Multimorbidity in Zimbabwe: Evidence and Priorities Dialogue

1st December 2023, Harare

Workshop Report

Executive summary

Multimorbidity, or the experience of two-or-more long-term conditions by one person, is among the most pressing emerging challenges for Zimbabwe's health system. This stakeholder dialogue brought together policymakers, researchers, technical partners, clinicians, community and patient representatives to deliberate on current evidence and identify priorities for responding to multimorbidity. Through a series of presentations, panel and plenary discussions, participants reached consensus that the health system is currently underprepared to respond to multimorbidity. Among the most significant obstacles identified was 'siloed' funding of specific diseases (notably HIV, TB, and malaria), which has resulted in fragmented care pathways that negatively impact people living with multimorbidity. There is need to move from disease-centred to person-centred care models, which requires coordinated action across the health sector, from financing and policy, to medical research and health information systems, to medical training, to prevention and management of multimorbidity. Key priority areas include:

- Funding comprehensive healthcare rather than specific diseases
- Integrated, bottom-up governance driven by ground-level experiences and needs
- Decentralised prevention and chronic care for multimorbidity, potentially through integration with the current 'OI' clinic model
- Holistic training, skills sharing, and multidisciplinary working among the health workforce
- Integrating multimorbidity into routine health information and research infrastructures, while strengthening translation of knowledge into policy and practice

These are described in greater detail in **Table 1**.

Next steps include taking forward specific priorities with identified key institutions and departments with view towards a national framework for integrated action on multimorbidity.

Table 1. Priorities and key institutions/departments for responding to multimorbidity

Priority area	Specific priorities & additional notes	Key Institutions / departments
1. Pooled/integrated financing	Greater overall investment in health • In accordance with Abuja Declaration (15% GDP)	Policy, Planning, & Health Economics (CD Public Health) Partners / funders
	Pooled funding from partners • Break from the model of funding mechanisms for particular diseases and rather fund the healthcare system as one • May need a staged approach to pooled funding to generate buy-in and minimise resistance	
	Costing of multimorbidity care • Costing dyads, e.g. cancer and mental health, diabetes and hypertension, etc.	
2. Integrated, bottom-up governance	Reinvigoration of the primary healthcare emphasis • Rebalancing with current prioritisation of quaternary services	Policy, Planning, & Health Economics (CD Public Health)
	Policy to precede financing rather than vice versa • Disease-specific funding creates misalignment between policy and needs/disease burden • Moving away from enclaving of disease-specific funding within units/programmes	
	National integration framework for multimorbidity • Potentially starting small-scale at sub-national level and building towards a national framework.	
	Dynamic, bottom-up policymaking continuously learning from ground-level experience • Strengthen alignment of policymaking and local realities of care seeking/delivery, greater inclusivity and feedback loops • Stakeholder engagement needed on benefits of service integration	
	Multisectoral collaboration and strategy • Particular emphasis on multimorbidity prevention initiatives • Engagement with traditional medicine	
3. Holistic, decentralised prevention and care for multimorbidity	Improved awareness, information through health promotion • Currently little awareness of NCDs and multimorbidity at community level as for HIV • Opportunities to address shared risk factors for multiple conditions through multisectoral efforts	Health Promotion (CD Public Health)
	Integrated screening at community and facility level • Emphasis on vulnerable and high-risk groups (e.g. elderly, socio-economically marginalised, stigmatised groups) • Recognition that screening is not effective without linkage to and availability of care	Directorates under CD Public Health (NCDs, HIV&TB, Mental Health, etc.) CD Curative Services
	Chronic/multimorbidity clinics at primary level • Challenges created with separate care for HIV and through OI clinics • Need for 'one stop shop' chronic care models for all chronic conditions/multimorbidity • Opportunity to leverage OI chronic care infrastructure by expanding inclusion to all chronic/multimorbidity patients • Leveraging the South African experience with Integrated Chronic Disease Management (ICDM)(5)	
	Ensuring medicines, commodities, equipment, and other tools for multimorbidity management • All presentations highlighted severe resource shortage as impediment to multimorbidity prevention, diagnosis, and care	
	Removal of user fees for chronic / vulnerable patients • User fees at clinics and hospitals undermines continuity of chronic care • Revival of social safety net for waiving of user fees	
	Capacitation of staff in NCDs, mental health, and current HIV-NCD integration guidance	

