Improving Quality and Access to Health in Burkina Faso:

Model for Complementary Rural Health Services

Master's Thesis

International Care and Community Development

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Abstract

The issue of quality healthcare for rural communities has recently been debated in both developing and developed countries. This challenging theme requires specific steps to address the health needs of rural communities. In Burkina Faso, no effective model exists to complement the efforts of the public sector to offer health services to rural communities. For this reason, this thesis describes a theoretical innovative model of a sustainable community hospital that will offer quality primary and secondary health services to the rural communities that need them. This model is referred to as Complementary Rural Health Services (CHRS).The basis of this work stems from a personal medical practice experience in Burkina Faso, practicum interviewees' inputs, and a literature review on the issue of rural healthcare. The proposed model is made of four Pillars that are: (a) Administrative Pillar, (b) Sustainability Pillar, (c) Community Participation Pillar, and (d) Human Resources Pillar. The model is designed to be reproducible in other rural settings, especially in developing countries. Its implementation requires a strong community involvement and collaboration between local authorities, health professionals, local communities, and relevant partners both locally and internationally.

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Introduction

The last decade offered many discussions on health care access both in developing and developed countries. Some in the Unites States have argued that health care should be a right to all human beings, therefore, accessible to all (Kereiakes & Willerson, 2004). This need is even emphasized for rural communities that have insufficient quality services compared to their urban counterparts (Merwin, Snyder, & Katz, 2006). Others countered this claim by asserting that access to health care should be considered merely a privilege due to the reality of limited resources (Towne, 2009). In developing countries, with the promotion of primary care services following the conference of Alma-Ata, emphasis has been put on extending health infrastructures in order to cover the less privileged people, mainly in rural places. However, Burkina Faso did not emerge among the countries that made significant progress 30 years after Alma-Ata even though the development of additional infrastructure was noticed (Lawn et al., 2008). This suggests that addressing rural populations' health requires more than building health infrastructures. It requires a thorough understanding of the different facets of the issues involved, so that one may design appropriate approaches to address them. In many developing countries, although efforts to increase access to healthcare have been attempted, there is still a remarkable amount of work required in order to address the issue of quality services for rural populations.

During the last two decades in Burkina Faso, no efficient model has emerged to complement the federal hospitals' efforts to provide secondary clinical care among rural residents. Consequently, neither private nor other non-governmental stakeholders have implemented an innovative clinical care strategy that simultaneously delivers efficient and accessible care and retains qualified health professionals in the nation's remote areas. This problem statement is illustrated by a 2010 address of the prime minister Tertius Zongo, a former

ambassador of Burkina Faso to the U.S., who listed the following shortcomings in the health system in Burkina: (a) poor quality of care, (b) insufficient number and quality of human resources and misallocation, (c) insufficient availability of specialists in hospitals, (d) underdeveloped private health sector, (e) weak development of health related research, (f) absence of a national health insurance, (g) and poor development of other mechanisms for sharing of health risks (Premier Ministère du Burkina Faso, 2010). Although this thesis project does not intend to address measures that will specifically improve health services in the public system, data from the public system will be used to understand the context of healthcare needs in rural places. Thereafter, the project will suggest an innovative health delivery system called Complementary Rural Health Services (CRHS) that complements the public system by providing: (a) quality services, (b) human resources retention, and (c) sustainability among rural populations.

Health Analysis of Burkina Faso: Strengths and Weaknesses

Health System Overview: Public System

The health care delivery system in Burkina Faso relies heavily on the public sector managed by the Health Ministry (HM). In fact, around 80% of health centers in Burkina Faso are run through the public system (HM, 2010) while the private sector remains present mainly in urban areas. This public sector is organized in a pyramidal way with three major levels of care: Central Level, Intermediary Level, and Peripheral Level (see figure 1; Health Ministry of Burkina, 2001). The Peripheral Level is the main player in the efforts to offer health services to rural communities. This level is organized so that nurses' clinics are located through the district and refer complex cases to the district hospital which serves the entire district. The Intermediary Level is a regional network of several districts and district hospitals, and is served by a regional

referral hospital. The Central Level provides care through the national hospitals. The national hospitals are similarly designed to receive patients referred from regional hospitals. In 2009, Burkina Faso had a total of three national hospitals, nine regional hospitals, 42 district hospitals and 1,373 nurses' clinics (INSD, 2010).

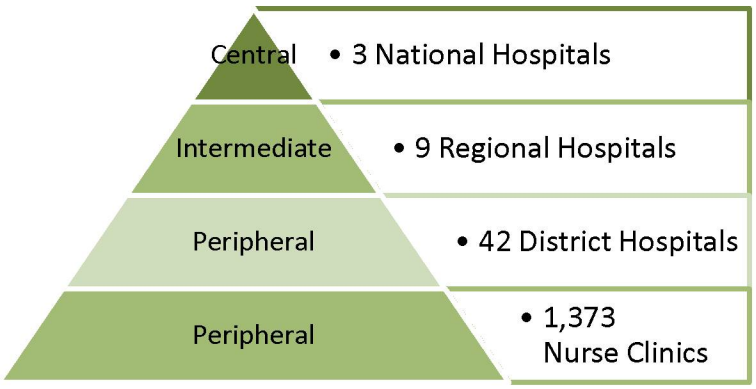

Figure 1: Three Levels of Public Clinical Care in Burkina Faso (INSD, 2010). This figure illustrates the organization of the healthcare system in Burkina Faso.

Human Resources in the Public Sector.

The management of human resources has been essentially conducted through the public system and mainly at the Peripheral Level which contains the majority of health facilities. In 2010, the Health Ministry reported that the public sector employed 439 general practitioners, 525 specialist physicians, 1,100 specialized nurses, 1,067 midwives, and 6,680 generalist nurses (HM, 2010). The management's structure at the Peripheral Level has both clinical and administrative components. The structure of the district hospital is intended to offer a more complete set of primary care services compared to the nurses' clinics that are mainly focused on the most common health concerns of primary care such as pneumonia, diarrhea or uncomplicated child birth. At this level, a typical hospital may employ two physicians (general practitioners),

six nurses, four specialized nurses (in fields such as obstetrics and gynecology, pediatrics, or surgery), four midwives, and two lab technicians (Lankoande, Dao, Sano, Ouedraogo, & Ouedraogo, 2006). Among the physicians, one usually manages clinical activities and another—the chief doctor—is in charge of administrative tasks. The chief doctor will also provide clinical services (HM, 1994). As stated previously, rural populations are usually cared for at the Peripheral Level by the personnel of the nurses' clinics and the district hospital. However, when the number of human resources is considered as a national aggregate, these health professionals serve a total of 16,241,811 people (CIA, 2011). This gives us the following ratios: one physician per 14,541 persons and one nurse per 2,099 persons (see Appendix A for complete proofs).

Geographic Accessibility to Care.

In the public system, health facilities in urban areas are much more accessible than rural facilities. Amnesty International (2009) reported, "In the Central Region, which includes the capital Ouagadougou, 98 per cent of the population live less than 10km from a health centre, while in the Sahel Region only 50 per cent live within 10km" (p. 3 In 2007, it was also estimated that only 38% of the population could have access to a nurse clinic within 30 minutes (INSD, 2008). This implies that district hospitals are even more difficult to access given that one district hospital typically serves the catchment area of 32 nurses' clinics (INSD, 2010). Although the government has made significant efforts to increase the accessibility of the rural population to health services, quality services provided by well-trained health professional with relevant medical supplies are still insufficient (HM, 2010).

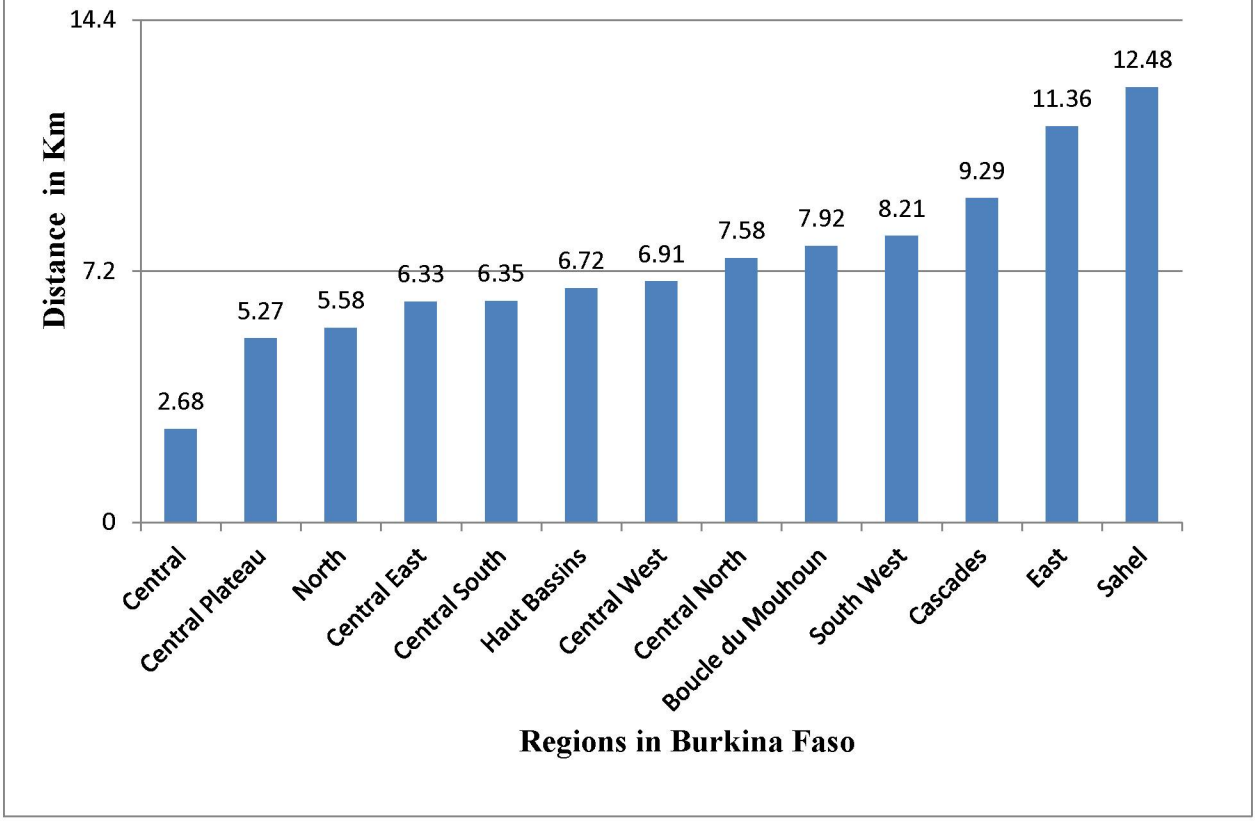

Figure 2: Mean radius between health facilities by region in Burkina Faso compared to the 2010 national goal of 7.2 Km (HM, 2010).

Financial Accessibility to Care.

The financial accessibility to care has been shaped by two major initiatives: the Bamako Initiative and the SONU Initiative. The Bamako Initiative implemented since 1987 lowered the out-of-pocket cost paid by patients to access clinical services. This increased the proportion of people that accessed health facilities (African Union, 2005). This affordability at peripheral facilities is, however, not sustained at the hospital level because the cost of services is higher.

