The African Health Observatory and national health observatories as platforms for strengthening health information systems in sub-Saharan Africa

Derege Kebede, Chris Zielinski, Peter Ebongue Mbondji, Miguel Piexoto, Wenceslas Kouvividila and Luis Gomes Sambo

World Health Organization Regional Office for Africa, PO Box 6, Brazzaville, Congo
Corresponding author: Derege Kebede. Email: kebeded@who.int

Introduction

Health information systems represent a key component of national health systems. However, the capabilities for leveraging information for improved health are limited and unevenly distributed in the World Health Organization (WHO) African Region. Improving such capabilities has been identified as a key priority for the success of reforms of national health systems through primary healthcare[1] and for addressing social determinants of health.[2] Ministries of health and their partners have recognised the importance of evidence in shaping policy-making and decision-making in the Region and have been trying to improve their health information and research systems for some time.[3] The recommendations of both the 2008 Ouagadougou[4] and Algiers Declarations[5] to establish an African Health Observatory (AHO) are based on this recognition.

The idea of a 'health observatory' as a comprehensive one-stop shop for good-quality and reliable information on human health and institutions of care has gained growing global popularity since the mid-1970s. Since then, numerous health observatories have been established throughout the world; for example, a network of 12 public health observatories was set up by the UK Department of Health to provide knowledge, information and surveillance in public health. The declared focus is on 'turning information and data into meaningful health intelligence' and the UK network has been developing successfully using a similar model to that adopted by AHO.[6] Apart from AHO, a Global Health Observatory has been functioning in WHO headquarters since 2010, and most of the WHO regional offices also have established observatories.

This report describes AHO and how it could be useful, working with National Health Observatories (NHO), to address the issues and challenges of strengthening national health information systems. In addition, the report proposes a number of actions that countries should consider taking to use NHOs to improve national health systems.

The AHO

AHO has been operational since the beginning of 2011. Its prime objective is to act as a tool for improving the availability of data from multiple sources and facilitating the monitoring and evaluation of health status and trends, including progress towards the achievement of major health goals in countries and the Region. These include the Millennium Development Goals (MDGs), notably MDGs 4 and 5, and problems being addressed by global health initiatives such as the Global Fund to Fight AIDS, Tuberculosis and Malaria, and the GAVI Alliance.

As a repository or 'one-stop-shop' of the best information available on health, AHO serves as a tool to monitor achievements in health systems strengthening in such areas as governance, health financing and human resources for health. AHO is seen as the core of a reinforced regional health information system, interacting with NHOs in member countries to contribute to monitoring and evaluation, data collection and analysis at national level. Above all, it is an information technology platform designed to facilitate multi-stakeholder collaboration and partnership in accessing and using information for strengthening national health systems and improving health outcomes.

AHO consists of a web portal,[a] a data statistics platform, a web-based collaborative space for the production and updating of comprehensive and analytical country health profiles, a repository of key publications including the quarterly periodical *The African Health Monitor*, and a platform for networking. Work is ongoing in developing its content in country

profiles and information products, and creating space for and supporting regional and subregional networks on various health themes. Collaboration will continue with ministries in the Region to review and clear all data published, and to publish better, more up-to-date and complete data. At the same time, the analytical country profiles will be expanded and developed so that they can serve as key evidence in the monitoring and evaluation of national policies and plans, within the national development cycle.

The WHO Regional Office for Africa supports countries to establish their own NHO web portal, following the same general structure as used for AHO. Thus, NHOs provide information technology platforms that enable national, subnational and institutional stakeholders of national health information systems to collaborate, bringing data together in a single place and reducing fragmentation. Using specialized software, NHOs enable each stakeholder to view the data most relevant to them in tabular, graphic and map formats. They are centres for monitoring progress on subnational, national or international goals and targets, monitoring performance of priority health programmes and evaluating outcomes of health interventions.

It should be stressed that AHO is a platform that provides a workspace in which all relevant activities and programmes may operate. As such, it is not a new initiative requiring extensive inputs, training or restructuring. Rather it provides a web-based mechanism to conduct work collaboratively, reducing fragmentation and enabling standardization of data. The development of partnerships is considered to be a key role for AHO. It offers a forum with supporting technology (e.g. lists, web pages, conferencing) for kindred programmes and partners. The AHO model, extended to national and subnational levels, provides a backbone to reinforce national health information systems.

Issues and challenges

In strengthening their national health information system, countries face three major issues that they must address:

- Fragmentation of national and subnational initiatives or efforts on health information across sectors, levels, programmes, projects, disciplines and specialties[b]
- Availability of information: the limitation of capabilities for the timely generation, analysis of and access to relevant information, and to ensure its availability in sufficient quantity and quality
- Weak capabilities for sharing, translation or application of available information for policy-making and decision-making

Fragmentation of stakeholders' initiatives is a major issue for countries. Dealing with this issue successfully would minimize the extra burden on national authorities and health workers resulting from the need for additional data or reporting to partners.[7] Fragmentation is evident not only in responding to external initiatives and partners but also among similar services within the national health systems, impeding the resources of multiple stakeholders to strengthen national health information systems. Addressing this issue requires innovative ways to improve the participation and collaboration of multiple stakeholders, such as the platforms and tool for networking and collaboration offered by NHOs.

