

Multimorbidity Management in Primary Health Care: Moving from Disease-Centred Treatment to Coordinated, Person-Centred Care

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Abstract: Multimorbidity, commonly defined as the coexistence of two or more long-term health conditions in one individual, is becoming a central challenge for primary health care. Its burden is no longer restricted to older populations in high-income countries; it increasingly affects middle-aged adults and socioeconomically disadvantaged communities in low- and middle-income settings. A global meta-analysis estimated that approximately 37% of adults in community settings live with multimorbidity, although prevalence varies substantially according to age, disease definitions and the number of conditions assessed.[1] Conventional health systems remain organized around single diseases, resulting in fragmented appointments, conflicting recommendations, polypharmacy, excessive treatment burden and poor continuity. Effective management requires comprehensive assessment, prioritization of patient goals, medication review, self-management support, multidisciplinary teamwork and coordination across levels of care. Evidence for multimorbidity-specific interventions is mixed. Systematic reviews suggest that targeted interventions may improve selected mental-health outcomes, prescribing quality, patient experience and functional status, but consistent effects on mortality, hospital use and quality of life have not been demonstrated.[2] Benefits appear greater when programmes address clearly defined problems rather than applying identical intensive care to all patients with two diagnoses. In India, multimorbidity is common among middle-aged and older adults and is shaped by ageing, socioeconomic inequality, chronic infection, mental illness and rising noncommunicable disease. Ayushman Arogya Mandirs provide an important platform for integrated management, but disease-specific registers, workforce shortages and weak referral systems remain barriers. Future policy should shift from counting individual diseases to assessing complexity, treatment burden, function and social vulnerability.

Keywords: multimorbidity; primary health care; integrated care; polypharmacy; person-centred care; India.

INTRODUCTION

Health systems have traditionally been designed around individual diseases. A patient with hypertension is managed through a hypertension pathway, while diabetes, arthritis, depression and chronic respiratory disease are addressed through separate guidelines, clinics and monitoring schedules. This structure is increasingly misaligned with the needs of people who live with several long-term conditions simultaneously.

Multimorbidity is most often defined as the presence of at least two chronic conditions in one person, without identifying any single condition as dominant. It differs from **comorbidity**, which describes additional conditions in relation to a specified index disease. The distinction is more than semantic. Comorbidity retains a disease-centred perspective, whereas multimorbidity requires clinicians to consider the combined effects of all conditions, treatments, functional limitations and social circumstances.

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A 2023 systematic review involving nearly 15.4 million people estimated the overall global prevalence of multimorbidity in community-dwelling adults at 37.2%. Prevalence was higher among women and increased sharply with age, although estimates varied according to study methods.[1] Multimorbidity is also socially patterned. It tends to occur earlier and with greater complexity among people experiencing poverty, low education, insecure employment and poor access to preventive care.

Primary health care is the natural setting for managing multimorbidity because it provides first-contact, continuous and comprehensive care. Yet primary-care systems frequently reproduce the fragmentation of specialist medicine through separate disease clinics, performance indicators and treatment targets. The central challenge is therefore not merely to identify more conditions, but to redesign care around the person living with them.

Why Multimorbidity Requires a Different Model of Care

The impact of multimorbidity is greater than the numerical sum of individual diagnoses. Conditions interact biologically, therapeutically and socially. Osteoarthritis may reduce physical activity recommended for diabetes; chronic kidney disease may restrict antihypertensive and analgesic choices; depression may impair adherence to treatment for every other condition. A person's capacity to manage illness may also be constrained by frailty, cognitive impairment, poverty, caregiving responsibilities or limited health literacy.

Single-disease guidelines can produce cumulative and sometimes contradictory recommendations. Strict adherence to every guideline may require numerous medicines, repeated investigations, several specialist appointments and complex lifestyle advice. The result is **treatment burden**—the workload of healthcare imposed on patients and families. Treatment burden includes taking and organizing medicines, attending appointments, monitoring symptoms, arranging transport, modifying diet and negotiating administrative systems.

