

international travel leads to the spread of drug resistant organisms. The information from this project will be used to drive infection prevention efforts.

Funding: Funding was received from the institutions performing the study.

Abstract #: 01CD002

Studying pulmonary function in HIV positive tanzanian youth

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Program/Project Purpose: Survival into childhood with an untreated HIV infection was once considered unusual, but has increased in recent years. This has spurred further interest in studying the health of adolescents living with HIV. There have been two major reports from Zimbabwe (Ferrand et al., 2007) and Malawi (Zverez et al., 2001) of a decrease in pulmonary function in HIV positive youth, especially if they had delayed onset of treatment. The purpose of this study is to investigate the pulmonary function of HIV positive Tanzanian children. This study will help determine the importance of monitoring lung function in HIV patients and if a pulmonary treatment regimen should be instituted.

Structure/Method/Design: A cohort of 250 Tanzanian children between the ages of 8 and 18 with a diagnosis of HIV currently being treated at the DarDar Pediatric Program in Dar es Salaam, Tanzania will take part in the study. Pulmonary function (PFT) was assessed using spirometry to measure forced expiratory volume at one second (FEV1), forced vital capacity (FVC), FVC/FEV1 ratio, and forced expiratory flow 25% to 75% (FEF25-75) as well as pulse oximetry. Each participant was evaluated at rest. If recorded values for FVC and FEV 1 were > 70% of predicted, they were re-evaluated after moderate exercise and after administration of a bronchodilator. Normative data from healthy Malawian youth were used. The PFT data were analyzed in correlation with age of diagnosis and age at initiation of antiretroviral therapy.

Outcomes & Evaluation: A preliminary analysis of the first 50 subjects has not shown any significant degree of pulmonary dysfunction nor any correlation with a delayed ART regimen. Of the 50 subjects, three were excluded for inconsistent PFT efforts. The remaining 47 subjects consisted of 17 females/30 males. Only 3 subjects had FEV 1

Going Forward: Ongoing challenges include obtaining consistent data from younger subjects as well as timely patient acquisition. We anticipate meeting our goal of 250 subjects by late spring 2015.

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Abstract #: 01CD003

Comparing the syndromic approach with point-of-care testing in treatment of STIs at St. Paul's Hospital in Addis Ababa, Ethiopia

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Background: The purpose of this project was to determine if the point-of-care (POC) rapid testing at St. Paul's Hospital Millennium

Medical College (SPHMMC) in Addis Ababa, Ethiopia, was more effective at diagnosing sexually transmitted infections than the current standard of care, syndromic approach, which does not use laboratory testing and is solely based on visual and patient-reported symptoms.

Methods: This twelve week pilot study was conducted at SPHMMC among female patients aged 18-45 with vaginal discharge. All patients completed a questionnaire asking about their demographics and current and prior clinical gynecologic treatment. Patients underwent speculum exam and vaginal and cervical swabs were collected. These swabs were used for POC and molecular-based testing (a confirmatory test for the POC testing). Women were treated per standard of care at SPHMMC and treatment was augmented when additional diagnoses were made outside of the clinical exam. After the speculum exam was complete, the resident treating the patient completed a short questionnaire to record his or her observations and treatment plan.

Findings: We recruited 47 participants for our study. Of these women, zero patients had a positive chlamydia test, four had a positive trichomonas vaginalis POC test, and one had a positive wet mount test for trichomonas vaginalis. Overall, 21% (10/47) of the patients were given antibiotics immediately by the resident and another 26% (12/47) were prescribed antibiotics at a later appointment with the resident. Another 38% (18/47) of patients were prescribed doxycycline, an antibiotic recommended by the syndromic approach for treatment of chlamydia and 34% (16/47) of patients received metronidazole, an antibiotic that targets trichomonas vaginalis. Confirmatory molecular analysis for chlamydia and trichomonas vaginalis is pending at this time.

Interpretation: The physicians at SPHMMC do not have the resources to quickly and accurately diagnose their patients' sexual health. We found that the residents at SPHMMC follow the prescription-based model promoted by the syndromic approach, though our results suggest that this may be leading to the overtreatment of patients.

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Concentrated livestock production in Illinois: Spatial analysis of the impacts on human health and the environment

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Background: Individuals living near and working in concentrated animal feeding operations (CAFOs), defined in U.S. environmental regulations as confining the equivalent of at least 1000 cattle and identifying a point-source method of waste discharge, may be at increased risk for adverse health outcomes due to occupational exposures and the movement of contaminants and pathogens in animal waste from facilities to the surrounding environment via runoff, atmospheric deposition of particulate matter, or leaching into groundwater. Although increased risk of respiratory illness and enteric infections have been linked to CAFOs, many studies observing community outcomes have used facility-specific approaches, rather than attempting to understand health patterns at a broader spatial scale. Additionally, there are potential zoonotic pathogens, such as bacterial pneumonias or Hepatitis E, that have not been thoroughly examined in this context.