Research prioritisation exercise
Western Cape: Health and Wellness
March 2023

Background

Research prioritisation focuses attention and effort to identify and address key health issues that lend themselves to a research process. It can help researchers and heath service managers decide what research areas to support in view of competing priorities.

Despite this, it is a vexed process, as research priorities can be the result of the concerns of the actors consulted, and therefore can be heavily biased. In addition, the utility of research prioritisation is questionable as the implementation of identified priorities depends on the interest of researchers, supervisors (in the case of student researchers) and funders. Furthermore, despite health managers wishing to be evidence informed, issues such as affordability, feasibility and the absorptive capacity of health systems to take on findings from prioritised research projects, affect adoption. This points to the importance of a growing methodology in research, implementation research, which was raised by informants in this exercise. Nonetheless, a formal process such as a research prioritisation exercise' has the potential to focus researchers, funders and service managers attention. It can promote efforts towards addressing shorter and longer term health issues that need to be addressed.

Health related Research in the Western Cape

The Western Cape is blessed to have four universities, with world class researchers and is the base for two statutory research councils. These are higher education institutions (HEIs) – the universities of Cape Town (UCT), Stellenbosch (US) the Western Cape (UWC) and the Cape Province University of Technology (CPUT) as well as the SA Medical Research Council (SAMRC) and the Human Sciences Research Council (HSRC). Consequently, Western Cape health facilities and communities are commonly involved and enrolled in research studies that are conducted by researchers affiliated with these institutions.

Subsequently, there are a large range of research projects being undertaken on our health platform. These include clinical trials of new diagnostic modalities and therapeutic agents; studies of health practices that result in specific health outcomes, health systems and management research, health promotion related research and community-based research. The focus of these studies includes the leading causes of disease – TB, HIV, COVID-19, cardiovascular disease and diabetes, maternal and child health conditions as well as injuries.

Governance of Health Research

To access the health platform for research, researchers must have approval from a registered Human Research Ethics Committee and upload proposals, summaries and relevant approvals on the National Health Research Database (NHRD). Research applications are reviewed and approved by four appointed bodies. These are the

Groote Schuur Hospital (GSH), Tygerberg Hospital (TBH), Red Cross War Memorial Hospital (RXH) and the Health Intelligence (HI) directorate in the provincial office. The three academic hospitals (GSH, TBH and RXH) give permission for research to researchers wishing to conduct research in their facilities, and HI administers the research process for the district health platform, emergency services, district, specialised and regional hospitals, as well as those requesting data sets. Importantly, if research involves health facilities – patients or staff – these are consulted about their ability to accommodate research, and must agree prior to research being permitted. Upon approval, all researchers are furnished with an approval letter giving details of the study approved, the facilities that they can conduct their research and relevant contact details.

In view of the strength of the research orientated health institutions, around 15 years ago, the province instituted a Provincial Health Research Committee (PHRC) to have oversight of research and to promote health research in the province. All research institutions – the four HEIs and two research councils – together with representatives from the health department, the City of Cape Town and community representatives sit on this active body. PHRC members are appointed by the local Minister of Health for 3-year terms. Meetings take place meet monthly, and the PHRC undertakes activities according to its mandate. These include oversight of research application throughput, troubleshooting bottlenecks, research prioritisation and research translation. There are annual research days, and newsletters produced under the auspices of the PHRC. The Health Sub-directorate, which falls under Health Intelligence, acts as the secretariat for the PHRC, and facilitates these processes.

The 2023 health prioritisation exercise

The National Department of Health has requested that the provincial health department provide a list of research priorities reflecting the perspective of the department which would feed into the national process. In view of a tight timeframe (2 weeks), in Phase 1 the Research sub-directorate decided to ascertain the perspectives of employees who have insight into both research and service work, as well as PHRC members. These personnel are the Public Health (PH) specialists (8) who are employed as specialists by the department, both those with and without joint appointment status.

In Phase 2, the draft report was sent to the top management of the department – the Director and Deputy-director Generals, Chief Directors and CEOs of academic hospitals, for their comment and additions. They added issues that from their perspectives were priorities for research, which are included in this report.

In Phase 1, we sent out a survey to the PH specialists (8) and the principal PHRC members (7), receiving responses from 9 (60%). We asked them to rank the 5 top priorities for research from their perspective. They were asked not to be too general (e.g. Burdens of Disease) or specific (such as identifying particular molecular mechanisms or therapeutic agents to address diseases) and should rather specify broader issues that would merit research.

A summary of the categories of research priorities, by numbers of respondents who mentioned them and by how they ranked the issue, is given in Table 1 below. The top priority issues were scored as 5, second as 4, third as 3, fourth as 2 and last as 1. The

total score by category was then summed to rank the prioritised areas. The categories fell into two main clusters: Burden of disease research and health systems functioning research. For each cluster, the issues that ranked the highest are given first, and as this largely accords with the numbers of respondents.