Multimorbidity management must therefore answer a broader question than “Are all diseases treated according to guideline?” The relevant question is whether the combined plan improves outcomes that matter to the patient without creating disproportionate harm or workload.

From Disease Counts to Clinical Complexity

A simple count of two or more conditions is useful for epidemiological surveillance but insufficient for clinical decision-making. Two well-controlled conditions may require less support than one severe illness accompanied by frailty and social isolation. Clinical complexity should include:

- number, severity and stability of conditions;
- physical and mental-health combinations;
- functional and cognitive status;
- polypharmacy and treatment risk;
- treatment burden and self-management capacity;
- social vulnerability and caregiver support;
- frequency of healthcare use and care fragmentation.

Some combinations are particularly challenging. Physical-mental multimorbidity is associated with poorer self-management and quality of life. Cardio-metabolic clusters involving hypertension, diabetes, obesity, dyslipidaemia and kidney disease share risk factors and treatments but create substantial cumulative risk. Painful musculoskeletal conditions combined with cardiometabolic disease may restrict physical activity and increase exposure to potentially harmful medicines.

Primary care should use disease counts to identify patients for review, but intensity of intervention should be determined by complexity and need rather than count alone.

Core Principles of Multimorbidity Management

Comprehensive assessment

A multimorbidity consultation should assess more than individual disease markers. It should include symptoms, function, cognition, mood, nutrition, falls, medicine use, social support, financial barriers and the patient's ability to manage treatment.

Assessment should identify which conditions are active, which are stable and which create the greatest current burden. Clinicians should also distinguish disease symptoms from adverse drug effects. Fatigue or dizziness, for example, may reflect illness, medication, hypotension or interaction among several factors.

Identification of patient priorities

Patients may value independence, pain relief, ability to work, sleep or cognitive clarity more than achieving every numerical disease target. Priorities may change after bereavement, disability, financial crisis or disease progression.

Shared decision-making does not mean transferring technical decisions entirely to the patient. It requires clinicians to explain expected benefits, harms and uncertainties and to build a plan around informed preferences. A meaningful care plan should state a small number of agreed goals rather than reproduce separate disease-management checklists.

Prioritization and sequencing

Not every problem can be addressed during one consultation. Immediate threats, uncontrolled symptoms and high-risk treatment problems should be prioritized. Preventive interventions can then be sequenced according to likely benefit, feasibility and patient preference.

Prioritization is especially important in short primary-care consultations. Attempting to resolve every issue at once can produce rushed counselling and poor adherence. Planned follow-up visits may be more effective than an overloaded single encounter.

Continuity and care coordination

Relational continuity—the ongoing relationship between a patient and a trusted clinical team—is particularly valuable in multimorbidity. The clinician becomes familiar with the patient's history, preferences and previous responses to treatment, reducing duplication and conflicting advice.

Coordination is required across community workers, primary-care clinicians, pharmacists, specialists, hospitals, rehabilitation and social services. Referral should not represent transfer of responsibility. Primary care should retain oversight of the complete treatment plan.

Medication Management and Polypharmacy

Polypharmacy is commonly defined numerically, often as the use of five or more medicines. However, the distinction between **appropriate** and **problematic** polypharmacy is more important than the count. Multiple medicines may be necessary and beneficial when each has a valid indication, favourable benefit-risk balance and manageable regimen. Polypharmacy becomes problematic when medicines are unnecessary, duplicative, harmful, unaffordable or inconsistent with the patient's goals.

A structured medication review should examine:

1. whether each medicine has a current indication;
2. whether it is achieving its intended benefit;
3. whether the dose is appropriate for age and organ function;
4. possible adverse effects and interactions;
5. duplication across prescribers;
6. adherence, affordability and practical administration;
7. whether treatment can be simplified or safely discontinued.

