

SESSION 1: DEFINITIONS AND ASSESSMENT OF MULTIMORBIDITY

A major challenge in the field of multimorbidity is its definition and operationalization. In spite of the difficulties, many steps forward have been taken in the last years, at least in the clarification of basic issues. When using quantitative criteria to define multimorbidity, the choice of a cut-off for the number of coexisting conditions is crucial, but almost always questionable. On the other side, most qualitative definitions are still lacking an integrated view of older adults' health. This session will summarise the current knowledge on the definition and assessment of multimorbidity with the goal to better understand the large heterogeneity across phenotypes of health and illness.

Towards an integrated conceptual framework for multimorbidity, frailty and disability

Stewart Mercer, Professor of Primary Care Research, University of Glasgow, UK

Multimorbidity is most commonly defined as the coexistence of two or more long-term conditions (including mental conditions) within an individual. However, there is wide variation in terms of which conditions are included. Other definitions go beyond a simple disease count, and include family and social issues. Multimorbidity is also socially patterned, occurring 10-15 years earlier in people of low socioeconomic status. On a population level, there are often more people with multimorbidity below the age of 65 years than above.

Frailty is similarly a relatively poorly defined concept, but is generally recognised as a clinically defined state of vulnerability. It relates mainly to the elderly, especially those aged 85 years and older. One common definition (the phenotype model) includes only physical health indicators. Another

definition (the cumulative deficit model) includes mental health as well as physical health and symptoms, and is used to construct a 'frailty index'.

Disability also has a range of definitions, based on either the medical model or the social model, or a combination of both. The International Classification of Functioning Disability and Health (ICF) fits between these two models, and defines disability in terms of the complex interaction between a person with a health condition and contextual factors (such as environment). Disability denotes (a) impairments in body functions and structures, (b) limitations in activity, and (c) restriction in participation.

The lecture will consider these issues in terms of whether an integrated conceptual framework spanning all three is desirable, possible, and of any use.

Multimorbidity patterns: methods, evidence and implications for the management of multimorbidity

Alessandra Marengoni, Associate Professor at the University of Brescia, Italy

Approximately 55%-98% of people aged 60 years or older have at least two chronic diseases (multimorbidity). Given that there are no clear boundaries between many diseases, studying the structure, defined by the entire set of co-occurring morbidities, might help to understand many biological and medical questions.

Diseases themselves form a network in which two or more conditions are connected if they share risk factors, metabolic pathways, or drug-disease interactions. This approach named 'clustering' aims at identifying specific disease clusters, i.e. the systematic association of two or more specific chronic diseases in the same person. Previous research has consistently found that clusters of cardiovascular and neuropsychiatric disease constitute the major patterns of chronic disease in older adults.

The aims of studying disease clustering are to understand the effect of different multimorbidity patterns on person-centred outcomes such as function, cognition and quality of life, to suggest principles of better care and to support medical decision-making. Moreover, the identification of multimorbidity patterns could enable future clinical trials in groups of older adults affected by specific clusters of diseases. Data on clinically relevant disease-disease, disease-drug and drug-drug interactions, which is urgently needed in guideline development, could be provided. Indeed, prevalence of the use of potentially inappropriate medication or adverse drug reactions could be higher in different clusters. Last, groups of people at high risk of adverse outcomes could be identified for primary and secondary prevention, and financial resources could be better distributed.

In this lecture, the latest evidence regarding the epidemiology multimorbidity patterns will be critically assessed and future areas of research will be identified.

SESSION 2: MULTIMORBIDITY AND CLINICAL PRACTICE

Derived from complex interactions among conditions and treatments, multimorbidity and polypharmacy lead to complex processes in clinical decision-making, coordination and continuity of care. In addition, physicians in primary care, as well as in geriatric care, deal with this complexity in a disease-oriented context, as health care is organized in vertical care strains. Furthermore, the support from evidence-based clinical decision is mostly based on highly selected populations. This session will discuss the need for scientific evidence based on flexible study designs, outcome parameters and evaluation strategies that can account for this complexity.

Methods for weighing and applying available clinical evidence for patients with multimorbidity

Mary Tinetti, Professor of Geriatric Medicine, Yale University, US

To inform clinical care of persons with multimorbidity, evidence must answer the question: does this intervention (preventive, diagnostic, therapeutic, rehabilitative, surgical, palliative, etc.) provide more benefit than harm? The answer requires consideration of several factors.

Firstly, how does the study population match the target clinical population? Are there enough individuals in key (e.g. health, functional, sociodemographic) subgroups? Subgroups are essential given the heterogeneity of the multimorbid population. Secondly, is the intervention feasible and the burden of the intervention acceptable for persons with multimorbidity? Are the trade-offs inherent in the intervention explicitly identified? Thirdly, does the intervention benefit outcomes that matter? Disease-specific outcomes and events are less relevant than universal outcomes in the face of multimorbidity.

