A Synthesis and Systematic Review of Policies on Training and Deployment of Human Resources for Health in Rural Africa

WHO/PAHO Collaborating Centre on Health Workforce Planning & Research

University of Zambia School of Medicine
A Synthesis and Systematic Review of Policies on Training and Deployment of Human Resources for Health in Rural Africa

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Brief

The health of mothers and children – the subjects of two Millennium Development Goals – are central to any country’s overall well-being. However, recent estimates show few African countries are on track to achieve these goals. This is largely because Africa is enduring human resources for health (HRH) crisis, with most countries in the region lacking sufficient personnel to deliver basic health care to their populations, especially in rural areas. Effective planning for and management of the scarce HRH available, particularly pertaining to maternal and child health, are thus of paramount importance to Africa’s governments. To inform such planning, a systematic review of available evidence on training and deployment policies for doctors, nurses and midwives for maternal-child health in rural Africa was completed.

A wide range of training and deployment strategies for doctors, nurses, and midwives have been implemented to improve maternal and child health in rural Africa. There is also increasing investment in cadres such as clinical officers and community health workers, and we were able to identify more evidence of the success of these initiatives in improving outcomes than of those focused on doctors, nurses or midwives. The increasingly widespread use of such new professions warrants regular systematic analysis of how the respective competencies of the various health cadres align with the specific services required by the populations they serve.

There is a need to improve the visibility offered by Ministries of Health regarding their policies. For none of the countries studied in depth could we find copies of any of the specific policies included in our analysis. The analysis was therefore limited to secondary sources. There is a dearth of peer-reviewed evidence of policy implementation or impacts. A large portion of policy evidence is either not published or scattered across organizational websites which cannot be systematically searched, greatly limiting its benefit to inform future policies and practices. The potential of an international organization such as the WHO to facilitate more systematic documenting and sharing of policy evidence across countries could have tremendous benefits.

There is a large apparent discrepancy between the policies and strategies proposed by these countries and what is actually implemented, which may be due to any of a wide range of factors outside the influence of Ministries of Health. For example, none of the eight countries studied in depth are meeting the commitment to increase government funding for health to at least 15% made under the 2001 Abuja declaration, and underfunding is the most immediate barrier to health sector improvements. This situation necessitates either reconsideration of the importance of the health sector to the development of these countries, and associated allocation of resources, or more realistic health sector planning that accounts for this long-standing ‘underfunding’. In addition, there is evidence that the donor funds crucial to Africa’s health sector could be used much more effectively if their application was more closely aligned with national health priorities. Finally, although shortages of resources are a major problem, so too is a lack of capacity to effectively manage those resources, or to monitor and evaluate the impacts of their use. Investment in building such capacity may therefore pay important long-term dividends.
Executive Summary

Background
The eight Millennium Development Goals (MDGs) released in 2000 are considered an international blueprint aimed at improving the health and well-being of the world’s most vulnerable people. The health and well-being of women, newborns and children is at the forefront of many policy and planning discussions related to MDGs 4 and 5. As the date for achieving the MDGs looms closer, many progress reports, particularly those in many African countries, show that there continue to be challenges in meeting MDGs 4 and 5. This is largely because Africa is enduring a human resources for health (HRH) crisis, with most countries on the continent lacking sufficient personnel to deliver basic health care to their populations, especially in rural areas. The capacity of these countries to respond to this crisis is severely constrained by inadequacies in funding and infrastructure. Effective planning for and management of the scarce HRH available, particularly pertaining to maternal and child health, are thus of paramount importance to Africa’s governments. To inform such planning, a systematic review of available evidence on training and deployment policies for doctors, nurses and midwives for maternal-child health in rural Africa was completed.

Approach
The primary question guiding the review was: What is known about policies to support training and deployment of nurses, midwives and doctors for maternal-child health care in rural Africa? Additional questions included: What is currently known about (a) the development, (b) the implementation, and (c) the impacts of these policies?

Guided by an international Advisory Group, a two-part approach was used, the first of which was a scoping review of available evidence pertaining to the questions from all of Africa. The second was a more in-depth synthesis of policies from a subset of African countries, including Ethiopia, Ghana, Mali, Mozambique, Niger, Tanzania, Uganda and Zambia.

Only policies for which there was some evidence of application/implementation were included in the synthesis. Further, individual programs or interventions implemented as part of those broader plans were considered policies and fully analyzed in the review. Only evidence from research published in peer-reviewed scientific journals was considered to constitute the ‘impacts’ component of the framework. However, the existence of other evidence from non-peer-reviewed sources (e.g. Ministry of Health reports) is noted where available and was used to provide information on the other components of the framework.

Due to the limited policy documentation available for analysis, caution must be taken in drawing conclusions about the quantity and quality of strategies being undertaken in African countries related to training and deployment of doctors, nurses and midwives for maternal/child health in rural areas. This issue is explored in more depth in the results and discussion sections, where specific examples of policies identified during the review as not meeting the inclusion criteria, but which are nonetheless promising, are described.
Results
The electronic database searches returned a total of 548 peer-reviewed articles, of which 122 were duplicates. The remaining 426 unique articles were combined with the 87 articles as identified by the Zambian research team and Advisory Group members, totalling 513 articles to be reviewed. Of these articles, 37 met the inclusion criteria. The final body of articles covered 13 countries, representing each region of Africa. Ghana had the highest representation with 9 peer-reviewed articles, followed by South Africa and articles addressing multiple nations, each with 5. There were four articles from Ethiopia, and the remaining 10 countries had one to three apiece. Selected articles came from 22 different journals. The most frequent contributors were the Bulletin of the World Health Organization, Health Policy and Planning, Reproductive Health Matters, and Human Resources for Health. The vast majority of the peer-reviewed articles were published from 2003 on, suggesting the impact that the introduction of the Millennium Development Goals in 2000 has had on priority setting for research and policy. Furthermore, this data reveals that momentum is building for research that relates to both HRH and MDGs 4 and 5.

Specific representation of doctors, nurses, and midwives in the literature was fairly equitable. However, many of the selected articles included the providers implicitly based on the high-level nature of the policies, such as those pertaining to national health policies and, health sector reforms. Policies focused exclusively on training and deployment represented the minority, whereas those that addressed both areas, either directly or as embedded components of broader policies, were in the majority. The remainder of the literature pertained to policies which were not explicitly designed to address MDGs 4 and 5 in rural areas through training and/or deployment of the selected providers, but had relevance for MDGs 4 and 5 embedded within or implied as components of a more comprehensive policy mandate, such as national child health policies. The excluded articles, although not meeting every aspect of the inclusion criteria, demonstrated the diversity of work being done in and around the policy process as it relates to the training and deployment of HRH to improve maternal and child health in rural areas.

At the time of the review, the assessed Ministry of Health websites for the African countries belonging to the three linguistic groups showed a large variation in terms of functionality and relevant document availability. Some websites are quite comprehensive in material supplied. Other Ministries of Health did have operational websites, but there were inconsistencies in documents provided and their accessibility. For example, several countries’ Ministries of Health had the foundation and structure for a fully informative website, but broken links, sections designated as “under construction”, and a lack of posted policy documents reduce its ability to inform. Further, some ministerial websites were not located at all.

The scoping of the selected websites produced a wide variety of pertinent and applicable literature for the country sub-set: professional guidelines and protocols, independent policy evaluations, conference notes and proceedings, and additional peer-reviewed literature. These documents were used to inform the country context piece of the analysis, and furthermore to identify potentially relevant policies to guide specific inquiries to our advisory committee for additional information.
Our review revealed a paucity of policies specific to training and deployment of doctors, nurses or midwives for maternal or child health in rural Africa. We did, however, identify several policies that considered each of these factors, which are described in detail in the body of the report.

Beyond the names of the various policies and the broad contexts in which they were developed, very little information about the creation, implementation, or impact of this work was available through our search. In particular there is a paucity of peer-reviewed scientific evidence relating to the impacts of these policies. However, most of the literature acknowledged that the problems for which the policies were intended to address continue to persist.

Discussion
Despite an extensive and multi-faceted search strategy, there were relatively few policies identified on the training and/or deployment of doctors, nurses and midwives for maternal and child health in rural areas of these countries. The included policies reflect the information that was identified and readily available for inclusion in our analysis using the methods and sources outlined above. However, this should not be interpreted as a lack of attention or action towards addressing these issues. There are several important programs being implemented by several countries to address these issues that did not meet the exact inclusion criteria. Two of these about which there was considerable information were Ethiopia’s Health Extension Program and the Tanzania Essential Health Intervention Project, which are described in more detail in the body of the report.

Overall, it is clear that the Ministries of Health in the countries studied have attempted, and continue to explore, a wide range of HRH policy options aimed at improving maternal and child health among their respective populations. However, the implementation – and therefore the success – of these policies seem to be severely constrained by economic, political, social, geographic and technological factors outside these Ministries’ direct influence. Further, the alignment of implemented policies with broader national strategies is often unclear. That said, it is important to note how little information on what health policies currently exist in these countries – let alone details about their implementation and impacts – is readily available, or even attainable through dedicated searching. The policies had to be analyzed based solely on secondary information, as copies of the actual policies themselves were not available. This lack of visibility and accessibility of information makes an objective assessment of these policies – necessary for any meaningful improvement on them – virtually impossible.

Areas for Further Study
There is great potential to build on this synthesis in future work. The main limitations of this review were the availability of information on relevant policies, and the timeframe available to conduct the review. Related to the latter point, as noted above, expanding the search strategy for peer-reviewed documents to include names of individual African countries would likely yield more relevant papers. Similarly, follow-up searches for information on specific policies, once identified, could produce additional information about them, as could mining the references of
relevant documents. Further, interviews or focus groups with key informants in the selected countries would likely yield additional insights and relevant documents. Finally, although we have cited government- and NGO-published reports where applicable, we limited our consideration of the evidence of policy impacts to the peer-reviewed literature. This excludes the wealth of important analyses being done by NGOs such as the World Bank and CapacityPlus, which have great potential to inform the kinds of policies considered here but are seldom published in academic journals.

Key Messages
Giving due consideration to the review’s methods and limitations, several key messages emerged repeatedly and clearly enough to be brought to the forefront.

1. **The planning-implementation gap:** A wide range of strategic HRH and broader health system policy interventions appear to have been implemented to improve the training and deployment of doctors, nurses, and midwives for maternal and child health in rural Africa. However, there is a wide apparent discrepancy between the number and scope of policies and strategies that are proposed and what is evidently implemented, and poor maternal and child health remains widespread in rural Africa. Further, we often found little evidence of clear policy direction for those policies that were implemented. This discrepancy between planning and implementation may be due to any number of economic, social, political, environmental and technological factors, only some of which are within the sphere of direct influence of Ministries of Health.

2. **Underfunding:** None of the eight countries studied in depth have met their health sector funding commitments made under the Abuja declaration in 2001, and underfunding is the most frequently cited challenge limiting improvements to the health sector. Increasing funding allocations to meet this commitment is essential to the health of these countries’ populations.

3. **Policy Visibility:** There is a need to improve the degree of visibility offered by Ministries of Health in terms of their various policies. Despite the multi-pronged search strategies described, due to a lack of archiving of policy information on Ministry of Health websites, for none of the eight countries studied in depth could we find copies of any of the specific policies included in our analysis, which was therefore limited to evidence from secondary sources.

4. **Unavailability of Evidence:** There is a dearth of peer-reviewed evidence documenting the implementation and impacts of HRH policies in Africa. This may be partially due to the fact that the evidence being generated is often self-published by NGOs like the World Bank; there appears to be almost no such evidence published by governments, even where it exists. Thus a large portion of important policy evidence is either not published or scattered across multiple organizational websites which cannot be systematically searched in a timely manner, therefore greatly limiting its benefit to inform future policies and practices. In this
context, the potential role of an international organization such as the WHO to facilitate the more systematic documenting of best practices and sharing of other policy evidence across countries could have tremendous benefits.

5. **Research bias:** The peer-reviewed evidence included in the review shows a repeatedly identified bias towards rural HRH training and deployment research carried out in more developed countries. This is not only an issue suggesting a lack of research being done where it is needed most (i.e. countries with HRH crises), but also that the majority of the studies being done for rural training and deployment are not generalizable to the less developed world.

6. **Innovation:** The variety of policy interventions described in the documents reviewed demonstrates the level of innovation being practiced by African countries in efforts to improve their maternal and child health. Although some strategies focus on more traditional professions such as doctors, nurses and midwives, there appears to be increasing attention to and investment in newer cadres such as clinical officers and community health workers. Furthermore, we were able to identify more evidence of the success of the latter type of initiative in improving health outcomes than of the former.

7. **Aligning services and competencies:** The introduction of several new health care cadres with important responsibilities warrants regular and systematic analysis of how the various competencies of all health care providers align with the specific health care services required by the populations in a given country. In this way, training and deployment policies can be adjusted on an ongoing basis to keep pace with changing health needs and contexts.

8. **Alignment of donor funds:** Funds from donor agencies make up a large portion of the health budgets of African countries, and there is evidence that these are put to numerous beneficial uses. However, there is also evidence that these funds could be used much more effectively if their application was more closely aligned with broader national health priorities to fund evidence-informed interventions.

9. **Management, monitoring and evaluation:** Although shortages of resources in general are a chronic and widespread problem, so too is a lack of capacity for effective management of those resources, and to monitor and evaluate the impacts they have when mobilized. Investment in building such capacity, such as through an international body like the WHO, thus has the potential to pay great long-term dividends.
1.0 Background and Context

The eight Millennium Development Goals (MDGs) were released in 2000 and are considered an international blueprint aimed at improving the health and well-being of the world’s most vulnerable people by 2015 (United Nations, 2013a). The health and well-being of women, newborns and children is at the forefront of many policy and planning discussions related to MDGs 4 and 5. The target for MDG 4 is to reduce the under-five mortality rate by two thirds, by 2015. MDG 5 is structured around two key targets: reducing maternal mortality by 75% and achieving universal coverage of skilled birth attendance by 2015. The maternal mortality rate (MMR) has declined globally by almost 50% since 1990; however the MMR in developing areas is still 15 times that in developed regions (United Nations, 2013b). As the date for achieving the MDGs looms closer, many progress reports, particularly those in many African countries, show that there continue to be challenges in meeting MDGs 4 and 5 (United Nations, 2013a). An analysis of the current state of maternal, newborn and child health in Africa reveals a need for enhanced access to primary health care, emergency services, reproductive health and family planning. Critical to achieving such enhanced access is the availability and appropriate deployment of sufficient numbers of adequately trained health human resources (HRH) to deliver those services (WHO, 2005).

Africa faces a long-standing and unprecedented human resources for health (HRH) crisis. Thirty seven countries in the region – representing the bulk of the continent – have less than the World Health Organization (WHO)’s minimum recommended density of HRH to provide basic health care to their populations (Figure 1), averaging less than one doctor, nurse or midwife per 1,000 population (WHO Regional Office for Africa, 2012). Despite successive resolutions by the WHO Regional Committee for Africa in 1998, 2002, and 2009 to expand the continent’s health workforce (WHO Regional Office for Africa, 2012), Africa’s regional HRH density actually declined between 2005 and 2010 (WHO Regional Office for Africa, 2012). The crisis is particularly dire in rural areas, where there are significant population health issues and severe shortages of HRH and other resources to address them (Joint Learning Initiative, 2004).

It has been estimated that nearly one million additional personnel are needed to bring Africa up to the minimum recommended density of 2.3 doctors, nurses or midwives per 1,000 population (WHO Regional Office for Africa, 2012). Such numbers are particularly daunting considering the limitations of the region’s capacity for HRH training. For example, 26 of the countries in sub-Saharan Africa have one or no medical schools (Frenk & Chen et al., 2010). Despite widespread emphasis on scaling up medical education as part of broader health system strengthening, these institutions are hindered by weak physical infrastructure, shortages of qualified faculty, and lack of external accreditation (Mullan et al., 2010). This underscores the importance of effective policy regarding the planning and management of the region’s scarce HRH.
While there are a number of different dimensions to how a country’s HRH are planned and managed, perhaps the most critical are how HRH are developed, trained, and deployed once ready for practice (Tomblin Murphy, 2007; WHO, 2003; Zurn et al., 2004). While information on different countries’ policies and experiences exists, gathering and reviewing all that information is often beyond the time and resource constraints of many country-level policymakers (Adam et al., 2011). Therefore, in an effort to synthesize existing evidence to inform HRH policy and practice, a systematic review and in-depth analysis of available peer- and non-peer-reviewed literature, as well as unpublished policy documents on the training and deployment of HRH for maternal-child care in rural Africa, was completed.

2.0 Research Questions and Objectives

Key Question: What is known about policies to support training and deployment of nurses, midwives and doctors for maternal-child health care in rural Africa?

Additional questions included:
What is currently known about . . .
a) the research, theories, frameworks or other factors that have guided the development of these policies?
b) the implementation of these policies?
c) the effectiveness/impact of these policies on system, provider and health outcomes?

Maternal and child health were identified as focus areas because of the interest of the World Health Organization, the GHRI (funders of this work), and developing countries in the MDGs, particularly those related to health. In consultation with the GHRI, it was agreed that the focus of the review and synthesis would be on HRH policies pertaining to MDGs 4 (improving maternal health) and 5 (improving child health) in rural Africa. Specifically, the professions considered would be doctors, nurses and midwives. Doctors, nurses, and midwives were chosen because it was anticipated that there would be more evidence about policies pertaining to these professional groups than other cadres of health care providers, and because the availability of the services they provide are especially essential to maternal and child health.

Objectives
1) To conduct a scoping search/summary review of the literature on training and deployment policies/planning of health workforce for maternal-child care in rural areas across Africa
2) To conduct a more in-depth systematic review of the training and deployment policies for maternal-child care in HRH in a sub-set of African countries
3) To build capacity in conducting systematic reviews

3.0 Project Approach

3.1 Overview
The primary review question and sub-questions for this review were identified by the research team and validated with an international Advisory Group of leaders in the health education and policy fields (see section 3.5). This included finalizing the specific parameters and content of the policy interventions and the context of interest. The research and guiding questions were developed and refined through several iterations based on the results of the scoping review and consultations with the Advisory Group (Grimshaw, 2010).

We addressed our research and guiding questions using a two-part approach. The first of these was a scoping review of available evidence pertaining to the questions from all of Africa. The second was a more in-depth synthesis of policies from a subset of African countries, including Ethiopia, Ghana, Mali, Mozambique, Niger, Tanzania, Uganda and Zambia, which were chosen based on criteria listed in Table 1.

The process used in this project was consistent with a ‘realist’ approach to systematic review, which is helpful for complex policy synthesis (Pawson et al., 2005). For the purpose of this synthesis, policy is defined as “courses of action (and inaction) that affect the set of institutions, organizations, services and funding arrangements of the health system” (Buse et al., 2005, p.5.).
Table 1: Criteria for selecting countries for inclusion in synthesis

- At least one representative country from each linguistic group of Portuguese, French, and English;
- A mix of geographic representation including countries that are land-locked as well as those from the east and west coasts, and from the northern and southern hemispheres;
- Countries with a history of in-depth policy analysis, systematic reviews, and/or strong culture of research-to-policy;
- Countries in which known-to-the-group stakeholders exist, to allow for access to otherwise unavailable policy documents.

Further, only policies for which there was some evidence of application/implementation were included in the synthesis. For example, there are national documents titled ‘health policy’ which describe countries’ health priorities and plans for addressing those priorities, whether generally about health or specific to maternal-child or health human resources. These documents did not meet the inclusion criteria and did not relate to the specific research questions. They were, however, reviewed to provide country-level context to the analysis. In addition, individual programs or interventions implemented as part of those broader plans were considered policies and fully analyzed in the review.

The areas of focus of each guiding question are consistent with the stages of the policy process described by Sabatier and Jenkins-Smith (1993), which include identifying and recognizing the problem, policy formulation, implementation and evaluation. In consultation with the Advisory Group, it was determined that the policy analysis framework by Hercot et al. (2011) would be used to guide the extraction and analysis of policy data from the collected documents. It should be noted that this framework was used only as a guide to our approach, and that themes emerged inductively from the reviewed documents.

3.2 Scoping Review
An initial scoping review, consisting of a brief examination of the published non peer-reviewed and peer-reviewed literature, was conducted to help guide the development and verification of:

- Criteria for document inclusion/exclusion (Table 2);
- Key words and databases to be used in the searches of the peer-reviewed and non-peer reviewed literature;
- Learning objectives for undergraduate and graduate students participating in the work.

Once the selection criteria and process were confirmed, relevant published and accessible non-peer-reviewed and peer-reviewed literature was retrieved. The search strategy for the scoping review included electronic database searches and a search of online sources for non-peer reviewed literature. The results of each search were further narrowed according to the inclusion criteria (Table 1), abstracts were reviewed and then, if the initial criteria are met, the full
documents were retrieved for full review and mapped according to their year of publication and country(ies) of focus.

3.2.1 Peer-reviewed Literature

Searches of the following online databases were conducted: PubMed, CINAHL, EconLit, PsychArticles, PsychInfo, Informa Health Care e-books, the Cochrane Library, ABIinform, Web of Knowledge, PAIS, JSTOR, Business Source Complete, ERIC and EMBASE. In consultation with a Dalhousie University information scientist, the following key words were identified and used in various combinations with Boolean operators (and, or, not): health care delivery, health planning, health policy, policy, population health care needs, health workforce, health human resources, care providers, manpower, personnel, nurses, doctors, midwives, shortage, turnover, deployment, regulation, training, education, incentives, recruitment, retention, attrition, maternal, newborn, child, infant, adolescent, maternal-child care, rural, isolated, low resource, Africa, developing country, low income country, middle income country. Where available and appropriate, MeSH terms, wildcards, and explosion search strategies (sub-terms and derivatives) were used.

Potentially relevant articles identified in the scoping were pulled. Each article was mapped with respect to country of focus, document type, policy initiative, jurisdictional focus, provider type, and nature of policy with the tool given in Appendix 1. Once mapping was completed, initial exclusions of citations were made if they were not available in full text, published prior to 1990, and did not refer to an African country whose official national languages include English, French, or Portuguese. The only exception was Ethiopia, whose official languages include none of those listed above. However, Ethiopia publishes many of its health policy documents in English, and was identified by the Advisory Group as a unique case for consideration due to its achievement of MDG 4 in 2013.

