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## Stanford School of Medicine

### 7<sup>th</sup> Annual Fall Forum on Community Health and Public Service

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Abstract Booklet  
October 22, 2008

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## ***Chronic/Noninfectious Diseases***

### **Systematic Review: The Health Benefits and Harms of Gardening among the Elderly**

**Dena Bravata, MD, MS, Jennifer Schneider, MD, Sarah Jane Selig, Investigators; Ingram Olkin, Mentor**

This study will be the first to synthesize quantitatively the literature on the effectiveness of gardening interventions to increase physical activity and improve dietary choices among the elderly. The results of this meta-analysis could be used to inform the physical activity recommendations that clinicians and other health professionals make to their patients. If gardening interventions are associated with increases in physical activity among the elderly, the results of this analysis will be used to inform a proposal to seek additional funding for a clinical trial using of a gardening intervention at a local community health center to increase physical activity among elderly outpatients.

So far, we have performed searches in eight databases, including: PubMed, PsychInfo, AgeLine, ToxLine, Ovid, ERIC, CAB, and Cinhal. From these searches, we have identified 6, 313 articles, of which, roughly 180 met criteria for level 2 abstraction. Of these 180 articles that underwent level 2 abstraction, roughly 30 have met inclusion criteria.

Preliminary results suggest that gardening interventions do increase people's consumption of fruits and vegetables, both in the elderly and in children.

We are actively searching the EMBASE database and re-running all databases above in order not to miss any recently published articles. In addition, we continue to analyze data re: harms and other health outcomes.

## **Assessing the Community Health Partnership's Community Mammography Access Project (CMAP): Perspectives on Mobile Vs. Fixed Mammography**

**Christine N. Chang\***; **Yi-Ren Chen\***; **Narmadan A. Kumarasamy, MPH\***; **Angela L. Venegas\*, MS**

**\*all authors contributed equally to this work**

**Background:** Research has shown that medically underserved women have higher breast cancer mortality rates due to under-screening and a disproportional rate of late-stage diagnosis. The Community Health Partnership's Women's Health Partnership runs the Community Mammography Access Project (CMAP), which targets nearly 20,000 medically underserved women over the age of 40 living in Santa Clara County, California through the collaborative effort of an existing safety net of healthcare providers. However, little data exists on the advantages and patient reception of mobile mammography units.

**Methods:** Women's perspectives were assessed through two focus groups from mobile and fixed site programs. Patients were recruited from CMAP clinics and events.

**Outcomes:** Both the mobile and fixed site shared similar motivating factors for getting a mammography, recognized that screening was uncomfortable but necessary for health, and had positive feedback about their personal physicians. However, mobile participants appreciated the atmosphere of mobile screening, remarked on the good communication from clinic staff and empathetic treatment they received. In general, they experienced shorter wait times.

**Conclusions and Recommendations:** Mobile mammography offers a unique opportunity for women of underserved populations to access high satisfaction screening. We suggest the Partnership ensure that CMAP clinics continue to provide a warm and welcoming environment for patients, along with the other positive aspects commented upon.

**Reflections:** Community Health research can be challenging, requiring communication between several parties with different objectives and limited resources. However, the research can also be rewarding, helping underserved populations that would otherwise not have access to healthcare.

Funding provided by the Valley Foundation

## **Discrepancy Between Clinically Measured and Self-Reported Chronic Health Conditions Among Homeless Adults**

**Stanley Hoang, Ricky T. Tong, Kimberly Montez, Yueyi Liu, Ian Chua, Jacqueline Baras, Kristin Cobb, Lars Osterberg, Donald Barr**

**Community Partners:**

InnVision, Community Working Group, Opportunity Center -- A collaboration of community partners who are dedicated to empowering homeless and at-risk families and individuals throughout Santa Clara and San Mateo counties. Programs included emergency shelters, transitional/supportive housing, food, clothing, showers, laundry, healthcare, job training, classes, children's programs and access to telephones and computers.

**Arbor Free Clinic Screen Team -- Arbor Screen Team** is an off-site service of Arbor Free Clinic in conjunction with Pacific Free Clinic that provides free health screenings to disadvantaged and under-insured communities in the Bay area. Services provided include blood pressure, blood glucose, and cholesterol screenings. In addition, Screen Team provides free diabetes, hypertension, and dietary consultations as well as referrals to local community clinics.

**Summary:**

Homeless persons have poorer health conditions and higher mortality rates than individuals who are housed. This study measured the prevalence of hypertension, diabetes, obesity, hypercholesterolemia, alcoholism, depression, dental and podiatric diseases in 58 homeless adults using standard clinical measures, and evaluated the accuracy of self-report for these conditions. We collaborated with local social service agencies that provide food, clothing, shelter and counseling for the homeless, as well as with the Arbor Free Clinic Screen Team of Stanford School of Medicine, which provides free health screenings to under-insured communities. Staff at these agencies helped us recruit participants, as well as establish the optimal locations and method for the study, and the Arbor Free Clinic Screen Team helped us administer the health screenings. The prevalence of disease was found to be similar to the general population for all diseases except for depression and podiatric diseases, which was elevated. We found that several self-reported conditions had good specificity but had both poor sensitivity and poor negative predictive value. These results suggest that large numbers of homeless individuals have serious health conditions of which they are unaware. Therefore, this Community-Based Participatory Research not only allowed us to work closely with the community but also enabled us to help local homeless healthcare providers to plan for the appropriate allocation of resources. Relying on self report may not give an accurate reflection of the true prevalence of certain medical conditions.

## **Promoting Community Health through Hiking and Outdoor Recreation**

**ChaRandle Jordan, Edith Cabuslay, Angela Sajuthi, Curtis Chan**

Physical inactivity is a major cause of morbidity and mortality. Despite decades of data that support the need for increased physical activity, over 50% of the US population does not obtain recommended physical activity. We aim to increase physical activity through hiking and outdoor recreation at San Mateo County Parks and Trails. We are modeling our program after a very successful program that was created by the Santa Clara Parks and Recreation Department.