At the population-level, function, symptoms, treatment burden, quality-of-life, and survival constitute relevant outcome categories. At the person-level, individualized SMART goals or personal selection among predetermined outcomes address the interindividual variability regarding the most valued aspects. Fourthly, ensuring that benefit is greater than harm is the core issue of evidence applicability in this population. To facilitate this measurement, benefit and harm should be on the same scale (e.g. worsening vs. improved function). Time to benefit and absolute amount of benefit (often modest in this population) are essential to weighing interventions. Finally, comparing an intervention of interest against other care options in terms of benefit, harm, and burden, is important for persons with multimorbidity.

These issues, which determine the applicability of existing evidence and should drive study design to acquire evidence for the clinical care of patients with multimorbidity, will be tackled in this lecture.

The role of continuity of care in moderating the impact of multimorbidity on health care and outcomes

Jose M Valderas, Professor of Health Services and Policy Research, University of Exeter, UK

Continuity of care is one of the four core functions of primary care, alongside access, comprehensiveness and longitudinality. Continuity of care is frequently considered an essential component of care delivery for complex patients in both clinical guidelines and the health policy literature. A number of methods have been proposed for its measurement, based on the different types of continuity of care that have previously been defined: relationship or interpersonal continuity (a continuous therapeutic relationship with a clinician), informational continuity (based on the ready access to shared records by the health professionals involved in the care of an individual), management continuity (consistency of clinical management), and longitudinal

continuity (which reflects the overlap with the core function of longitudinality).

Patients with multimorbidity suffer from multiple conditions, very frequently demand the involvement from many different health professionals and are therefore at greater risk than other patients of both presenting a challenge for ensuring continuity of care but also for suffering the adverse outcomes of reduced continuity of care. In this way, continuity of care may have a moderating effect on the impact of care delivery on health outcomes for people with multimorbidity.

In this lecture, evidence linking multimorbidity, continuity of care and health outcomes, and use of health services will be provided, with the aim of supporting best clinical practice in the provision of clinical care for this patient group.

SESSION 3: MULTIMORBIDITY AND HEALTH POLICY

Among the key challenges facing countries globally is the rising burden of chronic health problems and of multimorbidity. In Europe, an estimated two-thirds of those who have reached pensionable age have at least two chronic conditions, although the actual number of people with multimorbidity might be higher at younger ages, affecting those with lower socio-economic status in particular. Against a backdrop of increasing financial constraints, this creates a pressing need for a fundamental rethink in the way systems are organised and financed. This session will explore the potential for measuring and improving quality of care for people with multimorbidity and how health care systems should be redesigned to adequately respond to the multimorbidity challenge.

Performance and quality of care assessment in the multimorbidity era

Cynthia Boyd, Professor of Geriatric Medicine, Johns Hopkins Bloomberg School of Public Health, US

The population of people with two or more concurrent chronic conditions that collectively have an adverse effect on health status, function, or quality of life and that require complex healthcare management, decision-making, or coordination will particularly benefit from approaches to care and quality of care assessment that recognize the importance of multimorbidity. This population accounts for the majority of health care utilization, and despite their growing prevalence, people with multimorbidity are largely not addressed by available quality measures.

Recent work has examined the existing and needed performance measures for people with multimorbidity, and outlined a framework for measurement of quality of care in these patients. Strict adherence to disease-specific measures for patients with multiple

chronic conditions may lead to the unintended consequences of delivering inappropriate care that is not aligned with patient goals and preferences. Applying numerous measures, targeting a variety of diseases, could lead to high measurement burden. High leverage areas that may have the greatest potential for reducing disease burden and cost, improving well-being, and are valued most by patients and their families include: optimizing function, maintaining function, or preventing further decline in function; seamless transitions between multiple providers and sites of care; patient important outcomes (includes patient-reported outcomes and relevant disease-specific outcomes); avoiding inappropriate, non-beneficial care, particularly at the end of life; access to a usual source of care; transparency of cost (total cost); shared accountability across patients, families, and providers; and shared decision-making.

The lecture will consider these issues and discuss the potential for measuring and improving quality of care for people with multimorbidity.

Redesigning healthcare systems for responding to the multimorbidity challenge

Martin Roland, Emeritus Professor of Health Services Research, University of Cambridge, UK

Recently, an international expert working group, convened by the Commonwealth Fund of New York, issued several recommendations for redesigning health delivery systems to meet the needs of patients with multiple health problems.

The recommendations of the group were to: 1) Make care coordination a high priority for patients with complex needs; 2) Identify patients at greatest need of proactive, coordinated care; 3) Train more primary care physicians and geriatricians;

4) Facilitate communication between providers, e.g. by integrating clinical records; 5) Engage patients in decisions about their care; 6) Provide better support for carers; 7) Redesign funding mechanisms to meet the needs of patients with complex needs; 8) Integrate health and social care, and physical and mental healthcare; 9) Engage clinicians in change, train and support clinical leaders; and 10) Learn from experience and scale up successful projects.

The lecture will outline the importance of each of these and describe how they may be achieved, drawing on examples of successful system change from a range of countries.