse events, drug-drug interactions, and reduced adherence. The emerging practice of deprescribing, supported by trials like OPTIMISE, indicates that some antihypertensive medications can be safely withdrawn in select populations without compromising outcomes. Internists must actively assess medication necessity, especially in geriatric and functionally impaired patients, to maintain therapeutic benefit while minimizing harm.

Clinical Inertia and Therapeutic Complexity

Despite guideline recommendations, clinical inertia—a failure to intensify therapy despite unmet targets—remains pervasive. Root causes include physician hesitancy due to potential side effects, time constraints in primary care, and lack of patient engagement. Analytical reviews suggest that clinical decision support systems (CDSS) and multidisciplinary team models can counteract inertia by offering timely alerts, algorithmic recommendations, and shared responsibility. Internal medicine can operationalize these tools to systematically reassess goals and ensure iterative treatment optimization.

Role of Non-Pharmacological Strategies

Lifestyle modification—diet, exercise, sodium restriction, smoking cessation—remains underutilized, especially in populations with cognitive or physical limitations. Analysis of community interventions and digital health programs demonstrates modest but meaningful improvements in BP control when these strategies are culturally and contextually tailored. Internal medicine practices can enhance outcomes by integrating behavioral counseling and leveraging support networks (e.g., family caregivers, community health workers).

Guideline Conflicts and Implementation Gaps

Disease-specific guidelines often conflict in patients with multiple conditions, e.g., conflicting diuretic use in heart failure vs. CKD. This analysis highlights the need for synthesis tools, such as multimorbidity-based algorithms and prioritization frameworks. Initiatives like the NICE multimorbidity guidance represent steps forward, but implementation remains uneven. Internal medicine must advocate for and adopt tools that assist clinicians in balancing competing priorities.

Patient-Centered Decision-Making

A thematic analysis of qualitative studies reveals that patients with multimorbidity prioritize symptom control, quality of life, and simplicity over numerical targets. Misalignment between provider goals (e.g., BP <130 mmHg) and patient preferences (e.g., fewer medications) can undermine adherence. Shared decision-making, supported by motivational interviewing and decision aids, fosters alignment and empowers patients. Internal medicine's holistic ethos facilitates the cultivation of long-term relationships where such dialogue is feasible and effective.

Health System and Equity Considerations

Social determinants poverty, health literacy, transportation, and access to care are consistently identified as barriers to optimal hypertension management. Analysis of health services literature suggests that tailored interventions (e.g., community outreach, subsidized medications, telehealth) can mitigate disparities. Internal medicine, as a core element of public sector care, must integrate social risk screening and collaborate with social services to address these upstream drivers.

Multidisciplinary Integration and Continuity of Care

Successful case management models emphasize continuity, coordination, and interprofessional collaboration. Programs such as the Guided Care model and Patient-Centered Medical Homes have demonstrated reduced hospitalizations and improved BP control. Analysis of their core components team huddles, electronic care plans, proactive monitoring supports a paradigm shift from reactive to preventive care. Internists, acting as care integrators, can embed these practices into routine workflows.

Emerging Technologies and Future Readiness

Digital health platforms, AI-powered risk stratification tools, and remote monitoring are reshaping hypertension care. While evidence remains emergent, preliminary analyses suggest they improve adherence and enable personalized adjustments. However, concerns around accessibility, digital literacy, and data privacy persist. Internal medicine must play a proactive role in evaluating and guiding ethical implementation of such innovations.