	Retention of staff /skills • Incentivising trained staff to stay in public sector through funding, rewards, and continuous engagement • Integrated training for all staff lessens consequences when individuals move on	CD Human Resources Health Service Commission Medical training Institutions
	Greater emphasis and valuation of generalist skillsets • Current aspirations among medical trainees towards (super-)specialism • Need for valuation and motivation of generalist cadres working at lower levels of care	
	Skills shifting and multidisciplinary teams • Nurse/community initiation of treatment for certain NCDs, as for ART • Non-hierarchical relationship between cadres/levels of care to foster team building • Caution with overburdening lower-level cadres	
4. Integrated, person-centred health data and research	Improve NCD estimates • Currently NCD data lagging behind HIV and partner-supported health conditions	Health Informatics National Institute for Health Research Academic Institutions
	Improve visibility of multimorbidity within routine health information and M&E systems at all levels • Strengthened and harmonized M&E platform across programmes • Expansion of reporting from cross-sectional single disease counts to person-centred and multimorbidity data across the life course • Utilisation of Electronic Health Records (EHR) to improve both user experiences and multimorbidity data capture/reporting • Inclusion of and feedback loops with ground-level perspectives and experiences on multimorbidity care	
	Strengthening integration and synergies between academic institutions and MoHCC • Bidirectional effort – strengthened researcher engagement/dissemination (academia) and conveyance of research needs and uptake of findings (MoHCC) • Elevation of applied health systems research with policy focus	
	Broader value shift in the kinds of knowledge that counts in decision-making/policy • Deliberative and experiential knowledge as well as information/data • Practical learning and confidence to experiment with new ideas supports continuous learning and self-reliance	

Background

Multimorbidity, or the co-occurrence of two-or-more long term conditions in one person, is among the most pressing challenges facing health systems globally.(1) Yet, health systems remain largely organised around single diseases and organ systems, which in many sub-Saharan African nations translates into the 'siloed' organisation of care, driven by vertical funding models.(2) This creates challenges at multiple levels: for patients and families; for healthcare workers; for the production of routine health data; for those engaged in medical training and research; and for health planners and policymakers.(3) Knowledge about multimorbidity and the challenge it presents in Zimbabwe is fast increasing, including through collaborative research between the Ministry of Health and Child Care (MoHCC), the University of Zimbabwe (UZ), the Organisation for Public Health Interventions and Development (OPHID), and The Health Research Unit Zimbabwe (THRU ZIM). Capitalising on the current momentum around multimorbidity, this meeting brought together the MoHCC and partners to engage in dialogue around current evidence around multimorbidity and to discuss priorities and next steps for health research, policy, and planning.

Meeting Objectives

1) Discuss and share knowledge on multimorbidity in Zimbabwe, relating to:

- Burden, determinants, and impacts of multimorbidity
- Current initiatives, successes and challenges with integrating services
- Multimorbidity as a 'whole-system' challenge

2) Identify priorities and key institutions/departments for responding to multimorbidity in Zimbabwe

Programme

Time	Talk	Presenter/Facilitator	Chair
8:00-08:30	Registration	MoHCC	Mr Lee Nkala (MoHCC, NCDs)
08:30-08:40	Welcome and Introductions	MoHCC	
08:40-09.00	Background, rationale and objectives of the meeting	Drs Justin Dixon (OPHID/THRU ZIM) & Efison Dhodho (OPHID)	
Session 1: Multimorbidity in an era of rapid epidemiological change			
09:00-09.15	Current initiatives, progress, and challenges in HIV-NCD integration	Dr Ronald Nyabereka (MoHCC, HIV&TB)	Dr Trust Zaranyika (University of Zimbabwe)
09:15-09.30	NCD screening among PLWHIV & general population	Dr MacDonald Hove (OPHID)	
09:30-09.45	TB, multimorbidity, and syndemics	Dr Claire Calderwood (THRU ZIM, LSHTM)	
09.45-10.00	HIV, ageing, and multimorbidity	Dr Anthony Manyara (Bristol University) and Prof Celia Gregson (THRU ZIM, Bristol University)	
10.00-10.15	Session 1 roundup and Q&A		
10.15-10.30	**Tea**		
Session 2: Multimorbidity and the limits of disease-centred systems			
10.30-11.30	Assembling the 'whole system' challenge of multimorbidity in Zimbabwe	Dr Justin Dixon, Fionah Mundoga (OPHID/THRU ZIM), Dr Efison Dhodho (OPHID)	Dr Efison Dhodho (OPHID)