Further articles were identified for consideration by the Zambian research team as well as the Advisory Group based on their personal familiarity with particular African countries. These citations were pooled with those initially found in the database searches. From this pool, articles were subjected to an initial abstract review to remove those which clearly did not meet the inclusion criteria. For the remaining articles, three members from the research team reviewed the title, abstract, and full text, independently applying the selected inclusion criteria based on the guiding research questions (Table 2). Discrepancies in reviewers’ decisions on inclusion and exclusion were resolved through group deliberation until consensus was reached.

| Table 2: Inclusion criteria for peer and non-peer-reviewed literature scoping |
| Aspect                        | Criteria                                                                 |
| Language of publication       | English, French, or Portuguese                                           |
| Years published               | 1990 – 2013                                                              |
| Type of policy initiative     | Applied (i.e. not theoretical, but some evidence that the policy has been/continues to be implemented) |
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<table>
<thead>
<tr>
<th>Country or countries of focus</th>
<th>Any African country whose official languages include English, French, and/or Portuguese&lt;sup&gt;1&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy focus</td>
<td>Training and/or deployment of providers as it pertains to rural health</td>
</tr>
<tr>
<td>Type(s) of providers</td>
<td>Doctors, nurses, and/or midwives</td>
</tr>
<tr>
<td>Specific clinical focus</td>
<td>Maternal-child health: reproductive health, pregnancy, birth, newborns, childhood disease, and adolescents</td>
</tr>
<tr>
<td>Jurisdictional focus</td>
<td>International or national (e.g. not provincial or district-specific)</td>
</tr>
<tr>
<td>Types of data sources</td>
<td>Policy documents, policy evaluations, professional protocols/clinical guidelines, literature reviews, peer-reviewed research related to policy implementation and/or evaluation</td>
</tr>
</tbody>
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3.2.2 Non-Peer-Reviewed Literature

Phase I
A directed search of websites operated by ministerial bodies responsible for health planning and policy for each country in the designated linguistic groups was conducted. Websites were located via Google and navigated by tabs and menus (i.e. policies, publications, legislation, guidelines etc.) available on the homepage. Ministry websites were evaluated based on whether they were operational, hosted publicly available policy documents, and if so, were they accessible for download. Documents were scanned and pulled as guided by the inclusion criteria (Table 2).

Where the National Health Policy, National Strategic Health Plan, National Strategic Plan for Human Resources for Health and/or similar documents were not available on ministerial websites, targeted searches using Google for each country were used to locate these documents, if available elsewhere.

Phase II
In consultation with the Advisory Group, relevant and reputable websites of professional associations, research networks, international and national organizations were identified for further non-peer reviewed literature searching. Unique search strategies were developed for each website based on individual navigability; either commencing with relevant topic tabs (i.e. maternal child health, human resources for health, education, training and deployment, health workforce, policy etc.) or country tabs. Details of websites searched in both phases are provided in Appendix 6. Data extraction tools used on documents obtained from both phases of the non-peer-reviewed literature scope are given in Appendix 2.

3.3 Synthesis
The in-depth review concentrated on the subset of eight countries selected. In addition to the published non-peer reviewed and peer-reviewed literature identified in the scoping review,

<sup>1</sup> With the exception of Ethiopia as noted above.
research and Advisory Group members assisted in the identification, selection and retrieval of related policies and policy documents that were not publicly available.

All peer-reviewed documents were read and evaluated independently by no fewer than three members of the review team against the inclusion criteria, who then came to consensus on which papers would be included in the analysis. The selected peer-reviewed papers, along with the collected non-peer-reviewed documents for the included countries, were then reviewed and mapped using data extraction templates for both research and non-research literature, developed by the research team.

Information from documents on specific policies that met the inclusion criteria were mapped using an additional template designed according to the policy analysis framework described by Hercot and colleagues (2011). This framework (Figure 2) distinguishes between and delineates the respective contributions of the actual substance of the policy (content), the systemic factors – political, economic, social or cultural, both national and international – which may have an effect on the policy (context), the stakeholders who influence it (actors), the way in which policies are initiated, developed or formulated, negotiated, communicated, implemented and evaluated (process), and its effects (impacts), expected and unexpected, positive and negative (Hercot et al., 2011).

**Figure 2: Policy Analysis Framework (from Hercot et al., 2011)**

For the review of the published, peer-reviewed literature, a full critique of the quality (sampling, data collection, methods, analysis and conclusions) for each study was not completed as the intent was to focus on identifying the specific challenges to developing, implementing and evaluating policies related to HRH for maternal-child care in rural Africa. However, in keeping with the research questions, the team noted any research, theories, frameworks or other factors that influenced policy development and implementation. The policy information gathered in these templates was then reviewed and summarized according to the guiding questions.

Only evidence from research published in peer-reviewed scientific journals was considered to constitute the ‘impacts’ component of the framework. However, the existence of other evidence from non-peer-reviewed sources (e.g. Ministry of Health reports) is noted where available and was used to provide information on the other components of the framework.
### 3.4 Engagement Strategies

The research team established an Advisory Group for the review process, consisting of international leaders in the field of health and social policy representing research institutions, professional associations, knowledge translation groups, and agencies for social change. The role of the Advisory Group (see Terms of Reference in Appendix 5) was three-fold: to review and suggest improvements to the review’s methods and tools, to assist with the acquisition of otherwise unavailable policy documents, and to provide insight into interpretations of the review’s findings.

Members of the group included:

- **Dr. Maina Boucar**, Regional Director, West Africa Region, USAID ASSIST Project, University Research Co. LLC, Niger
- **Dr. Paulo Ferrinho**, Director, Instituto de Higiene e Medicina Tropical Universidade Nova de Lisboa, Portugal
- **Ms. Allison Annette Foster**, Senior Advisor for Quality Improvement, and Lead, Health Workforce Development, University Research Co. LLC, USA
- **Mr. Solomon Kagulura**, NPO/MPN, World Health Organization, Zambia
- **Dr. Vic Neufeld**, Special Advisor, Canadian Coalition for Global Health Research, Canada
- **Ms. Jennifer Nyoni**, HRH Advisor, WHO Regional Office for Africa, Republic of the Congo
- **Dr. Francis Omaswa**, Executive Director, African Centre for Global Health and Social Transformation, Uganda
- **Dr. Judith Shamian**, President, International Council of Nurses, Switzerland
- **Dr. Mohsin Sidat**, Dean, Faculty of Medicine, University Eduardo Mondlane, Mozambique

The group was engaged chiefly through individual and paired phone and email discussions as well as a group teleconference meeting. Individual and paired teleconferences were preferred to those with the entire membership because these facilitated necessary country-specific dialogue, and also because of the various time zones and poor telephone connections.

In addition, members of the research team took advantage of their attendance at relevant international gatherings – including the UN General Assembly, the Global Health Workforce Alliance (GHWA) Third Global Forum on HRH in Recife, Brazil, and a meeting of the Research component of the Africa Health System Initiative (AHSI-RES) participants in Nairobi, Kenya – to link with Advisory Group members and other colleagues to gain their perspectives and insights on the project.

### 3.5 Capacity Building Activities

One of the key objectives for this project was to build capacity in the skills required for conducting systematic reviews among faculty and students at both the University of Zambia and Dalhousie University. Building research capacity within this framework provided a good opportunity for faculty and students to gain more contextual understanding of global health.
research as well as direct skills related to systematic reviews, scholarly writing and building partnerships.

Specific capacity-building activities included:

- Capacity-building activity #1: a training session on completing a systematic review was offered for students and faculty of Dalhousie University and the University of Zambia.
- Capacity-building activity #2: ongoing, hands-on experience in designing systematic review criteria and conducting an initial review.
- Capacity building activity #3: repeated group meetings of students/faculty to review policy mapping and analysis.
- Capacity building exercise #4: development of materials (presentations, papers, policy briefs etc.) to disseminate the results of the review.

3.6 Validation Activities

Advisory Group members were invited to participate early in the project and provided ongoing advice, support and feedback at all stages of the project. Through existing partnerships, key country-level stakeholders were also engaged early in and throughout the project to validate the selection of relevant national policies related to HRH deployment and training for maternal-child providers (doctors, nurses and midwives) in rural Africa. Advisory Group members, in their capacities as global health leaders, provided insight into relevant international documents to inform the review, and also reviewed this report.

3.7 Methodological Challenges

To our knowledge this is the first policy synthesis of its kind to consider this breadth of countries, documents, and languages. Limitations related to the search strategy’s sensitivity were identified. Many titles, abstracts, and author-assigned key words of would-be relevant articles did not include the search filters “Africa”, “developing country/countries” or “middle/low income country/countries” and were therefore missed. A library scientist was consulted to identify means of overcoming these limitations. Although, due to time restrictions, no additional searches could be performed for this scoping review, future work could include the addition of specific African country names into the search strategy.

In consideration of the above limitations, caution must be taken in drawing conclusions about the quantity and quality of work being conducted in the represented countries related to training and deployment of doctors, nurses and midwives for maternal/child health in rural Africa. In addition, the results of the scoping review should not be used as a proxy measure for the existence and implementation of the types of policy in question. This issue is explored in more depth in the results and discussion sections, where specific examples of policies identified during the review but not meeting the inclusion criteria, although nonetheless promising, are described.
4.0 Results

4.1 Scoping Review

4.1.1. Peer Reviewed Literature
The electronic database searches returned a total of 548 peer-reviewed articles, of which 122 were duplicates. The remaining 426 unique articles were combined with the 87 articles as identified by the Zambian research team and Advisory Group members, totalling 513 articles to be appraised. Of these articles, 37 met the inclusion criteria (Figure 3).

Figure 3: Scoping Review Results
The final body of articles covered 13 countries, representing each region of Africa as well as the designated linguistic groups (Figure 4). Ghana had the highest representation with 9 peer-reviewed articles, followed by South Africa and articles addressing multiple nations, each with 5. There were four articles from Ethiopia, and the remaining 10 countries had one to three apiece.

**Figure 4: Number² of peer-reviewed articles by country**

![Figure 4: Number² of peer-reviewed articles by country](image)

Selected articles came from 22 different journals (Figure 5). The most frequent contributors were the Bulletin of the World Health Organization, Health Policy and Planning, Reproductive Health Matters, and Human Resources for Health.

**Figure 5: Contributing source journals for peer-reviewed articles**

![Figure 5: Contributing source journals for peer-reviewed articles](image)

²n=32 as some articles mentioned more than one country
Year of publication is shown in Figure 6, and demonstrates that the vast majority of the peer-reviewed articles were published from 2003 on. This trend shows the potential impact that the introduction of the Millennium Development Goals in 2000 has had on priority setting for research and policy. Furthermore, this data reveals that momentum is building for research that relates to both HRH and MDGs 4 and 5.

![Figure 6: Peer-reviewed articles by year of publication](image)

Specific representation of doctors, nurses, and midwives in the literature was fairly equitable. However, many of the selected articles included the providers implicitly based on the high-level nature of the policies, such as those pertaining to national health policies, health sector reforms. Policies focused exclusively on training and deployment represented the minority, whereas those that addressed both areas, either directly or as embedded components of broader policies, were in the majority. The individual policies are identified below, and complete list of the peer-reviewed literature used is available in Appendix 3.

**POLICY FOCI OF PEER-REVIEWED LITERATURE**

**Training**

In Ghana, a specialist training program for obstetrics and gynecology was launched by a partnership between Ghanaian medical schools, the Royal College of Obstetricians and Gynecologists and the American College of Obstetricians and Gynecologists with the aim to counteract the repatriation of skilled professionals who were training abroad. Of the 38 specialists successfully completing the program between its initiation in 1989 and 2006, 37 remained to practice in Ghana, the majority in the public health sector (Anderson et al., 2007). Further studies of the same program brought attention to the high-caliber of the specialists produced, the unique curriculum with a community-based approach, the favourable cost-benefit evaluation of the program, and that the trainee’s service is not lost if trained domestically. In recognition of its success, the Government of Ghana has taken on the program (Klufio et al., 2003; Marley et al., 1995).
Nigeria’s Life Saving Skills training policy for midwives, paired with interpersonal skills for all providers and provision of equipment and supplies, resulted in large gains for maternal and neonatal health through reduction of post-partum haemorrhage, prolonged labour, and stillbirths (Kwast, 1996).

**Deployment, recruitment, and retention**

The scoped literature identified two strategies that South Africa has employed for deployment and retention of HRH in rural areas and the public sector: the Rural Allowance policy and Occupation-Specific Dispensation Incentive strategy, the latter rolled out initially for nurses (Ditlopo et al., 2012; Ditlopo et al., 2011). A review of evaluated recruitment and retention schemes mentions the presence of a financial incentive scheme in Niger targeted at doctors, pharmacists and dental surgeons, and a “medicalization of rural areas” program in Mali, although no other information on these programs is given (Dolea et al., 2010).

Temporary employment contracting systems with fixed terms, locations and roles, with the option of renewal, have a demonstrated ability to increase deployment. Kenya’s Emergency Hiring Plan, initially managed by the private sector, then handed off to the national government, deployed 830 new health staff hires to 219 public health facilities over a six month period (Adano, 2008). The same plan analyzed using nurse distribution showed a resulting recruitment of 1836 additional nurses since 2005, with the most remote areas of the country benefiting most (Gross et al. 2010). Under Senegal’s Plan Cobra, a contracting system which allowed for short term hire while still being eligible for benefits given if recruited traditionally through the Ministry of Public Service resulted in 365 new HRH contracts issued between 2006 and 2008, and the re-opening of 122 health posts (Zurn et al., 2010).

**Dual-focused policies**

Often the policies that emerged from the scoping review addressed both training and deployment. The HRH crisis in Malawi motivated the Emergency Human Resources Program, in support of the 2004 Essential Health Package, with five main facets: improving incentives for recruitment and retention of staff with salary top-ups, developing domestic training capacity, using international volunteer HRH as a stop-gap measure, and providing international technical assistance to bolster planning and management capacity and skills, and improving monitoring and evaluation (Palmer, 2006). Zambia’s Ministry of Health applied a similar political tactic to address HRH shortages by improving training, deployment, and retention through the 10-year Strategic Plan for Human Resource for Health (Gow et al., 2011). Longombe’s (2009) comparison study between rural and urban medical schools in the Democratic Republic of the Congo demonstrated that training and deployment can be tackled in tandem with 81% graduates of the rural medical schools choosing rural postings, compared to only 24% of those graduating from urban areas.

A literature review by Frehywot and colleagues (2010) identified multiple compulsory service programs for rural posting or retention that inherently address deployment, but have training components incorporated. The scope of the review was international, which included 11 African
countries: Ethiopia, Ghana, Kenya, Lesotho, Malawi, Mozambique, Namibia, Nigeria, South Africa, Zambia, and Zimbabwe. The compulsory years of service for the identified strategies in the African countries ranged from one to four, with few offering the option of a “buy-out”. The bulk of the programs applied to doctors and nurses, and all included one or more of the following incentives: licence to practice (in both public and private sectors), graded salaries, preference for post-graduate training, scholarships, career advancement, housing, child education, and medical assistance.

**Embedded policies**

The remainder of the literature addressed policies which were not explicitly designed to address MDGs 4 and 5 in rural areas through training and/or deployment of the selected providers. However this literature had relevance for MDGs 4 and 5 embedded within or implied as components of a more comprehensive policy mandate. For example, high-level, structural policies such as the Decentralization in Ghana and Ethiopia were evaluated for their effects on national sexual and reproductive health service and workforce density, deployment, and attrition respectively (Mayhew, 2003; Michael et al., 2010). The health sector reform in Tanzania, Decentralization and a Sector-Wide Approach, aimed to achieve equity in care, and was successful in reducing the disparity in births attended by skilled providers between socio-economic groups e.g. urban and rural (Kengia et al., 2013).

Rural specific policies with aspects of HRH deployment were also identified. Curry at al. (2012) sought to un-pack and define the roles of government and community members for the improved implementation of The Millennium Rural Initiative in Ethiopia, which had clear implications for the health of rural and remote maternal and child health. The Rural Health Improvement Program of Niger aimed to increase coverage of national Primary Health Care through upgrading rural health facilities and dispatching of newly trained village health teams; the former having a significant impact on maternal and child health (Magnani et al., 1996).

Increased political attention on maternal and child health implicitly calls for increased attention to HRH issues. Uganda’s 20% decrease in neonatal mortality between 2000 and 2010 was attributed to its constellation of evolving policies – Health Sector Strategic Plan, Minimum Health Care Package, Roadmap to Accelerating the Reduction of Maternal and Neonatal Mortality, and the Child Survival Strategy - many of which called for increased training and deployment of HRH to meet the strategic objectives (Mbonye et al., 2012). Similar to Uganda’s broad policy response, Rwanda, having declared sexual and reproductive health as a development priority, has implemented a Sexual and Reproductive Health Policy (under the Health Sector Policy), Facility-based Childbirth Policy, and a National Family Planning Policy; all of which require a robust HRH supply. In light of this, and the HRH shortages resulting from the 1994 genocide, the national government has responded by increasing the number of trained doctors, nurses, and midwives for the public sector between 2005 and 2008, with the majority in rural areas (Bugagu et al., 2012).
Ghana’s National Reproductive Health Service Policy and Standards, revised in 2003, outlined new regulations for the delivery of reproductive health services and required associated training: essential obstetric care, Life Saving Skills, Safe Motherhood, and manual vacuum aspirations and post-abortion care. Three papers identified in the scoping review examined this policy through the lens of abortion provision; whether post-abortion care training is cost-effective, which cadres are providing the service, and overall barriers to its implementation (Andersen Clark et al., 2010; Aniteye & Mayhew, 2013). A similar analysis was conducted on abortion provision in South Africa after legislation qualified midwives as providers, and program-specific training was delivered. As of 2003, 135 midwives had completed training; safe abortion provision went from 714 in 1997 to 5,168 in 1999. Deployment was not addressed in this policy; however it demonstrated a unique strategy of utilizing midwives, a provider with a significant pre-existing presence in rural communities (Sibuyi, 2013). Additionally in South Africa, the Cervical Screening policy mandated the training of nurses in Pap smear provision, again recognizing the vast potential of upgrading skills of previously deployed HRH (Kawonga & Fonn, 2008).

The excluded body of articles, although not meeting every aspect of the inclusion criteria, demonstrated the diversity of work that is being done in and around the policy process as it relates to the training and deployment of HRH to address the need for improved maternal and child health in rural areas. For example: theoretical policies evaluated using various modeling techniques and discrete choice experiments (Ageyi-Baffour et al., 2013; Lagarde and Cairns, 2012; Kolstad, 2011; Blaauw et al., 2010); pilot programs conducted and evaluated for potential scale-up (Pirkle et al., 2013; Spector et al., 2013); literature reviews conducted to take inventory of what is known and which knowledge gaps existed (Reynolds et al., 2013; Bucagu et al., 2012); and in-depth situational analyses to better inform policy priorities (George et al., 2012; Wuehle & Coulibaly, 2011). Additionally, there was a significant amount of articles which were not included as they focused on providers outside the criteria (e.g. traditional birth attendants, community and health extension workers, clinical officers etc.) suggesting their importance in the management of MDGs 4 and 5 in rural settings, and a possible direction for future work. Lastly, the HRH crisis and its effects were examined through various approaches, such as rigorous research, review, or narrative from a number of different perspectives – ethical, anthropological, sociological, and biomedical – which indicates that attempts are being made at creating a rich description of this phenomenon. This growing evidence base may then inform policy across the entire process to be more relevant, and therefore effective.

4.1.2 Non-Peer Reviewed Literature

Phase I
At the time of scoping, the assessed Ministry of Health websites for the African countries belonging to the three linguistic groups showed a large variation in terms of functionality and relevant document availability. South Africa and Ghana’s Ministry of Health/Ghana Health Service websites are quite comprehensive in material supplied, and Mozambique’s Human
Resources Observatory, as hosted by the Ministry of Health website, was exemplary. Several other Ministries of Health did have operational websites, but there were inconsistencies in documents provided and their accessibility. For example, several countries’ Ministries of Health had the foundation and structure for a fully informative website, but broken links, sections designated as “under construction”, and lack of posted policy documents reduce their ability to inform. Further, some ministerial websites were not located at all. To further illustrate the variation in the kinds of information available on various countries’ Ministry of Health websites, Table 3 summarizes what was found on those of the 8 countries included in the synthesis at the time of the review.

### Table 3: Information available on selected countries’ Ministry of Health websites

<table>
<thead>
<tr>
<th>Country</th>
<th>Policy documents</th>
<th>Strategic plans</th>
<th>Policy monitoring and/or evaluations</th>
<th>Professional protocols/clinical guidelines</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethiopia</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Ghana</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Mali</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>Mozambique</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>Niger</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>Tanzania</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>Uganda</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Zambia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✔</td>
</tr>
</tbody>
</table>

**Phase II**
The scoping of the selected websites produced a wide variety of pertinent and applicable literature for the country sub-set: professional guidelines and protocols, independent policy evaluations, conference notes and proceedings, and additional peer-reviewed literature. These documents were used to inform the country context piece of the analysis, and furthermore to identify potentially relevant policies to guide specific inquiries to our advisory committee for additional information. No official government policy documents were available through the website scoping, and could therefore not contribute to the in-depth analysis portion of the report. However, it should be noted that many of the official government policy documents located via directed Google searches, as specified in the methods section, were hosted on websites administrated by international organizations, such as UNFPA and WHO.

4.2 In-Depth Review
This project sought to document what is known about the policies to support training and deployment of nurses, midwives and doctors for maternal-child health care in rural Africa. Specifically, the focus of the in-depth policy synthesis involved policies within a subset of eight countries: Ethiopia, Ghana, Mali, Mozambique, Niger, Tanzania, Uganda, and Zambia. Our scoping and synthesis of grey and peer-reviewed literature revealed a paucity of policies specific to this exact focus. Although we did identify several policies that considered each of these factors, existing policies tended to be broader than this specific intersection of topics. Each of the eight selected countries had policy documents reflecting recognition of the need to improve maternal and child health, particularly in rural areas. However, we have only included in our analysis those policies that directly consider, but may not be limited to, the training and deployment of nurses, midwives and doctors for maternal-child health care in rural Africa.

