

The development of a National Health Research Observatory in South Africa: considerations and challenges

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Health research observatories are globally recognised proactive institutions that provide appropriate evidence-based information to guide policy-making decisions in a country, thereby improving health care. The World Health Organization has recommended the development of national and regional research and development observatories to ensure relevant, timeous and credible information on current and emerging health research priorities and impact on health responses and interventions, including allocation of resources and their scope and location.

This chapter describes the vision, mandate, purpose, scope and benefits of a proposed health research observatory, as well as the key challenges, in order to stimulate awareness and generate local interest among and participation by the health research community and relevant stakeholders in South Africa.

The National Health Research Committee (NHRC) has undertaken to establish the National Health Research Observatory as a comprehensive information and translation system to enable the national co-ordination and integration of research and health information from the country's multiple research platforms.

Potential challenges inherent in this undertaking include legislative inadequacies that could limit the NHRC authority over public entities, and the autonomy of research institutions such as universities where conflicts of interest may cause and perpetuate barriers to vital research-related information.

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Introduction

Health research observatories have emerged in a number of countries such as the Lebanese Observatory for Research, Development and Innovation; the Lattes Platform in Brazil; and the National Institute for Health Care and Excellence (NICE) in the United Kingdom. These institutions function through the secondary use and integration of existing or routinely gathered research information towards the support of public health policy decision-making.¹ The World Health Organization (WHO) AFRO Region Consultative Expert Working Group has recommended the development of national and regional research and development (R&D) observatories to member countries to ensure relevant, timely and credible information on current and emerging health research priorities and impact on health responses and interventions, including allocation of resources and their scope and location.²⁻⁵

In response to its legislative mandate, South Africa's National Health Research Committee (NHRC) convened a summit in July 2011 to set priorities for health research and to address the strategic priorities of the National Department of Health (NDoH) and the government in South Africa. The summit brought together stakeholders from government, industry, academia and civil society to identify the key priorities for strengthening health research, innovation and development over the next three to five years. Notable among the seven summit findings is the need:

to develop a national system for evidence-based planning, monitoring and evaluation of the effectiveness and impact of the health research system on the burden of disease in South Africa.⁶

It is this need, namely to monitor and evaluate the health research system, that has led to the proposal for the establishment of a National Health Research Observatory (NHRO) in South Africa.

South Africa's National Development Plan (NDP)⁷ has identified key health and social priorities with a far-reaching development and health systems agenda. Observations indicate that an unco-ordinated health research system, limited researcher collaboration, poor control over funds spent, unnecessary duplication and over-researched fields undermine research efforts to transform the country's health profile. Based on these considerations, the NHRC has undertaken to develop the NHRO as a comprehensive information and translation system that will integrate health information from the country's multiple research platforms,^{6,8} co-ordinate research processes, and serve to monitor, evaluate and support translation of essential health research findings in line with NDP goals and priorities.⁸

What is a health research observatory?

The Liverpool Public Health Observatory uses the term 'observatory' to denote an organisation which "stands back from phenomena and events, providing objective description and analysis, and forecasting of patterns, interrelationship processes and outcomes", thus to improve quality by using evidence.⁹

Public health observatories tend to be comparatively autonomous and are therefore able to consider and develop their own locally sensitive agenda. In terms of the size of their directly employed staff, public health observatory teams tend to be small, though highly qualified. Although 'observing' is an important component in the work of observatories, the implication that observatories

are purely passive is incorrect. Rather, observatories are proactive investigators, providing information to inform policy-making, decisions and resource allocation.

Three key terms should be defined in order to understand the concept of a health research observatory, namely: health research, health research system, and research for health.

The Global Forum for Health Research (GFHR) defines 'health research' as a process for obtaining systematic knowledge and technology that can be used to improve the health of individuals or groups to reduce inequalities in health.¹⁰

A 'health research system' is defined as a system for planning, co-ordinating, monitoring and managing health research resources and activities, and for promoting research for effective and equitable national development.