Deprescribing is the supervised reduction or discontinuation of medicines when potential harm or burden exceeds likely benefit. It should not be treated as indiscriminate medicine reduction. Withdrawal may require gradual tapering, monitoring and readiness to restart treatment.

Medicine reconciliation is essential after hospital discharge, specialist consultation and transitions between facilities. Patients with multimorbidity are particularly vulnerable to discrepancies because several clinicians may modify the same regimen.

Evidence for Primary-Care Interventions

Evidence for multimorbidity interventions remains less definitive than the epidemiological burden might suggest. The 2021 Cochrane review concluded that interventions may improve some outcomes, especially when directed at functional difficulties, depression or specific treatment problems, but effects on health-related quality of life and healthcare use were uncertain.[2]

The 3D trial evaluated a patient-centred model involving longer multidisciplinary reviews, attention to dimensions of health and improved continuity. It enhanced patient experience and perceived patient-centredness but did not produce a clear improvement in overall quality of life or treatment burden.[3] This finding is important: improving consultation quality is valuable, but it may not be sufficient to reverse the effects of established chronic disease.

Recent reviews of integrated-care models identify common components such as multidisciplinary teams, case management, individualized care plans, medication management, self-management support and coordinated information systems.[4] However, interventions vary substantially in intensity, population and outcome measurement.

A 2024 review of interventions in low- and middle-income countries found that the evidence base remained small and heterogeneous, with insufficient information on long-term outcomes, costs and scalability.[5] This limitation is critical because models requiring specialist teams, long consultations and sophisticated electronic records may not transfer directly to under-resourced primary-care systems.

The emerging consensus is that multimorbidity interventions should be targeted. Intensive case management may be justified for people with repeated admissions, problematic polypharmacy, frailty,

Table 1. Practical framework for multimorbidity management in primary health care

Domain	Recommended primary-care action	Common failure in disease-centred care	Suggested indicator
Case identification	Identify patients with multiple conditions and stratify by complexity, function and social vulnerability	Eligibility determined only by disease count	Proportion receiving documented complexity assessment
Comprehensive review	Assess physical health, mental health, cognition, function, treatment burden and social circumstances	Separate reviews for each condition	Annual person-centred review completed
Goal setting	Agree on a small number of patient-relevant goals	Targets determined exclusively by disease guidelines	Care plan contains documented patient priorities
Medication management	Reconcile medicines, identify interactions and assess continued indication	Medicines accumulated without whole-regimen review	High-risk patients receiving structured medication review
Deprescribing	Discontinue low-benefit or harmful medicines with monitoring	Treatment continued indefinitely because it was previously prescribed	Potentially inappropriate medicines reviewed and resolved
Self-management support	Provide realistic, coordinated advice tailored to capacity and resources	Multiple conflicting lifestyle instructions	Patient reports confidence in agreed self-management tasks
Care coordination	Assign a responsible primary-care team and maintain communication with specialists	No clinician oversees the complete plan	Named care coordinator and updated shared record
Mental-health integration	Screen for depression, anxiety, substance use and cognitive impairment	Physical and mental healthcare delivered separately	Appropriate mental-health assessment and treatment linkage
Rehabilitation and function	Assess mobility, falls, pain and activities of daily living	Disease control prioritized over independence	Functional status documented and acted upon
Social care	Identify financial, transport, caregiving and food-security problems	Social determinants treated as outside clinical care	Documented referral or support for identified social need
Follow-up	Schedule review according to instability and complexity	Identical follow-up intervals for all conditions	High-risk patients retained in planned follow-up
Outcome evaluation	Measure symptoms, function, experience, safety and treatment burden	Programme judged only by disease-specific biomarkers	Patient-reported and clinical outcomes reported together

depression or major functional limitations. Applying the same complex intervention to every person with two stable conditions is unlikely to be efficient.

Mental Health and Multimorbidity

Mental-health conditions are frequently underdiagnosed in people with chronic physical disease. Depression and anxiety can worsen self-care, treatment adherence, physical activity and perceived symptom burden. Conversely, chronic pain, disability and financial stress can precipitate or aggravate mental illness.

