Community Empowerment in Health

Uganda

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For Discussion Purposes Only
The Brookings Institution's International Volunteering and Service Initiative
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Festus Bazira, VOLSET director with VHTs after training completed May 5th, 2009

The ***mission*** of this project is to ***empower local communities to actively participate in interventions that improve their own health.***

This comprehensive paper is divided into six sections following a standard format:

I. Background and Rationale
II. Goals & Objectives
III. Project Design and Implementation Plan
IV. Budget/ Financing

V. Research, Monitoring and Evaluation
VI. Organizational Capacity

I. Background and Rationale:

II. Overview:

Since March 2008 members of the NGO Omni Med have partnered with the Ugandan Ministry of Health to supplement the Ministry's efforts to train community health workers (called Village Health Teams or VHTs in Uganda) in a comprehensive community based program that empowers local communities to improve their own health. This effort represents, to our knowledge, the first time that US health volunteers have plugged into a local community health worker training initiative in sub-Saharan Africa in an effort to make a sustainable and measurable health impact. While this effort employs US volunteers, it relies primarily on local Ugandans; volunteers' roles are more supportive and facilitative. The community health worker training program, the course training materials, and the local program coordinators are all Ugandan. On the US side, the effort was begunby the Brookings Institution's International Volunteering and Service Initiative, and has been carried out by Omni Med and its partners.

This effort involves three inter-related concepts and both broad and specific health targets. The three concepts, which will be explained in depth here at the outset, are: the health-care worker shortage in sub-Saharan Africa, community health workers, and global volunteers. Our more global health targets include, but are not limited to, overall life expectancy and infant and child mortality. Our specific interventions target malaria, diarrheal illness, vaccinations, and fertility, among others. This program supports the Ugandan Ministry of Health's vision, and will help the Ministry expand the VHT program to other districts. Ultimately, we seek to replicate this model throughout Uganda and then expand it to other countries in sub-Saharan Africa.

Health-Care Worker Shortage and Overall Health in Sub-Saharan Africa:

The healthcare worker shortage in Sub-Saharan Africa is among the world's greatest challenges. The WHO estimates a shortage of roughly 1.5 million health care workers in Sub-Saharan Africa alone, where 3% of the world's health workforce spends just 1% of world healthcare spending on a full 24% of the global burden of disease. The result is the dire indices we see in Africa, with life expectancy 30 years less than the rich world, infant mortality 20 times higher and childhood mortality 30 times higher than in rich countries. Demographic trends portend a worsening crisis. Even though the US is building new medical schools, the increased demand for physician services will outstrip even this expanded US health workforce. Health care reform will create further demand as many of the 47 million who are currently uninsured are added to the patient pool. The net result will be a far stronger "pull" that will draw many more of the scarce health professionals away from the world's poorest countries, many of which are located in SSA. As such, efforts like this one that expand the health workforce through community health worker programs are gaining traction in many countries. History has taught us that improving the health of a population is a critical piece for any poverty reduction

and economic growth strategy. Since SSA comprises the world's poorest region, improving the health of people throughout sub-Saharan Africa comprises an essential starting point and remains a top global priority.

Health in Uganda:

Mortality and morbidity rates in Uganda are among the world's highest. Life expectancy in Uganda is 52.72 years in 2009, placing it 200th out of 224 countries measured (CIA World Factbook). In contrast, , life expectancy in the United States is 78.1 years: roughly 25 years longer. Uganda's infant mortality rate of 64.82 per 1000 live births is the world's 33rd highest. Causes include infectious diseases such as malaria, HIV, diarrheal disease and acute respiratory infections, compounded by short birth intervals and malnutrition. In addition, 5.4% of the total population is HIV positive, a percentage which is the 14th highest in the world. Uganda's maternal mortality rate of 435 deaths per 100,000 live births (UDHS 2006) is roughly 56 times higher than that of the United States. This is coupled with the world's third highest total fertility rate (unchanged over two decades at 6.7 (6.7 what? Babies per woman?). There is poor access to health services across the country, with only about half of the population living within 5 km of a health facility (MoH, Mid Term Review 2003). Furthermore, only 42.7% of Ugandan parishes have any type of health facility at all, with wide variations between rural and urban areas and between districts. Clearly, health status across Uganda is poor and there is a clear need for rural programs that can make measurable and sustainable improvements in this area

Community Health Workers:

Community health workers (in Uganda, CHWs are referred to as Village Health Teams, or VHTs)provide education and primary health delivery in many clinical areas, and comprise one of the most effective options for providing primary health care in poor communities around the world. These lay personnel live in rural communities and are trained in the basics of primary and preventive health. In recent years, there has been a surge in interest in community health workers to improve health in some of the world's poorest countries. A number of studies have found that community health workers have improved health via prevention and treatment of malaria, increased rates of immunization, reduced childhood mortality and morbidity from common childhood infections, increased breast-feeding, and improving TB treatment outcomes, among other interventions. The most effective programs are those that use specific training methods with clear targets in mind. In a 2006 Cochrane Review, Dr Simon Lewin analyzed data from 73 trials conducted in 20 countries, concluding that CHWs are effective in several specific areas, and that "the consistent pattern of findings across a range of study settings suggests that the effects may be transferable."

On a more practical level, two groups' experiences, Partners In Health and Millennium Villages, have shown clearly the potential of CHWs. In a study published in the *Malaria Journal* (2008, 7:167), the PIH Group demonstrated a 70% reduction in under age 5 admissions for malaria after they trained 300 CHWs and distributed 25000

ITNs. During presentations at the Global Health Workforce Alliance Meetings (Kampala 3/08), Millennium Villages in Kenya revealed that their CHW focused model had produced a 50% increase in fully immunized children, a significant reduction in child deaths, and a 48% drop in anemia *(Dr James Wariero, MP Kenya, 3/08).* While neither example fully isolates the CHW impact, its value is strongly implied.

In Uganda, the Ministry of Health (MOH) created a community health worker program in 2004entitled Village Health Teams (VHTs). The MOH conducted VHT training throughout the Mpigi District of the country as a pilot program and, while Global Fund and WHO funding lasted, ran a VHT program for four years. During the period from 2004-2007, the MOH recordedthe following results,: a decreasing number of malaria cases and levels of anemia in children under 5 (used as proxy for malaria burden), increasing rates of immunization, increasing antenatal care attendance, and increasing institutional deliveries. According to the regional VHT coordinator, the Mpigi District during that period showed "improved overall district performance as evidenced by ranking Mpigi District among the best ten performing Districts in the country for the last four consecutive years" *(Dr Kaggwa Godfrey, Mpigi District Health Educator.)* Unfortunately for Mpigi and the rest of Uganda, the WHO and Global Fund money stopped, and the Ministry of Health was unable to sustain the program. The VHTs gradually lost interest, and the program collapsed. According to Dr Kaggwa Godfrey, the initially positive health indices have returned to pre-program levels.

Figure 1: Total cases of malaria in children < 5 yrs in Butambala HSD, Mpigi District

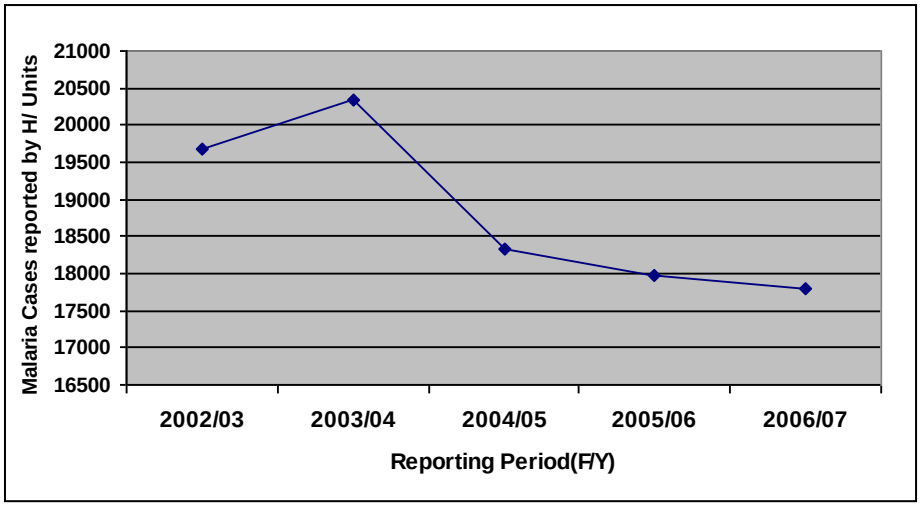


Figure 3: Total cases of anaemia in children <5 yrs in Butambala HSD, Mpigi District

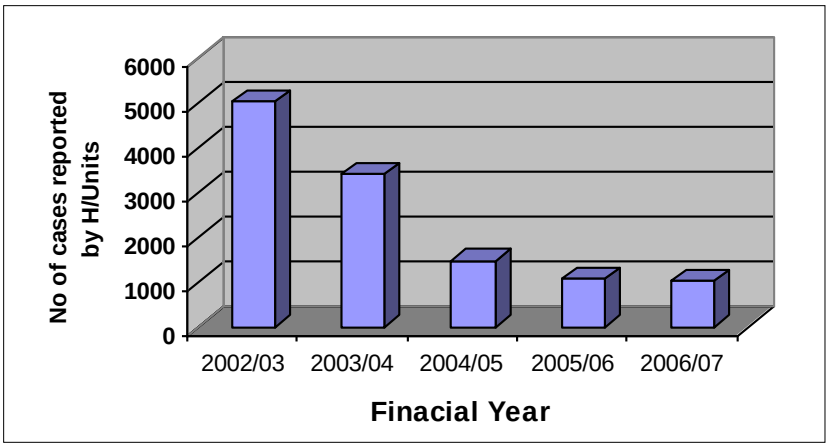
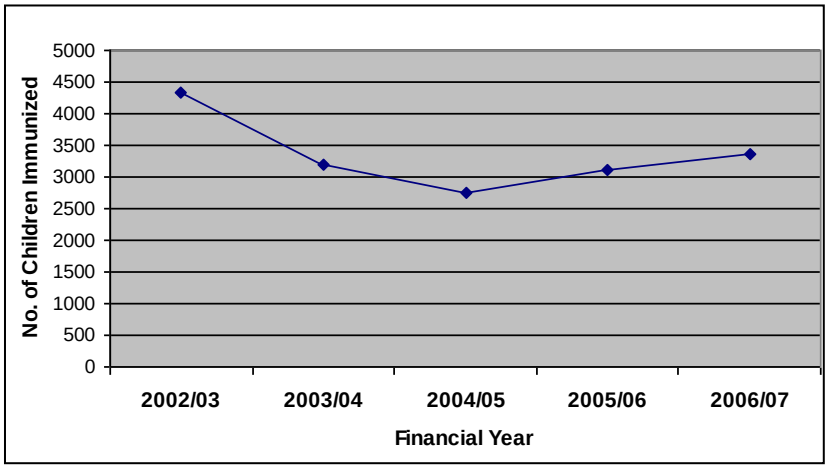


Figure 2: DPT3 (what is this?) coverage in Butambala HSD, Mpigi District



Volunteerism:

When those with long-term experience in developing countries speak of programs that send international volunteers, they often do so with skepticism or disdain—and not without reason. The field of global volunteerism is littered with the wreckage of the well intentioned but poorly informed. While some service programs are models of efficiency, efficacy, and intelligent construction (Health Volunteers Overseas, Global Medic Force), others base their program designs on what seems right, with little

to no evidence for proceeding and even less monitoring and evaluation. An emerging "voluntourism" movement has served only to deepen the skepticism of those on the outside of the service sector. A literature search of the impact of service programs *on host communities* turns up only anecdotal reports, while a search of the impact of the service programs *on volunteers themselves* turns up scores of papers. In short, the service sector has spent more time and energy studying itself than on any lasting impact it has made.