In addition to targeting the general population, our program specifically seeks to enroll patients with chronic diseases and populations that are at risk for chronic diseases. One target chronic disease is diabetes mellitus type 2 (DM2). These patients benefit significantly from increased physical activity. In addition, Hispanics, Asian-Americans, and African-Americans are at increased risk of DM2 and hypertension. These chronic diseases significantly increase the risk of mortality from heart disease, stroke and renal disease.

This program represents a collaboration between the Health Department and the Department of Parks and Recreation in San Mateo County. In addition, we aim to partner with Kaiser, Mills-Peninsula Health Services, Sutter Health Group, and other interested community leaders.

## **Progress Towards Goals of Healthy People 2010: A Review of Inequities in Cardiovascular Care**

**Eric Leroux**

Coronary heart disease causes one in every deaths in the United States. From 1979–2005, the total number of inpatient cardiovascular operations and procedures increased 484 percent to 6,989,000 annually. However, for the past two decades, a growing body of literature has documented how treatments have and have not been allocated along racial lines. In the late 1990s the disparities were recognized as being pronounced enough to place their amelioration on the national health agenda, as described by the Institute of Medicine's Healthy People 2010 agenda. The institute's two overarching goals are an improvement in quality of care and simultaneous reduction in disparities. Two of the key indicators for the focus area of heart disease and stroke are measurements of invasive treatment interventions and access to primary care facilities, as measured by hospitalization rates. This review summarizes the past and current literature on disparities in access and treatment of heart disease between white and black Americans and ultimately highlights the gap in the literature of the last five years that is crucial in our assessment of progress towards the goals of Healthy People 2010.

## **Prevention First**

### **Caroline Levy**

Prevention First Colorado is a central program of NARAL Pro-Choice Colorado Foundation, and is aimed at leveraging social-science research to overcome barriers and challenges to preventing unintended pregnancy. As a summer intern with this program, I developed a policy report that includes recommendations to mitigate systemic barriers to be used by elected officials, health care providers, community activists, and others involved in efforts to reduce unintended pregnancies in Colorado. Throughout this 10-week internship, I developed research, coalition-building, and writing skills necessary to promote substantial change within the public policy arena. Furthermore, I was responsible for cataloging reproductive health care indicators and creating at-a-glance snapshots of each of the 100 political districts in Colorado. Through this project, I developed an in-depth understanding of disparities between community needs for reproductive health care services and policymakers' decisions regarding state health care regulations. In addition, I learned strategies used by non-profit issue-oriented advocacy organizations to use data-driven research to influence policy change.

## **Determining Cost-Effectiveness of Various Strategies for Post-Partum Hemorrhage (PPH) Prevention**

**Juno Obedin-Maliver, M.P.H.; Medical Student, School of Medicine, Stanford University and Julia Walsh, M.D., M.Sc., Adjunct Professor, Maternal and Child Health and International Health, School of Public Health, University of California, Berkeley; Director, Berkeley International Group**

Every year, approximately 500,000 women around the world die due to perinatal causes. Limited access to appropriate surgical, medical and supportive care is primarily implicated in this tragedy. Globally, post-partum hemorrhage (PPH) accounts for approximately 25% of preventable maternal deaths. Pharmaceutical (e.g., misoprostol) and physical (e.g., non-pneumatic shock garment) interventions as well as infrastructure improvements are efficacious in reducing PPH. However, geography-specific analyses of cost effectiveness to facilitate the widespread dissemination of efficacious tools to prevent PPH do not exist. Therefore, we designed a cost-effectiveness model that can be customized to the needs of local community planners in evaluating PPH prevention strategies. This model, still under development, will allow key stakeholders to input data at a hospital, community, state, national, or regional level and to evaluate interventions from the perspectives of different decision-makers. The model was designed in collaboration with members of Venture Strategies, a US-based nonprofit organization designed to improve the health of low-income people in resource-poor settings. Currently Venture Strategies is working to reduce deaths due to maternal mortality through facilitating access to misoprostol for PPH prevention. We plan to use this model to support Venture Strategies' ongoing research to assess appropriate misoprostol roll out strategies for PPH reduction in Nigeria.

This work was undertaken as part of a Masters in Public Health Thesis supported by a generous University Grant from the University of California Berkeley, School of Public Health.

## **Vision 20/20 by 2020: Stanford Rotaract Helps Eradicate Curable Blindness in India**

### **Pradeep Rajendran**

When a fifth of the world's blind lives in India and over 80 percent of this blindness is curable, modern medicine has the power to make a difference. To address this problem, a group of Stanford students partnered with Sankara Eye Society (SES) to reach out to the economically and geographically blind in rural villages near Kanchipuram, India to make their lives brighter with the gift of vision. SES was founded by Dr. Ramani in the late 1970s and the first hospital was built in Coimbatore. Today, the 500 bed, state-of-the art, hospital has grown to be the number one free eye care hospital in India.

The "Give Sight" project was a result of joint efforts of Rotary and Rotaract Clubs from around the world. With their support and that of SES and the Rotary International (RI) Foundation, this group of students was able to raise \$25,000 to purchase medical equipment for Sankara. This group also traveled to Kanchipuram and organized eye camps in which villagers were screened for eye-related conditions and treated, free of charge. To date, approximately 75,000 patients have been treated through their efforts. Furthermore, this group created workshops to address the root causes of preventable blindness, such as malnutrition, improper health and hygiene, and dangerous work conditions. This project is a testament to the impact a small group of people, with a shared vision, can have on a community. This group hopes to continue helping SES on its mission of vision 20/20 in India by 2020.

Funding provided by Rotary International, Bellevue Rotary Club, Palo Alto Rotary Club, Sunnyvale Sunrise Rotary Club, Pajardzik Rotary Club, Silicon Valley Rotaract Club, Coimbatore Central Rotary Club, and Sankara Eye Foundation.

