Doctors for Global Health
Promoting Health and Human Rights "With Those Who Have No Voice"
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History and Work of DGH in Uganda, 2000-2012

DGH has been in Uganda since 2000 when, following up on Lanny Smith's initial visit and Jerry Paccione's one month stay as guest lecturer, the first of Montefiore's senior residents from the Primary Care/Social Medicine Program went to supervise on the wards of the Mbarara University of Science and Technology (MUST) Medical School.

MUST had been recently founded as (only) the second medical school in the country and the first dedicated to community medicine. Suffering from a dearth of teachers and without any post-graduates to supervise students, our hosts at MUST urged that DGH's first mission should help produce doctors in a country with so few of them! It was a *wonderful* entrée into the Ugandan health system. Five years later, when the NGO THET formed a collaboration of British medical schools to establish a Medicine residency at MUST and the wards were amply staffed with Ugandan physicians, DGH moved on. Through our friendships with the Dean, Jerome Kabakchenga, and Gad Ruzazza of MUST's Department of Community Medicine, in 2005 Jerry Paccione visited 3 rural sites in Southwestern Uganda, and selected Kisoro. Kisoro's needs were stark, its welcome warm, and its infrastructure sufficient to facilitate partnership and responsible growth.

The district of Kisoro occupies the far Southwestern corner of Uganda, a few miles from both Rwanda to the South and the Congo to the West. It's poor and remote, a beautifully rugged land of sharp hills, towering volcanoes, and serpentine lakes accessible only after hours of precipitous dirt roads. By rural measures, it's overpopulated - the steep over-farmed land can't support the number of people who have to draw sustenance from it, a land whose villages have no electricity or clean water, where families subsist on a per capita income of $2 USD/day, and where women commonly have 8 children, their only means of social security.

The Kisoro District Hospital (KDH) is the public hospital in the district and very underfunded. Doctors are paid $3800 USD per year. In cities, the earning potential is at least 2-3 times that, and

jobs abroad or locally with NGOs draw 10-40 times more. Thus, a victim of the "workforce crisis" in Africa, KDH is understaffed at every level: 1-3 young physicians (the hospital is funded for 6) are responsible for over 150 beds comprising Medicine, Surgery, Pediatrics and Obstetrics/GYN Wards and bustling General Medicine and HIV clinics (with 150-200 patient visits/day (!). Likewise nursing is staffed at 60% capacity and the lab, with funding for 4, has 2.

It was thus to Kisoro, with a doctor to population ratio of 1 to >40,000 that we moved in 2005 - to support the local district and work to make a difference.

Over the past 7 years DGH's projects in Kisoro have grown exponentially, largely because of the unique collaboration we've crafted with 2 partners: Kisoro's hospital and Department of Health, and Montefiore/Einstein, the hospital/medical school in the Bronx with a strong commitment to underserved people everywhere. Through donations to Karen's Tots Fund established in memory of Karen Monjello (JP's sister) - a warm, inspiring force for good in the world who worked with tots and died young of breast cancer, DGH directly supports about half of the budget and administers Montefiore/Einstein's other half. All DGH-funneled Einstein funding goes to projects that *both* engage medical students in the field *and* serve the local community. In this win-win-win collaboration, Einstein students' efforts as DGH volunteers have been fundamental to our success.

DGH's projects span both hospital and community, with most community projects embedded in and orchestrated by the Village Health Worker (VHW) Program that DGH and KDH established collaboratively in 2007. In this report, the hospital-based clinical programs, through which we first gained credibility with the Kisoro community, will be briefly described. In future editions of the *Reporter* the broad scope of our community-based VHW and Women's Health programs will be discussed.

The Hospital:

- **M.D. and Nurse Volunteers, and KDH infrastructure**: Since January, 2006 in collaboration with Montefiore Hospital's Primary Care/Social Medicine Program, DGH has sent an average of 16 senior resident volunteers to KDH, covering 11 months per year. (Resident participation is contingent on taking a prerequisite, one month Global Health Course at Montefiore offered in June.)

