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Strengthening Health Systems by Strategically Leveraging Data to Make Informed Decisions on Human Resources for Health (HRH) in Nigeria. A Systematic ReviewAkpa Igwe Chijioke¹, Chinyere Happiness Nwani²¹Nigeria Centre for Disease Control and Prevention (NCDC)²African Institute for Health Policy and Health Systems, Nigeria.***Corresponding author****Akpa Igwe Chijioke,**

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Abstract

Health systems depend heavily on human resources for health (HRH), as providing high-quality healthcare requires a robust workforce. In the midst of a worldwide labour shortage, national HRH policies are being strengthened, especially in rural areas. Encouraging data-driven decision making is the main objective of Human Resources for Health Information Systems (HRHIS). A comprehensive review of the literature utilizing terms such as HRH, HRHIS, data use, decision making, and health workforce registry on the use of HRH data from 2000 to 2023. Selected papers were placed in a folder, and manually reviewed the complete texts to make sure the inclusion criteria were met after going through a methodical screening procedure. After eliminating duplicates, 55 (54%) of the 102 unique titles and abstracts that the search produced remained. Nineteen publications met the requirements for full-text review: two (10.5%) technical briefs on HRH and HRHIS implementation, seven (36.1%) working/discussion papers, and ten (52.6%) journal articles. The impact of HRH and HRHIS in healthcare is covered in these papers, which cover the years 2004 through 2021. Many published works discuss improving HRH data use in decision-making, but comparing outcomes is challenging due to limited explicit definitions and scarce evidence evaluating interventions. Measuring HRH data use is complex, influenced by governance, commitment, political will, and funding. Retrospective assessment of data-informed decisions is difficult, necessitating better measures. Understanding intervention outcomes requires innovative approaches to identify best practices and replicate successes in HRH data utilization for decision-making. It is not enough simply to make data available, there must be a process in place for analyzing the information and getting it to the right decision-maker with the power and resources to act on it. Nigeria Health Workforce Registry should be improved by the Federal Ministry of Health so as to ensure evidence-based decision-making.

Keywords: Data, Human, Resources, Health, Information, decision-making.

Introduction

Human resources for health (HRH) is the most dynamic and political among the building blocks of health systems. HRH facilitate the interaction among the six building blocks of health systems. A strong and well-distributed health workforce is necessary for providing access to high-quality health care and achieving national and global health goals. Since the spotlight became focused on the global health workforce crisis ten years ago (Chen, et al., 2004), efforts to bolster national human resources for health (HRH) strategies have intensified, including attracting and retaining health workers to serve posts in rural and remote areas (WHO, 2010). Developing and implementing policies to effectively address the health workforce challenges demands relevant data for evidence-based decision-making. However, even when there is abundant evidence on which to base policy-making and other important decisions to improve HRH systems, such as health worker

retention strategies, the availability of evidence does not guarantee that it will be used for decision-making.

National stakeholders should ensure that the data being generated for policy-making purposes are directly responsive to and aligned with expressed national or local needs. If the capacity for generating such data does not already exist, then it should be built within national institutions and entities. Data should also respond to current priority HRH questions within the health sector, for both public and private entities (HWAI), 2008. (Maliselo, et al., 2013). For example, strategic HRH planning in Namibia considered the important role of both private-not-for-profit and private-for-profit organizations in delivering key HIV/AIDS services (SHOPS, 2013).

This will help to ensure that the evidence follows a country-driven and country-owned mandate. With planning and forethought, it is possible to ensure that stakeholders use available evidence when making policies and decisions intended to improve HRH systems in general and health workforce recruitment and retention.

Human resources management tools available for Decision-making in Nigeria

The primary aim of any Human Resources for Health Information System (HRHIS) should be to promote better use of data to drive effective decision-making. This objective is shared by many organizations including development partners such as the United States Agency for International Development and the World Bank. Similarly, ministries of health may want to know that data collection efforts yield maximum value in real, human terms and lead to effective decisions—and do not just result in more reports. As such, it is important to invest in developing a sustainable process and culture that actively encourages people to engage in dialogue opportunities around HR data and information, and ultimately make effective policy and management decisions (Ummuro, 2008). One such tool in Nigeria is the Nigeria Health Workforce Registry (NHWR).

