Analysis

The multimorbidity dead end:

how we got here and possible ways out

Patients and physicians alike struggle to grasp how risk factors, treatments, and diseases interact within the same person. When seeing a frustrated 70-year-old man with hypertension, insomnia, and severe osteoarthritis in primary care, what strategy will help him most? The common definition for multimorbidity, using the number of diagnoses, is useful for epidemiologists but not clinicians in their management of individual patients. Maybe we can rethink our approach.

THE ORIGINS OF MULTIMORBIDITY

We try to help patients using common scripts for diagnosis and treatment. Prospective cohorts and experimental trials provide average prognoses and expected effects of interventions for those with clearly defined diseases who we think of as standard patients. Health systems rely on common definitions for everything from patient discussion forums to billing. However, with ageing patients and improved detection, we rarely see standard patients in primary care. A 1976 German publication coined 'Multimorbidity' to describe the co-occurrence of multiple diseases or medical problems.[1] Other terms followed, such as comorbid and polypathy. Observational cohorts based on the number of physical or mental morbidities have shown that patients with multiple diagnoses, on average, experience more fragmented care, suffer from more treatment side effects, and have a lower quality of life than those with one or no diagnoses.[2]

CLINICAL MEANINGFULNESS (CAN WE DIAGNOSE AND TREAT MULTIMORBIDITY?)

An implicit question underlying this concept is whether there are latent, causal links and interactions between coexisting medical problems. One method is to identify clinically coherent patient groups with the same diseases and, theoretically, common goals for treatment. Initial epidemiological studies found certain diseases overlap more than others, suggesting common psychosocial, genetic, and environmental determinants.[3] Attempts to identify frequent disease combinations show an infinite number of possibilities, rendering clinical guidelines targeting overlapping diagnoses implausible.[4]

Despite a lack of causality between the multimorbidity construct and clinical outcomes, there have been concerted efforts to use epidemiological definitions of multimorbidity to create guidelines and clinical trials targeting the 'standard' patient with multiple diagnoses.[5,6] The assumption was that new care approaches that improve goal-setting and coordination will improve not only processes of care, but also, by extension, patient quality of life, while reducing costly inefficiencies.

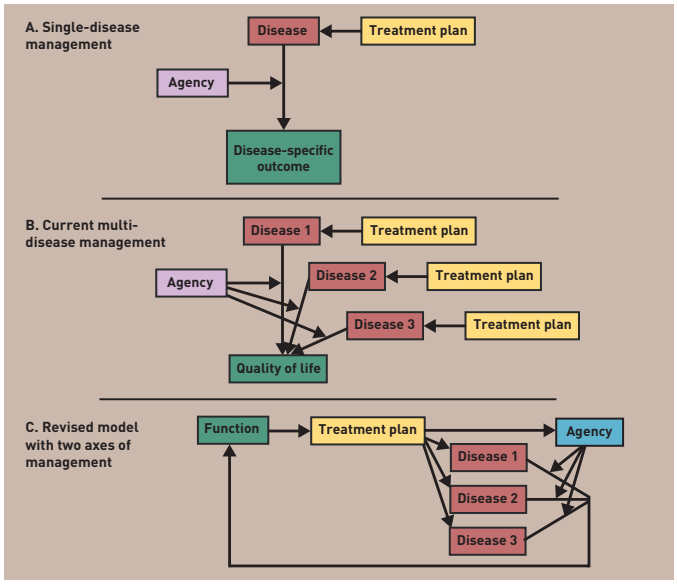

Figure 1. A. Traditional single-disease model, where a disease defines the treatment plan and impacts disease-specific outcomes; patient agency mediates the effect of disease on function, but is rarely addressed. B. Disease model expanded in context of multimorbidity defined by the number of diseases and a focus on function. C. New model defined by decreased function. Improvements in patient function result from both the treatment of individual diseases and improving patient agency.

Results have been disappointing with regards to global measures of quality of life. Well-conceived, rigorous trials have not shown improvements in clinical outcomes[5] and meta-analyses confirm that smaller, promising trials were likely due to chance.[7] What these trials have contributed, however, was that revised processes of care can lead to more patient-centred care.

Thus, multimorbidity based on number of diagnoses has been useful for epidemiologists and policymakers to quantify increasing complexity, population trends, and costs, but not for patients and clinicians. We cannot apply standardised clinical reasoning to the heterogeneous group of patients labelled as multimorbid. At the end of the day, lacking a better approach, we continue to treat lists of clinical problems in isolation.