Those of us who live and work in this space know that many programs have made and continue to make an enormous difference in the world. However, there is simply no data to back up this claim. One of the best papers *(Laleman et al; Human resources for Health 2007, 5:19)*, concluded that global health volunteers were often "junior, inexperienced and ill prepared to work in low-income countries," but they could be very effective when carrying out specific, well-prescribed tasks, particularly when training others. The foremost researchers in the realm of global service are Michael & Margaret Sherraden, Amanda McBride, Ben Lough and others based at the Center for Social Development at Washington University in St Louis. They have created the framework for global civic service and laid the groundwork for future studies. During a recent visit (visit where? There?) (April 30, 2009), all (who) agreed that there is a dire need for impact studies of volunteers.

The International Volunteering Project at the Brookings Institution was launched at a forum with General Colin Powell in 2006, with the goal of attaining President Kennedy's vision of 100,000 US volunteers abroad annually. Since then it has nearly doubled the number of international volunteers/year from 50,000 to 100,000 through the Building Bridges Coalition, a group comprised of more than 200 US-based international service NGOs, faith-based groups, universities and corporations. In April 2007, Brookings Nonresident Fellow and Volunteering Project Director David Caprara named Dr O'Neil the Chair of a Task Force on the Health Worker Shortage in Sub-Saharan Africa. The Task Force was asked to develop a program in Sub-Saharan Africa that would meet two objectives: 1) create an opportunity for US health and non-health volunteers alike to address directly the health worker shortage in a sustainable, effective, cooperative, and scalable way; 2) to measure directly the efficacy of US volunteer efforts through a prospective trial.

In March 2008, Dr O'Neil laid the groundwork for this program in Uganda. During subsequent visits by Drs Varallo, O'Neil, Dettori, and Hayes in August '08, November '08, March '09, and May '09 respectively, we have developed the relationships and piloted a program model which has met the above criteria. All visits to date have been coordinated by Omni Med, and funded by Omni Med and the volunteers themselves. In May, we trained 10 VHTs in Mukono District and we plan to train between 100-150 more over the coming year. We have forged relationships in Mukono District with the Ministry of Health, a local NGO (the VOLSET Foundation), the United States Peace Corps (PCV Zachary Tabb is working primarily on this project), and with a transnational NGO

(TAMTAM) that is currently using our trained VHTs to conduct a randomized trial looking at ITN user rates with and without VHT assistance.

Foundations and corporations often balk at supporting a venture like this. Volunteer programs are often fraught with problems, the rationale behind doing something from the "outside" rather than locally is sometimes questioned by funders. However, we feel that since the Ugandangovernment unsuccessfully tried to implement a similar program, that our "outside-based" intervention actually may be efficacious in the long run. . Once WHO and Global Fund pulled their support from the original program, it collapsed due to waning support and enthusiasm from the local participants; We are then, in effect, supplementing an initially successful model with volunteerswho are well prepared for a very specific set of actions in a recurring template, and who can continue to motivate the local population to maintain involvement. For instance, one of our volunteers Dr. Rick Hayes taught only 3 of the 9 modules in the week-long training program he helped to run. Local Ugandans taught theother six modules, a pattern we plan to continue as we train more VHTs in the coming year.

We have found that the VHTs are excited by this program, as it offers them a chance at something more for themselves and their communities. As for those Ugandans who helped in the training, it is possible thattheir interest will flag over time; but not so our volunteers.. The enthusiasm of outside volunteers can be infectious and can overcome the ennui that sometimes destroys local efforts. Volunteersalso support the VHT efforts, keep them engaged, and enhance the VHTs status in their communities. In the original program, retention in Mpigi was decent because of quarterly meetings. We will work with the government to initiate quarterly meetings in Mukono District, and will enhance these efforts through follow up training and home visits by Omni Med and Peace Corps volunteers.

Given the passingof the Serve America Act, there are clear global questions that need to be answered in the near future. What should we do with all those people who will be interested in heeding the president's call to serve overseas? We feel that our model offers a practical, effective, and scalable option.

Finally, we must always remember that the VHTs are also volunteers themselves. They are, for the most part, desperately poor people who want better lives for their families and their communities. Ethics and reason dictate that that they should be paid for their work. However, at this project's start, that is unfortunately financially unfeasible. Perhaps in time a significant enough improvement in health indices could justify a regional or national base wage for VHTs. For the time being, however, we can only acknowledge the solidarity in service that we share despite the steep economic gradients across which we work.

Specific Health Areas:

One of the most reliable indicators of the overall health of a community is its life expectancy. While a host of factors may contribute to a change in this index, a rising life expectancy can be viewed as a reflection of improving health in a community. Similarly, the infant and child (under age 5) mortality rates often also reflect improving health of a community. The latter two also have the advantage of better reflecting specific interventions, since the target populations are smaller and easier to measure. It is too early in this program's course to know whether or not it will be possible to assign cause and effect to changes in any of these three indicatorsfrom our program directly. However, the overarching goal remains to improve these three indicators if at all possible.

Improvements in overall life expectancy and infant/child mortality require specific interventions. The VHT training module covers a broad array of primary health interventions against specific disease states. Among them are some of the biggest killers in Africa, including malaria, HIV/ AIDS, diarrheal illness, malnutrition, and complications during pregnancy. Specific interventions, such as hanging insecticide-treated nets (ITNs) to prevent malaria; developing clean water sources, encouraging hand washing, and using oral rehydration solutions (ORS) to prevent and treat diarrheal illness; increasing vaccination rates; and distributing condoms to decrease fertility and STDtransmission , can all lead to improved health indices. We will focus on malaria as one specific area of disease that this program can affect along with a few other specific areas, detailed in Section V of this paper

Malaria causes more illness and death than any other single disease in Uganda, and remains the leading cause of death among children under 5. In Eastern Uganda, including Mukono District, malaria is endemic and the average citizen receives over 500 bites by infected mosquitoes per year. Despite concerted recent efforts, Uganda lags behind neighboring East African countries in controllingthis disease . The most recent data suggests that only 21 percent of households in Uganda possess an insecticide-treated net and just 30% of children under age five sleep under an ITN each night (NetMark 2006). This low level of malaria prevention translates into a very high rate of malaria infection, a cycle which could be readily broken with an effective program like this one,.

Prompt treatment with effective anti-malarials is essential to reducing child mortality and increasing life expectancy in Uganda. The WHO recommends that children under 5 with a fever be treated within 24 hours with an anti-malarial drug, since the disease can progress to cerebral malaria and cause rapid death in this age group. Ugandan data suggests that in a given two week period, 41 percent of children under five years of age suffer from fever, but currently only 29 percent of those children are treated with an anti-malarial within 24 hours. The most important barriers to prompt malaria treatment are accessibility, affordability and education. Factors such as distance to health facilities, poor quality of care and long queues, frequent stock-outs of medicines and unpredictable fees at public health facilities lead the majority of Africans

living in countries with endemic malaria countries to treat malaria in the home (WHO 2004, http://www.who.int/tdr/cd_publications/pdf/home_2004.pdf).

The most common first response to fever in children is to seek advice and medicines from the private retail sector (e.g. pharmacists) or traditional health workers. Due partly to cost and partly to lack of education, people who procure medicines in this manner are often given ineffective or inappropriate medicines, partial doses, and incorrect dosing instructions. Because health care workers are so few, ITNs relatively rare, and home treatment of fever so important, the Ugandan Ministry of Health has put considerable time and energy into developing this part of the VHT program. It has been demonstrated just how effective a VHT program can be in preventing and treating malaria, and this VHT program may offer the best means to reduce infant and under five mortality in Uganda, starting in Mukono district.

Goals and Objectives

Goals

The goal of this program is to develop and maintain a VHT program that empowers local communities to improve their own health in Uganda's Mukono District. We seek to make a measurable impact on life expectancy, infant and child mortality in the district. We will target specific disease states during the VHT initial training, follow up training, and home visits, in clinical areas that have been shown through the literature to make a clear difference in health. Specific clinical areas will soon be clarified, but will likely include malaria, diarrheal illness, vaccination rates, and fertility, among others. Over a three-to-five year period, we aim to train enough VHTs to cover every household in the Mukono District and maintain their active engagement through an ongoing program of follow up training and support. Specific goals are summarized below.

ObjectivesBy the end of this project, we aim to:

- Train enough VHTs to cover the entire Mukono District. With a population of 1.2 million and 1,119 villages, this will require training of 1120 VHTs.

- Maintain VHT involvement through incentives, Ministry of Health programs, and ongoing follow up visits by Omni Med and Peace Corps volunteers.

- Make a measurable difference in the Mukono District's health indices: under-five mortality and infant mortality, and eventually life expectancy after the program has been running for many years.

- Make a measurable improvement in specific clinical and disease entities by tracking district hospital admissions and clinic evaluations for malaria, episodes of fever, diarrheal illness, vaccine-preventable illnesses, fertility, and incidence of STDs.

- Conduct a prospective trial on the impact of the program using well prepared volunteers from the United States and publish the results in a peer-reviewed journal.

- Foster leadership development among VHTs.

- Develop and augment via ongoing experience a pre-deployment training course for volunteers that covers four areas of knowledge:

    - Personal, practical, and health preparation for overseas travel.
    - VHT Program history, rationale, and volunteer roles,including learning the VHT manual for teaching.
    - Clinical preparation, including all major disease states covered in the training.
    - Understanding the big picture of health inequality & poverty inpreparation for a global citizenship.