## **Wheel-Chair: A Documentary on Shahjahan and Molina, Two Wheel-chair Bound Individuals Living in Bejai Bazaar of Fulbari, Dinajpur, Bangladesh**

### **Rowza Tur Rumma**

I created a documentary on physical disability in Bangladesh this summer as my Haas Summer Fellowship project. I was assisted by my community partners, CRP (Centre for the Rehabilitation of the Paralysed), in my humble effort. The project took me eleven weeks, 15th June to the 27th of August, to complete. The documentary was made to raise awareness within the Bangladeshi society about social prejudices and pressures that prevent successful reintegration of physically disabled people. Struggles of two wheel-chair bound individuals as they journeyed through the accidents that left their lives shattered are recounted in the documentary. Through their narration of what they faced and overcame, I tried to bring out the taboos and prejudices a disabled person encounters when they return to their society after rehabilitation. In order to spread the message of the documentary I televised it on a popular television channel in Bangladesh called Bangla Vision. The documentary is approximately half an hour long and is in Bengali with English subtitles. This project was generously supported by the Haas Summer Fellowship and the Center for South Asia (CSA).

My community partner, CRP, which was instrumental in the project, was founded in 1979 with the goal of rehabilitating disabled patients in mind. It is the brainchild of the founder of CRP, Ms. Valerie Taylor, a person who has become a role model in my life. CRP believes in a holistic approach to rehabilitation, which involves treating injured patients, vocational training and rehabilitation of disabled people, even after residents have been integrated into mainstream society. CRP also campaigns for equal rights of disabled people and raises awareness about discrimination against them. They have been actively campaigning for greater implementation of government led initiatives to rehabilitate and offer a better life to physically impaired people. CRP's social welfare department and their experience with the various media networks helped steer this project towards success.

## **Walking Forward: Reducing Cancer Disparities in Western South Dakota**

**Krishnan Subrahmanian**

Objective: We will identify barriers and three strategies being taken to lower Disparities in Cancer Outcomes for Native Americans in western South Dakota.

Currently, Cancer mortality rates in the Aberdeen Service Area of Indian Health Services is significantly higher than other IHS service areas and the population at large. The Walking Forward Program, housed out of the Rapid City Regional Hospital, is a program sponsored by the National Cancer Institute Cancer Disparity Research Partnership, which has begun several interventions with reservation communities in South western South Dakota.

Current Interventions include surveys to identify disparities in access for Native American patients, a Patient Navigation Program, Clinical Trials and Genetic testing for radiation burn sensitivity. Survey results show that respondents identified large travel distances, mistrust of health care professionals and lack of satisfactory care as significant barriers to further treatment.

The Patient Navigation Program at Rapid City Regional Hospital displayed significantly reduced interruptions in treatment. This poster will introduce to the viewer to these programs, offer several preliminary results as well as lay out further research steps.

## **Implementing the Chronic Care Model for Diabetes Mellitus in a Family Medicine Residency Program: Lessons Learned from the California Academic Chronic Care Collaborative**

**Grace Yu, MD; Robin Beresford, PA-C; David Hiroshima, MD; Tam Nguyen, MD; Rowan Paul, MD; Christie Shen, MD; Katherine Vega, MD**

As the prevalence of chronic illness rises, it is critical for physicians to efficiently optimize care for these patients. The traditional acute visit model is not equipped to deal with the complexities inherent in chronic illness management, such as the increased need for patient self-management. In response to this need for practice redesign, the Stanford University-affiliated San Jose-O'Connor Hospital Family Medicine Residency Program participated in a 16-month-long project, the California Academic Chronic Care Collaborative.

The purpose of this project was to incorporate elements of the Chronic Care Model (CCM) proposed by Ed Wagner et al into the care of patients with diabetes and to integrate them into a curriculum for teaching chronic illness management to family medicine residents. Our goal was to improve the care of diabetic patients seen at the O'Connor Family Health Center, an underserved, high-risk population in San Jose, CA. Involving 105 adult patients belonging to the panels of five PGY II/III residents and two faculty, the O'Connor Diabetes Management

Team achieved significant improvements on several metabolic indicators: patients with HbA1c <7% rose from 39% to 46%, those with LDL <100 rose from 43% to 55%, those with BP <130/80 rose from 24% to 45%, and those with HbA1c, LDL, and BP all at goal rose from 6% to 17%. In addition, foot exam documentation rose from 32% to 51%, dilated eye exams increased from 20% to 38%, and self-management goal setting rose from 7% to 56%. Key elements of the CCM that were implemented in this project included a diabetes registry and diabetes flowsheet, teaching of diabetes self-management to patients, and creation of a diabetes clinic with planned visits by a multidisciplinary team.

Funding for this project was provided by the AAMC and California Healthcare Foundation.

## ***Infectious Diseases***

### **Trauma, Psychological Distress, and HIV Risk Behavior in Zimbabwe: A Cross-Sectional Survey of Women at Two Antenatal Clinics**

**Tessa Andermann**

Most of the HIV incidence in Zimbabwe is the result of heterosexual behavior, therefore interventions focusing on behavioral changes related to HIV sexual risk behavior are key. Previous research in the United States suggests that trauma history and psychological distress are associated with HIV-risk behavior. Therefore, this study sought to examine trauma, psychological distress, and HIV risk behavior in a cross-sectional assessment of 200 women attending antenatal clinics in Chitungwiza, Zimbabwe. The project was conducted over a period of two months through face-to-face interviews with 4 local HIV counselors. 36% of the women interviewed were HIV-positive, and those who were HIV-positive were shown to have a significantly greater prevalence of post-traumatic stress disorder (PTSD), depression, and low self-esteem. Overall, 37% of the women screened positive for PTSD, and those with PTSD were significantly more likely to report being afraid of their partners and to experience difficulty in asking for condom use, as well as being less likely to use a condom. In our survey 31% report having ever been abused, and 30% report being afraid of their partner. Of those who have ever experienced abuse, HIV prevalence, condom use, and PTSD or depression were not significantly higher, however those who report being afraid of their partner were significantly more likely to screen positively for PTSD and depression, to experience difficulty in asking for a condom, and to report not using a condom. Further analysis controlling for known confounders is required, however the data suggest that PTSD and fear of one's partner both play a significant role in HIV-risk behavior among women in Zimbabwe.