In 2003, it was estimate that patients receiving care at district hospitals used three-quarters of their annual health spending for medications (INSD, 2008). In response to this financial burden of individuals, the government put in place the second initiative called SONU in 2006 (Bama, 2011). This initiative made significant efforts to sponsor a package of free services aimed to reduce maternal and neonatal mortality throughout the country in 2006 (Amnesty International, 2009). The program is intended to cover any obstetrical emergencies such as C-sections and neonatal emergencies. Regional and district hospitals are funded based on an estimate of the probable number of patients that might be covered. This implies that the funding might be less or more than the money needed to cover the emergency. However, each institution is expected to function with the allotted funding for their facility. Moreover, facilities that over- or under-use these financial resources are not permitted to transfer the funds. Consequently, one district can have a surplus of funds while a neighboring district is struggling to cover the cost of SONU. Moreover, the expected benefits on maternal and infant mortality seem to be undermined by mismanagement in the healthcare system. Bama (2011) commented on the SONU, stating: "The cupidity of a number of people in charge of its implementation and forms of carelessness from the authorities have completely disrupted the dynamics of this intervention" (p.1). This exemplifies the difficulties of impacting health outcomes such as maternal mortality in Burkina Faso.

Assessment of the Quality of Services.

The healthcare system in Burkina has been on a quest for quality services for its populations, mainly those in rural environments. A review of the causes of mortality provides some insight into the health system's ability to deliver quality services.

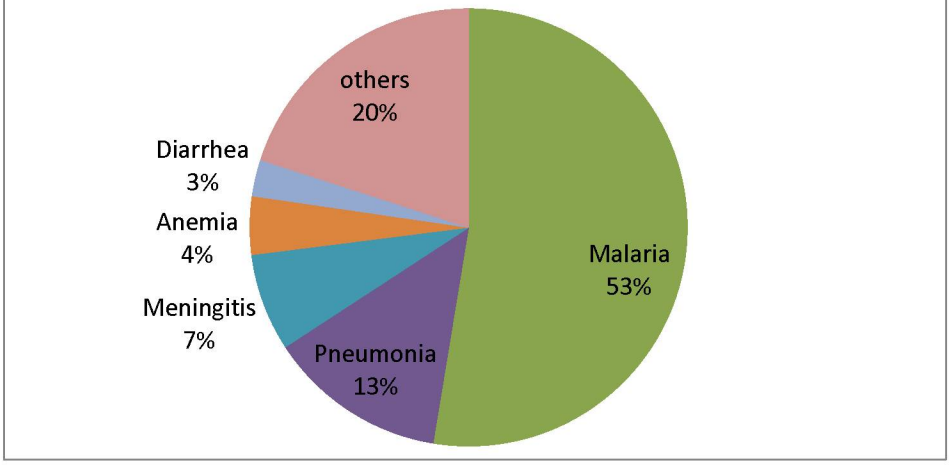

Figure 3: Top 5 Causes of Mortality at Health Facilities in Burkina Faso (HM, 2010).

The seven leading causes of mortality in healthcare facilities in 2007 were severe malaria (52.6%), pneumonia (13.2%), meningitis (7.2%), anemia (4.3%), diarrhea (2.7%), snake bites (2.6%), and bloody diarrhea (Figure 3). These seven diseases accounted for 82.7% of mortality within health facilities (INSD 2008). Three major drives of mortality—malaria, pneumonia, and meningitis—are all infectious diseases with clearly identified protocols for treatment. Because 82.7% of patients die from preventable and treatable diseases inside healthcare facilities, one can infer that most of the patients did not get the quality care that they needed to survive. Therefore, it seems that patients in general and rural patients in particular still face two key barriers to receiving quality health care. They struggle to afford clinical care; however, even the clinical care they receive may be of extremely poor quality.

Funding of the System.

The funding of the healthcare system in Burkina has gone through a number of changes in order to address the relevant problems that the national system faced. Although NGOs contributed significantly to health care in Burkina, they remained concentrated in specific

regions. This imbalance was sometimes due to political reasons associated with NGOs looking to attract favors. In the same way, politicians may have supported NGOs' work in their districts in order to court voters and win re-election for their own personal gain. An illustration of the political factor can be seen in the fact that the central plateau region and the northern region have the best accessibility to health facilities after the capital city. These regions are known to be the birth place of many influential politicians (figure 6). Based on apparent disparity in resource distribution, the government and the different partners decided to centralize the contributions of the major international financial partners into one national financial management structure called PADS (Programme d'Appui au Développement Sanitaire des districts et regions which is translated as support program for healthcare development of districts and regions).

Created in 2003, PADS received funding from institutions like the Dutch cooperation, the World Bank and the European Union. It is responsible of allocating these resources to districts and regions across the country. Under this funding plan, districts are encouraged to make an assessment of their own needs by merging input from nurses' clinics to form a district-wide plan. Once the district's action plan is established and the budget estimated, a session is organized with PADS so that the eligibility of the different items might be discussed. With 65 districts to cover, the end of the year becomes a busy period for PADS to work with districts to find out what kind of projects can be financed. This approach is intended to treat districts fairly in regard to one another's financial capacities. In fact, the majority of relevant activities that fit into the national strategic plan is financed by PADS at the district and regional levels. Thus, PADS attempts to reduce district-based discrimination based on politics or geography.

Health System Overview: Private System

The private sector has developed in the last decade primarily in big cities like Ouagadougou the capital, and Bobo Dioulasso. In 2010 the private system contained 320 private health centers and 67 religious health centers (INSD, 2010). Initially, a number of specialist physicians and nurses in the public sector concurrently treated patients in private facilities during the hours they were not working at the public facilities. Practices such as this depleted some hospitals of continuous quality care because specialists found it more profitable and convenient to work in a private setting. Previously, the government attempted to limit public health providers to their duties within the public hospitals but had to mitigate its position because health professionals were inclined to forgo their public practice if these restrictions were applied. Recently, an increasing number of private facilities have begun to open including few without official authorization (Health Ministry, 2010).

The increase in number of new facilities was perceivable by the communities and local authorities, yet there was a strong variety in the quality of infrastructure and services offered in these clinics. A number of characteristics, however, remained common to the private sector including: (a) easy access to specialized nurses, general practitioners, and specialized physicians; (b) easy access to laboratory test and imaging; and (c) more emphasis on patient comfort (building, seats, and general hygiene). These elements have contributed to the fame of the private sector in cities like Ouagadougou because patients could get what they wanted even though it meant paying more for the services. This growth of the private sector was, however, limited to cities while religious and public health facilities served as locations of care for rural communities (HM, 2010).

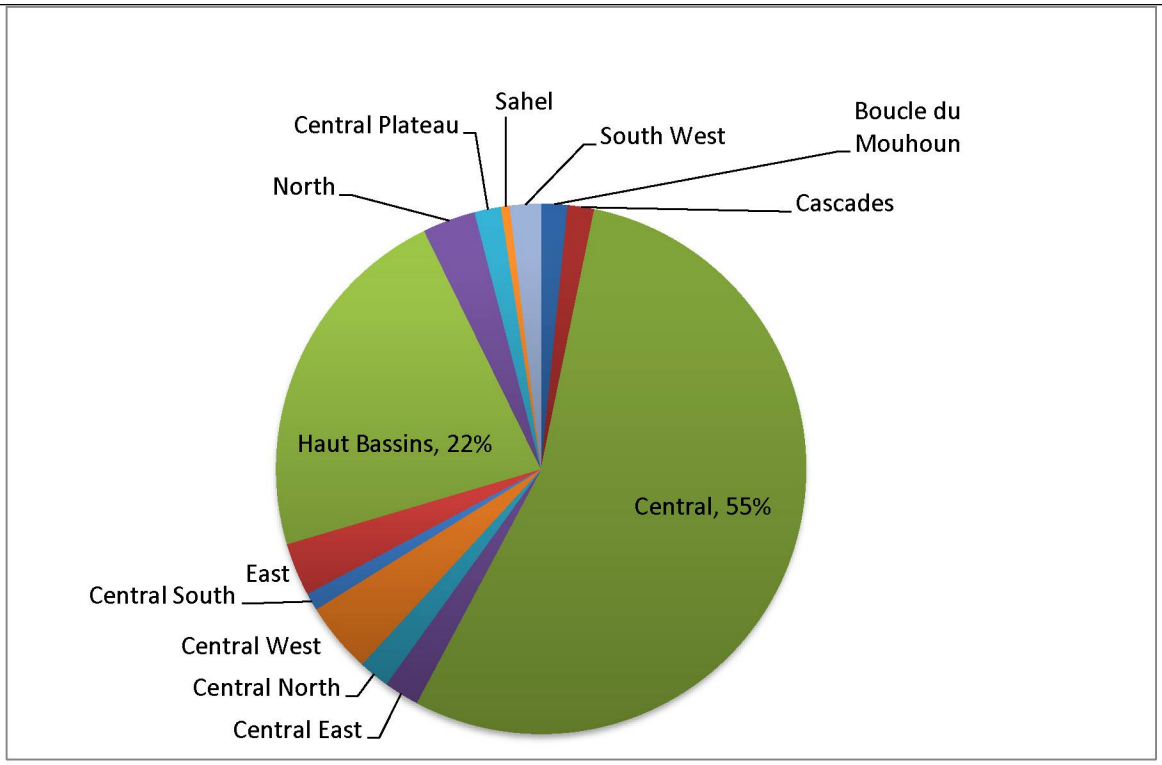

Figure 4: Distribution of private health facilities throughout the regions of Burkina Faso in 2007 (HM, 2010).

Relative Strengths of the Health System

Human Resources--Training, Retention Strategies.

Given the historic scarcity of human resources in the system of healthcare delivery in Burkina Faso, the government has enacted a plan to train and retain health workers where they are most needed. Because physician shortages were severe and difficult to fix in the short term, the government decided to train a significant number of nurses as alternative primary care providers. This strategy is reflected by the great proportion of nurses compared to the proportion of physicians with a seven to one nurse to physician's ratio (see Appendix A for complete proofs). This approach brought some relief in the attempt to treat common diseases like malaria. The government has therefore been a leading agent for training and employing health

professionals compared to communities, and private sectors (HM, 2010). In recent years, the government has also enacted financial incentives that give more benefits to health workers in rural areas (HM, 2010). Through these benefits, rural health workers have received increasing government support for housing stipends and for on-calls stipends. These financial incentives have reduced the flow of health professional from rural to urban areas. This trend is reflected by the slight increase in the percentage of health facilities with a sufficient number of health professionals (HM, 2010).