11.30-12.00	**Panel and open discussion:** How can the health system be strengthened to respond to multimorbidity? **Panellists:** Mrs Sithokozile Hove (CNO Bulawayo), Mr Gwati (MoHCC Policy & Planning), Dr Ronald Nyabereka (MoHCC HIV&TB), Mr Lee Nkala (MoHCC NCDs), Dr Robert Gongora (MoHCC Health Informatics), Dr Trust Zaranyika (University of Zimbabwe), Dr Debra Machando (WHO)	
12:00-13.00	**Lunch**	
13:00-14.30	Panel and open discussion continued… Identifying priorities and key institutions/departments for responding to multimorbidity (in plenary)	Dr Efison Dhodho (OPHID)
14.30-14.40	Closing remarks	Dr Robert Gongora (MoHCC, Health Informatics)

Participating Institutions

- MoHCC:
  - Policy & Planning
  - Non-Communicable Diseases
  - HIV & TB
  - Health Informatics
  - Provincial representation (Bulawayo, Harare, Mashonaland East, Matabeleland South)
- Patient and community representation
- The University of Zimbabwe
- The National University of Science & Technology
- The World Health Organisation
- The Clinton Health Access Initiative
- Traditional Medicine Practitioners Council
- The Organisation for Public Health Interventions and Development
- Friendship Bench
- The Health Research Unit Zimbabwe
- Bristol University
- The London School of Hygiene & Tropical Medicine

Opening remarks

Mr Lee Nkala, MoHCC NCDs

Mr Nkala opened the workshop by emphasising the importance of addressing the rising tide multimorbidity in Zimbabwe. With life expectancies rising, in part due to the successes of antiretroviral therapy (ART), patients are increasingly experiencing non-communicable diseases (NCDs) and other complex health challenges associated with ageing. Mr Nkala emphasised the current 'siloed' organisation of care and the need for integration, particularly HIV and non-communicable diseases (NCDs) including mental health, to respond to patient needs. Mr Nkala acknowledged the breadth of experience and expertise present – a range of MoHCC departments, academic institutions, the World Health Organisation, technical partners, practicing clinicians, civil

society, and patient representatives – and the importance of such holistic representation for identifying key priorities and next steps for multimorbidity in Zimbabwe. The aims, objectives, and structure for the meeting were outlined.

Session 1: Multimorbidity in an era of epidemiological change in Zimbabwe

Chair: Dr Trust Zaranyika (University of Zimbabwe)

The first session sought to describe emerging knowledge around the patterns, burden, and determinants of multimorbidity, and current initiatives by the MoHCC to integrate care. Of particular concern was the needs of ageing populations against the backdrop of Zimbabwe's epidemiological transition, characterised by new patterns of morbidity crossing divisions between communicable and non-communicable long-term conditions.

Key points

- Growing burden of multimorbidity in Zimbabwe both among people living with HIV (PLWHIV) and in the general population
- Research involving the screening of NCDs suggests that among most participants HIV was already known, whereas NCDs were disproportionately not known, particularly mental health conditions
- NCDs may be more prevalent among the general population, suggesting that care for HIV has presented opportunities for earlier diagnosis and strengthened access to care
- Multimorbidity becomes more common in older age and is associated with increased frailty and disability
- Recent inclusion of guidance on integration of NCDs into HIV care in the latest (2022) Operational and Service Delivery Manual (OSDM)
- Integrating care for multimorbidity is constrained by lack of training, diagnostics, and medications for NCDs, reflected in poor linkage to and retention in care

Differentiated service delivery (DSD) guidance for integration of NCDs (HTN/DM/Mental Health) for people living with HIV

Dr Ronald Nyabereka, MoHCC HIV & TB Unit

Dr Nyabereka observed that as Zimbabwe celebrates its achievements In HIC care, there is an urgent need to shift focus towards optimal programs and systems for ageing sub-populations to respond to their unique challenges, particularly the growing burden of NCDs. The MoHCC has therefore developed guidance on the integration of NCDs into HIV care **(figure 1)**. The goal is to provide 'one stop shop' NCD care for PLWHIV by enabling NCD screening and diagnosis, treatment initiation and titration, and maintenance and medicine refills at the same location and by the same provider as ART. This will reduce the burden on service providers and patients, improve treatment outcomes, and lower costs. Successes to date include the addition of NCD data points into registers, patient booklets and monthly return forms to capture the screening and treatment of NCDs among PLWIHIV; DSD review meetings for integrated care; and dissemination of new guidance to healthcare workers in all 10 provinces. Challenges include limited availability of medicines and screening equipment for NCDs; staff attrition; and a lack of data on NCDs in electronic health records platforms to show real-time burden of NCDs among PLWHIV in DSD models for HIV. Strengthening of

integrated monitoring and evaluation (M&E) systems will enable tracking of ageing HIV population for better programming and management of comorbidities.