The term 'research for health' connotes that improving health outcomes requires the involvement of many sectors and disciplines. The GFHR promotes a shift of focus from 'health research' to 'research for health', the latter referring to "research undertaken in any discipline or combination that seeks to understand the impact on health of policies and programs; assist in developing interventions that mitigate impact; and contribute to the achievement of better health and equity".¹⁰

While health research is a process, the health research system is a structure within which health research takes place. The observatory is therefore an instrument of action that co-ordinates relevant research into research for health.²⁻⁵

The nature and function of health observatories

According to Pourmalek,¹¹ the health observation concept and practice relate closely to the evolution and maturation of health policy-making. In an editorial entitled "National health observatories: Need for stepped up action", the health observatory is assumed to be a policy-oriented virtual-based national centre aimed at performing systematic and ongoing observations on relevant issues about population health and health systems, in support of effective and evidence-based health policy, planning, decision-making and action. The health observatory has a focus on 'high-yield' health information on current and emerging population health concerns. The health observatory's mission and various functions are shared by a network of stakeholders with different messages that are proactively addressed to health policy-makers, managers and service providers, researchers and academia, private sector and industry, and last but not least, mass beneficiaries on the ground. The ultimate goal of the health observatory is cost-effective and equitable improvement of population health and hence a contribution to socio-economic development.¹¹

Health observatories vary in geographical scope, focus areas, and functional and organisational structures.⁹ Moreover, public health observatories serve to combine the qualities of academic and State-based public health by providing high-quality and relevant regional, national and local health intelligence on a shorter timescale, enabling rapid responses to health research concerns. Importantly, the observatory aims to bridge the gap between academia and policy-makers.¹²

Pourmalek further states that health observatories use information from monitoring, evaluation and surveillance systems.¹¹ However, he cautions that health observatories are not meant to be replicas or replacements for any part of health information systems, nor raw or intelligent repositories of health statistics or geographical information systems. Health observatories contribute to the identification of health information gaps and improvements in health information systems.¹³ Most countries do not have established national health observatories, while some developing countries have national observatories or public health observatories and others have thematic observatories, such as the National Human Resources for Health Observatory in Sudan.¹⁴ In South Africa, the NHRO will come under the legislated mandate of the NHRC.⁸ Its core purpose will be to strengthen the co-ordination and management of research within the health research system, thus it will fall into the category of 'thematic observatories'.

Co-ordination of research within the health research system in South Africa: the current situation

Health research co-ordination in South Africa falls under the mandate of the NHRC which derives its authority from the National Health Act (61 of 2003)¹⁵ as amended. In terms of this Act, the NHRC is tasked to determine the health research to be carried out by public health authorities; to ensure that health research agendas and research resources focus on priority health problems; to develop and advise the Minister of Health on the application and implementation of an integrated national strategy for health research; and to co-ordinate the research activities of public health authorities. In this capacity, the NHRC is the primary co-ordinator of health research activities in South Africa.¹⁵

Does South Africa need a National Health Research Observatory?

The NHRC has reported that there are deficiencies in the monitoring and evaluation of South Africa's health research system.¹⁶ While there are existing initiatives that allow for the collection or collation of information on health, none of these is comprehensive, and they are limited in terms of the health conditions covered, geographic coverage, the degree to which public or private funding can be assessed, and in some cases the absence of a standardised system for reporting research and development data.⁶ These limitations are manifest within a setting characterised by insufficient information policies, formal agreements and data management protocols between the agencies that manage health information. Such shortcomings in the information produced by routine national health information systems with weak structures and performance profiles have negative effects on the country's health research system.

Global trends

South Africa is not alone in its attempt to establish a health research observatory as a means to solve the problems facing the provision of healthcare delivery and the development of health systems. At the global level, the African Health Observatory and Knowledge Management Unit of the WHO AFRO Region supports regional and country efforts towards strengthening health systems through the African Health Observatory and a network of national health observatories.³ The Unit defines its purpose as being to support the strengthening of the WHO's capacity in knowledge acquisition,

generation, sharing, dissemination and use, including web-related activities at the Regional Office. This entails providing support to member states to enhance the evidence for policies and strategies, and for monitoring health in the Africa Region, while strengthening the capacity of member states to improve the:

- availability, quality and use of information;
- sharing, translation and application of information; and
- use of information and communication technology for health.³

These support areas involve tasks that fall within the legislated mandate of the NHRC and that necessitate action that is consistent with the establishment of the proposed NHRO for the country.