Community Partner: Drs. Gore-Felton and Katzenstein served as Stanford faculty sponsors and advisors. Professor Godfrey Woelk from the University of Zimbabwe Medical School, was the lead local faculty sponsor and is the director of the Zimbabwe AIDS Prevention Project (ZAPP). The ZAPP team consists of doctors, researchers, and local counselors, who have worked with both antenatal clinics extensively in HIV research and prevention and were available to assist in supervision of the project.

Funding: Provided by the Stanford Traveling Scholars Fellowship Program, the Infectious Diseases Society of America, and an NIH Mental Health Training Grant.

### **Evaluating the implementation of a gender-based approach to STI treatment and HIV testing in Khayelitsha: a case study**

**Rebecca A Briggs, Margaret S Chen, William J Hindle-Katel and Travis-Riley K Korenaga**

As members of a community health and development focused Bing Overseas Studies Program in Cape Town, South Africa, our group of four undergraduate students was selected to work with a male HIV/sexually transmitted infection clinic operated by HOPE Worldwide South Africa (HWSA), an NGO in the Khayelitsha township. HWSA started as a faith-based organization and is now transitioning to focus on community development. The male clinic operates in a commercial section of the township, surrounded by taxi depots and local vendors. However, the overall clinic attendance and uptake of HIV testing was low. HWSA tasked our group with evaluating the function of the clinic within the larger contexts of gendered health care and the influence of culture on sexual behavior.

The goal of the study was to determine the clinic's role in reducing the spread of HIV in a township where one in every three people are infected with the virus. Using a community health assessment framework, we administered surveys to clients at the clinic, as well as community members in close proximity to the clinic. We conducted semi-structured interviews with HWSA office and clinic staff members and held a community discussion to generate feedback on our initial findings. Our primary findings were that the male-centered clinic environment was effective in encouraging men to test for HIV, and the efficacy of the clinic could be greatly improved by increased communication between managers and clinic staff members. Our recommendations for improving clinic attendance and function included maintaining a male nurse and broadening publicity efforts.

## **Perinatal Human Immunodeficiency Virus in Morelos Mexico: Perceptions, Knowledge, and Testing Behaviors**

**Rosa L. Diaz\*, MD, Leanne Komorowski\* MD, MPH, Christine Gabali, EdD, Ernesto, Gaona, MD, Yasser Yehia El-Sayed MD., Arturo Torres Alpizar, MD., Ludmila Vite Torres, MD.**

**\*These authors contributed equally to the completion of this work**

Community Partners: General Hospital of Cuautla and Women's Hospital of Yauatepec have a mission to serve those without access to healthcare. With the rising incidence of HIV in Mexico, both institutions were interested in understanding views around human immunodeficiency virus (HIV) in their community.

Objective: To describe and understand perinatal HIV awareness, perceptions, and testing behaviors in Mexican women in Morelos, Mexico.

Study Design: The study was based in Morelos, Mexico, and included semi-structured interviews with 41 Mexican women aged 18-50. The results were analyzed using both qualitative methods, employing interpretive phenomenological analysis to abstract themes from the interviews, and quantitative methods, done with SAS to produce frequency calculation.

Result: HIV in Morelos, Mexico was perceived with the themes: transmissible, dangerous associated with risky sexual behavior, and lack of knowledge. HIV and pregnancy was described by the following themes: concern for the baby, lack of knowledge, unfaithful relationships, and hope with medication. Comprehensive knowledge about the sources of mother-to-child transmission as well as the medications available was known by 25% of the women. Concerning prenatal testing 21% were offered HIV counseling during prenatal care, 26% were offered an HIV test, and 24% chose to receive an HIV test during their last pregnancy.

Conclusion: This group of women in Morelos, Mexico is more optimistic about perinatal HIV and less fearful than of HIV in general. Younger women were more knowledgeable but comprehensive understanding is lacking, as is the percentage of women being tested for HIV during pregnancy.

## **Stopping a Silent Killer in the Underserved Asian Community: A Novel Liver Cancer Prevention Clinic**

**Steven Lin, Hyunseung Kang, Phillip Aguilar, Elton Chan, Monica Jeong, William Thieu, and Frank Trinh**

Asian and Pacific Islanders bear a disproportionate burden of liver disease caused by chronic hepatitis B virus (HBV) infection, which is associated with a 25% risk of death from cirrhosis or liver cancer. However, few community based programs exist to tackle this serious public health problem among low income, uninsured Asian and Pacific Islander immigrants. The Hep B Free Clinic is a student-run grassroots organization that focuses on HBV and liver cancer prevention in one of the nation's largest immigrant communities: San Jose, California. From 2007-2008, we provided free HBV serological screening to 510 patients.

For chronically infected patients who elected to undergo follow up monitoring, a series of blood tests were given to evaluate for liver damage (alanine transaminase, ALT), a liver cancer marker (alpha-fetoprotein, AFP), and HBV replication (HBV DNA levels). Of those screened, 17% were chronically infected. Remarkably, one-third (33%) of infected patients were unaware that they were infected. Of those chronically infected, 100% showed signs of active liver damage as measured by elevated ALT, and 9% had elevated AFP tumor markers for hepatocellular carcinoma. Nearly one-quarter (24%) of those chronically infected carried HBV DNA levels that met the criteria for treatment. Patients who were candidates for antiviral therapy were signed up for free drug assistance programs, and those requiring triphasic CT scans for possible liver cancer were referred. Uninfected patients lacking protective HBV antibodies were provided free vaccinations. Our striking findings call for more aggressive liver cancer prevention in this community, including universal screening for HBV.

