

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 comprehensive program 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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Abstract #: 01NCD023

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 field-work 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.

Funding: University of Virginia, Departments of Emergency Medicine and Internal Medicine internal funds.

Abstract #: 01NCD024

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

model conditional on the crowding out of tobacco was created using quadratic conditional Engel curves. X2 tests for consumer separability were also performed. Additionally, an analysis of tobacco tax progressivity was completed in order to enhance policy recommendations. Kakwani indices were generated and dominance tests conducted.

Findings: Overall, households which consume tobacco spend less on certain commodities compared to households which do not consume tobacco (reduction of expenditure on fruits, vegetables, grains, pulses, education, transportation and fuel are significant at a 5% level). These goods have nutrition and family welfare implications. Generally, trends are more pronounced in urban settings. Also, poorer quintiles tended to spend a greater proportion of their budget on tobacco (3.6% poorest quintile, 2.7% richest quintile). X2 tests led to rejection of the separability between tobacco and most other goods, meaning that tobacco consumers have different preferences and behave differently than non-tobacco consumers. The preliminary conditional demand model confirms many of the trends in the descriptive statistics, namely that vegetable and education spending shares are adversely impacted by tobacco consumption. Initial analysis demonstrates that tobacco taxation is progressive, highlighting potential equity implications to increases of tobacco taxation.

Interpretation: There is evidence to suggest that tobacco spending crowds-out the consumption of goods, such as vegetables and education. In particular, poor households and those living in urban areas are most vulnerable. Key policy implications arise regarding the importance of tobacco control measures, such as taxation.

Funding: None.

Abstract #: 01NCD025

Improving access to education for South African children who attend school with a tracheostomy

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Program/Project Purpose: The Greys Hospital Tracheostomy Home Care Service (THCS) in Pietermaritzburg, South Africa was started in 2006 with the aim of allowing children with tracheostomies to be cared for by their families at home. The THCS is only the second such program in South Africa and has discharged over 40 children to trained parents and/or care-givers. As children within the THCS program continue to do well outside of the hospital setting they have begun to attend school. This study, which took place between June and August 2014, is the first study in South Africa to document the school experience of children with tracheostomies and determine whether mainstream public schools are able to accommodate them and how the schools could be made safer and more accessible.

Structure/Method/Design: The four patients that are currently attending school with a tracheostomy were identified from the patient records of a tertiary hospital with a pediatric tracheostomy home based care service. With the aid of a Zulu language translator, the mothers and classroom teachers completed an interview and questionnaire in their home and school respectively.

Outcomes & Evaluation: The key teacher identified barriers to enrollment were: teacher unfamiliarity with tracheostomies and uncertainty about the school's liability and the response of other children. The safety barriers identified were: the children have limited vocalization ability yet attend schools with greater than 60 children

per classroom, pit latrines are separate from the school, and sandy classrooms can block the tracheostomy. Identified needs for successful school placement include providing tracheostomy tubes and suctioning equipment, and training teachers in how to identify respiratory distress, and perform emergency tracheostomy changes and CPR.

Going Forward: Children with tracheostomies can and are currently attending South African mainstream public schools but a training program for teachers is needed. As a first step, an introductory booklet for teachers that explains tracheostomies and provides educational.

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Abstract #: 01NCD026

Pilot program of newborn screening for sickle cell disease in angola- Angola Sickle Cell Initiative (ASCI)

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Program/Project Purpose: Why the program/project is in place, in one or two sentences: To reduce morbidity and mortality of children with sickle cell anemia in Angola Aim: to collaborate on a comprehensive sickle cell initiative to provide screening, diagnosis, care, treatment, health professional training, research, and community mobilization in order to contribute to improved care of children with sickle cell disease in Angola.

Structure/Method/Design: Program/Project Goals, Desired Outcomes – The program trained Angolan laboratory personnel and set up screening laboratories in Luanda (2011) and Cabinda (2012) provinces. We have enrolled 16 birth and health centers in Cabinda and Luanda provinces to collect samples from newborns for testing using isoelectric focusing (IEF). A plan for universal screening of newborns in a small province will be developed. Participants and Stakeholders: How were they selected, recruited? An estimated 12,000 babies are born annually with Sickle Cell Disease (SCD) in Angola alone. Without treatment, most of these babies die before five years of age. Early diagnosis through newborn screening followed by care and treatment including daily penicillin reduces mortality. In March 2011, the Republic of Angola entered into a public-private partnership with Chevron Corporation and Texas Children's Hospital/Baylor College of Medicine to pilot a comprehensive newborn screening and treatment program (Angola Sickle Cell Initiative). Capacity Building / Sustainability: What is the plan, structure in place to encourage viability? Gradual transfer of financial responsibility to public health service, engagement of the Angolan population, and establishment of a formal training programs for health care providers.

Outcomes & Evaluation: To date, what are the successes and outcomes achieved? The program has screened more 85,000 newborns. Of these, 1488 (1.7%) were diagnosed with SCD. An earlier evaluation showed that only 54 percent of affected babies could be located and enrolled in treatment. ASCI has also trained hundred of health care providers. Monitoring & Evaluation Results (if conducted).

Going Forward: What are the ongoing challenges? Failure to locate a significant number of babies affected by sickle cell anemia, limited Ministry of health resources due to competing health priorities. Are there any unmet goals? We have not achieved full transition to Ministry of Health control or diversified our funding source. How are/may future program activities change as a result? Establishment of Advisory group consisting of all stakeholders including affected