Assessing the Implementation Barriers to the “Accelerated Action Plan to Reduce Maternal and Newborn Mortality” in Liberia

Natalie Meyers

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This thesis has been read and approved by:

__________________________________________________________
Michael Reich, M.A., Ph.D.
Taro Takemi Professor of International Health Policy
Department of Global Health and Population
Email: reich@hsph.harvard.edu

__________________________________________________________
Ana Langer, M.D.
Professor of the Practice of Public Health
Coordinator of the Dean’s Special Initiative in Women and Health
Department of Global Health and Population
Email: alanger@hsph.harvard.edu
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Preface
I was able to work directly with the MOHSW for the month of January 2013 and stayed in Monrovia, the capital city of Liberia. During my short stay, I was also able to visit five of the fifteen counties. While Liberia has many typical elements of a developing African nation, there are certain facets of life that are unique, and help set the scene of the environment for which the government functions. This brief anecdote exemplifies the tremendous need and difficulty of executing change in this environment.

There is one stoplight in the entirety of the country. I heard tales of recent when a few more lights were put into place in the bustling capital, which were run on solar panels, because even the capital city is not on a centralized electrical grid, and the majority of people still have individual generators. For the first month of the new stoplights installment, the police monitored around the clock, 24/7. But, when the watch stopped, the solar panels were quickly stolen. After that, the remainder of the lighting fixtures, piece by piece were dismantled and stolen. As such, there is only one stoplight that has continued to function in the country, in the aptly named Red Light District. However, the last few days of my visit, the country was in frenzy as the Prime Minister of England, David Cameron, was coming to visit for the third meeting on the progress of the UN Millennium Development Goals. The Ministry of Public Works quickly began sprucing up the capital for his arrival.

Entire communities, mostly city slums, which were on the main road, were razed without notification. Two more stoplights were put on the main road, which created complete havoc and increased traffic on the streets. People stopped on the green and ran through the red, not knowing what to do with a properly functioning light. The people in the communities sat on the sides of the road, having lost everything they owned, their homes, their businesses, left with no where to go. Lives were thoughtlessly ruined and destroyed, and all to ensure that the Prime Minister did not see the poverty en route to his meeting. Yet, turn down any street, just walk 100 feet, and the façade cannot cover up what Liberia truly encapsulates. These good intentions to beautify and improve the country resemble the thoughtful policy measures within the various ministries: intelligent, well-intentioned policies for development and improved livelihoods if not implemented stand as a mere façade to the actuality of public services received by the average Liberian citizens.

Liberia is an incredibly poor country, but a country progressing quickly. A place where road networks are literally being built underneath your feet, and development takes place hastily, sometimes with unforeseen consequences. A country which has suffered for
decades at the hands of a brutal civil war and malevolent warlords; an entire generation’s innocence stolen through the use of child soldiers. The only way to respond to this harsh juxtaposition of injustice and development is with the popular Liberian colloquialism, “This, too, is Liberia.”

Abstract
Liberia is a post-conflict country in West Africa with the seventh highest rate of maternal mortality in the world.9 Despite strong national and international commitment to reduce these rates through the Accelerated Action Plan to Reduce Maternal and Newborn Mortality (AAP), the Ministry of Health and Social Work is struggling to implement the numerous and substantial recommendations. The objective of this study is to assess the perceptions of policy makers, international NGOs, and healthcare providers regarding the implementation barriers in post-conflict Liberia.

Methods: Qualitative data was collected over 3 weeks at 11 interview sites, which included 19 interviewees (n=19). Interviewees consisted of key stakeholders including policymakers in Monrovia, health workers from 3 counties including a midwife, county health officer, supervisor, doctors, health administrators, and employees from crucial supportive NGOs and multilaterals. Also participant observation was a primary mode of data collection.

Results and Recommendations: The results suggest limited knowledge of the AAP by healthcare workers who deliver the services as well as restrictive working conditions and expectations. The two major themes of implementation barriers are grouped into policy related issues and human resources and capacity.

Conclusion: Findings suggest that implementation barriers are vast, and yet they can be mitigated through increased supervision, monitoring and evaluation to see how the policies and programs of the AAP are actually being disseminated and implemented.

Introduction
As the Liberian president, Ellen Sirleaf Johnson has said, “the nation thrives when mothers’ survive; we must strive to keep them alive.” In a country with such poor infrastructure and ingrained poverty, there are a myriad of ways to tackle the massive problem of maternal mortality, and the Ministry of Health and Social Work (MOHSW) is busy with policy creation to improve the landscape. They are working in conjunction with international partners and using many resources for this cause. The government is committed to this topic, but the implementation barriers remain vast to improving maternal health.

While it may seem that progress can be expected with a large influx of international resources and domestic political support, barriers in implementation and system wide issues may stymie intended results.5 Qualitative research can help explore these barriers and give insight on the perspectives of different actors involved in the translation of a policy into practice, particularly the front-line health workers implementing the policy through the delivery of services.1,4 While Liberia’s Accelerated Action Plan to Reduce Maternal and Newborn Mortality (AAP), is a call to action for maternal mortality reduction, the challenges that accompany the competing financial priorities for a post-conflict country that is rebuilding the majority of its systems and infrastructure cannot be
overemphasized. Alongside competing priorities for a nation rebuilding, there is also a plethora of competing health priorities.

This paper will examine those barriers to implementation of the AAP through the following format: First the background section will look into the Liberian context, with a brief history of Liberia, the current maternal mortality landscape, and the political climates for improved maternal health both domestically and internationally. The next major sections will include the research question and methods. Then the results section is broken into the following main themes: political support issues and human resources and capacity. Following the results, are specific recommendation that align with each one of the results. Subsequently will be the limitations of the study and lastly, the conclusion.

**Background: The Liberian Context**

*History of Liberia*

Liberia is Africa’s oldest republic, founded in 1847, and colonized by freed slaves from America. It is located in West Africa with a current population of 3.9 million. A long tenure of minority rule resulted in two civil wars that ravaged the country from 1989 to 2003, and resulted in half a million deaths and many more displaced. The war also exacerbated the health conditions as well as contributed to the heavily skewed age structure, in which 61.4% of the population is between 0-24 years old, and 92.7% of the population is 54 years old or younger.
In 2003 a peace agreement led to democratic elections in 2005 and the election of President Ellen Johnson Sirleaf, the first democratically elected female head of state in Africa. During the time of fighting and instability, infrastructure throughout the country was destroyed, including roads, schools, and health facilities. Damaged health infrastructure, limited government stewardship, domestic financial resources and health workforce commonly impede the provision of health services in post-conflict countries. Even with the remaining infrastructure, there were few educated people left to run them, as 90% of Liberia’s health professionals fled the country. Liberia is still working to recover with 84% of the population below the international poverty line of US$1.25 a day, the average gross national income per capita at $330 or $0.90 a day, adult literacy rate of 59%, and an average life expectancy of 56 years. As Liberia moves from post-conflict to a long-term development phase, many partners are helping Liberia to strengthen its core governance reform program, ensure increased employment opportunities for citizens, and improve management of basic health care service delivery throughout the country and specifically within the maternal health realm.

Current Maternal and Reproductive Health Landscape
Maternal mortality largely fits under the broader topics of maternal and reproductive health. Maternal mortality is defined as the death of women during pregnancy, childbirth or in the 42 days after delivery, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes. Liberia’s last Demographic and Health Survey (DHS) was conducted in 2007 and the newest was one conducted in 2012 is currently being analyzed and synthesized. While the last published results show a maternal mortality of 994/100,000 live births, the preliminary results of the most recent DHS show a reduction down to 770/100,000 live births. This still leaves Liberia with the seventh highest maternal mortality ratio in the world. The common causes of these deaths are frequently preventable or treatable with appropriate skilled birth attendants, emergency obstetric care and adequate postpartum care. Major causes of maternal mortality in Liberia include postpartum hemorrhage (PPH), anemia, ruptured uterus, sepsis, unsafe abortion and eclampsia. These complications occur mostly during intrapartum and immediate postpartum stages and thus offer an opportunity for appropriate care, if women deliver in health facilities. Unfortunately, quality of care in facilities is low. For instance, the leading cause of maternal mortality in Liberia is PPH, but only 73.5% of health workers are trained to do internal bimanual uterine compression to stop postpartum hemorrhage, and only 31.3% are actually performing it.

Skilled birth attendants, which are defined as midwives, physician assistants, nurses and doctors conduct only 1/3 of births in Liberia, thus the majority of births are occurring at home assisted by a traditional birth attendant. Further barriers include poverty, cultural preferences and distance. Access is a primary barrier, as 40% of Liberians live more than 5 kilometers form the nearest health facility, and few of these facilities provide obstetric care at all. Thus only 6% of need is met due to insufficient staff, skills, equipment and infrastructure. Maternal mortality is mostly due to lack of access to quality health services. Further barriers include poverty, cultural preferences and distance.
Other factors of reproductive health, such as the high fertility rate of 5.2 total births per woman, also contribute to maternal mortality. Teenage girls contribute 14% of the fertility rate. High fertility is due to the fact that there is only 36% met need for family planning services. Out of the women who did get pregnant, currently 100% of pregnant women receive at least one antenatal care check up from a professional health worker, but only 66% of these women are attending all four recommended antenatal care (ANC) visits.