## **"I Feared He Might Slap Me:" Implications of Domestic Violence on HIV Voluntary Counseling and Testing in Uganda**

**Aliza Monroe-Wise, MS4, Stanford School of Medicine; Yvonne Maldonado, Stanford School of Medicine; Edwin Charlebois, Center for AIDS Prevention Studies, University of California, San Francisco**

25 years after its discovery, HIV infects almost 7000 people daily, most living in sub-Saharan Africa. Domestic violence (DV) is common in Uganda, with lifetime prevalence 25 - 46% among women. DV has been associated with increased HIV risk and may influence healthcare seeking behaviors, including HIV testing. The aims of this study were to describe DV in Uganda and explore the relationships between DV and decision to test or refer others for testing among TB patients, a group at high risk for HIV. Patients at a TB clinic in Kampala, Uganda were offered voluntary counseling and testing (VCT) for HIV. All participants were interviewed regarding their decision to test or not, domestic violence screening, and willingness to refer others for testing.

140 participants enrolled, including 117 testers (84%) and 23 non-testers. Lifetime DV prevalence was 39.2%. Although significantly lower than women's (51.7%), prevalence of DV against men in this population was high at 30.0% (p-value 0.01), indicating a possible unrecognized pattern of violence against men. DV history tended to increase likelihood of testing, although this was only significant among the subtype "threatened" violence (p-value 0.05). This association may reflect distrust within troubled relationships. DV was found to decrease participants' willingness to refer family members for testing at home (p-value 0.07), but not in the clinic, implying possible fear of disclosure. These findings hold implications for personal decision to test among victims of threatened violence, as well as outreach in areas where personal referrals constitute a large percentage of VCT participants.

## **Malaria Prevention in Zambia**

**Mbali Mphande**

Last summer, I had an opportunity to conduct research on malaria prevention in the northern parts of Zambia, a landlocked country in the southern region of Africa.

Malaria is a life-threatening disease transmitted by female anopheles mosquitoes, and if left untreated could lead to death within a short period of time. Although malaria is preventable and treatable, the tropical areas of Africa have experienced a drastic increase in malaria cases over the last few decades. The gravity of this situation significantly captured my attention and prompted me to want to take action in combating this killer disease. Zambia being one of the poorest countries in Africa with the highest rates of malaria infections and deaths, with a struggling health system make it difficult to access effective treatment. The Haas Summer Fellowship enabled me to provide alternative inexpensive, sustainable, and practical means of prevention. I created and facilitated skits to demonstrate what to do with limited resources to respond to the first signs of malaria. I designed these skits with each unique village culture in mind, in order to send a clear, culturally sensitive message.

I taught locals how to maintain a clean environment. For example, I involved every member of the community especially the youth in clearing the bushes, which involved cutting plants and tall grasses by using sickles, and hoes, and burned the refuse in order to reduce the mosquito population in the area. Sand was added to stagnant water pools, which harbor mosquitoes. I also participated in the Indoor Residue Spraying Program (IRS) through the Zambia Ministry of Health where we sprayed homes and fumigated the surroundings with health- and environmentally-friendly medicated spray.

## **Comparing Quality of Life Among Three Groups of HIV-infected Women in Zimbabwe**

**R. Patel; S. Kassaye; R. Chitungo; N. Machekano; G. Musingwini; G. Kadzirange; G. Woelk; D. Katzenstein**

**Background:** Little is known about the psychosocial impact of antiretroviral therapy (ART) among women in sub-Saharan Africa. The objective of this cross-sectional study was to assess the impact of ART on HIV-infected women's health-related quality of life (HR-QOL) and to determine other factors impacting QOL in Chitungwiza, a resource-limited community in Zimbabwe.

**Methods:** Structured interviews were conducted with 200 HIV-infected women between June and August 2007; 31 were ineligible for treatment by CD4 and WHO clinical stage criteria (Group 1), 73 were eligible but awaiting treatment (Group 2), and 96 were on ART for a median of 13 months (Group 3). HR-QOL was assessed using the Medical Outcomes Study-HIV (MOS-HIV) QOL questionnaire (Wu, Revicki, Jacobson, & Malitz, 1997). Clinical data was verified by chart review and the study nurse, and laboratory values were obtained on-site.

**Results:** The women had similar socio-demographic characteristics, but the three groups varied significantly in clinical characteristics. Women on ART reported fewer AIDS-related symptoms in the last week and year ( $p < 0.0001$ ) and had higher current and lower baseline CD4 counts ( $p < 0.0001$ ). MOS-HIV QOL mean scores in 8/11 domains were significantly higher for Group 3 ( $p < 0.01$ ). In contrast, there were no significant differences between Groups 1 and 2 and their scores were lower for both QOL and psychosocial measures as compared to women on ART. Women on ART scored lower on depression scales ( $p < 0.001$ ). Women on treatment disclosed their HIV status to more people ( $p = 0.0006$ ).

**Conclusion:** Women on ART demonstrated significantly higher measures in quality of life and psychosocial factors compared to women who had not yet initiated ART. Unexpectedly, untreated women who had and had not progressed to AIDS had similar QOL measures. Earlier treatment of HIV at higher CD4 levels benefits depression and improves HR-QOL.

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## **Project Philippines 2008-Worm Control and Education**

**Andrew Plan, Meera Subash, and Andy Moon**

In the Alaska community of Cebu City, Philippines, 88% of school-age children suffer from gastrointestinal parasites. Affected children can experience anemia and delayed development. Eventually, children who miss days of school due to these parasites are undereducated, further diminishing their opportunities for higher education and social mobility. Project Philippines 2008, under the direction of the Southeast Asian Service Leadership Network (SEALNet), aimed to raise awareness about gastrointestinal worms by disseminating health-related media and equipping youth advocates with the leadership skills necessary to sustain this prevention campaign. Team members partnered with Share-A-Child, a Cebu-based NGO that works to provide educational opportunities to underserved youth in communities across Cebu.

International college students and Filipino high-school students implemented the project's components: (1) baseline survey\* of the community's current attitudes, (2) development of prevention-themed media and curricula for grades 1-6, (3) outdoor and in-classroom health fair planning and (4) the post-project survey\*\* evaluating community response.