Regionally, the Consultative Expert Working Group (CEWG) of the WHO AFRO Region held a meeting in Brazzaville in the Republic of the Congo in 2013 to deliberate on their task assigned by the Sixty-third World Health Assembly, namely to search for new, innovative and sustainable sources of funding for research and development (R&D) addressing the specific health needs of developing countries. One of the five potential mechanisms identified for implementation of the recommendations on R&D financing and co-ordination pointed to a need for co-ordination of research through instituting a regional R&D observatory and relevant advisory mechanisms under the auspices of the WHO. In this respect, a network of research institutions, regional experts and consulting councils would be established. Such a network would ensure the implementation of policies at institutional, country and regional levels and improve the business climate of the African continent to make it more attractive for investment.³

Sound co-ordination along with national health R&D observatories will enable the WHO to play a central and more effective role in improving the co-ordination and support of health R&D directed at the African Region.³ The establishment of a health research observatory has great potential for South Africa to improve not only its health system machinery, but also the regional and global health research enterprise.

National context

For the NHRO to be relevant to national needs and priorities, it is important that it be positioned in relation to all key national strategies and initiatives, as well as other similar intersectoral initiatives and existing strategies in South Africa's public domain. Advocacy for the observatory, which is a fairly new development in the country, should be strongly mobilised to secure the buy-in of all key stakeholders. Some of these initiatives and strategies may be located in other sectors and driven by State and other entities, but all contribute to research for health. Key among these is the National Development Plan 2030.⁷

The National Development Plan 2030

The National Development Plan (NDP 2030) sets out nine long-term health goals for South Africa. Five of these goals relate to improving the health and well-being of the population. By 2030, South Africa should have:

- Raised the life expectancy of South Africans to at least 70 years
- Progressively improved TB prevention and cure

- Reduced maternal, infant and child mortality
- Significantly reduced the prevalence of non-communicable disease
- Reduce injury, accidents and violence by 50% from 2010 levels.

The remaining four goals deal with aspects of health systems strengthening, which are:

- Complete health system reforms
- Primary health care teams to provide care to families and communities
- Universal health care coverage
- Posts with skilled, committed and competent individuals.

The planned observatory can add value towards the achievement of these goals. While the NDP 2030 explicitly acknowledges that there are no easy solutions for achieving these nine goals, it identifies a set of nine priorities that will contribute to the achievement of effective health systems. Table 1 sets out some of the possible contributions of the proposed NHRO to these priorities.

Key initiatives and stakeholders

The value of access to credible research information in the development of the health system is highlighted by the Director-General of the NDoH as follows: “These important challenges require high-quality data, research, deliberate service development strategies and a willingness to change”.¹⁷

‘Research for health’ will contribute to understanding the impact on health of policies, programmes, processes, actions or events originating in any sector, will assist in the development of inter-

ventions to prevent or mitigate such impact, and will support the achievement of international goals and targets. This covers the full spectrum of research, spanning generic areas of activity: measuring the magnitude and distribution of the health problem, understanding the diverse causes or determinants of the problem, developing solutions or interventions that will help prevent or mitigate the problem, implementation or delivery of solutions through policies and programmes, and evaluating the impact of these solutions on the level and scale of the problem.² In line with the call for a multisectoral and multidisciplinary approach to the functioning of health research observatories, the NHRC will ensure that the proposed NHRO will strengthen existing collaborations and draw on initiatives and research institutions that already provide information on research for health. These include but are not limited to the following initiatives:

- The National Health Information Systems (NHIS), which provides health information and undertakes monitoring and evaluation of the health of the population and disease tendencies.
- Research and Development plans developed by the NDoH which provide funding that is responsive to changes in the research environment and that aims to enhance skills levels and address South Africa’s socio-economic objectives will also be drawn on.
- The National Health Research Database (NHRD), developed by the Health Systems Trust, serves as a repository of health-related research being conducted in South Africa. The NHRD enables researchers and research committees to map the geographic areas in which research is being conducted, and provides a snapshot of current and past research priorities. Commissioned and funded by the NDoH, the NHRD is currently being launched through the nine Provincial Health