The social and cultural context in Liberia also affects both maternal and reproductive health. There are still two tribes that practice female genital mutilation (FGM), as well as forced marriage. While this is not practiced in the majority, these harmful traditional practices are part of the holistic landscape. These traditional practices reflect gender inequalities as well as pose both physical and mental health threats that may later impact higher rates of maternal mortality. Also, rape and sexual violence were rampant during Liberia’s war, some cite that as many as 75% of females were raped. These women still deal with the psychological and emotional consequences, leaving a lasting impact on the gender interactions and hierarchies. All of these health and cultural factors have an impact on women’s health and determining maternal mortality.

**Political Climate for Improved Maternal Health: Domestic**

Regardless of these numerous challenges, the Liberian government has made maternal health a clear priority. At a national level, key decision makers in the Ministry of Health and Social Work (MOHSW) have prioritized maternal mortality, as well as a key endorsement from the highest level, the president. Not only is President Ellen Sirleaf-Johnson the first female President of an African country, in 2011, she was awarded the Nobel Peace Prize, along with Leymah Gbowee of Liberia and Tawakel Karman of Yemen in recognition of their “non-violent struggle for the safety of women and for women’s rights to full participation in peace-building work.” Since President Johnson Sirleaf’s inauguration in 2006 she has been internationally recognized for her constant dedication “to promoting economic and social development, and to strengthening the position for women.”

Since 2007, President Sirleaf-Johnson has been publicly committed to the prioritization of the reduction of maternal mortality. From the time of her election, maternal health has been on the national agenda: in 2007 the MOHSW wrote the “Road Map to Reduce Maternal and Newborn Mortality.” The Minister of Health, Walter Gwenigale, was quoted saying, “the health situation for mothers and their newborns in Liberia is appalling.” As a result, the entire nation seemed to be endorsing the support for action through the Road Map.

The 2007 the Road Map served as the key document that outlined the maternal mortality situation. It enlisted the key health factors as the acute shortage of skilled health workers, deliveries not attended by skilled birth attendants, births taking place in the communities and not at facilities by both trained and untrained traditional midwives. The second major health factor is the inadequacy of reproductive health supplies. Alternative factors include wide spread cultural practices such as female genital mutilation and lack of public
transportation to health facilities. However, the Road Map was only a start, and it was realized that more targeted and specific actionable items needed to be elaborated on.\(^{18}\)

Then, in July 2012 the Ministry of Health and Social Work (MOHSW) published the “Accelerated Action Plan to Reduce Maternal and Newborn Mortality” (AAP) which is a document that methodically enumerates and highlights, for 60 pages, specific interventions for different facets of improving maternal health in Liberia. The primary goal was to make the Road Map more operational, through the five main objectives: 1) Increase the number and quality of skilled attendants for maternal and neonatal health services to staff health facilities with 24 hour care; 2) Increase coverage and access to quality comprehensive and basic emergency obstetric and neonatal care (EmONC) and essential maternal and newborn health care; 3) Increase access to and utilization of family planning services; 4) Expand and strengthen outreach and community-based services to improve coverage of maternal newborn health care; 5) Improve management of maternal and newborn health services at national and county levels.\(^{6}\)

While the AAP is a call to action for maternal mortality reduction through the aforementioned five objectives, it cannot be overemphasized the challenges that accompany the competing financial priorities for a post-conflict country that is rebuilding the majority of its systems and infrastructure. Many competing priorities come from other sectors such as education, employment, public works and agriculture. Alongside overall competing priorities for nation rebuilding, there is also a plethora of competing health priorities.

**Political Climate for Improved Maternal Health: International**

Liberia’s stark maternal mortality burden, and the recent worldwide emphasis and renaissance around maternal health, has enticed international donors.\(^{19}\) On a worldwide scale there has been some progress in reducing maternal deaths, which has declined from roughly 525,000 deaths annually in 1980 to about 273,500 in 2011.\(^{20,22}\) In 2000, the importance of maternal health was elevated on the international stage, by their inclusion in the Millennium Development Goals (MDG). MDG5 is to reduce by three quarters, between 1990 and 2015, the maternal mortality ratio worldwide. The second part of the goal is that skilled birth personnel should attend two thirds of deliveries. Yet as progress towards the goals is monitored, MDG5 is widely recognized as one of the goals that is furthest from its desired target. Progress has been slow on a global scale to reduce maternal deaths, and reductions in adolescent childbearing and expansion of contraceptive use have continued, but also at a slower pace since 2000 than over the decade before.\(^{21}\) The red line in the graph shows the target for Sub-Saharan Africa and the progress from 1990, 2000 and 2010. Even though there has been a significant decline worldwide of 47% of maternal deaths since 1990, this is still far from acceptable, as the maternal mortality is still 15 times higher than in developed regions.
As seen in the graph below, as total health aid increases, the aid for family planning and reproductive health, which encapsulate maternal mortality, have stayed relatively low and stagnant. Regardless of the many deaths still occurring, reproductive health remains under-funded in proportion to the need; as only 13 countries will achieve MDG5 and the disparity between maternal mortality between wealthy countries and low-income countries only continues to grow.

It is widely noted that the progress is slow for improving maternal mortality, and there is no real evidence of acceleration. The discrepancy of maternal mortality rates between well-resourced countries and developing nations is appalling; the risk of a woman dying as a result of pregnancy or childbirth is about one in six in the poorest parts of the world compared with about one in 30,000 in Northern Europe. Thus the progress is largely due to reduction in numbers in the largest countries but it hides huge differences among smaller and poorer countries, which is very disconcerting.

Maternal mortality fits under the large umbrella of reproductive health, in which there are new commitments and a renaissance in funding and support has been spurred largely through the Bill & Melinda Gates Foundation, which helped to coordinate the 2012 London Summit on Family Planning in which an additional $2,635 million USD has been promised by civil societies, private sector, countries, and multilaterals to reach 120 million more women by 2020. The Gates Foundation notably is doubling their contributions from $70 million a year to $140 million annually for the next 8 years. While these numbers only indicate commitments and not actually payments, there is no doubt that there is a renewed push for maternal health on an international scale.

**Research Question**

“We have known for decades what needs to be done to prevent maternal deaths — relatively simple, safe and affordable approaches exist to successfully prevent or treat most obstetric complications and thus save women's lives. When there is political will,
these tools become available to all women.” This statement assumes that political will is present if a government creates policy, legislation, or allocates resources. And yet, under the reasonable assumption that Liberia has domestic and international political support (see Exhibit 1 in Appendix) for the reduction of maternal mortality as seen by the creation of the AAP, Liberia still suffers the seventh highest maternal mortality in the world. The primary objective is to discover what are the key barriers to implementing the AAP aimed at reducing maternal mortality in post-conflict Liberia and how can they be mitigated?

Methods
This study explores the themes that are hindering the AAP through qualitative interviews gaining various perspectives from different actors involved in translating policy into action. Particularly exploring the disparity between national policy and the landscape of service delivery.

Sample
The key informant interviews and primary source data were gathered over three weeks in January of 2013. These interviews included representatives from 2 tertiary hospitals, 4 MOHSW staff, 1 multilateral organization, 3 international NGOs, 2 county health teams which included midwives, county health officers, human resource managers, maternal and child health supervisors, reproductive health supervisors, nutrition supervisors, clinical supervisors, and county health officers (n=19). The key informants perspectives from the diverse types of organizations were an attempt to garner representative perspectives of the holistic maternal mortality landscape, even with a smaller sample size. These interviews were conducted with stakeholders across three counties: Montseraddo, Margibi, and Bomi. While these three counties do not suggest representativeness, but instead illuminate the different ways in which policy is executed at the county level.

Data Collection
Data were collected via key-informant interviews conducted by the author in English, the official Liberian language. These interviews comprised the primary stakeholders involved in maternal health in Liberia as designated by the MOHSW staff.

All interviewees gave informed consent, and all of the interviews were anonymous and confidential. Each person was not responsible for representing their organization, but instead was encouraged to give their opinions on Liberian maternal health from their perspective and role in their current capacity.
All participants were asked general questions to assess the primary barriers to implementation with probing questions intertwined. As the interviews progressed, it became apparent that many people talked at length about human capacity issues so a further set of more detailed questions around human resources was developed as an iterative process of the interviews. (Please find the interview guide is provided in Exhibit 2 in Appendix).

Also participant observation and incidental observations were a crucial component in informal data gathering. This was mostly obtained through shadowing the Head of the Family Health Division, in which full access was given to attend all regular meetings. A particularly pertinent conference was held to convene stakeholders regarding the 5 Year Road Map for the Reduction of Unintended Pregnancies in Liberia, in which all major stakeholders attended and gave clear stances on their positions. Through these meetings an additional 2 multilateral organizations, 7 International NGOs, and 2 bilateral organizations were assessed, as well as health workers from other counties. Invaluable opinions and insights were gained during meetings with MOHSW staff and various stakeholders. All experiences and opinions garnered from that time do not necessarily represent the organizations that these people represent, but reflect their personal experiences working in maternal health.