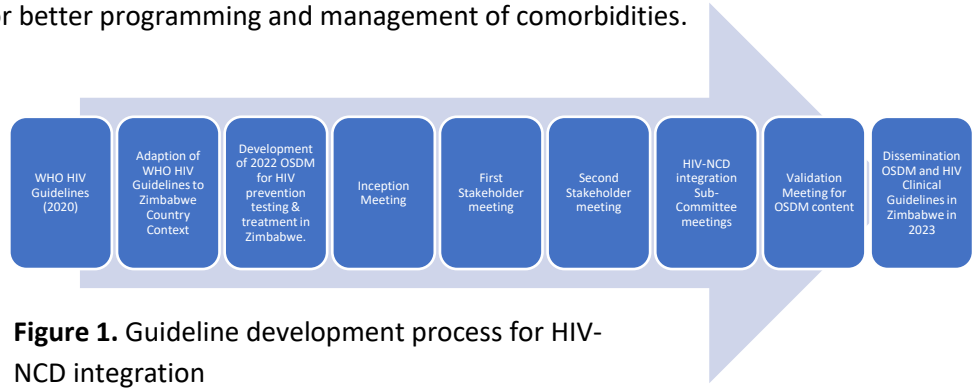
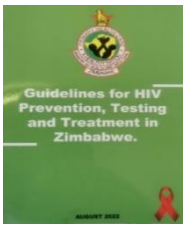
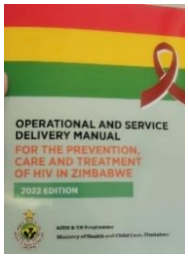


Figure 1. Guideline development process for HIV-NCD integration





Integration of NCD Screening into HIV Care and Treatment Services

Dr MacDonald Hove, OPHID

Dr Hove presented the findings from a SANOFI-supported project that aimed to develop capacity, roll out, and scale up NCD screening and linkage to care for both PLHIV and the general population >40 years of age in Chitungwiza and Bulawayo (n=108,257). The study found that 39.7% of PLWHIV had hypertension and 0.5% had diabetes mellitus, compared to 41.8% and 1% respectively among the general population **(figure 2)**. The higher burden of hypertension and diabetes among the general population may be attributable to greater access to and regularity of engagement with health providers among the PLWHIV. The study further found low self-reported adherence to hypertension (6.7%) and diabetes medicines (8.3%), partly due to stockouts of medicines within the public health system and reliance on the private sector, which is unaffordable for most clients. OPHID has worked with private pharmacies to reduce prices of medicines and liaised with the Rotary Club to provide outreaches with free medicines, suggesting the value of public-private partnerships to strengthen access to medicines.

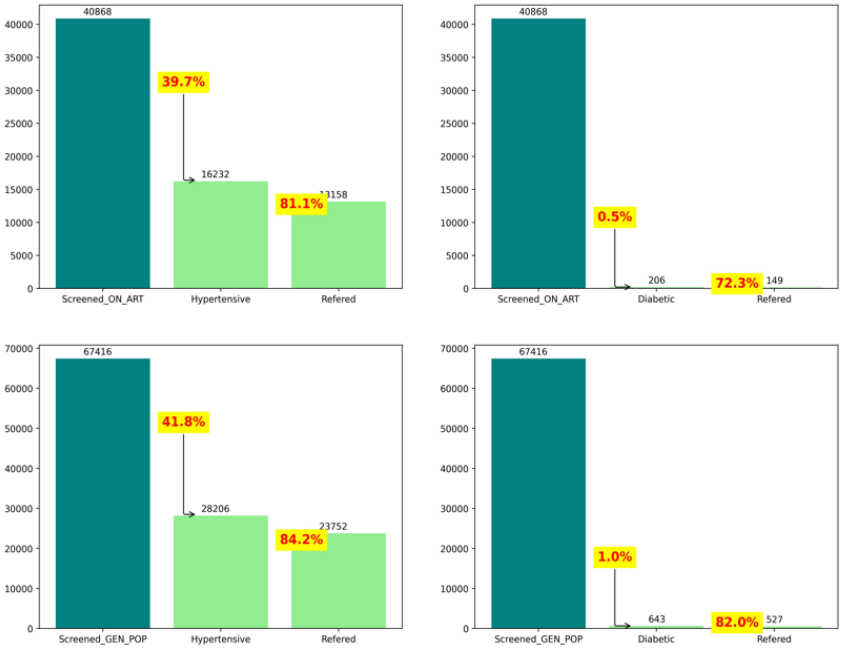


Figure 2. Rates of screening, diagnosis, and referral for hypertension and diabetes mellitus among people living with HIV and the general population