Beyond the names of the various policies and the broad contexts in which they were developed, very little information about the creation, implementation, or impact of these policies was available through our search. In particular there is a paucity of peer-reviewed scientific evidence relating to the impacts of these policies. However, most of the literature acknowledged that the problems for which the policies were intended to address continue to persist.

While the review yielded little information on specific policies within its scope, it did reveal a great deal of relevant contextual information about the selected countries, which we consider this contextual information to be essential to understanding those policies. We therefore present country-specific summaries of this information before the results pertaining directly to the research questions. Key quantitative data about the selected countries is provided in Table 4.

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3 Critiquing the quality of the peer-reviewed studies cited in terms of their designs, methods, interpretations and so on was outside the scope of this analysis.
Table 4: Country-Specific Contextual Data

<table>
<thead>
<tr>
<th>Country</th>
<th>Population (% Rural)</th>
<th>GDP per capita</th>
<th>Health S (% of GDP)</th>
<th>HRH Density (% Rural)</th>
<th>% of HRH Posts Filled</th>
<th>Annual HRH Training Output</th>
<th>Public Sector HRH Absorption</th>
<th>Maternal Mortality</th>
<th>Under 5 Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETH</td>
<td>91,729,000 (83%)</td>
<td>$1,110</td>
<td>4.7%</td>
<td>2.8 (54% doctors/83% nurses/82% midwives)</td>
<td></td>
<td></td>
<td>350</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>GHA</td>
<td>25,666,000 (48%)</td>
<td>$1,810</td>
<td>10.7%</td>
<td>2.3 (30%/30%/60%)</td>
<td>40%</td>
<td></td>
<td>350</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>MAL</td>
<td>15,840,000 (65%)</td>
<td>$1,040</td>
<td>6.8%</td>
<td>0.3 (23%/46%/59%)</td>
<td>72%</td>
<td></td>
<td>32%</td>
<td>540</td>
<td>176</td>
</tr>
<tr>
<td>MOZ</td>
<td>23,930,000 (69%)</td>
<td>$970</td>
<td>6.6%</td>
<td>3.7 (3%/60%/3%)</td>
<td></td>
<td></td>
<td>490</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>NIG</td>
<td>16,069,000 (82%)</td>
<td>$720</td>
<td>5.3%</td>
<td>1.6 (14%/28%/24%)</td>
<td></td>
<td></td>
<td>25%</td>
<td>590</td>
<td>125</td>
</tr>
<tr>
<td>TAN</td>
<td>46,218,000 (63%)</td>
<td>$1,500</td>
<td>7.3%</td>
<td>2.5 (24%/50%/88%)</td>
<td>35%</td>
<td>3%</td>
<td>16%</td>
<td>460</td>
<td>68</td>
</tr>
<tr>
<td>UGA</td>
<td>34,509,000 (84%)</td>
<td>$1,310</td>
<td>9.5%</td>
<td>14.3 (30%/60%/60%)</td>
<td>63%</td>
<td>12%</td>
<td>310</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>ZAM</td>
<td>14,075,000 (61%)</td>
<td>$1,490</td>
<td>6.1%</td>
<td>2.1 (46%)</td>
<td>41%</td>
<td>4%</td>
<td>80%</td>
<td>440</td>
<td>83</td>
</tr>
</tbody>
</table>

Details on the sources of these statistics are provided in Appendix 7.

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4 Purchasing Power Parity (PPP) international dollars
5 Doctors, nurses, midwives (headcount) per 1,000 population
6 From HRH training programs, as % of # of established posts
7 Proportion of graduates from health training programs who enter employment with government health services
8 Per 100,000 live births
9 Per 1,000 live births
Ethiopia
Ethiopia is a federal republic located in the eastern region of Africa referred to as the Horn of Africa, with wide ethnic and language diversity. After decades of political instability, a transitional government was established in 1991 and a Constitution ratified in 1994, followed by the first democratic election in 1995. Since this time, Ethiopia has had political stability. Ethiopia has suffered droughts that, in the 1980s, affected over eight million people and contributed to approximately one million deaths. Nutritional disorders continue to be a major health problem for Ethiopia, which in combination with preventable communicable diseases, account for over 90% of child deaths (Ethiopia Federal Ministry of Health, 2010). Life expectancy is low (54 years), with high maternal mortality rates (350/100,000 live births). While child mortality rates have dropped significantly, they are still high relative to other countries.

Implementation of Ethiopia’s Health Policy is guided by the federally developed, Health Sector Development Plan (HSDP) 1995-2015, currently in its fourth and final five-year stage (Ethiopia Federal Ministry of Health, 1993). Training and deployment of HRH is integrated in the HSDP, with specific HRH strategies and plans further detailed in the country’s HRH Strategy 2006-2010 and HR2020 (Campbell & Settle, 2009). Within Ethiopia’s decentralized system, provision of health services is the responsibility of the Woredas (districts) with policy and technical support provided by Regional Health Bureaus (RHB). National policies are developed by the Ministry of Health, in partnership with the RHBs, Woredas and other stakeholders such as donor agencies (Ethiopia Federal Ministry of Health, 2013a). Health services are provided using a multi-tiered system: primary health care units (health posts and a health centre), primary hospitals constitute the primary care level, general hospitals constitute the secondary care level, and specialized referral hospitals constitute the tertiary care level (Ethiopia Federal Ministry of Health, 2010). Health services in Ethiopia are financed by four main sources: government (both federal and regional), bilateral and multilateral donors, non-governmental organizations, and private contributions, under a “one plan, one budget and one report” principle of its Sector-Wide Approach (SWAp) (Ethiopia Federal Ministry of Health, 2011).

Ethiopia has increased its supply of health workers significantly over the last few decades, through expanded training capacity (creating additional institutions, increasing the uptake of all the institutions), and the introduction of new cadres (e.g. Health Extension Workers) and retention strategies (such as allowing for private wings, pay structures, etc.). However, despite the overall increases in health workers, there is still an acute shortage of doctors and midwives; the nurse density ratio is 1:2,311 (Ethiopia Federal Ministry of Health, 2013b). Deployment of health care workers is managed at the regional level and is often constrained by the inadequate resource allocation by regions, resulting in inadequate absorption (Ethiopia Federal Ministry of Health, 2013b).

The Ministry of Education is responsible for all higher education, including that of health professionals. The Ministry and the regional education bureaus are responsible for the accreditation of private, degree-, diploma- and lower-level training institutions and programs. All health training institutions (public and private) adhere to criteria set by the Federal Ministry of
Education (AHWO, 2010). Doctors and nurses are trained through 47 public and private institutions offering health science programs with an additional 8 medical schools and a nursing/midwifery institution (AHWO, 2010). Midwives are trained at 13 colleges (Ethiopia Federal Ministry of Health, 2013b). In-service programs are provided by 35 local training institutions.

**Ghana**

The Republic of Ghana is divided into ten administrative/political regions which are further divided into 170 District Assemblies, which develop, plan and mobilize resources for programs and strategies for the development of the district. With a stable political landscape, Ghana has developed a national strategic plan that focuses on modernizing their natural resource industries, improving public and private partnerships, transparent governance, effective decentralization and efficient public service delivery (Republic of Ghana, 2010). Similar to its neighbouring countries, Ghana has high rates of communicable diseases such as HIV/AIDS and increasing rates of non-communicable diseases such as hypertension and diabetes. Ghana also faces high levels of child mortality from malaria and other diseases, exacerbated by low levels of literacy, poor sanitation, under-nutrition and substance use (WHO, 2013). As such, the theme of its current National Health Policy is "Creating Wealth through Health" (Republic of Ghana Ministry of Health, 2007a).

The Ghana Ministry of Health (MoH) advocates and formulates national health policy and is responsible for monitoring and evaluating progress towards its targeted outcomes. The Ghana Health Service (GHS) is an autonomous government agency, allied with the MoH, responsible for coordinating the delivery of health services. District Health Management Teams (DHMTs) in every district are responsible for the supervision of local health services and the implementation of plans and policies (Ghana MoH, 2010). HRH policy development, planning and distribution, coordination of pre-service training, and monitoring and evaluation are the responsibility of the Human Resource for Health Development Directorate (HRHDD), supported by the Policy, Planning, Monitoring & Evaluation Directorate, under the MoH. The MoH, GHS and the teaching hospitals own and manage about 49% of the health facilities in Ghana, the remainder being privately owned and operated (Republic of Ghana Ministry of Health, 2007b).

Ghana’s health sector has had three major policy changes over the last decade: 1) a national approach to donor funding (Sector-Wide Approach or SWAp), which centralizes funding from non-governmental and donor agencies and 2) a mixed model of decentralization through the development of the DHMTs and by contracting out service delivery to the GHS, non-governmental agencies (via GHS), and the teaching hospitals. In addition, a publicly funded National Health Insurance Scheme (NHIS) was introduced in 2003, which aims to provide equitable access and financial coverage for basic health care services to the people of Ghana (Saleh, 2013).

Pre-service training for health providers, the main focus of the country’s first HRH strategy (Ghana Ministry of Health, 2002; Saleh, 2013) is shared between the MoH and the Ministry of
Education. There are a total of 82 health training institutions (76 public and 6 private) in Ghana, including 4 medical schools. Many health-training institutions find it challenging to accommodate increases in enrolment because their physical, technical and organizational capacities are inadequate, and no comprehensive pre-service training/education policy has been developed to date (Beciu et al., 2013). Although the national HRH plan (Republic of Ghana Ministry of Health, 2007a) states that policies are in place to support the training needs, frequency of training, curricula and career progression for in-service training, details about these policies are not provided.

Although staffing ‘norms’ were developed in the early 1990s, recent efforts to revise these could not be completed (Republic of Ghana MoH, 2006). An analysis of the HRH situation in 2006 by the HRHDD found that only 40% of ‘critical staff’ were currently in place (Republic of Ghana Ministry of Health, 2006). Numbers of midwives, nurses and doctors increased by 300%, 5%, and 50%, respectively, between 2003 and 2009; however the overall supply of each of these professions remains inadequate (Ghana Ministry of Health, 2011). There is currently no formal mechanism in place for the deployment or distribution of graduates from the medical schools or other training institutions, although recently an inter-agency committee coordinated by the HRHDD has been created to coordinate HRH distribution (Republic of Ghana Ministry of Health, 2007b). The MoH noted in 2007 that the available funding for HRH only supports about 20% of their recruitment needs (Ghana Ministry of Health, 2007), and costing for the most recent HRH plan has not been completed (Republic of Ghana Ministry of Health, 2011). Plans from a previous HRH plan to develop and implement incentive packages for staff in underserviced areas were not completed, and there is no clear commitment in current plans (Republic of Ghana Ministry of Health, 2011).

Mali
Mali was a one-party state for many years until a coup in 1991 resulting in a multi-party democracy. A more recent military coup in 2012 followed armed conflict in the north of country, as a result of which there was substantial displacement of the population. Malian and French forces have now recaptured most of the north and a new president was elected in the summer of 2013. However there is still concern about the increased risk for disease outbreaks, increases in maternal mortality and an increase in severe malnutrition (International Committee of the Red Cross, 2013; WHO, 2013b).

From a health governance perspective, all health sector activities in Mali are governed by the Ministry of Health’s 10-year Health and Social Development Plan (PDDSS) and the 5-year Health Sector Development Program (PRODESS) (République du Mali Ministère de la Santé, 2009a). A new health strategy plan has been drafted for 2013-2022 with particular focus on MDGs 4, 5 and 6. A Human Resources Development Policy for Health (PDRHS) (République du Mali Ministère de la Santé, 2009b), a National Strategic Plan to Reinforce the Health System (PSNRSS) (République du Mali Ministère de la Santé, 2008b), and a document outlining public-private partnerships are said to be in development (Lamaiux et al., 2013). An estimated 80% of curative services are provided in the private sector where 50% of doctors are practicing. Despite
the low density of doctors relative to its population, the Ministry of Health recently described the current production and recruitment of them, along with pharmacists and health technicians, to be sufficient, and indicated an intention to focus on the training of other health care providers such as specialists (République du Mali Ministère de la Santé, 2008).

Since early in the millennium, the government of Mali has supported a policy for decentralized services for education, water procurement and health. As such, the government of Mali health service structure is pyramidal with the base built on Community Health Centers (CSCOMs), which provide a minimum health package (PMA), are considered private entities, and managed as non-profit organizations by Community Health Associations (ASACOs) (Lamiaux et al., 2013). Funding is piecemeal from cost recovery and community contributions as well as subsidies from public funds or non-governmental agencies.

**Mozambique**
Mozambique has been politically stable, compared to other African countries, since the armed conflict that followed its independence in 1992. The country is administratively divided into eleven provinces, which in turn, are divided into a capital and districts and the latter into administrative posts. Despite recent steady economic growth (Domínguez-Torres & Briceno-Garmendia, 2011), most of the country lives in poverty (World Bank, 2009). Mozambique is also greatly affected by malaria, malnutrition, TB and HIV/AIDS as well as limited access to clean water and sanitation. While there have been decreases in maternal and child mortality (WHO, 2013a), it is unlikely Mozambique will achieve MDGs 4 or 5 (UNDP, 2013).

The health system includes public, private for profit, and not-for-profit private sectors, which collectively cover about 60% of the population (WHO, 2013a). The health system relies on government and donor contributions for financing. Over 25 development partners are working in Mozambique’s health sector (WHO, 2013a), and Mozambique has implemented a SWAp (System Wide Approach) to facilitate the coordination of efforts between donors and government policies and strategies within the context of the Absolute Poverty Reduction Plan of Action (PARPA) and delivery of the sector strategic plan (PESS) (República de Moçambique Ministério da Saúde, 2013). Thirty percent of external funding is channelled through a Common Fund Mechanism (Prosaude) (WHO, 2013b).

Various policy documents set out the national health policy for Mozambique, including the Five-Year Government Program (2010-2014), the National Economic and Social Plan (NESP), the Health Sector Strategic Plan, and the Medium Term Expenditure Framework (MTEF) (República de Moçambique Ministério da Saúde, 2013).

While the Ministry of Health (MoH) is responsible for setting health sector policies, implementation is done at the provincial and district levels. Mozambique is among the countries facing severe health workforce shortages, particularly doctors. Multiple ministries and agencies (government and non-government) are involved in the training, recruitment, hiring, deployment, and payment of the health workforce (Ferrinho & Omar, 2006); República de Moçambique
Ministério da Saúde, 2008). Universities and those Higher Degree Institutes that graduate doctors and other health cadres are under the responsibility of the Ministry of Education, with great support from the Ministry of Health, particularly in regard to allowing health facilities to be used as clinical training sites and in some cases sponsoring the trainees. Mid-level health professions are trained in institutes and centres run by the training Department within the National Directorate for Human Resources within the Ministry of Health, which is also responsible for all health professional post-graduate training. Provincial health directorates manage these training institutions through three-year plans (República de Moçambique Ministério da Saúde, 2008) and all are publicly funded. Serious concerns have been expressed about the quality of training of HRH in Mozambique, and output of medical school graduates has been erratic (Ferrinho & Omar, 2006).

There was an overall increase in the health workforce from 25,683 health workers in 2006 to 35,503 (54% of whom were health professionals) in 2011. There has been a 72% increase in national doctors (as opposed to foreign) since 2005 (569 to 979) (WHO, 2014).

**Niger**

One of the poorest countries in the world (United Nations Development Program, 2013) and wrought with political instability, Niger did not have its first democratic election until 1993, over thirty years after its independence from France. Since 1993, there have been several coups leading to the creation of the National Reconciliation Council in 1999, which has been responsible for supporting the transition to civilian rule. The current president was elected in 2011.

Niger has multiple health problems related to communicable and non-communicable diseases, limited access to clean water, basic sanitation and nutrition and low levels of education. Similar to other African countries, Niger has a chronic lack of resources and a small number of health providers relative to the population (WHO, 2006a). The government hospitals and the public health programs are managed by the Ministry of Health with health care significantly supplemented by programs via private, faith-based and non-government agencies. Because political stability has only occurred recently, publicly-funded health care is still very much in development in Niger. Health policy is implemented via the health development plans (WHO, 2006b; République du Niger Ministère de la Santé Publique, 2010a). The current health plan is in-line with the national poverty reduction strategy and focuses solely on the MDGs. (République du Niger Ministère de la Santé Publique, 2010a). Health user fees were removed in early 2007 for children under five years old and specific maternal and reproductive health services. However, securing ongoing funding to sustain the removal of user fees, even for select populations, is challenging (Lagarde, Barroy & Palmer, 2012). Overall health system performance is plagued by limited and unequally distributed HRH, inadequate infrastructure, impediments to HRH recruitment and dysfunctional referral systems. This has resulted in only one-third of the population having access to health services (WHO, 2006a).
There is particular focus on training and education, recruitment and management and planning of health care providers in the most recent Niger National Health Plan (République du Niger Ministère de la Santé Publique, 2011). Key goals include increasing HRH (particularly for maternal-child health and in rural centres), strengthening the capacity of health workers, planning additional education and training, increase the use and skill of a monitoring plan and developing "predictive management of human resources”. It was noted that the implementation of the 2005 – 2010 health plan yielded significant gains in HRH, including the recruitment of over 1200 medical officers, more accurate data, the use of monitoring tools, increased decentralization of human resources management and revisions to training curricula (République du Niger Ministère de la Santé Publique, 2011). The Niger HRH Development Plan (République du Niger Ministère de la Santé Publique, 2010b) was created in response to identified challenges including the need for stronger monitoring and evaluation of policy implementation, and better collaboration between government Ministries with respect to HRH training and deployment.

Health care training reform began in 2008 and focused on revision of admission requirements, aligning training with the needs of the health system, the development of a competency-based approach to training, enhanced faculty and new strategies for organizing and monitoring initiatives. However, challenges related to inadequate infrastructure, equipment and teaching skills remain. Although training increased between 2005 and 2009, the MoH has noted concerns about market saturation as new graduates seek positions in urban areas and often in the private sector (République du Niger Ministère de la Santé Publique, 2010b). Additional training for specialization of medical and paramedical staff is also a key concern.

**Tanzania**

The United Republic of Tanzania, a union between Tanganyika and Zanzibar, is the most populous country in Eastern Africa (WHO, 2013). Following Independence in 1961, Tanzania has exhibited sustained economic growth and political stability. However GDP growth has not resulted in the equitable reduction of poverty; as reported in the most recent Health Sector Strategic Plan, approximately 25% of Tanzanians, and 39% in rural areas, live below the poverty line (United Republic of Tanzania Ministry of Health and Social Welfare, 2009). Positive trends have been seen in the decrease of under-five and infant mortality rates, although high rates of maternal mortality, HIV/AIDS, malaria, and TB persist (United Republic of Tanzania MoHSW, 2008; WHO, 2009, 2013). Underpinning these trends are malnutrition, poor access to improved sources of drinking water and sanitation, and a widening divide in the health and socio-economic status between the urban and rural populations. (United Republic of Tanzania MoHSW, 2009)

Setting the overall socio-economic development and National Health Policy context are the Tanzanian Development Vision 2025, Local Government Reform Program, and the Strategy for Growth and Reduction of Poverty (United Republic of Tanzania MoHSW, 2008). The Local Government Reforms Program resulted in two national bodies with responsibility of the health sector: The Ministry of Health and Social Welfare (MoHSW) to develop policies, guidelines, and lead health sector reform, and the Prime Minister’s Office for Regional Autonomy and Local Governance to implement the policies and services in the districts and below. Charged with
adoption of policies are Regional and Council Health Management Teams (COWI, 2007; United Republic of Tanzania MoHSW, 2008). Financing for the health system is drawn from Governmental budget allocations, SWAp development partner contributions, user fees, and the National Health Insurance Fund. The National Health Plan is to be realized primarily through the Health Sector Strategic Plan, Primary Health Services Development Program, and HRH Strategic Plan (WHO, 2009, 2013).

The HRH crisis in Tanzania has been largely due to the Retrenchment Policy, Employment Freeze, Civil Service Reform, and migration of skilled workers (United Republic of Tanzania MoHSW, 2008). Staffing shortages in the public and private health sectors stand at 65% and 85%, or 53,214 and 37,508 health professionals, respectively. Shortages are most severe in rural areas, where the HRH are strained further by demands on the health system due to higher burden of disease and population growth compared to urban areas (United Republic of Tanzania MoHSW, 2008).

According to the HRH Strategic Plan, the capacity of the 116 public and private health training institutions is intended to be aligned with the demands of the national health system. However, only 16% of the 23,474 staff produced between 1995 and 2005 were absorbed by the public sector. Demands will increase along with the implementation of the 2007 National Health Policy calls for a dispensary in every village, a health center in every ward, and a district hospital in each district; an additional 5,162 dispensaries, 2,074 health centers and 8 district hospitals which need to be staffed. In order to adequately staff these facilities, an additional 88,829 health professionals are required (United Republic of Tanzania MoHSW 2007, 2008).

Concerns have been raised about training institutions’ abilities to meet accreditation standards. There is no training scheme for post-graduate and specialist training, and the professional development needs of individual staff are not well understood. The MoHSW is attempting to address these issues, in addition to building capacity for planning and management at the local levels of implementation, through Zonal Training Centres. Unfortunately, success is limited due to low resources, infrastructure, and staffing, among other factors (COWI, 2007; United Republic of Tanzania MoHSW, 2008).

**Uganda**

Uganda is a presidential republic, having achieved independence from the United Kingdom in 1962. Uganda has experienced intermittent armed conflict since independence, which has adversely affected the well-being of the country’s population and hindered implementation of government policies, including health care policies (Uganda Ministry of Health, 2010b). The past few years, however, have been relatively peaceful, coinciding with a period of substantial macro-economic growth (Uganda Ministry of Health, 2010b). Approximately 30% of the population lives in poverty, with little access to clean water and sanitation (WHO, 2013).