Negative trials do not mean that there is no work to be done. As clinicians, we appreciate that the impact of simultaneous diseases and their treatment burden varies enormously, often contingent on factors outside the traditional biomedical sphere. Co-occurring diseases and their management overwhelm some patients in their everyday activities, exacerbating the effect of disease on patient function. Standardised organisational interventions lose sight of these differences. Medical anthropology has shown that the impact of disease on patient-centred outcomes is complex,[8] even more so when diseases are overlapping.[9] Heterogeneity is not random but largely driven by interplaying individual and socioeconomic circumstances. To understand the impact of disease on individual function in everyday life, standardised measures, such as Katz's Instrumental Activities of Daily Living[10] or the Sheehan disability score,[11] are limited because they are either not sufficiently sensitive or too reductive to measure patient function and capture other interplaying dynamics. Further, standardised definitions of multimorbidity by number of diseases capture patients as passive owners of illness-inflicted bodies and risk factors, disregarding their *agency*. Borrowed from sociology, agency describes patients' ability to manage and act on their function in their daily living.[12]

CHANGING OUR APPROACH TO MULTIMORBID PATIENTS (AND TO ALL PATIENTS AT THE SAME TIME)

Recent initiatives have proposed clinical approaches to multimorbidity in primary

health care that are centred on the patient and their own specific circumstances and preferences.[13,14] Aligning with these initiatives, we argue that the management of complex patients in primary care should act on everyday function along two axes: one implementing the traditional recommendations, measures, and treatments for individual disease processes; the second providing coping and adaptation skills that reinforce agency (Figure 1). Through improved agency, patients can act on their function; at the same time, through improved function, patients increase their agency. Agency and function are interdependent and dynamic, justifying investment in actions outside the health sector via an integrated care approach. Patients and physicians could evaluate this two-pronged approach based on improvements in individualised objectives and measures, defined for/by each patient, taking into account both agency and function. We expect greater success in clinical trials employing this approach because they would explicitly promote agency and measure other outcomes than health-related quality of life and mortality.[10]

Returning to the 70-year-old patient with multimorbidity in the introduction, co-occurring diseases surpass his current agency for adaptation and are limiting his function. Our goals, along the two axes described above, might be to: 1) test treatments for his osteoarthritis, hypertension, anxiety, and insomnia shown to have efficacy treating those problems in isolation, continuing treatments delivering measurable improvements in function or likely to maintain function over time; and also 2) explore ways to adapt to chronic pain and maximise his independence by working in an integrated care team with a psychologist, health coach, or social worker. Social prescribing can expand the scope of care even further to directly address 'non-medical' needs such as loneliness and housing problems.[15] However, social prescribing requires a shift in health systems away from a uniquely biomedical focus, allowing space for the link between health and social support. Evidence for the first axis comes from decades of clinical trials focused on isolated pathologies. Evidence for the second comes from global interventions that reinforce agency, such as mindfulness-based stress reduction to treat back pain and tai chi programmes to reduce falls, evidence linking social isolation to physical health, and the importance of social determinants.

CONCLUSION

Although an approach focused on both disease and agency for patients with decreased function will be intuitive for primary care providers, it will add complexity for healthcare planners and researchers. Although we are close to implementation, we are far from solid evidence supporting this method. Evidence may come from other disciplines such as the social sciences. Identifying those most likely to benefit from a two-pronged approach will not be as simple as counting diseases, medications, or emergency room visits, but the concept has direct clinical implications. It also fits with current trends emphasising patient-reported outcomes in clinical research using a biopsychosocial model of health rooted in a life-course perspective. We imagine future interventions and guidelines focused on empowering patients rather than their growing problem list.

Kevin Selby,
General Internist, Department of Ambulatory Care, Center for Primary Care and Public Health (Unisanté), Lausanne.

ADDRESS FOR CORRESPONDENCE

Nicolas Senn
Department of Family Medicine, Center for Primary Care and Public Health (Unisanté), Rue de Bugnon 44, 1011 Lausanne, Switzerland.

Email: Nicolas.senn@unisante.ch

Yolanda Mueller Chabloz,
Senior Physician, Department of Family Medicine, Center for Primary Care and Public Health (Unisanté), Lausanne.

Joelle Schwarz,
Public Health and Social Scientist, Department of Family Medicine, Center for Primary Care and Public Health (Unisanté), Lausanne.

Nicolas Senn,
Professor, Department of Family Medicine, Center for Primary Care and Public Health (Unisanté), Lausanne.

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