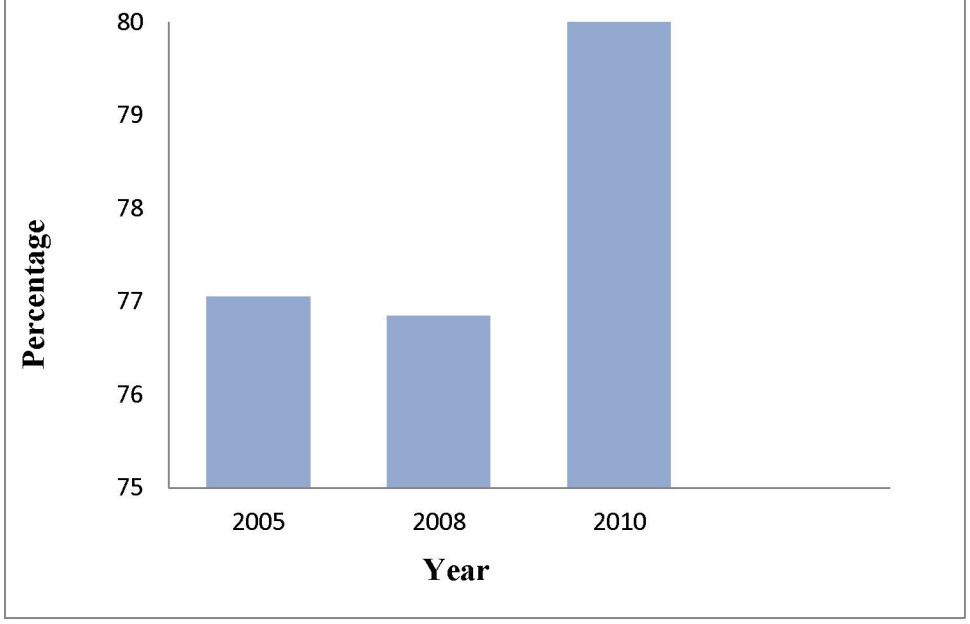

Figure 5: Percentage of Health Facilities Adequately Staffed According to National Standards of Burkina Faso (HM, 2010)

Community Participation.

Up to this point the community has participated in the management of the public healthcare system through three major means. The first is the collaboration in promoting health

programs such as immunizations and family planning. The second is the financial management of the nurses' clinics in rural places. The third way is the direct financial contribution paid in return of rendered health services. The last aspect is designed to be the major element that promotes financial sustainability. The Bamako Initiative enacted in 1987 is a cornerstone for the public sector's policy to promote the use of generic essential drugs and community participation to healthcare program. Its goals are to "ensure access to essential health services and restore confidence in public health systems by improving the quality of care and promoting community participation" (African Union, 2005, p. 30). Community participation has been encouraged for preventive activities such as immunization and family planning. In fact, a management committee called CoGes has been created within communities served by each nurse clinic. Each CoGes is made by local community members with the head of the nurse clinic as the secretary. The committee oversees the finances of the clinic and works to promote the adhesion of community members to health programs such as immunizations. Each CoGes also holds periodic meetings to give feedback on the clinical and financial activities to the communities.

Beyond that, communities have been put in charge of managing the finances that are generated through the selling of drugs according to guidelines that are established nationally. However, a number of restrictions have been established to prevent any use of the money for activities that are not directly related to health care. For instance, the finances cannot be invested in agricultural or other lucrative projects as a measure of safety. This limits the creativity of populations in terms of micro projects but still constitutes a relevant safety rule that has the potential to prevent financial mismanagement of the health facilities in these communities. Community ownership of the nurses' clinics is encouraged but the major portion of the definitive budget is still provided by the government which also pays the employees.

The third aspect of community participation is the out of pocket payment by patients for services rendered and the purchase of treatments. The selling of prescription drugs to patients is by far the major income generator for both the nurses' clinics and the district hospital. The government has established a series of rules regarding the management of these funds in order to assure the availability of essential drugs at the peripheral level and the functioning of the local structures (hospitals or clinics). The funding of health facilities through the financial resources generated by the purchase of generic drugs has allowed a number of health facilities to continue to function properly and provide services for patients.

Infrastructure Improvement.

In the last decade a number of treatment facilities have been built including 578 nurses' clinics, 12 district hospitals, two regional hospitals, and one national hospital (Premier Ministere du Burkina Faso, 2010). These were built to improve accessibility of clinical services. As a result of these efforts, the geographic accessibility of health facilities improved. In 2000, the mean distance between health facilities was 9.37 km; in 2008 this had been reduced to 7.52 km. Consequently, the government initiative brought health facilities closer to Burkina residences. Nationally, Burkina intends to bring them even closer so that health facilities are distributed every 5.0 km (Premier Ministere du Burkina Faso, 2010). In the same report, a number of facilities are projected nationwide, including 30 nurses' clinics, one district hospital, one center of excellence, two regional hospitals, and one national hospital. Cumulatively, these data suggest the government has been investing significantly in the building of health facilities throughout the country with the understanding that the needs span all levels of care. It also shows that there is still room for more facilities in order to improve the geographic accessibility of communities.

Weaknesses of the Health System

One of the major weaknesses in the federal system is its inefficient financial management. Under current law, medical supplies have to be acquired through public market offers, requiring that the contract be offered to the seller with the lowest prices. However, for supplies like blood pressure cuffs, it is forbidden to specify brands and specific quality descriptions under the national rules. This is an attempt to assure fair competition in an efficient way. But many districts end up receiving blood pressure cuffs that will not last beyond one year, thus requiring the same expense year after year. Therefore, the bureaucracy needed to safeguard a number of abuses also causes inefficient financial management in the public system.

A second major weakness is the inability to effectively manage the already insufficient human resources at a district level. In fact, district leaders have, in theory, the leverage to move their health professionals according to the needs of various localities within the district. However, they are often pressured by politicians to retain a number of workers in specific health facilities. Therefore, a district can have a sufficient number of nurses within its borders but not in the rural centers because most of the workers will be concentrated in few specific cities or towns. For example, 41% of doctors in the public sector practice in just one region around the capital city. However, the central region only contains 12.3% of the national population (INSD, 2006). This trend also held true in 2008 when 41% of doctors and 32% of midwives practiced in the central region. Although financial incentives are in place to motivate rural health workers to work in rural areas, these incentives are comparatively less significant than the advantages public health workers can obtain when they move to the city and work part time in private practice. Because of the increased tendency for healthcare workers to move from rural to urban areas, the government has begun to require professionals to serve a number of years in rural

environments. However, this requirement only retains professionals in rural areas only for a few years. The immediate impact of keeping workers in rural places without their contentment is their discouragement and a lesser productivity. This constitutes a great challenge for administrators who have to choose between keeping superfluous personnel in few facilities or maintain health workers in places that might not be comfortable.

A third weakness of the system is the lack of diverse choices for medicine and few medical supplies. Many people have argued that rural populations only need basic services due to the high proportion of infectious diseases like malaria. Therefore, only generic and first line treatments are usually available at this level of the health system. In fact nurses' clinics are only allowed to buy the generic drugs that are sold through the national pharmacy in the district. This recommendation was intended to keep the cost of treatment low. However, it also makes it impossible for a number of effective medicines to be sold or utilized through the nurses' clinics. For instance, the recommendation for treating a mild case of malaria in 2006 was with Arthemeter/Lumefantrin. However, this combination was not available in nurses' clinics for several months that year. These clinics however could not buy the product from the private sector because of the governing rules for drug supply. This example illustrates how rationing could affect the quality of care in rural areas. This policy which limits therapeutic options could also account for high mortality in rural places because major complications of malaria will carry a high potential of mortality. Although the rationing of resources is certainly relevant in the context of limited financial resources, Burkina Faso requires consistent strategies for providing treatment for the primary causes of mortality.

A fourth major weakness is the persistence of the geographic and financial inaccessibility to health services in rural environments. In fact, the price for health services is not always

accessible, particularly to rural populations. This inaccessibility to care could also be described as inability to buy drugs given that most patients are uninsured. Although prices of services are reduced, a vast number of people are still prevented from accessing the services due to the financial barrier (Amnesty, 2010a). This problem is even enhanced further when it comes to district hospitals. From this observation, one can say that an innovative approach should be attempted to either raise the financial capacity of the populations or find alternatives that will allow patients to exchange goods for health services rendered.

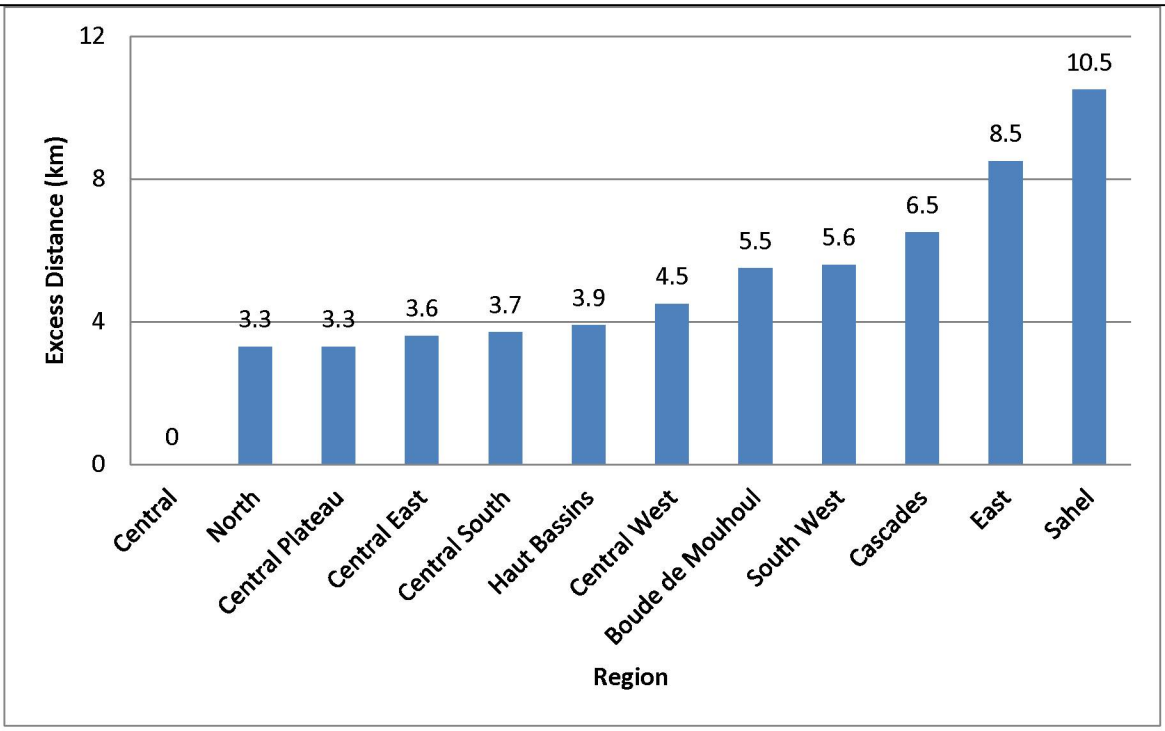

Figure 6: Excess Distance between Health Facilities Compared to Central Region

A fifth major weakness is the insufficiency of financial resources generated at the community level. Moreover, the quasi dependence on government subsidies does not seem to be a sustainable approach due to the fact that predictable budgetary restrictions in the future will

certainly penalize the efforts to promote quality health services. However, community participation is even less common at the level of district hospitals where the administration is often managed by the chief director and professional accounting teams. Therefore, we can conclude that community participation is being established in Burkina Faso, but a more creative way of generating funds should be encouraged. Community ownership should be encouraged with an innovative approach to self-financing as a way to boost sustainability. The self-financing approach appears even more pressing in a country that has an unemployment rate of 77% (CIA, 2011).

