SOCIOLOGY | REVIEW ARTICLE

A review on the contributions of NGOs in addressing the shortage of healthcare professionals in rural South Africa

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Abstract: Background: Poor health outcomes are recorded in rural areas of South Africa (SA) despite extra spending on health sector. This is in contrast to other middle-income and developing countries that yield better healthcare outcomes. A number of socioeconomic barriers, amongst which is the shortage of healthcare professionals (HCPs), compromise the right to healthcare in rural areas of SA. This study was conducted to ascertain the role of non-governmental organizations (NGOs) in addressing the shortage of HCPs in rural South Africa. Methods: A desktop review was conducted to obtain relevant papers for analysis. Of the 350 papers that were retrieved, only 32 studies met the inclusion criteria for this research and presented relevance for further analysis. Thematic analysis was conducted to identify and analyze patterns that emerged from the data. Emerging themes included NGOs’ involvement in retention strategies for HCPs and their direct involvement in rural healthcare delivery. Results: Findings revealed that the NGO sector has access to numerous skilled human resources and capital that can provide useful insights for policy-makers to implement mechanisms to address the shortage of HCPs in rural South Africa. NGOs can assist in the handling of various minor responsibilities of HCPs. This can be achieved without having a detrimental effect on the quality of healthcare services while reducing the

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Public Interest Statement

The Non-Governmental Organisations are resourced and able to respond to the shortage of healthcare professionals in South Africa and Africa at large. The public health sectors suffer the most consequences as they struggle to fill the vacant positions within hospitals, and specifically those located in rural areas. Healthcare professionals leave many countries including South Africa in search for well-paying jobs which guarantee the financial security for them and their families. South Africa is home to many NGOs but only a few are directly involved in training, placement and retention of HCPs in rural-based public health facilities. The training of HCPs does not only favour the public health sector but also the private sector. After their community services, doctors and other HCPs chose to join the private sector hospitals, which also serve the South Africa community.
workload of the few HCPs in rural areas, thus allowing them time to focus on more specialized and complex problems. Conclusion: We conclude that NGOs have a crucial role to play in the training-placement and retention of HCPs and that their contributions can make a difference in the health sector if approved and recognised.

Subjects: Allied Health; Health & Society; Public Health Policy and Practice

Keywords: rural areas; healthcare professionals; non-governmental organizations

1. Background

It is widely acknowledged that healthcare professionals (HCPs) form an integral part of health systems and that they are a critical element in improving health outcomes. The World Health Organisation (WHO) Report sounded the alarm that without sufficient number of adequately trained and supported HCPs, there is a significant risk of not attaining the health-related Millennium Development Goal (MDGs) six that seeks to combat HIV/AIDS, malaria and other diseases (United Nations, 2010). In 2010, the WHO reported that nearly half of the world’s population lived in rural areas, and that only 38% of the world’s nurses and less than 25% of doctors worked in rural areas (United Nations, 2010, p. 1). The lack of appropriately trained and motivated health workers is a major bottleneck in implementing evidence-based health interventions, which is one of the most serious constraints that affect health systems. In 2014, WHO identified 57 in-crisis countries with a deficit of 2.4 million doctors and nurses as being the most affected by this dearth in healthcare provision. These counties were predominantly in Asia, sub-Saharan Africa and included South Africa. The WHO (2014) claimed that there was an immediate global need for an additional 4.3 million HCPs in these 57 countries that all struggled to meet the very low benchmark of 2.5 doctors, nurses and midwives for every 1 000 people. For instance, in 2009 Africa had 2.3 HCPs per 1 000 residents compared to America with 24.8 HCPs per 1 000 residents (Naiker, plange-Rhule, Tutt & Eastwood, 2009). The situation is much more critical in rural and remote areas where poor infrastructure and low proximity to amenities make retention of HCPs a difficult task for governments. Pariyo (2011) indicated that there was on average only 1.08 doctors, nurses, and midwives per 1 000 members of the population in Africa at the time of the study. This implies that there were 17 doctors, 71 nurses and 20 midwives for every 100 000 people in Africa. The persistent low rate of HCPs in some of these countries emphasizes the urgency to correct this deficit, which is likely to continue to escalate if interventions are delayed. These delays and shortages would then result in a failed “Health for All” which has been an underlying objective of the WHO and its member states, traversing strategic milestones from the Alma Ata Declaration in 1978 and the MDG in 2000 to the Sustainable Developmental Goals (SDGs) in 2015.

Health for all is acknowledged in South Africa’s section 27 of the Constitution that guarantees the right of all citizens to have access to healthcare services (HCS) and stipulates that Government should comply with this requirement by making available the necessary resources for progressive realisation of this right. This imperative place the onus on Government to take all reasonable measures to address poor health outcomes and health services in rural communities (Republic of South Africa, 1996; Goedeei & Versteeg, 2011). “Progressive realization” implies that if healthcare were to deteriorate instead of improving, the government health services are defaulting on their duties in this respect. However, South Africa has poor health outcomes in rural areas despite the fact that it spends significantly more on healthcare than other low and middle-income countries (LMICs) that produce better health outcomes (Shrikant, Sharon, Osegbeaghe & Tollman, 2010). Rural areas in LMIC suffer from a shortage of HCPs (Shrikant et al., 2010). The shortage is particularly significant as some rural areas have a doctor to population ratio of only 5.5 doctors per 100 000 people and a similar pattern applies to the availability of other HCPs in rural areas (Couper & Hugo, 2014).