- Create partnerships that enhance the ability of VHTs and their communities to improve their own health. Examples of partners include the VOLSET foundation, the Peace Corps, various schools of medicine, groups that distribute ITNs suck asTAMTAM and students from Mt Sinai School of Medicine, groups that develop clean water sources, and groups to help coordinate research such as Washington University or the MIT Poverty Action Lab.

- Working with VHTs, Ministry of Health officials, and colleagues at Partners In Health (who haveextensive experience working with CHWs in Haiti and Rwanda), develop a specific set of disease-specific targets for VHT home follow-up visits. Ultimately we will develop laminated cards (in the local language of Luganda) with 10 specific areasfor VHTs to check during each home visit. A preliminary list includes:

    - Properly hung ITNs for all children and pregnant women;
    - Knowledge of how to access VHTs for febrile episodes;
    - Ability to provide clean drinking water for the family;
    - Knowledge of ORS and available salt/ sugar solutions;
    - An understanding of the importance of hand-washing;
    - A record of vaccinations with clear instructions for how to update it;
    - An ongoing discussion of family planning/ birth spacing with condom distribution;
    - An ongoing effort for the prevention of HIV/ AIDS and other STDs.

- Develop a non-financial incentive systems for VHTs to motivate the village residents to meet the above health objectives. Incentives include certificates, t-shirts, soap, ITNs, jerry cans with water filtration systems, clean water systems for communities like PlayPump (define?) or wells, bicycles, further training, and other specific ideas from the VHTs themselves.

- Develop a tracking system for the number of VHTs trained, number of home visits made, and the number#and type of volunteers sent.

- Develop the above course and the prospective research trial for this program, along with the Omni Med Database of Global Health Service Opportunities, as core components of a larger virtual effort called the Center for Global Service (see www.omnimed.org under "Programs").

- Combining all of the above, create a model that can be scaled and adopted by other districts in Uganda, and then by other countries in sub-Saharan Africa.

III Project Design and Implementation Plan

(redundant, already stated mission)

We will accomplish the above stated mission through a multi-faceted process in which US volunteers and local Ugandans train VHTs, conduct door-to-door follow up training visits with them, foster leadership among the VHT ranks, and develop collaborative partnerships that offer VHTs resources and specific opportunities to improve the health of their families and their communities (redundant?)

We are starting this process in the Mukono District of Uganda, located just to the east of Kampala, and just north of Lake Victoria (red area in map below). Mukono is a rural district with 1,119 villages and a population of 1.2 million people. Ministry of Health officials in Mukono estimate that full VHT coverage of the district would require training 1120 VHTs. Prior to our starting work in the district, the government had trained only 52 VHTs (totaling at 4.6% coverage of the district). Additionally, no components have been put in place to retain, supply, or keep up to date those VHTs that have been trained thus far.

Africa with Uganda in green (see below)

Uganda: Mukono is between Kampala and Jinja,

Mukono District (red)

Uganda is divided into the following geographic areas: district/ sub-district or county/ sub-county/ parish/ village. In Uganda, there are 80 districts, 214 health sub-districts, 1,026 sub-counties, 5,238 parishes and 40,000 villages and approx. (how do these two different categories overlap – district and county the same thing? Need to clarify) 5 million households with a total population of 32 million. Although it varies considerably among districts, many villages have about 150-200 households, though others have considerably less. Every VHT member is willserve approx 20 households, thereby requiring approximately 250,000 VHT members to achieve 100% coverage. Out of the 80 districts nationally, only 18 have achieved close to 100% coverage with functional VHTs, and other than Mpigi, most of these districts are in the northern part of the country with relatively low population densities.

The health system in Uganda is comprised of five health sectors with decreasing levels of expertise and materials, divided up in the following manner (HC = Health Center):

- HC V – Hospitals (District, Regional, National) – staffed by Medical Officers and Consultants)
- HC IV – Sub-District (sometimes called County) – staffed by Medical Officers
- HC III – Sub-County – staffed by Clinical Officers, Midwives, Nurses
- HC II – Parish – staffed by Nurses and/or Midwives; supposed to be within 5-7 km of Village
- HC 1 – VHTs: community level volunteers

The Ugandan Ministry of Health (MOH) and VHT Program Approach:

The Ministry of Health has already developed a process for implementing VHT programs in the districts. As mentioned above, the pilot program in Mpigi District worked well, but then failed after outside support dried up. The government has continued to prepare districts for VHT training programs, but lacks sufficient funding to conduct training for most of the country. Since the MOH partnership is crucial for this program's success, it is worth understanding their approach in detail.

In keeping with the goal of an orientation toward primary health care and more broad-based coverage of its population,the Ministry of Health introduced a number of vertical programs in the 1990s with specific targets and strategies, all carried out by community health workers. These various programs trained individuals in only their specific area and each operated independently. Examples included community based distributors of contraceptives (CBDs), Community Drug Distributors (CDD) of pre-packaged antimalarials drugs (branded Homapak), Child Growth promoters, and Counseling aides among others. Most of these village (or parish) level health workers were selected through dialogue with the community, and each worker was given a specific set of tools and techniques.

However, these varied community health worker programs failed for a number of reasons, the most egregious of which included there being only a single intervention per CHW rather than a package, poor coordination among varied approaches, poor links to health centers and supervision for the varied workers, lack of inclusion of preventive messages, and a lack of incentives and motivation to keep the CHWs engaged and involved.

Due to the above concerns, the MOH developed the concept of the Village Health Team (VHT) in 2001. In their words, the VHT team concept was developed, "…in order to improve coordination of community based interventions, ensure universal mobilization and sensitization for health promotion, bring health services nearer to the people (close-to-client), bridge the gap between the health service providers and the

households, ease service delivery and augment the thin capacity of the current health service provider." According to the MOH, the main function of the VHT "is to promote health and prevent diseases for sustainable development" (Framework for Scaling-Up coverage of the Village Health Teams in Uganda, MOH 2008).

The MOH developed an elaborate process to train and maintain VHTs. First, the MOH "sensitizes" district leaders on the rationale, philosophy and function of the program. Next they select from the ranks of the medical health assistants, clinical officers and others, within in each sub-county to serve as trainers for the VHTs. The central MOH trainers then train these selected district trainers in each district.. Next, the local leaders organize community meetings in which the VHT concept is presented and VHTs are selected from among the community members. This process encourages a conceptual "buy-in" from the local community and results in the most reliable people being chosen. VHTs are then trained, and systems are put in place to keep them interested and engaged. The most common mechanism thus far has been quarterly meetings, in which all VHTs are brought together to share stories of successes and challenges, share ideas and solutions, and track data. Simultaneously, the leadership—both from the district and the MOH—introduces new topics and clinical updates. Quarterly meetings have stopped in several districts because of limited budgets.

Our volunteers have thus far served only as VHT trainers, but their roles will expand in time, ultimately training local "trainers" and partnering with them to expand the program's reach. The heart of the training comes from an outstanding resource developed by the MOH -A Village Health Team Training Manual. This 169-page manual is a well- designed guide to local community empowerment in health. Its nine modules can be taught in one week. Its focus, and that of the training, includes the specifics of preventative and curative health care, as well as the more crucial aspects of behavioral change on the community level. The modules include an explanation of the VHT concept, the importance and challenges of interpersonal communication, the practical and philosophical approach to community mobilization and empowerment, communicable diseases, sexually transmitted diseases, sexual and reproductive health, child and maternal health, environmental health, mental health and how to monitor a community. In drafting the manual, MOH officials tapped the expertise of UNICEF, WHO, AMREF, as well as established practices from International Management of Childhood Illness, and the National Malaria Control Program, among others. The result is a well-thought outprogram of community empowerment and health promotion.

As mentioned above, when the program was piloted in the Mpigi District, with full funding for all of the above steps and an active program to maintain skills and interest (via quarterly meetings), the program worked well;Its downfall occurred only after the funding ran out. An obvious question that many might well ask is the following:if this program worked so well, and has already been shown to make a measurable impact in Mpigi, why not simply give money to the MOH and allow them to continue to build the program on their own?

Our answer is that we will continue to work closely with, and rely upon those from local and national government agencies as partners. The government is a critical player in this design, and, even when scaled and adapted to other countries, there will be a crucial role for host governments to play. Unfortunately, the initial program design relied on multilateral funding sources that channeled funds through the Ministry in Kampala. The program was then vulnerable to the inevitable funding cuts when a large scale graft caused the Global Fund to withdraw all support in 2004.

Corruption remains a problem in Uganda, although a manageable one. According to the Global Integrity Network, "corruption remains rampant in each and every sector of Uganda" (2009 GIN report). Transparency International estimates that more than half of all government funds are lost to corruption, roughly $950 million. A recent anecdote will illustrate the scale of the problem. In 2004, the Global Fund awarded Uganda $367 million (roughly 20% of the government's annual spending) in grants over 2 years to fight AIDS, malaria, and tuberculosis. However, in August 2005, aPrice Waterhouse Coopers audit found disbursement irregularities serious enough to halt payments. The irregularities included the then Minister of Health, Jim Muhwezi, and two junior ministers, who were siphoning off funds for personal and political use. Others within the government diverted funds to fake organizations, inflated the costs of workshops, forged documents, and paid for vacation trips abroad. Because of these audit findings, several multi-lateral organizations have adopted the practice of sending money into Uganda via the many NGOs working there in partnership with the government - many of the ITN distribution grants are now working this way. The program we are developing remains close to the MOH, but does not rely on funding channeled through it. Any funds we send will be channeled through the NGO sector and will follow a practice of transparency and accountability.

The Omni Med Approach:

We believe that Uganda has developed a strong program model that would benefit from a partnership with US service and other NGOs working toward a common purpose. Once perfected, we could then scale this process to other districts in Uganda, and then other countries in sub-Saharan Africa. Our process is best understood by viewing six distinct but inextricably–linked components: 1) Community Health Empowerment & Behavioral Change, 2) Volunteer Recruitment, Selection and Preparation, 3) VHT Training, Support, and Follow Up, 4) Partnership Development, 5) Impact Research Design and Implementation, and 6) Strategic Planning and Scaling

1) Community Health Empowerment & Behavioral Change:

The key to empowering local people to improve their own health is the presence of well-trained and well-supported VHTs. A core part of the training curriculum is community empowerment, fostering communication skills, and encouraging neighbors to take active steps to improve their own health and that of their families. Our roles will include working with MOH officials to train VHTs, training VHT "trainers," and then

working with the MOH and Peace Corps to conduct follow up visits with VHTs and VHT trainers alike. We are taking a slow and deliberate approach, first learning all about the VHTs, their concerns, motivations, and aspirations. We will only advance this model to"train the trainers" when we have the capacity to monitor and support them as well. Obviously, we will be able to greatly expand our reach by partnering with local trainers. We continue to be mindful, however, of how programs can quickly outgrow their capacity; we would rather train fewer VHTs well and achieve attainable local results than train many VHTs throughout the district and have no follow-up training, home visits, or ability to monitor outcomes. We are relative newcomers to Mukono and to the VHT program, and we are very much in a learning mode and open to partnering with VOLSET, the MOH, and the VHTs themselves to help shape the program.