Discussion

The findings from this review reveal both the advancements and limitations in current approaches to managing hypertension in the context of multimorbidity. A recurring theme across the literature is the inherent tension between disease-specific clinical practice guidelines and the real-world needs of patients living with multiple chronic conditions. The traditional model of guideline-driven care, developed predominantly from single-disease trials, fails to adequately reflect the overlapping, interacting, and sometimes conflicting requirements of multimorbid patients. Internal medicine, with its integrative perspective, emerges as a key discipline to reconcile these gaps. While randomized controlled trials (RCTs) remain the gold standard for establishing clinical efficacy, their strict inclusion criteria limit generalizability. This review highlights how multimorbid patients are often excluded due to concerns about confounding variables, increased risk of adverse events, or polypharmacy. Consequently, internal medicine physicians must extrapolate cautiously from available evidence, relying on clinical judgment, shared decision-making, and patient-reported outcomes. There is a

growing call for the design of pragmatic trials and real-world studies that include patients with multimorbidity to better inform clinical practice. The debate over optimal blood pressure targets remains unresolved, particularly in older adults or those with complex comorbidities. Evidence supports aggressive BP lowering in specific subgroups, but potential harms such as orthostatic hypotension, cognitive decline, and renal dysfunction must be considered. The clinical implication is the need for individualized targets that account for frailty, functional status, and life expectancy. Internists are uniquely trained to apply such nuanced considerations across the spectrum of patient presentations, especially in primary care and geriatric settings.

Polypharmacy presents a major barrier to effective hypertension management. Patients with multiple chronic conditions often require numerous medications, which increases the risk of nonadherence, drug interactions, and iatrogenic harm. The literature increasingly supports deprescribing and medication reconciliation as effective strategies to reduce this burden. However, deprescribing must be strategic targeting medications that are either duplicative, non-essential, or potentially harmful while ensuring continued management of high-risk conditions. Internists are often at the center of this balancing act, coordinating care plans that span multiple providers and specialties. Clinical inertia the failure to escalate treatment despite suboptimal control is common in multimorbid patients, often due to concerns about side effects or uncertainty about which condition to prioritize. This inertia can be compounded by time pressures, fragmented care, and lack of support tools. Clinical decision support systems (CDSS), as discussed in the literature, can serve as an effective countermeasure by providing evidence-based prompts and reducing cognitive load. Their integration into electronic health records enables internists to act on best practices while considering patient complexity. Lifestyle modifications are universally recommended in hypertension management, yet their uptake in multimorbid populations is limited. Factors such as mobility issues, cognitive impairment, and socioeconomic constraints reduce the feasibility of traditional recommendations. Interventions that are community-based, culturally sensitive, and tailored to individual capacity are more likely to succeed. Internists should consider involving allied health professionals dietitians, physiotherapists, behavioral health specialists to implement these strategies within a broader chronic care framework. Patients with multimorbidity frequently encounter conflicting recommendations such as when heart failure guidelines suggest beta-blockers, while COPD guidelines recommend caution. The absence of a unified, multimorbidity-informed framework leaves clinicians to rely on subjective judgment. This underscores the need for tools that prioritize patient-centered goals rather than rigid targets. Efforts like the GRADE guidelines for multiple chronic conditions are promising, but broader adoption and adaptation are needed. Internal medicine's generalist orientation makes it well-suited to lead in guideline reconciliation.

A central finding of the literature is the value of aligning treatment goals with patient values. Many patients with multimorbidity prioritize maintaining independence and quality of life over strict disease control. Internal medicine's emphasis on longitudinal care relationships supports this alignment, offering opportunities for trust-building and collaborative decision-making. Tools such as decision aids, motivational interviewing, and preference elicitation should