Strategies for Delivering Sustainable Quality Health Services

This section will present four different strategies that have the potential to improve the quality of health services and/or promote sustainability. These strategies that are well discussed in the public health domain will encompass elements that help address the weaknesses identified in the analysis of the health system in Burkina Faso. This section will also describe three successful examples of promotion of quality services in rural settings. Elements of these findings will be further used to strengthen the innovative community hospital model in Burkina Faso. Because the CRHS model is not intended to be implemented within the public system, caution should be used in applying the following strategies to the public health system in Burkina. Although this application to the public system is feasible, it does not constitute the purpose of this thesis due to the complexity of the public health system management. Instead, the strategies are presented as options that the community hospital can look to implement as a way to offer quality and sustainable health services in the community complementing what is already done via the public system. This approach has the potential of strengthening the overall provision of healthcare in rural communities.

SEED-SCALE

The SEED-SCALE approach is essentially a sustainability model for community development. The bottom-up aspect of this approach starts with local communities with the possibility of expanding to regional and national levels. It builds on identified health problems and identified strengths of the communities that suffer from these health issues. As outlined by the civil society organization Future Generation (2011), the four principles of SEED-SCALE are: "1) Build from success: strengthen what is working, 2) Create three-way partnerships: between community, government, and outside change agents, 3) Make decisions based on evidence, not opinions, and 4) Seek behavior change as the primary outcome" (SEED-SCALE section, para. 4). These populations will contribute to finding solutions that effectively address their health concerns. Such an approach allows a more sustainable development of health service while strengthening the community's participation. It might be a slow process depending on the health issue that is considered, but it appears to be a more certain predictor of sustainability because of the implication of local populations in the problem solving process. For example, this model might be less appropriate when dealing with epidemics that usually require experts' directives, sometime beyond even the national expertise.

The SEED-SCALE approach has been used by Future Generations in the region of Cusco, Peru, with significant positive impact on maternal and child health. For example, "Maternal mortality declined by 75% within the project area compared with 50% in the surrounding region of Cusco" (Future Generation, 2011, Peru Data Report). It has also been used in Niger to promote environmental changes with the full participation of the local communities (Calder, 2008). In the context of Burkina Faso, the SEED-SCALE bottom-up approach is to be encouraged but seems less likely to be successful through the financially centralized public

health system. This assumption is due to the fact that national health priorities and local health priorities do not always match. Sometimes, pertinent local problems do not ascend to become national priorities. Therefore the solution for such problems may lack financial support from PADS which virtually means they are not addressed because local communities do not have other major contributors. Districts could be the best places to apply the concept of SEED-SCALE approach. However, given the mode of funding in place which has its strengths and weaknesses, districts tend to align their priorities to those identified at higher institutional levels. This gives ground to NGOs and private sectors to implement ideas like the proposed innovative model of community hospital for the common good of populations.

The SEED-SCALE bottom up approach can be seen as a reproducible approach but does not bring up solutions that can be easily generalized in Burkina Faso although SEED-SCALE has specific strategies for scaling up local successes. This difficulty is due to the fact that communities across the country are very distinctive in terms of culture, strength, and approach to healthcare problems. For example, one community might have well-organized women groups. This structure can be successfully used in addressing an issue like female genital mutilations. However, in another community, a group of young people might be identified to be effective in fighting for the same cause. Moreover the strategies might be different given a different cultural context. This implies that communities need to be organized so that they can significantly contribute to addressing their own health concerns.

Model for Improvement of the Institute for Health Improvement (IHI)

The Model for Improvement has been developed by Associates in Process Improvement as a method to enhance quality in a particular setting. This model has been valued by the Institute for Health Improvement and chosen by I-Tech as an effective method to promote quality

improvement in the health delivery process. "The Model for Improvement is a methodology used to develop and implement quality improvement." (I-TECH, 2009, p.1) This model of improvement "provides questions to help users set an aim, establish measures, and develop changes/strategies to test. These changes are then tested and refined by conducting Plan–Do–Study–Act (PDSA) cycles"(I-TECH, 2009, p. 1). The successful accomplishment of this process implies a full participation of the different actors in the field in order to find solutions that are relevant and appropriate for specific contexts. The picture below summarizes the different steps of the PDSA cycle of quality improvement.

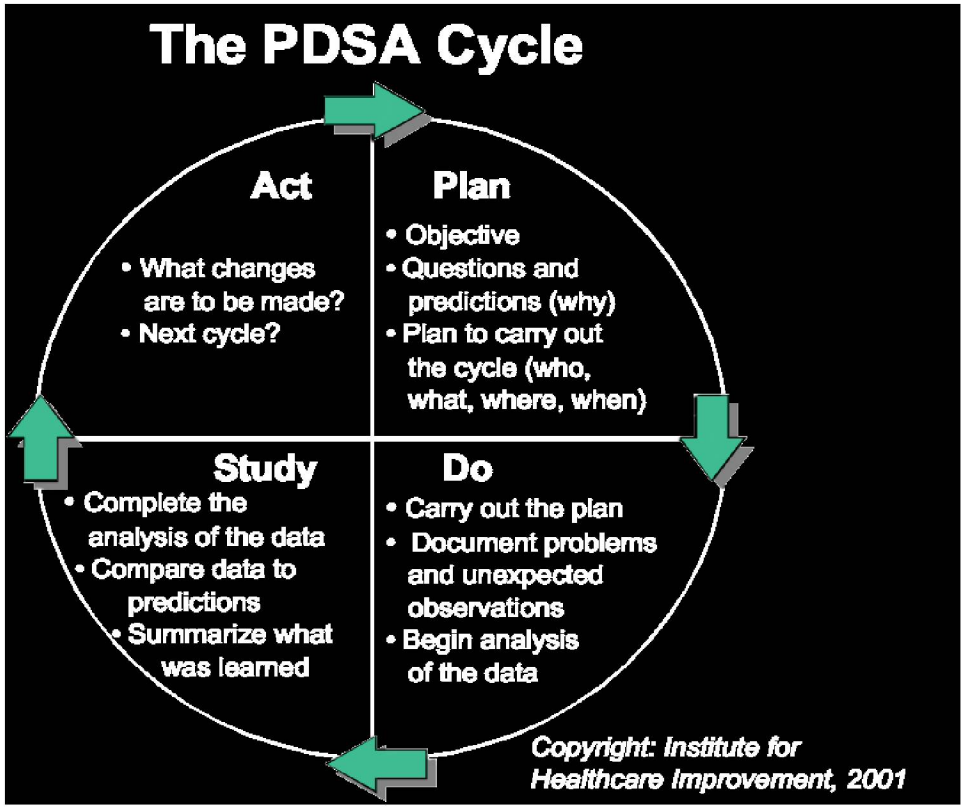

Figure 7: The PDSA Cycle (Balan et al., 2009)

I-TECH has been very successful in implementing the model internationally. This approach is relevant both in the public and private sectors of health care delivery. In the teaching hospital, Hôpital de l'Université d'Etat de Haiti (HUEH), the use of the PDSA cycle has contributed to the drop in the number of patients lost to follow up (Balan et al., 2009). This is illustrated by the green line in the Figure 8.

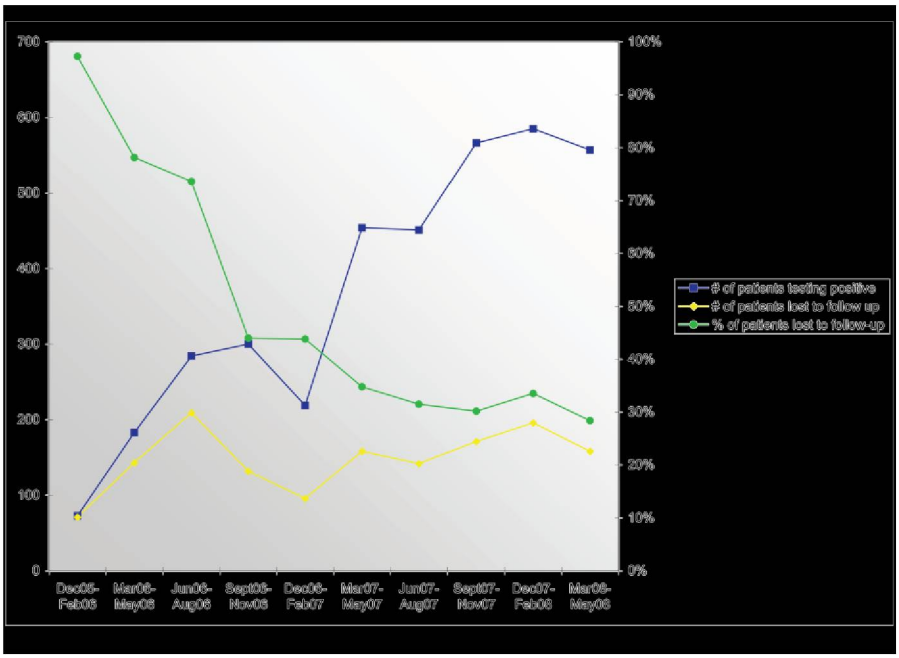

Figure 8: Decline in loss to follow up despite increasing volume of patients: Sept 2005-June 2008 (Balan et al., 2009). This figure illustrates the positive impact of the model of improvement in an Haitian hospital.

In the context of a community hospital or a district hospital in rural Burkina, such an approach has the potential of promoting and maintaining quality services. Moreover, it allows healthcare workers to make adjustments on a continuous basis and rethink strategies that are

inefficient. However, in reference to the quality improvement guide put in place, I-TECH (2009) reported, "This guide has described the ideal scenario for applying the Model for Improvement, but the reality is that even successful quality improvement work is not always straightforward" (p. 7). For this reason, health professionals and health officials must demonstrate a strong desire to improve the quality of their services and be committed in supporting the recommendations that are produced through the PDSA cycles.

The commitment to quality can be determined by two major elements. The first one is the willingness to increase the quality of services that are currently offered in a health facility after realizing a quality gap. This implies a conscious engagement from both healthcare workers and administrators. Their full collaboration is necessary to improve the quality of services. The second element is the financial affordability of the strategy. This implies a willingness to commit to finance such a quality approach given that it might require extra personnel or extra work tools. Both of these elements will be simpler to implement in a community hospital as compared to a much larger set of public hospitals. In fact, the relatively small funds compared to funds channeled through the public system for infrastructures will be easier to raise and manage. Moreover there is the tendency of not being able to effectively manage programs that are spread throughout the country compared to local programs.

Community Based Participatory Research

Research has been and still is a corner stone in the health care field. Throughout the years, research has been done using individuals or communities in order to identify the course of a particular disease or try to develop a strategy that addresses specific health concerns. Community based participatory research (CBPR) is a relatively recent approach that conducts research in full partnership with the communities regarding their health concerns instead of

research done for the communities by researchers. It can be described as a participatory research approach that equally involves all partners, including the community in a research process that seek to benefit the communities in which it takes place (Israel, Caldwell, Moton, & Wilkins, 2006). The following are key principles of CBPR:

> 1) recognizes community as a unit of identity, 2) builds on strengths and resources within the community, 3) facilitates collaborative, equitable involvement of all partners in all phases of the research, 4) integrates knowledge and action for mutual benefit of all partners, 5) promotes a co-learning and empowering process that attends to social inequalities, 6) involves a cyclical and iterative process, 7) addresses health from both positive and ecological perspectives, 8) disseminates findings and knowledge gained to all partners, and 9) involves a long-term commitment by all partners (Israel, Schulz, Parker, & Becker, 2001, p.184).