  On the Medicine wards they care for 40-80 patients with diseases of poverty – malaria, tuberculosis, HIV, pneumonia, diarrhea, typhoid, and high fevers without apparent explanation or remedy. The patients are sick and chronically malnourished, present late due to lack of access, and once hospitalized must be fed and cared for by their family, accelerating the cycle of poverty. The hospital's diagnostic resources are few, and basic clinical skills and astute reasoning by physicians are paramount.

  In addition to the senior residents, DGH has supplied about 4-6 months of physician faculty and/or nursing support in Kisoro annually; curtains for (some) patient privacy on the giant single-room wards, and mattresses and sheets as well; furbished an inpatient "lab" and a "record room"; and was instrumental in acquiring a functional X-ray and EKG. Ed Levine, a gastroenterologist volunteer, donated the first endoscope in Kisoro and trained Dr. Baganizi in its use.

- **GHACS (Global Health and Clinical Skills) Faculty Development Fellowship,** July, 2012: Montefiore just created *GHACS,* a unique 2-year faculty development fellowship for 2 fellows per

year, to advance both global health and primary care education and to provide faculty-level supervision for DGH resident volunteers in Kisoro. Each will supervise residents 3 months/year in Kisoro, further develop DGH-sponsored service-based initiatives with the Kisoro community, and teach cost-effective clinical skills refined in Kisoro to residents and students at home. GHACS adds a consistent, experienced faculty presence to DGH's work in Kisoro year-round.

- **Medical Officer (M.O.) Support Program**: KDH has recently endured 2 years with only 1 physician on staff (!), Dr. Michael Baganizi, who is also its Superintendant. Attracting doctors has proven impossible because of Kisoro's remoteness, poverty and resulting low physician wage and whenever you asked "what is your most pressing need that we can help you address?" the answer was "doctors!". In 2011, DGH began "topping-off" salaries to nearly double the base income offered enabling KDH to hire 2 post-graduate doctors called "medical officers". In addition to staffing the hospital's pediatrics, obstetrics and surgery wards, in order to earn their DGH top-offs the 2 M.O's assist DGH volunteers on the wards, offer biweekly CME lectures to the Kisoro staff, and hold a weekly clinic in the field at the Muramba Health Center, the sub-county base of our VHW Program.

- **Chronic Care Clinic (CCC):** Prior to DGH in Kisoro, medical care meant treating infection, and there was no-where no-how to take care of patients with chronic disease. In 2006, DGH-Montefiore established the CCC. In collaboration with Nurse Patience of KDH and built on her model diabetes support group, the CCC enrolls patients with severe hypertension, diabetes, asthma, heart failure, etc.; supports a highly skilled nurse manager in Patience, created a record system (the work of Gloria Fung-Chaw), and provides DGH physicians familiar with caring for patients with chronic disease (although the monthly M.D. turnover isn't ideal). The clinic now has over 600 patients and operates 2 days/week.

- **Psychiatry Service**: Psychiatric morbidity is projected to become the greatest source of disability in Africa by 2015. Uganda has almost *no* psychiatrists or psychiatric health workers but an enormous burden of untreated depression, schizophrenia, and post-traumatic stress disorder. DGH has sponsored psychiatry in Kisoro for the past 3 years through its two pairs of Psychiatrist volunteers who work 2 months a year consulting on the wards and making village "outreaches" daily. To provide the continuity of care required, the Kisoro DOH established a Psychiatry Clinic in the hospital OPD and staffed it with 2 non-physician Ugandan psychiatry workers: Charles and Immaculate provide the necessary on-going care of patients, and in return receive advanced training from our Psychiatrist volunteers.

- **Scholarships**: DGH provides educational scholarships to 3 high school age orphans and 4 prior DGH/KDH employees (e.g. translators) accepted in medical (2) and nursing (2) schools. All have agreed to return to Kisoro after graduation to work with KDH and DGH for at least 3 years (and very possibly, since they are all Kisoro natives, for life.). One of the nursing students, Sylvia, was one of our first KDH patients in 2006 when she was admitted in severe insulin crisis (DKA) at 11 years old, blind from opaque cataracts. After recovery and cataract surgery arranged by DGH, she could see for the first time in years. She became a volunteer in the CCC, and now is fulfilling her dreams.