Availability of information is another key issue. Countries need to have the capacity to generate relevant information in a timely fashion and in sufficient quantity and quality. To do this, they need to strengthen data and information resources and enhance the national capacity for data management and generation of evidence. The collective knowledge and resources of multiple stakeholders, including academic and research institutions, need to be harnessed. The availability of information is also dependent on the capacity to acquire existing local and global information and making the best use of information technology. NHOs could work to improve capabilities in online searching, filtering and retrieval of information, and storage, indexing and sharing of information.[8]

A pervasive issue throughout health systems is weak capability for sharing, translation or application of available information for policy-making and decision-making. This is frequently related to the lack of a collaborative workspace where data and other evidence are available and analysis can take place, and the lack of a platform where evidence from a wide range of relevant stakeholders can be marshalled. Strengthened capacity to format, package and share information in such a way that it is readily accessible by users is key to ensure that policy-makers or decision-makers value or accept the evidence presented to them. Improving such capacity requires networking and collaborative facilities, such as those offered by NHOs, to enable users (e.g. policy-makers) and producers of information (e.g. researchers) to collaborate in the various stages of development of evidence.

NHOs offer an innovative information technology-based solution to address the major issues described above. They offer platforms for multi-stakeholder collaboration (through networking and creating communities of practice involving such participants as academics, researchers, policy-makers and public health practitioners), serve as repositories of the best available information, and provide tools

to strengthen the monitoring of health status and trends.

What countries can do to establish NHOs

When establishing NHOs, countries should consider constituting a country-wide, multisectoral and multidisciplinary group involving all key stakeholders to coordinate their efforts.[c] This could be an *ad hoc*, interim mechanism. Ideally, a secretariat with sufficient capacity should be established and located within the department of health information in the ministry of health.

A national review and mapping of stakeholders, including national and subnational institutions dealing with health information, should be undertaken as part of the process of developing NHOs. Such institutions would form the base network of the NHO and be entrusted with coordinating a specific function, depending on their respective strengths and mandates. The identification and engagement of further relevant partners in the country and externally should be actively pursued.

The top leadership in the health sector should publicly demonstrate their strong backing for NHOs by investing internal and external resources in them, supporting necessary actions to raise the awareness of relevant stakeholders, and promoting the establishment and strengthening of NHOs. International partners should also be encouraged to fund NHOs and ensure that their support is aligned with country efforts. WHO country offices should provide technical support to NHOs, particularly to their secretariat.

Countries should select appropriate technologies and solutions to be used by NHOs within their specific environments, bearing in mind the current state of information technology infrastructure in the country. These include a choice of database management system, visualisation tools for the analysis and rendering of data, a content management system for their profiles and information products, and networking software (for lists, conferencing, etc.). The technologies chosen must interoperate seamlessly with any existing ministry websites and with the data warehouse solution selected for the national health information system, so that the NHO can act as the core of the national health information system. It is also recommended that countries consider ensuring that these technologies are interoperable with those of the AHO and other regional NHOs. The Regional Office is able to support NHOs with generic template observatories and the basic content for analytical national profiles.

Countries should facilitate the role of NHOs in continuing education by developing and providing appropriate training materials for collaborative learning, eLearning or traditional forms of learning for ongoing professional development. Appropriate mechanisms and processes, such as working groups, standing committees and online networking should be put in place to encourage involvement of local and external academics, researchers and experts in these efforts.

Conclusions

Improving the capabilities for leveraging information for health is a key priority for the success of reforms of national health systems through primary healthcare and for addressing priority health problems. Strengthening of national health information systems through the creation of NHOs would enable multistakeholder participation and strengthen capabilities to generate, acquire, share and apply information. It is recommended that each Member State reinforces or initiates its efforts to establish a platform that could serve as an NHO. A clear road map and timeline should be established for this process by individual countries.

Notes

a. See http://www.aho.afro.who.int.
b. Some examples: sectors and levels (health/non-health; public/private; urban/rural, local/international; academia/civil service); programmes and projects (routine health management information systems /disease control programmes); disciplines and specialties (public health/medical/statistics/economics).
c. Depending on the specificity of each country, the group should include representatives from: the producers and users of information; national, subnational and district levels; public health, medical and social sciences; science and technology, including information technology; quantitative and qualitative disciplines; health and non-health sectors; public and private sectors; civil society and faith-based groups; academic, research and public health centres; and external partners.

References

1. World Health Organization. *The World Health Report 2008: Primary Health Care Now More Than Ever*. Geneva: World Health Organization, 2008.
2. Commission on Social Determinants of Health. *Closing the Gap in a Generation: Health Equity through Action on the Social Determinants of Health. Final Report of the Commission on Social Determinants of Health*. Geneva: World Health Organization, 2008.
3. Regional Committee documents on health information (2004-AFR/RC54/R3), on research (2006-AFR/RC54/R3), on knowledge management (2006-AFR/RC56/16) and Algiers Declaration (2009-AFR/RC59/5). See http://www.afro.who.int/en/who-in-the-african-region/regional-committee-for-africa.html (last checked 24 March 2012).
4. World Health Organization. *Ouagadougou Declaration on Primary Health Care and Health Systems in Africa 2008: Achieving Better Health for Africa in the New Millennium*. Brazzaville: World Health Organization Regional Office for Africa, 2008.
5. World Health Organization. *The Algiers Declaration: Ministerial Conference on Research for Health in the African Region*. Brazzaville: World Health Organization Regional Office for Africa, 2009.
6. Public Health England web portal. See http://www.apho.org.uk/ (last checked 7 May 2012).
7. World Health Organization. *Framework and Standards for Country Health Information Systems*. 2nd edn. Geneva: World Health Organization/Health Metrics Network, 2008.
8. Landry R, Amara N, Pablos-Mandes A, Shademani R and Gold I. The knowledge value chain: a conceptual framework for knowledge translation in health. *Bull World Health Organ* 2006; 84: 597–602.