Leading causes of morbidity and mortality in Uganda include malaria, malnutrition, HIV/AIDS tuberculosis, and peri- and neonatal conditions (Uganda Ministry of Health, 2010b). Although
Uganda spends 9% of its GDP on the health portfolio, only about 1% comes from public funds; the remainder comes from private and donor funds (Uganda Ministry of Health, 2013). The current National Health Policy derives its mandate from the country’s National Development Plan (Uganda Ministry of Health, 2010). Health care in the country is overseen by the Ministry of Health at the national level, which partners with a number of donor agencies and countries to help fund its health care programs, using the Sector-Wide Approach (SWAp). The country’s 100 districts and their sub-districts are responsible for more localized administration of health care, under direction from the national ministry. The proportion of public funds allocated to the health portfolio has remained steady in recent years but below the national target of 15%, meaning there are insufficient funds to deliver the National Minimum Health Care Package (Uganda Ministry of Health, 2010a).

Following a national recruiting effort, the number of unfilled established posts in Uganda’s public health care system has decreased from 49% in 2010 (Uganda Ministry of Health, 2010a) to 37% in 2013 (Uganda Ministry of Health, 2013). The gap is worse in rural areas, where poverty, poor sanitation and malnutrition are more common (Uganda Ministry of Health, 2013) yet most districts have less than the minimum number of required staff (Uganda Ministry of Health, 2010a). A number of strategies and goals to address this situation are described in national policy documents, and the Second National Health Policy notes that an increase in salaries for civil servants preceded an increase in attrition among staff at non-government facilities (Uganda Ministry of Health, 2010b).

Uganda’s Ministry of Education and Sports took over responsibility for the country’s publicly-funded health training institutions from the Ministry of Health in 1998; the Ministry of Health remains the primary employer of Uganda’s health professionals (Uganda Ministry of Education and Sports, 2011). There are a total of 36 accredited schools for health professionals, which are a mixture of government-owned and private-not-for-profit institutions. The exceptions are the three schools each that train doctors and clinical officers, which are government-owned (Uganda Ministry of Education and Sports, 2011). Government-owned schools have insufficient infrastructure or instructors to accommodate the numbers of students they have enrolled; this does not appear to be an issue in the private schools (Uganda Ministry of Education and Sports, 2011).

Zambia
Zambia is a presidential republic, having achieved independence from the United Kingdom in 1964. The country’s political climate has been largely peaceful and stable since then, particularly since its current constitution was ratified in 1991. Its economy has achieved substantial macro-economic growth in recent years, although these gains have yet to show much impact at the population level (Zambia Ministry of Health, 2010); most of the country lives in poverty, with little access to clean water and sanitation (Zambia Ministry of Health, 2010; WHO, 2013). Malnutrition is widespread and a leading cause of child deaths in the country (Zambia Ministry of Health, 2010; WHO, 2013).
Zambia faces a variety of other health challenges, particularly HIV/AIDS and malaria, which culminate in short life expectancy and maternal and child mortality among the highest in the region (WHO, 2013). To respond to these challenges, the current national health strategic plan derives its mandate from the country’s Sixth National Development Plan and Vision 2030 (Zambia Ministry of Health, 2010), and includes as an integrated component its National HRH Strategic Plan (Zambia Ministry of Health, 2010; 2012). Health care in the country is overseen by the Ministry of Health at the national level, along with the Ministry of Community Development and Maternal and Child Health for some services. Zambia partners with a number of donor agencies and countries to help fund its health care programs, using the Sector-Wide Approach (SWAp). The country’s 10 provinces and 105 districts are responsible for more localized administration of health care, under direction from the national ministries.

Although Zambia’s supply of HRH has increased in recent years, over 40% of the nearly 60,000 established posts in the public health care system remain unfilled, including 61% of posts for doctors, 55% for midwives, and 45% for nurses (Zambia Ministry of Health, 2013). The gap is worse in rural areas, where poverty, poor sanitation and malnutrition are more common (Zambia Ministry of Health, 2010; WHO, 2013) yet health care facilities have few – if any – formally trained health workers to staff them (Zambia Ministry of Health, 2010). Several strategies have been devised to address this shortage; however implementation of them has been severely limited by insufficient funding. The most recent HRH Strategic Plan, covering the period 2011-2015, notes that only 17% of the funds required to implement the previous Plan, developed for 2006-2010, were allocated; its implementation was minimal (Zambia Ministry of Health, 2010). The 2006-2010 plan notes that its predecessor, drafted in 2001, was never implemented (Zambia Ministry of Health, 2005).

The Ministry of Health is largely responsible for deployment of Zambia’s HRH, while it shares responsibility for training with several other Ministries. The country’s largest medical school, at the University of Zambia, which includes programs for nursing and other professions, and the Copperbelt University School of Medicine, which includes a program in dentistry, are the responsibility of the Ministry of Education, Technical Education and Vocational Training and Early Education. This is the Ministry overseeing the programs at Evelyn Hone College of Art and Applied Sciences as well. The Ministry of Health is responsible for all other public HRH training programs (Zambia Ministry of Health, 2010). As of 2010 there were 22 pre-service, 7 post-basic and 16 post-graduate training programs for health professionals offered across 39 public, private-for-profit, and mission/religious institutions in Zambia. Together these programs produce approximately 2,300 graduates per year, 80% of whom are absorbed into the public health care system (Zambia Ministry of Health, 2010). Net of attrition and other losses, Zambia’s public health care system has been adding approximately 1,200 new personnel per year against a staffing deficit of nearly 25,000 unfilled posts (Zambia MoH, 2010; 2013). Attempts to increase training outputs through the National Training Operational Plan developed in 2008 have had minimal success due to a lack of funding for its implementation; although some individual programs and institutions have made progress in increasing their respective outputs, they are
Identified Policies
The following section describes the findings of our in-depth analysis and synthesis of all available documents meeting the review criteria\(^4\) for a subset of eight African countries including Ethiopia, Ghana, Mali, Mozambique, Niger, Tanzania, Uganda, and Zambia. As noted above, the policy analysis framework developed by Hercot and colleagues (2011), previously applied in studying health care policies in sub-Saharan Africa, guided the review and synthesis of available documents. However, as will be shown below, the information available through our search was almost entirely limited to the context in which various policies have been developed, with very little information on the content, the actors, implementation or impacts of the policies. What follows are descriptions of relevant findings related to policy identification, development, implementation and evaluation, consistent with the policy cycle framework (Sabatier and Jenkins-Smith, 1993).

Each of the countries studied have documents which they have designated National Health Policies, Strategies, or Development Plans. These documents are all similarly structured, laying out first a situational analysis of the leading health issues of the country, then the current state of the health care system, followed by identifying priority issues to be addressed, and finally describing plans to address them. The most recent versions of these documents available through our search from each country all focus on the MDGs as a framework for establishing and addressing national priorities within and beyond the health care sector. This means that, although there are important differences between these countries, their identified national health priorities are similar.

For some countries earlier versions of National Health Policies were identified through our search. Ethiopia’s National Health Policy was enacted in 1993 (Transitional Government of Ethiopia, 1993) and the implementation of the policy is through a series of Health Sector Development Plans (HSDPs) (Ethiopia Federal Ministry of Health, 2005a). The fourth and most recent of these covers the period 2010-2015 and has a specific focus on maternal and child health, with specific objectives pertaining to HRH training and deployment (Ethiopia Federal Ministry of Health, 2010). Tanzania has a 2007 Health Policy (Tanzania Ministry of Health, 2007) – which was available through our search only in Kiswahili – and a Health Sector Strategic Plan which covered the period 2003-2008 (Tanzania Ministry of Health, 2002). Prior to these there were National Health Policies published in 1990 and 2003 (in draft form). Uganda is on its second ten-year National Health Policy (Uganda Ministry of Health, 2010a) and third five-year Health Sector Strengthening and Investment Plan (HSSIP) (Uganda Ministry of Health, 2010b). Zambia’s current 2011-2015 National Health Strategic Plan (Zambia Ministry of Health, 2010a) was preceded by the plan for the preceding five years (Zambia Ministry of Health, 2010).

\(^4\)An applied policy intervention specifically related to training and deployment of doctors, nurses and midwives to rural areas for maternal & child health
2005a). Some of these later versions make some explicit reference to their predecessors, describing progress or, as is more often the case, system issues and other challenges that have limited progress. Uganda’s current HSSIP for 2010-2015, for example, makes repeated reference to the previous HSSIP which covered 2006-2010. On the whole, however, there is little information in these documents on how activities laid out in earlier policies or strategic plans have progressed, let alone what their impacts, if any, have been. Specific exceptions are described below.

The national health policies for some of these countries, such as Ethiopia (Ethiopia Ministry of Finance and Economic Development, 2010), Tanzania (United Republic of Tanzania, n. d.), and Uganda (Republic of Uganda, 2010), are also explicitly linked with broader national development policies. In Mali, national health strategies are embedded within the Decennial Health and Social Development Plan 2013-2022 (République du Mali Ministère de la Santé et al., 2012). In Ghana, over-arching national policies include the National Population Policy, Ghana Vision 2020, the National Health Policy (2007) and Programs of Work that are released annually and every five years. These linkages demonstrate the recognized interdependence of the performance of the health sector with the overall status of the country as a whole – in other words, the workings of a country’s health care system and the workings of its economy, socio-political structures and other systems all affect each other. Although these higher-level national policies are outside the scope of our review, their interdependence with health policies must nonetheless be factored into any analyses of health systems, as will be described later in this section.

Each country also has national-level policy documents specific to HRH, which in some cases are explicitly integrated into the former in that each makes direct reference to how it aligns with the other or vice versa, such as Zambia’s National Health Strategic Plan (Zambia Ministry of Health, 2010) and National HRH Strategic Plan (Zambia Ministry of Health, 2011). Although described in other government documents, neither Ethiopia’s nor Uganda’s National HRH Policies or Strategic Plans were available through our search.

As national policies become more specific, their interrelationships with other kinds of policy documents become more complex and often overlap. For example, National Policies on child health were identified through our search for Ethiopia, Ghana, Tanzania, Uganda and Zambia. Instead of a single child health strategy, Zambia has, at various times, had an Integrated Management of Child Illnesses (IMCI) strategy, an Expanded Program for Immunisation (EPI) (Zambia Ministry of Health, 2005), and a Reach Every District (RED) strategy for immunization coverage (Zambia Ministry of Health, 2010). However, no copies of these policies were available to be reviewed; they were referred to in other documents. Similarly, Uganda has a focused Child Survival Strategy which is referred to in its National Health Policy, although a copy of the Strategy itself was not accessible. So does Ethiopia; however it specifies that it be read in conjunction with the National Reproductive Health Strategy and National Nutrition Strategy (Ethiopia Federal Ministry of Health, 2005). Similarly, Tanzania’s National Strategic Plans for child and reproductive health are combined (Tanzania Ministry of Health, 1994; 2002).
Ethiopia, Ghana, Mali, and Uganda also have National Policies or Strategies for reproductive health, which inherently also have implications for child health, as do other National Policies in each country pertaining to malaria, HIV/AIDS, nutrition, poverty reduction, and so on. However, identified as a limiting factor to virtually all of these overlapping policies is the availability of sufficient HRH, with the appropriate training, deployed to the sectors and locations where they are needed.

Having reviewed all of these and other relevant documents for each of these countries, we identified descriptions of 19 applied policies pertaining to training or deployment of doctors, nurses, or midwives for maternal or child health in rural Africa. An overview of these policies is provided in Table 5.

### Table 5: National Policy Initiatives on Training or Deployment of Doctors, Nurses or Midwives for Maternal or Child Health in Rural Ethiopia, Ghana, Mali, Mozambique, Niger, Tanzania, Uganda or Zambia

<table>
<thead>
<tr>
<th>Country</th>
<th>Policy</th>
<th>Year Implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethiopia</td>
<td>Mandatory public service after graduation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Differentiated terms and conditions for pay &amp; benefits</td>
<td></td>
</tr>
<tr>
<td></td>
<td>New Medical Education Initiative</td>
<td>2011</td>
</tr>
<tr>
<td></td>
<td>Nurse anaesthetist program</td>
<td>2010</td>
</tr>
<tr>
<td></td>
<td>Accelerated training &amp; increased staffing for midwives</td>
<td>2009</td>
</tr>
<tr>
<td></td>
<td>Decentralized medical resident training</td>
<td>2000</td>
</tr>
<tr>
<td></td>
<td>Deprived Area Incentive Scheme Allowance (DAIA)</td>
<td>2004</td>
</tr>
<tr>
<td></td>
<td>Health Staff Vehicle Hire Purchase Scheme</td>
<td>1997</td>
</tr>
<tr>
<td></td>
<td>Community-based Health Planning and Services program (CHPS)</td>
<td>1999</td>
</tr>
<tr>
<td>Ghana</td>
<td>Medicalization of rural areas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Scholarships for rural students</td>
<td>2011</td>
</tr>
<tr>
<td></td>
<td>Mobile health teams</td>
<td>2011</td>
</tr>
<tr>
<td></td>
<td>District-level surgery training</td>
<td>2005</td>
</tr>
<tr>
<td>Mali</td>
<td>No available information on applied policies meeting criteria</td>
<td></td>
</tr>
<tr>
<td>Mozambique</td>
<td>No available information on applied policies meeting criteria</td>
<td></td>
</tr>
<tr>
<td>Niger</td>
<td>Scholarships for rural students</td>
<td>2011</td>
</tr>
<tr>
<td></td>
<td>Mobile health teams</td>
<td>2011</td>
</tr>
<tr>
<td></td>
<td>District-level surgery training</td>
<td>2005</td>
</tr>
<tr>
<td>Tanzania</td>
<td>No available information on applied policies meeting criteria</td>
<td></td>
</tr>
<tr>
<td>Uganda</td>
<td>Incentives scheme for human resource in hard-to-reach areas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Integrated Management of Childhood Illness (IMCI)</td>
<td>1995</td>
</tr>
<tr>
<td></td>
<td>Community-based education and services (COBES)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Specialist outreach</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Building and staffing operating theaters at the level of the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>‘‘health subdistrict’’ or health center type IV</td>
<td></td>
</tr>
<tr>
<td>Zambia</td>
<td>One-year rural attachment for trainees</td>
<td>1991</td>
</tr>
<tr>
<td></td>
<td>Zambia Health Worker Retention Scheme</td>
<td>2003</td>
</tr>
<tr>
<td></td>
<td>Rural and Remote Hardship Allowances</td>
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<tr>
<td></td>
<td>Housing Allowance</td>
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</tbody>
</table>

The paucity of identified policies for a particular country should not necessarily be construed as a lack of attention or effort towards the training or deployment of doctors, nurses, or midwives...
for maternal or child health in rural Africa. The included policies reflect the information that was identified and readily available for inclusion in our analysis using the methods and sources outlined above. That said, because there were very few individual policies identified in the review, with very little information along with disparity in content, a synthesis of key themes emerging across these policies was not possible. The results of this phase are therefore limited to detailing the information available to answer our research questions. Accordingly, the following discussion presents the findings of the synthesis under the headings of: Policy Content; Policy Development, Policy Implementation, Policy Impact and Other Policies.

**Policy Content**

Ethiopia’s New Medical Education Initiative (NMEI) involved a revised, modular curriculum and increased medical school enrolment capacity, including at rural sites (Ethiopia Federal Ministry of Health, 2013). The accelerated midwifery training and increased staffing (the two interventions are described as a single strategy) reduced the length of midwifery training (although by how much is not clear) and increased the midwife staffing standard to two midwives per health centre; many of these centres are in rural areas. In addition, a mentorship program for new graduates was designed and implemented in collaboration with the Ethiopian Midwives Association, under which experienced midwives were assigned to the same health centres as new graduates (Ethiopia Federal Ministry of Health, 2013). Nurse anaesthetists are trained through one of eleven one-year post-graduate programs or one of six baccalaureate programs. They are then deployed as part of teams with Integrated Emergency Surgery Officers (IESOs) and nurse midwives to primary hospitals and health centres across the country, where much of their work focuses on maternal and neonatal care for residents of rural areas (Ethiopia Federal Ministry of Health, 2013). The country’s policies on mandatory public service after graduation and differentiated terms and conditions for pay & benefits are referred to in its third Health Sector Development Plan (Ethiopia Federal Ministry of Health, 2005a), although the years in which they were implemented are not given. According to the Plan, “the scheme considers various aspects of employment & training to promote public sector service in rural and remote locations including salary, eligibility for release from public service, eligibility for post-graduate training (e.g. to specialist), and eligibility for transfer.” One criteria considered in the public policy is the type of district in the required length of public service. For example, graduates must work for four years if they chose to work in an urban district, but only two if they are posted to a remote district (Ethiopia Federal Ministry of Health, 2005).

Under Ghana’s decentralized medical training, residents spend time at teaching hospitals (which are in urban areas) as well as regional or district hospitals (which are in more rural parts of the country). The Deprived Area Incentive Scheme Allowance (DAIA) provided additional monetary incentives from 20-35% of health workers’ basic salary if they were practicing in one of 55 districts that were considered deprived, virtually all of which were rural (Lori et al., 2012). The Health Staff Vehicle Hire Purchase scheme began in 1997 as a retention and recruitment initiative. The CHPS program is described by Nyonator et al. (2005) as beginning in 1999 but by the Ghana Ministry of Health (2012) as originating in 2003. Initially focusing on rural districts, CHPS is a national health program designed to reduce geographical barriers to health care –
particularly maternal and child care – through mobile community-based care provided by a nurse specially trained as a community health officer (CHO) (Nyonator et al., 2005).

The only reference to Mali’s medicalization of rural areas program is in a paper by Dolea et al. (2010) where it is described as aiming to support doctors setting up their practices in rural areas.

Under Niger’s district surgery training program, public sector generalist doctors working at district hospitals who perform well on a screening exam undergo twelve months of theoretical and practical training at university and regional hospitals to be able to perform emergency obstetrical and other surgical services. Graduates receive a certificate which entitles them to a salary increase in Niger but is not recognized elsewhere (Sani et al., 2010). The rural scholarship program provides funds for students from rural areas to train in one of four key health professions, two of which are nursing and midwifery, on the condition that they serve for three years in their community of origin in order to receive their degree (République du Niger Ministère de la Santé Publique, 2010b). The mobile health teams consist of two nurses, a midwife and a driver who are dispatched for five days per month to provide stop-gap services, mainly maternal and child care, in rural areas as a temporary measure to address staffing shortages (République du Niger Ministère de la Santé Publique, 2010b).

Similarly, the only reference to the existence of Uganda’s incentives scheme for human resources in hard-to-reach areas is in its second National Health Policy (Uganda Ministry of Health, 2010b), but no details on the schemes are provided. The IMCI program is described as having three main components, each of which were designed to complement the other to improve child health in the country: improving case management skills of health workers, improving health system supports for child illness, and promoting family and community practices, with a particular focus on rural areas (Pariyo et al., 2006). The country’s use of the Community-Based Education and Service (COBES) and specialist outreach programs, and the building and staffing of operating theatres in health subdistricts, are described in a paper by Ozgediz et al. (2008) as national interventions having Ministry of Health involvement but are not mentioned in any of the government documents reviewed. COBES is intended to provide a more hands-on, representative, community-based clerkship experience and, through early exposure to care in rural facilities, aims to increase the number of graduates willing to serve in rural areas after graduation (Ozgediz et al., 2008). Specialist outreach is conducted periodically – depending on availability of MoH funding – in underserved regions by flying in consultant orthopedic, plastic, or ophthalmologic surgeons from the national hospital, or from international agencies (Uganda Ministry of Health, 2013; Ozgediz et al., 2008). No information about the content of the theater building and staffing policy is available through our search.

Zambia’s requirement of one year’s rural service for trainees of health professional programs is mentioned only briefly in a 1991 Ministry of Health collection of policies and reforms. Noting the “skewed distribution of qualified personnel towards urban areas,” it states that, “trainees will do an attachment in a rural setting for a period of one year” (Zambia Ministry of Health, 1991). No other information on the policy is available through our search. Over ten years later, the
ZHWRS was first implemented in 2003 to provide a suite of incentives to recruit and retain doctors in rural and remote districts, including a salary top-up, child education allowance, car loan, housing improvement allowance, and professional development eligibility (Koot & Martineau, 2005). Gow et al. (2012) state that, “rural hardship allowance is given to selected health workers who serve in rural and remote areas in places that are ten kilometres from any paved road. This is intended to cushion them against the factors that dissuade health workers from serving in economically disadvantaged areas.” However, the details of the allowances are described somewhat inconsistently in two documents. According to the 2011-2015 Strategic Plan (Zambia Ministry of Health, 2010b), the allowances amount to an extra 20-25% of basic salary, while according to Gow et al. (2011), under these allowances, “Compensation [is] doubled for workers in extreme rural districts and increased by 50 per cent for those in peri-rural districts.” The housing allowance is mentioned only by Gow et al. (2012) and not in any government documents reviewed; no other information on its content is available through our search.

The next subsections describe what is known about the development, implementation, and impacts of the included policies. The availability of information on these aspects of each policy is summarized in Table 6.