The data gained from informal observations was systematically recorded in a field journal as suggested by “Qualitative Research Design.” The interview notes were transcribed according to each organizational site visit.

Data Analysis
Many primary-source documents and figures are internal as well as published documents produced directly by the MOHSW or other Republic of Liberia ministries. Additionally, published literature was used throughout the analysis.

From these meetings and interviews, in-depth analysis was conducted using a thematic approach to group data into key themes emerging from the data. The field journal notes and interview transcriptions were then categorized by key themes according to the perceived barriers to implementation. Two major themes emerged which were policy related issues and human resources and capacity issues. Then sub-themes were created under each of these major themes. Quotes from interviews were then coded according to these determined themes. These themes, once established, were also corroborated as established implementation barriers from the book, “Politics and Policy Implementation in the Third World.”

Results
From the interviews conducted there was a consensus from all participants that there was top-level political support from the President and MOHSW. However, all of the interviewees also noticed a stark difference between the policies written and approved by congress and the wide array of actions taking place on the ground. For instance, according to the AAP there are strategies that call for: improved staffing system to ensure 24-hour service and yet this is not the case in most facilities, and there are no goals set to
work toward this goal which would require much increased human capacity. In many cases people had difficulty in prioritizing or enumerating just one intervention or action area, because “the challenges are many, due to the post-conflict environment, in which everything needs attention all at once.” The following themes emerged from the interviews and data collection, which can be grouped into two overarching groups:

I. **Policy related issues**: political support - government and community; funding - international donors and domestic payment systems for healthcare workers; dissemination of the AAP

II. **Human resources and capacity**: barriers to implementation - lack of human resources, reliance on extraordinary individuals, ambivalence of the inclusion of traditional midwives (TMs), supervision of the workers within this system; and successful implementation - supervision and management in Margibi and the Good Will Ambassador

I. Policy Related Issues

1a. Political Support - Government

One interviewee was quoted to say, “The 2007 Road Map was accumulating dust,” and thus the necessary impetus in rewriting the Road Map into the AAP in 2012. More than just writing the AAP, it had to be actionable, so that policy makers could easily support the plan and measure its progress. MOHSW, government officials and international NGOs have worked hard to ensure that maternal mortality is a high priority agenda item for the government. While many NGOs will continue their program specific work regardless of government priorities, many non-governmental stakeholders cited that it was imperative for them to continue to advocate for further political support, which primarily means making maternal mortality a national priority. In order for the stakeholders to function in their programmatic work and to take it to scale, political support from the government is a foundational component. If the government continues to publicly support maternal mortality, it allows for the programs to go to scale as written in the AAP. In conclusion, there was consensus on the political support from the government.

1b. Political Support - Community

Political support was gained at the highest levels of government, and notably also garnered at community levels through non-traditional government inclusion. During the 2007 Road Map, traditional community leaders were not used as a means to implement the plan, however the 2012 AAP engaged traditional leaders by convening them to ask how they could help with implementation. In result, a forum was held at the MOHSW for traditional leaders to be educated on maternal mortality issues. Some county traditional leaders agreed to influence social aspects such as preventing child marriages, dealing with high levels of rape, and building village level incentive systems for facility deliveries, in some cases. Throughout Bomi county, the chief can fine a family for home deliveries.

2a. Funding - International donors

Even though international donors are heavily involved in Liberia, this does not necessarily lead to the intended results. Donors may have siloed programing, or funding
streams earmarked for their own particular interests, which may not always align with the priorities of the MOHSW. Due to the post-conflict environment, Liberia is particularly dependent on international donors, and domestic priorities do not always align with the priorities of donors. Some healthcare workers reference that the pre-war clinics were more holistic, but now due to the dependence on donor funds, many projects, programs, and commodities are siloed. As the country rebuilds there is frequently overlap and duplication in reconstruction and programming efforts reducing effectiveness and creating inefficiency.\textsuperscript{28}

However, the creation of the Health Sector Pool Fund has helped alleviate the burden of dealing with multiple donors, funding streams, priorities, and reporting mechanisms. Unfortunately, the financial uncertainty of the pool fund is yet another example of how existing functioning programs can falter because of the reliance on donor funding.

While international funds can amplify resources, this also creates an unsustainable model, and there is little thought put into government self-reliance. Because the country is so reliant upon international donors and organizations to implement the majority of work and programming there is disparate levels of success and program design in each county. Often, simultaneous programs can lead to inconsistent implementation and poor effectiveness.\textsuperscript{29}

There is also a question of how much of these international funds are being allocated to maternal health, and in particular the family health division within the MOHSW. Also even though the AAP has been fully costed, there is not yet a donor who is devoted to funding this proposal. This alone serves as a primary barrier to implementing the AAP.

\textbf{1) 2b. Funding - Payment Systems}

Another major funding issue is the streamlining of the three payment streams for health workers: Government of Liberia payroll, Government Incentive System, and NGOs. These three streams are problematic, and cause delays in payment for many, while some employees are being paid double, because it is difficult to keep track of each system. The Bomi county human resources officer gave an example of an employee who has been on maternity leave and has not been working for 7 months, and yet is still receiving payment from the MOHSW. Other employees are being paid double if they work for the county as well as a NGO. Bomi county is unique in that they control their own budget, but have also had all salary payments switched over so that the government can now centrally transfer payments directly to bank accounts. However, this new system is currently not nimble enough to keep up to date with employment status changes.

The MOHSW, with the aid of international consultants, are working to standardize the definitions of job titles and roles and move all employees to the government payment system. This will be a lengthy process, but it is huge progress in the alignment of systems, as payments should be timelier and will be put directly into the health worker’s bank account. The USAID “Governance & Economic Management Support Project conducted a health worker pay survey from 8,094 Liberians in the system, and one nurse cited, “please put me on government payroll, if not, it’s like I have to make a sacrifice
every month” alluding to the frequent and unpredictably late payments.30

Again, there was a vast disparity between the work being done at the MOHSW and the
difficulties experienced by those at the county level. One Certified Midwife (CM), who
had been transferred to the new government payment system, now has her salary directly
deposited to her bank account in a timely manner, which is a huge success. However, a
major oversight is that there is not a single bank in her county, and there are other
counties in the same position. In order for her to receive her paycheck she must go into
the capital city, which is a manageable distance for her, but others in more remote
counties may have even more delays in reaching a banking outlet. A compounding issue
is that these employees may be the only skilled health care workers in their catchment
area and must leave their post empty for long periods of time to go to a town to get their
paycheck. Thus, again providing another example of the unforeseen challenges and
complexities of implementing policies that are supposed to improve the overall system.

I) 3. Dissemination of the AAP

Many stakeholders in Monrovia and at the highest levels have worked tirelessly to gain
political support that would allow the AAP to be a national priority. This process has
involved many influential NGOs and donors who have helped author and influence the
plan. And yet, when interviewing the healthcare workers, even in Monrovia, who were
the actual providers of maternal healthcare, some had never heard of the AAP, and the
others who had, had never read it at length. This clearly displays the gap between policy
creation and adoption. Dissemination is an instrumental part of this process, ensuring that
those on the ground conducting the work are aware of the national policies. Part of the
problem is the AAP is not yet funded, and so perhaps many of the actionable activities
are yet to take place. But if this is the national plan that is supported at the highest
political levels, it is imperative for those implementing the plan to be aware of the goals
that are expected of them from the central levels.

All of the interviewees who were keenly aware of the AAP were those who had a heavy
hand in helping to draft the AAP. However, all service providers, including clinicians and
midwives had in fact never read the AAP, and many even asked if they could be sent a
copy. All of the certified and trained providers do have at least some basic literacy as the
certified midwives do attend three additional years of schooling, thus communicating and
disseminating this plan is crucial and viable.

The county health officers knew about the AAP, and yet many of their daily activities
have not changed to align with this new document. They mainly cited resource
constraints as a reason for not following the comprehensive AAP. If the people who are
conducting the work that will allow the country to reach their ambitious national goals,
are unaware of these goals and programs to achieve them, then how can they conceivably
be reached or what actions will truly change?

On the other hand, the international NGOs and multilaterals that were interviewed had
been very involved in creating the AAP, which shows the MOHSW strength as a
coordinating body. But at the county levels, it was clear that policies created in the capital
were not being properly enforced on the ground. Decentralization can be a very difficult part of implementation.\textsuperscript{27} While the hope is that the policy will be implemented and monitored from a decentralized position, the fear is this will fail because there is little control over rewards and penalties for elicit compliance to program goals. However, if success of decentralization is achieved it may be viable for central authorities to retain capacity to ensure the implementing activities remain within the boundaries of program objectives.\textsuperscript{27} Because decentralization is not yet effective in Liberia, those counties even further away from the capital typically have more infrequent interaction and supervision from the MOHSW and thus suffer worse health indicators, unless heavily supplemented by NGOs.\textsuperscript{10}

**II. Human Resources and Capacity**

**II) 1A. Barrier to Implementation - Scarcity of Human Resources**

In concordance with the vast literature regarding human resources as a foundational barrier to implementing health programs in Sub-Saharan Africa, Liberian stakeholders unanimously noted this is a foundational barrier for reducing maternal mortality.\textsuperscript{31,32,33} While it is agreed upon by most experts that increased professional and facility birth is the ideal, there needs to be interim solutions to deal with the current situation while working towards this.\textsuperscript{34} Thus, midwives are a key component in filling these human resource shortages.