Nigeria Health Workforce Registry (NHWR)

The Nigeria Health Workforce Registry (NHWR) is an information system developed and managed by the Department of Planning, Research and Statistics in the Federal Ministry of Health. It is the human resources management tool that enables the States to design and manage a comprehensive human resource for health strategy. The Nigeria Health Workforce Registry (NHWR) is the single and authoritative source of health workforce information that can provide accurate counts of all healthcare personnel that have either worked or currently working at all tiers of government, the private sector, as well as the diaspora.

One of the key health workforce challenges at the country level in Nigeria was the absence of complete, central, and quality data to support evidence-based policy and planning in the health sector. Multiple sources needed to be consulted to acquire key information on the size, characteristics, and dynamics of the health workforce. The establishment of a national health workforce registry is essential for strengthening national health systems at all levels. Accurate and timely health workforce data is crucial for health workforce planning, national referral, training, reducing, or eliminating misinformation and duplicate health worker records, improving regulation of practice, and tracking appropriate licenses of health professionals (Table 1).

In addition, a health workforce registry can ensure quality control, provide easy access to information on the production, distribution, and utilization of health personnel, and assist in budgeting, research development and advocacy. A health workforce registry allows the aggregation of health workforce data in several combinations and assists both national and sub-national ministries of health in producing essential indicator-based reports, as needed (WHO, 2015).

Table 1: Examples of data use and results

Data Use	Result of Data Use
Attrition data to budget for replacements	<ul style="list-style-type: none"> • Avail budget for replacements • Recruitment to replace retirees
Staff distribution per level of facility	Redistribution of health workers for a balanced workload
Use of retirement projections	Identify those retiring and issue notices to staff and public service boards
Cadre distribution data for annual budgeting	County budgets developed
Recruitment planning	Plan for bridging staff gaps and replacement developed
Payroll preparation, budgeting	<ul style="list-style-type: none"> • Remuneration of health workers • Preparation of supplementary budget
<ul style="list-style-type: none"> • Redeployment • Succession planning • Development of County Integrated Development Plan (CIDP) 	<ul style="list-style-type: none"> • Redeployments done • Recruitment plan developed • CIDP produced

Source (Francis, et al., 2021)

Methods

A comprehensive search of literature publications on the use of data on Human Resources for Health. The search was limited to the year 2000 to 2023; however, there was no restriction on the language used in various literature. The outputs were stored in a folder. The initial screening of titles and abstracts was followed by the manual examination of the full text of the selected publications by the researchers to assess their fit with the inclusion criteria. The researchers took time to ensure that topics that aligned with the focus of the study were accurately selected.

Inclusion and Exclusion Criteria

If they involve a formal investigation or studies into the use of data on HRH, Health Information Systems (HIS) for decision-making either conducted in the academic environment or by non-governmental organizations and the Health Department.

Data extraction and Assessment

Information was extracted from all the eligible studies through a structured process which included the year of publication, topic, goal and focus of study, and keywords such as HRH, HRHIS, data use, decision making, and health workforce registry. Overall, the literature was selected to ensure consistency throughout the process.

Results

In all, 102 results were generated by the search and 55 (54%) titles and abstracts remained after eliminating 47 (46%)

duplicates of which 19 were qualified for full-text review and potentially eligible for the study; 36 did not have sufficient information in the title and abstract to make decisions on the subject. Of the 19 publications, 10 (52.6%) were journal articles, 7 (36.9%) were working/discussion papers and 2 (10.5%) were technical briefs on HRH and HRHIS implementation and usage and the impact of HRH and HRHIS in healthcare. The publication characteristics include articles, working/discussion papers, and technical briefs between the years 2004 and 2021.