The burdens of disease research had both clinical and epidemiological facets. They are presented along the lines of the quadruple burden of disease as well as clinical domains e.g. mental health. There was some interest in exploring syndemics – multi-morbidities their epidemiology and management. In addition, determinants of ill-health specific to the spectrum of non-communicable diseases (NCDs), mental health and ill health in rural areas were identified. The health systems functioning cluster included research on the utility of health information systems, their design as well as issues related to the implications of the NHI.

Table 1 Categories of research priorities by score and respondents in Phase 1.

Domain	Score (max 45)	Respondents (%) (n=9)
Burdens of disease		
Clinically related	19	7 (78%)
Mental Health	12	5 (55%)
Substance use reduction	1	1 (11%)
NCDs (incl cancers)	11	3 (33%)
Diabetes	5	2 (22%)
Multimorbidity	10	3 (33%)
TB cascade	9	2 (22%)
HIV cascade/comorbidities	7	2 (22%)
COVID-19 surveillance	3	1 (11%)
Trauma	6	2 (22%)
Disability	2	1 (11%)
Emergency services	2	2 (22%)
Rehabilitation	5	1 (11%)
Determinants (NCDs, rural popn)	12	3 (33%)
Health systems functioning		
Health systems research	27	7 (78%)
Decision making and health informatics	12	4 (44%)
Quality improvement/implementation	10	2 (22%)
Service management	7	2 (22%)
Occupational Health of HCWs	7	3 (33%)
Evaluations	6	2 (22%)
NHI related research	2	1 (11%)

The specific research projects for the top-ranking domains by score and the number of respondents that identified these are given in Table 2 overleaf. Some research

questions straddled more than one domain. Consequently, some domains have fewer research questions than respondents. While specific disease-related research was identified, as many were incorporated into syndemic and health systems research, none are given in Table 2. They are embedded into specific research projects. The raw data is given in the appendix.

Table 2 Ranked research projects by score and respondents in each domain

Rank	Domain	Score	Informants	Research question
1	Health systems research	27	7	TB- focusing on improving systems since we know what need to be done
				Quality improvement/learning health systems
				Surgical health systems
				Operational / Health systems research focused on our subdistricts - what is working and what is not
				Impact on public/community health of current policies and practices of other national, provincial and local departments especially labour, social development, education, SAPS, etc.
2	Mental health	12	5	Factors that impact HCW's mental health and its impact on daily work
				Addressing the burden of mental health
				The intersection of mental health and other morbidities
3	Determinants of health	12	3	The impact of social determinants on health and health care
				Neglected rural health problems e.g. malnutrition, impact of work, food and accommodation insecurity, heat exposure, farm worker health
4	Decision-making and health informatics	12	5	Impact of real-time monitoring and reporting on population health outcomes
				Design science research for the development of decision-support tools for clinical and managerial governance
				Strengthening health system functioning through IT innovation
				Usefulness of dashboards for oversight and decision-making
				Optimising implementation within the health system
5	Non-communicable diseases	11	3	NCDs, particularly diabetes care and management
				NCDs, diabetes, hypertension, cancers, especially cervical cancer- a better grasp on these and effectiveness of programme and systems for prevention and management
				Research investigating social determinants of health, especially as it relates to non-communicable disease and metabolic disorders
6	Multi-morbidities	10	3	understanding multi-morbidity communicable & non-communicable diseases including mental health
				HIV and CVD and mental health
				(see NCD project above)
7	Occupational health of HCWs	7	3	occupational health related research
				Care of health workers
				(See mental health project above)

Phase 2 Input by Top management

Top management consulted experienced clinicians and managers in their clusters. These informants argued that the conditions seen are largely due to social determinants. While there was a need for clinical, therapeutic research, particularly more acceptable therapies, they highlighted the need for implementation research and investment in communities' maternal and child health interventions.

Implementation research should answer questions about how to deliver services well, where evidence of benefit is clear. These include interventions in obstetric care and broader child health issues. Additionally, research on the prevention of violence needs closer attention. The full list of research proposed is given in Table 3, and is clustered into *implementation research, pure clinical research and community-based research.*