The serious shortage of trained HCPs and the seeming inability of health management structures to fill essential posts constitute key barriers to achieving the implementation and provision of rural-based health services in South Africa (HRH SA, 2013). There are large provincial differences, with the two most
urbanized provinces (Gauteng and Western Cape) coping much better in health outcomes than the rural provinces (HRH SA, 2013; Day & Gray, 2014) in South Africa. A typical urban province averages 30 generalists and 30 specialists for each 100,000 patients not covered by medical support (Day & Gray, 2014; NDOH, 2017). This further highlights the level of inequality and mal-distribution of HCPs between rural and urban South Africa (Rural Health Information Hub, 2015). A study by Cooke, Couper & Marije, (2011) points out that the three provinces with the highest percentage of rural inhabitants (Limpopo, Mpumalanga and Eastern Cape) also have the lowest number of HCPs per 100,000 population. The Department of Health (DOH) highlighted the difficulties associated with attracting and retaining HCPs in rural areas (Department of Health, 2015). All these point to the inequalities of the past that have persisted with an inadequate focus on addressing the barriers to staffing hospitals in rural South Africa.

The situation is different in the urban areas of South Africa where the challenges are the failure to afford the health services and the feeling of being rejected by the health systems, rather than the availability of HCPs (Bronwyn et al., 2011). A number of socio-economic barriers compromise the right to healthcare in rural South Africa. This has generated the discourse among academics and policy-makers regarding the role that non-governmental organizations (NGOs) could play in addressing the shortage of HCPs in rural areas. This underscores the relevance of the current study which seeks to ascertain the role of NGOs in addressing the shortage of HCPs in rural South Africa. This research study contributes to the pool of knowledge of the range of services that NGOs can play by addressing the shortage of healthcare professionals in rural South Africa. The study’s results also contribute to the ongoing debate on strategies to address this shortage of HCPs.

2. Methodology

Informed by the prerequisite to ensure that the document is evidence-based for high impact intervention, secondary data sources were employed. These data were obtained from relevant information subjected to adjustment based on the current research. We conducted an extensive desktop review of related literature from both local and international sources. Particular emphasis was on sources that appraised the shortage of HCPs in remote rural areas and the role that NGOs could play in alleviating this crisis. Articles for this review were retrieved from the following databases: Academic OneFile, PubMed, Embase and Ebscohost (including Academic Search Premier, Africa-Wide Information, CINAHL, and Health Source: Nursing/Academic Edition, MEDLINE, and Masterfile Premier). Other reports relevant to the study were retrieved from Government records and from the Department of Social Development (DSD).

We searched for papers published between 1996 and 2016. The search terms used: “rural health professional shortage”, “non-governmental organizations”, “rural areas”, “health professional shortage”, “health services delivery”, and “retention strategy of HCPs in South Africa”. Each of these terms was searched independently. Once the search strategy had been developed, we made use of several organizational and NGO data sources that addressed retention strategies in rural areas and intervention in the shortage of HCPs in rural areas to obtain grey literature. In total, 350 articles were retrieved of which 251 were eventually included in the database. We identified 53 studies in which one or more of the following themes were illuminated: “health professional shortages in rural areas”, “rural imbalance problems”, “factors influencing choices of location”, and “health care practice in rural areas”. Of these studies, we identified about 11 studies that either described or evaluated the characteristics and functions of NGOs in rural health service delivery, covering South Africa and other countries relevant to the study. Of the reviewed studies, only 32 presented relevance to South Africa. The inclusion criteria for the articles that were retained in the final database were studies that addressed the shortage of HCPs in rural South Africa and conducted post-1996 and in English. The database also included studies that looked into factors that influence choices for location and practice in rural and remote areas, studies into the functions and characteristics of NGOs and their various interventions in rural healthcare service delivery. Regarding the exclusion criteria, studies that looked into theoretical models of health professional retention in rural areas that had not been...
conducted in South Africa and were dated before 1996, were not included. Figure 1 presents a diagrammatical view of the sample selection.

3. Data analysis process
The small number of studies under review did not allow for meta-analysis of the data. Instead, we extracted data to a spreadsheet using the following descriptive categories: reference, title of paper, study aim and methodology, summary of findings, and publisher. A thematic analysis was undertaken and the extracted data were organized according to themes that reflected emerging patterns in this area of research. Thematic analysis was applied in identifying, analyzing and reporting the patterns (themes) that emerged from the data that had been collected, as proposed by Bazeley (2006). This analysis went beyond counting explicit words or phrases as it focused on identifying and describing both implicit and explicit ideas within the data that were ascertained from various literature on the role of NGOs in addressing the shortage of HCPs in rural areas. The first author organized and described the data set in rich detail and interpreted various aspects of the emerging themes (Bazeley, 2006). The interpretation of the data was subject to our perspectives. Therefore, to give credence to this study, we adopted strict ethical conduct and techniques for data interpretation (See Figure 2).