The focus on the equal involvement of all relevant partners in the research process and the dissemination process, and the relevance of the research topics in addressing the community needs and reducing health inequalities can be identified as a strong basis for quality improvement and sustainability. In fact, the participatory aspect makes population possess the knowledge that was generated through the research process. Also, the implementation of the findings will help health workers improve the quality of the services offered while contributing to positive behavioral change within the community. The shift is to put the communities in the driver seat in terms of identifying the problems that they face and to develop research approaches that will allow them to effectively address these concerns. This approach has the great advantage of facilitating solution implementation because the community has been fully involved in the research project. It carries, however, the challenge of being costly and requiring a commitment

of time and resources from all partners involved in the process (Strickland, 2006). In the context of rural Burkina Faso, the innovative community hospital can capitalize on the community participation efforts implemented in the public system to promote CBPR and provide relevant solutions to communities.

Partnerships

Partnerships are fundamental to the success and the sustainability of major initiatives of our times. According to Butler (2005) partnerships are defined as "individuals or organizations, sharing a common interest, who regularly communicate, plan, and work together to achieve a common vision beyond the capacity of any one of the individual partners." (pp. 34-35). Glaser et al. (2003) reported an interdisciplinary partnership, Rural Health Outreach Initiative (RHOI) that positively affected health concerns in rural places. The data was collected through the Center for Rural Health Professionals (CRHP) based in Rockford Illinois, and working to improve the quality of health services in rural Illinois. Since 1993, one of its branches, the Rural Medical Education (RMED) program, has focused on selecting and training physicians that would help reduce the shortage of physicians in rural areas. The RHOI was designed to increase the quality of health care services through a multi-disciplinary partnership. The study successfully used mini grants and the medical students' model of Community Oriented Primary Care (COPC) to address the health needs of rural communities. This emphasizes the need of a collaborative and participative approach in order to efficiently address the numerous health needs of rural communities. The need for partnerships has also been mentioned in the SEED-SCALE approach where a three-way partnership between communities, government, and outside experts has been recommended (Future Generations, 2011).

In the context of promotion of health services, partnerships should be established with relevant entities that will help promote quality services in rural underserved communities. Some of these groups could include religious organizations, development groups, civil rights activists, or political organizations. Another major partner is the government; a very strategic partner because of its ability to provide remarkable support in the health care sector. Partnerships should also be pursued, especially with the nurses' clinics and the district hospitals around the community hospital in order to promote a complementary work aiming to offer better health services to rural populations. The partnerships will be designed in a way that promotes agreements around specific areas of partnerships with the understanding that the end goal is to benefit the local communities. They will not try, however, to make all partners adhere to all fundamental functioning principles of a hospital. These partnerships built around specific needs will contribute to enhancing the sustainability of the health programs and improving the quality of health services.

Examples of Successful Effort to Improve Rural Healthcare

In 1913 a Franco-German physician and theologian was motivated to go to Gabon Central Africa to help relieve the sufferings of the local communities. He founded a hospital in a village that bears his name, Hôpital Albert Schweitzer. This hospital has remained functional throughout the years and represents an important research center internationally known until this day (HAS, 2011). The remarkable work of Dr. Schweitzer made him the recipient of the Nobel Peace Prize in 1952 (Nobel Prize, 2011, para.1). A similar project has been developed in Haiti by Dr. Larry and Gwen Mellon leading to the creation of Hôpital Albert Schweitzer in 1956 (HAS, 2011). This hospital is a reference hospital in this region with a number of high quality services that survived the political instabilities of the Haitian government. Both of these institutions have

in common the fact that they are run through non-profit organizations with the end goal of serving the communities in which they are implanted. The hospital in Haiti successfully developed an integrated system of care called Integrated Community Services (ICS) that helps the community improve their life standards.

> In rural Haiti, HAS seeks to improve the health and well being of the population by providing acute medical care at the hospital and by working to prevent illness throughout the zone by building strong, sustainable and healthy communities. ICS focuses on promoting healthy families through community health, increasing livelihoods through agroforestry, and improving clean water access through community development. (HAS, 2010, para.1)

These successes will be used in defining the innovative CRHS model in Burkina Faso.

Another remarkable example of a community hospital is Zamni Lasante, a hospital built within the rural community of Cange in Haiti. This hospital was started because of the relentless efforts of Dr. Paul Farmer, a distinguished infectious diseases specialist educated at Harvard along with a team of devoted people (Kidder, 2004). Farmer was morally compelled to reach out to those who could not fight for themselves, and provide care to the less fortunate. Kidder (2004) quoted Dr. Farmer's emphasis on the role of medicine and medical professionals in community development:

> Medicine is a social science, and politics is nothing but medicine on a large scale. Medical education does not exist to provide students with a way of making a living, but to ensure the health of the community. . . .The physicians are the natural attorneys of the poor, and the social problems should largely be solved by them. (p.61)

The recognition of the sense of duty toward local communities is what drove the enthusiasm of health professionals in the context of this community hospital. Their efforts contributed to provide the best care possible to these communities and to effectively tackle the endemic tuberculosis plague in that region. Zanmi Lasante stands out for its ability to blend highly qualified health professionals with community health workers in order to cohesively serve the local communities.

One more successful example is the district hospital of Nanoro in Burkina Faso. In fact, under the sponsorship of the Catholic mission, teams of distinguished physicians from Italy have worked together to serve the rural communities of Nanoro and its surrounding areas for decades. The director of San Camillo Hospital (2006) commented:

> The surgery service of the Medical Center of San Camillo Nanoro is a landmark for locals and is a source of pride and joy. The functioning of this structure is the result of close collaboration between Burkina and friends Camilliani Italian surgeons. We welcome with great appreciation the NGO LVIA by which it was possible to arrange surgery in collaboration with the surgeon Gino Capponi, always very active in this field to date. We are also grateful to Medicus Mundi Italy which allowed us to benefit from the collaboration of many Italian doctors. (Para. 15)

In recent years, their collaboration with the public sector has been solidified in a way that benefits the rural communities. Moreover, the institution of a new research laboratory is improving the quality of services that are offered in this locality. This location in rural setting is another example that suggests that quality services can be and should be promoted in rural environments. It also exemplifies excellent partnerships between religious organizations and the government in order to serve rural communities.

Table 1 gives a synopsis of the interventions and their major contribution or strengths. Many elements described in these models are used in the design of the CRHS model in Burkina Faso.

Table 1:

Strengths of interest in the intervention models presented in section II

Intervention Models	*Strength of interest*
SEED-SCALE	Sustainability
Community Based Participatory Research	quality
Model of Improvement	quality
Partnerships	Sustainability, quality
Examples of successful rural hospitals	
Partners In Health	Quality, community participation, sustainability
Hôpital Albert Schweitzer	Quality, community participation, sustainability
Hospital in Nanoro	Quality, sustainability

Thesis Research

Report of Practicum Work

As part of my Master's courses and in preparation for my thesis work, I conducted a practicum work from February 2010 to December 2010. The practicum work aimed to include interviews and literature review as ways to explore strategies that promote quality health services to rural communities. This practicum consisted of a qualitative study with 20 participants. The participants were selected using snowball sampling. The classic interview form had five main questions following a short description of the health situation (see Appendix B for complete

proofs). They respectively addressed the issues of human resource retention, community participation, partnerships, and sustainability, with a last section that gathered any additional suggestion from interviewees. The issues presented in the questionnaire were defined after collecting ideas from five colleagues about how to better address healthcare needs in rural communities. In this section, the results of the interviews are summarized.

Human Resource Retention.

On the first subject, most interviewees agreed that there is a need to find motivation beyond the financial compensation. However, they pointed out that the financial compensation had its role in favoring health professionals' retention in rural places. Among the suggestions is the emphasis on non-financial compensation that might have grounds on religion, or passion to serve the underserved communities (See Appendix C for complete proofs). For example, a person might commit to helping the poor out of his/her religious belief regardless of financial compensation. Beyond this, efforts should be made to recognize the work of health professionals within the community and maybe nationally. This can be done via media reports or special prizes. Once people realize that their work is noticed as something that makes a difference, they are more likely to continue their commitment to work for the underserved.

Community Participation.

On the second subject related to community participation, the recommendation seemed to be less confident due to the fact that most interviewees did not have enough knowledge of cultural facts surrounding rural communities in Burkina. Nonetheless, the recommendations were that community involvement strengthens the project and increase its sustainability. The more the community is involved, the more likely the project will be successful and sustainable. This notion has been reported by a number of people involved in community work (Future

Generation, 2011). The participation of the community should be done in a way that makes them perceive the value of their participation. One interviewee mentioned that this can be done when suggestions from the community are channeled through the administration of the hospital and result in policy changes or adaptation.

Partnerships.

The third question focused on partnerships, and most interviewees acknowledged the importance of partnerships in order to bring success to the project of a community hospital. These partnerships should be established with local development agencies, government authorities, religious and traditional authorities, international NGOs, and all other relevant institutions that seek to promote better health care for rural communities. A number of moral values are necessary to solidify these partnerships including honesty, accountability, and financial transparency. The administrative structure in place should be designed in a way that maintains these values.

Sustainability.

On the fourth question which focused on the issue of sustainability, most interviewees did not necessarily think of other possibilities besides raising money from donors in order to support the different projects. However, they recognized the central value of sustainability and were supportive when presented with the suggestion of operating microcredit projects that could support the hospital. Paul Clarke commented, "Dependence induces a loss of freedom. Loss of freedom causes dependant persons to display a negative feedback and resentment toward the people whom they once depended on" (personal communication, November 15, 2010). Such reality supports the emphasis on developing local projects that could bolster the sustainability of the community hospital. Although these types of projects are difficult to manage, the principle of

sustainability through them was viewed as positive and potentially beneficial for the communities. They consisted of agricultural, breeding and other local projects that will allow the members of the communities to take care of themselves on one hand and contribute to the efforts of the hospital on the other hand. One interviewee noted, for example, that a number of supplies for the hospital including food supplies could be furnished via these community projects. On this same question, the interviewee mentioned that the ethical and moral values of the institution will need to be maintained in order to promote sustainability. Beyond these values, the quality care that is noticed by the communities will contribute to the sustainability of the hospital. In reference to sustainability of healthcare in Burkina Faso, Moses Bateganya commented, "No sustainability is fully owned by government alone" (Personal Communication, September 30th, 2010). Therefore collaborative work between communities, private sector and governmental sector is necessary to support healthcare provision in the country.

Other Comments.

On the fifth question, interviewees were given the opportunity to share concerns, reactions, and advice on the project of a community hospital. Most interviewees appreciated the project of a community hospital in Burkina Faso. At the same time, they recognized that it is a very complex project and requires a significant amount of work to accomplish. One person even asked whether this was what rural Burkina needed. All the skepticism and the encouragement contributed to emphasize the complex nature of the project of a community hospital. In reference to these difficulties Becki Barrett stated "Consider challenges as learning opportunities" (personal communication, September, 2010). At the same time, interviewees realized that something needed to be done. To this effect, Olu Oluwa-Tofehinti commented, "The bad thing that could happen is that you fail. The worst is that you never try . . . Most things in history

happen by accident. You never know who you might meet" (personal communication, October 28, 2010). Greg Anderson also commented on the proposed model of community hospital saying, "Believe in it no matter the difficulties, execute your plan, and evaluate it periodically to make necessary adjustments" (personal communication, October 26, 2010). Beyond the strategic aspects of the community hospital project, one interviewee stressed the necessity of maintaining moral and ethical values as she said, "Integrity and honesty will take you far" (A. Clarke, personal communication, November 17, 2010).