### Table 6: Information Availability by Policy

<table>
<thead>
<tr>
<th>Country</th>
<th>Policy</th>
<th>Development</th>
<th>Implementation</th>
<th>Impacts&lt;sup&gt;5&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethiopia</td>
<td>Mandatory public service after graduation</td>
<td>✔</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td></td>
<td>Differentiated terms and conditions for pay &amp; benefits</td>
<td>✗</td>
<td>✔</td>
<td>✗</td>
</tr>
<tr>
<td></td>
<td>New Medical Education Initiative (NMEI)</td>
<td>✗</td>
<td>✔</td>
<td>✗</td>
</tr>
<tr>
<td></td>
<td>Accelerated midwifery &amp; increased staffing for midwives</td>
<td>✗</td>
<td>✔</td>
<td>✗</td>
</tr>
<tr>
<td></td>
<td>Nurse anaesthetist program</td>
<td>✗</td>
<td>✔</td>
<td>✗</td>
</tr>
<tr>
<td>Ghana</td>
<td>Decentralized medical resident training</td>
<td>✗</td>
<td>✔</td>
<td>✗</td>
</tr>
<tr>
<td></td>
<td>Deprived Area Incentive Scheme Allowance (DAIA)</td>
<td>✔</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td></td>
<td>Health Staff Vehicle Hire Purchase Scheme</td>
<td>✗</td>
<td>✔</td>
<td>✗</td>
</tr>
<tr>
<td></td>
<td>Community-based Health Planning and Services program (CHPS)</td>
<td>✔</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Mali</td>
<td>Medicalization of rural areas</td>
<td>✔</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Niger</td>
<td>Scholarships for rural students</td>
<td>✗</td>
<td>✔</td>
<td>✗</td>
</tr>
</tbody>
</table>

<sup>5</sup> As noted above, for the purposes of this review, only information published in peer-reviewed scientific journals was considered as evidence of policy impact.
<table>
<thead>
<tr>
<th>Policy Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>No details on the development of Ethiopia’s NMEI or policies on mandatory public service after graduation and differentiated terms and conditions for pay &amp; benefits were available. The accelerated training and increased staffing for midwives were designed to increase the country’s ability to respond promptly to problems arising during pregnancy and childbirth, and to reduce maternal and neonatal mortality. The mentorship component was designed to strengthen the professional competence of new graduates entering practice (Ethiopia Federal Ministry of Health, 2013). The nurse anaesthetist program was developed to increase access to their services specifically and to emergency surgery in general (Ethiopia Federal Ministry of Health, 2013).</td>
</tr>
<tr>
<td>Ghana’s resident training program for obstetricians and gynecologists was developed in the late 1980s through a partnership between the American College of Obstetricians and Gynecologists (ACOG), the UK’s Royal College of Obstetricians and Gynecologists (RCOG), the Department for International Development of Britain, the Carnegie Corporation of New York, two Ghanaian medical schools, and the government of Ghana. A key feature of the program is a rural district hospital posting for 6 months during the 4th year. Prior to this program, obstetrical specialists were trained primarily in the United Kingdom, often resulting in the trained specialists not returning home to Ghana (Klufio et al., 2003). As of 2000, funding for this program is supported through the Ghanaian MoH. The DAIA and staff vehicle purchase scheme were employed as incentives to recruit and retain health staff to deprived (mainly rural) areas (Lori et al., 2012). According to Ghana’s Ministry of Health (2012), the CHPS program is a response to the fact that most Ghanaians live more than 8 kilometers from the nearest health care provider. An</td>
</tr>
</tbody>
</table>
experiment in the Navrongo district suggested that the deployment of community health nurses in community outreach activities could substantially improve services over more traditional, rigid service delivery methods, and so the approach was designated to be scaled up nationally (Nyonator et al., 2005). No information on the development of the other included Ghanaian policies was available through our search.

No information on the development of Mali’s medicalization of rural areas program was found through our search.

Motivated by limited capacity to provide emergency obstetrical and surgical care in remote and rural locations, Niger’s Ministry of Health, in partnership with the Faculty of Medicine of Niamey University, launched surgery at the district level as part of the overall country health strategy in 2005 (Sani et al., 2010). The Ministry of Health identified the rural health scholarship and mobile health teams programs in its most recent HRH development plan under the specific objective of providing health facilities with 80% of staff based on identified needs (République du Niger Ministère de la Santé Publique, 2010b).

Uganda’s Ministry of Health adopted IMCI as part of its child health policy in 1995 as part of its response to high under-5 mortality rates in the country (Pariyo et al., 2006). Ozgediz et al. (2008) suggest that COBES was developed in response to geographic imbalances in the distribution of doctors in Uganda, with over 90% concentrated in urban Kampala while 90% of the population lives in rural areas, leaving surgical services outside the capital to be provided by medical and anaesthetic officers. Ozgediz et al. (2008) also indicate that the primary impetus for the building and staffing of rural operating theaters was improvement in access to emergency obstetric care. No other information on the development of these policies is available through our search.

Initially funded through a partnership with the Netherlands, the ZHWRS was designed to improve service delivery, increasing the potential to achieve the MDGs, with a particular focus on rural and underserved parts of Zambia (Koot & Martineau, 2005), addressing the inadequacy of staff housing in rural and remote areas (Zambia Ministry of Health, 2009) and the urban/rural imbalance in HRH distribution (Zambia Ministry of Health, 1991).

Policy Implementation
The NMEI has involved expanded training capacity at 11 existing universities and the establishment of 13 additional universities and hospital medical colleges, several of which are in rural areas. The Initiative has resulted in a near tripling of enrolment in Ethiopia’s medical schools (Ethiopia Federal Ministry of Health, 2013). The latest available data indicate that 3,190 midwifery students have graduated from the accelerated program thus far, with another 1,190 still in training (Ethiopia Federal Ministry of Health, 2013). To implement the nurse anaesthetist program, 60 adult airway trainers, 60 lumbar puncture modules, and over 600 textbooks were distributed to the various training institutions. The most recent data available indicate that the one-year post-licensure and four-year undergraduate nurse anaesthetists programs have produced 96 and 50 graduates, respectively with another 115 and 471 still in training (Ethiopia Federal Ministry of Health, 2013).
Ministry of Health, 2013). Although not specific to the mandatory public service policy, a mid-term review of progress under Ethiopia’s third Health Sector Development Plan (Ethiopia Federal Ministry of Health, 2008) noted that some zonal levels (zones within regions) have been reluctant to deploy degree holders because of the budget constraints in hiring qualified personnel and so they are mainly deploying middle level health workers. No other information on the implementation of Ethiopia’s policies on mandatory public service after graduation and differentiated terms and conditions for pay & benefits is available through our search.

As a recruitment strategy, between 1997 and 2009, almost 3500 cars were distributed to health workers through Ghana’s Health Staff Vehicle Hire Purchase Scheme. Following the promising results of CHPS in Navrongo, the program was tested in Nkwanta district. When that was deemed successful, the program was expanded to other districts (Nyonator et al., 2005). In response to a 2009 Ministry of Health (2012) study of CHPS, training of the CHO’s who form the core of the program was accelerated and expanded to include midwifery training. The study also detailed several factors that have hindered the implementation of the program: CHO’s time is almost entirely occupied with providing curative services at the expense of preventive or health promotion services, the program is poorly supervised, there is little engagement with community leaders in planning the program, and available transport and equipment are inadequate. The report recommended the establishment of an inter-agency coordinating committee to address these issues (Ghana Ministry of Health, 2012). No other information on the implementation of the Ghanaian policies is available through our search.

Dolea et al. (2010) note that as part of Mali’s medicalization of rural areas program, 100 doctors were posted to rural areas over a ten-year period, with an average time in post of four years.

Niger’s district surgery program was implemented in 2005, and after the first two graduating cohorts (2006 and 2007), produced 41 trained practitioners from rural origins. Approximate cost for the first year of implementation was $100,000 USD, or $4,762 USD per student. Additional sponsorship for the program was provided by the Belgian Technical Cooperation and the Italian Cooperation (Sani et al., 2010). Although no information is available on the actual implementation of the rural scholarship or mobile health teams programs, the most recent national HRH strategic plan (République du Niger Ministère de la Santé Publique, 2010b) notes that scholarships are to be issued to 300 young people of rural origins between 2011 – 2014, and an additional 300 between 2016 – 2019. These scholarships are to be divided across students of four health professions: 100 for health assistants (Agent de Sante de Base), 100 for diploma-level nurses (Infirmier Diplome d’Etat), 25 for lab staff (Laborantin), and 75 for diploma-level midwives (Sage-Femme Diplomee d’Etat). Projected total cost is 4,666,500,000 F. CFA (République du Niger Ministère de la Santé Publique, 2010b). The HRH plan also states that the 32 mobile health teams will initially cover up to three districts, with scaling up to the national level upon successful implementation. The total cost of the program over 2011 – 2015 was estimated at 355,200,000 F. CFA, or 2,220,000 per health district over the same period of time. Local partners will take on the additional costs of travel, supplies, and maintenance (République du Niger Ministère de la Santé Publique, 2010b).
The initial training of health personnel for IMCI in Uganda began in 1996 in three districts. The MoH recommended that nurses, midwives, clinical officers and doctors be trained first, followed by nursing aides and assistants. After two years of trials and implementation, the program was designated for national expansion and by 2000 had been introduced in 55 of 56 districts nationally. MoH personnel monitored all training until 2001. Between 2000 and 2002, the program’s implementation was evaluated by a team from Makerere University, the WHO, and Johns Hopkins University (Pariyo et al., 2006). The evaluation noted several factors that hindered the implementation of the program, mainly that most facilities did not have all necessary drugs, that most did not receive any supervisory visits, and that there were some ‘unwritten’ policies among public health workers that were viewed as superseding the IMCI protocols (Pariyo et al., 2006). Under Uganda’s policy of building and staffing operating theatres at the subdistrict level, operations were to be performed by a medical officer, and anaesthesia provided by anaesthetic assistants, for whom an 18-month training program was developed (Ozgediz et al., 2008). No other information on the implementation of Ugandan policies was available through our search.

The total budget made available to implement the ZHWRS was €2.3 million over the first three years. As of 2005 the scheme was managed by the Central Board of Health (CBoH) without MoH involvement, and a mid-term review found 68 doctors had been contracted under the scheme, and that other than the provincial health director and HR specialist, almost no personnel in the districts knew anything about the scheme (Koot & Martineau, 2005). The CBoH was dissolved in 2005, after which the MoH took over the scheme (Zambia Ministry of Health, 2010a). In 2007 the ZHWRS was expanded to include other health workers, including clinical officers, tutors/lecturers, nurses, midwives, environmental health technologists; tutors and lecturers were added to help produce more health personnel (Zambia Ministry of Health, 2010a).

A 2009 review found that the total number of health workers on the staff retention scheme increased from 656 in 2008 to 860 in 2009, against a target of 1,650, and also noted a need to improve coordination and communication of HR information, particularly on staff postings and the ZHWRS (Zambia Ministry of Health, 2009). A more recent review found that, as of 2012, membership in the scheme was 1,023 against a target of 1,400, distributed across all districts. Nurses and midwives are among the professional groups whose participation in the ZHWRS is above target levels, while participation for doctors is below target (Bwalya et al., 2013). Among the challenges reported related to the scheme’s implementation were irregular and late payments of allowances under the scheme, weak monitoring and evaluation practices, particularly poor working conditions in rural areas, and inefficient communication and collaboration between national and district offices. The payment issues appear to be related to delays in receiving funds from the Ministry of Finance, which have led to the scheme incurring unfunded liability (Bwalya et al., 2013). No details on the implementation of the other Zambian policies were found.
Policy Impacts
No peer-reviewed evidence was available through our search on the impacts, if any, of Ethiopia’s NMEI, accelerated training and increased staffing for midwives, nurse anaesthetist program or policies on mandatory public service after graduation and differentiated terms and conditions for pay & benefits. In the case of NMEI, it is important to note that as the Initiative only began in 2011, the additional students have not yet had time to complete their training. The nurse anaesthetist program has also only been recently implemented, and the accelerated training and increased staffing for midwives is also a relatively new policy.

A 2003 study found that doctors who were trained in Ghana and in particular in rural areas, tended to stay in the country and practice in rural areas (Klufio et al., 2003), suggesting the decentralized medical training – if it is still in place – should help to address the country’s rural doctor shortages. However this study was not specific to the rural residency program. The 2009 study on the CHPS did not describe any actual impacts of the program. No information is available from our search on the impacts of the nation-wide version of the program, although Nyonator et al. (2005) note that the positive results of pilot implementations suggested the program had increased rural service availability in general and immunization coverage in particular. No information on the impacts, if any, of the other Ghanaian policies was available.

No information on the impacts of Mali’s medicalization of rural areas program was available through our search.

A study of Niger’s district surgery training program found that all graduates have remained in their rural posts, that surgical patient transfer to regional hospitals was reduced from 82% in 2005 (pre-implementation) to 52% in 2006 (post-implementation), and that surgeries performed by graduates in the districts had a mortality rate only slightly higher than those performed at the regional hospitals by fully trained surgeons and gynaecologists (Sani et al., 2010). The study also concluded that, although very successful, the overall impact of the program is limited by inconsistent provision of human resources, essential equipment, and continued training. Further, it suggests that part of the successful retention of graduates is due to the lack of recognition of the program’s credential outside the country, and to other rural incentives which are not described (Sani et al., 2010). No information on the impacts of the rural scholarship or mobile health teams programs was found.

There is very little information available on the impacts of the Ugandan policies, with the exception of the IMCI program, which has been evaluated. Pariyo et al. (2006) found that HRH trained in IMCI protocols and procedures were better at assessment and diagnosis, and that this effect was stronger for nurse aides and assistants than for nurses, doctors and midwives. They also found variation in that while personnel trained in IMCI protocols provided better education of child caretakers, there was variation in the effects of treatment. Further, they found that initial improvements were not maintained by the end of the study period. They concluded that IMCI training alone was not sufficient to sustainably improve care (Pariyo et al., 2006). Other than the fact that there continues to be an inequitable distribution of health workers between urban and
rural parts of Uganda, with nearly 70% of medical doctors and dentists, 80% of pharmacists and 40% of nurses and midwives, are in urban areas serving 13% of the population (Uganda Ministry of Health, 2010a), no information was available through our search on the impacts, if any, of the other Ugandan policies.

Similarly, there was little peer-reviewed evidence available through our search on the impacts of the Zambian policies. Ministry of Health data show that HRH numbers have increased in rural areas since 2005, suggesting the ZHWRS may have been of some benefit, although the inequitable distribution of HRH continues (Zambia Ministry of Health, 2010). In addition, HRH in rural posts in Zambia remain more likely to quit their jobs than their urban counterparts (Gow et al., 2012). A more recent MoH review provides qualitative data suggesting that the ZHWRS is perceived as being a strong retention mechanism and a benefit to health care facilities and education and training institutions, but little quantitative data was available to confirm these perceptions. A lack of adequate funding is undermining the sustainability of the program (Bwalya et al., 2013).

Other Policies
During our review we came across descriptions of several policies and programs aimed at improving maternal and child health in these countries that did not meet one or more of our inclusion criteria. These included, for example, Mozambique’s Agentes Polivalentes Elementares (APE) program and Uganda’s Village Health Teams program, which are both designed to improve the accessibility of essential health services in rural areas, but are based more around community health workers as opposed to the professions included in our review (Bhutta et al., 2010). Two such programs about which there was considerable information available were Ethiopia’s Health Extension Program (HEP) and the Tanzania Essential Health Intervention Project (TEHIP).

Ethiopia’s Health Extension Program
Ethiopia has lowered its child mortality rate by an estimated two-thirds, meeting the MDG4 target in advance of 2015, although the neonatal mortality rates have not been reduced sufficiently (UN Inter-Agency Group for Child Mortality Estimation, 2013). This demonstrated progress toward achieving this MDG has in part been associated with Ethiopia’s Health Extension Program (Ethiopia Federal Ministry of Health, 2013; Banteyerga et al., 2011).

The government introduced the Health Extension Program (HEP) in 2003 as part of its second Health Sector Development Plan in order to specifically address the lack of community-level primary health care, particularly in rural areas (Health Extension and Education Center, 2007). The HEP aims to increase community-level primary health care through a defined package of services within four major program areas: family health services, disease prevention and control, hygiene and environmental sanitation, and education and communication (Teklehaimanot & Teklehaimanot, 2013). The objectives of the HEP include improving access and equity to preventive essential health interventions at the village and household levels, ensuring ownership and participation by increasing health awareness, knowledge, and skills among community
members, promoting gender equality in accessing health services, improving the utilization of peripheral health services by bridging the gap between the communities and health facilities through Health Extension Workers (HEWs), reducing maternal and child mortality and promoting healthy life styles (Health Extension and Education Center, 2007).

The HEP was piloted in 2002/03 in 5 regions and the initial results showed improvements in sanitation, contraceptive utilization, and vaccinations, leading to full scale up (Ethiopian Federal Ministry of Health, 2005). Overall, the program has produced 16 service packages, available in Amharic and English, and distributed them to training institutions, regional health bureaus and other stakeholders in the regional states (Ethiopian Federal Ministry of Health, 2005). The delivery of key maternal, neonatal and child health interventions to the community, aligned with the National Child Health Strategy, is primarily through the HEP (Health Extension and Education Center, 2007).

The program primarily involves the utilization of health extension workers (HEWs) who provide education and basic services to households, mostly through outreach services and through health posts. Recruited as HEWs are adult women with at least grade 10 education and who will work in the village in which they reside. Training consists of a one-year program involving coursework and field work, with ongoing supervision by skilled health workers. Other key components of the HEP include the construction and supplying of health posts in kebeles (municipalities), staffed by 2 HEWs. As of 2011, more than 30,000 HEWs have been trained and deployed across the country (Ethiopian Federal Ministry of Health, 2011). In 2008, the FMOH began to plan for upgrading the skills and knowledge of HEWs and in 2011/12, 1,289 HEWs completed the upgrading program, with another 2,240 enrolled in 2012/13 (Ethiopian Federal Ministry of Health, 2013b).

The HEP, particularly the health extension workers, has received widespread acceptance by the communities, including elders, religious leaders, agricultural extension workers and schools, resulting in successful expansion of health coverage (Banteyerga et al, 2011). While this initiative has provided community-level services and resulted in progress on a number of health indicators (including child mortality), challenges still exist in terms of antenatal care, delivery being attended by skilled workers, contraceptive acceptance and use, and post-partum visits. Other challenges identified include: insufficient materials and supplies, inadequate means of communication and transportation for adequate supervision, lack of capacity at Woreda level for supervision, monitoring & evaluation, and a weak referral system (Teklehaimanot & Teklehaimanot, 2013). Despite these ongoing challenges, the HEP has shown to have positive impact on health outcomes (Karim et al., 2013; Teklehaimanot & Teklehaimanot, 2013) and remains the key program for community-level health care. Although this initiative does not focus on training and deployment of doctors, nurses or midwives, it is a clear example of the kinds of far-reaching programs being implemented by African governments with demonstrated success in promoting maternal and child health in rural areas.
The Tanzania Essential Health Intervention Project
The Tanzania Ministry of Health and Social Welfare, in partnership with IDRC, first implemented the Tanzania Essential Health Intervention Project (TEHIP) in 1997. Recognizing that it is often a lack of district-level planning capacity as opposed to resources that limits delivery of health services, and the particular importance of evidence-based planning when resources are limited, TEHIP aimed to couple research and development for improved health gains in resource limited settings. This was to be achieved through the use of a toolkit designed to strengthen the capacity of District Health Management Teams (DHMT) to make evidence-informed policy decisions. The toolkit incorporates four items – a burden of disease profile tool, district health accounts tool, district health services mapping tool, community voice tool, and cost-effectiveness and district cost information system tool – which generate the basic evidence needed by DHMTs to plan effectively.

In 1997, TEHIP was piloted in two rural districts to inform potential scale-up. Initial impacts of the toolkit adoption showed significant changes in the policy process and content. The DHMTs approach to planning, with budget allocations and program selection, began to reflect the priorities illustrated in the community disease profiles and best-buy programs. This new approach resulted in increases in the overall health status of residents of the pilot districts; for example, the decision by DHMTs in both districts to fund and implement the Integrated Management of Childhood Illness resulted in a 55% decrease in child mortality in the study area between 1998 and early 2003.

The impact of TEHIP reached beyond the toolkit. An Integrated Management Cascade strategy was applied to create stronger linkages between supervisors and a dispersed community health workforce. New partnerships were formed between communities and government bodies to encourage citizen participation in health facility rehabilitation in exchange for national funding for community health workers and essential drugs and supplies. Supplemental funding offered under the TEHIP project that was not readily absorbed by the pre-existing health services was re-directed into HRH training, capacity building among existing management, transportation, and communication infrastructure, with future service expansion in mind.

The MoHSW, based on the early success TEHIP, called for the scale-up of certain programmatic aspects and tools. Upon the development of a prototype to inform national scale-up, funding was provided by the UN and IDRC to bring TEHIP above the district level to two regions. Although TEHIP does not fit within the inclusion criteria for this analysis, it has clearly demonstrated that the Tanzanian Ministry of Health and Social Welfare has identified a mechanism to improve the health of its population by promoting evidence-informed planning at the district level.

5.0 Discussion

Overview
Despite an extensive and multi-faceted search strategy, there were relatively few policies pertaining to the training and/or deployment of doctors, nurses and midwives for maternal and
child health identified not only in these countries but in Africa as a whole. However, this should not be interpreted as a lack of attention or action towards addressing these issues. As noted above, there are several important programs being implemented by several countries to address these issues, some of which did not meet the exact inclusion criteria. Further, there may also be policies and programs in place within these countries that do meet our inclusion criteria but for which we found little or no information. For example, government documents from Ghana, Tanzania and Zambia indicate that they too have (or at one point had) Integrated Management of Childhood Illness programs, but because no other information about the programs in these countries was available, no further analysis was possible.

Several recurring issues, outside the scope of our analysis but nonetheless directly related to the subject of HRH training and deployment, were described across documents reviewed from multiple countries. These issues may explain, at least in part, why there seems to be such a disparity between the breadth and depth of health strategies proposed in these countries compared to what appears to actually be implemented. These issues include fiscal considerations, resource management, monitoring and evaluation, competing priorities, political stability, decentralization, the importance of partnerships, and transparency and access to information.

Fiscal Considerations

In April 2001, heads of state of African Union countries met in Nigeria and pledged, under what was called the Abuja declaration, to set a target of allocating at least 15% of their annual budget to improve the health sector (WHO, 2011). However, according to the most recent WHO data (Table 4), none of the eight countries included in the synthesis are meeting this target. Perhaps not coincidentally, in documents where Ministries of Health discussed the reasons why policies and strategies outlined in past plans may have been implemented only partially or not at all, the critically limiting factor tended to be the availability of financial resources. Not only are the available funds inadequate for ensuring the short-term availability of sufficient HRH, equipment and supplies, their inadequacy precludes maintenance or improvements to essential health care delivery (e. g. hospitals) and education (e. g. universities) infrastructure. For example, Zambia’s Ministry of Health identifies restrictions on the public wage bill and “inadequate, irregular and consistently decreasing funding for the health sector” as major challenges limiting its ability to implement meaningful reforms (Zambia Ministry of Health, 2011a). To cite more specific examples, a lack of available funds threatens the sustainability of the ZHWRS (Bwalya et al., 2013), and has severely limited the implementation of the National Training Operation Plan (Zambia Ministry of Health, 2010). Similarly, Mali’s Ministry of Health (2013) notes that financial constraints and funding uncertainty limit the implementation and evaluation of policy in general and its blood services program in particular. Uganda’s Ministry of Health (2010a) reports that it is allocated less than half the estimated funds required to deliver its Basic Health Care Package, particularly services for newborns. Although funds and other resources from donor agencies may somewhat mitigate funding gaps, they often come with their own challenges, including a lack of alignment with national health priorities (see ‘Partnerships’ below).
This chronic shortage of funding for the health sector is undoubtedly linked to the high debt loads borne by these countries. Moreover, the inadequacies of public infrastructure are not limited to the health sector, as poor roads, insufficient water, electrical, and sanitation systems, and deficient communications networks are ongoing problems faced by each of these countries. Mali’s electrical grid, for example, provides power to only about 17% of its population, among the lowest in the world (Briceno-Garmendia et al., 2011). The situation is worse in Niger, where only 8% of the population has electricity, and only 18% have the use of sanitary latrines, the lowest such rate in Africa (Dominguez-Torres & Foster, 2011). These broader deficiencies in public infrastructure exacerbate the challenges faced by the health sectors as they encourage the most highly-trained health professionals to migrate to more developed countries.