4. Analysis and Discussion of finding
Most of the studies reviewed expressed magnanimity towards efforts by government to address the issue of healthcare limitations in rural areas. Notwithstanding, the findings are univocal on current challenges to creating a balanced distribution of HCPs, for equitable access to healthcare, and for universal healthcare coverage of the entire population, particularly in rural areas in South Africa. Even though the government has rolled out various policies to address this issue—including provision of mid-level health workers—the recruitment of skilled HCPs from Cuba, provincial bursaries awarded to young people to study medicine and improved medical infrastructure have not provided a sustainable solution for the challenges of a dire shortage of HCPs in rural areas. This situation is further compounded by conclusions that the proportion of rural-origin medical students who should ideally return to these areas with their expertise is considerably lower than the national rural population to health worker ratio. Moreover, the migration of health professionals abroad that is triggered by socio-economic determinants like wage differences has further polarized the ratio of HCPs in rural-to-urban areas, thus exerting more strain on the few HCPs working in rural-based public health facilities. However, it should be mentioned that the few HCPs who continue to work in rural settings often do so for deep personal reasons, such as their need to feel a sense of meaning, being part of a team, a culture of support, opportunities for growth, and work-life balance.

With regard to hospital staffing, it cannot be assumed that addressing human resources generally will sort out the problem of HCPs shortages in rural and remote areas in South Africa as most studies concluded. It is only through learning about what works in terms of a fit between problem analysis and strategy and effective navigation through the politics of implementation that any headway will be made against the almost universal challenge of staffing public health facilities in rural areas. Interventions relating to improving HCPs for rural health require the commitment of all stakeholders, including NGOs and the entire private sector. This should include encouraging NGOs and galvanising mechanisms that allow contracting the private sector to address the current unmet health service delivery needs among the rural-based South African population. Rather than posing a threat to the public sector, the private sector and NGOs should strengthen South Africa’s medical workforce by helping the government to achieve many of its public health objectives. These are important lessons to be learnt from countries like Malawi, which has increased its HCPs with the help of international and locally volunteering doctors. NGOs can fill these gaps in the rural areas if horizontal relationships between them and government are created.
| AUTHOR | TITLE OF PAPER | METHODOLOGY | SUMMARY OF FINDINGS | PUBLISHER |
|--------|----------------|-------------|---------------------|-----------|
| The Republic of South Africa 1996 | Constitution of the Republic of South Africa, Act 108 of 1996 | A compilation of the constitution of South Africa | Section 27 of the Constitution reference guarantees the right to healthcare services access in South Africa. | Republic of South Africa |
| Gaedei & Versteeg, 2011 | The State of The Right to Health in Rural South Africa | A mix of qualitative and quantitative research reports on the state of the right to healthcare in rural South Africa | The findings reveal that a number of health systems and socio-economic barriers compromises the right to healthcare in rural areas in South Africa. The inequities of the past have persisted, with inadequate focus on addressing the barriers to accessing healthcare holistically. | SAHR |
| Couper & Hugo, 2014 | Addressing the Shortage of Health Professionals in South Africa Through the Development of a New Cadre of Health Workers: The Creation of the Clinical Associate | A mixture of qualitative and quantitative research methodologies, the study investigated mid-level medical workers’ strategies and addressed the shortage of health professionals, particularly in rural South Africa. | The authors concluded that the first cohort of mid-level medical workers is making an important contribution to rural healthcare. They advocate that the profession needs to adapt itself to the changing realities of the South African context. | International Electronic Journal of Rural and Remote Health |
| Human Resources for Health South Africa, 2013 | HRH Strategy for the Health Sector. 2012/13–2016/17 | A mixture of qualitative and quantitative data collection strategies, the research report presents an overview of the trends and challenges in Human Resources for Health in South Africa. | It was found that that the lack of HCPS in rural areas is caused by limited funding, historical deficiencies in infrastructure, fear for personal safety, lack of opportunities for schooling for children, lack of work opportunities for spouses of health workers, poor social infrastructure, and a lack of strategies to recognize and compensate for these negative factors. | HRH SA |
| Day & Gray, 2014 | Health and Related Indicators in South African Health Review 2014/15 | A mixed qualitative and quantitative research methods on health policy development, reform, implementation, and intervention for systemic improvement for all in South Africa | The findings indicate that the struggle for the balanced distribution of the health workforce, for equitable access to healthcare, and for universal healthcare coverage of the entire population is clearly not over. The use of mid-level health workers can address some of the shortages of HCPs. The first group of clinical associates that entered the profession in 2011, appear to be meeting a need, particularly in rural settings. | Health Systems Trust |