While the existing literature shows mixed results between the link between human resources for health and health outcomes, there are some studies that show that the density of human resources for health is significant in accounting for maternal mortality rate.\textsuperscript{35} In addition to other determinants, the density of human resources for health is important in accounting for the variation in rates of maternal mortality, infant mortality, and under-five mortality across countries. The effect of this density in reducing maternal mortality is greater than in reducing child mortality, possibly because qualified medical personnel can better address the illnesses that puts mothers at risk. While dispersion of qualified personnel is still a major challenge, there is a continued effort to increase the number of midwives, with four current midwifery schools now operating in Liberia, which graduate between 30 and 40 students after 30% of enrollees drop out.\textsuperscript{6} However, even in producing greater quantities, there are further barriers for the retention of midwives.

Midwives are the most critical cadre of health worker for maternal and child health. Physician assistants are few in number and generally do not provide maternal and newborn health services. In Liberia, midwives also present the most acute shortage. Attrition of midwives is especially difficult because of their high burden of workload and low incentives, as well as the necessity for them to serve in rural areas that may have less desirable living conditions.
Table 1: Projected gaps in midwives at clinics and health centers, 2012-2015
*Excludes hospitals

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Midwives (CMs &amp; RM</strong>s)</td>
<td>502</td>
<td>502</td>
<td>502</td>
<td>502</td>
</tr>
<tr>
<td><strong>Total Staff Needed</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Number of Midwives, Year Start</strong></td>
<td>382</td>
<td>389</td>
<td>476</td>
<td>552</td>
</tr>
<tr>
<td><strong>Gap, Year Start</strong></td>
<td>-120</td>
<td>-113</td>
<td>-26</td>
<td>50</td>
</tr>
<tr>
<td><strong>Attrition (13%)</strong></td>
<td>-50</td>
<td>-51</td>
<td>-62</td>
<td>-72</td>
</tr>
<tr>
<td><strong>New Graduates</strong></td>
<td>57</td>
<td>138</td>
<td>138</td>
<td>142</td>
</tr>
<tr>
<td><strong>Projected Year End Gap/Surplus</strong></td>
<td>-113</td>
<td>-26</td>
<td>50</td>
<td>120</td>
</tr>
<tr>
<td><strong>Staff for new sites</strong></td>
<td>0</td>
<td>-40</td>
<td>-40</td>
<td>-49</td>
</tr>
<tr>
<td><strong>Year End Gap including New Facilities</strong></td>
<td>-113</td>
<td>-66</td>
<td>-30</td>
<td>-9</td>
</tr>
</tbody>
</table>

Nurses can also provide maternal and newborn care, when midwives are not available. And the MOHSW is attempting to change job descriptions and functions so that nurses are also trained and held responsible for MCH services. In Liberia, there is actually a substantial surplus of 411 registered nurses in 2012. Thus, quality and range of services provided is the focus for nurses, and not an increase in producing more nurses.

In addition, uneven allocation and attrition of health workers across counties makes the disparity more acute in some areas. It becomes a huge sacrifice for health workers from Monrovia to serve in rural areas, where often they are still responsible for finding their own housing, which has much lower standards of living than what they are accustomed to in urban areas. This may include lack of electricity, running water, and a non-cement housing structure. There is currently a pilot program in Bong County to increase the mid-level health workers to give them more incentives to work in these areas. Besides living conditions, low wages are another key factor that induce high turn over, especially of Certified Midwives (CM). Registered Nurses (RNs) make $175 a month while CMs make $153 a month, this $43 a month difference is significant when it represents 28% of their monthly salary. Thus it is crucial to increase incentives. The people who are trained leave when better opportunities arrive. Then the CMs work even harder because there are fewer of them.

All of the county health officials and human resources managers noted that in Liberia there are plenty of RNs, the problem is that the CMs have the highest workload burden. Also, the current system only allows for administrative promotion for nurses, thus CMs cannot advance with their degree, and many are leaving their health posts and returning to get RN degrees so that they can advance their opportunities.

As a result of these shortages and uneven distribution, presently two-thirds of births in Liberia are not assisted by a skilled birth attendant (SBA), which includes midwives, physician assistants (PA), nurses or doctors. Thus the other one-third of all deliveries are occurring at home, usually assisted by a traditional midwife. Further barriers include poverty, cultural preferences and distance. 40% of Liberians live more than 5 km from the nearest health facility.
Human resource shortages affect other matters of personnel; there are 241 clinics with only 2 professional staff, 80 clinics with only one professional and 6 clinics with no professionals at all. This is largely a result of the fact that during the war 90% of the country’s health professionals left Liberia. Though the minimum World Health Organization (WHO) standard is 2.5 health workers per 1,000 people, Liberia has a critical shortage, with less than 1.15 health workers per 1,000 people. Recruiting and retaining staff is difficult, especially in rural areas, thus leading to uneven allocation of skilled personnel. County official complain that new staff often arrive with insufficient clinical training. Current in-service trainings still are not providing sufficient clinical practice. Also because these workers are not well documented and tracked, and because of high attrition, there is a multiplicity of trainings that make it difficult to target untrained staff. The total Liberian health workforce in the public sector consists of 4,000 full time and 1,000 part time staff: 168 physicians, 273 physician assistants, 453 registered nurses, more than 1,000 nurse aides and other health professionals. Overall, the system and human capacity is heavily dependent on NGOs and their often vertical programming.

The current policy requires that all graduating medical students give a year of service in a rural area, but it is widely known that this simply does not happen. One OBGYN noted that there is no existing residency program that could help distribute personnel to the interior. Currently interns are sent to the interior or rural areas, but they are not properly trained, because they are in the beginning of their medical education. Once they are sent to the rural areas there is not a knowledgeable supervisor to monitor their work. Thus the structure should be reconsidered to ensure that medical personnel with further training go to these rural areas. 12 to 14 medical students are graduating a year, and Liberia would need to increase that five-fold to fulfill the demand.

Currently doctors are only required at the hospital level, because of their scarcity. 34 additional physicians are needed in public hospitals, and attrition for doctors is approximately 10% per year. Also many doctors are often promoted through the system, and have increasing administrative demands, so that the few doctors have even less time for clinical practice.

The functioning of health facilities further exacerbates the access issues created by human resource shortages. There is substantial variation in service coverage, utilization and quality across the 15 counties of Liberia. Overall there are 347 functional health facilities and 200 are nonfunctional, leading to an estimated access around 41%. The table below gives a summary of the number of health facilities by county and throughout the country.
Table 2. Number of health facilities by county*

* Original table created from data in the AAP

<table>
<thead>
<tr>
<th>County</th>
<th>Population Estimate, 2012</th>
<th># Of Clinics</th>
<th># Of Health Centers</th>
<th># Of Hospitals</th>
<th># Of Private Facilities</th>
<th>Pop. more than 5 KM from Health Facility</th>
<th>Total Health Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bomi</td>
<td>91,019</td>
<td>19</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>48%</td>
<td>24</td>
</tr>
<tr>
<td>Bong</td>
<td>362,389</td>
<td>33</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>58%</td>
<td>39</td>
</tr>
<tr>
<td>Gbarpolu</td>
<td>80,778</td>
<td>13</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>65%</td>
<td>14</td>
</tr>
<tr>
<td>Grand Bassa</td>
<td>228,606</td>
<td>20</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>63%</td>
<td>29</td>
</tr>
<tr>
<td>Grand Cape Mount</td>
<td>137,728</td>
<td>29</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>49%</td>
<td>32</td>
</tr>
<tr>
<td>Grand Gedeh</td>
<td>128,783</td>
<td>14</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>54%</td>
<td>18</td>
</tr>
<tr>
<td>Grand Kru</td>
<td>62,024</td>
<td>11</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>57%</td>
<td>16</td>
</tr>
<tr>
<td>Lofa</td>
<td>306,640</td>
<td>44</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>46%</td>
<td>55</td>
</tr>
<tr>
<td>Margibi</td>
<td>216,999</td>
<td>14</td>
<td>4</td>
<td>1</td>
<td>15</td>
<td>42%</td>
<td>34</td>
</tr>
<tr>
<td>Maryland</td>
<td>147,317</td>
<td>19</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>37%</td>
<td>24</td>
</tr>
<tr>
<td>Montserrado</td>
<td>1,364,677</td>
<td>29</td>
<td>8</td>
<td>3</td>
<td>98</td>
<td>17%</td>
<td>138</td>
</tr>
<tr>
<td>Nimba</td>
<td>530,389</td>
<td>37</td>
<td>4</td>
<td>2</td>
<td>15</td>
<td>52%</td>
<td>58</td>
</tr>
<tr>
<td>Rivercess</td>
<td>83,893</td>
<td>16</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>75%</td>
<td>17</td>
</tr>
<tr>
<td>River Gee</td>
<td>74,986</td>
<td>13</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>48%</td>
<td>17</td>
</tr>
<tr>
<td>Sinoe</td>
<td>135,931</td>
<td>29</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>55%</td>
<td>32</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>3,952,159</strong></td>
<td><strong>340</strong></td>
<td><strong>31</strong></td>
<td><strong>22</strong></td>
<td><strong>155</strong></td>
<td><strong>547</strong></td>
<td></td>
</tr>
</tbody>
</table>

