Background: Increased attention has been paid to identifying and responding to the mental health and social emotional needs of young children in low income countries. There is lack of brief screening scales and assessment tools to characterize child mental health burden or to evaluate impact of early intervention in Sub-Saharan African (SSA) countries. This study sought to determine reliability and validity of three different parent/caregiver brief screening tools in a SSA country - Uganda. The Pediatric Symptom Checklist (14 item Pictorial Scale) (Gardner et al., 2007), assesses child behavioral problems using a pictorial format that takes into account the low literacy rates in SSA countries. The Social Competence Scale (12 items) (Gouley, et al., 2007) utilizes a strength-based evaluation approach to assess children's emotional regulation and prosocial/communication competence. The Strength and Difficult Questionnaire (SDQ; 25 items) (Goodman, et al., 1997, 2009), is available in 80 languages, focuses on psychiatric symptoms and assesses hyperactivity, emotional symptoms, peer problems and conduct problems.
Methods: Parents of 303 Ugandan 4-9 year-old children from the community were recruited and interviewed, and 103 of these who were also part of an ongoing school-based mental health intervention trial were interviewed a 2nd time (about 5 months after 1st assessment). Data from both time points were utilized to establish reliability and validity. Data from the control sample (n=42) were used for evaluating test-retest reliability. The mean age of participating parents was 35.92 years (SD = 9.80 years). About one third of parents (32%) were single, and 48% had primary or less education. Study children were an average 6.51 years old (SD = 1.08 years) and all were enrolled in Nursery to Primary 3 in Kampala, Uganda. For the purpose of validation measurement, we also included Patient Health Questionnaire (assessing parental depression; Kroenke et al., 2001; $\alpha =.83$) and Parenting Stress Scale (PSI, Abidin, 1995; 5 items, $\alpha = .63$).
Findings: Consistent with developers' conceptual frameworks, two factors emerged from the Pictorial Scale (Internalizing and Externalizing problems) and Social Competence Scales (Emotion regulation and Prosocial/Communication skills). However, for the SDQ scale, only one-factor emerged, with estimated 21-27% of children having abnormal level of problem behaviors. All three brief screening tools applied in this study had adequate reliability and validity. Reliability (assessed by Chronbach's alpha) ranged from .61-.68 for Pictorial scale, .61-.63 for SDQ, and .71-.87 for Social Competence Scale. All social emotional and mental health scales included were related in expected ways. The strength-based Social Competence scale is also sensitive to intervention evaluation.
Interpretation: Our findings suggest that selection of instruments needs to include parent literacy levels and cultural contexts. A strength-based measure may be more relevant than pathology-based measures in SSA context.
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The assessment of water-use behaviours after implementation of new water infrastructure at a remote Himalayan school

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Background: In 2007, the University of British Columbia's Global Health Initiative partnered with a local NGO to improve children's health at a rural north-Indian boarding school. Following a technical review identifying poor water quality and accessibility as a concern, a collaborative design project for new water infrastructure was implemented in 2013. Education on safe water use has been implemented in the school curriculum since 2008. The purpose of this study was to assess water use behaviours associated with the new infrastructure.
Methods: This study assessed water use behaviours using a mixed method approach (GPS mapping and video monitoring) to evaluate new water infrastructure usage. The movement patterns of 128 randomly selected students were assessed in relation to hand-washing and toileting over a three week study period using GPS units. Children were divided into cohorts A (grade 3-5, n = 58), B (grade 6-8, n = 29), and C (grade 9-10, n = 21) with approximately equal gender ratios. While GPS was used to discern if a child visited a hand-washing station, video provided behavioural information of their hand-washing and drinking frequency. Children were blinded to the purpose of the study to ensure their behaviours would not be affected (they were debriefed upon study completion). This study was approved by UBC's Research Ethics Board.
Findings: Children visited a hand-washing station for more than 30 seconds an average of 2.2 times during a school day. After toileting and prior to entering the kitchen, children visited a hand-washing station within five minutes 18% and 8% of the time, respectively. Cohort B had the highest hand-washing rate, at 26% post toileting and 21% before entering the kitchen, while cohort C had the lowest rate, at 11% and 0% respectively. Analysis of over 15h of video monitoring revealed that 43% of hand-washing station visits resulted in a child washing their hands and drinking water, 29% only drank water and 7% only washed. During 9% of visits children filled water bottles, and the remaining children engaged in other activities including playing and tooth-brushing. Hand-washing stations located close to classrooms received more visits (304 visits) than those farther away (10 visits). Peak usage typically occurred during school breaks.
Interpretation: While results show that children are visiting hand-washing stations, hand-washing before meals and after toileting are less than ideal, the location of hand-washing stations significantly affects their usage. These results will facilitate targeted health education around hand-washing and will guide future infrastructure development and signage with the overall goal to improve health outcomes. This multi-method approach was an effective means of assessing behavioural patterns and infrastructure usage and could have applications across multiple disciplines.
Funding: Funding was obtained through UBC's Faculty of Medicine Summer Student Research Program (SSRP).
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Sesame street in the tea estates: A multi-media intervention to improve sanitation and hygiene among Bangladesh's most vulnerable youth

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Background: Children growing up in Bangladesh's Sylhet Division are some of the world's most vulnerable youth. While this region is home to over 150 lush tea estates, workers and their families living in the area's densely-populated slums lack basic resources, such as clean water and latrines. Diarrhea remains a leading cause of childhood morbidity and mortality. In Spring 2014, Sesame Workshop and its local production team Sisimpur developed a multi-media intervention to improve health and hygiene knowledge, attitudes and behaviors among children and parents living in Sylhet. A research study was

conducted to examine the most effective way to deliver these health communication messages.