(Continued)
| Papers analysed (Continued) |
|-----------------------------|
| **Rural Health Information Hub, 2015** | FACT SHEET Rural Health | A mix of qualitative and quantitative research methods to generate data on rural- and non-rural health-specific facts in various provinces | The rural health sector remains under-served and affected with acute shortage of HCPs |
| **Cooke et al., 2011** | Human Resources for Rural Health | The researchers employed a quantitative methodology to investigate the stark reality of a gross shortage of health worker sustainability and poor health outcomes for rural people, which need immediate attention. | The researchers argue that it cannot be assumed that addressing HR generally will sort out the problem of HR for rural areas in SA. The interventions require the commitment of all stakeholders in the process. Individuals and organizations are already engaged in actively trying to implement some of these recommendations. |
| **SAHRC, 2007** | SAHRC enquiry into access to healthcare services in South Africa | A mixed-methods approach in a report that summarizes some of the empirical information gathered on health issues in South Africa | The author argues that government has consistently and deliberately avoided developing and implementing a methodology for calculating the needs of the public health system and that, consequently, public healthcare is chronically under-funded, resulting in government’s own policy framework and major objectives for health being undermined. It draws attention to the poor governance of our health system. |
| **Couper & Hugo, 2014** | Rural-Origin Health Science Students at South African Universities | A mix of qualitative and quantitative research methods used to determine the proportion of students of rural origin at all medical schools in South Africa. | The proportion of rural-origin students in South Africa was considerably lower than the national rural population ratio. Strategies are needed to increase the number of rural-origin students in universities via preferential admission to alleviate the shortage of health professionals in rural areas. |
| **Couper & Hugo, 2014** | Addressing the Shortage of HCPs in South Africa Through the Development of a New Cadre of Health Workers: The Creation of Clinical Associates | A mix methods study discussing the background to the decision to develop mid-level medical workers to address the shortage of HCPs in rural districts. | The researchers conclude that South Africa is already making an important contribution to rural healthcare, and healthcare policy-makers are seeking ways in which the profession can be enhanced to ensure sustainability. The profession needs to adapt itself to the changing realities of the South African context. |