Separating mental and physical healthcare leads to repeated referrals and missed opportunities. Primary-care multimorbidity review should include brief assessment of mood, sleep, substance use, cognition and suicide risk where clinically appropriate.

Collaborative-care models involving primary-care clinicians, care managers and mental-health specialists have demonstrated benefits for depression in people with chronic physical illness. However, psychological intervention should not be presented as a substitute for addressing pain, poverty, disability or excessive treatment demands.

Self-Management and the Role of Families

Self-management support should enable patients to manage symptoms, medicines, lifestyle changes and interactions with health services. It differs from transferring responsibility from the system to the patient. Education must be coordinated. A patient with diabetes, kidney disease and heart failure should not receive separate dietary instructions that conflict or require unaffordable foods. Advice should be consolidated into a feasible household plan.

Families often organize medicines, accompany patients, provide food and finance transport. Their contribution is particularly important in India, but it should not be assumed to be unlimited or free of burden. Caregivers need information, respite and inclusion in planning with the patient's consent.

Digital reminders and remote monitoring may support self-management, but they can also increase workload and anxiety. Technology should reduce rather than multiply tasks.

Public Health Significance

Multimorbidity is a marker of the transition from episodic healthcare to long-term care. It increases healthcare use, medicine exposure, disability, financial burden and risk of fragmented treatment. Its effects extend to households because repeated visits and caregiving result in lost income and time.

The concept also exposes the limitations of vertical programmes. Separate programmes may improve coverage for individual diseases while creating multiple registers, appointments and supply systems for the same patient. Integration can improve efficiency by combining screening, risk assessment, counselling, medicine dispensing and follow-up.

Multimorbidity is closely linked with inequality. Although prevalence increases with age, socioeconomically disadvantaged people often develop multiple conditions earlier and experience poorer access to coordinated care. A public health strategy must therefore address tobacco, diet, physical activity, occupational risk, pollution and poverty alongside clinical management.

Indian Perspective

Evidence from the Longitudinal Ageing Study in India shows that multimorbidity is already common among middle-aged and older adults. One national analysis reported multimorbidity among approximately 24% of older adults, while another analysis using a broader population aged 45 years and above estimated a prevalence of 27.4%.^[6,7] Differences reflect variation in study population, conditions included and definitions, illustrating why prevalence estimates should not be compared without methodological context.

Common Indian disease combinations include hypertension with diabetes, arthritis, chronic respiratory disease, visual impairment and cardiovascular disease. The burden is higher among women, older adults and several socioeconomically disadvantaged groups. Urban populations may show higher diagnosed prevalence, while rural underdiagnosis can create falsely low estimates.

Ayushman Arogya Mandirs are intended to deliver comprehensive primary healthcare, including preventive, promotive, curative, rehabilitative and palliative services closer to communities.^[8] This model offers an institutional platform for multimorbidity management through community health officers, primary-care medical officers, ASHAs, teleconsultation, free medicines and longitudinal population records.

However, implementation remains largely organized around separate service packages and disease indicators. Hypertension, diabetes, mental health, elderly care and palliative care may be recorded through parallel systems. Patients can still experience separate consultations and referral pathways.

India requires an integrated patient register rather than multiple unlinked disease registers. A single care plan should be accessible at subcentre, primary health centre, community health centre and referral hospital levels. Medicine lists, laboratory results and specialist recommendations should follow the patient.

Recent Advances

Risk stratification and population health management

Electronic records can identify patients with high treatment burden, repeated admissions, uncontrolled disease or potentially unsafe prescriptions. Risk stratification allows primary-care teams to match intervention intensity with need.

Algorithms should remain transparent and should not rely solely on past healthcare use, which may underestimate risk among people unable to access care.

Digital shared-care plans

Shared electronic records can reduce duplication and support medicine reconciliation. India's digital-health infrastructure creates opportunities for longitudinal records, but interoperability, consent, privacy and ease of use remain essential.