be embedded in routine care to enhance patient engagement and satisfaction. The discussion would be incomplete without recognizing the role of social determinants in hypertension management. Low income, limited education, food insecurity, and poor access to care disproportionately affect multimorbid populations. Addressing these barriers requires an expanded model of care that includes social work, community outreach, and health advocacy. Internal medicine, particularly in academic and public health settings, has a responsibility to integrate equity-oriented care and advocate for systemic change. The complexity of managing multimorbidity calls for integrated, team-based care. Evidence supports the use of care coordination models where internists work closely with cardiologists, nephrologists, pharmacists, nurses, and case managers. Such models have been shown to improve hypertension control and reduce hospitalizations. The challenge remains scalability and sustainability. Internal medicine departments must institutionalize multidisciplinary rounds, shared care plans, and collaborative documentation to maintain consistency in care delivery. Emerging technologies ranging from wearable blood pressure monitors to AI-driven clinical algorithms offer new avenues for individualized hypertension management. However, technological innovation must be matched with clinical governance to ensure that new tools are ethical, equitable, and evidence-based. Internal medicine can lead the implementation of such tools through pilot programs, outcome evaluations, and policy development. In conclusion, the complexity of hypertension management in multimorbid patients demands a departure from reductionist, disease-specific paradigms toward a more integrative, context-sensitive model of care. Internal medicine, by virtue of its holistic training and systems-level perspective, is ideally positioned to drive this evolution. The path forward involves not only refining clinical strategies but also reimagining how we define success in chronic disease care prioritizing function, autonomy, and patient-defined goals above numerical targets alone.

Recommendations

Based on the synthesis of current literature and analysis of practice gaps, several recommendations emerge to guide clinicians, researchers, and health systems in improving hypertension management for patients with multimorbidity. First, treatment plans must be individualized, accounting for comorbidity patterns, functional status, and patient values. Clinicians should shift away from rigid target-based strategies toward personalized goals that emphasize clinical outcomes and quality of life. Second, deprescribing protocols should be systematically implemented in older and frail patients, supported by decision aids and regular medication reviews to reduce polypharmacy risks. Third, care models should integrate multidisciplinary teams involving internists, cardiologists, nephrologists, pharmacists, dietitians, and social workers to ensure continuity and coherence in management. Fourth, clinical guidelines should evolve to reflect real-world patient populations by incorporating evidence from pragmatic trials and cohort studies that include multimorbid patients. Fifth, health systems should invest in digital health tools and CDSS that aid in complex decision-making and streamline communication across specialties. Sixth, greater emphasis should be placed on addressing social determinants of health by embedding equity-focused screening and resource linkage into primary care settings. Lastly, medical education and training programs should enhance competencies in

multimorbidity management, fostering skills in shared decision-making, care coordination, and integrative assessment. These recommendations, rooted in evidence and guided by internal medicine principles, offer a roadmap for optimizing care for this high-need, high-risk patient population.

Future Directions

- Integration of clinical decision support systems (CDSS) to aid in complex decision-making.
- Use of artificial intelligence to predict adverse outcomes and personalize therapy.
- Research into deprescribing frameworks to reduce polypharmacy burden.

Conflict of Interest

Not available

Financial Support

Not available

Conclusion

Managing hypertension in patients with multimorbidity represents one of the most complex challenges in contemporary medicine. This complexity arises from the interplay of coexisting conditions, polypharmacy, and conflicting clinical guidelines, all of which make it difficult to adhere strictly to disease-specific protocols. The standardization inherent in traditional hypertension guidelines often overlooks the heterogeneous needs of patients with multiple chronic diseases. Thus, this review underscores the necessity of transitioning from a reductionist approach to a more nuanced, patient-centered paradigm rooted in the principles of internal medicine. Internal medicine offers a uniquely comprehensive and integrative approach, enabling clinicians to synthesize multiple clinical, social, and behavioral factors that influence hypertension management. Internists are well-equipped to navigate the dynamic clinical landscape in which therapeutic decisions must balance competing priorities such as cardiovascular protection, renal preservation, cognitive safety, and patient-reported outcomes. In this context, rigid blood pressure targets may be less meaningful than achieving functional stability, preventing harm, and supporting autonomy. The findings presented in this paper advocate for individualized treatment plans that account for age, frailty, comorbidity clusters, and patient preferences. Equally important is the implementation of deprescribing practices and regular medication reviews to mitigate the risks of polypharmacy, particularly in the elderly. Integrated, multidisciplinary care models anchored by internists and involving pharmacists, nurses, and specialists have demonstrated improved outcomes and should be adopted more broadly. Furthermore, emerging technologies such as telehealth, remote monitoring, and AI-powered decision tools offer promise in tailoring interventions and improving adherence, though equitable access and ethical oversight remain critical. To support these innovations, clinical guidelines must evolve to incorporate evidence from real-world studies and pragmatic trials involving multimorbid populations. Ultimately, the future of hypertension management in multimorbid patients lies in a personalized, systems-aware approach that redefines success not solely by numerical blood pressure targets but by holistic measures of well-being, patient satisfaction, and quality of life. Internal medicine stands at the forefront of this paradigm shift, offering the breadth and