(Continued)
| Authors                  | Title                                                                 | Methodology                                                                 | Findings                                                                                                                                                                                                 | Source |
|-------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Lehmann et al., 2008    | Staffing Remote Rural Areas in Middle- and Low-Income Countries: A Literature Review of Attraction and Retention | This is a narrative literature review that took an iterative approach to finding relevant literature. It focuses on material published between 1997 and 2007. The review focuses on MLICs including South Africa. About 600 papers were initially assessed and 55 were eventually included in the review. | The authors argue that there are no set answers to the problem of attraction and retention. It is only through learning about what works in terms of fit between problem analysis and strategy and effective navigation through the politics of implementation that any headway will be made against the challenge of staffing hospitals in rural areas of South Africa | BMC Health Services Research |
| Gustaaf, et al., 2008   | The Role of Private and Other NGOs in Primary Healthcare. In H. S. Trust, Southern African Health Review. | A mixture of qualitative and quantitative methodologies.                     | A more systematized approach to district funding must be adopted to reduce large inequities between districts. Mechanism needs to be developed that would allow the contracting of the private sector, including the NGOs to address current unmet health service delivery needs among rural-based population. | Health Systems Trust |
| Neicker, et al., 2009   | Shortage of Healthcare Workers in Developing Countries—Africa        | A mixed-method study on the shortage of healthcare workers in developing countries, focusing on sub-Saharan Africa and South Africa | The findings show that the international community can support developing countries in their wish to achieve adequate numbers of health professionals and their fair distribution. There have been initiatives to accomplish this ideal. | Journal of Ethnicity & Disease |
| Public Service Commission (PSC), 2010 | Consolidated Report on Inspections of Primary Healthcare Delivery Sites: Department of Health | A mixed-method report on key findings of inspection to observe actual challenges at the service delivery sites in all provinces in South Africa. 60 clinics and 14 district offices were visited by the inspection teams. | The overall findings on the unannounced inspections of the primary healthcare delivery sites included understaffed health facilities in the rural-based municipalities. The findings point out that the few healthcare professionals working in most of the facilities in rural areas are under strain. | Public Service Commission |
| Papers analysed (Continued)                                                                 |
|------------------------------------------------------------------------------------------|
| Kautzky & Tollman, 2008                                                                   |
| A Perspective on Primary Healthcare in South Africa                                      |
| A qualitative method study on a critical review of literature on issues regarding Primary |
| Healthcare in South Africa                                                               |
| The authors indicate that in order to salvage the over-bureaucratized and rigid primary  |
| care service, an intense effort to develop new models and approaches to PHC delivery is |
| warranted, which requires the best minds in the health sector to refocus on developing   |
| innovative health system designs, integrated district-based health worker training        |
| initiatives, and experimental work at scale that builds on the novel efforts in health    |
| systems development.                                                                      |
| Health Systems Trust                                                                      |
| Fox, 2015                                                                                |
| Policy Commercializing Non-profits in Health: The History of a Paradox From the 19th    |
| Century to the ACA                                                                        |
| This study prioritizes history and contingency over formal theory and methods in order    |
| to present coherent and plausible narratives of events and explanations for them.        |
| The findings indicate that the policy paradox that has incentivized the growth and       |
| commercialization of non-profit incentives in the health sector since the late 19th      |
| century remains influential in health policy, especially for the allocation of resources. |
| Multidisciplinary Journal of Population Health and Health Policy                         |
| National Planning Commission, 2011                                                        |
| National Development Plan 2030: Our Future—Make it Work.                                  |
| The plan is the product of hundreds of public participation interactions with South      |
| Africans, input from tens of thousands of people, extensive research, and robust debate |
| throughout the country.                                                                   |
| This is a plan for South Africa. The approach of the plan revolves around citizens being |
| active in development. It seeks to eliminate poverty by improving socio-economic aspects |
| including improvements in healthcare delivery to South Africans.                          |
| The Presidency of the Republic of South Africa.                                          |
| West, et al., 2010                                                                        |
| Defining “Rural” for Veterans’ Healthcare Planning.                                       |
| A mixed-method qualitative and quantitative research study using residence information  |
| for VHA healthcare enrollees.                                                            |
| VHA’s rural category is very large and broadly dispersed; policy-makers should supplement|
| analyses of rural veterans’ healthcare needs with more detailed breakdowns.              |
| Journal of Rural Health (National Rural Health Association)                              |
| United Nations (2010)                                                                     |
| Population Facts of Health Workers, International Migration and Development               |
| A population fact document based on a mixed-method qualitative and quantitative search  |
| approach on health workers in UN membership countries                                    |
| The paper presents a quick glance of facts on public health on various thematic topics   |
| including ‘shortages are more critical in rural areas’.                                  |
| U N Department of Economic and Social Affairs Population Division                        |
| Papers analysed (Continued) |
|-----------------------------|
| Nele, 2013                  |
| **The Health Worker Crisis: An Analysis of the Issues and Main International Responses** | A mixed-method research study that explores the health worker crisis that threatens the health of individuals and health systems. The study focused on health workers’ reasons for migration in four African countries: Cameroon, South Africa, Uganda, and Zimbabwe. | This report gives an overview of the impact of the “brain drain” phenomenon on healthcare provision in source countries and current key international strategies to mitigate its effects. These strategies are faced with severe challenges and presents some alternative approaches to address the health worker shortage based on acknowledgement of the Global North’s contribution to the current crisis. | Health Poverty Action |
| WHO, 2014                   |
| **A Universal Truth: No Health Without a Workforce** | The survey used mixed methods in selecting, collating, and analyzing countries’ data. It includes analyzing the workforce data in the WHO Global Health Observatory and searches of human resources for health progress in 36 countries, including South Africa. | The report presents a case that the health workforce is central to attaining, sustaining, and accelerating progress on universal health coverage and suggests three guiding questions for decision-makers: What health workforce is required to ensure effective coverage of an agreed package of healthcare benefits? What health workforce is required to progressively expand coverage over time? How does a country produce, deploy, and sustain a health workforce that is both fit for purpose and fit to practice in support of universal health coverage? | World Health Organization, and Global Health Workforce Alliance |
| Poppe et al., 2014          |
| **Why Sub-Saharan African Health Workers Migrate to European Countries that Do Not Actively Recruit a Qualitative Study Post-Migration.** | In this qualitative study data were collected using semi-structured interviews. Twenty-seven health workers were interviewed about their migration experiences. Participants were born in sub-Saharan Africa. | Three principal reasons for migration were reported: educational purposes; political instability or insecurity in their country of origin; and family reunification. In addition, two respondents mentioned medical reasons and, although less explicit, economic factors were involved in several of the respondents’ decision to migrate. | Global Health Action |
| World Health Organization, 2010 |
| **Increasing Access to Health Workers in Remote and Rural Areas Through Improved Retention: Global Policy Recommendations** | The process to develop these recommendations started with a literature review conducted by the WHO Secretariat. “Grey” literature, available/published systematic reviews, country case studies, and commissioned reports were reviewed. | A number of interconnected principles should underpin all efforts to improve the recruitment and retention of health workers in remote and rural areas. Adhering to the principle of health equity will help in allocating available resources in a way that will contribute to the reduction of avoidable inequalities in the health sector. | World Health Organization |