Table 1: Contribution of a National Health Research Observatory to the nine priorities of the National Development Plan 2030

National Development Plan priority	Possible contribution of a National Health Research Observatory
Address the social determinants that affect health and diseases	Provide an analysis of social factors that play a key role in determining health status
Strengthen the health system	Identify points of weakness in the health system and their underlying causes and make recommendations for appropriate solutions
Improve the health information system	Collate data from a range of sources; stratify, repackage, translate and disseminate the information in ways that make it accessible for use by different stakeholders
Prevent and reduce the disease burden and promote health	Contribute to the identification of the types and levels of the burden of disease; make recommendations for their prevention, reduction and mitigation
Finance universal health care coverage	Analysis of health care financing; assist in identifying sources, levels and types of healthcare financing available, and identify gaps in universal coverage
Improve human resources in the health sector	Analysis of the full-time equivalents for health sector human resources to reliably determine the quality, qualifications and numbers needed for provision of adequate health care
Review management positions and appointments, and strengthen accountability mechanisms	Analyse data on management functions and infrastructure needs; map out trends in skills availability and thus influence accountability and evidence-based policy- and decision-making
Improve quality by using evidence	Analyse all data received and provide feedback for translation of research into practice; make findings accessible to all stakeholders for improved quality of health care
Meaningful public-private partnerships	Vigilance on events and trends leading to balanced feedback to all sectors will enable development of meaningful partnerships between public and private sector stakeholders to help parties engage in using synergies for mutual benefit

Research Committees and is a crucial first step undertaken by the NDoH to facilitate the development of the NHRO.

- The Research Information Management System (RIMS), funded by the Department of Science and Technology (DST) and hosted at the National Research Foundation (NRF) in Pretoria, allows users to view the total R&D investment in specific areas of science and technology across agencies and to examine the details of research investments within a specific agency. The system is a strategic tool for research development and support at institutional and national levels, and facilitates internal and external monitoring of research outputs and impact. It provides the country's science councils and higher education institutions with two key components of a research information management system, namely a common application platform for publicly funded research institutions to support their research administration processes, and the information needed to establish a common platform for the DST to distil data from publicly funded institutions that will inform strategic research-related decision-making. Additionally, the National Biportal being developed by the DST will focus on the research and development activities needed for the implementation and expansion of the National Bio-economy Strategy launched in 2014.¹⁸
- The National Science and Technology Expenditure Plan is a means of reporting projected national expenditure on scientific and technological activities (STAs) over the Medium-term Expenditure Frameworks (MTEF). The National Department of Health also feeds information on expenditure levels and trends at national, provincial and local levels.
- The Department of Environmental Affairs (DEA) conducts research that provides valuable information on environmental impacts on health and on health issues as they affect the environment. In particular, the Environment Sector Research, Development and Evidence Framework is a tool developed to provide routine information of interest to policy-makers in health and industry in terms of how environmental forces influence the health of the South African population.
- The Safety in Mines Research Advisory Committee, under the auspices of the Department of Energy and Mineral Resources, annually prepares comprehensive programmes for health and safety research, including a review of health and safety performance in the various mining sectors, health and safety research foci and priorities for these sectors, estimated costs of specific programmes, and an evaluation of research proposals made by the Mine Health and Safety Council or any of its committees.

There is therefore compelling evidence that South Africa has both a critical need for and has already garnered much of the necessary information and technical capacities, resources and infrastructure to implement a health research observatory.^{6,19} With this context in mind, it is imperative that all stakeholders within the research community be brought on board to ensure proper understanding of the processes for the establishment and maintenance of the proposed NHRO, and to engage actively in its development as a tool for improving the yield of research for health outcomes.

Proposed model for the NHRO in South Africa

It is envisaged that the NHRO will function directly under the authority of the NHRC but will be co-ordinated by a steering committee comprising identified experts as mentors and advisors and research institutions as feeders of information. There have been strong motivations for national observatories to be staffed with their own officials and to support the training of the requisite human resources to ensure their core functioning.¹⁸ Securing skilled leadership would be critical for the strategic management of the NHRO to ensure that it serves its intended goals, and the NHRO should be armed with high-level technical expertise and capacity to achieve the initial implementation and full operation of the observatory. Specifically, the human resources complement should comprise a director; three senior managers to govern operations, data analysis and information dissemination; two administrators; technicians; managers for data analysis and information dissemination; a biostatistician and an epidemiologist. A hosting institution will provide operational staff for office administration and human resources support. Infrastructure needs to include office space, information technology and communications facilities.