2,000-plus schoolchildren attended "Worm Day 2008" at Alaska Elementary School, participating in lectures and health fair activities teaching prevention of worms. The Cebu City planning office has committed to provide de-worming pills to 100,000-plus children in the next year. NIH-Philippines plans to adopt this curriculum in other schools. High infection rates in Alaska stress the need for more campaigns like Project Philippines 2008. Empowering local youth to be change agents in their communities will make for more effective and sustainable health campaigns that can better improve the quality of life in underserved communities.

Funding provided by SEALNet, Schneider Electric, DB Schenker Ltd., and various individual donors.

\*Pre-project survey data was collected in August 2008. Final analysis will be available in October 2008.

\*\* Post-project survey data will be available by January 2008.

## **Health Care Providers' Perspectives on Integration of HIV and Antenatal Services in Western Kenya**

**Lena Winestone**

Globally, over 1400 children become infected with HIV every day. Without any interventions between 20-45% of infants born to HIV-infected mothers may become infected through vertical transmission. Fortunately, single-dose nevirapine prophylaxis has proven to be extremely effective for preventing mother-to-child transmission (PMTCT). Yet a decade later, in 2004, only 22% of pregnant women in Kenya received services for PMTCT. Today, children still account for more than 12% of all new infections. Efforts to determine the most effective way to reach and provide pregnant women with accessible, comprehensive, and high quality HIV care and treatment are currently underway. Integrating HIV care into already established antenatal care clinics may be an effective way to reach these women, but such integration will likely have significant effects on the health care providers who are performing these services. The support and cooperation of these health care providers are essential to the success of integration.

Family AIDS Care and Education Services (FACES) is an HIV/AIDS treatment program in Western Kenya. Through in-depth interviews, this study determined the perspectives of 36 health care providers in 6 FACES-affiliated hospitals in the Migori District of Kenya, who were purposively selected for maximum variation. The digitally-recorded interviews were all transcribed and coded according to themes in order to gain insight into provider perspectives. Overwhelmingly, providers supported the concept of integration. Ultimately, these data will be used to modify and improve the paradigm for delivery of HIV care to pregnant women and their children.

Funding provided by the Stanford Traveling Scholars Fellowship.

## **The Effectiveness of AIDS Education Programs Targeting Chinese Migrant Workers**

**Crystal Zheng**

This study evaluates the effectiveness of workplace HIV/AIDS education programs in improving the HIV/AIDS related knowledge, attitudes, and behaviors of Chinese rural-to-urban migrant workers. Migrant workers are extremely vulnerable to HIV infection, comprising approximately two-thirds of all of China's HIV carriers. Although education programs have promising benefits for migrant workers, research evaluating the programs is lacking. In an attempt to address this gap, my research compares questionnaire results of 700 migrant workers who have participated in education programs with 300 who have not participated in any such programs. Knowledge and attitudes among intervention participants were significantly higher than non-participants, but there was no significant difference in behavior. The results indicate that while intervention programs have their benefits, changes need to be made to promote safe behavior at the grassroots and political level.

## ***Health Promotion, Planning, and Policy***

### **Screening Tools for Growing Healthy Children**

**Rishi Bhatnagar**

Gardner Family Health Services, a non profit organization, hosted its 6th Annual Health Fair on August 23rd, 2008 at Comprecare Clinic in San Jose. Screening tools for growing healthy children were provided to educate children and their parents/guardians about ways to improve health promotion and disease prevention through health literacy. Free dental screening, vision screening, immunization, finger printing, nutrition counseling with focus on childhood obesity, diabetes and eating nutritious food was provided at the fair. Safety issues such as car seats, helmets for bike riding, free coloring books and backpacks were distributed to children to encourage learning. Adult screening was provided by Stanford, UC Davis medical students and undergraduate students, with free blood pressure, blood sugar and cholesterol screening. Free mammograms were done by the UCLA mobile mammogram unit. The majority of our patients are Hispanic and 410 adults and 240 children attended the fair. 120 volunteers committed their entire day to educate and screen patients. Through the health fair, the at-risk population was educated about childhood obesity, nutrition children's safety issues and preventive medicine.

### **Health Status and Community Health Programs in Oaxaca, Mexico: Assessing Opportunities for Future Collaboration**

**Wendy Caceres, Julia Rasooly, Michael Sundberg, Nkemjika Ugonabo, Angela Venegas, Daniel Winetsky, Ann Banchoff, Gabriel Garcia**

**Background/Objective:** To increase cultural competence and understanding of global health, Stanford students traveled to Oaxaca, Mexico during the summer of 2008 as part of a collaborative program of Child Family Health International and the Stanford Office of Community Health. Oaxaca, in Mexico's south, is the second poorest state. There is a large indigenous population with many problems of access to healthcare due to the region's terrain, language and limited resources. Oaxaca also has a strong tradition of community involvement and creative application of human capital for public health campaigns and environmental issues.

**Approach:** Core program activities included clinical rotations and medical Spanish classes. The students were interested in the social and environmental determinants of health. Thus to broaden the existing program's scope, the students identified and interviewed organizations involved in the many aspects of health. Also to better understand services available, a pilot mapping project in the city was completed.

**Outcomes:** A wide range of community health resources and services were identified and catalogued. Seven key conversant interviews with Oaxacan community based organizations were completed. These organizations could be possible partners for future collaborative research using the tenets of community based participatory research (CBPR) which include equity, communication, and trust.

**Recommendations:** The Stanford Office of Community Health should continue this program to engage students in learning about health determinants impacting Mexicans and Mexican immigrants to the United States. Collaborative research relationships with Oaxacan NGOs should be developed and sustained based on the tenets of the CBPR model. The pilot mapping project could be expanded to engage Oaxacan partners and include new measures of neighborhood health.