The Community: the VHW Program and its Offspring

- **The Village Health Worker (VHW) Program**: The goal of the Kisoro VHW Program is to bring primary and preventive health care to remote communities through trained village laymen, and thereby to address the enormous child and maternal mortality rates in Kisoro. DGH and KDH initiated in January, 2007 a VHW Program in 20 villages of Muramba sub-county, and 2 years later in response to widespread community sentiment, in the remaining 25 Muramba villages. Whereas in Mbarara, DGH focused on training Ugandan *physicians,* in Kisoro it focuses on training *VHWs*.

  DGH (through Karen's Tots Fund) pays the VHWs a stipend for their work, and Einstein, through the "tuition" of its students supervised by the VHWs in field placements, supports their training and supervision. Whereas 65 VHWs started the program 6 years ago, now they number 53 – very modest attrition attributable to the charismatic leadership of Sam Musominali, their commitment and morale as *community-nominated* VHWs, the excellent education and supervision they receive, and (unfortunately) the economically challenging times with few other interesting ways to earn a living wage.

  Two features of the Program are unique: the *VHW training and certification process* and *the way the VHWs are paid*.

  Training is longitudinal occurring monthly, totaling about 25 days annually, and cycles among 5 domains: Acute illness, Maternal health, Child health, Chronic Disease, and Environmental health. Almost all training is case-based, drawing from a compilation of 150 cases written by Einstein students with Jerry Paccione, and transformed into a cohesive multi-modal curriculum by Morgen Yao-Cohen, DGH-Kisoro's first yearlong medical student volunteer. A case-based certification process was also developed for each domain, with sets of criteria, written exams, "standardized patient" exercises with actors as patients, and field observations by Supervisors. Although actively "practicing" soon after they joined the program, after certifying in 3 domains VHWs earn a *"doctor bag"* of instruments and (renewable) medications to support them in their practice – a milestone which all of the first cohort have achieved. A target of December, 2012 has been set for all VHWs to complete certification in all 5 domains.

  The VHW payment system has evolved and is now based on a unique "pay for performance" model implemented and analyzed by another long-term DGH volunteer, Jay Miller. Monthly stipends are based on *health actions the VHW actually performed* such as identifying malnourished children, referring women for family planning or cervical cancer screening, diagnosing chronic disease, using the "doctor bag" for acute illness, giving a community talk, etc. VHW activities are validated on-site by Supervisors twice a month, which brings health professionals to the villages regularly and empowers the VHWs. The stipend model incentivizes health work, is cost-effective, considered fair by both VHWs and Supervisors, and permits detailed record keeping and tracking of program activity over time.

- **The Malnutrition Program**: An in-hospital Malnutrition unit was established by DGH in 2006 that feeds about 20 severely malnourished infants on the Pediatric ward daily. (We've recently been notified that with war raging in nearby Congo again and Kisoro flooded with refugees, our food budget is inadequate.)

  In 2008, with a generous 3 year donation from the Velaj Foundation, a *community-based* nutrition program was established through which the VHWs identify and deliver food to moderately malnourished children in their homes. Despite the end of grant, the program still rehabilitates about 600 children annually in Muramba subcounty and has been recognized as one

of the most effective nutrition programs in Uganda. The Kisoro DOH joined DGH's initiative and hired a full-time nutritionist, Amos, to run the twin programs.

- **Disability Project**: VHWs have been identifying and referring (long-distance) children with treatable disabilities, supported by DGH. The initiative followed a needs assessment by Einstein student volunteers and educational and organizational leadership by Peggy Harris, a 4-time DGH volunteer and a community nurse leader in Pennsylvania.