Implementation, considerations and challenges

Some of the potential challenges include current legislative inadequacies that may limit the NHRO's authority to engage with public or private health data repositories. The autonomous nature of research partners, and the variations in and limitations of the existing approaches and standards for health research data, present further possible challenges to the successful operation of the observatory.

The institutionalisation of a NHRO is considered a key prerequisite to its effective operation and ability to function over time.³ The decision to launch, resource and operate the NHRO should be taken at a high political level to ensure its establishment as a legally authorised entity, its effective implementation, and its sustainability. Because the NHRO is being considered by the NDoH within the context of international momentum for the implementation of national, regional and global health observatories,^{4,5} the NHRC has sought to align the focus and scope of the NHRO with existing government policy and health sector needs within current legislative mandates, specifically the National Health Act (61 of 2003)¹⁵ through the NHRC mandate.^{8,19} Such alignments will support the administrative actions that are required to ensure the effective implementation of the observatory.¹⁹

However, ensuring that the NHRO will be aligned with the information needs of policy- and decision-makers may be difficult, given the complex nature of health systems and services, the multiple levels and requirements of government, the diverse management involved, and the types of decision-making that may need to be conducted.¹⁹ The following measures are likely to consolidate this alignment:

- Establishment of an observatory under a government policy that extends beyond government administrations
- A guarantee that the observatory has the necessary resources and an independent budget
- A transparent management system for both the use of resources and the information gathered and processed by the observatory.^{19,20}

Consensus on NHRO scope and functions

The proposed NHRO may generate many expectations from a range of interest groups with regard to its purpose, objectives, functions and responsibilities. The NHRO may therefore be mistakenly perceived as an alternative or replacement for routine information, monitoring and surveillance systems, thus generating concerns about its implementation, especially among those groups already involved in similar monitoring systems.¹⁹ The NHRO implementation plan should therefore specify its key dimensions through some form of engagement process with partners and stakeholders.³ The formation of advisory meetings, task teams and technical collaboration agreements is needed to aid the buy-in and sharing of accountability or ownership of joint tasks. Such a plan should also consider and where possible specify the extent and boundaries of the data system co-ordination, collation, analysis and liaison capacities, and difficulties that may impede implementation. The plan should also be framed around a phased implementation of an approach that utilises existing and effective monitoring or surveillance systems.^{8,19}

Furthermore, the development and management of the NHRO may be perceived by partners, including government departments and managers, as an additional activity for busy staff, implying increased workloads with no added value. It is therefore imperative that a cost-benefit analysis of the observatory be generated to support the engagement with partners on its implementation.¹⁹

Information systems, data limitations and human resources

The general launch of the NHRO and its capacity to compile and analyse information and generate reports would be limited by the difficulties inherent in operationalising a new structure of this kind.^{19,20} Limitations in the provision of information produced by national routine health information systems with weak structure and performance can be expected to hinder the NHRO's performance and outputs, and the improvement of these, if at all feasible, may take longer than expected. Despite such challenges, there exist important opportunities through technical collaboration that would aid in governing the development of policy guidelines, instruments or measures, and indicators.

Conclusion

The NHRC acknowledges the existence of gaps in available information regarding South Africa's health research system as a whole. Such gaps include information pertaining to expenditure on health and disease-related research and development as outlined in the 2011 NHRC Summit Report.⁶ Efforts to track and map health research investments may be restrained by the complexity, incompleteness and resource-intensity of information systems; however, the NHRC has carefully considered global experience and WHO recommendations and is proposing the establishment of a NHRO along lines that will be relevant to South Africa's context and needs. Driven by the NHRC's mission, namely to elevate health research that is aligned with both the NDP and the WHO's global interest in research for health, this chapter articulates the manifold local, regional and global benefits to be rendered by the envisaged NHRO. These benefits should generate lasting interest among the research community to ensure a functional and sustainable structure for co-ordination of South Africa's health research system.

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