TB, Multimorbidity, and Syndemics

Dr Claire Calderwood, THRU ZIM, LSHTM

Dr Calderwood argued that TB is a syndemic, or in other words, that it interacts synergistically with other health and social challenges, especially in socio-economically comprised populations. IMBA Hutano, nested within the EDCPT-funded ERASE-TB study, sought to investigate the feasibility and impact of integrated screening for TB-affected households in Harare, Zimbabwe (n= 90 TB cases and n=469 household contacts). The study found a high burden of unmet healthcare needs among both TB cases and household contacts **(Figure 3)**. A trend was that most of the people living with HIV were already were aware of their status, whereas NCDs were more often previously unknown, particularly mental health conditions. Linkage to care was also generally sub-optimal, and qualitative data from the study reveals barriers to linkage to care including high costs for hospital visits and medicines for NCDs, time and distance to clinics and hospitals, and a lack of medication availability (whereas HIV medicines are free and available at lower levels of care). The findings suggest that screening will not improve health unless treatment and care is available, accessible and affordable.

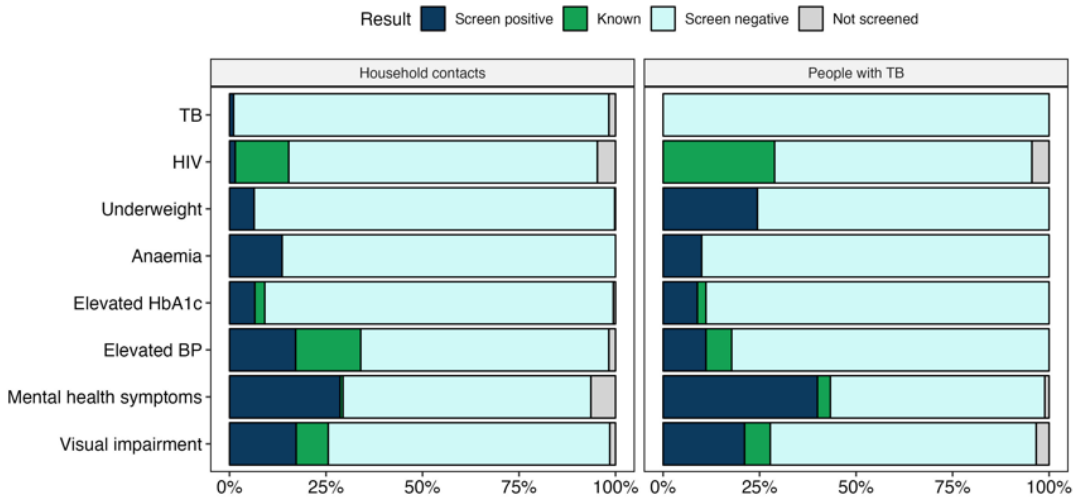


Figure 3. Yield of screening for TB, HIV, and NCDs among TB cases and household contacts

Ageing, Frailty, and Multimorbidity

Dr Anthony Manyara and Professor Celia Gregson (Bristol University, THRU ZIM)

Dr Manyara noted that multimorbidity is a hallmark of ageing. Dr Manyara presented findings from the FRACTURES E3 study,(4) which investigated the associations between ageing, frailty, and multimorbidity in sub-Saharan Africa, including in Zimbabwe (n=1000 adults >40 years from DZ, Mufakose, and Highfields in Harare). The study found that there was no significant association between HIV and frailty, that longer duration living with HIV was associated with frailty, and that longer duration of ART was frailty-protective. The study found a high overall multimorbidity prevalence of ~60% among participants, with a significant overlap between frailty, multimorbidity, and disability **(Figure 4)**. The findings suggest the need to consider not the presence or absence of conditions when describing multimorbidity, but the functionality and health-related quality of life of affected individuals. There is therefore need for prevention and control interventions to mitigate the burden and impacts of multimorbidity particularly among older persons.