Our early experience has shown that many VHTs are reluctant to use their new found skills on neighbors and friends whom they have known their entire lives. Our volunteers have encouraged these VHTs to get out into their communities, and have accompanied them on home visits to help foster behavioral change. We feel these follow-up visits are crucial to the program's long-term success. A Peace Corps volunteer, Zachary Tabb, has been helping with the training and conducting home visits, and will continue to do so until his tour ends in October 2010. We hope to build a long-term relationship with the Peace Corps such that several of their volunteers will work with us over the coming years. We are also working to promote leadership development within the VHTs themselves, and searching for those who can take a more active role inhelping other VHTs to become more aggressive in their health promotion efforts.

Most programs that have relied on community health workers have experienced high attrition rates, as hese are predominantly poor people pressed by the challenges of subsistence farming and raising families. It is a lot to ask of these people to simply volunteer their time for a VHT program. In a perfect world, all VHTs would be paid. However, prior efforts in Uganda that have paid VHTs have been disastrous. The MOH's Dr Frederick Kato argued that when the MOH put in place a salaried CHW program prior to the current VHT model, it found that CHWs in surrounding areas became discouraged and stopped participating. After the initial grant money ran out for the CHWs in the pilot area, these CHWs then became among the poorest performing in the country, as it is only natural tonot want to do something for free that has previously been paid. While we agree that from a moral standpoint all VHTs should be paid, it is simply not practical at this time. As such, we are continuing to build an incentive-laden program model that will keep VHTs motivated and involved. The fact that we are beginning this program with no financial support may actually prove advantageous in the long-run, asthe literature is replete with examples of programs where financial incentives became problematic. Among the incentives we will use are the following:

- Ongoing support and home visits with Omni Med's and Peace Corps' volunteers
- Copies of VHT manuals translated into the local language

- Certificates upon completion of training course
- "VHT Uganda" t-shirts
- Partnerships that give tangible evidence of health improvements, like ITN distributions through TAMTAM
- Solidarity in the service ideal: VHTs, Omni Med volunteers, and Peace Corps volunteers are all giving their time freely
- Enhanced status in the community
- Preference when visiting regional health centers

In time, we will include further incentives, such as bicycles for those VHTs in leadership roles. As we develop more partnerships, such as with those groups that dig wells and create other clean water initiatives, we will be able to offer more concrete examples of change to the VHTs and their communities. As mentioned earlier, we can envision an incentive program in which a community will be rewarded for attaining a specified number of health targets. VHTs going door-to-door with laminated cards containing ten specific health targets could be rewarded for achieving a certain percentage change in their community's health indices, or the community could be rewarded with a clean water system or some other outside incentive. As locals see improvements in their own health and have VHTs relay these messages to us, incentives to improve their own health will continue to grow. This area warrants further study, and we plan to discuss this more with our colleagues in the academic community.

2) Volunteer Recruitment, Selection, and Preparation:

A number of articles on global service have found that the best volunteers are those who are properly screened, well prepared, and are givena specific set of tasks in the educational/ training realm prior to departure. The following explains how our service model works.

Volunteer Recruitment:

Given the interest in global health among medical students, residents, and physicians of all specialties, we anticipate an ongoing supply of volunteers. Additionally, since we are developing a course to fully prepare clinical and non-clinical volunteers as well, we will have a much larger pool to choose from. This is important as this program will use a large number of volunteers over a long period of time. In the initial stages, our program is being built primarily by physicians. However, as trust and community partnerships grow, we will be expanding to medical students and non-clinical volunteers. Volunteer recruitment and preparation is a time-consuming process and we will have to build up our infrastructure as this program expands. At the outset, however, we can certainly handle volunteers on a bi-monthly or monthly basis. The various categories and plans for recruitment are as follows:

Physicians and Allied Health Providers: Omni Med has sent over 130 physicians and allied health professionals abroad to five countries. Thus far, we have used

this network to find volunteers and will continue to mine this group for new contacts. In Uganda,, Drs Varallo and Hayes have come from this network, and Drs O'Brien and Webb may soon follow. Omni Med has a website with a comprehensive Database of Global Health Service Opportunities, in which we list our Uganda program. Also, Dr O'Neil has published two books on global health service and regularly gives talks to medical audiences.Several physicians and students from these talks have expressed interest in this program. Additionally, we plan to advertise opportunities with several health groups that are members of the Building Bridges Coalition.

- Doctors in Training: Dr O'Neil is currently working with the Department of Medicine at Caritas St Elizabeth's Medical Center (SEMC) in Boston to create a Global Health Residency track. Dr Jason Dettori, a SEMC medical intern with an MPH and prior work in Uganda, was the first to travel to Uganda through this program in March 2009. The Caritas Network has just provided funding for two residents to travel to Uganda for one month each over the current academic year, the first in November and the second during the spring. We will seek a longer- term structured volunteer component as part of the SEMC program.

- Medical Students: Medical students comprise one of the most promising groups for this program. Most US medical schools have overseas electives, and a program model such as this one holds a strong appeal. Thus far, we have had discussions with students and/ or faculty from the following institutions:
    - Tufts University School of Medicine
    - Mt Sinai School of Medicine
    - Harvard University School of Medicine
    - University of California at San Francisco
    - Washington University in St Louis
    - George Washington University School of Medicine
    - Penn State University School of Medicine

  Additionally, we will take advantage of larger web-based networks such as the Global Health Education Network, Idealist.org, and other volunteering list sites in order to attract volunteers.

- Omni Med Non-Clinical Volunteers: Omni Med plans to have a more long-term volunteer on the ground in Mukono starting in January 2010. The first planned volunteer, Ali Taubes, graduated from Harvard College in June 2009. Following work in the Omni Med office during the summer of 2009, she plans to remain in Uganda from January untilJune. We will actively recruit others to follow her. While in Mukono, Ali and those who follow her will continue to actively train VHTs, work with other trainers, conduct followup visits, and coordinate the data collection for a prospective trial.

- Peace Corps Volunteers: As the most storied franchise in global service, the Peace Corps brings a history of excellence and experience to this program;.

During Dr Rick Hayes' Mukono training in May 2009, PCV Zachary Tabb assisted with the training and has since conducted a number of VHT home visits. He has also assisted the TAMTAM program as it continues to use the VHTs trained by Omni Med to distribute and set up ITNs in the district. Zac has received clearance from Peace Corps Uganda Headquarters to work with this program through November 2010 , and we hope to negotiate further Peace Corps involvement as this program expands.

- Other Non-Clinical Volunteers: As this program matures, we will be able to field non-clinical volunteers. With proper selection and preparation, they will be able to infuse energy into and continue the work that clinical volunteers have initiated. There are many sources of non-clinical volunteers. Among the more promising is the Returned Peace Corps Association (run by Kevin Quigley), which is comprised of an extensive network of personnel with a wealth of experience working in rural settings like Mukono. We will tap this network once we have sufficient infrastructure and are ready to expand our program's reach. Another ideal constituency are college seniors and recent college graduates. Many colleges have overseas programs, such asDuke Engage, and could adapt this program as a for-credit course. Increasingly, college graduates are looking for an opportunity to serve overseas, though many find the Peace Corps' time commitment too long. We will be able to utilize volunteers for a variable period of time- from one month to one year; although longer stays arguably enhance the volunteer's value.

Volunteer Selection:

During the first three years of this program, Dr O'Neil will screen and select all volunteers. In time, we will expand Omni Med's infrastructure and hire personnel for screening, or partner with another NGO that can share responsibilities. Pre-selection is a critical step in the long-term success of the program A volunteer with the wrong attitude can cause significant harm to an evolving program. Fortunately, Omni Med has had very few problematicvolunteers in its decade of work, an outcome which is largely due to careful selection. In the early years of this program, selection will be done over the phone.

As the program expands, however, we will hold annual or biannual weekend long training sessions at St Elizabeth's Medical Center in Boston. This will provide a better opportunity to weed out those with the potential to be problematic. The Peace Corps and the CDC have used their training periods effectively for years to screen out those who would have problems overseas. From our experience, the ideal volunteer is one with a passion to make a difference and who displays the following key attributes: flexibility, adaptability, a sense of humor, and the abilityto lower expectations and allow for the possibility that they will not be able to accomplish all that they had hoped. To date we have been able to determine these attributes through a series of informal

questions. For a longer discussion, please see pgs 18-26 in *A Practical Guide to Global Health Service*.

Volunteer Preparation:

After selection, preparation is the next crucial step for a successful volunteer program. We are developing a course that will fully prepare any health and non-health volunteer to be ready to train VHTs and conduct follow-up visits shortly after their arrival in Mukono. We will put the course up on the Omni Med website by fall 2009 where it will be accessible for any who wish to serve through this program. (Please see the Omni Med website *Center for Global Service* icon for a more comprehensive overview of overseas service preparation at www.omnimed.org).

We have long believed that the best volunteers are those who are well-prepared clinically, culturally, practically, and philosophically. In the preparation for their service, we will ask a lot of our volunteers. The course will be comprehensive, but necessary in order to serve effectively. Most of the focus will be on the direct work in Mukono district,however, another key part of the preparation will be to help volunteers understand the complex worlds of health inequality and poverty, and the "forces of inequality" that drive both. For many volunteers, their overseas service is a transformative experience. We believe that those volunteers who have a better grasp of the big picture will be better prepared to redirect their lives toward fostering social justice at home and abroad. The course consists of four components:

1. *Background/ Overview of the VHT Program:* This section covers documents that outline of history of VHT program, its philosophy and rationale, and the introduction to the Ministry of Health's VHT Training Manual. Once completed, the volunteer will fully understand how the VHT program evolved historically, who the VHTs are, and how to conduct the week-long training course.
2.
3. *Personal, Practical and Health Preparation for Service in Mukono, Uganda*: This section details how to prepare for the practical, cultural, and health aspects of service in poor communities. Most of this comes from selected chapters ofDr O'Neil's overview book on global health service: *A Practical Guide to Global Health Service*.
4.