The availability of funding enables several important initiatives to improve public health care infrastructure as evidenced by several identified examples. Ethiopia, for instance, has invested in the creation of additional universities to train health workers, and built health centres and health posts to increase accessibility to primary health care (Ethiopian Federal Ministry of Health, 2008). They are also working to improve housing for health workers, particularly at the village level (e.g. housing for HEWs) (Ethiopian Federal Ministry of Health, 2010b). Similarly, Zambia has invested in the construction of 26 new district hospitals and 125 new rural health posts (Zambia Ministry of Health, 2011), although some of these remain unutilized because of a lack of equipment (Zambia Ministry of Health, 2010). Improvements have also been made beyond the health sector. Tanzania, for example, has made substantial improvements to its road network as well as its telecommunications infrastructure (Shkaratan, 2012). Uganda, too, has substantially improved its telecommunications networks as well as its power grid, although efficiency issues persist with the latter (Ranganathan & Foster, 2012).

To make up for shortages of allocated resources, some countries such as Tanzania and Uganda rely heavily on user fees and other private revenue streams (Haazen, 2012; Uganda Ministry of Health, 2013). Such practices may run contrary to the achievement of the MDGs in particular, and the missions of health care systems more broadly, as those in greatest need of health care can seldom afford to pay for it. Recognizing this, countries such as Ethiopia (Ethiopia Federal Ministry of Health, 2013) and Niger (Lagarde et al., 2012) have attempted to reduce or remove user fees, despite the consequent fiscal challenges. National health insurance schemes, such as those introduced in Ghana (Government of Ghana, 2007) and Ethiopia (Ethiopia Federal Ministry of Health, 2013), can be means of generating revenue for health care that is less burdensome on those in need.

The long-standing and apparently universal nature of this lack of funding suggests that some changes in planning are warranted. Either governments must recognize the centrality of an adequately funded health care system to their national prosperity and allocate their limited resources accordingly (this may require renegotiation of terms with creditors such as the International Monetary Fund), or health sector planners must more explicitly recognize that the funds they deem to be necessary are unlikely to become available, and adjust their strategic plans accordingly. Ultimately, some combination of these two strategies may be best. At a minimum,
governments seeking to improve the health of their countries must meet the funding commitments they made in the Abuja Declaration.

**Resource Management: People, Supplies, Services**
The countries studied are also challenged to make efficient use of the resources they do have; another identified challenge to policy implementation is weak or otherwise inadequate supervision and performance management of personnel and supplies. For example, Ghana’s Ministry of Health (2007) identifies inadequate supervision and weak performance management systems as challenges to the implementation of its HR Policies and Strategies for the Health Sector. In addition, Tanzania’s Ministry of Health and Social Welfare (2008) identifies inadequate supervision as a challenge to the implementation of training for maternal, newborn and child health. Similarly, inadequate logistics and supply chain management are described as exacerbating shortages of essential medications and other critical materials in Tanzania, Zambia and Uganda, where insufficient supplies of drugs have hindered national immunization programs (Tanzania MoHSW, 2007; Uganda Ministry of Health, 2010; Zambia Ministry of Health, 2009; 2010b). In Zambia, however, the Ministry (2010b) reports that the procurement and distribution systems for drugs have improved significantly in recent years. Effective resource management is essential to ensure not only training and deployment but also the provision of quality health care to improve population health.

**Evaluation and Monitoring**
There is recognition across the countries studied of the importance of evaluation and monitoring to ensuring efficient and effective use of resources and improving the performance of health care systems. However, none of the countries studied consider the current monitoring and evaluation capacities of their health sectors to be adequate. For example, Ethiopia’s Ministry of Health (2007) identifies inadequate monitoring and evaluation capacity as an impediment to the implementation of its HEP.

Related to this challenge are the limitations of the various countries’ national Health Information Systems (HIS), which, for example, are described as inadequate in Zambia (Zambia Ministry of Health, 2011a). In Uganda (Uganda Ministry of Health, 2010), the existing HIS is described specifically as a hindrance to improving maternal and newborn health service (Republic of Uganda, 2005). As Table 4 indicates, it is difficult to find basic HRH indicators for several of the countries studied. In Ethiopia, for example, the number of established posts at various levels of the health system is not currently available (Feysia et al., 2012).

Inadequate evaluation and monitoring systems also have implications for these countries in terms of their ability to be transparent and to address corruption (see ‘Availability of Information’ below). However, efforts are being made to address this challenge. For example, Ethiopia’s Ministry of Health has invested in increasing its monitoring and evaluation capacity as part of its current Health Sector Development Plan (Ethiopia Federal Ministry of Health, 2010a). Evaluation and monitoring is also essential towards establishing an evidence base – which can be shared across countries – detailing which strategies and initiatives have been successful.
Infrastructure to support ongoing monitoring and evaluation can inform future decision making not only at the individual country-level but across and between regions.

**Competing Priorities**
The successful implementation and sustainability of a policy depends not only on the merits of the policy itself, but also – and perhaps more so – on the context in which it is developed and implemented. This is particularly so in the countries studied, each of which faces multiple challenges and competing priorities as they attempt to make positive change. In Uganda, for example, the scale up of IMCI was limited as the training was found not to be adequate on its own to improve child health; a supportive infrastructure, work environments, and political context are also required for the training to be successful (Ozgediz et al., 2008). An evaluation of the cervical screening policy in South Africa indicated that technological and task-shifting interventions were not sufficient on their own to improve health outcomes, and required the concurrent addressing of other HRH issues such as training, attrition, skill mix, and workload management for success (Kawonga & Fonn, 2008). Nigeria, in recognition of the importance of multi-faceted strategies, implemented their Life Saving Skills training policy for midwives in tandem with provision of equipment and supplies, as well as training all associated providers with communication and interpersonal skills. This integrated approach resulted in stronger team building and more supportive management as well as gains in maternal and infant health (Kwast, 1996).

**Political Stability**
Some of the countries studied have enjoyed greater political stability than others. Perhaps the most dramatic example is Mali, where recent armed conflict resulted in, among other tragic consequences, the displacement of over 400,000 Malians and an additional 150,000 refugees. With fewer functioning health centres in the north, limited access to vaccines and prenatal medications and limited referral and emergency transport systems, delivery of health care has been severely disrupted, and there is still concern about the increased risk for disease outbreaks, increases in maternal mortality and an increase in severe malnutrition (International Committee of the Red Cross, 2013; WHO, 2013b). Similarly, recent armed conflict in northern Uganda resulted in displacement of much of the population into temporary camps with inadequate sanitation, education, or social structures, and disrupted health care delivery by requiring the closure of several facilities (Uganda Ministry of Health, 2010). Less recently, civil war in Mozambique between 1977 and 1992 caused much disruption of health services, including, for example, the complete interruption of the APE program in 1989 (Bhutta et al., 2010).

The more politically stable countries do not take their comparative peace for granted, however. Zambia, for example, explicitly identifies continued political stability as a condition for the successful implementation of its HRH plan (Zambia Ministry of Health, 2005). Political stability is a critical consideration as it impacts all aspects of policy work from planning and prioritizing to funding decisions, resource allocation and evaluation and monitoring.
Decentralization: Advantages and Challenges
Several of the countries studied have recently undergone, or are still undergoing, processes of decentralization, including Ethiopia, Ghana, Mali, Tanzania, Uganda and Zambia. These processes have been designed to increase administrative efficiency while facilitating greater input into policy development and implementation from local participants. In some instances, decentralization has had some success in moving health policy-making closer to the community level, such as through Ghana’s CHPS program (Ghana MoH, 2010). A World Bank study (Garcia & Rajmukar, 2008) concluded that Ethiopia’s decentralized governance structure helped facilitate improvements in service delivery and human development outcomes in general. Another in Mozambique found that decentralized management of HRH resulted in improvements to the administration of retirements and a better personnel information system, and was perceived as reducing wait times for deployment (Ferrinho & Omar, 2006). However in several countries, including Ethiopia, Ghana, Mali, Mozambique, Tanzania, Uganda and Zambia, it is noted that the lack of personnel, management capacity and infrastructure at the district levels, required under a decentralized system, has significantly hampered the rollout of health policies and programs and made it more difficult to ensure accountability within the system (Ethiopia Federal Ministry of Health, 2008; Couttolenc, 2012; République du Mali Ministère de la Santé, 2013; Ferrinho & Omar, 2006; United Republic of Tanzania, n.d.; Uganda Ministry of Health 2010a, 2010b; Zambia Ministry of Health, 2011b). Another result of decentralization is incongruence in the design and application of policy as interpretations and plans at the district level may deviate not only from the national policy guidelines but also result in great variations between districts. In Tanzania, for example, a recent audit found major inconsistencies in the interpretation of a national contraceptive policy at the council level (Tanzania National Audit Office, 2011). Decentralization is a reality facing many countries; the challenge is to ensure that there is support to ensure consistency in the interpretation, application, implementation and evaluation and monitoring of policies at all levels.

Partnerships
The importance of partnerships – within and across government, and between governments, educational institutions, international funding agencies and other NGOs – was a recognized feature in a number of the policy documents examined. In particular, the importance of partnerships in relation to donor funds to the health care systems of Ethiopia, Ghana, Mali, Tanzania, Uganda and Zambia was repeatedly highlighted. A System Wide Approach (SWAp), which centralizes funding from donor and other non-governmental agencies so that it can be allocated across sectors according to shared national priorities, is in place in Ghana, Tanzania, Uganda and Zambia.

Partnerships provide opportunities but may also present challenges. For example, a challenge with the SWAp is that often the use of these funds is outside the control of the Ministry of Health. In Zambia, for example, the result is that donor funds go to fund posts and services that are not aligned with national priorities, such as specialized tertiary care, while the Ministry of Health lacks the funds to deliver even its Basic Health Care Package (Zambia Ministry of Health, 2008). A recent World Bank study found that Zambia’s health sector is being increasingly
fragmented by the re-emergence of global disease initiatives and the associated disease-specific focus of donor funds (Picazo & Zhao, 2009). Another World Bank study in Tanzania reports that the ‘fragmentation’ associated with donor funds “results in substantial inefficiencies in the use of resources and often-conflicting incentives for the various actors in the health system” (Haazen, 2012). Similarly, Uganda’s Ministry of Health (2010) notes that donor agencies tend to negotiate contributions and plans with the Ministry of Finance, Planning and Economic Development rather than with the Ministry of Health, making alignment with donor funds and national health priorities such as newborn survival (Mbonye et al., 2012) a challenge.

Improving partnerships between health and other sectors – particularly finance and education – were identified as key goals in most of the countries studied. However, efforts to formally strengthen these linkages have had minimal success. In Ghana, for example, an attempt was made years ago to bring the training institutions that had been variously the responsibility of Ministries of Health and Education together under a single regulatory college. However, this policy was never fully implemented (Beciu et al., 2009). Similarly, a lack of effective collaboration between Zambia’s Ministry of Finance and Planning and the Ministry of Health has resulted in the late provision of funds by the former to the latter, which in turn has been identified as having a negative impact on the implementation of ZHWRS (Bwalya et al., 2013). Stronger collaboration between the health and finance sectors can help to ensure adequate health funds are available in a timely manner, which in turn will help the health care system to function efficiently. Improved collaboration between the health and finance sectors can help to ensure that HRH training is aligned with the competencies required in clinical practice, that clinical practices are aligned with the best available evidence, and that new graduates are placed in the most appropriate posts.

Partnership between public and private sectors in health is also crucial, particularly in countries like Ghana, Tanzania and Uganda where the private sector provides a large portion of health care services. Several countries have explicitly identified a strengthened, more integrated relationship between the public and private sectors as a key objective of their national health policies. Uganda, for example, specifies “establishing a functional integration within the public and between the public and private sectors in healthcare delivery, training and research” as an objective of its Second National Health Policy (Uganda Ministry of Health, 2010). Similarly, Ghana’s 2011 review of its Program of Work (Ghana Ministry of Health, 2011) describes several processes undertaken to strengthen its Private Sector Policy. However, no information on the success of such efforts was found in our review.

Another type of partnership with great potential to strengthen the health sector is between government and academia. Policy-research partnerships, particularly with respect to HRH, are advocated by numerous NGOs including the Global Health Workforce Alliance (2011) as a key mechanism for promoting evidence-informed policy-making. To this end, several countries are making concerted efforts to develop and strengthen relationships between Ministries of Health and their various research institutions. Zambia, for example, has developed a National Health Research Strategic Plan (Zambia Ministry of Health, 2008) and established the Zambia Forum.
for Health Research (ZAMFOHR) and established the Zambia Forum for Health Research (ZAMFOHR) to strengthen the capacity of Zambia’s researchers and research-users to produce, synthesize, access, discuss, adapt and ultimately use evidence (Kasonde, 2009). Among the challenges facing such efforts, however, are limited existing capacities for research support activities such as training, communications and synthesis (Kasonde & Campbell, 2012).

Availability of Information
As noted above, the countries studied describe a wide range of policies, programs and other activities pertaining to health care and HRH in general and training and deployment of doctors, nurses and midwives for maternal and child health in rural areas specifically. However, details on the content, implementation, and impacts of these policies are very difficult to obtain. This unavailability of information may be the result of a variety of factors, including the limited health information systems and inadequate communications infrastructures noted above. Although it is noted that ensuring the availability of this information may be eclipsed by more urgent priorities, this lack of accessible information precludes any rigorous analysis of the effectiveness of these policies. More broadly, it calls into question the value of these policies, and limits the accountability of those responsible for them.

Lacking transparency and accountability are of particular concern for countries strongly dependent on donor funds to support their health care and other key systems. It is in each country’s best interest to prevent and eradicate even the perception of corruption within their governments, particularly pertaining to the use of donor funds. Prevention of corruption is a significant challenge compounded by aforementioned weaknesses in governance, supervision, performance monitoring, and evaluation infrastructures across all of these countries. The Government of Ghana (2009), for example, specifically notes that its “existing anti-corruption institutions are weak in terms of capacity, coordination and collaboration”, while Zambia’s Ministry of Health (2010) cites “Weaknesses in the systems for and structures for promoting transparency, accountability and access to information” as a challenge to effective leadership and governance.

Even in the presence of legitimate, transparent and accurate practices, a significant concern is that government health care is perceived as being corrupt. In Uganda, for example, a recent survey estimated that 43% of Ugandans consider health workers to be corrupt (Uganda Ministry of Health, 2010). Types of corruption in Ethiopia’s health sector described by respondents to a World Bank Study (Lindelow et al., 2005) included absenteeism or shirking of duties, theft of drugs and materials, and illicit charging of patients.

At worst, corruption is confirmed in a country’s government, to the direct detriment of its citizens. In Zambia, for example, donors suspended financial support to the health sector when corruption was uncovered in 2009, with significant negative consequences for the performance of the country’s health care system (Zambia Ministry of Health, 2010). In response, the Government of Zambia and its Anti-Corruption Commission developed a governance action plan with donor agencies and other partners, which has since been implemented (Zambia Ministry of
Health, 2009). Similarly, Uganda has adopted a specific Anti-Corruption Strategy and a broader Governance and Accountability Action Plan, supported by the World Bank (Uganda Ministry of Health, 2010). Ethiopia (Plummer, 2012) and Niger (World Bank, 2005) have also partnered with the World Bank to produce independent overviews of the nature and extent of corruption in their respective countries. If successful, these strategies may lead to significant improvements in the health sector performance of these countries.

**Areas for Further Study**

There is great potential to build on this synthesis in future work. The main limitations of this review were the availability of information on relevant policies, and the timeframe available to conduct the review. Related to the latter point, as noted above, expanding the search strategy for peer-reviewed documents to include names of individual African countries would likely yield more relevant papers. Similarly, follow-up searches for information on specific policies, once identified, could produce additional information about them, as could mining the references of relevant documents. Further, interviews or focus groups with key informants in the selected countries would likely yield additional insights and relevant documents. Finally, although we have cited government- and NGO-published reports where applicable, we limited our consideration of the evidence of policy impacts to the peer-reviewed literature. This excludes the wealth of important analyses being done by NGOs such as the World Bank and CapacityPlus, which have great potential to inform the kinds of policies considered here but are seldom published in academic journals.

**Summary**

Overall, it is clear that the Ministries of Health in the countries studied have attempted, and continue to explore, a wide range of HRH policy options aimed at improving maternal and child health among their respective populations. However, the implementation – and therefore the success – of these policies seem to be severely constrained by economic, political, social, geographic and technological factors outside these Ministries’ influence. That said, it is important to note how little information on what health policies currently exist in these countries – let alone details about their implementation and impacts – is readily available, or even obtainable through dedicated searching. Most of the policies had to be analyzed based solely on secondary information, as copies of the actual policies themselves were not available. This lack of transparency and accessibility makes an objective assessment of these policies – necessary for any meaningful improvement on them – virtually impossible.


6.0 Key Messages

The main limitation of this study, in addition to the lack of country-specific searches, was that our search criteria might have missed potentially eligible citations and documents since a wide range of terminology is used to describe policy options for HRH. Further, the majority of the primary research articles employed a variety of both qualitative and quantitative methods. This triangulation of methods and results suggests that in this particular field of study, document analysis and synthesis is not necessarily sufficient to create context-driven conclusions or recommendations.

That said, several key messages emerged repeatedly and clearly enough to be brought to the forefront.

1. **The planning-implementation gap:** A wide range of strategic HRH and broader health system policy interventions appear to have been implemented to improve the training and deployment of doctors, nurses, and midwives for maternal and child health in rural Africa. However, there is a wide apparent discrepancy between the number and scope of policies and strategies that are proposed and what is evidently implemented, and poor maternal and child health remains widespread in rural Africa. Further, we often found little evidence of clear policy direction for those policies that were implemented. This discrepancy between planning and implementation may be due to any number of economic, social, political, environmental and technological factors, only some of which are within the sphere of direct influence of Ministries of Health.

2. **Underfunding:** None of the eight countries studied in depth have met their health sector funding commitments made under the Abuja declaration in 2001, and underfunding is the most frequently cited challenge limiting improvements to the health sector. Increasing funding allocations to meet this commitment is essential to the health of these countries’ populations.

3. **Policy Visibility:** There is a need to improve the degree of visibility offered by Ministries of Health in terms of their various policies. Despite the multi-pronged search strategies described, due to a lack of archiving of policy information on Ministry of Health websites, for none of the eight countries studied in depth could we find copies of any of the specific policies included in our analysis, which was therefore limited to evidence from secondary sources.

4. **Unavailability of Evidence:** There is a dearth of peer-reviewed evidence documenting the implementation and impacts of HRH policies in Africa. This may be partially due to the fact that the evidence being generated is often self-published by NGOs like the World Bank; there appears to be almost no such evidence published by governments, even where it exists. Thus a large portion of important policy evidence is either not published or scattered across
multiple organizational websites which cannot be systematically searched in a timely manner, therefore greatly limiting its benefit to inform future policies and practices. In this context, the potential role of an international organization such as the WHO to facilitate the more systematic documenting of best practices and sharing of other policy evidence across countries could have tremendous benefits.

5. **Research bias:** The peer-reviewed evidence included in the review shows a repeatedly identified bias towards rural HRH training and deployment research carried out in more developed countries. This is not only an issue suggesting a lack of research being done where it is needed most (i.e. countries with HRH crises), but also that the majority of the studies being done for rural training and deployment are not generalizable to the less developed world.

6. **Innovation:** The variety of policy interventions described in the documents reviewed demonstrates the level of innovation being practiced by African countries in efforts to improve their maternal and child health. Although some strategies focus on more traditional professions such as doctors, nurses and midwives, there appears to be increasing attention to and investment in newer cadres such as clinical officers and community health workers. Furthermore, we were able to identify more evidence of the success of the latter type of initiative in improving health outcomes than of the former.

7. **Aligning services and competencies:** The introduction of several new health care cadres with important responsibilities warrants regular and systematic analysis of how the various competencies of all health care providers align with the specific health care services required by the populations in a given country. In this way, training and deployment policies can be adjusted on an ongoing basis to keep pace with changing health needs and contexts.

8. **Alignment of donor funds:** Funds from donor agencies make up a large portion of the health budgets of African countries, and there is evidence that these are put to numerous beneficial uses. However, there is also evidence that these funds could be used much more effectively if their application was more closely aligned with broader national health priorities to fund evidence-informed interventions.

