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Letter to the Editor

Bridging the gaps in multimorbidity care: reforming disease-specific guidelines in internal medicine

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Dear Editor,

The recent release of the 2026-2029 Polypharmacy Guidance by the Scottish Government underscores growing international recognition of medication-related harm and treatment burden in patients with complex chronic disease. Similarly, successive updates to Kidney Disease: Improving Global Outcomes (KDIGO) guidelines continue to refine disease-specific targets while acknowledging the challenges of coexisting conditions. Yet despite these contemporary efforts, clinical practice guidance remains predominantly structured around single-disease frameworks. This ongoing reliance on siloed guideline architecture highlights a persistent gap between evolving policy attention to polypharmacy and the structural realities of multimorbidity in clinical care.

Multimorbidity-defined as the coexistence of two or more chronic conditions-has become the prevailing clinical reality in internal medicine. A recent systematic review in The Lancet Healthy Longevity confirmed the high global prevalence of multimorbidity and associated polypharmacy among adult and older populations.[1] Despite this epidemiologic shift, most clinical practice guidelines (CPGs) remain disease-specific. This structural mismatch between guideline architecture and patient complexity generates cumulative therapeutic burden, conflicting recommendations, and increased risk of adverse events.

Guideline development traditionally emphasizes internal validity derived from randomized controlled trials; however, patients with multimorbidity are frequently excluded from such studies, limiting external validity. A 2024 systematic review evaluating multimorbidity guidelines reported substantial methodological and reporting limitations, particularly inadequate incorporation of patient preferences and treatment burden assessment.[2] Furthermore, efforts to translate siloed disease-specific recommendations into integrated clinical decision-support systems highlight interoperability challenges. The CAREPATH study illustrates the structural difficulty of operationalizing fragmented guidelines within multimorbidity management platforms.[3] These limitations are therefore embedded not only in clinical reasoning but also in guideline design itself.

Clinical conflict is evident in the management of hypertension in patients with coexisting diabetes mellitus and chronic kidney disease. While angiotensin-converting enzyme inhibitors are recommended for nephroprotection and blood pressure control, layering glucose-lowering agents and additional renin-angiotensin-aldosterone system modifiers increases risks of hyperkalemia, acute kidney injury, and hemodynamic instability. Moreover, strict glycemic targets (e.g., lower HbA1c thresholds) and intensive blood pressure goals recommended within separate disease-specific guidelines may not account for frailty, limited life expectancy, or competing risks; when applied cumulatively, these targets can increase hypoglycemia, orthostatic hypotension, falls, and hospitalization-paradoxically elevating morbidity and mortality in multimorbid patients. The cumulative application of separate guidelines often necessitates complex medication regimens, intensive monitoring, and increased treatment burden-defined as the workload of healthcare imposed on patients and its impact on well-being.

Progress is further constrained by conceptual ambiguity in multimorbidity assessment. Systematic reviews demonstrate substantial heterogeneity in evaluation methods, including simple disease counts, severity-weighted indices, and drug-based metrics.[4,5] Without standardized operational definitions and assessment frameworks, risk stratification and harmonization of recommendations remain inconsistent. From a practical clinical standpoint, while simple disease counts offer ease of use, severity-weighted indices-particularly when integrated into electronic health systems-are better positioned to capture prognostic complexity and should form the basis of future standardization efforts in routine care.

To align guidelines with contemporary clinical realities, several reforms warrant consideration: development of multimorbidity-specific clinical pathways targeting common disease clusters; incorporation of treatment burden and polypharmacy risk metrics; emphasis on functional status and quality-of-life outcomes alongside disease-specific targets; and structural formatting of recommendations to facilitate digital interoperability across specialties. Existing frameworks such

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as the Beers Criteria and the STOPP/START criteria provide structured approaches to identifying potentially inappropriate prescribing, while the NICE Multimorbidity Guideline (NG56) emphasizes individualized care and deprescribing principles; however, these tools remain variably implemented and are not systematically embedded within most disease-specific guideline architectures. Importantly, these reforms do not replace disease-specific guidelines but contextualize them within patient-centered, complexity-informed frameworks.

Multimorbidity is no longer an exception but the norm in internal medicine practice. Persisting with siloed guideline architecture risks perpetuating polypharmacy, therapeutic conflict, and fragmented care. Future guideline updates should explicitly integrate multimorbidity frameworks to ensure that evidence-based medicine remains responsive to the realities of complex patients.

ETHICAL DECLARATIONS

Peer Review Process

This letter was externally peer-reviewed.

Conflict of Interest

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