Clinical Preparation: Most US health providers will not be extensively familiar with malaria, tuberculosis, and possibly HIV/ AIDS, nor will they always have extensive training in other nutritional and poverty-related illness. As such, this course contains background reading materials on the specific disease states prevalent in the area and covered in the VHT Training Manual. Non-health volunteers will need a much more extensive preparation, so their coursework will cover all of the clinical areas in which VHTs work. These areas include malaria, TB, HIV/ AIDS, diarrheal illness, HBMF (home-based

management of fever), STDs, immunization, nutritional illness, pregnancy, water/ sanitation issues, breast feeding, mental health, and select other areas.

Understanding the Big Picture: Working in a program like this offers a potentially life-changing (transforming) opportunity for a US volunteer. As such, part of the preparatory work is to understanding the big picture of why such incredible poverty exists and how individual volunteers can affect the levers of power to produce long-term change. The more one understands beforehand, the more powerful the experience. Much of this reading comes from Dr O'Neil's book *Awakening Hippocrates: A Primer on Health, Poverty, and Global Health Service*, with other assigned selected readings as well.

To keep track of each volunteer's progress through the course, We will match each training module with a set of exam questions that we will coordinate via an online testing service.. Volunteers will have to demonstrate a minimal level of competence before they will be entrusted with training VHTs. As the program grows, we will work with regional colleges to develop for-credit courses. We will do the same for physicians seeking continuing medical education (CME), as well as nurses seeking NEUcredits and nursing educational credits (NEC). We have recently initiated discussions with colleagues at Harvard Medical School about developing a fee-based CME course for health providers interested in working in global health. Non-clinicians will be required to pass an online test on the materials before participating. Our goal is for both health and non-health personnel to be able to use their service time effectively. This program will give people with many different training backgrounds that opportunity.

3) VHT Training, Follow Up, and Support

We are encouraging all volunteers to spend at least one month on the ground in Uganda, in addition to the time spent preparing. During the program's first year, a typical volunteer month will work like this. The volunteer arrives in Kampala and spends the first day adjusting to the time change. They then travel out to Mukono District, roughly a 45 minute ride using public transportation, and they will spend the remainder of their trip there in a safe, comfortable compound owned by our local partner, the Volset Foundation, run by Festus Bazira. The foundation hosts our volunteers and helps to coordinate the training logistics. Volunteers from other service programs, including the Peace Corps, also live in the same compoundDuring the first week, volunteers orient to the district, conduct home visits with previously trained VHTs, and prepare for the training course during week two.

During week two, volunteerssupport local health personnel who run the VHT training, and help teach some of the modules. We cover the 9 modules of the Ugandan VHT Training Manual over 5 days. The training lasts from 8 AM to 6 PM daily with early leave on Friday to hand out t-shirts and certificates. We also give out copies of the learner's VHT book translated into Luganda, something which is a country-wide first.

Peace Corps volunteer Zach Tabb helps to coordinate the follow-up training. During weeks three and four, the volunteers repeat the process, conduct further home and follow-up visits and address other specific tasks, such as ITN training/ distribution or clean water work.

As important as the initial training is, the follow up work is even moreimportant. Many VHT programs ultimately fail because the village health workers eventually lose interest or find it too difficult to maintain uncompensated work. Once initial training has been completed, most VHT programs then fail to maintain skills or invest enough time, attention and resources to keep VHT interest. Additionally, with no clear follow-up training, it is difficult to judge just how much of the training the VHTs actually use. We have found that VHTs don't always make use of their training, either due to a lack of confidence in themselves and their abilities, or because they feel uncomfortable going door-to-door in their home communities. Our volunteers help them overcome these obstacles, and, by accompanying them in door-to-door visits, can help them become leaders in their own communities. The mere presence of a foreign health trainer gives a psychological lift to a poor community and transfers a bit of status to the VHT. As such, our volunteers and the Peace Corps volunteers fill this important gap and breathe life into this much-neededprogram.

Since beginning in Mukono District in May 2009, we have been tracking the names and contact information of every VHT trained, as well as the follow up visits made with each VHT and the number of homes visited with each. We will also track the number of VHTs each volunteer follows up with and how many home visits each onemakes during his or her time on the ground..

Experts from MillenniumPromise and Partners In Health have stressed the importance of supporting those who oversee community health workers. In Uganda, the local District Health Educators and those in local hospitals will serve this function. We have discussed with both Mukono District Health Officer Dr. Elly Tumushabe and District Health Educator Mr. Haji Kalungi Hakim how we might accomplish this by working together. Though we have yet to finalize any specific approach, we have discussed the possibility of our health volunteers spending part of their time in local hospitals teaching staff in the areas of the volunteers' respective expertise - for example, a visiting internist could discuss management of hypertension, diabetes and asthma. A component of all presentations would be an explanation of the VHT program and how it ties into the local clinic structure, although the presentations would maintain an emphasis on the transfer of clinical knowledge.

Since we have over a decade of experience doing exactly this in our programs, we can easily adapt our approach toMukono district. There are many advantages in adding local health providers to this program. First, by supporting those who supervise the VHTs, we address a critical link in the clinical care supply chain. Secondly, we will be harboringgoodwill for the program and encouraging local providers to support the VHT

effort. Third, we will be enhancing the skills of those who provide health care to the local community. Finally, we give our experienced health providers an opportunity to share their hard earned clinical knowledge (Some more experienced physicians have balked at the idea of spending time in this program since so much of their clinical skills will go unused). By steering physicians, nurses, and other highly trained health care personnel into specific teaching roles amongtheir colleagues in Mukono, they will be able to use a broader range of their skills while abroad. This effort will only partly displace other programming efforts. Every health volunteer will still spend one week training VHTs and will do some follow up training. However, we feel it iswell worth the effort to divert some time to support local clinicians.

4) Partnership Development

Partnerships are an essential component of this model; there is simply no functional program without them. We review the roles of our current partners and project possible roles for additional partnersbelow:.

***Omni Med**:* As above, our role is to provide leadership and strategic vision, negotiate and nurture partnerships, find resources, recruit and train volunteers, develop and evolve an appropriate training course, provide monitoring and ongoing evaluation, and, as of January 2010, establish an ongoing presence on the ground in Mukono. To date, Omni Med has provided all of the funding for this program.

***Uganda Ministry of Health**:* In Kampala, National VHT Program Coordinator Paul Kagwa, Mr. Rez Cherkut, and others at the MOH are true partners in this effort. It is their model, and we are simply developing a support system to help them sustain, scale, and export it. The Central MOH offers leadership, guidance, and directs national policy in the VHT program. It also holds considerable influence with bilateral and multilateral donors like USAID. While we do not seek to create a program that is fully reliant on external funding, external support is necessary to scale the program.

Mukono Ministry of Health: In Mukono, we receive strong support from the Mukono District Health Educator, Mr. Haji Kalungi Hakim, and the District Health Officer, Dr. Elly K. Tumushabe. As we evolve the model, we will work further with Mr. Hakim to expand the reach of the program, and with Dr Tumushabe at the level III and IV health centers throughout Mukono to support clinical staff.

VOLSET Foundation: In Mukono, we work closely with the VOLSET Foundation, whose mission is “the alleviation of human suffering caused by the HIV/AIDS pandemic, natural and man-made crises, and chronic poverty.” VOLSET is a perfect partner for us in this effort. Mr. Festus Bazira is one of the founders and is our main contact at the foundation. During our pilot in May 2009, Mr. Bazira helped the local MOH officials coordinate the VHT selection. VOLSET also hosted the training sessions, coordinated the lodging, food, transportation, and educational materials for the VHTs and Dr. Hayes (our volunteer on the ground). VOLSET houses volunteers from a number of different

programs and maintains a safe and secure compound where volunteers stay. For a reasonable monthly fee, volunteers receive lodging and all meals. As the program expands and moves to other districts in Uganda and beyond, we will seek out additional community-based partnerships.

United States Peace Corps: As mentioned above, Peace Corps volunteer Zac Tabb has become an integral part of this program, making this a focus of his two-year stay in Mukono. We have reviewed this program with the local Peace Corps office in Kulolo (in Kampala), and hope to expand the number of Peace Corps volunteers involved as this program expands.

United States Aid for International Development (USAID): *Ever since*our first visits to Uganda, we have been cultivating a relationship with the USAID office in Kampala. Rachel Cintron was project director and thought it likely that this program would receive USAID support once it was well established. Given the strong support from the central MOH and MOH officials in Kampala, we will continue to lobby for financial support for the VHT training, follow-up training and supplies.

Volunteers for Prosperity/ VFPServ: We will encourage all of our volunteers to seek support from the Volunteers for Prosperity Service Incentive Program (VFPServ), which offers matching grants from $500 to $1,000 for Americans volunteering abroad. This federal program was created by Bush appointee and Omni Med friend Jack Hawkins of USAID to make short-term international service trips more affordable. The funds can be used to offset travel, insurance, and local living expenses. VFPServ gives grants that match the funds raised by the volunteer. Omni Med is recognized as an eligible international volunteer organization participating in the program. See http://www.globalgiving.com/cb/vfpserv for details.

Brookings Institution: As discussed above, The Initiative on International Volunteering and Service at the Brookings Institution continues to serve as a hub for the global service movement. Brookings remains a catalyst and partner of our effort. Since the earliest stages, David Caprara and others at Brookings have helped create linkages to others in the service realm (Margaret Sherraden, Amanda McBride, and Ben Lough at Washington University), the US government (Jack Hawkins of Volunteers for Prosperity), and potential funding organizations such as the Gates and Rockefeller foundations. More recently, Brookings has served as the catalyst for ServiceWorld, which features this program as an ideal for measuring service efficacy and impact (see below). Brookings remains a vital and important partner in this effort.

Building Bridges Coalition: The Building Bridges Coalition (BBC) is a project of the Brookings Institution's Initiative on International Volunteering and Service. It is a consortium of over 200 leading international volunteer organizations, universities and colleges, corporations, and government agencies working collaboratively towards the following goals: 1) to double the number of international volunteers sent abroad

annually by 2010; 2) to improve the quality of international volunteer service; and 3) to maximize the positive impacts of international volunteer service in communities around the world. See www.buildingbridgescoalition.ning.com Omni Med has been involved in the BBC since 2006. The BBC remains a rich source of contacts, information, and volunteers.

ServiceWorld: Launched in July 2009, ServiceWorld is a collective effort, by those from the Brookings' Building Bridges Coalition, Service Nation, the National Peace Corps Association, and others, who hope to match Kennedy's domestic Serve America Act with a global counterpart. The Service World initiative will couple international service policy development with a broad-based civic engagement campaign timed with initiatives beginning in 2010-2011 that commemorate the 50th anniversary of Peace Corps and the 10th anniversary of the UN International Year of Volunteers. The Omni Med program in Mukono is a part of this projectand is actively seeking support and expansion through this initiative. (see http://buildingbridgescoalition.ning.com/page/serviceworld-1 for details.)

