of Toledo Medical Center (UTMC) sought to develop a *sustainable* mission that could improve educational and clinical value to both the local community and academic institution.

Process/Procedure: The Department of Emergency Medicine at UTMC has partnered with Salud Total, a small health clinic in La Ceiba, Honduras. Salud Total is staffed by a general practitioner, nurse and ancillary staff. As part of the partnership, UTMC has been organizing mission trips on a quarterly basis. During a mission visit, the clinical volume swells to over 100 patients a day. UTMC has three primary areas of focus in staffing the clinic; general and surgical care, specialty care and education. Staff and senior ED residents are responsible for seeing general medical complaints and performing small surgical procedures. Specialists, such as cardiologists and obstetricians see a subset of the clinical volume needing specialty care. Education is provided in the form of bedside clinical teaching and materials distributed to staff and patients. Through this approach, we have enhanced clinical capabilities, increased the knowledge and skill set of the local practitioner as well as provided education to the patient and local community.

Results/Program: The Department of Emergency Medicine at UTMC has developed a *sustainable* educational and clinical mission program. This mission has provided clinical services to an underserved population, providing specialty medical care that otherwise was unavailable to these patients. Returning every 3 to 4 months allows the mission team to follow-up on treatment or procedures initiated on prior visits. It also provides the opportunity to advance clinical care through ongoing teaching and education. Future expansion involves incorporation of telemedicine to provide real-time support for this clinic population and medical staff.

Abstract #: *2.016_PLA*

Microarray analysis of *Escherichia Coli* isolates from canine and feline urinary tract infections indicate the potential for zoonotic and anthropozoonotic transmission

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Background: *Escherichia coli* strains exist within the host organism as either commensal flora, where they account for the majority of nonpathogenic enteric flora, or pathogenic organisms, that have been shown to cause either intestinal or extraintestinal infections. The boundary between commensal and pathogen is overcome by host vulnerability and expression of virulence factors by the *E. coli* strains. The special-pathogenicity hypothesis states that a high level of intrinsic virulence is more likely to assure uropathogenicity than the presence of an organism in high numbers. Extraintestinal pathogenic *E. coli* (ExPEC), contain a subset of uropathogenic (UPEC) strains that possess virulence factors to enhance disease in the urinary tract. It is not known how frequently organisms categorized at UPEC and/or ExPEC cause UTIs in companion animals, as compared to less virulent opportunistic strains. Further differentiation of human UPEC isolates has shown that they belong to phylogenetic group B2 and to a lesser extent phylogenetic group D

Methods: This study determined the pathotype of 60 well-characterized *E. coli* isolates, associated with UTI of dogs and cats, using a comprehensive oligonucleotide microarray.

Findings: Twelve isolates were characterized as ExPEC (20%), 14 as UPEC (23%), and 2 as MNEC (3%). However, 7 were "non-classifiable" (12%), and 25 had no pathotype association (42%) which means that *E. coli* strains that did not have significant pathogenic potential were isolated significantly more often than strains that were associated with a specific pathotype. This was somewhat unexpected, as it does not correlate with the special pathogenicity hypothesis. However, 32 isolates belonged to phylogenetic group B2 (53%), and 15 to group D (25%). Given that the B2 pathotype has been previously associated with food animals the presence of B2 pathotype isolates from dogs and cats should not necessarily have been unexpected.

Interpretation: Isolates that belong to pathotype B2 may be zoonotic or anthropozoonotic and may cross between species and cause UTI in both humans and animals in close contact. Clarifying the relationship between pathotypes of animal and human isolates may provide useful information to understand and transmission of *E. coli* between and amongst different species.

Abstract #: *2.017_PLA*

2.018_PLA Malnutrition among disadvantaged women in Bangladesh

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Program/Project Purpose: Malnutrition among women is a serious problem — in Bangladesh as in many developing countries. Protein-energy malnutrition, iron deficiency anaemia, iodine deficiency disorders and vitamin A deficiency are common. This study reported the nutritional status of a sample of 577 women surveyed in two sites, one rural and one urban in Bangladesh. The rural villages are located Jamalpur district; the urban site is a slum in Uttara, Dhaka. People live in these areas are considered as socially and economically disadvantaged. The duration of the project is January 2011 to August 2013.

Structure/Method/Design: The objective of this study was to identify the nature of the malnutrition among women and to identify the underlying factors influence women's nutritional status. Some policy suggestions were made to reduce malnutrition among disadvantaged women in the context of resource poor economies like Bangladesh.

A face-to-face survey comprised of 37 questions on women's anthropometric measures, daily food intake (24-hours diet recall), demographic characteristics (age, education), family economic status (income and assets owned), regular hygiene and sanitation behaviour. While the locations were selected as per convenience, a systematic randomization technique was followed to select houses for the interview. 20 trained surveyors conducted interviews. Statistical analysis was conducted to identify the nature of the malnutrition.