## **Establishing an Electronic Management System for Chronic Disease at the MayView Community Health Centers**

**Paras Fatemi and Melissa Liu**

Patients with chronic conditions such as diabetes, hypertension, or asthma comprise a patient subset for which there has been an identified need for care enhancement. At MayView Community Health Center in Palo Alto, a community clinic dedicated to providing high-quality affordable health care to the underserved, a collaborative project was established to address this need. An electronic management system featuring CDEMS (Chronic Disease Electronic Management System) was piloted to facilitate the tracking and delivery of health care services to chronic disease patients. Significant software modifications have been introduced to make CDEMS more amenable to the needs of the clinic. Automated utilities to import patients and lab data and an interactive electronic progress note have considerably streamlined software use and maintenance. Patient-specific health education handouts have also been made available in six different languages.

The focus of the CDEMS project has shifted towards training and implementation. MayView-specific training scripts, video modules, and instruction manuals were developed, based on iterative user feedback. Two clinic-wide training sessions were held, and CDEMS has been integrated as an operational component of clinic workflow at two MayView locations. CDEMS has demonstrated its ability to improve process of care parameters for diabetics at MayView-Palo Alto. Similar improvements are anticipated for hypertensives and asthmatics and at MayView-Mountain View. Nevertheless, studies have shown that electronic management systems alone are insufficient for significant long-term improvements in patient outcomes. Consequently, CDEMS should be considered a stepping stone towards the development of a sustainable and multi-faceted approach to population-wide chronic disease management.

Funding provided by the Silicon Valley Community Foundation.

## **Traditional Tibetan Medicine Clerkship, Summer 2008**

**Chantal Forfota, MS 3; Jennifer Pretz, MS 3; Kristen Whitaker, MS 3**

Recently, traditional Tibetan Medicine, with its nearly 4000 years of history and practice, has gained increasing attention and acceptance worldwide. Previously, there were no official medical electives for students to study traditional Tibetan medicine in China. The collaboration between the Qinghai University Tibetan Medical College in Xining, and Stanford Medical School is the first of its kind for both institutions. We were a part of the second group of students to participate in the 4-week rotation in the summer of 2008.

The goals of the program were to experience Tibetan medicine by seeing patients with traditional Tibetan doctors, to learn about the history and theory of Tibetan medicine in a seminar setting, to analyze the changing interactions between traditional Tibetan medicine and western biomedicine, to gain an understanding of the public health situation in ethnically Tibetan regions and what the community is doing to make improvements and to immerse ourselves in Tibetan language and culture, through intensive language courses and various cultural experiences.

Funding was generously provided by the Dean's Office, Stanford School of Medicine.

## **Prenatal and Birth experiences of Somali Women in Houston, TX; Opportunities to Promote Women's Health Among Resettled Communities**

**Fatima Hassan**

In between 1992 and 2005, nearly 65,000 Somalis were admitted to the United States as refugees as a result of civil war and famine. Newly resettled groups have been identified as a vulnerable population at risk for "poor physical, psychological, and social health outcomes and inadequate health care." Previous studies have shown that refugee women tend to have greater numbers of pregnancies/deliveries and delayed prenatal care. This study was conducted to better understand the attitudes toward obstetric care and factors that influence those attitudes. How is modern obstetrical care viewed by resettled Somali women and how do these women make the transition from the East African health infrastructure to American healthcare. Furthermore, I wanted to explore the extent to which the first birth in the US can promote not only use of prenatal care, but the utilization of American healthcare.

Semi-structured qualitative interviews were conducted in the Somali language with 16 resettled women who currently live in Houston and have delivered both in Houston, TX and East Africa about their first pregnancy experiences in both environments. Qualitative interviews were also conducted with service providers including doctors, nurses, and refugee resettlement agency's case-managers. Emerging factors impacting attitude towards prenatal care and healthcare utilization include legal status (immigrant or refugee), SES, length of time in the US, levels of previous health knowledge and the impact of social service support. Results offer insights from service providers and the Somali community on future public health educational efforts targeting resettled women.

## **Waste Management Practices in Go Quao**

**Catherine Le**

"Waste Management Practices in Go Quao" was a survey-based research project conducted in July to August 2008 with the aid of International Medical Options (IMO). IMO is a non-profit organization based at Stanford University that began over a decade ago and ventures to rural areas in Papua New Guinea and Vietnam to provide free health clinics. Its most important role, however, is teaching the local medics the basic skills, providing a foundation for the future. Participating in the 2008 IMO Vietnam Project, I was given the opportunity to conduct my own independent research, which focuses on the waste management practices and availability of toilet facilities in the region. Improper sanitation in developing countries is the leading cause of death since contaminated water is the leading cause of dysentery and death in children suffering from malnutrition.

The project examined this issue in Go Quao, a area close to the Cambodian border, and is survey-based, relying on the participation of patients seeking free health care with IMO. The data shows that the region has adequate facilities and many other social aspects. As a whole, Vietnam is a fast-developing country that is able to provide more for its communities than in previous times. Of course, many factors, such as biases or social and political obstacles have skewed the results and must be taken into consideration. However, more research must be conducted to collect more reliable data.

Funding was provided by the Stanford University Quarterly Grant and the Asian American Women's Alliance Scholarship.

## **Integrative Medicine in India: A Descriptive Investigation**

**Jessica Les and Lynne Rosen**

In February 2008, we spent one month in New Delhi, India through the INDE 354I: International Clerkship in Family and Community Medicine. We studied at the Sri Aurobindo Ashram, a resident, spiritual community that serves local urban population through three onsite schools, free medical care, yoga and nutrition workshops and rural children and young adults through health camps and vocational training. We designed and carried out a research project to describe the health care design and delivery at the free Integrative Medicine clinic at Sri Aurobindo Ashram and contrast this care with a strictly allopathic model in government and private health care settings.

To meet these research objectives, we conducted site visits, interviewed health care providers in hospitals and clinics to learn about ways in which integrative medicine and allopathic medicine are delivered and conducted detailed, semi-structured interviews of nine physicians of allopathy, ayurveda, homeopathy, and naturopathy.