TAMTAM: In 2004, Drs Jessica Cohen and Pascaline Dupas founded TAMTAM, an NGO working primarily in East Africa to distribute ITNs to pregnant women and children and to conduct operational evaluations that enhance ITN distribution and influence policymakers. Before leaving for the Clinton Foundation and the Harvard School of Public Health, Dr. Cohen coordinated the research component of this Omni Med program in Uganda. During the spring of 2009, Paul Wang and Esther Hsu took the reins at TAMTAM. During the summer of 2009, they conducted an ITN distribution trial in Mukono using VHTs trained by Omni Med volunteer Dr. Rick Hayes. PCV Zac Tabb helped to coordinate the ITN distribution. The trial will provide an indirect measure of the value of service, and we are discussing possible long-term collaboration with TAMTAM for ITN distribution in Mukono. More details of this project are in section V (Research, Monitoring and Evaluation).

Mt. Sinai School of Medicine: Marie Widmar and Courtney Nagel are fourth year medical students at Mt Sinai who will graduate in May 2010. During an April 2009 conference at Yale, they presented the work they had done in rural Tanzania, distributing 300 ITNs to 150 households, achieving a 89.4% user rate 12 months later. Intrigued by their work, Dr. O'Neil invited them to join the Omni Med program in Mukono, with the possibility of incorporating their model directly into the VHT training program. Discussions are ongoing, with tentative plans for both students to spend April 2010 in Mukono. If the program goes well, we will involve other Mt Sinai students in the future.

Partners In Health: Omni Med has a long-term association with PIH, dating back to Dr O'Neil's friendships with PIH founders Farmer and Kim. PIH has developed model community health workertraining programs in Haiti, Rwanda, Peru and elsewhere. In time, we will work more closely with PIH as our model evolves. Drs O'Neil and/ or Hayes

will visit PIH in Rwanda during a future trip to Uganda. PIH has years of experience with VHT training;, and there is much we can learn from them.Additionally, PIH member Dr. Patrick Lee and colleague Dr. Brett Nelson, both Harvard Medical School faculty, have been developing a global health course for Harvard medical students. We are currently discussing the possibility of collaboration on a larger global health training program for non clinicians and a continuing medical education (CME) program for physicians. A CME course could support this program financially and recruit student and volunteers. Drs Lee and Nelson's input into our Mukono training program design will be invaluable.

Center for Global Service: In 2006, Omni Med Board member Kathryn Johnson, Leland Russell, and Dr. O'Neil developed the concept for a Center for Global Service. Best thought of as a "next generation knowledge network," CGS seeks to build a state of the art resource center that will greatly improve connections and capacity among international volunteers, optimizing their global impact. Underlying this idea are three basic assumptions: That global volunteerism, if reconfigured, has the power to be a world changing force; that global consciousness and unprecedented collaboration are essential in every sector, including international service; and that through intelligent collaboration, accessing the latest "digital age" technologies, sharing best practices and tapping into the collective wisdom of global volunteers we can dramatically increase their effectiveness. As a result, we can empower global citizens to become agents of change. CGS remains an Omni Med program but has the potential to become a free-standing entity with separate board and funding sources. The Omni Med Database of Global Health Service opportunities and the training course for this program can be viewed as core components of the CGS model. For further details, see the CGS icon on the Omni Med website at www.omnimed.org.

Caritas Christi St Elizabeth's Medical Center*:* As discussed above, we are working with the St. Elizabeth's Department of Medicine to develop a Global Health Tract within the Internal Medicine Residency. In its early years, two medical residents per year will travel to the Uganda program for one month each. Those who are selected for the track will have to complete several required readings and write a comprehensive paper detailing their their experience. The track will also sponsor lectures and medical grand rounds that will enrich the entire medical community. Dr. Jason Dettori piloted this program in March 2009 with a month-long trip to Mpigi and Mukono, Uganda. In August 2009, the Office of Mission for Caritas Christi Health Care System awarded Omni Med a small grant to support the VHTs and fund travel for SEMC residents for a one-year period.

Various Medical Schools: As noted above in the section on volunteer recruitment, we are developing relationships with a number of schools of medicine in an effort to send an ongoing stream of volunteers to Uganda.

Clean Water: In the early stages of researching this project, we found that some of the most cost effective health interventions in the developing world come through vaccination, clean water and malaria prevention programs. We are actively courting

partnerships with NGOs that distribute ITNs. We are also seeking partnerships with NGOs that can help our VHTs and local communities develop clean water sources. Possible partnerships include PlayPumps International (www.playpumps.org), which installs water pumps powered by children playing on a merry-go-round. We will continue to seek partners in this important realm.

International Volunteer Card: Omni Med is a formal partner of the International Volunteer Card (see www.volunteercard.com). For an annual fee of $25 to $35 depending on plan choice, subscribers receive full travel insurance and free calls worldwide to assist in the following: Baggage & Personal Effects, Travel Document Replacement, Accident Medical Expense, Sickness Medical Expense, Emergency Medical Transport, Lost Luggage, Medical Emergencies, Lost Passport / Visas, and Travel Alerts. The group uses Travel Guard, long an industry leader with over 9 million users per year. Individuals receive up to $25,000 for medical illness, and up to $100,000 for emergency medical transportation. There are many more benefits including discounts on flights, hotels, and many stores, among other services. Those purchasing the same services without using the card typically pay $100 per trip.

Potential Funding & Impact Assessment Partners: There are many organizations that provide impact assessment and are large enough to receive direct USAID funding, which at the moment, Omni Med is not. During the Global Health Council meetings in Washington DC in May 2009, Dr. O'Neil spokewith several of these organizations about building a potential partnership. Since we have developed significant local contacts and have a program already underway, we are a valuable asset for larger agencies who are looking to partner with programs such as ours. . During discussions with USAID officials in May, it became clear that Omni Med is simply too small to receive USAID funds directly, despite our annual audits and CFC (Combined Federal Campaign) membership. The organizations best suited to partner with us in this effort include: Africare, Chemonics, Futures Group International, Intrahealth, JHPIEGO, John Snow Inc, PATH, Pathfinder International, and PSI. Of these, Pathfinder International, PSI, and Intrahealth already work in Uganda, and we have already made contacts at Africare. We recognize that such a partnership will be an imbalanced one, with the larger organization applying for the grant and "adopting" Omni Med. Such an arrangement is less than desirable, but is one we will pursue if other funding possibilities fail.

5) Impact Research Design and Implementation

For a comprehensive discussion of the research partners, design and implementation, please see section V on Research, Evaluation and Monitoring below

6) Strategic Planning and Scaling

A program as complex and demanding as this requires a far-reaching strategic plan and a solid advisory group. To date, most of the planning and execution has come from Omni Med , with significant input from the Ministry of Health's Paul Kagwa, Rez Cherkut, Haji Kalungi Hakim, and Dr. Elly K. Tumushabe; Omni Med's Drs. John Varallo

(now with JHPIEGO), Rick Hayes, and several board members; Brookings' David Caprara and Dr. Jessica Cohen; VOLSET's Festus Bazira and colleagues, and The Peace Corps' Zachary Tabb. For now, this collaborative arrangement is working well, but in order to grow and scale this program, we will need to create a formal, expanded Advisory Board, with input from individuals with expertise in community development, community health worker training and oversight, fund-raising, and global health,among others..

Given the demands of this project , and with no financial support thus far, it has not yet been possible to develop the proper Advisory Council. But for this program to work well, we will have to do so. Those who we will ask to serve on an Advisory Council and whose opinions we will seek include many of the individuals named above, along with Senator Harris Wofford, Kevin Quigley from the National Peace Corps Association, Kevin Starr from the Mulago Foundation, and individuals from Partners In Health, among others.

Scaling this program model will depend on a number of factors that will become clearer over the next 3-6 months in Mukono. We will need to know how much time and energy the local government and the Peace Corps will be able to put into the program in Mukono and beyond. We will calculate the exact costs for VHT training and follow up. We will explore the possibility of conducting training right out in the villages, reducing overall program costs while bringing the program directly into the local communities. We will also have the ability to push this program further if the local government can cover the costs of training the VHTs, leaving out the costs of our volunteer trainers/ facilitators. While our volunteers will cover their own expenses, there are still significant training costs. If this model demonstrates efficacy and receives support, we can scale it to other districts, and then other countries. Most of the country lacks trained VHTs, though the Ministry considers this a priority. The ministry also plans most new health initiatives using the VHT program, which needs to be built up if these initiatives are to be successful. Beyond Uganda, we will tailor new program ventures to the specific needs of the host country, with Kenya, Tanzania and Rwanda to be the next countries targeted.

Once we have a better understanding of the local capacity, the ability of the government and USAID to support these efforts, and how to best incentivize the VHTs, we will be able to take the next steps in this program's strategic planning. The most intriguing option comes from Kevin Starr of the Mulago Foundation: The Design Iteration Flow Format (DIFF) requires program leaders to clearly articulate all aspects of the program through a well thought out, ten step process from mission to scale. The ten steps are as follows: Mission→ Impact→ Behavior Change→ Big Idea→ Path to Scale→ Impact Model→ Stage→ Organizational Model→ Financial Model→ Action Priorities. By working through the DIFF process, we will subject the Community Health Empowerment model to a rigorous examination that will aim to improve its efficacy and scalability..

The developing world is covered with the debris of good program ideas gone awry. Many programs proceed through the early, often successful, stages of development without strategically planning for the latter program stages five, ten or twenty years down the line. The DIFF process forces program innovators to plan out the entire process up front and work through the looming obstacles (financial, strategic, and practical) at the outset, rather than well into the process. Many programs fail due because they have not done the long term planning the DIFF process encourages. Dr. Starr has agreed to work with us, at least initially, on this process, and we will seek input from others at Mulago and the Rainer Arnhold Fellowship who do community development work in poorercountries. This may well take months to accomplish, but we will start mapping out the process and collecting additional data in Mukono this October.

IV. Budget/ Financing

Budget: A detailed budget is available separately.