II) 1b. Barrier to Implementation - Reliance on Extraordinary Individuals

It is unreasonable to have the primary caretakers of during maternal mortality, midwives, overworked, underfunded and under-resourced; if decreasing maternal mortality is a priority then the people implementing the policies need to be sufficiently compensated. While the AAP focuses mainly on fulfilling quantity gaps and investing in producing more midwives, yet the conditions that these midwives are entering into will certainly not keep them there. One midwife who was interviewed walks up to 4 hours to reach some of her villages, her catchment area includes 64 villages and she was very proud to have never had a mother die in childbirth. She adamantly uses the working ambulance in the county when there are any early warning signs. She also lets pregnant mothers stay at her home and feeds them healthy foods from her garden so that they can give birth in a facility with a skilled birth attendant when their time comes. This extraordinary midwife has greatly reduced maternal mortality in her catchment area, but the government of Liberia cannot depend on such extraordinary and autonomous acts. Incentives for these midwives in rural areas are another huge area of opportunity for Liberia. Unfortunately, there are many implementation barriers around creating incentives; one main issue is simply that of scarce resources.

II) 1c. Barrier to Implementation – Ambivalence in Incorporating Traditional Midwives (TMs)

While TMs can be seen as a stopgap for the extreme shortage of skilled birth attendants, and a way to help in implementing some of the new policies proposed by the AAP, some
counties are wary to incorporate these TMs as they are fearful this will encourage unsafe behaviors. The MOHSW does have programming to increase the training of TMs throughout the country. Some counties have seen increases in facility deliveries by incentivizing TMs to bring their patients to a health facility. In other counties, the traditional leader will charge a fee for any babies delivered in the village and not in a clinic. Certain counties, such as Margibi, have successfully incorporated TMs, with the assistance of NGOs. They incentivize both TMs as well as trained traditional midwives (TTMs) to provide “clean baby mama kits” to those who bring their clients to facilities. These kits include lapas (traditional fabric) as a gift to the new mother, a bar of soap for delivery, washcloth, and other items depending on the resources available. Thus compensation and recognition are used as motivators for TMs. Other in-kind incentives for the health workers include lapas (traditional fabric), rain gear, jackets, bags, t-shirts and even bicycles, but never cash. In Margibi county the staff retention rate is 90% because Save the Children helps ensure proper compensation. Again, successful implementation is dependent upon resources of NGOs to see this initiative through to fruition.

The incorporation of TMs allows for the dissemination of important health information, and can relay health messages to rural areas; thus providing decentralization, a crucial component of implementation. Accountability also can take place in Margibi as Save the Children also provides boxes at the facilities, which the local community health committees go through and address. Patient satisfaction surveys are given in person and done monthly at all facilities. Distance to health facilities is a major barrier to access that is mitigated by incorporating pre-existing community structures in this rural county. Thus providing a potentially scalable pilot model by incentivizing local health workers through management and support.

II) 1d. Barrier to Implementation - Supervision & Management

There is an overall lack of proper management and supervision in Liberia, as cited by lead MOHSW officials. Management and accountability are crucial components in the implementation of distributive policy programs, because there are many decision makers and implementers throughout the policy operationalization process. In general County Health and Social Welfare Teams (CHSWT) saw government of Liberia (GoL) sites as weaker than sites with direct support from non-governmental organizations (NGOs). NGOs often provide additional funding, management support, health initiatives, and extra incentives. CHSWTs generally do not have the funds or human resources capacity to provide these additional services. However the goal is to move towards contracting-in for CHSWTs within the MOHSW and there is strong internal support for this. Supervision is also needed to ensure the quality of care.

The Family Health Division has not had sufficient staff or capacity to provide needed support to CHSWTs for implementation. For example, though program coordinators should spend 60% of their time in the field supporting CHSWTs, lack of funds for travel and poor organization of field visits, as well as excessive burden of administrative duties, keep them in Monrovia. Management of health worker performance has varied greatly by county and compliance with job descriptions is rarely monitored or enforced.
There are a few key challenges to implementing this new supervision regime, such as the lack of funds available. Especially as vehicle maintenance and fuel can be very expensive and some locations may be extremely difficult to reach during the rainy season. CHSWTs lack sufficient vehicles to carry out the extensive supervision schedule suggested in the AAP. MOHSW supervisors may not be actively practicing clinicians, which may limit their mentoring ability. The current state offers little formal feedback to track individual health care workers’ progress. The supervision tool provided by the AAP is long, yet not very detailed, as most maternal and newborn health drugs are not included and few maternal health data points are collected. Following the tool takes a long time to complete which leaves less time for mentoring, thus it should be examined to see if this list is the best way to monitor supervision.

II) 2a. Successful Implementation - Supervision & Management in Margibi
The MOHSW considers operationalizing a supervision and management system across the 15 counties as a key to achieving maternal mortality reduction. As such, a pilot supervising system is being run in Margibi County. The success of this program depends on a full time supervising employee, in the past three months 9 supervisors made 27 site visits, and each facility is responsible for its own outreach. Coordination, management and monitoring are also key components in this county. This model uses a NGO headquartered in the county as the coordinating body. This NGO supports 7 clinics and 1 hospital, and has all partners meet on the last Thursday of every month. However, while this model should be replicated based on its success, the implication is that a donor financially supports it. The donor has donated the vehicle for supervision visits as well as finances the cost of petroleum, which are commonly two costs that are prohibitive for most counties.

II) 2b. Successful Implementation – Increased Capacity through A Goodwill Ambassador
One section of the AAP that has been successfully implemented is the creation of the position of the Good Will Ambassador. As an extra initiative and push to increase capacity of those working on the maternal health landscape in Liberia, in October 2012 the Vice President of Liberia, Joseph Boakai, named and inducted into office Madam Miatta Fahnbulleh as the Goodwill Ambassador for Maternal, Newborn and Child Health. Vice President Boakai enlisted that “good judgment and diplomacy, good interpersonal skills, the ability to resolve conflicts and the ability to work with people of diverse backgrounds…. good advocacy and communication as well as motivations skills” are crucial components of this position. During her induction Fahnbuelleh remarked at her outrage that 4 women and fifteen children die every day in Liberia, and lamented that she will have trouble sleeping until she reduces these deaths. One of her primary roles is to do outreach in each of the counties. Even though this is just one position, this role is meant to work on devolving the AAP at the county levels that should serve as a springboard to catalyze more action and increase capacity.

A primary reason that this position has been actualized is because the World Health Organization (WHO) is providing funding for the ambassador’s salary and travel
expenses. Thus thwarting the funding barrier that often prevents the implementation of AAP programs. She has already successfully recorded a jingle about good birthing practices that is being widely played on radios around Liberia. She is supposed to be a catalyst for action, so even though it is only one role, the impact will hopefully be exponential.

Another human resource success, which was noted in multiple interviews, is that there are plenty of nurses graduating each year. However, that does not mean that they are evenly geographically dispersed. While doctors and midwives are in high demand, at least one area of health workers is sufficiently filled in terms of training. As such, the nursing issue is not addressed in the AAP.

**Analysis and Recommendations**

The difficulties of healthcare delivery and implementation are especially compounded in a post-conflict country such as Liberia. There is heavy reliance upon international donors and local NGOs to deliver services, and those in-country services that are supported by the MOHSW are often underfunded and under-resourced. The logic model shows the role of a health system in implementing programs in post-conflict countries. However, if the programs are not properly implemented then the outputs and outcomes of reduced mortality rates, and a peaceful successful state might be more difficult to achieve.

Table 3. Logic model for the roles of the health system in post-conflict countries

<table>
<thead>
<tr>
<th>Program</th>
<th>Outputs</th>
<th>Outcomes</th>
</tr>
</thead>
</table>
| Functioning, equitable health system:  
  - National government stewardship  
  - Rehabilitated primary care facilities  
  - Re-established health workforce  
  - Fair financing  
  - Guaranteed package of health services  
  - Equitable allocation of services | Improved access to quality, reliable health services for priority health problems  
  Enhanced social solidarity and cohesion  
  Greater confidence in government and support for social contract  
  Stronger government capacity to administer public programs | Reduced mortality and morbidity  
  More capable, resilient state  
  Reduced risk of conflict recurrence |

The problem elucidated in this model, points to the issue of the importance of all of these steps, without ranking the tasks by order of importance. Cornerstones of this model include, re-establishing the health workforce as well as stronger government capacity to administer public programs. Both of these can be done through proper payment and benefits to the existing workforce. There is a clear tension whether to focus on long-term or short-term human resource solutions. Often times short courses for health workers prevail over much-needed investments in pre-service or longer-term training simply because the need is so dire and needs to be fulfilled in the quickest way possible.

