Scientific Research in Global Health Partnerships

Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract): The project is being carried out in partnership with the School of Public Health and Tropical Medicine of Tulane University and the Caribbean Public Health Agency, within the framework of the Caribbean Consortium for Research in Environmental and Occupational Health. This agency is funded by the Fogarty Center of the National Institutes of Health, and investigates, among others, public health issues associated with Surinamese plant-derived nutraceuticals.

**Summary/Conclusion:** So far, 500 candidate plants have been identified, 90 plants have been collected, and extraction facilities have been set up, producing eight extracts per month. The abovementioned cell culture studies have been delayed by extended delivery times of laboratory materials due to the absence of local representatives in Suriname. Nevertheless, up to now, 45 plant extracts have been evaluated, although so far with negative results.

## Evaluation of a comprehensive HIV prevention program in North West Province, South Africa: Results from the pilot

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**Background:** South Africa, where there are more people living with HIV than in any other country, has an urgent need for evidencebased HIV prevention. The University of Washington and the University of California, San Francisco, are implementing a comprehensive HIV prevention program in South Africa's highprevalence North West Province. Although multicomponent and comprehensive prevention programs are now being widely promoted, there have been few rigorous evaluations to date. Through collaboration with the Centers for Disease Control and Prevention, Statistics South Africa, and local government, an evaluation is underway to determine the impact of this comprehensive prevention model.

Structure/Method/Design: The overall evaluation is a pre-post-test comparison group design with delayed community entry in one of two geographical areas where the comprehensive program is being implemented. Data collection will include a series of cross-sectional, population-based community surveys with biological sample collection, conducted to monitor changes in outcomes: uptake of HIV testing and services as well as community viral load. A pilot study of the data collection was conducted in September 2013 where fieldworker and community health worker teams administered a computer-based survey, conducted HIV rapid testing, point-of-care CD4 testing, and collection of dried blood spots (DBS) in participants' households.

**Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract):** Of the 71 eligible individuals in the random sample, 46 (65%) were located and participated in the pilot study. All 46 participants (100%) consented to and completed the behavioral survey, 37 (80%) consented to rapid HIV testing and a CD4 test if positive, and 36 (78%) agreed to DBS collection if requested. Eight participants (22%) tested HIV positive, all of whom knew their positive status prior to testing; 6 currently on ART. DBS cards were requested from those testing positive and a random sample of negatives; 15 were collected and used for laboratory quality assurance purposes. **Summary/Conclusion:** The study pilot proved acceptable and feasible, preparing the team for the full impact evaluation roll out, scheduled for early 2014 and including data collection with 1200 randomly selected people from 46 census areas. Community interest and participation rates were high, including consent to point-of-care CD4 and DBS collection for viral load testing. While population-based samples are problematic due to high rates of mobility (34% of the selected sample had moved 2 months following the census exercise), they are the most rigorous means of evaluating wide-scale community programming. The prodigious start of this impact evaluation was a result of successful university collaboration with local government. The results of this collaboration will lead to rare population-based data on sensitive markers for HIV prevention, valuable for both program evaluation and planning for local health officials.

## Biomedical research capacity building in Mozambique through the MEPI

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**Background:** Locally developed and conducted research can be a major catalyst for sustainable national development. Universidade de Eduardo Mondlane and University of California San Diego are partners in Mozambique's U.S. NIH/PEPFAR-funded Medical Education Partnership Initiative (MEPI) program. A major aim of the UEM/UCSD MEPI is to develop infrastructure, expertise and human resources to implement sustainable country-aligned biomedical research programs to both enhance public health and attract and maintain medical faculty in the public medical schools in Mozambique.

Structure/Method/Design: We conducted a directed interview needs assessment and comprehensive analysis of the biomedical research capacity within the Faculties of Medicine in Mozambique's major public universities to identify barriers to building research capacity and establishing country-led research programs. Based on this analysis, we developed an integrated plan to overcome these barriers, to implement basic and applied research programs within Mozambique focused on locally identified research priorities, and to build faculty capacity to sustain such programs.

Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract): We implemented the following key research activities: 1) basic, translational, clinical, and public health didactic research training programs; 2) a robust research administration support center; 3) multiple collaborative research projects that have emphasized local research priorities; 4) bioinformatics infrastructure to support research programs; 5) an institutional review board that serves biomedical research within the UEM Faculty of Medicine and Maputo Central Hospital; and 6) a newly renovated and equipped laboratory for communicable disease research. The research administration support center provides services and personnel to support grant application development and submission, fiscal management of grant funds, and mentored training for research staff. Approximately 32 pilot multidisciplinary research projects and grant applications were developed focused on HIV/AIDS, tuberculosis, sepsis, stroke, and other communicable and noncommunicable diseases have been developed; to date 12 of these have been funded through NIH or