Financing:

Most of the initial program costs have been borne by individual volunteers and Omni Med. We have offered minimal travel support over the first 18 months, and will continue to cover all the costs of VHT training. Where specific grant money is available, like the Caritas St Elizabeth's program, volunteers will have some support. In time, however, we will ask volunteers to cover more of the program costs, including a small program administration fee. For a typical volunteer staying for one month in 2009, the costs are as follows:

Airfare from Boston/ NY:	$1800 (as of August 2009)
Room and board:	$ 350/ month
Omni Med Program Fee:	$ 500
VHT training fee:	$ 750 (current cost is $50/ VHT trained)
Insurance:	$ 25 (Through www.volunteer.org)
Incidentals:	$ 250
Total:	$3675

We anticipate that the Ministry of Health and or USAID will soon cover the costs of training VHTs, which will reduce the cost to:

$2925

Additionally, since most people serving through this program will be eligible for support from VFPServ, they will be eligible for matching grants up to $1000. The total now becomes as low as:

$1925

For those in the work sector, this is tax deductable, since it money is spent through a 501(c) (3) NGO, Omni Med. This could further reduce this amount by as much as $600, leaving a new total of:

$1325

We recognize up front that many volunteers will pay more than this amount, since airfares may change, government support may evaporate, and other unforeseen actors could increase costs significantly. However, for the coming year, most will pay far less than the first total above. Many programs that use volunteers charge significantly higher program fees, making this a quite reasonable by comparison. Also, volunteers in this program will work in a model that is actively measuring its impact and employing current health science to save lives directly. This should hold appeal to volunteers. We may well need to increase program fees in time, however we will do our best to keep costs low, as we have throughout our history. Omni Med will raise funds for VHT training, administration costs, and supplies like ITNs and tools to create clean water. Additionally, many medical schools and colleges offer their students support for service projects like this one. We will encourage all students who get involved to seek some funds for VHT training and materials support.

We will look to the Ministry of Health for their active support of this program, which is fundamentally theirs. Wary of the Mpigi experience, we will developthis program with a vigilant eye toward budget cuts and constraints. We will build in mechanisms that can support this program should outside funding and government aid collapse. A program of this size and scope will require a growing amount of resourcesover time. In the fall 2009, we will begin to apply to foundations and corporations to seek initial start-up support, tapping into the networks from Brookings, the Kellogg Foundation, and ServiceWorld. We will also consider the option of partnering with one of the above mentioned organizations which can monitor the program and access USAID funding.

V. Research, Monitoring and Evaluation

Research:

Efficacy research is one of the core components of this project. As stated above, there is precious little research in the area of volunteers working abroad. This project offers an ideal opportunity for exactly such a study. Our volunteers, partnered with local Ugandan health personnel, will train new VHTs and do follow up training in their home communities, and part of the VHT training involves record keeping. By design, VHTs track births, deaths, illnesses, and a number of other variables that can serve as the background for a study. The early data from the VHT program in Mpigi indicates clear improvements in health. The data from those studies was compiled from VHT quarterly meetings and tracked over time. In reality, however, the record keeping was less than ideal. It remains unclear if VHTs, already busy with the challenges of raising families and eking out a daily existence in rural poverty, have sufficient time or motivation to keep

accurate and detailed records. Simply getting them to go door to door to make health recommendations isa daunting enough task.

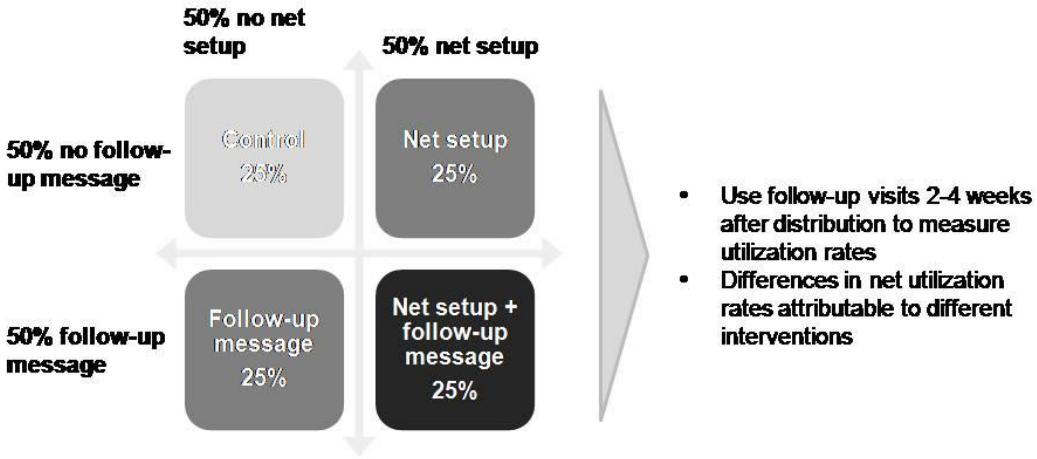
We will continue the MOH policy of training VHTs on good record keeping and encouraging them to keep detailed and accurate records. Yet we hope to supplement this data with additional data collection. Collecting data on the ground is more expensive than actually running the VHT training and follow-up program. There are many research firms in Uganda, with some of the best at Makerere University. One such firm, Uganda Chartered Healthnet located in the Clinical Research Building at Makerere University Faculty of Medicine, did the data collection for NetMark's study of ITN usage throughout Uganda in 2006. They use a GPS service for tracking and providing accurate spot checked data. However, their estimatated price for providing the baseline data collection services for this program was prohibitively expensive.

We are currently exploring partnerships with researchers from the Center for Social Development at Washington University, the MIT Poverty Action Lab, and possibly those at larger organizations which are capable of performing evaluation and accessing USAID funds.

Ultimately, with or without a research partner, we will do much of the data collection ourselves. It is unclear how much time Zac Tabb or other Peace Corps volunteers might be able to put into data collection. However, recent Harvard graduate Ali Taubes, who has worked at the Omni Med offices during the summer and fall of 2009, will be in Mukono from January through June 2010 as Omni Med's first in-country long-term volunteer. While there, she will help to coordinate the program locally, orient volunteers, and conduct VHT training sessions. She will also spend a significant amount of time collecting baseline data.

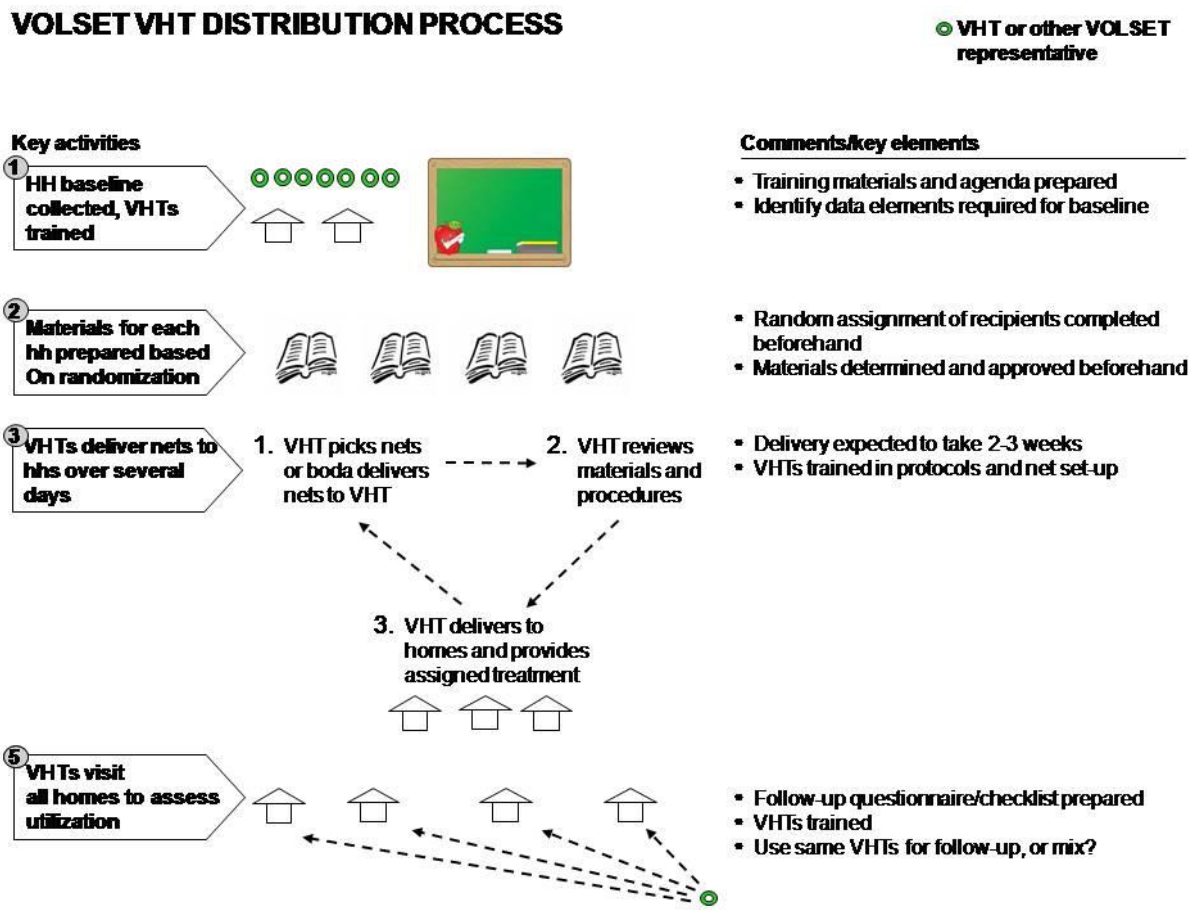
We will augment study design according to the most relevant and measurable factors. Since our VHT training covers a host of health areas, there is a plethora of variables we can study. Perhaps the easiest is that of ITN usage. Researchers from TAMTAM conducted just such a pilot in the summer 2009. The following is taken directly from their research protocol:

HOUSEHOLDS ARE RANDOMLY SELECTED FOR 2 CROSS-CUTTING INTERVENTIONS



Key issues include:

- Ideal sample size is ~300 households
- Randomization should balance observable characteristics as much as possible



The TAMTAM randomized trial represents a smart, concise intervention employing the VHTs trained through this program. It will provide an indirect measure of the impact of our service program. Yet it will also allow policy makers in Kampala to assess the value of trained VHTs distributing ITNs instead of simply handing them out as has been traditionally done. Since the Global Fund Round 7 Proposal for Uganda will distribute 17.4 million ITNs at some point during the next few years, the trial may well influence policy.

We are currently exploring a longer term relationship with TAMTAM to expand the above work to cover more of the district using the VHTs we train. We are also planning to work with Mt. Sinai medical students Marie Widmar and Courtney Nagelwho have done similar work in Tanzania. With 1.2 million people in the district and 32 million in the country, there are plenty of opportunities for collaboration, even in seemingly overlapping areas.