Literature Review on Access to Quality Healthcare in Rural Areas

Human Value.

Understanding the worth of human being is important in the struggle to promote quality services to rural underserved communities. The Universal Declaration of Human Rights of the United Nations (UN) in Article 25 stated, "Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care" (UN, 1948). When referring this declaration of human rights, Wolterstorff (2008) commented, "There was a consensus on the claim that all members of the human family have inherent dignity and that human rights are grounded in that dignity" (p.313). He also claimed that "Justice is ultimately grounded on inherent rights" (p.4). Because inhabitants of rural environments have the same dignity as all human beings, they deserve the same quality of health services that can be offered in urban environments. When it came to specific issues or obstetrical deaths, Fathala (1997) stated "Women are not dying because of diseases we cannot treat. They are dying because societies have yet to make the decision that their lives are worth saving" (Amnesty International, 2010b). This same approach could be

extended to rural communities that are known to suffer more from poverty and its subsequent health consequences.

According to the a report from the African Union, Bience Gawanas stated that "health was central to economic and social development and that in spite of the many challenges facing the Continent such as poverty, disease burden and conflicts, the African people had the right to have access to health care, treatment and support" (African Union, 2005). The implication of these declarations is that human beings, including those in rural areas deserve to be offered quality health services that reflect the universal human value bestowed on every single human being. Therefore, promoting quality healthcare for rural underserved and impoverished communities is promoting justice.

Human Resources' Training and Retention.

In the fight to promote quality services to rural communities, it is vital to have well trained health providers practicing in these localities. Grepin & Savedoff (2009) commented, "Health systems cannot function without trained health workers, yet until recently researchers and policymakers paid relatively little attention to their role in developing countries" (p.480). Because of this lack of focus on human resources' training, countries like Burkina have not been able to effectively address the challenge of adequate services for all in the last two decades. The concern about delivering quality health services for rural communities is therefore current and need to be addressed in an imperative manner, especially in developing countries.

Grepin & Savedoff (2009) analyzed the management of health workers in developing countries. They recognized the complexity residing in planning and implementing human resources policies that will positively impact the health of populations. They also commented that healthcare workers do not have the same effect everywhere. For example, an increased number

of practitioners does not necessarily imply better health outcome. They commented that "studies are now showing the ways salaries, benefits, promotional opportunities, working conditions and intrinsic motivation influence health worker behavior" (p.481). This financial influence on behaviors, sometimes, pushes health workers to embrace dual work in private and public sectors in order to bridge the financial gap. The unintended consequence of joint employment can diminish quality services in the public system. On the other hand, low salaries and financial insufficiency disheartens more workers in rural places that traditionally lack private practices, therefore lack an extra source of income. The net result is a reduction of the number of health workers in rural places and an even greater negative impact on quality services provided in rural environments. The issue of retention of health workers in rural environments is another challenge that needs to be addressed in order to assure quality services to the local communities. The World Health Organization (WHO) recognized this challenge and commented:

> One of their most complex challenges is ensuring people living in rural and remote locations have access to trained health workers. Skilled and motivated health workers in sufficient numbers at the right place and at the right time are critical to deliver effective health services and improve health outcomes. A shortage of qualified health workers in remote and rural areas impedes access to health-care services for a significant percentage of the population, slows progress towards attaining the Millennium Development Goals and challenges the aspirations of achieving health for all. (2010, p.3)

Because of the pressing aspect of this challenge, the WHO has made a number of recommendations in order to help developing countries address the problem of human resource management. In fact, in a recent publication the WHO pointed to four domains of recommendations for retention of health workers in rural places including, (a) education

recommendation, (b) regulatory recommendations, (c) financial incentive recommendations, and (d) personal and professional recommendations (2010). The education recommendation emphasizes the fact that "students from rural backgrounds, health professional schools outside of major cities, clinical rotations in rural areas during studies, curricula that reflect rural health issues, and continuous professional development for rural health workers" are evidence-based principles that are likely to improve health professional retention in rural places (WHO, 2010, p.17). Other scholars have also reached similar conclusions (Woloschuk and Tarrant, 2004, Halaas et al. 2008).

The concept of retention of human resources should not be limited to a geographic confinement of health professionals. Rather, it should consist of an approach that makes health professionals available to meet health needs in rural places. Looking at health professionals migration, Clemens (2007) showed that the number of African-born physicians emigrating is positively correlated to the number of physicians in the home country and inversely correlated with mortality rates. This suggests that health professional emigration alone is not detrimental to a country's health management. In the same way, one could assume movement of health workers from rural to urban environments is not in itself detrimental to rural healthcare provision. Instead, the challenge is to make sure that the services that need to be provided are not suffering as a result of the human resource movement. Therefore, one option for human resource retention is to identify those who want to stay and create favorable conditions for their work. Another option would be identifying people who are willing to offer temporary services in rural places.

A study on Financial Incentives and Mobility of the Health Workforce in Burkina Faso conducted by Yaya Bocoum (2008) interviewed 62 health workers in one urban and one rural district, generating the following information. First, the employees in the public sector perceived

to have insufficiently low salaries in regard to the living costs and lower pay compared to private sector and NGO employees. Second, public employees identified "lack of opportunities for [professional] development" and "difficult conditions of life" as reasons for moving from rural to urban environments. They also moved from public to private sector or NGOs for "financial motivation" and career development" (Yaya Bocoum, 2008). This study showed that retention of health workers in rural Burkina needs to address a number of social elements and general living conditions in order to be effective.

CRHS Model of Community Hospital in Burkina Faso

The desire to promote quality health services in rural underserved communities is a noble aspiration yet a very complex one. This is due in part to the poverty level of the communities and to the overall lack of infrastructures and qualified human resources in these environments. The CRHS model will have four conceptual pillars that are equally important in order to effectively complement the public system in rural environment. These foundational principles are (a) the Administrative Pillar, (b) the Community Participation Pillar, (c) the Human Resources Management Pillar, and (d) the Sustainability Pillar. These pillars seek to address the major gaps that were identified in the public system and relevant to rural context. The major innovative component of the model is the use of social entrepreneurship to establish and sustain a community hospital. Moreover, this community hospital is intended to impact the community in multiple domains including health, education, and economics.

Administrative Pillar

The administrative organization of the community hospital is very important in order to reach the goal of providing quality health services that are affordable to rural communities. After considering the inputs from interviews and from the literature review, the suggested

administrative organization will be constructed in a balanced way. It will avoid being too rigid as this may be seen in some business enterprises or too much non-structured as this may be seen in number of community owned projects. The hospital will follow a standard organization with an executive director over the hospital. The executive position will facilitate decision making, and an integration of ideas that could benefit the hospital. This executive authority will allow the hospital the get the job done, mimicking the successful example of private clinics in the cities. The director will be accountable to a board of directors that run the hospital and the development projects.

The executive power should however be flexible in terms of decision making as a way to incorporate the suggestions from the community and the health workers. It should also make sure that sectors like clinical services or accounting are managed by qualified people. Community members that meet the criteria for a particular position might be considered first if this positively impacts the performances of the hospital. The NGO structure on the side of the hospital should also be managed by people who are qualified and are able to work for the benefit of the population. A board of directors will be in charge of protecting the moral, ethical, and professional values of both hospital and NGO. The specific role of the board of directors will be described in the guiding documents of the NGO and will be adapted to the cultural and economical context of the locality. However, it will guarantee the three-way partnerships between communities, government and other partners.

Sustainability Pillar through Social Entrepreneurship

The second pillar of this model is the Sustainability Pillar. Essentially, this pillar includes all relevant actions that will help assure the continuity of the delivery of health services to rural community members. The major component of the Sustainability Pillar is the financial provision

by lowering the cost of necessary expenses on one hand and generating supplemental income on the other hand.

The approach of cost reduction will target electricity and water supply which are very important elements in healthcare provision in rural areas. Because Burkina Faso is dependent on its neighbors for its energy supply, the cost of energy is generally high and negatively impacts the provision of healthcare. For example, many nurses' clinics lack electricity and providers find it difficult to monitor deliveries or insert intravenous lines at night. This lack of electricity forces patients to travel further away if they need such care at night. Such long trip delays treatment and can expose patients to a number of medical complications. In such contexts, and in rural areas where the energy supply is often absent, solar panels and other appropriate forms of renewable energy such as wind power will be promoted as a means to reduce energy costs. A number of NGOs that already operate in Burkina will be contacted in order to sponsor the Energy supply projects. An autonomous water supply mechanism using water towers will also contribute to reduce the cost of the water supply. For these major investments, the initial cost may be significant but the long-term benefit is obvious, and the probability of getting international support is great. It will contribute to downplaying the cost of energy and clean water supply for the hospital. The strategy of reducing expenses will also involve using local resources whenever possible if it is proven to lower the cost without affecting the quality of services provided.

The approach aimed at increasing the sources of income will include the development of a wide range of partnerships for very specific projects. Making the needs small and specific will more likely favor the recruitment of potential and faithful donors. This approach will also make it easier to solidify the accountability value of the hospital. These partnerships will involve international donors, but will put an emphasis on recruiting donors within the borders of Burkina

Faso. Because the goal is to generate awareness of the needs, it seems that people from Burkina Faso should be involved as much as possible.

Beyond the diversified partnership, the major element of sustainability that will be owned by this model is the social entrepreneurial efforts. A common Haitian saying stated, "Giving people medicine for TB and not giving them food is like washing your hands and drying them in the dirt" (Kidder, 2004, p.34). This quote emphasized the need to be holistic when addressing health related matters in impoverished rural communities. Consequently, it becomes relevant to use social enterprise to develop a holistic approach that will help meet the financial and nutritional needs of the communities. The microcredit projects will be identified within the community based on the potential that has been displayed in the past. This approach is taken from the steps of SEED-SCALE. The identified project will be financed and part of the benefit will serve to finance a number of activities in the hospital. Individuals will take ownership of the project. They will be encouraged to contribute financially or through other suitable ways to the efforts of the hospital. For example, workers in these projects can be encouraged to buy into the cost sharing mechanism (a form of insurance) put in place to help take care of a number of emergencies. The very fact of lifting up communities out of poverty will have a positive outcome in the fight to promote better health within rural communities.

The social entrepreneurial approach, as a way to promote sustainability and increase accessibility to health services, will also include a mechanism of cost sharing that will be adapted to the community. In fact, most of the health insurance is purchased by money. This makes it less attractive in the context of rural environments where money is limited. The mechanism of sharing cost will allow people to buy health services in exchange with volunteer hours or labor within the hospital. It will also allow people to purchase the services using agricultural produce

or breeding produce such as poultry. This bartering strategy has been used successfully in rural Zimbabwe where patients exchanged peanuts for health services (Hammond, 2010). It has also been suggested by Julie and Lewis Hauenstein as an alternative to classic health insurance policies in rural settings (personal communication, September 7, 2010). These produces can be used for meals in the hospital or sold in the market place to support the hospital. This approach has the potential of being culturally sensitive and more affordable to rural populations. In fact, this type of payment is used when community members visit traditional healers for services. Moreover, every household has the tradition of breeding animals or raising poultry for special events. The baseline of the argument for such a payment strategy is to make it easy for community members to purchase the needed health services.