- **Chronic Disease in the Community (CDCom) Project**: With overcrowding in the Chronic Care Clinic at KDH and the realization that most villagers with chronic disease don't come into care until it's too late, DGH launched CDCom in 2011 with a start-up grant from Einstein's Global Health Center. Under the leadership of Dan O'Neil, last year's long-term DGH-Einstein volunteer, CDCom works through the VHWs to identify, treat and monitor villagers with chronic disease without them ever having to take the arduous and/or costly trip to the KDH CCC. CDCom now cares for over 250 patients, an enrollment expected to double within 2 years.

- **Students-in-the-Community Project (SICP)**: Three groups of Einstein students work in Kisoro "short term", each for 2 months – MSIVs in the Fall and Spring and MSIIs in the Summer. While only the MSIVs work clinically, both groups work with DGH community projects and alongside VHWs in varied ways tailored to the program's needs at the time. The emphasis is on *learning-through-contribution* and our students have been instrumental in the creation of our Women's Health projects, Malnutrition program, the CCC, etc.

  For the past 3 years, each MSIV has been placed in 1 village, and teamed with a VHW. Together they give Community Talks daily for 4 weeks on health topics nominated by the villages (pre-prepared with JP), make home visits, screen for disease, educate families, conduct surveys in areas nominated by the communities, and discuss their survey results with the villagers. They delve deeply into Ugandan culture, witness firsthand the social determinants of health, and grapple with diagnosing health problems at the community level. SICP has been very well received by the villagers, students and VHWs.

Women's Health

Seven projects devoted to improving women's health in Kisoro are sponsored by DGH.

- **Cervical Cancer Screening**: Cervical cancer is the leading cause of cancer deaths in Ugandan women as it was in the U.S. prior to PAP smear screening. In 2008, Chavi Kahn and Eleanor Chung, 2 Einstein students working as long-term DGH volunteers in collaboration with the NGO PINCC and the KDH staff, established the first rural Ugandan screening program - using the feasible *"see-and-treat"* method. The program is a huge success and was mentioned by the first lady of Uganda in the Ugandan Parliament as a model program. Chavi and Eleanor (and DGH) were awarded the prestigious Lancet Award for Global Community Service in 2010 for their work.

- **Women's Clinic and Women's Day Community Outreaches**: Sparked by the success of the Cervical Screening project, a Women's Clinic was established by KDH/DGH and staffed full-time by Nurse Modesta. She and her staff also "take the show on the road" as Women's Day Community Outreaches 3 times a month. Each quarter they outreach to one of 9 remote community health centers in the Kisoro district. The Women's Clinic and the Outreach program

incorporate screening, on-site treatment, FP and domestic violence counseling, HIV screening, ante-natal care, and women's health talks.

- **Maternal Mortality Project and Midwife Education (CME):** Led by Nergesh Tejani who in her earlier career as an obstetrician worked for 9 years in Uganda, and with the support of Nurse Goretti of KDH, DGH has mounted a maternal mortality initiative that rehabilitates local health centers with equipment and running water, supports 2 midwives in key health centers, funds emergency transport to the hospital in case of emergency, and provides 2-day CME conferences to the 45 midwives in the district every 6-12 months.

- **Domestic Violence (DV) Project**: DV is a worldwide problem, particularly in rural Africa where the women work and the men decide. Peggy Harris mobilized both committed staff at KDH and the Kisoro police into a DGH-supported "DV Team". The Team of 4from KDH with additional participation from Peace Corps volunteer Amanda Wiegle and a female police officer, travels to 4 villages a month in Muramba to hold DV discussions and provide counseling to women. In February, 2012 the Team sponsored a very successful 2-day "Safe House Couples Conference" in which 40 volunteer couples from different Muramba villages were trained to shelter battered women and to confront DV in their village. The couples receive ongoing supervision from the DV Team.

- **Ante-Natal Care (ANC) Project**: Chavi Kahn, with mentoring from Nergesh Tejani and local leadership from Moses Iraguha, is running an Einstein IRB-approved, DGH- supported randomized trial of 4 "conditional cash incentives" to identify the most cost-effective strategy to increase the very low attendance rate for ANC by pregnant women. It's hoped that the best strategy will be affordable for DGH in the short term and the government in the long term.