Primary themes revealed through the interviews were the following:

- In the ashram everyone had a definition of integral health but outside the ashram the term "Integral Health" was unknown
- Health care providers viewed Integral Health as important but disagreed on its role
- Easy movement of patients between various modalities of care
- Some modalities are viewed as better for treating certain diseases

There are many exciting directions in which to take future research at Sri Aurobindo Ashram.

- Interview surrounding neighborhood members regarding their perception, access and usage of non-allopathic medicine
- Application of these principles to pediatric care

**Funding:** This international elective and research would not have been possible without financial support from the Center for Family Medicine and Community Health.

## **Mobiles in Malawi: Building an SMS Network into a Rural Healthcare System**

**Joshua Nesbit**

In the summer of 2008, an SMS-based communications network was implemented for a rural hospital and its volunteer community health workers (CHWs) in Namitete, Malawi. Located 60 km from Lilongwe, St. Gabriel's Hospital serves 250,000 Malawians spread over a catchment area 100 miles in radius.

Distance presents an often-insurmountable obstacle for patients seeking care at St. Gabriel's. Many patients walk up to 100 miles to the hospital; those with more resources ride bicycles or oxcarts. In order to report patient adherence, ask for medical advice, or request medical care for remote clients, CHWs had to travel similar distances to the hospital's doors.

Josh Nesbit, a Senior in the Human Biology Program at Stanford, traveled to St. Gabriel's with 100 recycled cell phones, a donated laptop and a copy of FrontlineSMS – a free computer program designed to act as a central text message hub.

Over 8 weeks, a total of 75 CHWs were called to the hospital, given cell phones, and trained in text messaging. The volunteers' locations were mapped, and the phones were disseminated throughout the catchment area. Stationed at the hospital, a laptop running FrontlineSMS coordinates the health network's activities. The day-to-day program operations were handed over to hospital staff within two weeks.

As a result of the SMS network, the hospital now responds to requests for remote patient care, tracks distant patients, informs CHWs of proper drug dosages and uses, receives patient updates, facilitates CHW-to-CHW communication and group mobilization, connects HIV-positive patients to support groups, and relays outreach HIV testing schedules.

Funding provided by the Donald A. Strauss Foundation and the Haas Center for Public Service Fellowship Program.

## **Providing and Evaluating Health Education to Underserved Children: A Service Learning Experience**

**Interdisciplinary Class 262; Eunice Rodriguez, Ph.D.; Nancy Morioka-Douglas, M.D.; Samuel LeBaron, M.D., Ph.D. Center for Education in Family and Community Medicine, Stanford University School of Medicine**

Community Partner: Hoover Magnet School. This middle school serves a predominantly minority, low socioeconomic status population of youth.

Background: At Hoover, nutrition education and mentorship emerged as the greatest needs. A group of Stanford undergraduates addressed the need of the school for age appropriate nutrition and basic hygiene education by creating a curriculum and then presenting it to the students. They also addressed an existing need for mentorship by bringing these students to Stanford University School of Medicine to participate in various activities such as a pathology lab.

Objectives: 1.) Community assessment: creating relationships; 2.) Planning and implementation: building credibility; 3.) Evaluation: assessing sustainability; and 4.) Revision: improving curriculum design.

Methods: Conducted a literature review of existing curriculum focused on nutrition, exercise and hygiene for middle school aged children. Adapted and created a curriculum to fit the various needs of the students and engaged in a pilot run of the material.

Outcomes: Pre and post curriculum quizzes were administered to test whether knowledge was gained and retained by the students.

Implications: These students clearly need to be exposed to education surrounding nutrition and hygiene, and be exposed to higher education and encouraged in their academic pursuits.

Funding: Center for Education in Family and Community Medicine, Stanford University School of Medicine

## **AMSA Mentorship Program at Stanford Medical School: A Prototype for the Evolution of Mentoring**

**William Slikker III, Erica Holland, Jenssy Rojina, Nathaniel Myall, and Resmi Charalel**

With an increasingly competitive medical school application process, many pre-med undergraduates from community colleges face the challenge of navigating the path to medicine without proper guidance or a solid support system. In addition, a number of these community colleges do not have an affiliated medical school, and as a result, there is little opportunity for exposure to the medical field and often inadequate access to medically related resources.

The Stanford pre-med and medical school AMSA chapters recognized the lack of networking and medical opportunities for community college students and teamed up with Foothill Community College to attack the problem head-on. The Stanford AMSA chapters have created a peer-to-peer mentorship program where 15 Stanford medical students will each mentor an undergraduate from Stanford and Foothill College and thereby bridge the gap between medical students and pre-meds. Through this three-way relationship we hope to offer a direct and perhaps more valuable perspective on medicine than is currently offered by the career center advisors. In addition, the program will include quarterly reflection meetings, community service projects, shadowing experiences within Stanford Hospital and Clinics, application workshops, an interview practicum, and technical skills training, such as a suturing lab. Our hope is that this mentorship program will provide greater opportunities for students and facilitate the upward mobility of Foothill College undergraduates into medicine. By bringing in a new, more diverse generation of physicians from different educational backgrounds we hope to eliminate class disparities and change the course of events for generations to come.

Funding provided by National AMSA Foundation Grant, Stanford Haas Center Grant, and Stanford Medical School.

## **Best Evaluation Practices for Immigrant Health Education**

### **Ruo Peng Zhu**

Using community theater to share the stories and images of immigrant life, the San Jose based community organization Somos Mayfair has sought to tell the stories of a group of immigrant women in order to broadly engage the community and facilitate dialog in conflict resolution. The objective of this project is to initiate an evaluation process to measure the impact of community theater on the performers and the audience.

I conducted a literature review through the Health and Psychosocial Instruments (HAPI) database to identify candidate survey instruments to measure the well-being, self-esteem, acculturation, self-care, social support and connectedness of the participants. Based on community feedback, a composite survey was created for the theater program participants. The survey was administered to the participants at entrance to the program, and will be followed up at 1 month and 6 months after the conclusion of the program.

Funding for this project was provided through a Valley Foundation Fellowship