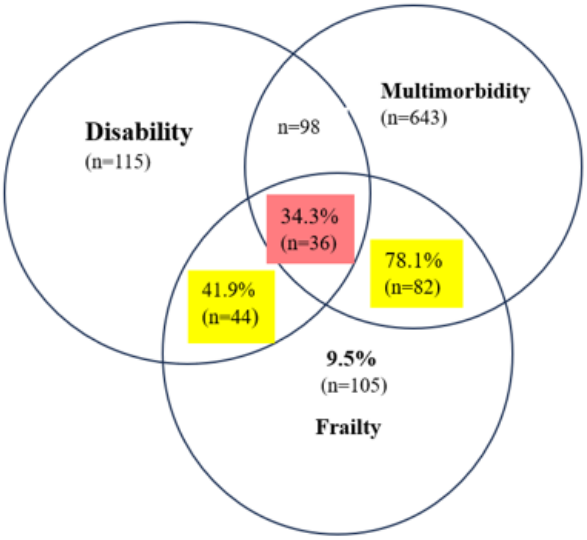


Figure 4. Prevalence and cooccurrence of multimorbidity, frailty, and disability

Session 2: Multimorbidity and the limits of disease-centred systems

The second session built on the previous one to consider the wider implications of rising multimorbidity for the health system, with particular emphasis on factors beyond the care level. The session started with an 'ignition' talk based on findings from the KnowM study, which worked with participants across the health sector to co-produce a 'whole system' understanding of multimorbidity. The session them opened up into a panel and open discussion to discuss findings from the day and to identify key priorities and responsible institutions/departments.

Key points

- Multimorbidity presents a 'whole system' challenge – for patient care, medical training, health information and research, and policymaking
- Vertical funding for single diseases – HIV, TB, and malaria – creates fragmentation and uneven resourcing, making multimorbidity challenging to recognise and address
- Need for a paradigm shift from funding diseases to funding comprehensive healthcare
- Need to strengthen integration of academia, health information, and policy for continuous, domestically-driven learning about multimorbidity
- Need for greater inclusion of ground-level voices of patients, communities, and frontline healthcare workers in all aspects of knowledge generation and policy translation

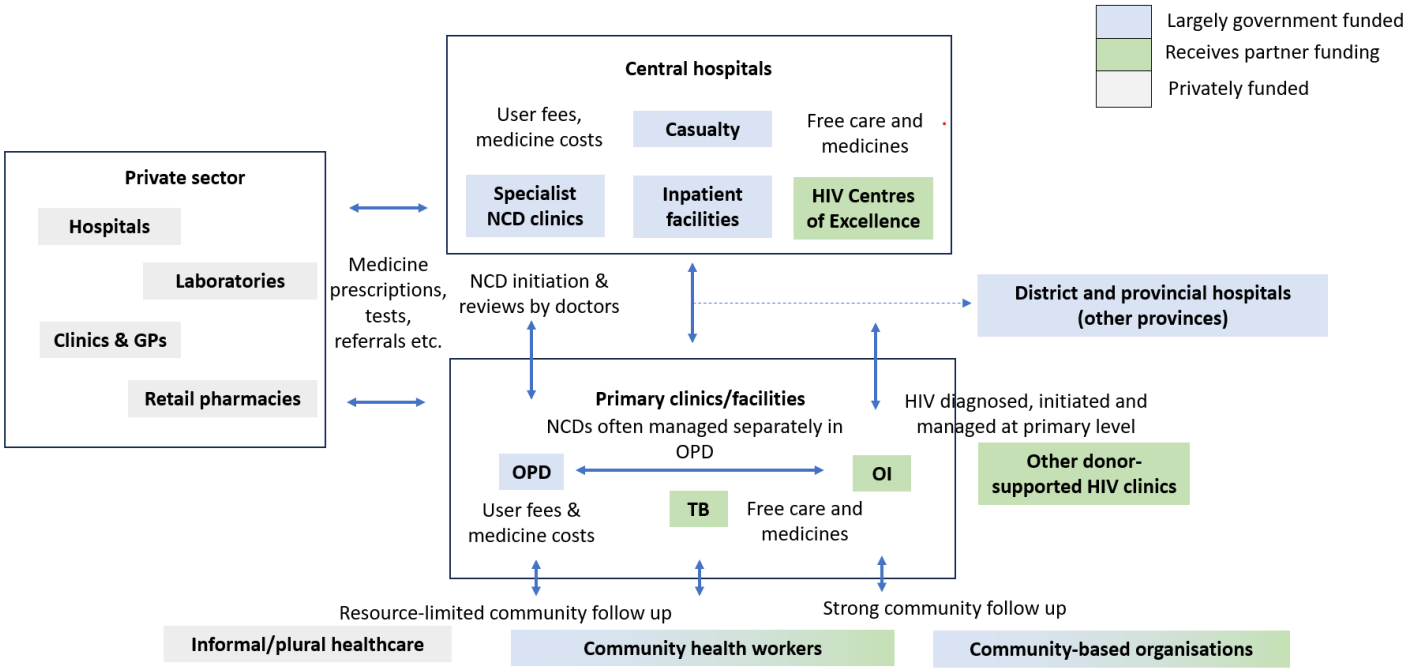
Assembling the 'whole system' challenge of multimorbidity