Ambitious quantitative goals and action plans for reducing maternal mortality and increasing access to health interventions is nothing new; “They are the standard fare of
global declarations and national 5-year plans. They come. They go. While MDGs are measured on a national level, operational management at the district level is the only way to achieve national differentials.

It is widely agreed upon that skilled care in delivery, and in particular, access to emergency obstetrics would greatly reduce maternal deaths- by about 74% according to World Bank estimates. However both of these recommendations are reliant upon the entirety of a health system and could take a long term to function successfully. Thus the proceeding recommendations will be delivered as derived from the interviews conducted, and some are even direct suggestions from observations and analysis. In order to make this action plan viable the following recommendations can be made actionable immediately: 1) Fund the AAP, 2) Improve payment systems, 3) Communication and dissemination the AAP, 4) Support midwives, 5) Incentivize traditional midwives, 6) Manage, support and supervise existing human resources, 6a) Management lessons from Rwanda, 7) Scalability

Political support and involvement of stakeholders will not be addressed in the results section, as the paper is working under the assumption that the MOHSW is actively convening stakeholders and the government is supporting maternal mortality as a top health priority.

1. Fund the AAP

Problem being addressed from results: Siloed international funds

Recommendation:

Solicit a donor or group of donors to fund the fully costed AAP. In order to fully realize the benefits of the AAP, it will be necessary to have the proposal funded in order to begin activities. This donor would have to allow for the flexibility of system strengthening with following these objectives closely. While USAID is a primary stakeholder they do not participate in basket funding, thus it would be best to have either the European Union or the WHO coordinate this effort. This is a simple suggestion, but will clearly be difficult to fulfill, the MOHSW will have to pitch this proposal very convincingly, and should also strategize the priorities of the objectives and can therefore begin pieces of the proposal without having to wait for the entire thing.

<table>
<thead>
<tr>
<th>Table 4. Budget by Objective and Year, USD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objective</strong></td>
</tr>
<tr>
<td>------------------------------------------</td>
</tr>
<tr>
<td>1. Increase the number and quality of skilled attendants</td>
</tr>
<tr>
<td>2. Increase the coverage and access to emergency and essential MNH care</td>
</tr>
<tr>
<td>3. Increase access to and utilization of family planning services</td>
</tr>
<tr>
<td>4. Expand and strengthen outreach and community-based services</td>
</tr>
<tr>
<td>5. Improve management of MNH services at national and county levels</td>
</tr>
<tr>
<td>Monitoring and Evaluation of the Accelerated Action Plan</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>
2. Improve Payment Systems
Problem being addressed from results: Various payment streams for healthcare workers
Recommendations:
Enlist a MOHSW employee who is responsible for taking employees off of Government of Liberia (GoL) payroll. While the CHAI change team is fervently working to move all workers onto one payment system, incremental steps can be taken over the next few years, while the major infrastructural overhaul takes place. Making a streamlined system would help to save the MOHSW money and keep an accurate count of the people who are actually working. While the CHAI Change Team is working on long-term initiatives to streamline all workers onto one payment system, increasing one person to a full time employee to manage this national system would be especially beneficial during the transition, and could also save money for the MOHSW instantly if they find duplicate people.

Install a bank, ATM or mobile banking in each county in order to streamline GoL payment. The MOHSW should work with the Ministry of Finance to ensure that each county has a bank, especially since they hope to streamline the payment of all health care workers through GoL payment. The head of human resources in Bomi cited that often health workers would leave their post for 2 to 3 days to go to town in order to receive their payments. For counties that are further from Montserrado (the capital) this is an even more impractical system. If it is not possible to install a new branch of banks in the counties that do not have banks, then alternate methods of payment should be considered, such as ATMs where possible or mobile banking. Plenty of successful mobile banking programs have achieved huge success in money transfers for those “unbanked” in other African countries, such as the M-Pesa program in Kenya.48 All human resource officers from the counties without banks should have a meeting at the MOHSW so that each one of these counties can create a unique operational plan for a working payment system for their specific county situation.

3. Communication and Dissemination of AAP
Problem being addressed from results: Lack of knowledge regarding the AAP
Recommendations:
Reliable communication and feedback systems should be implemented. An accountability-oriented health system functioning in a way that promotes the ability of all people, including poor and marginalized populations, to assert and satisfy such claims can potentially have profound effects on social development and economic growth—a lesson yet to be heeded in some rich countries as well.46 This can be done through a variety of mechanisms such as: surveys, community meetings, cellphones, and national score cards.

One county uses a suggestion box at each clinic as well as conducts patient feedback surveys. This is a great model, but could potentially take a lot of time. The county health officers should be in charge of this and should send a report to the central MOHSW level.

Also the AAP has suggested using cellphones as a means to aid with information decentralization. Cell phones could be a very useful conduit for potential referral
systems, relaying information about stock and other such crucial items. It was even proposed that clinical advice could be given via telephone, and this program should be piloted immediately as there are no infrastructural requirements.

**National score cards can widely illuminate who is implementing programs effectively.** While there are currently systems in place to supposedly track the maternal deaths in each county via maternal death audits, certain counties do not provide these on a monthly basis, and it was even observed that some counties instead provide them annually. Even then, the count is not completely reliable as these deaths only include facility deaths, of which is only 1/3 of all births, so this is most likely a severe underestimation. An alternative way to track more efficiently the success of counties and their progress in implementation, might be to include maternal health in the new proposed “community score cards.”

The Governance Commission is an independent agency established to “design, formulate, and consult on appropriate policy recommendations, institutional arrangements, and frameworks for submission to the government in order to support the development of good governance practices in Liberia.” The goal is to identify gaps in governance and to establish a baseline to monitor future progress. The overarching goal is to increase transparency and accountability of the Government of Liberia, by publicizing reports. Currently the radio station is a popular outlet in the capital city of Monrovia, to discuss and advertise government failures and corruptions. These feedback systems are particularly crucial to the ministries who deliver services, such as the MOHSW. Through a new initiative Community Score Cards will be tracked mainly for educational and health services.

The envisioned CSC (Community Score Card) is a participatory assessment tool, used by both service providers and the community in order to improve service delivery at local level. These scorecards will give citizens a channel to express if their services are properly delivered and given in good governance. Currently there are not any maternal health specific questions, and if the government wants a continued emphasis on this area, they need to measure it and act accordingly. The MOHSW should partner with the Governance Commission to ensure that maternal health is measured via this new tool that will incorporate many of their needs. The advantage of the Community Score Card is that it not only generates and collects data, which are relevant for policy review at national level, but it also informs citizens about their rights and entitlements to good quality services and empowers them to ask questions to front line service providers and to relevant local government authorities.

Other ways that communication channels can be conveniently implemented would be to publicly announce on the radio or to the parliament each month, the maternal death audits. The Good Will Ambassador could champion this extra effort and push to publicize and make each county responsible for the deaths that are attributable to maternal mortality.

**4. Support Midwives**
Problem being addressed: Reliance on extraordinary individuals
Recommendations:

**Equalize Pay and Opportunities for Nurses (RNs) and Certified Midwives (CMs).**
Currently there is an organizational cultural hierarchy of nurses and midwives, which is unnecessary. Nurses are trained in delivery, but typically do not assist, as it is not included in their job descriptions. From my perspective, this disparity between the two is unnecessary, as they both attend three years of schooling, thus further proving the unwarranted pay differential. There are also differences in pay and administrative opportunities afforded only to RNs, which provides further disincentive to get a degree in midwifery if it will limit future opportunities for career advancement. County health officials noted that CMs are leaving and returning to school for their RNs so that they can achieve more future opportunities. Thus there could be a cultural shift in making them more equal. CMs are widely recognized as the backbone of maternal health provision and if they are not treated equitably there will be even less women entering into the candidate pool. CMs are tasked with the bulk of maternal health work and yet receive very little payment or support. In order to provide maternal health for all Liberians, it is essential to look at ways of improving services in difficult to reach areas

The high turnover rate of CMs truly needs to be examined. More incentives in general should be given, especially to those in the rural areas. For maternal health and child health, changing the scope-of-profession rules and practices that disempower the non-doctor health-care provider is a first important step. Incentives can include provision of housing or even on a smaller scale, technical support via cell phones. If more policies are not changed, the CM gap predicted will only continue to grow, this needs to be a focus for the MOHSW as these are the key implementers of maternal health services.

