

Poster Abstracts

P – 1

Trends of *Pseudomonas* species and acinetobacter species in a public hospital setting, Guyana

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Objective: Antimicrobial resistant (AMR) *Pseudomonas* species and *Acinetobacter* species are emerging as a challenge to public health and thus, prevention and control of multi-drug resistant organisms (MDR) and pan drug-resistant organisms (PDR) are extremely important.

Methods: A retrospective study of all cases of *Pseudomonas* species and *Acinetobacter* species were collected from the Public Hospital laboratory, Guyana during the year 2012–2016.

Results: A total of 663 isolates of *Pseudomonas* species were tested for antibiotic susceptibility testing of which 90 (13.5%, 95% CI: 11.1–16.4) were MDR. Furthermore, 398 isolates of *Acinetobacter* species, were tested for antibiotic susceptibility testing of which 130 (32.7%, 95% CI: 28.1–37.5) were MDR and 13 (3.3%; 95% CI: 1.8–5.5) were PDR. The most effective-drug used on *Acinetobacter* species was Imipenem followed by Gentamicin. On the other hand, Piperacillin and Imipenem were the most effective against *Pseudomonas* species.

Conclusions: Judicious use of antibiotics and strict infection control measures are essential to reduce the prevalence of drug-resistance micro-organism in this region.

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The effects of structured physician delivered counselling on physical activity levels in sedentary primary care clinic attendees: A single blinded randomized controlled trial

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Objective: To measure and compare changes in physical activity (PA) level, blood pressure (BP), waist circumference (WC) and body mass index (BMI) of sedentary primary care clinic attendees who receive structured physician delivered counselling on PA, exercise prescription and follow-up phone call (intervention) versus sedentary primary care clinic attendees receiving standard care (control) at the beginning and at the end of a ten-month period of observation.

Methods: Simple, parallel, single blinded randomized controlled trial. Patients were randomly assigned to either: (i) An intervention arm or (ii) a control arm. Participants had their PA level, BP, WC and BMI assessed at baseline, 4 months and 10 months.

Results: One hundred and thirty patients (mean age 51 years) were enrolled in the study – 113 (86%) female, 78.1% of the patients in the intervention group were found to be sufficiently active by 10 months as opposed to 50.8% of the patients in the control group ($p = 0.002$). However, despite these increased levels of physical activity, there was no significant change in BP, WC and BMI.

Conclusions: The triple combination of physician delivered: structured physical activity counselling, written exercise prescription and follow-up phone call, did improve the patients' physical activity levels over a period of 10 months.

P – 3

Knowledge, attitudes and practices towards sugar sweetened beverage use and taxation among persons living with Type 2 diabetes mellitus attending polyclinics in Barbados

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Objective: What are the knowledge, attitudes and practices of persons living with Type 2 diabetes mellitus attending polyclinics in Barbados towards sugar sweetened beverage (SSB) use and taxation?

Methods: What are the knowledge, attitudes and practices of persons living with Type 2 diabetes mellitus attending polyclinics in Barbados towards sugar sweetened beverage (SSB) use and taxation?

Results: Mean knowledge score was 2.7 out of 5. Most persons were aware of the adverse effects of SSBs, for example, 80.3% of persons knew that SSBs cause weight gain. However, knowledge of SSB content was low. In addition, SSB tax knowledge was low (31.3% were aware that the tax is a 10% tax on SSBs). Persons perceived SSBs as unhealthy. Less than half of participants (44.1%) were in favour of the SSB tax. In addition, the amount consumed per day was small: 1.16 oz/day (SD 1.36 oz).

Conclusions: Knowledge concerning SSB's health effects is high but SSB content knowledge is low. Persons mostly perceive SSBs in a negative light and consume very small amounts per day.

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Factors affecting the level of compliance among filaria patients to their routine care, from August 14, 2018 – September 19, 2018 at the Ministry of Public Health Filaria Clinic

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Objective: To determine the factors affecting the level of patient compliance towards routine Filaria care at the Ministry of Public Health (MoPH) Filaria Clinic through the use of data analysis tools.