Global strides in technology have increased the use of Electronic Human Resource Management (E-HRM) in organisations around the world. Ukandu assessed and compared the use of E-HRM for decision-making in parastatals of South Africa and Nigeria, and realised that a lack of full implementation, limited internet access, poor supply of electricity and lack of sophisticated software such as HRHIS hindered effective E-HRM for decision making (Ukandu, 2015). Intensified investment in HRIS would facilitate decision-making in South African parastatals (Ukandu, 2015). The fact that E-HRM has the capacity to improve organisational efficiency and the role of HR as a strategic partner (Poisat, & Mey 2017). supports the argument that E-HRM reduces cost and increases efficiency. (Ruël, & Bondarouk, 2018).

A factor that begs attention regarding the impact of HRHIS is the perception of workers to its privacy orientation. Lukaszewski, Stone and Johnson also emphasised that workers perceived that access to HRHIS could be 'more of an invasion of privacy' (Lukaszewski, et al., 2016). This view seems consistent with Iwu and Benedict who highlight the level of trust and confidence in HRHIS to focus on what it should (Iwu & Benedict, 2013). HRHIS is commonly used for administrative purposes and the need for concentrated investment in HRHIS to gain competitive advantage is important. Therefore, increased use of HRHIS is paramount to sustaining organizational performance (Barišić, et al. 2019). Whatever the case, the effectiveness of HRHIS relies on strong managerial support (Okwang, 2020). After all, HRHIS' usefulness in ensuring organizational benefits deserves various support mechanisms (Dlamini, 2012). Kumar and Parumasur further this view by emphasizing that effective management decisions and HR strategies is realizable through a well-implemented and managed HRHIS (Kumar & Parumasur, 2013).

Discussion

Many published works described efforts to improve the use of HRH data in decision-making. However, it was difficult to compare the outcomes of interventions that addressed these barriers to data use. Few articles explicitly included a definition of data use, and there was limited evidence evaluating the effects of HRH data use interventions. While many articles indirectly measured HRH data use qualitatively through key informant interviews, there is only one example measuring quantifiable changes in data use post-intervention using a baseline and endline assessment (Nutley, et al., 2014).

HRH data use is particularly difficult to measure, especially since decision-making is a multisectoral function influenced by governance structures, commitment to using data for decision-making, the political will to advocate for decisions, and availability of funds. It is difficult to gather evidence to retrospectively assess whether recommendations, decisions, and actions were data-informed and led to improvements in health system functioning and health outcomes. Nevertheless, better measures of the use of HRH data in decision-making are needed. It is important to understand the outcomes of data use interventions using novel and innovative approaches to understand best practices and replicate successes.

Conclusion

It is not enough simply to make data available, there must be a process in place for analysing the information and getting it to the right decision-maker or key stakeholder with the power and resources to act on it. As Nigeria strives to attain universal health coverage, it behoves the government to take stock and assess the value of HRH data for decision-making not only in relation to health care but also as a broader development component.

Nigeria Health Workforce Registry (NHWR) should be used to validate staff strength and eliminate ghost workers hence reducing the wastage of resources. The forecasting of health workforce needs, along with planning and managing through linkage with performance appraisal systems, ensures that health service providers are present and responsive in offering quality health services to the citizenry.

Recommendations

- The Federal Ministry of Health in collaboration with implementation partners and donor agencies should improve and update Nigeria Health Workforce Registry (NHWR) leadership; a multi-sectoral multi-stakeholder leadership group to initiate, lead, and monitor all NHWR activities, and agree on policy decisions they will inform.
- The Federal Ministry of Health should consistently engage key stakeholders at the national, state and LGA level in the implementation of the Nigeria Health Workforce Registry (NHWR) to ensure the speedy acceptance and ownership of the system for decision-making.
- The Federal Ministry of Health should ensure the right leaders, implementing partners and donors have easy and timely access to analyses and reports from NHWR, and that they use this evidence to inform management and planning.

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