5. **Incentivize Traditional Midwives**
Problem being addressed from results: Ambivalence of incorporating traditional midwives into the formalized health system
Recommendation:

**TMs should be incorporated and acknowledged into a national policy that incentivizes TMs to refer their patients to facilities for deliveries.** While there is some hesitation about incorporating TMs, as that will only proliferate their involvement, the fact of the matter is they are on the front lines, and thus must be incorporated into any plan, and can actually prove to be uniquely beneficial. In fact, there are already policies in place in which the MOHSW provides training to TMs, which allows them to graduate to trained traditional midwives (TTMs). Currently, traditional midwives (trained and untrained) are attending 61% of all rural births. Due to the TTM’s location in the community, they can serve as an incredibly helpful translator of knowledge and action. The MOHSW should do a randomized trial to evaluate the safety and effectiveness of TTM provided care and the roles of incentives for referrals to increase facility births. Ideally, CMs should be used as mentors to all traditional midwives in order to facilitate a relationship between the two types of practitioners. Certain counties have seen success from incorporating them into the more formalized healthcare, and they have had a foundational role in referrals.
**Increase incentives for TTM and CMs, especially in rural areas.** Most urgently, human-resource strategies need to address not only the absolute shortage of skilled workers but also the neglect of their basic human rights. Unfair geographic deployment, unconscionably low wages, and other manifestations of poor human resource management have led to widespread demoralization. Thus, basic resources should be allocated by the MOHSW, or they should allow room in their donor budgets for properly compensating midwives in rural areas. Save the Children already allocates money and resources for this in the counties they work in, and the MOHSW should insist that other donors do the same. Midwives of all calibers are the true frontline implementers of

**Include delivery services in terms of reference (TOR) of RNs.** Professionally trained midwives are likely to be the backbone of any strategy for tackling both maternal and neonatal mortality, and the building of this cadre of workers must be an explicit part of any human resource plan.

It is necessary to ensure that all skilled health workers have labor and delivery included in their TORs and verify this is happening through supervision. Accordingly there is an excess number of RNs graduating and yet the bulk of maternal health services falls upon midwives, thus RNs during their training should be taught to expect to take responsibility for the delivery process, at least ensuring that new RNs entering the work force will have a different expectation, even though this will not address those already in the work force, it is something that can be done immediately that will have a long term impact.

6. **Manage, Support and Supervise Existing Human Resources**

   **Problem being addressed:** lack of human resources
   **Recommendations:**

   **Create systems in which the healthcare workers in the system can work to their fullest capacity and encourages people to stay within the system.** The AAP has enlisted many strategies to increase and fulfill the HR shortages, which this paper does not intend to duplicate. Instead another strategy is to better utilize those that are currently in the system, while the system is also enhanced to produce a greater quantity of workers. In the long term, both national governments and donors must revise their approach and invest substantially in more systemic, contextualized strategies that result in longer term, sustainable capacity-building. But the interim solution is most certainly to enhance the effectiveness of those in the system as well as help to keep them in the system.

   Many recent health-strengthening efforts have focused on the inputs into the system, which include people, human resources, capital, buildings, equipment and tools and the outputs of production processes like medicine or electricity. For example, substantial attention has been given to labor inputs under the heading of human resources for health (WHO, 2006). Thus while inputs are crucial without managing these inputs or human resources, adding to the system is futile. Much less attention has been paid on the international scale to the importance of management and supervision. In order to ensure that a policy is implemented, management and supervision are crucial accountability mechanisms.
Operationalize a supervision and management plan to monitor county’s progress towards AAP. Reviews of intervention studies in low and middle income countries suggest that the simple dissemination of written guidelines is often ineffective, that supervision and audit feedback is generally effective, and that multifaceted interventions might be more effective than single interventions. When visiting the different sites, the health care practitioners were not aware of the AAP, and if they were most had never read the document at length. Thus the MOHSW should have measurable goals for each health facility and monitor that facilities progress towards the Accelerated Action Plan specifically.

While the AAP details a supervision plan, which stipulates monthly supervision visits by the district health officer; this is yet to be implemented in a systematic way in most counties. This is largely due to a lack of time and resources. Supervision across a county can entail lengthy travel time, expensive petroleum and sometimes some clinics may be impassable during the rainy season. Thus, the MOHSW needs to provide financial support in order for each county to do a needs assessment of their current supervision arrangement. Perhaps it would be most realistic to pilot this system in a few counties, as there are high costs to supervision, which include allocating a full time supervisor to make the visits, the cost of transportation that includes car maintenance and fuel. The counties in which this is taking place in full effect, are largely supported by NGOs.

6a. Management & Supervision – Lessons from Rwanda
All too often in developing countries, there is a human resources shortage, and the health care workers that are in the system are under funded, overburdened, and unsupported. Thus it is absolutely imperative with this shortage of health care workers that the workers in the system are properly utilized, trained, supervised and managed to order to most efficiently service the underserved rural populations. Reviews of intervention studies in low and middle-income countries suggest that the written policies are often not properly implemented without effective supervision and feedback mechanisms.

While the context of Rwanda and Liberia may not align perfectly, both are Sub-Saharan countries recovering from post-conflict, and Rwanda is a country with some aggressive and innovative health plans in which lessons can be learned. In 2007, Rwanda began an Access Project in Rwanda, which is a management program in 32 health centers in 3 districts, designed to increase the program to 6 districts by 2008. A fundamental component to the project is that there is a full time employee assigned to supervise between 12 and 19 health centers. The Access Management Evaluation Tool (AMET) tool was developed in 2008 to specifically address the problem of not knowing whether any improvement was occurring, and also as a tool to guide the progression and mastery of skills. Follow-up evaluations after six months of the original three districts highlighted those areas that had improved and those that required more attention (Table 5).
Table 5: Follow-up Study in Rwanda: Baseline and follow-up AMET scores (means) for the three districts by domain.

<table>
<thead>
<tr>
<th>District</th>
<th>Domain</th>
<th>Baseline Mean</th>
<th>Follow-up Mean</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bugesera</td>
<td>HR</td>
<td>2.6</td>
<td>5.6</td>
<td>+3.0</td>
</tr>
<tr>
<td></td>
<td>Infrastructure</td>
<td>2.3</td>
<td>2.9</td>
<td>+0.6</td>
</tr>
<tr>
<td></td>
<td>Finance</td>
<td>4.2</td>
<td>4.7</td>
<td>+0.5</td>
</tr>
<tr>
<td></td>
<td>Insurance</td>
<td>1.3</td>
<td>2.5</td>
<td>+1.2</td>
</tr>
<tr>
<td></td>
<td>Pharmacy</td>
<td>4.7</td>
<td>4.4</td>
<td>-0.3</td>
</tr>
<tr>
<td></td>
<td>Health Data</td>
<td>2.5</td>
<td>3.0</td>
<td>+0.5</td>
</tr>
<tr>
<td></td>
<td>Planning</td>
<td>1.4</td>
<td>3.9</td>
<td>+2.5</td>
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<tr>
<td></td>
<td>IT</td>
<td>1.0</td>
<td>3.3</td>
<td>+2.3</td>
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<tr>
<td>Rwamagana</td>
<td>HR</td>
<td>3.2</td>
<td>4.0</td>
<td>+0.8</td>
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<tr>
<td></td>
<td>Infrastructure</td>
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<td>3.7</td>
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<td>Health Data</td>
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<td></td>
<td>Planning</td>
<td>1.3</td>
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<td>+0.4</td>
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<td>1.0</td>
<td>1.8</td>
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<tr>
<td>Musanze</td>
<td>HR</td>
<td>2.3</td>
<td>5.4</td>
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<td>Finance</td>
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<td>4.5</td>
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<td></td>
<td>Health Data</td>
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<td></td>
<td>Planning</td>
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<td></td>
<td>IT</td>
<td>1.0</td>
<td>1.8</td>
<td>+0.8</td>
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</table>

Liberia should partake in a similarly randomized pilot program in at least three counties in which they can monitor the baseline and then potential impact of a supervisory program. Thus, they can scientifically determine whether the supervision program is a good investment. The end result would be to determine if the increased supervision and management leads to more effective service delivery and implementation of programs for improved patient health.

Another program that Rwanda is promoting through their Ministry of Health is the Rwanda Human Resources for Health Program that is heavily focused on raising the skill level of the workforce. While the priority of this project is focused on increasing the number of specialist, one key lesson that can be better applied in the Liberian context is that the program in Rwanda is introducing two new training programs in health management: a Masters in Healthcare Administration (MHA) and a Certificate of International Health Management (CIHM) from the School of Public Health at the National University of Rwanda. Liberia could also benefit from creating a new program in healthcare administration if the MOHSW’s primary objective is to increase
management and supervision, then this would be the first step to building internal
capacity to take on the program.

Another potentially helpful tool might be to use the seminal piece that is Herzberg's two-factor theory for Human Resources Management (HRM) which addresses the need to clarify whether the problem being addressed is mainly one of job satisfaction or one of job dissatisfaction, and then to select the appropriate personnel management strategies. For example attending to salary levels and working conditions will primarily reduce job dissatisfaction and therefore increase staff retention. To improve motivation and thereby increase staff performance, attention should be given to motivating factors, for example by increasing the individual's sense of achievement and to demonstrate recognition of that achievement.

Thus many in the MOHSW would like to see a pilot program run for supervision and management so that those who are in the system can function more efficiently and be encouraged to continue working. Also it will incentivize more people to join the system. There also needs to be an operational plan put into place for this monitoring and supervising. This will make the county health teams more efficient and will help to decentralize the healthcare system and allow mothers to reach health where they need it. An imperative element of a successful supervision plan must also include funding to support the activities. Some of the NGOs and county health teams interviewed cited that this should be a priority for the MOHSW if they want to see improved results. Funding will help materialize the activities, and will encourage those trained employees to stay, which will stop the leakage of time, money and training spent on healthcare workers who do not stay in the system.