9. **Management, monitoring and evaluation:** Although shortages of resources in general are a chronic and widespread problem, so too is a lack of capacity for effective management of those resources, and to monitor and evaluate the impacts they have when mobilized. Investment in building such capacity, such as through an international body like the WHO, thus has the potential to pay great long-term dividends.
### Appendix 1: Appraisal tool for peer-reviewed literature

<table>
<thead>
<tr>
<th>Focus of Policy</th>
<th>Deployment (and/or training)</th>
<th>Type of Provider(s)</th>
<th>Jurisdictional Focus (organization, region, country, or global)</th>
<th>Clinical focus (Pregnancy, reproductive health, childhood diseases, birth, neonatal, adolescents)</th>
<th>Document Type (research, policy, evaluation of policy, commentary etc.)</th>
<th>Country(ies) of focus</th>
<th>Year Published/Initiated</th>
<th>Language(s)</th>
<th>Authors</th>
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</table>
### I. Research documents

<table>
<thead>
<tr>
<th>Citation</th>
<th>Country(ies) of study</th>
<th>Health focus</th>
<th>Geographic focus</th>
<th>Policy Focus</th>
<th>Profession included</th>
<th>Study Design; Purpose</th>
<th>Definition of Concept/Characteristics</th>
<th>Methods: Sample/Setting/Data Collection/Instruments/Analyses</th>
<th>Limitations</th>
<th>Results</th>
<th>Policy Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>First author; date</td>
<td>General, maternal, child, maternal/child</td>
<td>Rural, country-wide</td>
<td>Education/training, deployment</td>
<td>Doctors, nurses, midwives</td>
<td>Study purpose Research Question Research design Inclusion/exclusion criteria Theoretical framework</td>
<td>Quantitative, qualitative or mixed methods Total # participants Gender %Age mean Years exp mean Ethnicity %Profession Instruments (reference) Analysis Techniques Outcome measures</td>
<td>Significance of outcome measures Differences between groups</td>
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### II. Non-research documents

<table>
<thead>
<tr>
<th>Citation</th>
<th>Country(ies) of study</th>
<th>Health focus</th>
<th>Geographic focus</th>
<th>Policy Focus</th>
<th>Profession included</th>
<th>Study Design; Purpose</th>
<th>Definition of Concept/Characteristics</th>
<th>Methods: Sample/Setting/Data Collection/Instruments/Analyses</th>
<th>Limitations</th>
<th>Results</th>
<th>Policy Recommendations</th>
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<tr>
<td>First author; date</td>
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<td>Rural, country-wide</td>
<td>Education/training, deployment</td>
<td>Doctors, nurses, midwives</td>
<td>Study purpose Research Question Research design Inclusion/exclusion criteria Theoretical framework</td>
<td>Quantitative, qualitative or mixed methods Total # participants Gender %Age mean Years exp mean Ethnicity %Profession Instruments (reference) Analysis Techniques Outcome measures</td>
<td>Significance of outcome measures Differences between groups</td>
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### III. Policies

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<th>Country</th>
<th>Date</th>
<th>Content</th>
<th>Actors</th>
<th>Context</th>
<th>Process</th>
<th>Impacts</th>
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<tbody>
<tr>
<td>Name or describe the policy</td>
<td>Name the country(ies) to which the policy applies</td>
<td>Date the policy went into effect</td>
<td>Stated purpose(s) or objective(s) of the policy</td>
<td>Government body(ies) or organization(s) responsible for administering the policy; Other stakeholders influencing or influenced by the policy</td>
<td>Rationale, justification - Problem(s) or issue(s) that prompted the development of the policy; External factors (political, social, economic etc.) that may have shaped policy – as described in document(s)</td>
<td>Describe identified steps/phases in implementation – distinguish between those already taken and those yet to be taken</td>
<td>Intended and unintended; positive and negative (peer-reviewed evidence only)</td>
</tr>
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### Appendix 3: Summary of peer-reviewed literature included in the review

<table>
<thead>
<tr>
<th>Citation</th>
<th>Country of focus</th>
<th>Type of article</th>
<th>Provider of focus (doctors, nurses, midwives)</th>
<th>Policy focus (training and/or deployment)</th>
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<td>Medical schools in rural areas – necessity or aberration</td>
<td>Democratic Republic of the Congo</td>
<td>Policy analysis</td>
<td>Medical students</td>
<td>Training and deployment</td>
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<td>Community perspectives on roles and responsibilities for strengthening primary health care in rural Ethiopia</td>
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<td>Policy analysis</td>
<td>Implicitly all</td>
<td>Deployment</td>
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<td>Ethiopia</td>
<td>Policy analysis</td>
<td>Implicitly all</td>
<td>Training and deployment</td>
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<tr>
<td>Human resource development for health Ethiopia: challenges of achieving the millennium development goals</td>
<td>Ethiopia</td>
<td>Policy description and analysis</td>
<td>Implicitly all</td>
<td>Training and deployment</td>
</tr>
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<td>Girma et al., 2007</td>
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<td>Retrospective situational analysis</td>
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<td>Deployment</td>
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<tr>
<td>Health workforce deployment, attrition and density in East Wollega zone, Western Ethiopia</td>
<td>Ethiopia</td>
<td>Retrospective situational analysis</td>
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<td>Michael et al., 2010</td>
<td>Ethiopia</td>
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<td>Training and deployment</td>
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<td>Situational description and analysis</td>
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<td><strong>Mayhew, S. H., 2010</strong></td>
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<td>Accelerating reproductive and child health program impact with community-based services: the Navrongo experiment in Ghana</td>
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<td><strong>Kwast, B. E., 1996</strong></td>
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Appendix 4: List of additional literature reviewed by country

This appendix lists the various documents reviewed for each country that were not cited in the report.

**Ethiopia**


**Ghana**


**Mali**


République du Mali Ministère de la Santé. (2009). Standards de services de santé adaptés aux adolescents et aux jeunes (SSAAJ) du Mali. [Health Service Standards Adapted for Mali’s Youth and Adolescents (SSAAJ)]. Bamako, Mali.


**Mozambique**


Niger

All documents reviewed were included and referenced in the final report

Tanzania


**Uganda**


### Zambia


A Synthesis & Systematic Review: Policies on Training and Deployment of HRH in Rural Africa


Multi-nation including one or more countries from designated sub-set


Appendix 5: Advisory Group Terms of Reference

TRAINING AND DEPLOYMENT OF HUMAN RESOURCES FOR HEALTH IN RURAL AFRICA: A SYSTEMATIC REVIEW
ADVISORY GROUP TERMS OF REFERENCE

BACKGROUND: An effective health care system is essential to maintaining and promoting the health of any country’s population. Critical to that system’s effectiveness are the human resources for health (HRH) which form its core. While there are a number of different dimensions to how a country’s HRH are planned and managed, perhaps the most critical are how HRH are developed and trained, and how they are deployed once ready for practice. Although HRH planning in general is a challenge in many countries, these two aspects appear particularly difficult to manage effectively. Perhaps nowhere is this challenge greater than in rural Africa, with its combination of severe health problems and severe shortages of resources to address them.

Every country has its own policies and other approaches to planning for the training and deployment of its HRH, which require regular updating to adapt to new challenges and changing contexts. However, government efforts to improve and update their respective approaches are often made in isolation, with little opportunity to learn from the experiences of their counterparts in other countries who may face similar challenges. While information on different countries’ policies and experiences exists, gathering and reviewing all that information is beyond the time and resource constraints of many policy makers. The purpose of this project is therefore to conduct a systematic review of the available grey and peer-reviewed literature on the training and deployment of HRH for rural Africa.

Achieving progress on the Millennium Development Goals 4 and 5 (Maternal and child health) is a priority area for many countries in Africa. We will therefore focus on HRH training and deployment policies related to maternal and child health. Further, although all types of HRH can potentially impact the achievement of MDGs and health outcomes in general, our search will focus on doctors, nurses, and midwives and because of their especially critical roles related to MDGs 4 and 5.

EXPECTED OUTPUT OF THE PROJECT:
Improved understanding of effective policies to support the training and deployment of nurses, doctors and midwives involved in maternal-child care

PURPOSE OF THE ADVISORY GROUP:
The purpose of the AG will be to ensure that the review is as comprehensive as possible, and that the appropriate stakeholders are engaged in the development and dissemination of its findings. Specifically, the AG will a) guide the systematic review of policies related to the deployment and training of nurses, doctors and midwives in maternal-child care in Africa; b) identify and facilitate the engagement of key stakeholders in the review process; and c) provide advice and facilitation related to the dissemination of the synthesis findings.
MAIN ACTIVITIES:

Provide advice and leadership for the systematic review project including:

- Provide feedback on the review process including the search strategy, inclusion criteria, and framework(s) used for policy analysis;
- Identify and facilitate the engagement of additional key stakeholders in the review process to ensure all relevant policies and related documents are included;
- Review the draft final synthesis report and provide feedback; and
- Assist in the dissemination of the report and its findings.

MEMBERSHIP

The AG shall consist of the following representatives from various countries and organizations:

- **Dr. Maina Boucar**, Regional Director West Africa Region, USAID ASSIST Project, University Research Co. LLC, Niger
- **Dr. Paulo Ferrinho**, Director, Instituto de Higiene e Medicina Tropical Universidade Nova de Lisboa, Portugal
- **Ms. Allison Annette Foster**, Senior Advisor for Quality Improvement, and Lead, Health Workforce Development, University Research Co. LLC, USA
- **Mr. Solomon Kagulura**, HRH Advisor, World Health Organization, Zambia
- **Dr. Vic Neufeld**, Director, Canadian Coalition for Global Health Research, Canada
- **Mrs. Jennifer Nyoni**, HRH Advisor, WHO Regional Office for Africa, Republic of Congo
- **Dr. Francis Omaswa**, Executive Director, African Centre for Global Health and Social Transformation, Uganda
- **Dr. Judith Shamian**, President, International Council of Nurses, Switzerland
- **Dr. Mohsin Sidat**, Dean, Faculty of Medicine, University Eduardo Mondlane, Mozambique

Ex-Officio:

- **Dr. Fastone Goma**, School of Medicine, University of Zambia
- **Dr. Gail Tomblin Murphy**, WHO/PAHO Collaborating Centre on Health Workforce Planning and Research, Dalhousie University

GOVERNANCE

- The Advisory Group is an independent entity involved in the oversight of the synthesis project.
- Co-facilitation (Drs. Goma and Tomblin Murphy)

MEETING PROCEDURES

- Meetings will be held regularly on a monthly basis between October 2013 and December 2013 via teleconference or Elluminate to complete the report
- Additional meetings may be scheduled early in 2014 to finalize the dissemination plan and the timing will be negotiated with group members
- Agendas will be set according to the terms of reference, input from members and issues arising. Final approval of agendas will be by the Co-Chairs.
- Meetings will be conducted by the Co-Chairs, or in his/her absence, by a member designated by the Co-Chairs.
• Proceedings of meetings will be recorded and distributed to members by email as soon as possible after the meeting occurs.

TERM
• October 2013 to March 2014
Appendix 6: List of websites searched in scoping for country sub-set

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<td>African Health Workforce Observatory</td>
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<td>Health Policy Monitor</td>
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<td>Health Professionals for a New Century</td>
<td><a href="http://www.healthprofessionals21.org">www.healthprofessionals21.org</a></td>
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<td><a href="http://www.idris.idrc.ca">www.idris.idrc.ca</a></td>
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<td>International Confederation of Midwives</td>
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<td><a href="http://www.icn.ch">www.icn.ch</a></td>
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<td>THET Partnership for Global Health</td>
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<td>WHO Collaborating Centre for Evidence-Informed Policy (McMaster University)</td>
<td><a href="http://www.mcmasterhealthforum.org/healthsystemevidence-en">www.mcmasterhealthforum.org/healthsystemevidence-en</a></td>
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<td>WHO Collaborating Centre UWC</td>
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<td>WHO Regional Office for Africa</td>
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Appendix 7: Sources of country-specific statistics

All statistics used in Table 4 came from the profiles of each country produced by WHO, located at http://www.who.int/gho/countries, with the following exceptions:

**Ethiopia**

**Ghana**

**Mali**

**Mozambique**
- Expenditure on health as a proportion of GDP: WHO Global Health Observatory Data Repository at http://apps.who.int/gho/data.

**Niger**

**Tanzania**
- Percentage of doctors and nurses in rural areas: Touch Foundation, 2006.
- Percentage of midwives in rural areas: WHO Global Health Observatory Data Repository.
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Synthèse et examen systématique : Politiques sur la formation et le déploiement de ressources humaines en santé en Afrique rurale

Sommaire

Contexte
Les huit objectifs du Millénaire pour le développement (OMD) lancés en 2000 sont considérés comme étant un plan directeur international visant à améliorer la santé et le bien-être des personnes les plus vulnérables du monde. La santé et le bien-être des femmes, des nouveau-nés et des enfants sont au premier rang d'un grand nombre de discussions sur les politiques et la planification qui touchent les OMD 4 et 5. À mesure qu'approche l'échéance pour atteindre les OMD, de nombreux rapports d'avancement, particulièrement les rapports concernant des pays d'Afrique, montrent qu'il reste des défis à relever pour atteindre les OMD 4 et 5. Cette situation est en grande partie due à la pénurie de ressources humaines en santé (RHS) qui perdure en Afrique. La plupart des pays du continent n'ayant pas suffisamment de personnel pour offrir les soins de santé élémentaires à leur population, particulièrement dans les régions rurales. La capacité de ces pays de réagir à cette crise est sérieusement limitée par le financement et les lacunes des infrastructures. La planification efficace et la gestion des rares RHS disponibles, particulièrement pour ce qui est de la santé des mères et des enfants, sont ainsi de la plus haute importance pour les gouvernements africains. Afin d'orienter la planification, un examen systématique des données disponibles sur les politiques en matière de formation et de déploiement pour médecins, les infirmiers, les infirmières et les sages-femmes pour la santé maternelle et infantile en Afrique rurale a été effectué.

Méthodologie
La principale question d'orientation était : Que savons-nous sur les politiques visant à appuyer la formation et le déploiement d'infirmiers et d'infirmières, de sages-femmes et de médecins pour les soins de santé maternelle et infantile en Afrique rurale? D'autres questions portaient sur ces points : Que savons-nous actuellement sur (a) l'élaboration, (b) la mise en œuvre et (c) les impacts de ces politiques?

Une approche à deux volets préconisée par un groupe consultatif international a été utilisée, le premier étant une étude de la portée des données disponibles pour l'ensemble de l'Afrique sur les questions examinées. Le second volet est une étude approfondie des politiques d'un sous-groupe de pays africains : Éthiopie, Ghana, Mali, Mozambique, Niger, Tanzanie, Ouganda et Zambie.

Seules les politiques pour lesquelles il était possible de relever des preuves d'utilisation et de mise en œuvre ont été retenues pour ce dernier volet. En outre, les interventions ou les programmes individuels mis en place dans le cadre des plans d'ensemble ont été considérés comme étant des politiques et analysés en profondeur pour préparer ce sommaire. Seules les données tirées de recherches publiées dans des revues scientifiques examinées par des pairs ont été considérées comme constituant la composante « impacts » du cadre de synthèse. Cependant,
la présence d'autres données dans des sources non examinées par des pairs (p. ex. rapports du ministère de la Santé) est soulignée lorsque ces données sont disponibles et ont été utilisées pour donner de l'information sur les autres composantes du cadre de synthèse.

Étant donné le peu de documentation sur les politiques disponible pour analyse, il faut faire preuve de prudence lorsqu'on tire des conclusions sur la quantité et la qualité des stratégies mises en place dans les pays africains pour ce qui est de la formation en santé maternelle et infantile et du déploiement de médecins, d'infirmiers, d'infirmières et de sages-femmes dans les régions rurales. La question est examinée plus en profondeur dans les sections résultats et discussion où sont décrits des exemples précis des politiques relevés dans le cadre de l'examen qui, même s'ils ne correspondent pas aux critères d'inclusion, sont néanmoins prometteurs.

Résultats

Les recherches dans la base de données électronique ont permis de relever 548 articles examinés par des pairs (122 de ces articles étaient mentionnés deux fois). Les 426 articles uniques restants ont été ajoutés aux 87 articles relevés par les membres de l'équipe de recherche zambienne et du groupe consultatif, pour un total de 513 articles à examiner. De ces articles, 37 remplissaient les critères pour être inclus dans l'étude. Le corpus d'articles final couvre 13 pays et toutes les régions de l' Afrique sont représentées. Le Ghana est le pays avec la plus haute représentation, soit 9 articles évalués par des pairs, suivi par l'Afrique du Sud avec 5 articles; 5 autres articles traitaient de plusieurs pays. Quatre articles provenaient d'Éthiopie, les 10 autres pays étant représentés dans un à trois articles chacun. Les articles retenus proviennent de 22 revues, surtout du Bulletin de l'Organisation mondiale de la santé et d'autres revues : Health Policy and Planning, Reproductive Health Matters et Human Resources for Health. La vaste majorité des articles examinés par des pairs ont été publiés à partir de 2003, ce qui semble indiquer l'impact de l'introduction, en 2000, des objectifs du Millénaire pour le développement sur l'établissement des priorités pour la recherche et les politiques. Ces données montrent également qu'un élan a été créé et s'accélère pour la recherche qui touche les RHS et les OMD 4 et 5.

La représentation des médecins, des infirmiers, des infirmières et des sages-femmes dans la documentation est assez équitable. Toutefois, beaucoup des articles sélectionnés mentionnent des fournisseurs parce qu'ils traitent implicitement de politiques de haut niveau, par exemple les politiques concernant la santé nationale et les réformes dans le secteur de la santé. Les politiques portant exclusivement sur la formation et le déploiement sont en minorité, alors que ceux qui traitent des deux domaines, soit directement, soit comme composants de politiques plus larges, sont en majorité. Le reste de la documentation traite de politiques qui ne sont pas explicitement destinées à la poursuite des OMD 4 et 5 dans les régions rurales par la formation ou le déploiement des fournisseurs de services sélectionnés; ces articles sont toutefois pertinents pour les OMD 4 et 5 compris ou implicites dans les composantes de politiques générales, comme les politiques nationales sur la santé infantile. Même si les articles exclus ne remplissent pas tous les critères d'inclusion, ils illustrent la diversité du travail réalisé en matière de politique concernant la formation et le déploiement de RHS pour améliorer la santé maternelle et infantile dans les régions rurales.
Au moment où cet examen a été réalisé, on observait sur les sites Web des ministères de la Santé des pays africains appartenant aux trois groupes linguistiques une grande diversité quant aux fonctions et à l'offre de documents pertinents. Certains sites Web présentent une grande quantité de documents. Quoique opérationnels, les sites Web d'autres ministères de la santé manquent de cohérence quant aux documents offerts et à leur accessibilité. Notamment, on constate que les sites Web du ministère de la santé de plusieurs pays possèdent les bases et la structure nécessaires pour être pleinement informatifs, mais des liens rompus, des pages avec la désignation « en construction » et l'absence de documents de politique réduisent la capacité de ces sites d'informer. Par ailleurs, il a été impossible de trouver les sites Web de certains ministères.

L'examen des sites Web sélectionnés a révélé un large éventail de documents pertinents et applicables pour le sous-groupe de pays : lignes directrices et protocoles professionnels, évaluations indépendantes de politiques, notes et actes de conférences et autres documents examinés par des pairs. Ces documents ont été utilisés pour éclairer la partie de l'analyse portant sur le contexte du pays et pour cerner les politiques potentiellement pertinentes pour orienter les questions spécifiques adressées à notre comité consultatif quant à des renseignements additionnels.

Notre examen a révélé une pénurie de politiques sur la formation et le déploiement de médecins, d'infirmiers, d'infirmières ou de sages-femmes en santé maternelle ou infantile en Afrique rurale. Nous avons cependant pu trouver des politiques qui traitent de chacun de ces facteurs; elles sont décrites en détail dans le rapport.

Au-delà des titres des diverses politiques et des contextes dans lesquels elles ont été mises en place, nos recherches ne nous ont permis de trouver que très peu d'information sur la création, la mise en œuvre ou l'impact de ce travail. Plus particulièrement, nous avons relevé la quasi-absence de données scientifiques évaluées par des pairs concernant les impacts de ces politiques. La plupart des documents consultés reconnaissent toutefois que malgré les politiques qui devaient les régler, les problèmes persistent.

Discussion
En dépit de la stratégie de recherche exhaustive et diversifiée, il n'a été possible de relever qu'un nombre relativement faible de politiques sur la formation ou le déploiement de médecins, d'infirmiers, d'infirmières et de sages-femmes en santé maternelle et infantile en Afrique rurale de ces pays. Les politiques mentionnées reflètent l'information relevée à l'aide des méthodes et dans les sources décrites ci-dessus et facilement disponible pour inclusion dans notre analyse. Cela ne doit toutefois pas être interprété comme un manque d'attention ou de suivi pour ce qui est de régler ces problèmes. Plusieurs pays sont en train de mettre en place des programmes importants qui s'intéressent à ces enjeux, programmes qui ne correspondaient toutefois pas exactement aux critères d’inclusion. Deux programmes sur lesquels beaucoup d'information est disponible – le « Health Extension Program » de l'Éthiopie et le « Essential Health Intervention Project » de la Tanzanie – sont décrits plus en détail dans le rapport.
Tout compte fait, il est clair que les ministères de la santé des pays étudiés ont mis à l'essai un large éventail de propositions de politiques en RHS visant à améliorer la santé maternelle et infantile au sein de leurs populations respectives, et qu'ils continuent d'examiner les possibilités. Toutefois, la mise en œuvre et par conséquent le succès – de ces politiques semble sérieusement entravée par des facteurs économiques, politiques, sociaux, géographiques et technologiques sur lesquels les ministères n'ont aucune influence directe. De plus, il est souvent difficile de voir comment les politiques en place s'inscrivent dans les stratégies nationales plus vastes. Cela étant dit, il est important de souligner que très peu d'information sur les politiques de ces pays en matière santé – sans parler de renseignements sur leur mise en œuvre et leurs impacts – est facile d'accès ou disponible, même à l'aide de recherches dédiées. Les politiques ont dû être analysées à partir uniquement de sources d'information secondaires, puisque les textes des politiques n'étaient pas disponibles. L'absence de visibilité et d'accessibilité de l'information rend virtuellement impossible l'évaluation objective de ces politiques – évaluation nécessaire si on veut y apporter des améliorations appréciables.

**Autres domaines à étudier**

Il y a un grand potentiel d'utiliser cette synthèse comme point de départ d'autres travaux. Les principales limites de cet examen sont le manque d'information sur les politiques pertinentes et l'échéancier à respecter. En ce qui a trait au premier point, comme nous le mentionnons ci-dessus, élargir la stratégie de recherche de documents examinés par des tiers pour inclure les noms de pays d'Afrique permettrait sans doute de trouver des documents plus pertinents. De la même façon, des recherches de suivi pour trouver de l'information sur des politiques spécifiques, une fois que ces dernières auront été identifiées, pourraient donner des renseignements additionnels à leur sujet, tout comme l'exploration des références dans les documents pertinents. De plus, des entrevues des groupes de consultation avec des informateurs clés dans les pays sélectionnés apporteraient vraisemblablement des données additionnelles et d'autres documents. Enfin, même si nous avons cité des rapports publiés par des gouvernements et par des ONG lorsque c'était applicable, nous avons limité notre étude des preuves des impacts des politiques aux documents examinés par des pairs. Cela exclut les très nombreuses analyses importantes réalisées par des ONG comme la Banque mondiale et CapacityPlus, analyses dont il est fort probable qu'elles offrent un grand potentiel d'information sur les types de politiques étudiées ici, mais qui sont rarement publiées dans des revues universitaires.