Dr Justin Dixon, Fionah Mundoga, and Dr Efison Dhodho (OPHID, THRU ZIM)

The session began with a presentation of findings from the KnowM study, which used a co-productive, qualitative study design to characterise the challenge of multimorbidity across Zimbabwe's health system. Findings were organised around three domains: health policy and planning; health seeking and delivery; and health data and research. Within the domain of health policy and planning, the primary challenge observed was uneven, 'siloed' funding, which was argued

to create a disenabling policy environment beholden to external priorities and agendas rather than ground level realities and disease burdens. System fragmentation was reflected, in turn, in health seeking and delivery, with challenges experienced most acutely by patients with multimorbidity. Whereas HIV care was diagnosed and managed within 'opportunistic infection' (OI) departments free of cost to the patient, NCDs were often managed separately (except in certain donor-supported HIV clinics providing integrated HIV-NCD care), which entailed multiple queues, visits to specialist physicians at hospital level, and reliance on the private sector, which was expensive and often unaffordable **(Figure 5)**. Finally, in the domain of health data and research, it was suggested that it is challenging to evidence the need for more person-centred funding and policy for multimorbidity when data has historically been produced around single disease conditions (increasingly the exception of known comorbidities associated with priority conditions e.g. HIV). Conceptualising multimorbidity as a 'whole system' challenges requires, in turn, interventions that cross-cut these different domains. This means more integrated, cross-sectoral approaches to funding and policymaking; person-centred chronic care models and health information/M&E systems; greater integration of academic research, health information, and policy translation; and the elevation of ground level voices in all aspects of knowledge generation and decision-making. A systems approach can create the enabling environment needed for continuous, domestically driven learning responsive to the needs of patients and communities.

Figure 5. Illustrative care pathway for patients with multimorbidity – metropolitan example



Panel and open discussion: How can Zimbabwe's health system be strengthened to respond to multimorbidity?

Panellists: Mrs Sithokozile Hove (CNO Bulawayo), Mr Gwati Gwati (MoHCC Policy & Planning), Dr Ronald Nyabereka (MoHCC HIV&TB), Mr Lee Nkala (MoHCC NCDs), Dr Robert Gongora (MoHCC Health Informatics), Dr Trust Zaranyika (University of Zimbabwe), Dr Debra Machando (WHO)

To open up discussion of the findings presented during the day's presentations, all participants at the meeting were first asked:

a) How prepared is the Zimbabwean health system currently for responding to multimorbidity?
b) How high a priority multimorbidity should be in Zimbabwe?

Responses were recorded using polling software, the results of which are shown in **figure 6**. The findings suggest that most participants felt that the health system is either unprepared or very unprepared for responding to multimorbidity, and further that multimorbidity should be a high or very high priority moving forward.

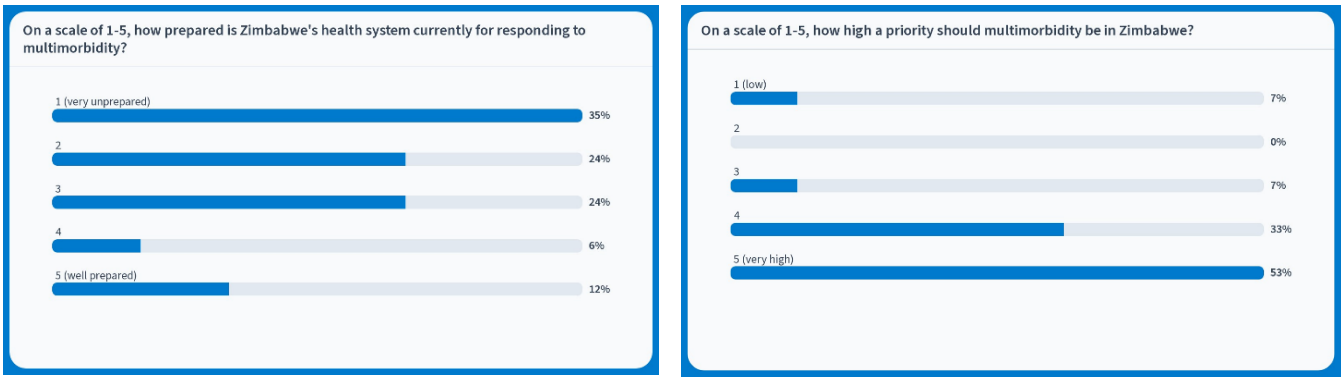


Figure 6. Poll responses to questions around the preparedness and prioritisation of multimorbidity