Community Participation Pillar

The more people are involved from the community, the more likely the community hospital will serve its patients well. Given that the hospital is intended to serve communities in the whole region, the notion of community participation goes beyond the town in which the hospital will be located. This implies a collaborative work with people from different villages and different towns in the region. Similar to the type of community participation that is in place around the nurses' clinics in the public sector, the community participation for this hospital will be through direct contributions such as volunteering, employment in the hospital, and contribution to the decision making process. Moreover, the involvement of the communities in the microcredit projects will be a token of their support to the project of community hospital. In fact, these microcredit projects will primarily benefit the individuals but will support the hospital through part of the benefits generated. The specifics should be discussed at the time of creation of the NGO so that it takes into consideration all relevant local information that will potentially

help sustain the microenterprise projects. This community participation will also strive to identify social entrepreneurs within the community so that they may pioneer specific development initiatives just like the many healthcare initiatives reported by Bornstein (2007).

Human Resources Management Pillar

Managing human resources (HR) efficiently is another pillar of the community hospital. One key element is to guarantee a form of professional career advancement for the people who are employed. This will be done by paying for different forms of education for a number of people. It implies that the community hospital may not start with high profile health professionals. The management of human resources will also seek to have workers who will be part of the decision-making and participate in the ownership of the hospital. In fact, health workers can be motivated to be more dedicated if they have shares in the microcredit enterprise.

The HR management will seek all possible activities or program such as educational or social ones that will favor health workers and their families within the community. Beyond the management of health workers who are established in the community, HR will coordinate scheduled visits of professional health workers such as specialists who will be willing to give a day or two to the cause of underserved communities. As one interviewee pointed out, the goal of the hospital is to assure that rural communities receive quality services rather than making sure that qualified people establish themselves in rural areas (B. Barrett, personal communication, September 2 2010). Therefore, the optimal approach includes a portion of the personnel that is mobile and another that is permanent so that important health issues might be taken care of at anytime. One might bear in mind that a rural environment is not going to be transformed into a city. Therefore teleconferences, telephone, and internet consultations will be promoted as a way to assure that patients are taken care of. This will be possible with the help of NGOs that

promote access to the internet in remote places in Burkina Faso. The approach will also help the effort to offer continuous education to the health care workers who are established in the community. The appropriate care for health workers will contribute to assuring proper care for patients within the community.

Table 2:

Weaknesses, Implications, of the MCRHS

Weaknesses of the public system	*Implications of weaknesses*	*Aspect in the proposed model addressing the weakness*
Inherent inefficiency financial management even though a remarkable work is done through PADS	More money is used with lesser impact	Administrative Pillar and Community Participation Pillar
Inherent HR management ineffectiveness	Depletion of rural health facilities or lack of motivation of workers	HR Pillar , Community Participation Pillar, and Social Entrepreneurship Pillar
Inherent lack of appropriate therapeutic options for life threatening conditions	Persistence of high mortality from treatable diseases in health facilities	Administrative Pillar
Persistence of geographic and financial inaccessibility	Morbidity and mortality remain high	Location of the hospital within rural communities

Insufficiency of locally generated resources for health	Threat to sustainability	Addressed by Social Entrepreneurship Pillar

Because rural health is mainly administered by the public sector, and the private sector is quasi absent in rural areas, the innovative model is mainly addressing the identified gaps in the public system. It will also use the identified strengths of the private system previously described to promote better care.

Strength and Weaknesses of the CRHS model

The rationale for the CRHS model of community hospital is grounded on a desire to uphold the valuable declaration of human rights. Because of the human worth and dignity that they all reflect, rural inhabitants who are known to suffer more from poverty and its subsequent health consequences also have the right to receive quality clinical services. Although one community hospital in itself cannot bring justice to rural communities, it contributes to alleviate the health needs of these vulnerable communities by making quality services accessible and using microenterprise to subsidized the financial cost of care. It also represents efforts to build a model that can be reproduced in other communities.

The first strength of the model is its contribution to reach the Millennium Development Goals as they relates to health and development (UNDP, 2011). In fact, the promotion of quality services through well-trained and well-motivated health professionals has the potential of reducing child mortality, improving maternal health, and offering a better environment for diseases like HIV and Malaria in conformity to the MGD goal four, five, and six. The social entrepreneurial aspect of the program will contribute to the alleviation of extreme poverty (MGD goal one) at a local and regional level.

The second strength of the community hospital model is its administrative organization that includes community, private entities, and relevant partners in the effort to promote rural healthcare. The financial structure of the model is a balance between overtly for-profit structures and socially oriented non-lucrative entities. The philosophy of the approach is to create better living conditions in rural environments, attract qualified health professionals, and provide satisfactory resources for health provision. It is a person-centered administrative structure that seeks to recognize the value of health providers and community members in the promotion of quality health services in rural environments.

The third strength of the hospital is its ability to implement the recent WHO recommendations for health workers' retention (WHO, 2010). In fact, as a privately managed institution, the community hospital will have more flexibility to generate an adequate proposal to address: 1) the education recommendation, 2) the financial incentive recommendations, and 3) the personal and professional recommendations. Only the regulatory recommendation is likely to be better implemented in the current public health sector. Given the fact that the private sector's contribution is recognized to be important yet less developed, projects like this community hospital that incorporate private management with the full involvement of local communities seem relevant in the context of Burkina Faso. The healthcare workers' retention strategy will also identify people who are willing to offer temporary services in rural places. Such a strategy seems better than a mandatory approach requiring health workers to remain in rural places and is best accomplished in a setting like this proposed community hospital.

The personal and professional recommendation will also be well implemented in the setting of the proposed community hospital in a much better way than in the public sector. This approach will involve a career plan and a personal/family development plan. The traditional

career plan in the public system uses a series of national tests for nurses and physicians. A number of years of practice are required in order to be eligible to take the test for the next level. These selection processes are also based on the financial restrictions of the government, meaning that people might be well qualified for the next level of their career but the government does not have sufficient funds to train and employ them. Another alternative is given to individuals in the non-public sector so that they may pay for their training in the same schools where nurses from the public sector are trained. The intellectual requirements for completing the program are the same for all students, implying that all students graduating from these schools have a relatively similar qualification.

The career development approach of the community hospital will use the option that is offered for individual training and to develop personal career development plans for the nurses working in the hospital. A similar option of training is available for physicians, but often requires being trained outside of the country. This makes the career plan for physicians more complex but still possible. Because a number of physicians will be practicing in the hospital on the basis of contractual agreement, the career development plan will not be as necessary as those directed for nurses and other health workers.

Beyond the career development plan, efforts will be made to encourage the participation of all health workers in the development projects that are created within the community. They could be part of the people who invest in a social entrepreneurship activities. In fact Farmer & Kilpatrick (2009) described health workers as social entrepreneurs because of their work. This will give them an option to increase their income and create an incentive for continuing to work for the community hospital. The contribution of health workers can also target education. Given that family needs for well-performing schools are sometimes motivating health workers to leave

rural environments, a special community-based school strengthening program will be encouraged in order the help retain these workers. This approach will allow a number of health workers to teach special topics in formal schools. Such an approach is currently not encouraged in the public sector, although many health workers have qualifications that could enhance the formal education programs and the performance of students in elementary and secondary schools. On the other hand, a tutoring program will be created, using any qualified public or private worker to volunteer for hours of tutoring as a means to participate in the community's educational efforts. The tutoring efforts have been advocated by Perkins (2007) and proved to be very beneficial when conducted in the town where I spent my years in high school. In this town, tutoring by peers and professionals helped boost the success rate for students taking the entrance exam to high school called BEPC (Brevet d'Etudes du Premier Cycle). A successful project of this nature will enhance the motivation of health workers to pursue their work within the community hospital.

The fourth strength of the community hospital is the sense of pride and worth that local communities will gain through such a project. Contrary to the strategy for building public health facilities, where contracts are given through legal procedures that often eliminate local communities due to the lack of local businesses, the building of this community hospital will fully involve the community. Instead of offering the market and the funds to a company that comes and builds the whole complex, the strategy will involve a progressive building of the facility with the requirement to employ local people whenever they meet the qualifications for work. Therefore, labor type of work will be offered to the community members as much as possible under the supervision of well-qualified professionals who will be in charge of the quality of the infrastructures. Moreover, the progressive approach will allow local communities

to be involved in the process of fundraising which will in turn increase the sense of ownership that community members should have. Such an approach will strengthen the community participation and ownership.

Besides the numerous benefits of such a community hospital and related development projects, a number of challenges face the realization of this vision. The first major problem will be the difficulty to sell the project to communities. This difficulty lies in the fact that local communities have grown very skeptical of big plans that are promised. Unfulfilled political promises have made the skepticism worse and populations might doubt any good intent that might be said to benefit them. Beyond this skepticism, the realization of such a project might face tribal or regional disagreements which can be seen as the second major challenge. In fact, trying to build a health facility in one town and look for the participation of people from other villages or departments might be difficult in the context of decentralization that pushed local departments to seek to build their own infrastructures. The broader adhesion beyond the participation of people of the town where the hospital is built will be difficult but not impossible. The third major challenge that this project will face is the fight to keep its moral and ethical values. In fact, interviewees have pointed out how trust and accountability should play a key role in the realization of this community hospital. In the context of a relatively new democracy, it is judicious to recognize that corruption has been spoiling the integrity of many people in Burkina Faso. Although I have deep respect and full consideration for the people of my home country, it remains true that corruption and to some extent, negative political interference will have to be addressed in order to optimally implement this model of community hospital.

Conclusion

The desire to offer quality health care to rural communities in Burkina Faso in a way that is affordable and sustainable constitutes an important challenge. The project of a community hospital constitutes an innovative approach that will address both the delivery of quality health services, but also the issue of sustainability. This approach comes as a complement to the effort made in the public sector to offer healthcare services to communities, including those in rural environments. This project has more potential of delivering quality services, retaining health workers in rural places, and assuring the continuity of services through a community-based health delivery system. Beyond the obvious health benefit, the hospital will be at the center of an important community development program in the region. A number of initiatives, including the realization of the Hospital Albert Schweitzer (HAS) in Gabon and in Haiti are examples that show how such projects can be implemented. Given the challenges that developing countries face in terms of economy, it will be more and more imperative to develop initiatives that will guarantee health services for communities. This impact of global economy and the burden of international debt happened in the 1980s and need not to be reproduced (African Union, 2011). Although it remains relevant to continue to try to strengthen the public sector of health care, new approaches should be attempted to increase the chances of offering better health services to the communities that need them the most. The implementation of this community hospital should be preceded by a study that will assess the feasibility of the project in term of community participation, material and financial resources, and relevance of microcredit projects. The hope of this author is to have such study done in the Eastern region of Burkina Faso which has the second highest mean radius between health facilities. This model of community hospital can then be implemented in Bilanga (Eastern region) and wherever need might be.