(Continued)
| Author(s), Year | Title | Methodology/Approach | Key Findings | Journal/Source |
|----------------|-------|----------------------|--------------|----------------|
| Matthis, 2015  | Two Ways Corporate South Africa Can Change the Face of Healthcare | This article adopted a qualitative reached method to elicit a discussion on the high cost of training workers and the shortage of healthcare professionals in rural South Africa. | The author recommends that the private sector should provide bursaries for promising youths. In return, trained professionals should return to their home communities and use their skills to benefit South Africa’s healthcare sector—particularly in rural areas | Tshikulu Social Investment |
| Jenkins, et al., 2015 | What Keeps Health Professionals Working in Rural District Hospitals in South Africa? | The study adopted a qualitative and quantitative methodology that produced a conference report on South Africa. | The authors argue that health practitioners continue to work in rural settings for often-deeper reasons relating to a sense of meaning, being part of a team, a culture of support, opportunities for growth, and work-life balance. | African Journal of Primary Healthcare and Family Medicine |
| Shrikant, et al., 2010 | Workforce Resources for Health in Developing Countries | A qualitative and quantitative research study that investigated the global crisis in health workforce shortages | Policies and actions are needed to address the dynamics of the health labour market and the production and management of the health workforce, and to strengthen the performance of existing health systems. Besides, schools of public health need to develop the range of capacity and leadership in addition to the traditional training of healthcare managers and researchers. | Public Health Review |
| Kruger, 2011  | Factors Influencing Career Decisions of Female Doctors at Tshwane District Hospital | A combination of qualitative and quantitative research techniques was used. Work-related challenges and factors influencing career decisions of female doctors were identified in an open in-depth focus group interview. | Eight factors influencing career decisions of female doctors were identified: having flexible working hours, being allowed to reduce overtime or work part-time, salary scales, having benefits like maternity leave, having a predictable daily work schedule, the opportunity to work with under-privileged patients, and having opportunities for academic stimulation and learning. | Stellenbosch University |
| Khuzwayo, 2015 | The Views of Primary Healthcare Nurses Towards the National Health Insurance Plan | The research approach was qualitative, explorative and contextual in nature with an indicative approach. The study used a small sample size which was not the representative of the nurses working in Johannesburg district D2 | The study discovered that there was no clear line of communication between policy-makers, the bureaucracy, and the employees at ground level. There was a strong feeling that NHI will improve service provision to the people. The research showed that stakeholders do not consult with all the stakeholders involved in projects before policy formulation. | University of the Witwatersrand |
| Papers analysed (Continued) | Retaining Doctors in Rural Timor-Leste: A Critical Appraisal of the Opportunities and Challenges |
|-----------------------------|-----------------------------------------------------------------------------------------------|
| Asante et al., 2014          | This mixed-method qualitative and quantitative study aimed to contribute to the current health policy debate on the retention of health professionals in rural areas. |
|                             | The authors argue that the deployment of new doctors to rural communities is crucial to adequate healthcare provision. The long-term availability of doctors in rural areas will still depend on the taking of concrete steps to improve the retention of rural doctors. |
|                             | Bull World Health Organization                                                                |
| Schneider & Visage, 2014    | Implementation of The Principles of Primary Healthcare in a Rural Area of South Africa         |
|                             | A descriptive, qualitative design was implemented. Data were collected through interviews and case studies with 36 purposively-sampled participants, then analyzed through interpretative phenomenological analysis. |
|                             | The findings indicated challenges with regard to client-centered care, provision of health promotion and rehabilitation, the way care was organized, the role of the doctor, health-workers' attitudes, referral services, and the management of complex conditions. |
|                             | Afr Journal Primary Healthcare Fam Med                                                          |
| Phaswana et al., 2008       | Primary Healthcare Service Delivery in South Africa                                           |
|                             | This mixed-method study's aim was to determine the role of NGOs in filling possible gaps in PHCs service provision. District (n = 10) and sub-district needs (n = 14) analyses were conducted in five South African provinces. |
|                             | About 83% of the respondents perceived the relationship between government and NGOs as good. The study provides critical information required to make informed effective strategic decisions that will support district/sub-district performance and sustainability in a decentralized health system, and believe that NGOs are able to bridge this gap. |
|                             | International Journal of Healthcare Quality Assurance                                          |
| Econex, (2015)              | Identifying the Determinants of and Solutions to the Shortage of Doctors in South Africa: Is There a Role for the Private Sector in Medical Education? |
|                             | Mixed-method study identifying determinants of and solutions to the shortage of doctors in South Africa, with a case study on Zambia and Malawi. |
|                             | Rather than posing a threat to the public sector, the private sector can strengthen South Africa's medical workforce by helping government achieve many of its stated healthcare objectives. The findings further draw other important lessons from African countries like Malawi, which has increased its training capacity with the help of international volunteer doctors. |
|                             | Hospital Association of South Africa (HASA)                                                    |
5. Shortages of HCPs in rural South Africa

In South Africa, 46.3% of the population live in rural areas, but only 12% of doctors, 19% of nurses, 27% of general practitioners, 25% of medical specialists, 7% of dentists, and 6% of psychologists are working in those areas (Rural Health Information Hub, 2015). South Africa spends more than 8% of its gross domestic production (GDP) on healthcare; this is higher than the recommended 5% by the WHO. Notwithstanding, health outcomes in rural South Africa are still very poor and the country’s public health system is stretched and under-resourced (Tsikululu, 2016). Data in this study showed that the doctor-to-patient ratio in the public sector is estimated at 0.77 doctors per 1000 patients—that is, just one practicing doctor for every 4 219 people in South Africa (Matthis, 2015). The government of South Africa has been trying to address this shortage of HCPs in rural areas since its first democratic election in 1994 but the need remains wide as shown in this research study.