While our volunteers and VHTs can collect a large amount of data, we will develop specific areas of focus for a prospective trial. Our starting point for the data collection is January 2010, which gives us enough time to fully map out our areas of focus, perform the power calculations, and develop a comprehensive research proposal. As of this writing, this remains to be done. The data that we will collect stems directly

from the VHT training manual, as well as the literature on successful interventions in the developing world. Once our study areas have been determined,we will be able to emphasize specific areas during the initial VHT training, and focus the follow up training visits to the homes of the VHTs on measuring these specific interventions. We will review all areas of focus with national and local health officials, our partners at VOSET, and the VHTs themselves.

We recognize that VHTs cannot devote significant time and attention to all of the following areas. Rather, we will together select from among the different areas, narrowing them down to a manageably amount. Equally important, we have no intention of simply performing a randomized trial and then abandoning the control communities. If any intervention proves beneficial in the coveredcommunities, it will then be brought to the control community in subsequent training and follow up. There are clinical several areas that comprise effective, literature-supported areas of intervention that are readily measurable, and we hope to make use of the most feasible ones in our prospective trial.

Malaria is a leading killer of children and pregnant women. It is also readily preventable and treatable. As the above trial outline suggests, we could continue to study the impact of ITN distribution with training, as well as the impact of VHTs employing HBMF (home-based management of fever) protocols. There is an extensive literature that demonstrates the importance of treating malaria early in the course of the disease, and in a country where less than half the population can access health clinics, VHT coverage of this area is greatly needed.. Additionally, HBMF is already part of the initial training, and during our follow-up visits, we can walk the VHTs through the treatment/ referral algorithms a second time. The main challenges to malaria prevention and treatment come from the endemic “stock-outs” of medications and the staffing shortages in local clinics. Many trials have used rates of anemia as a proxy for malaria incidence. While considerably more expensive due to testing costs, it would be possible to include this measurewith sufficient funding for the research component.

Clean water/ ORS/ Hand-Washing: Diarrheal illness, often caused by unclean water, is one of the three leading causes of death in SSA and another of the most cost-effective areas in which to intervene. There are a number of NGOs that provide clean water to SSA, including the aformentioned PlayPumps (www.playpumps.org). We hope to partner with one or more of these NGOs, and have local VHTs play leading roles in their communities to foster clean water practices. There are many techniques for creating sources of clean water, including chlorination, biosand and ceramic filtration, solar disinfection, human and battery powered filtration pumping systems, and purification tablets. Another important component for decreasing diarrheal mortality comes through the regular use of oral rehydration solutions (ORS), hailed as one of the most important discoveries of the 20th century. The VHTs are trained in ORS techniques and will share this knowledge with their home communities. WHO ORS packets are widely available and even simpler methods of a “pinch of salt and handful of sugar” are

cheap andeasy to obtain. It is simply a question of disseminating this knowledge throughout the communities, a process which we plan to make a point of emphasis during our VHT training sessions., . Simple hand-washing has also been shown to significantly decrease the rates of diarrheal illness. This techniquecan also be readily taught to community residents and reinforced through public health campaigns, home visits, and follow-up visits byour volunteers.

Fertility: At a national average of 6.77 births per woman of reproductive age, Uganda has the third highest birthrate in the world, clocking in behind only Niger and Mali. \. The problems stemming from a rising population rate in such a poor country are clear: environmental devastation, diffusion of scarce resources like food, education and parental time, direct contributions to global warming, and rising security risks as more people strain excessively farmed soil. For instance, Jared Diamond's *Collapse* demonstrated how Hutu-onHutu violence in northwest Rwanda during the 1994 genocide was fueled in part by population density. An August 2009 CNA Corporation report pointed out the very real risks to US national security from global climate change and resultant population pressures. (National Security and the Threat of Climate Change).

Given these potential consequences, there is a clear need to develop community based programs that can curb current population growth rates. This has long been an interest of the USAID office in Kampala. Uganda used to employ condom distributors, although that program has since been incorporated into the current VHT model. Ourtrained VHTs will share knowledge about family planning and distribute condoms throughout their communities. It would be relatively easy to track fertility rates over time among communities who are in contact with trained VHTs versus those who are not..

Vaccinations: Vaccination programs are among the most cost-effective of all health interventions, yet many rural populations have surprisingly low vaccination rates against treatable illnesses like measles, tetanus and polio. Community-based programs with good tracking and record keeping can result in bringingmore rural infants and children into regional health centers for appropriate vaccinations. The VHT program in Mpigi made a significant impact on vaccination rates throughout the district (see Figure 2, pg 6). VHTs tracked vaccination rates in their host communities and encouraged more of their neighbors to bring their children to local health centers for vaccinations. If the importance of vaccination was made a focal point of our VHT training sessions and follow-up hoem visits, immunization rates would be another very effective and measurable intervention,. Vaccination rates also represents an ideal area to study VHT incentives: For example, a community could receive some type of incentive once the vaccination rates for all children under five reached a certain percentage (such as 80% or 90%)

HIV/AIDS: The VOLSET foundation has been actively involved in performing HIV screening for many years. Our trained VHTs could assist with screening and referring HIV positive patients into regional treatment centers, such as those at the Infectious Disease Institute at Makerere University. Additional counseling and condom distribution could limit the spread of this deadly disease. This intervention could also be easily tracked in covered versus control communities.

Prenatal Care: Previously trained VHTs in Mpigi were able to significantly increase the percentage of women who received prenatal care. They also increased the number of women who delivered in hospitals and clinics instead of at home. This data, too, should be relatively easy to track and compare in intervention and control communities.

Nutrition: Washington University's Dr. Mark Manary has piloted one of the world's most effective nutrition supplement programs in Malawi (http://www.projectpeanutbutter.org). His Ready-to-Use Therapeutic Food (RUTF) is locally produced, inexpensive, highly nutritious, and requires no refrigeration. During a visit to Washington University in May 2009, Dr. Manary freely shared the methods for his program's success. His many publications, including several prospective trials, are cited in full on the Project Peanut Butter website. Malnutrition is widespread in Mukono and throughout Uganda, and is a leading cause of death and disability among children. Simply stated, starvation leads to immunodeficiency, and malnourished children are far more vulnerable to infectious disease. Nutritionally Associated Immuno-deficiency, (NAIDS) has long been a more potent killer than AIDS. This represents another important area for intervention and another potential area of study.

Broader View: The ultimate measures of health are life expectancy, infant mortality, and under-five mortality. A host of factors contribute to these indices, and it may not be possible to attribute cause and effect to a specific program intervention like this, however it is worth exploring plausibility of measuring such broad indices during the planning phase of this trial.

Other Areas: There are many other possible areas of focus, including rates of breast-feeding, measures of local sanitation, rates of Vitamin A supplementation, de-worming, and the number of STDs prevented through condom distribution.

Program Monitoring & Evaluation:

The prospective trial comprises just one of the modes of measuring this program. In our other programs, we have used a combination of questionnaires for volunteers, questionnaires for local participants, debriefing of all volunteers upon arrival home, and periodic questioning in-country of government officials, program coordinators, and local participants. We will adapt many of the same methods here starting in the fall 2009. We will also establish a computerized data collection system to facilitate accurate data

collection and tracking. More specifically, we will create the following:

- *Questionnaires for volunteers*: we will solicit direct feedback about the program design, how effective they thought their training and follow up sessions went, and how to improve the program.
- *Questionnaires for VHTs*: we will ask how much they are learning, whether the material is too hard or simple, how applicable the material is to their daily lives, and how we can make improvements to the program.
- *Regular Feedback from VOLSET, other NGOs and ministry officials*: we will develop a specific questionnaire that we can regularly ask the above to fill out, with many of the same questions as above.
- In addition to the questionnaires and regular interviews, we will compile a spreadsheet tracking a number of indicators. Starting in fall 2009, the Coordinating Team will begin to compile this data. The Coordinating Team consists of VOLSET staff, emerging VHT leaders, Peace Corps volunteers, and Omni Med volunteers. A sample of the indicators to be monitored and evaluated include:
  - Number of VHTs trained.
  - Percentage of the Mukono District households and villages covered by trained VHTs.
  - Number and percentage of trained VHTs with whom follow-up visits have been made by the Coordinating Team.
  - Total number of home visits made with VHTs by the Coordinating Team.
  - Number of VHTs who assume leadership positions.
  - Percentage of households using ITNs as a result of distribution by our trained VHTs versus standard distribution (TAMTAM study).
  - Number and type of Omni Med volunteers sent (MD, RN, student, etc.) and duration in country.
  - Survey data collected from VHTs on effectiveness of training (like our Belize data collection), and perceived value of follow up visits.

Other possible recorded indicators include:

- Fever prevalence.
- Information about malaria treatment seeking behavior.
- Results of administered tests for malaria parasites and hemoglobin levels.;
- Baseline data on admissions for malaria in nearby hospitals and clinics.
- Sales of malaria medicines in local pharmacies
- Amount of anti-malarial drugs distributed by the VHTs.

VI. Organizational Capacity

Omni Med is a registered 501 (c) (3) organization, with roughly 97%of our funding going to our in-country programs. We are able to accomplish such a high

percentage due to the service nature of our work and leadership. Omni Med's mission, informed by principles of social justice, is to reduce global health inequities through cooperatively developed, sustainable, educationbased programs. We currently have programs in Guyana, Belize, Kenya, and Uganda. Omni Med undergoes annual GAAS-GAP audits in compliance with its membership in the Combined Federal Campaign, whose members must adhere to strict standards to ensure accountability and effective use of funds raised.

Omni Med has a history of working collaboratively with multiple partners in several countries for many years. During this time, we have developed deep and trusting relationships within each country. In Belize, we have worked closely with the Ministry of Health and the several Rotary Clubs in implementing what has become the country's main source of CME since 1999. In Kenya, we have partnered with St. Mary's Hospital in Nairobi, located across from the massive Kibera Slum, to ship over $800,000 worth of supplies to this underserved area. In Guyana, the cervical cancer prevention program founded and run by Dr. John Varallo has become the national model. JHPIEGO has subsequently hired Dr. Varallo to dramatically expand the model throughout Guyana. In all sites, Omni Med has helped build local capacity through training.

On the domestic front, Omni Med has developed a searchable Database of Global Health Service Opportunities, which has helped many qualified health providers find service opportunities where they are most needed. This innovative database is unique and one of the building blocks to the larger virtual Center for Global Service, which has the potential to radically reshape the national service sector. Additionally, Dr. O'Neil has published two books and many articles on global health inequality, poverty and service through the American Medical Association, and has given talks to health and non-health audiences across the United States. He is currently working on a new book.

While a small, non-profit NGO, Omni Med has leveraged funding and support from various organizations to develop a legacy of success domestically and in several developing countries.

For further information about us or to make a tax-deductable donation to support this program, please visit our website or contact:

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