Building on these poll responses, panellists representing different aspects of the health system (MoHCC departments, University of Zimbabwe, and the WHO) were asked to specify what, from their perspective, were the key priorities for responding to multimorbidity. Specific points raised by the panellists included:

- Prioritisation of the "tools of the trade" – glucometers, BP machines, medicines, commodities
- Capacitation of health workers for integrated management of multimorbidity, while rewarding trained health workers to stay within the public sector
- We need to integrate "from the top down" – siloes are driven from Ministerial level and need to be integrated and cascaded to the nurse at the primary level who is well-positioned to provide care for all conditions under one roof.
- Need to break from funding mechanisms for single diseases; problems were created when HIV care was separated within OI clinics, fragmenting care delivery. Data on the disease burden should be used to fund an institution wholesomely to manage everything that comes to it rather than having resources for HIV but not NCDs.
- Protective ownership of disease-specific funding at policy level inhibits integrated, person-centred service delivery. Pooled funding and programme integration is needed, however a staged approach may be needed to generate buy-in and minimise resistance
- Investment in routine data systems embracive of multimorbidity to support care, surveillance, and monitoring and evaluation (M&E). Strengthening of the Electronic Health Record (EHR) can enable identification of recipients of care with multiple so they can receive appropriate diagnosis, treatment and support.

- Need for a health economics perspective, specifically how a health system with a multimorbidity focus should be costed. Costing dyads (or triads) for different disease combinations (e.g. cancer and depression) would be important for ensuring we are able to finance the systems we design.

Following panellists' responses and discussions, the floor was opened for further identification and refinement of priorities. Participants also identified institutions and departments who would be best positioned to take forward identified priority areas. Discussions were captured 'live' on a shared screen, which have been further edited and refined to ensure that all perspectives and inputs from the meeting have been captured. Outcomes from this process are listed in **Table 1**.

Closing remarks and next steps

Led by Dr Robert Gongora, MoHCC Health Informatics

In his closing remarks, Dr Gongora commended the wide cross-section of the health system represented, including not only the policymakers and researchers but patients and frontline healthcare workers. Platforms such as this that bring people together to deliberate on challenges and to share evidence and experience is crucial for addressing complex health challenges like multimorbidity. Dr Gongora praised the collaborative, action-oriented ethos of the meeting, noting that the room was full of thinkers and innovators at different levels, with all assembled bringing to the table clear ideas not only about what the problem is but more importantly what needs to be done about it. Dr Gongora noted that many of those in the room were not afraid to challenge and question the status quo, and stressed the importance of continuing to do so if we are to make the most of the current momentum around multimorbidity. Dr Gongora's final words were that many of us in the room are now in positions of influence, and stressed the need to act now to ensure that the next generation of health professionals in 20 years can clearly see what we have achieved. The next steps include engaging relevant institutions and departments regarding identified priorities and building towards a potential national framework for integrated action on multimorbidity. A follow-up meeting is planned in 2024 to monitor progress and refine priorities.

Acknowledgements

Our warm gratitude goes to all representatives from the MoHCC, academic institutions, technical partners, healthcare professionals, community and patient representatives for sharing their insights, expertise, and experience during the meeting. Special thanks go to all presenters, chairs, panel members, and meeting organisation team. Particular gratitude is extended to Mr Lee Nkala and Dr Ronald Nyabereka for coordinating the meeting with MoHCC departments and key partners. The meeting was supported by the Wellcome Trust UK (grant no: 222177/Z/20/Z).

References

1. The Academy of Medical Sciences. Multimorbidity: a priority for global health research. 2018;(April). Available from: https://acmedsci.ac.uk/file-download/82222577

2. PLOS Medicine Editors. Multimorbidity: Addressing the next global pandemic. Vol. 20, PLoS medicine. NLM (Medline); 2023. p. e1004229.

3. Dixon J, Mendenhall E, Bosire EN, Limbani F, Ferrand RA, Chandler CIR. Making morbidity multiple: History, legacies, and possibilities for global health. Journal of Multimorbidity and

Comorbidity [Internet]. 2023 Dec 27;13:263355652311649. Available Open Access from: http://journals.sagepub.com/doi/10.1177/26335565231164973

4. Burton A, Drew S, Cassim B, Jarjou LM, Gooberman-Hill R, Noble S, et al. Fractures in sub-Saharan Africa: epidemiology, economic impact and ethnography (Fractures-E3): study protocol. Wellcome Open Res. 2023 Jun 21;8:261.

5. South Africa DOH. Integrated Chronic Disease Management Manual. 2017.