Findings in this research study showed that the shortage of HCPs is high in rural South Africa, specifically in Limpopo, Mpumalanga, Eastern Cape, North West and KwaZulu-Natal provinces and where more than half of the population resides (Rural Health Information Hub, 2015). In 2007, the 10 most medically deprived districts in South Africa were all located in rural areas and fell within three provinces including KwaZulu-Natal, Eastern Cape and Limpopo (Rural Health Information Hub, 2015).
Hub, 2015). A study by Jenkins, Colette, Blitz, and Coetzee (2015) found that a rural province averages 13 generalists and 2 specialists available per 100,000 people. On the other hand, more than 60% of public health facilities in South Africa struggle to fill existing posts regardless of more than 4,000 vacancies for general practitioners and 32,000 vacancies for nurses throughout all provinces in 2014/2015 (Khuzwayo, 2015). In the public sector, 31% of posts were unfilled nationally with estimated vacancy rates of 40% in the Free State and 67% in Mpumalanga (Khuzwayo, 2015). The critical shortage of HCPs and the inability to fill essential posts constitute key barriers to achieving the implementation and provision of rural-based health services in South Africa (Visagie & Schneider, 2014). In this context, it is progressively more difficult for public health facility managers to recruit and keep adequately skilled and motivated HCPs in rural areas. With the increased incidence of the HIV/TB epidemics in the rural areas of South Africa (Neel et al., 2006), and the newly emerging problems of non-communicable diseases (Department of Social Development, 2016), the shortage of HCPs is likely to contribute to the increased mortality and mobility in these areas. Statistics South Africa (2015) has shown that students from rural areas hardly ever return to assist the communities with their skills, and this has become another challenge in addressing the shortage of HCPs in rural areas. For example, of the 1,200 medical students that graduate in South Africa yearly, only 35 end up working in rural areas (Rural Health Information Hub, 2015). This phenomenon justifies the discourse on the role NGOs could play in addressing the shortage of HCPs. It also highlights the urgency for policy-makers to harness the potential embedded in this sector to augment the efforts of the few healthcare professionals working in rural areas.

6. NGOs and health service delivery in South Africa

One major development in the post-apartheid period has been the increase in donor funding to health-related activities in South Africa, especially in the fields of HIV/AIDS and tuberculosis. This has expanded the involvement of NGOs in the health sector where they provide HCS to larger portions of the population (Phaswana et al., 2008). As a result, private healthcare suppliers such as NGOs, faith-based organizations (FBOs) and community-based organizations (CBOs) have increased their involvement in supporting health services to individuals and communities (Gustaaf et al., 2008; Tesfaye, 2015). These initiatives, together with the concentration of skilled human resources within NGOs, have triggered a discourse among scholars to consider finding mechanisms to exert leverage on these resources in order to provide services to larger rural communities.

Results in this study show that the majority of NGOs in South Africa operate in urban and peri-urban areas rather than in rural areas (Department of Social Development, 2016). For example, the Department of Social Development (DSD) reports that Kwazulu-Natal and Gauteng provinces recorded 16,847 and 27,332 NGOs, respectively, compared to the two predominantly rural provinces, Mpumalanga and Limpopo recording only 5,132 and 9,343 NGOs, respectively (DSD, 2016). Of the few NGOs operating in the predominantly rural provinces, only a handful intervene in health-related services—let alone their being directly involved in addressing the shortage of HCPs. For instance, of the 9,343 NGOs operating in Limpopo, only 1,256 were shown to intervene in healthcare-related services (Department of Social Development, 2016). Moreover, of the 7,260 NGOs currently operating in the Eastern Cape province, only 728 support the health sector but they do not directly address the shortage of HCP (Department of Social Development, 2016). The literature, however, did not show the exact number of NGOs that are specifically focusing on staffing rural hospital.

The finding in this research is generally consistent with those of other authors who have conducted studies on the contributions of NGOs in addressing the shortage of HCPs in LMICs. There is consensus that a number of health systems and socio-economic barriers, one of which is the shortage of HCPs (Couper & Hugo, 2014; Ross, 2015), compromises the right to healthcare in rural areas in South Africa. It was ascertained that shortage of HCPs in rural areas of South Africa is affected by funding, historical deficiencies in infrastructure, fear for personal safety, lack of opportunities for schooling of children, a lack of work opportunities for partners of HCPs and...
a lack of strategies to recognize and compensate for these negative factors (Human Resources for Health South Africa, 2013).

Regardless of initiatives by the government to address the shortage of HCPs in the rural areas, there seems to be a lack of cohesion between proposed retention strategies and issues that determine the choice of location by HCPs in South Africa (Couper & Hugo, 2014; Econex, 2015). It follows that policymakers are standing at a crossroad to consider the roles that NGOs could play to curtail this challenge. In this context, this study identified two areas in which NGOs could contribute towards addressing the shortage of HCPs in rural South Africa. These two areas are their involvement in retention strategies in rural areas and their direct involvement in rural healthcare delivery.

7. NGOs’ involvement in retention strategies in rural areas

The shortage of HCPs in rural South Africa is attributed to the gross inequalities and imbalances existing within both rural and urban settings. Three main factors influence health professionals’ location choices, which are: (1) health professionals move very strongly towards work-life balance models; (2) health professionals are motivated by a complex structure of rewards in which non-financial benefits play an increasingly important role; (3) HCPs will move quickly to another job or place if their expectations are not met (WHO, 2009, p. 10). Other factors that influence the choices of HCPs are monetary compensation, management, environment and social support. Therefore, NGOs intervening in rural healthcare provision must take cognisance of the factors that influence HCPs’ decision to accept a rural-based post (WHO, 2010), because “staffing rural hospitals involves complex interaction of factors impacting on attraction and retention” (Tumbo et al., 2009:1). Therefore, besides direct interventions through health service delivery, the opportunity still exists for NGOs to assist in addressing socioeconomic determinants of well-being, including living environments, working conditions, environmental issues, and development opportunities that impact the retention of HCPs in rural settings. For example, NGOs could provide bursaries for promising students from rural areas. Upon graduation, these trained professionals should return to their remote communities and use their skills to benefit rural South Africa’s healthcare sector (Tumbo, Couper, & Hugo, 2009; Tesfaye, 2015). Only one example of such model was found to exist and be working in South Africa (see case studies in tables below).