depth of expertise needed to optimize care in this high-risk, high-need population.

References

1. Askarinejad A, Lip GY, Shantsila A. New-onset atrial fibrillation and hypertension in East Asian population: emerging insights and clinical implications. *Am J Hypertens.* 2025;hpaf162.
2. Benetos A, Petrovic M, Strandberg T. Hypertension management in older and frail older patients. *Circ Res.* 2019;124(7):1045-1060.
3. Benetos A, Rossignol P, Cherubini A, Joly L, Grodzicki T, Rajkumar C, *et al.* Polypharmacy in the aging patient: management of hypertension in octogenarians. *JAMA.* 2015;314(2):170-180.
4. Diaconu CC, Cozma MA, Dobrică EC, Gheorghe G, Jichitu A, Ionescu VA, *et al.* Polypharmacy in the management of arterial hypertension friend or foe? *Medicina.* 2021;57(12):1288.
5. Dinarvand D, Panthakey J, Heidari A, Hassan A, Ahmed MH. The intersection between frailty, diabetes, and hypertension: the critical role of community geriatricians and pharmacists in deprescribing. *J Pers Med.* 2024;14(9):924.
6. Ji E, Ahn S, Choi JY, Kim CH, Kim KI. Effect of multimorbidity on hypertension management. *Sci Rep.* 2023;13(1):18764.
7. Lee KS, Lee J. The complex relationship between treatment burden of multimorbidity and self-care in multimorbid patients with hypertension. *BMC Prim Care.* 2025;26(1):219.
8. Loreto L, Linares-Jimenez FG, de Zeeuw J, de Winter AF. Health literacy and hypertension-related multimorbidity: unravelling the mediating role of self-management insights from the lifelines cohort study. *BMC Public Health.* 2025;25(1):1530.
9. Oka P, Moosa AS, Ng CJ. Exploring the challenges faced by primary care physicians in providing optimal care for patients with hypertension: a qualitative study. *J Prim Care Community Health.* 2024;15:21501319241291466.
10. Salimu SN, Taylor M, Spencer SA, Nyirenda D, Desmond N, Morton B. Self-management of multimorbidity in sub-Saharan Africa: a systematic review and meta-synthesis with focus on diabetes, hypertension, chronic kidney disease and HIV infection. *medRxiv.* 2024;2024-09.
11. Shi S, Liu XZ, Li Y, Yang C. Shared decision making for people living with multimorbidity: a concept analysis. *Patient Educ Couns.* 2025;[Epub ahead of print]:108712.
12. Simiyu IG, Banda GT, Yongolo NM, Salimu S, Oshosen M, Kimario G, *et al.* Clinical management of patients with multimorbidity: a qualitative exploration of healthcare worker perspectives in Malawi and Tanzania. *medRxiv.* 2025;2025-04.
13. Uchmanowicz I, Czapla M, Wleklík M, Juárez-Vela R, Uchmanowicz B. Which multimorbidity clusters are associated with longer hospital stays in hypertensive patients? *Arch Med Sci.* 2024;[Epub ahead of print].
14. Zhang X, Wang Z, Wang J. Managing multimorbidity in clinical practice: cross-disciplinary case insights and mechanistic perspectives. *Interventions.* 20:21.

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