Methods: A twelve week intervention occurred in Bhurbhuria, Bhararura, and Satgaon (similar communities within the Sylhet Division). Two approaches were created. The "me" approach framed messages and activities as personal, such that engaging in hygiene and sanitation behaviors would result in stronger and healthier individuals (delivered in Bhurbhuria). The "we" approach addressed hygiene and sanitation behaviors as community and social endeavors (Bhararura). Participants from Satgaon served as a control. Immediately before and after the intervention, 240 children (ages 3 to 8 years) and one of their parents completed one-on-one interviews. Active consent was used and the University of Maryland's IRB evaluated and approved the study protocols and instruments.

Findings: The interventions resulted in improvements in terms of hygiene and sanitation. Those receiving the "me" approach had stronger and statistically significant gains compared to those receiving the "we" approach for: Reported latrine use (based on child reports); "all of the time" hand-washing after defecation (parent reports); better understanding of tippy taps (parent reports); awareness of Sisimpur characters (child reports); and identifying behaviors depicted in the intervention materials (child reports). In contrast, members of the "we" approach did better than "me" approach for: Favorable attitudes of sanitation and hygiene behaviors (child reports); using an improved ventilated pit latrine at home (child reports); wearing shoes "all the time" (child reports); and using a tippy tap (child reports).

Interpretation: The Sisimpur interventions led to positive changes in hygiene and sanitation knowledge, attitudes and behaviors; multimedia approaches improved latrine use, shoe-wearing and hand-washing among young children from Sylhet. Because gains occurred with both approaches, the "we" approach was better as most participants felt the interventions' goals were to improve health and behaviors of all children in the community. While there were challenges and it is unknown how long the interventions' impact will last, this work suggests that a hygiene and sanitation intervention can lead to improved outcomes with an extremely vulnerable population.

Abstract #: *01SEDH005*

The importance of academic-NGO partnerships in short term medical trips: Results from a health resource needs assessment

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Program/Project Purpose: An isolated rural community in the Blue Mountains of Jamaica, Hagley Gap receives minimal support from government, has limited access to health care services, low literacy and poor water quality. For ten years, the Blue Mountain Project (BMP) has partnered with the community to address these challenges, and, through short-term medical trips, has been able to provide primary health care services to persons who may otherwise go untreated. Utilizing a newly developed academic-NGO partnership, this health resource and needs assessment (HRNA) identified health needs in the community and suggests programs and resources to improve health service delivery.

Structure/Method/Design: The HRNA was guided by the principles of the Community Oriented Primary Care model, first described and performed by Sidney and Emily Kark. The goals were to characterize the community and identify community health problems. Survey and interview questions were developed using health census data and an existing retrospective health study of Hagley Gap. A combined total of 96 surveys and interviews were conducted over two weeks. Two questionnaire types were administered: patient/individual surveys and key stakeholder interviews. Patient/individual surveys were given to patients ≥ 18 years during clinic hours and home visits. Surveys included five general sections: family structure, housing structure, work status, health status, and social capital. Key stakeholder interviews were conducted with NGO staff and community leaders. Questions were tailored toward the interviewees' perception of the organization and its role in improving the health of the community. Questionnaires received IRB exemption from the University of Cincinnati.

Outcomes & Evaluation: Results provided information on the health status of the community and strengths and weaknesses of current health services. While providing basic health care services is an advantage, results indicate that the limited scope of practice of BMP clinic staff limits its ability to reach the target population. Results also suggest that respondents have inconsistent expectations that do not align with the NGO's mission and goals. Finally, results indicate that health-care services rely heavily on volunteer groups, as the clinic is most used during short-term medical visits. During gaps in medical visits, residents remain vulnerable to social and environmental circumstance, specifically, limited or no access to health services.

Going Forward: This HRNA is an example of the benefits of an academic-NGO partnership. Partnering with academic institutions could provide regular short-term medical visits to maintain and increase health services, and reduce the impact of gaps in care. Additional benefits include capacity building by providing clinic staff with training and skills, and the resources needed to expand health services. While these findings may be generalizable to other small NGOs operating in rural middle-income countries, further study is needed to implement these changes and evaluate their effectiveness in Hagley Gap.

Abstract #: *01SEDH006*

Behavioral health policies: Do they influence behavioral practices and health outcomes among adolescent girls in low and middle income countries?

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Background: Physical inactivity and low consumption of fruits and vegetables during adolescence may persist through adulthood, putting adolescents at risk of developing chronic diseases. Although several studies have examined health behaviors during adolescence, few have examined the role that behavioral health policies play on consumption of fruits and vegetables and physical activity, particularly among girls in low and middle income countries (LMICs).

Methods: In this study, we examined the consumption of fruits and vegetables and physical activity behavior among adolescent girls in LMICs with and without fruit and vegetable and physical activity policies. Country selection (n=45) was based on availability of Global School-Based Student Health Survey (GSHS) data. Information on health policies was obtained from the World Health Organization (WHO) and from a systematic review of literature on health policies. The total analytic sample was 67,583 adolescent girls aged 11-16 from 45 countries.