Methods: Observational study of 50 Filaria patients at the Ministry of Public Health (MoPH) Filaria Clinic; factors including location, socio-economic status, knowledge, and stigma and discrimination, were investigated using questionnaires.

Results: Majority of the population resided in Georgetown (64%), while 36% did not. Ninety-two per cent of the patients had access to transportation to attend the clinic, while 6% had limited access. Study showed that majority of the patients used buses and taxis *ie* 70% and 20%, respectively, to get there, while 10% used personal transportation. Moreover, 12% were refused access to public transportation due to their illness while 88% were able to use public transportation. Twenty-two per cent were challenged with the far distance from where they reside to the clinic. Fifty-six per cent stated that they do not work, whereas, 42% work. Thirty per cent experienced financial constraints. Furthermore, 16% indicated that the lack of knowledge about filaria treatment and management is also a challenge. Four per cent experienced lack of support from family and friends and 2% faced stigma and discrimination.

Conclusions: The major factor hindering patients from accessing the routine care provided at the clinic was financial constraints, followed by the far distance from which patients reside from the clinic, amongst others. Therefore, more effective health education programmes, free transportation and home visits are recommended to eradicate the challenges experienced by filaria patients.

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An evaluation of the food choices and lifestyle of women with gestational diabetes in urban Trinidad

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Objective: To assess the dietary intake of women diagnosed with gestational diabetes mellitus (GDM) in Trinidad.

Methods: A cross-sectional retrospective analysis of the usual dietary intake of women diagnosed with GDM. Information was obtained from 351 participants' records after interviews with a registered dietitian attached to Port-of-Spain General Hospital, Nutrition and Dietetics Department during the period 2012–2013. A standard nutrition screening and assessment tool was utilized. Means and standard deviations were used for continuous variables and Pearson Chi-square test was used to assess any statistical significant differences in the food choices and those with family history of diabetes.

Results: Nearly 72.8% were of 28–40 gestational weeks. Diabetes mellitus (43.5%) was found to be the most prevalent chronic disease with respect to family history. Of the participants; 3.4% were smokers, 4.9% had alcohol in pregnancy and 24.2% engaged in physical activity. Consumption of sugar sweetened beverages were the preferred choice both at lunch (45.6%) and dinner (24.6%). Processed staples such as rice, white bread and pasta were the predominant choice for lunch and dinner.

Conclusions: Consumption of refined carbohydrates amongst this population are consistent with previous studies which reflect the adoption of westernized diet. Policies geared towards entire households are needed to ensure healthier food and lifestyle choices to protect our future generations. Further studies are needed to determine factors that influence food choices and other health-seeking behaviours.

P – 6

Herbal medicine use among pregnant and postnatal women attending a tertiary health institution in Trinidad

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Objective: There is a high incidence of pregnancy- and postnatal-associated symptoms and this study was conducted to determine the use of and perceived effectiveness of herbal medicines amongst these women.

Methods: This study was cross-sectional in design and women were recruited by convenient sampling from the antenatal and postnatal clinics at the Mount Hope Women's Hospital in Trinidad. Two hundred and twenty women were interviewed with a *de novo* pilot-tested questionnaire to collect demographic and herbal medicine use data. SPSS (Version 22) was used for data input and analysis.

Results: From the 220 women interviewed; 220 answered questions for antenatal and 110 for postnatal herbal use. One hundred and eight women (49.1%) used herbs during pregnancy, with ginger, garlic, spices and orange peel being the most commonly used. Ginger was used for nausea and 'gas', garlic for 'gas' and high blood pressure, orange peel for 'gas' and nausea, while spices were used to induce labour. Sixty per cent of postnatal women used herbs, and the most commonly used were turmeric (*Curcuma longa*), vervain (*Stachytarpheta jamaicensis*), castor oil and ginger. Turmeric was used to remove 'blood clots', vervain to induce lactation, castor oil to remove blood clots/detox and ginger for 'gas' and nausea.

Conclusions: There is a high prevalence of use of herbal medicine amongst women attending the antenatal and postnatal clinics at Mount Hope Women's Hospital in Trinidad. Generally, most women using herbs perceived them to be at least fairly effective.