Appendix A: Demographic and Health statistics of Burkina Faso

Demographics in Burkina Faso			
Indicators	*Value*	*Unit*	*Source*
Total population (estimate)	16,241,811	Persons	CIA (2011)
Urban population	20% of total population (2008)	Persons	CIA (2011)
Median age	16.8	Years	CIA (2011)
Education: Primary-secondary gross enrolment ratio	42.3/50.3	w/m per 100 (2005-2008)	UNdata (2011)
Education: Female third-level students	32.7	(% of total) 2005-2008	UNdata (2011)
Sex ratio	99.8	(men per 100 women) 2009	UNdata (2011)
Education: Primary-secondary gross enrolment ratio	42.3/50.3	(w/m per 100)	UNdata (2011)
Unemployment rate	77%	2004	CIA (2011)
Population below poverty line	46.4%	2004	CIA (2011)

Health Outcomes			
Indicators	*Value*	*Unit*	*Source*
Crude Birth rate	43.98	births/1,000 population	CIA (2011)
Crude Death rate	13.02	deaths/1,000 population	CIA (2011)
Total Fertility Rate		Number of Live births per woman of childbearing age	Health Ministry 2010 (2)
Urban	4.6	%	
Rural	6.71	%	
Total	6.2	%	
Total Life expectancy	53.7	Years	UNDP (2010)
Under 5 Mortality Rate	169	Deaths/1,000 Children <5	UNDP (2010)
Infant mortality rate	82.98	Deaths/1,000 live births	CIA (2011)

Maternal Mortality Ratio	560	Deaths/100,000 Live Births	UNDP (2010)
Under nourishment	9	%	UNDP (2010)
Gross National Expenditures on health as % of Gross Domestic Product	3.6	%	UNDP (2010)

Health Resources				
Indicators	*Value*	*Unit*	*Source*	*Comments*
Physician to Population Ratio	1/ 14.541	Physician/Peron	Health ministry (2010 2)	WHO reference 1/10,000
Nurses to Population Ratio	1/ 2.099	Nurse/Person	Health Ministry (2010 2)	WHO reference 1/5,000
Midwife to Population Ratio	1/ 13.138	Midwife/Person	Health Ministry (2010 2)	WHO reference 1/3000
National hospitals	3		INSD (2010)	
Regional hospitals	9		INSD (2010)	
District hospitals	42		INSD (2010)	
Nurses' clinics	1373		INSD (2010)	

Appendix B: Interview questionnaire

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Introduction to the project of a community hospital for rural populations in Burkina Faso/ Questionnaire

My name is Caleb Tindano, born and raised in Burkina Faso, having the opportunity to live both in rural and urban places. I graduated from medical school in Casablanca Morocco in 2005 then worked in Burkina for two years as an attending in a reference hospital as well as with the surrounding communities to identify and address their health needs.

During the last two decades in Burkina Faso, no efficient model has emerged to complement the federal hospitals' efforts of providing secondary clinical care among rural residents. Consequently, both private and non-governmental stakeholders have an opportunity to implement an innovative clinical care strategy that simultaneously 1) delivers efficient, accessible and equitable care and 2) retains qualified health professionals in the nation's remote areas.

In order to strategically address this gap in service provision, I intend to obtain input from health service professionals, people involved in development work, and other resourceful contact, regarding successful strategies for delivering rural health care. Specifically, I would like your input regarding this question: "What strategies can be used in Burkina to implement an innovative Community-based health delivery system (such as a hospital)?

Ideally the innovative facility would have these attributes:

Location	Rural or semi-rural (non-urban)
Target Population	Underserved, rural residents
Facility Goals	High quality, affordable clinical services
Organizational Structure	May include: Private, not-for-profit, collaborative ownership/worker ownership, community-oriented & community-based, external investors
Management Values	Integrity, transparency and accountability
Other factors	The hospital may be part of a larger local development strategy that includes promotion on education, agriculture and other microcredit project

You can assist with this work in Burkina by sharing your insights and perspective regarding the following questions:

1- Current data indicate a rampant rural healthcare professional shortage despite the government's financial compensations. What strategies (besides financial compensation) would you suggest to retain health workers in rural Burkina Faso?

2- Please describe how the community can participate in the functioning of such a community hospital.

Cues: How might the community be involved in: Design, implementation, management, governance, ownership, financing?

3- A community hospital such as this one may need a strong partnership to be established. Could you please list possible partners that you may recommend?

Cues: Partnership in designing, financing, or supporting such a project. These partners could be NGOS, government institutions, religious organizations, etc.

4- This community hospital will need to be sustainable, meaning long-lasting and self-supporting over the years. What type of activities or strategies could you recommend in order to address the sustainability of such realization?

5- Building, equipping, and running a community hospital for the underserved is a complex task. What other insights would you like to share that could be valuable in the process of realizing such a project?

Appendix C : Summary of practicum interviews

Health professionals' Motivation other than finances/ retention	Ways for community participation	Possible partners	Sustainability approaches	Other inputs
Interviewee 1				
- Continuing education/training - train locally (not 100% sure of outcomes)	- Have a clear vision (How to start and what to aim) - Clarify the organization values (Integrity is capital)	- Lay out clear policies - Mercy Ships - Companies with particular interest in aspects of healthcare	- Board of Directors (Lawyer, Accountant, Religious leaders, Business man, Politician, etc.) - CEO (executive role, helps with Funding) - start small and build it up - Choose good bed-fellows - Avoid great financial risk from the beginning - Look for competence (good reputation)	- What to do matters but also how to do things - Put a value on the lend (accounting) - "If God is in it, it will work, and God knows how to make things work"
Interviewee 2				
Use WHO publication for human resources retention	Involve communities		Use I-Tech model for quality	Start small and expand Good idea
Interviewee 3, 4, and 5				

- Value workers (respect, appreciation, encourage) - Assure living wages - Include benefits for health workers (food, salary edge) - Provide continual education	- Representation and interaction with board of Directors (their voices matter) - Identify and involve the stakeholder for health care programs (key: analyze social structure) - Tap into the political will or stir it up - Involve faith leaders	- Universities (research) - Religious organizations (collaboration) - Ministry of Health (focus on the Alma Atta principles for Government involvement) - Funding agency (look for them)	- Build small and scale up - Guarantee drugs and material supplies - Build in a component that could bring in money - Customer service oriented approach (value patients) - Build on the communities previous success stories - Have a way to report health problems to relevant agencies	- Very complex, wonder how it would work (Initial thought) - Have indicators to measure the impact of health activities - Capitalize on Electronic Health records (facilitates research) - each problem identified implies a solution: look for the solution - Very exciting: hope will be realized
Interviewee 6 and 7				
- Strategic location, high population concentration for retaining workers - reward system for good work (gifts, news reports) - Provide equivalent missing element from those in the city (electricity, hobbies…) - Provide education center on the side (for families and workers)	- Develop community based health topics classes (HTN, Diabetes…) - Build on volunteering with health benefits (free consultation, reduced prices…) - Establish a strong coordination unit for community involvement	- World Vision - World Concern - Microloans entities - Life Outreach International	- Prepaid healthcare (insurance) - Develop agriculture projects with good irrigation system as a generating income	The project is not easy but feasible
Interviewee 8				

- Give the worker a sense of power/ influence over the decisions - Have a continuous education plan for health workers -Train local people	- Involve the community from the beginning - Establish a sense of working TOGETHER - Be explicit from the beginning (expansion, leadership position, etc.)	- Universities (research) - Policy partners (government, health officials) - Public Health schools	- Give a sense of control - Limit outside financing - Aim a small changes (low line	" Think big but be open to the input of the community"
Interviewee 9				
Government requirement Residences for health workers		Doctors Without Borders Schools interested in practical experience PATH	Agricultural project Local mechanism of sharing health costs Local community projects	Ref Mountain Beyond Mountains Ref Telemedicine in Alaska
Interviewee 10				
- Look for how to meet the need, not necessarily keeping people in remote places - Tap into people's hearts - Provide education in rural places	- Involve different institutions (may have a visual representation of the different contributors - Have a Focus on Women Health and involvement	- Agros - Look for mission trip with possibility of doing something on the field :"in mission, people want to do something" - Include people with business mind/ avoid using health professionals for administrative issues (example of deacons in the Bible)	- Board of Director (think about the goals then look for the appropriate people) including representative of future generations (young people)	- Clarify vision, what is done, how can people be involved, where is the money going to. - Challenges are learning opportunities
Interviewee 11				

-continuous education -have a career evolution plan -reward workers: finances and gifts in kind -have a systematic design for stipends	-"no lone ranger": it leads to trouble in the long run -Board of directors from community -Select ppl with good reputation (Christians or not)	NGOs Government: ex Canada USAID, World Vision, World concern, Microfinance organizations	Microfinance Building is easy, sustainability is hard	-consider practicing both in the city and in rural environment -start a project and then look for partners "nothing is easy"
Interviewee 12				
-express good leadership -avoid telling people what to do. -Improve infrastructure (water,electricity…)	-Make them feel this is ours, not from abroad -ownership comes from good leadership -teach specific skills (stewardship, sustainability, etc) -let the community lead -involve community leaders	-research and build partnerships -local partners -Gates Foundation -Big churches -Religious organizations	-build accountability -good leadership -lead by experience -pursue sponsors for several years	-walk the plan -be disciplined -start small but think big -look for someone to champion the cause -have clear mission statement and vision statement.
Interviewee 15				
-develop seminars/conferences on continuing education	-take culture into account -involve local people/stimulate their own pride -include the communities in the functioning of the hospital	-other health facilities in the region -UN -Gates Foundation -Rockefeller foundation - charity grants for electricity	- develop a system of transportation/evacuation for patients who need it -develop telemedicine, use of portable devices for imaging	-need of own NGO to govern the hospital
Interviewee 16				

-recruit from Christian communities that already have a heart to serve and are already motivated -recruit people who have the sense of being accountable to God: this increases their commitment	-develop volunteering -develop community visits in the hospital -make the hospital a welcoming place, not a scary place -have familiar face in the management team (known in the community)	-Youth With A Mission -VSW -local organizations	-prove that the outcome is good (marketing) -communicate with partners -be accountable -No corruption	-project is lengthy and difficult - needs strength, drive and ambition for accomplishment
Interviewee 18				
-use media to report good work, awards, needs -let workers know that their work is appreciate	-community center within the hospital property -special playgrounds for kids -use art, painting to make the place pleasant -teach classes on community members' interest like nutrition	-sister cities partnerships -exchange students -schools from the cities (field trips) -hospitals in the West	-Microfinance -stay focused on the medical needs	-building and architecture should be appealing culturally
Interviewee 19				
Improve basic infrastructure (electricity, water, etc) Express leadership that boosts project development	Teach specific skills Let the community lead Identify potential leaders Teach stewardship, sustainability Community involvement important	Value research Universities Foundations Religious organizations	Accountability Pursue contacts Have good leadership	Planning +++ Need of champion for the cause Start small but think big Believe, execute, evaluate
Interviewee 20				
-Rotate physician through rural areas	Community implication capital	Use people from the country		-is there a need for hospital

				-meet spoken needs not perceived ones -good intention is not enough

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