Table 3 Research identified by research methodology

Domain	Area	Research topic
Implementation Research		
Health systems	Child Health	**Obstetrics care**: Interventions to improve pregnancy and neonatal outcomes (Reducing preterm birth, low birth weight, birth defects, neonatal infections (eg syphilis), prevention of HIE)
Health systems	Maternal Health	Maternal Health services: administering vaccines to mothers to prevent infant disease e.g. RSV, Gp B strep vaccines
Communicable diseases	HIV	Simpler and acceptable ARV regimens in children
Communicable diseases	Tuberculosis (CD)	Shortening TB drug regimens in children
Non-communicable diseases (NCDs)	Determinants of health (tobacco)	Interventions to promote smoking cessation
Life course	Childhood diseases	Management of childhood conditions that negatively impact on adult health: obesity, diabetes, asthma, mental health disorders (ADHD, Autism)
Pure Clinical Research		
Communicable diseases	Anti-microbials	Anti-microbial resistance as a threat to health systems and the public's health
NCDs	Cancers (NCDs)	Drug trials for childhood cancers that are affordable and less toxic, new regimens for Africa
Child Health	Therapeutics	Effective treatments for common paediatric conditions, as well as rare diseases and genetic disorders
Community based research		
Health promotion	Infant care (Child health)	Child health: Research on the First 1000 days to promote child health and wellbeing;
Health Promotion	Reproductive health	Investigating factors that impact on teenage pregnancy;
Health systems	Emergency services	Timely access to emergency care for critically ill children
Health systems	Maternal Health	Investigating the high rates of unbooked pregnancies
Burden of disease	Determinants of health (tobacco)	Preventing initiation of smoking in high prevalence smoking communities
Child Health	Mental Health	What is the prevalence of ADHD in different communities? Is this under treated in poor communities?
Burden of Disease	Violence	Community interventions to prevent violence

Conclusion

The low number of informants in Phase 1 of the exercise limited the exercise's generalisability. Nonetheless, the findings are illuminating and reflect the discernment of important stakeholders. These were usefully augmented by the input of 'top management' and their informants, who highlighted prevention of violence, and a range of issues around maternal and child health. Implementation research was identified as research approach to address many vexed problems.

The domains identified in Phase 1 span health systems functioning related research coupled with research that addresses burdens of disease that seek to address system bottlenecks and underlying drivers of conditions. ***Implementation research*** could usefully tackle many questions identified by informants in Phase 1 and Phase 2 of this exercise.

In broad strokes the research priorities identified through this exercise can be summarised by Table 1, in addition to the maternal and child health issues and violence prevention research questions identified by top management in Table 3.

Addressing these broad issues and implementing the specific research project identified would promote quality and person-centred health services, that embraces both health promotion, prevention and disease management. It is likely that the domains identified, research areas and specific projects are relevant for health systems and services across South Africa.

Compiled by: Dr Virginia Zweigenthal
(Public Health specialist: Health Intelligence)

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Appendix Raw data given by informants surveyed

Number	Top research area	Second prioritised research area	Third priority for research	Fourth priority area	Fifth priority area
1	Quality improvement/learning health systems	Medical management	Surgical health systems	Mental health services	Emergency medical services
2	Readiness of subdistricts to take on NHI	Operational / Health systems research focused on our subdistricts - what is working and what is not	Neglected rural health problems e.g. malnutrition, impact of work, food and accommodation insecurity, heat exposure, farm worker health	Impact on public/community health of current policies and practices of other national, provincial and local departments especially labour, social development, education, SAPS, etc.	Financial and operational autonomy of health facilities, subdistricts and districts - impact of centralisation and potential impact of decentralisation
3	Optimising implementation within the health system	The impact of social determinants on health and health care	Strengthening health system functioning through IT innovation	Care of health workers	Addressing the burden of mental health conditions
4	Tuberculosis cascade of care, including prevention	HIV cascade of care, with a focus on retention in care and prevention	NCDs, particularly diabetes care and management	Mental health and its intersection with other infectious and chronic diseases	Substance use harm reduction strategies
5	Evaluation of Healthcare 2030	Impact of real-time monitoring and reporting on population health outcomes	Design science research for the development of decision-support tools for clinical and managerial governance	Usefulness of dashboards for oversight and decision-making	The impact of the Health Impact Assessment / Health Intelligence unit on public health outcomes in the Western Cape.
6	understanding multi-morbidity communicable & non-communicable diseases including mental health	TB- focusing on improving systems since we know what need to be done	COVID-19- vaccination coverage and immunity levels	NCDs, diabetes, hypertension, cancers, especially cervical cancer- a better grasp on these and effectiveness of programme and systems for prevention and management	

Number	Top research area	Second prioritised research area	Third priority for research	Fourth priority area	Fifth priority area
7	Disability	Children			
8	Trauma related injuries and disability (acute to chronic rehabilitation intervention)	Diseases of lifestyle	Psychiatric and psychosocial conditions	Developmental disability	occupational health related research
9	Research investigating social determinants of health, especially as it relates to non-communicable disease and metabolic disorders	Investigating factors that impact the mental health of health care workers and how this impacts their ability to conduct their daily duties	Innovative approaches to monitoring vascular health of patients on HAART	Identifying genetic and MRNA treatment and diagnostic targets for diabetes	Finding alternative measures for the management of hypovolemic shock in pre-hospital and emergency ward settings.