7. Scalability
Problem being addressed: lack of sharing cross-county learning
Recommendation:
The MOHSW should be the coordinating body to ensure when the county health officers meet annually that each team presents their successes and challenges in implementing the AAP. These sessions should include specific details on who is conducting implementation as well as who is funding the specific aspects. As part of the nuanced programs and recommendations enumerated throughout the paper, it is imperative that these programs are then evaluated at the county level to measure success of implementation and that this knowledge is shared across counties.

Limitations
Methods
A primary limitation of this study was the data collection for the analysis. The interviews were not tape-recorded or transcribed verbatim. As such there was interviewer bias as to what was written down and recorded. Very few quotes were directly written down. This could have also led to interviewer bias, as the interviewer may have highlighted items of interest to them personally or neglected to write down ideas that could be important perspectives of the interviewee. Further research may include more rigorous data
collection and should address Liberian women to assess their personal pregnancy experiences.

Also, the people chosen for the interviews were not randomly sampled for complete representativeness, but based on their perception by the MOHSW as a key stakeholder involved in maternal health in Liberia. It would have been a richer analysis to have been able to interview more stakeholders, as well as other ministries. Particularly the Ministry of Finance may have been very insightful in looking at how they prioritize and set the budget and disperse funds across the MOHSW.

Also, the counties visited are frequently the most referenced counties in many studies on Liberia because they are the closest to the capital city and therefore the easiest to access. Also, because of their proximity to the capital, they are able to access more resources, thus skewing the perspective by not including some of the counties who receive less centralized support and resources from the capital.

Due to the small number of people interviewed, these results cannot be widely extrapolated, but instead, highlight key issues in the implementation process for the MOHSW of Liberia to understand. Further research should include more rigorous and include more midwives in the assessment, as the primary service delivery and implementation providers. Also, successful countywide pilot programs need to be more thoroughly assessed to see objectively examine their national scalability.

**Analysis**

All of the results and analysis are suggestions as given by an outsiders perspective, and thus could be missing unforeseen consequences and challenges in implementation. There are so many potential recommendations, and a bundled approach is bound to be the most beneficial, but the focus was on tackling the current barriers as ascertained from the interviews. Thus, this paper does not necessarily provide the largest gains to be made in improving the implementation of the AAP, but instead focuses on small actionable recommendations that will aid in more feasible and segmented implementation of the AAP.

**Conclusion**

Implementation theorists lament that “an authoritatively adopted policy is ‘only a collection of words’ prior to implementation.”\(^{59}\) This statement was recently echoed by the US Secretary of Health and Human Services of the US, during an interview regarding the Affordable Care Act: “Just having the law passed doesn’t provide people benefits on the ground.”\(^{60}\) Policy implementation barriers are not a unique conundrum, however it poses particular challenges in a post-conflict developing country. This is often because third party donors, NGOs, and consultants often hold a foundational role in formulating policies, but then the political regime and administrative organizations, the MOHSW in this instance, are often charged with the implementation and may not have sufficient ability, power, or resources to do so. Thus, leaving the country still singularly dependent upon third parties for aid in the implementation process.
Liberia’s central government can encourage and enforce implementation by providing an enabling environment for reduced maternal mortality through banks, schools, public works, road networks, access to service and supplies. As a post-conflict country, there is not one single intervention that can be implemented, instead a package of services and interventions need to be provided. However this can be overwhelming with so many competing priorities, thus it is imperative to have an operational plan with funding and human capacity to ensure the plan will be translated into action. Most importantly the primary action should be monitoring of management and supervision so that each county can be given small achievable and actionable goals in implementing the AAP.

It is widely recognized that maternal deaths are clustered around labor, delivery, and the immediate postpartum period, with obstetric hemorrhage being the main medical cause of death, and the interventions to solve these problems do not require high technical solutions. The key interventions to reduce the grossly high number of maternal deaths are known; but the difficulty arises in implementation, especially in complex, resource-constrained settings. Liberia has formulated policies and programs that should help shape the landscape of maternal health and reduce the gross rate of maternal mortality, but now it is time for operationalization. There is no magic bullet to reduce maternal mortality, however progress will most certainly depend on strong health systems ensuring high coverage of midwifery services, and these interventions must be targeted toward the most vulnerable groups, which are mostly the rural populations and the poor, and these interventions must be monitored by the government to ensure accountability for reducing the inequity of maternal mortality.23

The MOHSW is sufficiently engaging stakeholders and working fast to tackle a variety of complex and multifaceted issues. The major challenge will still be to reconcile the policies with the actualities of the current status of Liberian health care. The task of implementations “is to establish a link that allows the goals of public policies to be realized as outcomes of governmental activity. In involves, therefore, the creation of a ‘policy delivery system.’”27 This delivery system can mitigate the numerous implementation challenges through increased supervision, monitoring and evaluation to see how the policies and programs of the AAP are actually being disseminated and implemented.
**Appendix**

Exhibit 1.

*Taken from MOHSW presentation*

<table>
<thead>
<tr>
<th>Individual/Organization</th>
<th>Position</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil Service Agency</td>
<td>For</td>
<td></td>
<td></td>
<td>++++</td>
</tr>
<tr>
<td>Health Workers employed</td>
<td>For</td>
<td></td>
<td></td>
<td>++++</td>
</tr>
<tr>
<td>Health Workers unemployed</td>
<td>Against</td>
<td>++</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional Bodies (Medical Council, Nursing board, etc)</td>
<td>For</td>
<td></td>
<td>+++</td>
<td></td>
</tr>
<tr>
<td>Ministry of Finance</td>
<td>Against</td>
<td></td>
<td>++++</td>
<td></td>
</tr>
<tr>
<td>Legislators</td>
<td></td>
<td>+++</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beneficiaries</td>
<td>For</td>
<td>++</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Community dwellers</td>
<td>Against</td>
<td>++</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bureau of the Budget</td>
<td>For</td>
<td></td>
<td>+++</td>
<td></td>
</tr>
<tr>
<td>Development partners</td>
<td>For</td>
<td>++</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NGO partners</td>
<td>For</td>
<td>++</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Media</td>
<td>For</td>
<td></td>
<td>+++</td>
<td></td>
</tr>
<tr>
<td>National Health Workers Association</td>
<td>Against</td>
<td></td>
<td>++++</td>
<td></td>
</tr>
<tr>
<td>County Health Teams</td>
<td>For</td>
<td></td>
<td>++++</td>
<td></td>
</tr>
</tbody>
</table>
Exhibit 2.
The following is a draft of questions used in the interviews. The use of probes depended on the extent and manner in which the participant answers each particular questions.

Protocol on Liberia Maternal Health Questions
The interviewer should begin by making the participant comfortable: ask how the participant is doing, and how long they have been living and working in Liberia. Once the interview begins, say “Let me start by thanking you for your time, and for joining me today. Just to let you know this interview will help inform my Master’s thesis the Harvard School of Public Health. Please remember, I want your honest opinions about these matters, and there are absolutely no right or wrong answers. I will have you start by reading this consent form, and then if you agree to the form we will begin and I will take notes during our discussion so I can reflect on your answers. Do you have any questions before we begin?”
(Give them the consent to read, turn on the tape recorder, if given permission)

Overarching RQ (not to be read aloud): What are the primary implementation barriers to reducing maternal mortality as perceived by the key stakeholders?

Interview Guide:
1. How long have you been working on maternal health in Liberia?
2. Can you please explain your organization’s role in maternal health in Liberia?
3. Can you please explain your position?
4. In your own words can you please describe the current landscape of maternal health in Liberia?
   a. Have you seen any progress or decline?
5. In your opinion, what, if any, are the current obstacles to implementing the Accelerated Action Plan to Reduce Maternal and Newborn Health?
   a. If you think there are obstacles, which are the most challenging?
   b. Which are the easiest to overcome?
   c. Why are these obstacles so difficult to address?
   d. How can these obstacles be overcome or resolved?
6. In the short term, where can there be the most concrete progress? Is there any low hanging fruit?
7. What are the common harmful practices, if any, in use at the local levels?
8. Who are the stakeholders involved in maternal health in Liberia?
   a. Who is responsible for what?
   b. Is there any collaboration, overlap, or sharing of programs and policies or are there gaps in collaboration? Please elaborate.
9. Which stakeholders, if any, have been the most effective in improving maternal health? What has made them effective?
10. What, if any, recommendations would you have for the Ministry of Health and Social Work to improve maternal health?

Health System –
1. Where do you refer patients?
2. How do you refer patients?
   a. Please explain the entire process. (Include players and length of time)
3. What is your interaction like with NGOs?

Human Resources –
1. What is the current status of your Human Resource Information System?
   a. Is there any database?
2. What do you do with vacancies?
3. Is there any way to notify national level of openings?
4. How do you advertise openings?
5. What type of health care worker do you need more of?
6. What would be most helpful for HR system?
7. Would it be possible/realistic to use a database?
8. What’s most realistic?
9. What’s your relationship with NGO staff?
10. Who manages HR and vacancies in your facility?
11. Is information kept electronically or on paper?

Thank you so much for your time, I really appreciate it. Is there anything more that you would like to tell me?

Do you have any questions for me?
Thanks again for your time!
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