



# Improving the prevention and management of multimorbidity in sub-Saharan Africa

## **Executive Summary**

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The Academy of Science of South Africa (ASSAf) was inaugurated in May 1996. It was formed in response to the need for an Academy of Science consonant with the dawn of democracy in South Africa: activist in its mission of using science and scholarship for the benefit of society, with a mandate encompassing all scholarly disciplines that use an open-minded and evidence-based approach to build knowledge. ASSAf thus adopted in its name the term 'science' in the singular as reflecting a common way of enquiring rather than an aggregation of different disciplines. Its Members are elected on the basis of a combination of two principal criteria, academic excellence and significant contributions to society.

The Parliament of South Africa passed the Academy of Science of South Africa Act (No 67 of 2001), which came into force on 15 May 2002. This made ASSAf the only academy of science in South Africa officially recognised by government and representing the country in the international community of science academies and elsewhere.



The Academy of Medical Sciences is the independent body in the UK representing the diversity of medical science. Our mission is to promote medical science and its translation into benefits for society. The Academy's elected Fellows are the United Kingdom's leading medical scientists from hospitals, academia, industry and the public service. We work with them to promote excellence, influence policy to improve health and wealth, nurture the next generation of medical researchers, link academia, industry and the NHS, seize international opportunities and encourage dialogue about the medical sciences.

Opinions expressed in this report do not necessarily represent the views of all participants at the event, the Academy of Medical Sciences, InterAcademy Partnership for Health, or its Fellows.

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# Executive summary

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**Multimorbidity is a growing challenge in sub-Saharan Africa with the growing adoption of westernised lifestyles driving a new non-communicable disease (NCD) epidemic. However, limited data are available on patterns of disease and its full burden across the region. Chronic infectious diseases, particularly HIV/AIDS, tuberculosis and hepatitis, typically make a greater contribution to multimorbidity in sub-Saharan Africa than in high-income countries (HICs), and they therefore tend to affect younger age groups.**

**Patterns of multimorbidity** are also significantly affected by the dual burden of widespread childhood malnutrition – which has long-term impacts on cardiometabolic health – and rising levels of obesity and being overweight as populations are increasingly exposed to obesogenic environments. Increasing life expectancy and high population growth across the region are likely to have a major impact on the burden of multimorbidity in coming decades.

In addition, **outcomes** for people with multimorbidity are generally worse in sub-Saharan Africa than in HICs, reflecting deficiencies in timely diagnosis, access to treatment and management of conditions.

**The general public** typically has low awareness of multimorbidity, and may erroneously consider chronic conditions to be inevitable consequences of ageing. Conceptions of mental health and mental illness may also be different from those in HICs.

An understanding of multimorbidity in sub-Saharan Africa is hampered by **a lack of or limited data** as well as variability in the types of populations and combinations of conditions studied. Importantly, due to genetic, physiologic or other factors, markers of health conditions may not translate directly from HICs to sub-Saharan African settings.

All these factors illustrate the importance of generating **sub-Saharan Africa-specific evidence** – including data on regional patterns and trends in multimorbidity, drivers of multimorbidity, and effective prevention and treatment interventions and models of integrated health service delivery.

As well as low levels of **research capacity** in multimorbidity in sub-Saharan Africa, research is held back by **organisational silos** in clinical practice, research and also in funding, with some agencies restricting their support to specific individual diseases. These challenges are exacerbated by **insufficient prioritisation** of multimorbidity in sub-Saharan Africa and a lack of health system preparation, due to low political awareness of its importance and a lack of political commitment to address it.

During the meeting, participants identified a draft high-level sub-Saharan Africa-specific **research agenda** (see Box 1), within the framework of the global research priorities developed earlier in the Academy of Medical Sciences' programme of work in multimorbidity. This agenda could provide a strategic framework to guide future research in the region.

Participants also identified cross-cutting factors that could act as **research and translational enablers**, accelerating multimorbidity research and its translation into practice more generally. These included:

- **Research capacity:** Developing the knowledge, skills and infrastructure for multimorbidity research in the region.
- **Partnerships:** Building 'South–South' and 'South–North' networks, including cross-disciplinary and cross-sectoral collaborations.
- **Adding value:** Supplementing existing studies (e.g. cohorts, trials) to address multimorbidity-specific questions.

- **Standardisation:** Adopting a standard definition of multimorbidity and establishing sub-Saharan Africa-specific diagnostic cut-offs and standardised multimorbidity data sets.
- **Political engagement:** Promoting early dialogue with ministries of health to encourage prioritisation of multimorbidity and involvement in projects.
- **Community engagement:** Developing stronger links with communities to promote multimorbidity health literacy, to understand attitudes and behaviours, and to engage communities in co-creation of interventions.