A digital system that requires repeated data entry into separate portals may worsen fragmentation rather than resolve it.

Pharmacist-supported care

Clinical pharmacists can conduct medication reconciliation, adherence assessment, dose review and patient education. Pharmacist involvement is particularly valuable in polypharmacy but remains underdeveloped in many Indian primary-care settings.

Integrated geriatric and functional assessment

WHO's Integrated Care for Older People approach emphasizes declines in intrinsic capacity, including mobility, cognition, nutrition, vision, hearing and psychological wellbeing.[9] Incorporating these domains helps primary care move beyond disease counts towards maintaining function and independence.

Artificial intelligence and decision support

Decision-support systems may identify interactions among guidelines, medicines and patient characteristics. Current tools remain limited because most clinical guidelines are written for single diseases and cannot automatically resolve competing recommendations. Human clinical judgement and patient priorities remain indispensable.

Challenges and Limitations

The definition of multimorbidity remains inconsistent. Prevalence rises as more conditions are counted, and studies differ in whether they include symptoms, mental illness, infectious disease and functional problems. Standardized core condition sets are needed for surveillance, while clinical assessment should remain comprehensive.

Primary-care consultations are often too short for person-centred review. Adding a multimorbidity checklist without increasing time or team support may create further administrative burden.

Workforce shortages and weak access to diagnostics limit implementation. Multidisciplinary care cannot be achieved through policy language alone; nurses, pharmacists, counsellors, rehabilitation professionals and social workers require defined roles and financing.

Disease-specific performance targets may conflict with individualized care. A frail older patient may not benefit from aggressive pursuit of every biomarker target. Quality systems should allow justified deviation from single-disease indicators.

Evidence gaps remain substantial. Trials often exclude people with cognitive impairment, severe mental illness, poverty or unstable housing—the very groups likely to have greatest complexity. Outcomes are heterogeneous, making synthesis difficult.

Future Directions and Policy Priorities

Primary-care programmes should identify patients with high complexity rather than treating all multimorbidity identically. A practical stratification system could combine disease burden, functional impairment, polypharmacy, mental illness, social vulnerability and recent hospital use.

Multimorbidity reviews should be planned consultations with adequate time and access to the full clinical record. Each review should produce an agreed care plan, reconciled medicine list, identified coordinator and explicit follow-up schedule.

India should integrate disease registers at Ayushman Arogya Mandirs and link them with referral facilities. Programme monitoring should include continuity, control across multiple conditions, medication safety, functional status and patient experience rather than separate counts for each disease.

National standard treatment guidelines should include sections addressing common disease combinations and conflicting recommendations. Research should evaluate simplified integrated protocols for cardiometabolic disease, chronic respiratory illness, arthritis, depression and kidney disease.

Future trials should prioritize pragmatic outcomes: treatment burden, function, preventable hospitalization, adverse drug events, financial hardship and caregiver impact. Economic evaluation is essential because intensive multidisciplinary models may not be affordable for every patient.

CONCLUSION

Multimorbidity has become a defining challenge for primary health care. It exposes the inadequacy of systems organized around isolated diseases and short, uncoordinated encounters. Patients require a coherent plan that reconciles multiple conditions, treatments and personal priorities.

The evidence does not support a single universal multimorbidity intervention. Benefits are most likely when care is targeted towards specific problems such as problematic polypharmacy, depression, functional decline, poor coordination or repeated hospitalization. Comprehensive assessment, continuity, medication review and shared decision-making remain core principles.

India's Ayushman Arogya Mandir network provides a valuable opportunity to develop integrated multimorbidity care close to communities. Realizing this opportunity will require unified patient records, reliable medicines, team-based care, referral coordination and outcome measures that extend beyond disease-specific targets.

The aim should not be to treat every condition as intensively as possible. It should be to help each person achieve the best attainable health, function and quality of life through a plan that is clinically sound, feasible and consistent with what matters most to them.

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