- **Women's Groups and Microfinance Project**: Spearheaded by Alison Liewen, a long-term DGH volunteer in 2011-12, and presently led by Nurse Immaculate, Women's Groups have been formed as pilot initiatives in 4 villages, each with ~10 women who meet twice a month with a DGH/KDH team of facilitators. The goals of the Project are a) to raise awareness of and mobilize around gender inequality and b) to extend the work of the VHWs by empowering women interested in health. The main discussion points have been power relationships, family planning, violence, education, financial matters, poverty, and clinical topics.

  "Microfinance" came to the fore in one group while discussing the health implications of poverty - as a potential solution that could "treat" poverty, improve health and energize and sustain the group. The groups went on to organize themselves, elect leadership, and present loan proposals to DGH to enable them to purchase livestock. DGH has agreed to fund each group with ~$450, the value of 4-5 goats, as a no-interest loan with a 1-year payback plan. If the loans are largely recouped, we can extend the program in other villages, and look into appropriate ways to manage and continue this type of income-generating/health project.

- **Adult Literacy Project**: Over 90% of the adult women living in the villages are illiterate. In a recent initiative set in motion by Alison Liewen and now led by Colline, a DGH Project Assistant, DGH has allied with the Kisoro Dept of Community Development to re-establish and expand Kisoro's defunct Adult Literacy Program that ran out of money years ago. A DGH-supported Literacy Training Conference was held in April, 2012 for all instructors, and DGH has assumed teacher stipends in 11 "literacy centers" in Muramba. Each center hosts 3-hour literacy classes twice a week for up to 25 students at 2 reading levels.

DGH's many initiatives in Kisoro are guided locally by the leadership of the prudent and esteemed Dr. Michael Baganizi (our Uganda Country Coordinator and KDH Superintendant, committed to Kisoro for over 15 years), Sam Musominali (the Chief Clinical Officer, trusted and beloved community liaison, and head of the VHW Program), Deus Bareke, diligent logistician and manager, and Tan Nguyen, the 2011-12 Einstein/DGH long-term volunteer who's been exemplary as on-site Program Director (in regular contact with Jerry Paccione and the Kisoro leadership). All programs have been developed in tight coordination with Kisoro health and community leaders who have enthusiastically supported our efforts.

However, communities in Africa are used to externally-funded projects and grants ending, and hopes for better health dashed by circumstances beyond their control. Although committed to Kisoro for the long term, we DGHers who work in Kisoro want to create something that'll persist beyond us and our funding. So we are working on an ambitious plan to achieve *sustainability for the VHW Program* through the creation of a non-profit "social enterprise" called "TPIP" – Transport Plus Insurance Program. If successful, TPIP may serve as a model for long-range funding of VHW Programs nationally.

TPIP would be the first *community medicine* insurance scheme in Africa. It links the DGH/KDH health initiatives and VHW Program with the universal and unmet need of emergency transport to the hospital. Presently the cost of emergency transport by cab to KDH is prohibitive for most villagers. They've subsequently joined together in separate village-wide insurance schemes that pay only a fraction of the cost of a cab. The individual families foot the rest of the fee or carry the patient to the hospital.

TPIP will organize villages into one plan and operate a multi-patient ambulance-van that makes 2 rounds/day in Muramba (and emergency runs) picking up the sick. Families would pay an affordable insurance premium monthly (i.e. $1.00), and a co-pay that's set at ~ 30% of the cab cost. The efficiency of the group transports should produce a "profit" for TPIP that will fund VHW stipends and supervision as well as all the health benefits presently provided by DGH/KDH (VHWs, Nutrition, CDCom, Women's health initiatives, Literacy, etc.). The "savings" to our budget will permit DGH to expand the VHW Program to other regions in the Kisoro district…. We hope. Stay tuned!

Jerry Paccione M.D., Uganda Project Coordinator

7/29/12