Background: Childhood undernutrition is a health crisis in the rapidly expanding informal settlements of low-income countries worldwide. Nearly half of Kenyan children in the Kibera settlement, in Nairobi, were reported to be stunted, indicating low height-for-age. Stunted children are at greater risk for poor cognitive and physical health outcomes in the long-term, problems that tend to be perpetuated in subsequent generations. Animal-source foods (ASF) supply a calorically dense source of micro- and macronutrients, and supplementation with ASF has been shown to improve linear growth and cognition. Correspondingly, increasing consumption of ASF by pregnant women and children has been proposed as a means to disrupt the intergenerational cycle of undernutrition caused by food insecurity. Our objective was to review the literature regarding the dietary benefits and accessibility of ASF for the urban poor in sub-Saharan Africa, and to identify knowledge gaps relevant to improving health outcomes through increased consumption of ASF.
Methods: Our review is based predominantly on studies from Kibera and greater Nairobi. Data was derived from peer-reviewed publications whenever possible.
Findings: In Nairobi, 80% of the lowest income quintile is food insecure. Observational studies indicate that consumption of ASF is positively associated with increased weight gain in pregnancy, increased birth weight and length, postnatal infant growth, linear growth in toddlers, better cognitive outcomes, and improved physical activity levels. Despite the availability of ASF in local markets, however, the urban poor consume only 75% of the FAO's recommended minimum animal protein consumption per year. This supports that low purchasing power is a major impediment to ASF consumption. Economic data derived from household surveys in Nairobi indicates that ASF are both income and price elastic; the demand for ASF increases disproportionately with increases in income or decreases in price. Lastly, analysis of ASF value-chains revealed that the lowest income consumers purchase food from smaller retail outlets where meat and eggs are sold in larger, indivisible quantities. This precludes many from the regular purchase of ASF due to the restrictive cost. While strong evidence exists for the role of increased consumption of ASF in promoting maternal and child health, there are multiple gaps in our knowledge regarding the minimal levels of specific ASF required for healthy development in the nutritional and environmental context of crowded urban settlements. In addition, understanding which public policies and private market actions improve or jeopardize food security provide opportunities to implement change.
Interpretation: Increased consumption of ASF would decrease child stunting in the urban informal settlements, and near-term interventions are possible because ASF are readily available in local markets. Addressing the identified knowledge gaps will provide new opportunities to develop, implement, and assess interventions, including market and policy changes.
Funding: No funding was required for this research.
Abstract #: 01NCD012

Cancer incidence in Nigeria from 2009 to 2013

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Background: Cancer is now widely recognized as a significant global health issue. With the majority of the global cancer burden now shifting from the developed to the developing world and the rapidly rising incidence of cancers in low and middle income countries (LMIC); the need for improved cancer registration and accurate documentation of the burden of cancers in these regions is vital. Nigeria with about 20% of the population of Africa is a major contributor to the overall cancer burden in Africa and data about cancer in Nigeria will add significantly to knowledge about cancer in Africa. This study was done to provide insight into the burden of cancers in Nigeria. Aim: Describe the pattern of cancers in Nigeria over a 5 year period 2009 to 2013 at 3 population-based cancers registries (PBCR) that represent 3 distinct regions in the country.
Methods: This study was carried out using data from 3 PBCR; the Abuja Cancer Registry (ABCR: 2009-2013), Calabar Cancer Registry (CCR: 2009-2013) and the Enugu Cancer Registry (ECR: 2012-2013). Data was collected and entered into CanReg5 software and checked for errors including duplicates, which were excluded. Only malignant cases were included in the analysis. Age standardized incidence rates (ASRs) were calculated using the direct method and the World Standard Population. The most common cancers in both sexes were identified and are presented in this report. All ASRs are reported per 100,000 persons.
Findings: There were 4077 combined cases of cancer recorded by the ABCR and CCR registries over the 5 year time period 2009-2013. 2479 cases (60.8%) were in females and 1598 (39.2%) in males. The combined ASR for all cancers in females was 102.95 and 59.3 in males. The most common cancers reported in females were cancers of the breast (1128 cases, ASR 42.2) and cervix (414 cases, ASR 23.0). In males the most common cancer was cancer of the prostate (507 cases, ASR 29.7). The ECR recorded 1738 cases of cancer over the 2 year period 2012-2013 with 1072 (62%) in females and 666 (38%) in males. The ASR for all cancers in females was 141.9 and 86.1 in males. The most common cancers reported in women were cancers of the breast (466 cases, ASR 60.3 per 100,000), cervix (146 cases, ASR 22.6). In men cancer of the prostate was the most common. (232 cases, ASR 33.9).
Interpretation: Breast and cervical cancer were the most common cancers among Nigerian women and prostate cancer the most common in men. There is a need to sustain cancer registration efforts in the country to generate good quality data for research and cancer control.
Funding: IHV-UM Capacity Development for Research into AIDS Associated Malignancies (NIH/NCI D43CA153792) research grant.
Abstract #: 01NCD013

Reducing antibiotic use in the management of upper respiratory infections in the urgent care setting

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Program/Project Purpose: Context: Antibiotics are prescribed 60% of the time for the treatment of Upper Respiratory Infections (URIs) regardless of etiology contributing to drug resistant respiratory organisms which often provide clinical management challenges to both patients and providers regardless of specialty. These practices impact patient outcomes, quality of care, antimicrobial resistance, and economics in community and hospital settings. Project Period: October 2014 – February 1, 2015 Why project is in place: URIs are the most common presenting complaint to urgent care centers across the United States. The lack of company adopted treatment guidelines

at a local urgent care center has contributed to the variance in prescribing habits among providers for these diagnoses. Aims: This project aims to decrease use of antibiotics in the treatment of URIs by 10% and to attain an 80% utilization rate of developed company practice guidelines for URIs for this urgent care practice.