**Principaux messages**

Compte tenu des méthodes et des limites de l'examen, plusieurs points importants sont ressortis assez souvent et assez clairement pour être mentionnés.

1. **L'écart entre la planification et la mise en œuvre**: Une grande variété d'interventions stratégiques en RHS et dans le domaine plus large des politiques touchant le système de santé semblent avoir été mises en place pour améliorer la formation et le déploiement, en Afrique rurale, de médecins, d'infirmiers, d'infirmières et de sages-femmes en santé maternelle et infantile. On constate cependant une forte incompatibilité entre le nombre et la portée des politiques et des stratégies proposées et ce qui est mis en place, et la mauvaise
santé maternelle et infantile est toujours répandue en Afrique rurale. De plus, nous avons souvent observé l'absence d'orientation claire pour les politiques mises en place. Cette divergence entre la planification et la mise en œuvre peut être due à de nombreux facteurs économiques, sociaux, politiques, environnementaux et technologiques, dont seuls certains sont dans la sphère d'influence directe des ministères de la Santé.

2. **Sous-financement** : Aucun des huit pays étudiés en profondeur n’a respecté les engagements qu’il a pris dans la Déclaration d’Abuja de 2001. Le sous-financement est la cause la plus souvent citée comme obstacle aux améliorations dans le secteur de la santé. Il est essentiel d'augmenter le financement pour la santé des populations de ces pays.

3. **Visibilité des politiques** : Il faut améliorer la visibilité des ministères de la Santé en ce qui a trait à leurs diverses politiques. Malgré les stratégies de recherche à volets multiples décrites plus haut, à cause de l’absence de politique d'archivage des documents sur les sites Web des ministères de la Santé, il a été impossible de trouver pour les huit pays étudiés en profondeur aucune des politiques spécifiques couvertes par notre analyse, laquelle a par conséquent été limitée aux preuves obtenues de sources secondaires.

4. **Indisponibilité de preuves** : Il y a pénurie de documents examinés par des pairs traitant de la mise en œuvre et des impacts des politiques sur les RH en Afrique. Cela est peut-être dû en partie au fait que les preuves recueillies sont souvent publiées par des ONG comme Banque mondiale; il semble qu’aucune preuve du genre ne soit publiée par les gouvernements, même lorsque ces preuves existent. Ainsi, une grande partie de preuves importantes sur les politiques est ou non publiée ou épars sur les sites Web d’une multitude d’organisations où il n'est pas possible de faire rapidement des recherches systématiques, ce qui limite considérablement l'avantage de les utiliser dans l'élaboration de futures politiques et pratiques. Dans ce contexte, une organisation internationale comme l’OMS pourrait jouer un rôle important et favoriser la collecte systématique de documents sur les pratiques exemplaires et le partage d'autres preuves sur les politiques dans les divers pays, ce qui présenterait des avantages formidables.

5. **Parti pris de la recherche** : Les documents évalués par des pairs qui ont été inclus dans l'examen montrent clairement que la recherche sur la formation et le déploiement de RHS dans les régions rurales est plus souvent effectuée dans les pays plus industrialisés. Non seulement cette constatation suggère-t-elle l'absence de recherche là où elle est le plus nécessaire (c.-à-d. dans les pays où sévit une crise des RHS), mais également que la majorité des études sur la formation et le déploiement des RHS en régions rurales ne sont pas généralisables dans les pays moins développés.

6. **Innovation** : La variété des interventions politiques décrites dans les documents examinés montre le niveau d'innovation pratiqué par les pays africains dans leurs efforts pour améliorer la santé maternelle et infantile chez eux. Même si certaines stratégies mettent l'accent sur les professions traditionnelles – médecins, infirmiers, infirmières et sages-femmes – il semble
que de plus en plus d'attention et de fonds sont consacrés à de nouveaux moyens, par exemple des médecins cliniques et des travailleurs en santé communautaire. Nous avons également réussi à trouver plus de preuves que ce dernier type d'initiative améliore plus les résultats de santé.

7. **Harmoniser services et compétences** : L’introduction de nouveaux cadres de soins de santé ayant d’importantes responsabilités justifie l’analyse régulière et systématique de la façon dont les diverses compétences de tous les fournisseurs de soins de santé répondent aux besoins spécifiques de services de santé des populations d’un pays en particulier. Ainsi, les politiques de formation et de déploiement peuvent être adaptées continuellement pour suivre le rythme des changements et des contextes en matière de santé.

8. **Mise en place des fonds des donateurs** : Les fonds provenant d'agences donatrices constituent une grande partie des budgets en santé des pays africains, et il y a des preuves que ces fonds sont utilisés à de nombreuses fins bénéfiques. Il y a cependant des preuves que ces fonds pourraient être utilisés beaucoup plus efficacement si leur utilisation concordait de plus près aux grandes priorités nationales en santé et s’ils finançaient des interventions étayées par des preuves.

9. **Gestion, surveillance et évaluation** : Même si, de manière générale, les pénuries de ressources sont un problème chronique et répandu, il en est de même pour l’absence de capacité de gérer ces ressources efficacement et de suivre et d’évaluer leurs impacts une fois qu’elles ont été mobilisées. Un investissement visant à renforcer cette capacité, notamment par l'entremise d'une organisation internationale comme l'OMS, a donc le potentiel de générer de grands dividendes à long terme.
Síntese e revisão sistemática: Políticas sobre formação e distribuição de RHS na África rural

Resumo executivo

Contexto
Os oito objetivos de desenvolvimento do milénio (ODM) divulgados no ano 2000 são considerados um anteprojeto internacional que pretendem melhorar a saúde e o bem-estar da população mais vulnerável do mundo. A saúde e o bem-estar das mulheres, dos recém-nascidos e das crianças constituem o primeiro plano de muitos debates sobre políticas e planeamento relacionados com os ODM 4 e 5. À medida que se aproxima a data de concretização dos ODM, muitos relatórios de situações, principalmente em muitos países africanos, assinalam que continua a haver desafios em atingir os objetivos 4 e 5. Em grande parte, isso deve-se ao facto de África estar a passar por uma crise de recursos humanos para a saúde (RHS), em que a maioria dos países daquele continente carecem de pessoal suficiente para prestar cuidados de saúde básicos à população, sobretudo nas zonas rurais. A capacidade desses países responderem a essa crise é duramente afetada por insuficiências em matéria de financiamento e infraestrutura. Um planeamento e uma gestão eficazes dos escassos RHS disponíveis, principalmente no que se refere à saúde materno-infantil, são de importância fundamental para os governos africanos. Para comunicar esse planeamento, efetuou-se uma revisão sistemática das provas disponíveis sobre as políticas de formação e distribuição de médicos, enfermeiros e parteiras no setor da saúde materno-infantil na África rural.

Abordagem
A questão essencial que orientou a revisão foi a seguinte: O que se conhece sobre as políticas de apoio à formação e distribuição de enfermeiros, parteiras e médicos no setor da saúde materno-infantil na África rural? Outras perguntas complementares: O que se sabe atualmente sobre: (a) o desenvolvimento; (b) a implementação; e (c) os impactos de tais políticas?

Sob a orientação de um Grupo Consultivo, empregou-se uma abordagem composta por duas partes: a primeira consistiu numa revisão abrangente das provas disponíveis relacionadas com as questões e que envolvem toda a África; a segunda consistiu numa síntese mais detalhada das políticas de um subconjunto de países africanos, entre os quais: Etiópia, Gana, Mali, Moçambique, Níger, Tanzânia, Uganda e Zâmbia.

Na síntese apenas foram inseridas as políticas para as quais existiam algumas provas de aplicação/implementação. Além disso, as intervenções ou os programas individuais implementados como parte dos planos mais amplos foram considerados políticas e analisados integralmente na revisão. Apenas foram consideradas as provas resultantes da pesquisa publicada em revistas científicas analisadas pelos pares, a fim de constituírem a componente “impactos” do quadro de ação. Todavia, é observada a existência de outras provas resultantes de fontes não
sujetas a análise pelos pares (p. ex.: os relatórios do Ministério da Saúde), quando disponível, tendo sido utilizadas para fornecer informação sobre outras componentes do quadro de ação.

Devido à escassez de documentação sobre políticas disponível para análise, deveremos ser prudentes a tirar conclusões sobre a quantidade e qualidade das estratégias que estão a ser realizadas nos países africanos relacionadas com a formação e a distribuição de médicos, enfermeiros e parteiras para o setor da saúde materno-infantil nas zonas rurais. Esta questão é explorada com mais profundidade nos capítulos “Resultados” e “Debate”, onde se descrevem exemplos concretos de políticas identificadas durante a revisão que não satisfazem os critérios de inclusão, mas que mesmo assim são prometedoras.

**Resultados**

As pesquisas na base de dados eletrónica produziram um total de 548 artigos analisados pelos pares, dos quais 122 eram duplicações. Os restantes 426 artigos exclusivos foram combinados com 87 artigos identificados pela equipa de pesquisadores zambianos e pelos membros do Grupo Consultivo, totalizando 513 para análise. Destes, 37 satisfaziam os critérios de inclusão. O conjunto definitivo de artigos abrangia 13 países, representando cada região de África. Gana teve a representação mais alta com 9 artigos analisados pelos pares, seguido pela África do Sul e por artigos que se aplicavam a várias nações, cada um dos quais com 5. Havia quatro artigos da Etiópia e os restantes 10 países tinham um a três artigos cada. Os artigos selecionados eram provenientes de 22 revistas diferentes. Os colaboradores mais frequentes foram o “Boletim da Organização Mundial de Saúde” (Bulletin of the World Health Organization), “Políticas e Planeamento para o Setor da Saúde” (Health Policy and Planning), “Temos sobre Saúde Reprodutiva” (Reproductive Health Matters) e “Recursos Humanos para a Saúde” (Human Resources for Health). A grande maioria dos artigos analisados pelos pares foram publicados a partir de 2003, deixando entender qual o impacto que a introdução, em 2000, dos objetivos de desenvolvimento do milénio exerceu na fixação de prioridades para a pesquisa e políticas. Além disso, tais dados revelam que a pesquisa relacionada com os RHS e os ODM 4 e 5 está a ganhar terreno.

A representação específica de médicos, enfermeiros e parteiras nos materiais literários era razoavelmente equitativa. Todavia, muitos dos artigos selecionados englobavam os prestadores implicitamente baseados nas políticas de alto nível, designadamente as que se relacionam com as políticas de saúde nacional e as reformas no setor da saúde. As políticas centradas exclusivamente na formação e distribuição representavam a minoria, enquanto que aquelas que levavam em conta ambas as áreas, quer seja diretamente ou como componentes integrados de políticas mais amplas, representavam a maioria. Os restantes materiais literários relacionavam-se com políticas que não estavam explicitamente concebidas para abordar os ODM 4 e 5 nas zonas rurais através da formação e/ou da distribuição dos prestadores selecionados, mas que tinham aplicabilidade para os ODM 4 e 5 integrados ou inseridos em componentes de um mandato mais abrangente no plano das políticas, designadamente as políticas nacionais sobre saúde infantil. Apesar de não englobarem todos os aspetos dos critérios de inclusão, os artigos excluídos revelaram a diversidade do trabalho que estava a ser realizado em relação ao processo de
elaboração das políticas, enquanto relacionados com a formação e a distribuição de RHS, a fim de melhorar a saúde materno-infantil nas zonas rurais.

No momento da revisão, os sítios Web avaliados dos ministérios da saúde dos países africanos pertencentes aos três grupos linguísticos revelaram uma grande variação quanto à funcionalidade e disponibilidade dos documentos pertinentes. Alguns sítios Web são muito exaustivos nos materiais fornecidos. Os outros ministérios da saúde tinham sítios Web operacionais, apesar de haver incoerências nos documentos fornecidos e na sua acessibilidade. Por exemplo, os ministérios da saúde de vários países possuíam as bases e a estrutura para terem um sítio Web totalmente informativo. Todavia, a existência de hiperligações interrompidas, segmentos com a indicação “em construção” e falta de afixação de documentos sobre políticas contribuíram para reduzir a sua capacidade de informação. Além disso, alguns sítios Web ministeriais nem sequer foram localizados.

O âmbito dos sítios Web selecionados produziu uma ampla variedade de materiais literários pertinentes e aplicáveis para o subconjunto do país: diretrizes profissionais e protocolos, avaliações independentes de políticas, notas e atas de conferências e materiais literários complementares analisados pelos pares. Tais documentos foram utilizados para informar o país sobre a análise contextual e, além disso, para identificar políticas eventualmente pertinentes, a fim de orientar pedidos específicos de informação complementar ao nosso comité consultivo.

A nossa revisão revelou a escassez de políticas inerentes à formação e distribuição de médicos, enfermeiros e parteiras do setor da saúde materno-infantil na África rural. Contudo, identificamos várias políticas que contemplavam cada um daqueles fatores, as quais se encontram descritas em pormenor na parte principal do relatório.

Para além dos nomes das diversas políticas e dos amplos contextos em que foram desenvolvidas, a nossa pesquisa revelou a escassez de informação disponível acerca da criação, implementação ou impacto deste trabalho. Em particular, há uma escassez de provas científicas analisadas pelos pares que se relacionam com os impactos destas políticas. Contudo, a maior parte dos materiais literários reconheceu que os problemas continuam a persistir, os quais visavam ser abordados pelas políticas.

Debate
Apesar da estratégia de pesquisa extensa e multifacetada, relativamente poucas políticas foram identificadas na formação e/ou distribuição de médicos, enfermeiros e parteiras do setor da saúde materno-infantil nas zonas rurais desses países. As políticas incluídas refletem a informação que foi identificada e prontamente disponível para inclusão na nossa análise, utilizando os métodos e as fontes acima indicados. Todavia, isto não deverá ser interpretado como uma falta de atenção ou de medidas para abordar tais questões. Vários países estão a implementar diversos programas importantes, a fim de abordarem os problemas que não satisfaziam os critérios exatos de inclusão. Dois deles, em relação aos quais havia informação significativa, eram o Programa de
Extensão de Saúde e o Projeto de Intervenção Essencial na Saúde, da Etiópia e da Tanzânia respetivamente, os quais são descritos em pormenor na parte principal do relatório.

Em geral, é claro que os ministérios da saúde dos países estudados tentaram, e continuam a explorar, uma vasta gama de opções para as políticas de RHS que visem melhorar a saúde materno-infantil entre as respetivas populações. Porém, a implementação – e, por conseguinte, o êxito – dessas políticas parecem estar duramente limitados por fatores económicos, políticos, sociais, geográficos e tecnológicos que estão fora da influência direta desses ministérios. Além disso, o alinhamento das políticas implementadas com estratégias nacionais mais vastas é, muitas vezes, obscuro. Por isso, é importante observar a existência de pouca informação sobre as políticas de saúde atualmente existentes nesses países, já para não falar dos pormenores acerca da sua implementação e impactos, que esteja facilmente disponível e acessível por meio de uma pesquisa exclusiva. As políticas tinham de ser analisadas unicamente com base em informação secundária, dado não estarem disponíveis cópias das mesmas. Esta falta de visibilidade e acessibilidade da informação torna virtualmente impossível uma avaliação objetiva dessas políticas – necessário para uma melhoria significativa.

Áreas para um estudo complementar
Existe um grande potencial para aproveitar esta síntese em trabalhos futuros. As principais limitações desta revisão foram a disponibilidade de informação sobre políticas pertinentes e a margem de tempo disponível para efetuar a revisão. Relativamente ao último ponto, conforme acima indicado, o alargamento da estratégia de pesquisa para documentos analisados pelos pares, de forma a incluir os nomes dos países africanos, iria provavelmente produzir documentos mais pertinentes. Da mesma forma, as pesquisas sequenciais de informação sobre políticas específicas, uma vez identificadas, poderiam produzir informação complementar, bem como a exploração das referências de documentos pertinentes. Para além disso, com a realização de entrevistas ou a criação de grupos-alvo com pessoas-chave nos países selecionados iria provavelmente obter-se mais conhecimentos profundos e documentos pertinentes. Por fim, apesar de termos citado os relatórios publicados pelo governo e pelas ONG onde for aplicável, limitámos a apreciação das provas sobre os impactos das políticas aos materiais literários analisados pelos pares. Isto exclui a amplitude de análises importantes a realizar pelas ONG, tais como o Banco Mundial e a CapacityPlus, os quais possuem grande potencial para informar os tipos de políticas aqui consideradas mas que raramente são publicadas em revistas especializadas.

Mensagens fundamentais
Tendo em conta os métodos e as limitações da revisão, surgiram várias mensagens fundamentais, de uma forma repetida e clara, que merecem ser levadas para o primeiro plano.

1. Lacuna entre planeamento e implementação: Parece ter sido implementada uma vasta gama de intervenções estratégicas de RHS e políticas mais alargadas do sistema de saúde, a fim de melhorar a formação e a distribuição de médicos, enfermeiros e parteiras para o setor da saúde materno-infantil nas regiões rurais de África. Contudo, existe uma discrepância bem notória entre o número e o âmbito de políticas e estratégias que são propostas e o que é
evidentemente implementado, continuando a generalizar-se a escassez no setor da saúde materno-infantil nas regiões rurais africanas. Além disso, encontramos frequentemente poucas provas de uma orientação política clara em relação às políticas que foram implementadas. Esta discrepância entre o planeamento e a implementação poderão dever-se a qualquer número de fatores econômicos, sociais, políticos, ambientais e tecnológicos, em que apenas alguns estão dentro da esfera de influência direta dos ministérios da saúde.

2. **Subfinanciamento:** Nenhum dos oito países estudados em pormenor conseguiram satisfazer os seus compromissos de financiamento no setor da saúde realizados ao abrigo da Declaração de Abuja em 2001. O subfinanciamento é o desafio mencionado com mais frequência, o qual impõe limitações para melhorar o setor da saúde. O aumento da distribuição de fundos é fundamental para a saúde das populações desses países, a fim de se poder responder a esse compromisso.

3. **Visibilidade das políticas:** Há uma necessidade de melhorar o grau de visibilidade oferecida pelos ministérios da saúde a respeito das suas diversas políticas. Apesar das estratégias de pesquisa multifacetada já indicadas, devido à falta de armazenamento da informação sobre políticas nos sítios Web do Ministério da Educação, não conseguimos encontrar cópias de nenhuma das políticas específicas inseridas na nossa análise para nenhum dos oito países estudados em pormenor. Portanto, esta situação estava limitada às provas de fontes secundárias.

4. **Indisponibilidade de provas:** Existe uma escassez de provas analisadas pelos pares, nas quais se documentem a implementação e os impactos das políticas de RHS em África. Em parte, isto pode dever-se ao facto de as provas a produzir serem frequentemente auto-publicadas por ONG, como o Banco Mundial. Parece não haver quase nenhumas provas publicadas pelos governos. Por conseguinte, uma grande parte das provas importantes relativas a políticas não está publicada ou encontra-se dispersa nos diversos sítios Web das organizações, o que não pode ser pesquisado sistematicamente em tempo oportuno. Por conseguinte, esta situação limita grandemente a sua vantagem de informar as políticas e as práticas futuras. Neste contexto, poderia ter vantagens impressionantes a eventual presença de uma organização internacional, como a OMS, para facultar uma documentação mais sistemática das melhores práticas e intercâmbio de outros documentos sobre políticas entre países.

5. **Tendências da pesquisa:** As provas analisadas pelos pares inseridas na revisão revelam uma tendência repetidamente identificada em relação à pesquisa sobre formação e distribuição de RHS em zonas rurais, realizada em países mais desenvolvidos. Isto não apenas é um problema que revela a ausência de pesquisa nos países onde é mais necessária (i.e. países com crises de RHS), mas também a maioria dos estudos que estão a ser feitos sobre a formação e distribuição em zonas rurais não é generalizável ao mundo menos desenvolvido.
6. **Inovação:** A variedade de intervenções das políticas descritas nos documentos analisados revela o nível de inovação que está a ser praticado pelos países africanos na tentativa de melhorar a saúde materno-infantil. Embora algumas estratégias se concentrem em profissões mais tradicionais como médicos, enfermeiros e parteiras, parece haver uma atenção e um investimento cada vez maiores para novos elementos de pessoal dos quadros, como diretores clínicos e trabalhadores de saúde comunitária. Além disso, conseguimos identificar mais provas de sucesso para melhorar os resultados sobre a saúde em relação ao segundo tipo de iniciativa do que ao primeiro.

7. **Alinhamento de serviços e competências:** A introdução de vários novos elementos de pessoal dos quadros do setor da saúde com responsabilidades importantes garante uma análise regular e sistemática sobre o modo de as várias competências de todos os prestadores de cuidados se alinharem com os serviços específicos de assistência à saúde, solicitados pela populações de um determinado país. Desta forma, as políticas de formação e distribuição podem ser reguladas numa base permanente, a fim de acompanhar os contextos e as carências evolutivas em matéria de saúde.

8. **Alinhamento dos fundos de dadores:** Os fundos provenientes das organizações dadoras constituem uma grande parte dos orçamentos dos países africanos para a saúde, havendo provas das inúmeras e vantajosas utilizações. Todavia, também existem provas de que tais fundos poderiam ser usados de uma forma mais eficaz se a sua aplicação estivesse mais estreitamente alinhada com prioridades de saúde nacional mais amplas, para financiar intervenções baseadas em dados comprovados.

9. **Gestão, monitoração e avaliação:** Apesar da escassez de recursos em geral ser um problema crónico e generalizado, o mesmo se aplica à falta de capacidade para uma gestão eficaz de tais recursos e para acompanhar e avaliar os impactos que eles produzem quando são mobilizados. O investimento na criação de tal capacidade, quer seja através de um organismo internacional como a OMS, oferece o potencial para proporcionar excelentes dividendos a longo prazo.