training of local caregivers to ensure the sustainability. The program will be evaluated in two different school populations in rural Kenya to determine the specific challenges and effectiveness in each community. While both schools serve students of extremely low socio-economic status with poor oral health and lack of access to dental care, students at one school are boarded while at other they live at home with their families.

Outcomes & Evaluation: Data collection will be done through the novel University Health Network (UHN) system. The UHN is a consortium of leading research institutions, designed to allow for highly scaled infrastructure for the secure collection, storage or sharing of clinical data in a cost-effective manner. A global information system (GIS) will be used to capture geographic trends of the oral diseases in the rural villagers. This research project, besides evaluating the impact of a comprehensiveprogram on the level of oral diseases and of oral health perception and behaviors/practices, will also assess the role of utilization of school staff and family to deliver and reinforce health-promoting behaviors. We anticipate that the lessons learned from this study will be relevant in other communities and countries in East Africa and beyond.

Going Forward: As a result of our findings we will develop an educational outreach program for dental students, and their supervising faculty, from the School of Dental Medicine of the University of Nairobi. At present, the dental students and residents do not have the opportunity to work with rural impoverished communities. The goals of this project, beyond the experiential and care-provision, are also to expose dental students to the needs of these communities, and to become advocates for improving oral health services for those in Kenya in need. Thus, this program will also include leadership and advocating skills.

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A cardiovascular disease surveillance study in Santiago atitlán, Guatemala: A model of community-centered, participatory health research

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Background: Cardiovascular disease (CVD) is now a leading cause of death in many developing countries such as Guatemala. However, the epidemiological transition of this process is not well defined, particularly in indigenous, resource-limited communities. A major challenge in global health research is the implementation of standardized scientific methods within diverse cultural and socioeconomic backgrounds. An approach that incorporates community leadership and active local involvement, along with respect for regional culture and practice is more likely to yield valid information and conclusions. With these principles in mind, we carried out a participatory, community-based, cross- sectional study, aimed at describing the prevalence of cardiovascular risk factors within Santiago, Atitlan, an indigenous Tzutujil community of the Lake Atitlan Basin of Guatemala.

Methods: The study design followed the WHO's STEPS protocol allowing for international comparison, but was carefully modified to be linguistically and culturally appropriate. To promote community participation we partnered closely with multiple local governmental and non-governmental groups. Local community health workers were recruited for the majority of the field work and custom-designed education was developed and adapted to local culture and language. All collaborators were certified in human subject research ethics and IRB approval was obtained from both United States and Guatemalan institutions. The study area was carefully assessed prior to the fieldwork and a geographically randomized representative sample of the community was obtained.

Findings: 350 people (70.0% of screened subjects) were enrolled with an average age of 39.6 years. 74% were women, and 55% without formal education. The prevalence of CVD risk-factors were as follows: overweight 39.2%, obesity 31.7%, central obesity 56.5%, obesity by percent body fat 69.6%, hypertension 18.6%, high total cholesterol 13.1%, low HDL cholesterol 63.8%, metabolic syndrome 49.8%, diabetes 3.7%, and smoking 3.1%.

Interpretation: This indigenous population already exhibits high prevalence of CV risk factors despite being in early transition to a more "developed" economy. Of particular interest was that the prevalence of obesity and hypertension was substantially higher than expected, while the rate of diabetes mellitus remains relatively low. This has profound implications for a community with minimal resources to deal CVD burden even at current levels. It is anticipated that the burden of risk factors and disease will increase. These conclusions have led to the creation of a community-based CVD and diabetes prevention group, which has begun a community health program aimed at decreasing the deterioration of CV and metabolic health of this community. This study is an example of how global health research can successfully integrate local community members to scientific research endeavors and generate concrete actions of direct benefit to the community.

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To what extent does tobacco expenditure crowd-out household expenditure in Bangladesh?

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Background: 41.3 million people, or 43.4% of adults in Bangladesh are consuming tobacco in either the smoke or smoke-less form. This translates to a significant health burden and is particularly detrimental for the 32% of people living below the poverty line. This study aims to determine the extent to which tobacco use impacts household resource allocation and consumption patterns using recent data and econometric analysis. This is the first analysis of its kind in Bangladesh. Objective: To determine the extent to which tobacco consumption crowds out household expenditure in Bangladesh and to calculate the progressivity of tobacco taxation.

Methods: The nationally representative 2009-2010 Household Income and Expenditure Survey was used to determine consumption levels of various commodities in a wide variety of categories. A categorical variable was used to divide households into no-, low-, medium- and high- tobacco spending. Households were also categorised into asset quintiles generated through principal component analysis. Rural/urban distinctions were made. Student t-tests were performed at 10, 5 and 1% significance levels to determine significance of consumption differences between tobacco- and non-tobacco consuming households. Econometric analysis was needed to determine if tobacco consumption decisions are necessarily different between tobacco consuming and non-tobacco consuming households. A demand