Structure/Method/Design: Based on a comprehensive systematic review of the literature, multimodal strategies combining provider education, clinical pathway algorithms, and patient education have demonstrated success in increasing provider compliance with evidence based practice guidelines for URIs in outpatient settings. The goals of this project are to design, implement and evaluate evidence based guidelines, and to promote the judicious use of antibiotics when managing URIs in the urgent care setting. Participants and Stakeholders: As a result of weekly chart reviews conducted by the Clinical and Medical Directors demonstrating variance in treatment practices, the Medical Director agreed an intervention was necessary. With her support, the project was proposed to the full time providers who voluntarily agreed to participant. Capacity/ Sustainability: Using a consensus model, the providers have been recruited to collectively review, develop and evaluate treatment guidelines for URIs in our setting. These guidelines will be incorporated into company policy for use along with confidential prescriber feedback and audit, and ongoing patient education.

Outcomes & Evaluation: To date evidence based guidelines for URIs including sinusitis and bronchitis have been reviewed and adopted. Patient education encompassing the Get Smart, Know When Antibiotics Work campaign by the CDC within the centers and community has commenced. An eIRB application has been filed with the Johns Hopkins University School of Medicine which is under review. Upon approval, data collection will begin.

Going Forward: Ongoing challenges include provider prescribing habits and patient requests/expectations for antibiotics for URI diagnosis. Until data collection begins, evaluation of data cannot occur. If this project is successful, the project team can use this method to develop evidence based treatment protocols for additional diagnoses common to the urgent care environment.

Abstract #: 01NCD014

Type I diabetes management in a resource poor setting

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Program/Project Purpose: Understanding of perceived supports and barriers faced by patients with Type 1 Diabetes (T1DM) in developing and post-disaster countries remains inconclusive. The purposes of this study were to characterize and collect information from a cohort of T1DM patients in a resource poor setting, who visited a clinic that focuses on group visit, promotes education, and enhances social support. Information collected includes disease management, demographics, nutritional knowledge, quality of life, perceived barriers to care, and recommended improvements.

Structure/Method/Design: Patients were recruited from a diabetic clinic in Milot, Haiti during the fall of 2013. Demographic information, glucose control, nutritional awareness and diabetes camp participation was collected. A modified version of the Pediatric Quality of Life Inventory Diabetes Module 3.0 was administered and correlated to diabetes management. Qualitative interviews were conducted with hospital staff to evaluate barriers to medical management.

Outcomes & Evaluation: Fourteen of the 23 patients in the diabetes clinic were surveyed (65% female, mean age=16.4). Only one (7%) had an HbA1C level below 7.5%, the level that the American Diabetes Association defines as "controlled". Improved quality of life measures were found for those patients who attended camp (n=4, mean=65.3) compared to those who did not attend camp (n=10, mean=57.6). There was no association between diabetes management practices and glucose control. In addition, qualitative interviews revealed inadequate insulin supplies and inconsistent nutritional knowledge about diabetes.

Going Forward: Much of the diagnosed T1DM at this study site is uncontrolled. Poor diabetes control is multifactorial but diabetes practices and nutritional knowledge did not show an association to HbA1C levels. Overall, the inconsistent supply of insulin is a pressing and contributing factor. While the majority of patients understood the importance of appropriate nutrition with T1DM, their inability to articulate what type of diet change is necessary revealed a lack of nutritional knowledge. Improved nutrition education and the addition of a nutritionist to the clinic may help patients create individualized diets and identify other ways to stay healthy with limited resources. Additionally, despite the low number of camp participations, the improvement in quality of life in the patients who attended camp highlights the necessity of a larger scale investigation of the efficacy of social and education camps as they relate to quality of life and disease control in children. As diabetes camps become more commonplace in developed countries, we see an opportunity to expand this intervention to diabetic patients in developing countries, where resources are scarce. Future work should be centered on recruiting other diabetic management programs in the region to further explore T1DM in this population, and to identify areas for intervention.

Abstract #: 01NCD015

Perception and attitudes towards mental illness among volunteer health advisors in Nigeria

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Background: Depression, anxiety and other mental health disorders are prevalent in low, middle and high income countries. In Nigeria, an estimated 10-20% of women experience depression during pregnancy and the postnatal period. However, only 10% of adults with mental health disorder in Nigeria receive any care irrespective of severity. With an estimated 150 psychiatrists for a population of more than 160 million people, Nigeria exemplifies the severe lack of capacity for mental healthcare seen in low and middle-income countries. Stigma and negative attitudes toward people with mental illness are common among the general population. We developed the Healthy Beginning Initiative (HBI), a community-based approach that integrates screening for perinatal depression with an existing program for prevention of mother-to-child transmission of HIV. HBI is implemented by lay, church-based volunteer health advisors (VHA). The aim of this study was to assess the beliefs and attitudes towards mental illness among the VHA.

Methods: A cross-sectional survey of 60 VHA aged 18 years and above who attended a 2 day training prior to implementing HBI in 40 churches in southeast Nigeria. We used a 43-item, investigator-assisted, self-administered questionnaire to assess perceptions and attitudes towards mental health disorders and individuals with mental illness.