Outcome & Evaluation: While more than 60% women fell in the optimum BMI (body-max index) range, majority of them did not consume adequate amount of food in the groups vegetables (about 70%), milk (about 99%) and fruits (about 80%). However protein consumption is quite satisfactory among these women (more than 15%). Through a primary multi-variate regression analysis, women's literacy and receive of face-to-face advise from community health workers were found as statistically significant factors influenced women's nutritional outcome. However more rigorous statistical analysis will be conducted in near future.

Going Forwards: This study will contribute to the maternal health literature of developing countries. Health policy making in many developing countries can be greatly benefitted through the study findings. This study was funded by School of Public Health, Simon Fraser University.
Abstract #: *2.018_PLA*

Honoring motherhood: The meaning of childbirth for Tongan women

Abstract Opted Out of Publication
Abstract #: *2.019_PLA*

The assessment of water-use behaviours after implementation of new water infrastructure at a remote Himalayan school

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Background: Since 2007, the University of British Columbia has been partnered with a local NGO to improve children's health at an Indian Himalayan boarding school. Following the 2014 study assessing water use behaviours of new infrastructure, this study aimed to assess changes in water use behaviours from the previous year.

Methods: Using the 2014 methodology to assess student behaviour, movements of 142 students were tracked using GPS armbands. Frequency of water station visits, and temporal relation to visits to toilet and dining facilities was assessed. Randomly selected students were divided into cohorts A (grade 3-5, n = 66), B (grade 6-8, n = 44), and C (grade 9-10, n = 32).

Video observation was conducted using hidden video cameras to provide information on handwashing and drinking frequencies. This study was approved by UBC's Research Ethics Board.

Findings: Students visited a water station for more than 30 seconds an average of 3.2 times / day, up from 2.3 times / day in 2014. Frequency of visits after toileting increased from 10% to 18% and frequency of visits before dining increased from 12% to 35%. Cohort C improved the most, going from 0% to 18% after toileting and from 12% to 39% before dining. All cohorts showed at least a 75% increase in both categories, with the exception of water station visits after toileting by cohort A, which remained at 10%.

Results show that the water station outside the dining area, which is new since last year, is the most used (37% of all water station visits), with the majority visits occurring before and after lunch.

Interpretations: The addition of a new water station in an ideal location and increased awareness due to health education has increased water station usage before dining.

The lack of hand washing improvement after toileting by the youngest cohort suggests that future education programs should focus significantly on this group, as they likely require constant reminders in order to develop habits.

Location and age-specific results from the past two years will guide future infrastructure improvements and will facilitate targeted education.

Funding: Funding was obtained through UBC's Faculty of Medicine Summer Student Research Program (SSRP).
Abstract #: *2.020_PLA*

Latino adolescents' self-perceived malocclusion is more correlated with quality of life than are examiner assessments

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Background: To evaluate how people's perception of their own smile compares to how professionals rate it, and how both measures relate to their quality of life.

Methods: In this cross-sectional, multi-center study, data were collected from adolescents (N = 2035) at 13 schools in Mexico and Peru (January 2014-February 2015). Self-assessed malocclusion was measured using the Index of Orthodontic Treatment Need Aesthetic Component (IOTN). Calibrated dentist-examiners measured malocclusion severity using the Index of Complexity, Outcome, and Need (ICON). Oral Health Related Quality of Life (OHLQoL) was measured using the Child Oral Health Impact Profile (COHIP-SF19). We calculated the sensitivity and specificity of self-perceived malocclusion (IOTN $\geq$ 5) against gold-standard normatively determined malocclusion (ICON $\geq$ 43), and compared total and socio-emotional COHIP scores for those classified as true negative (TN), true positive (TP), false negative (FN), or false positive (FP) for malocclusion (Mann-Whitney U-test).

Findings: Mean participant age was 14.1 $\pm$ 1.7yrs; 51.5% female. Participant and practitioner malocclusion assessments were correlated (Spearman rho = 0.37), but participants significantly underestimated malocclusion severity (P < 0.001). Few participants self-perceived malocclusion (9.9%), but half (49.9%) were diagnosed with malocclusion, indicating poor sensitivity of self-assessed IOTN score to identify clinically evident malocclusion (sensitivity = 17.5%, specificity = 96.9%). Total and socio-emotional OHRQoL were significantly lower in participants with malocclusion (P < 0.001). However, participants that self-perceived malocclusion (TP, FP) had lower overall (TP = 51.1, FP = 51.9) and socio-emotional (TP=28.7, FP = 27.4) OHRQoL, and these scores did not statistically differ by (P > 0.05). In contrast, participants that did not self-perceive malocclusion (TN, FN) had higher overall (TN = 57.7, FN = 56.3) and socio-emotional (TN = 31.3, FN = 30.5) OHRQoL,