The outputs from this workshop will be taken forward by the participating academies in order to engage with policymakers in this area. This will help to address some of the priority areas highlighted during the workshop.

## Box 1: Sub-Saharan Africa multimorbidity research priorities

### Research priority 1: Trends and patterns

- Explore opportunities offered by existing cohorts/data sources to generate a clearer picture of local patterns of multimorbidity.
- Delineate multimorbidity patterns in different age groups (e.g. youth, older people).
- Collate information on existing potential sources of multimorbidity data in a standardised form.
- Scope new multimorbidity-specific cohorts/data sources.

### Research priority 2: Clusters and burden

- Use simulations/modelling to estimate current and future burdens of multimorbidity.
- Develop novel approaches to determine the full societal/socioeconomic burden of multimorbidity.

### Research priority 3: Determinants

- Characterise local/regional variation in established risk factors.
- Identify novel/locally important risk factors.
- Carry out region-specific causality assessments.
- Undertake root cause analyses/behavioural studies.
- Improve understanding of interactions between non-communicable and infectious diseases.
- Explore the impact of under- and over-nutrition and the life-course approach to multimorbidity.
- Analyse the role of the social/policy environment (e.g. food and drink regulation).
- Explore syndemic perspectives on multimorbidity.

#### **Research priority 4: Prevention**

- Adapt and evaluate proven preventive interventions.
- Develop and evaluate novel context-specific interventions (including behaviour change communication interventions).
- Explore opportunities for 'secondary' prevention (e.g. after HIV diagnosis).
- Investigate multimorbidity health literacy and social attitudes to multimorbidity and its prevention.
- Develop and evaluate initiatives to promote good 'brain health'.
- Inform the development of and evaluate 'healthy cities' initiatives.
- Promote multidisciplinary approaches, including collaborations with behavioural scientists and health economists.

#### **Research priority 5: Treatment**

- Develop and evaluate context-specific treatment interventions (including task-shifting interventions).
- Investigate the impact of polypharmacy, drug-drug interactions, adverse drug reactions.
- Adapt essential research tools from high-income countries (e.g. mental health assessments).
- Promote the use of pragmatic trials and greater use of real-world evidence.

#### **Research priority 6: Healthcare systems**

- Promote implementation of evidence-based interventions.
- Carry out cost-effectiveness studies to inform decision-making.
- Evaluate models of integrated health and social care.
- Explore potential for greater engagement with traditional healers and other community-based providers.
- Carry out equity analyses and evaluate innovative approaches for reaching vulnerable and neglected populations.
- Identify effective approaches for policymaker engagement and dissemination of research findings.
- Promote greater use of implementation research.





## Multimorbidity: a priority for global health research

Multimorbidity is a true global health challenge, requiring research across all settings and communities to better understand the problem. The Academy has hosted a number of workshops and meetings on the event including **Addressing the global challenge of multimorbidity: Lessons from South Africa**, **Addressing the global challenge of multimorbidity: Lessons from the BRICS countries** and **Improving the prevention and management of multimorbidity in sub-Saharan Africa** and the topic was also chosen for the first international working group report: **'Multimorbidity: a priority for global health research'** which was published in 2018.

Later, the Academy, MRC, NIHR, and Wellcome hosted a joint workshop in June 2018 on **'Advancing research to tackle multimorbidity: the UK and LMIC perspectives'**.

Following this work, the Academy, the MRC, the Department of Health and Social Care (DHSC) through the National Institute for Health Research (NIHR) (DHSC/NIHR), and Wellcome have agreed to come together to coordinate a 'multimorbidity funders group'. Working alongside numerous other charities, this group will aim to overcome the structural and cultural barriers facing multimorbidity research, and support the research needed to better understand the trends, clusters, mechanisms and causes, burden, prevention and management of multimorbidity.

To realise this ambition, efforts are needed to bring together researchers, clinicians, health professionals across disciplines, patients, healthcare providers and non-government organisations (NGOs).

The multimorbidity funders group has published a **'cross-funder multimorbidity research framework'**, which aims to help co-ordinate the efforts and initiatives in which the various funders are engaged, and to highlight opportunities for funders to work together. It embraces the multidisciplinary nature of the problem and recognises that working in partnership will help to overcome common barriers.

A central platform and resource repository, <https://acmedsci.ac.uk/multimorbidity>, has been created and is maintained by the Academy of Medical Sciences, in conjunction with the Medical Research Council (MRC), National Institute for Health Research (NIHR), and Wellcome.



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