Case study 1

The Umtombo Youth Development Foundation (UYDF) is an NGO that started in 1998 with the mission to address the shortage of qualified HCPs in rural areas of South Africa. The organization identifies youths who are ambitious, qualified, and willing to pursue a medical or other health sciences degree at universities. The students are then provided with a scholarship, other financial assistances and are allocated a mentor who works together with them until an appropriate qualification is obtained. The HCP then returns to serve in their rural-based hospitals where they were selected from (Ross, MacGregor, & Campbell, 2015; UYDF, 2014).

Studies have pointed out that HCPs are deterred by the isolation of rural areas (Boboya, 2014), which further leaves a lot of vacant posts in many rural areas-based hospitals and that are heavily burdened by disease (Visagie & Schneider, 2014). In South Africa, this situation has persisted and makes it hard to address the shortage of HCPs in rural areas. A few other NGOs have tried to address the shortage but they are not directly involved in hospital staffing (See case studies 2–4 below).

Case study 2

The Rural Education Access Programme (REAP) sponsors youth of rural origin to study a degree from applied human sciences, business studies, Health, IT, engineering and social sciences (Hartneck, 2016).

Case study 3

Wits Initiative for Rural Health Education (WIHRE) initiated in 2003 within the faculty of health sciences at the University of Witwatersrand with a similar model as the UYDF but it also serves only two provinces including Mpumalanga and the North-West provinces (Sondzaba, 2015).
Case study 4

Of the four NGOs presented in the case studies above, only one (1) is involved in the direct supply of HCPs to rural-based hospitals. All other NGOs operating in the rural areas are partially involved in the support of public healthcare service delivery as described in the following case study. Further reports reveal that the government effort to address the shortage of HCPs has also failed to provide rural hospitals with HCPs.

Case study 5

South Africa adopted a combination of mechanisms necessary to address the shortage of HCPs in rural areas. These range from financial incentives and improved working conditions to legislation, training of doctors in rural areas and employing Cuban doctors (Asante et al., 2014). Moreover, a number of theoretical models for the retention of HCPs in rural areas have been proposed. Such models include the affinity model, the practice characteristic model, the economic incentive model, and the indenture model (Econex, 2015) and they all seem to have been unsuccessful in rural areas where HCPs shortage is still being experienced.

8. NGOs’ direct involvement in rural healthcare delivery

Paradoxically, reports from the DSD confirmed that only a few NGOs operating in remote and rural areas directly intervene in PHC service delivery. Whatever the case may be, a clear picture is beginning to emerge on the direct involvement of NGOs in rural healthcare delivery and on how they can be motivated to do more. As already ascertained from the study, limited numbers of HCPs work under pressure in rural areas where they battle to effectively serve the huge rural population burdened with disease. Therefore, HCPs who refer a patient to a health-related NGO for ongoing rural health services and support will enable the few HCPs in these remote areas to concentrate on other issues. From the case studies above 2–5, it is shown that NGOs need a proper model to adopt and which could allow them to adequately address the problem of shortage of HCPs in rural areas. The Case study-1 above is a best model to adopt in responding to the shortage of HCPs in the rural areas of South Africa (Boboya, 2014; Gumede, Ross, Campbell, & MacGregor, 2017; Ross et al., 2015), due to its unique model of recruiting-training and retaining HCPs in rural public health facilities.

9. Conclusion

South Africa is home to many NGOs comparing with many other LMICs, but only few are directly involved in the process of addressing the shortage of HCPs. While the role of NGOs is acknowledged, findings in this research study show that public health facilities in rural areas remain challenged and are usually not among the priority areas in both public and private programmes of service delivery. We conclude that further research should be conducted exploring the situation on HCPs staff shortage on the ground in order to inform policy and funding allocation for these services. The findings suggest that the shortage of HCPs would be addressed by NGOs if at least each of the nine provinces of the country had a similar programme and model like the UYDF or if this model was expanded countrywide. To promote this, it is expedient that specific conditions and realities in rural areas are investigated thoroughly as it will require sufficient insight by policy-makers into rural systems to ensure that impending policies addressing the shortage of HCPs are approached with an integrated mindset. To achieve this, horizontal relationships and collaborative linkages ought to be developed between government and NGOs for effective health service delivery. Mechanisms need to be developed by the DOH to assist and allow contracting of NGO components to this sector to address current unmet health needs among the South African rural-based population. NGOs operating in urban and peri-urban areas that are not acutely stricken by the shortage should be
encouraged to extend their operations to the rural areas and be encouraged to assist in addressing the socio-economic determinants that influence HCPs retention in rural areas.

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