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A feasibility assessment of establishing a wellness centre in Buxton

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Objective: To determine the economic, technical and socio-economic viability of a wellness centre in Buxton to support efforts towards combating non-communicable diseases in Guyana.

Methods: A feasibility assessment against two alternatives to confirm comparative viability of the project was conducted. It assessed space capacity at the proposed centre, size of population to benefit directly and accessibility of clients and staff. The education and income level which influence citizen's ability to provide and sustain positive behavioural and lifestyle choices and total financial cost

of the project for 24 months was also assessed. The study was conducted using primary and secondary data including interviews with Regional Health Officers, facilities staff, onsite visits and inventory records.

Results: Buxton has a significantly larger catchment area, patient load and population which exceed those of Madhia. In Buxton 68% of residents completed secondary education against 71% for Festival City and 61% for Madhia, while 80% of the employed population at Buxton engaged in above elementary employment against 88% for Festival City and 61% for Madhia. Total project cost in Buxton is US\$ 191 726 and US\$ 161 726 for each alternative.

Conclusions: The establishment of a Wellness Centre in Buxton is a viable investment, however, given lower cost and relative unfavourable social-economic conditions in Madhia, this alternative could be explored.

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Boarding emergency department patients in a developing country: Short-term outcomes

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Objective: To evaluate Emergency Department (ED) boarding's effect on patient outcomes in a low-to-moderate resource healthcare setting.

Methods: We performed a retrospective cohort study of consecutive ED patients in a resource-poor country to determine how boarding affected two principal patient outcomes: inpatient mortality and mean hospital length-of-stay (LOS). We reviewed charts of patients admitted during a one-month period to adult (>13 years old) general medical and surgical units that boarded in the ED for > 6 hours. The comparison group was patients admitted to the same units who spent < 6 hours in the ED after being accepted for admission. Data analysis included frequencies, *t*-test for equality of means and the Chi-square test.

Results: Of 471 patient charts reviewed, 198 patients boarded > 6 hours; 273 boarded < 6 hours. There was no significant difference for the boarded vs non-boarded groups in their mean LOS in days (6.03 vs 6.49) or mortality rates (9.6% vs 10.6%), even after adjusting for age, clinical status, diagnosis and co-morbidities.

Conclusions: No significant difference between boarded and non-boarded ED patients in their LOS and mortality may have been due to the ED structure (open with a good view of nearly all patients) and staffing (more limited on inpatient units than the ED during off hours). These differences may allow the ED to provide equivalent patient care to inpatient units. These findings suggest that research findings related to the healthcare system may not be directly translatable to systems with differing resources and structures.

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Ethics analysis of the legalization of marijuana on public health in the Caribbean

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Objective: The focus of this paper is to explore the public health and ethical considerations in the context of the recent wave of interest around the legalization of marijuana in the Caribbean region.

Methods: This paper presents the perspective of the author using ethics review to look at the impact of legalization of marijuana on public health. An ethics framework for public health proposed by Kass (2001) was used to explore the major ethical issues and to examine how these may apply to public health. A review of the literature was also conducted to collect evidence on the different aspects of the framework.

Results: Whilst there may be some benefit associated with the use of marijuana for medical purposes, the public health benefits that will accrue from the legalization of marijuana are still not clearly defined. As it stands, the documented and potential harm seem to outweigh the benefits. Measures must be put in place to minimize burden and to maximize benefits.

Conclusions: We cannot say if the legalization of marijuana in the Caribbean presents any immediate public health benefit or if it will present a greater burden on public health. More evidence of the risks and benefits are needed to fully decide if such intervention will be beneficial in the Caribbean context.

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The effectiveness of Guyana referral network in the management of snake bite

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Objective: The main objective of this study is to examine the referral network in the management of snake bite.

Methods: The data set was a combination of primary data from expert interviews with regards to the realities of the *status quo* of the referral network in the treatment of snake bite. Data collected by employing the method of one-on-one semi structure interviews with key personnel within the Ministry of Public Health and who would have done clinical employment at the Georgetown Public Hospital Corporation (GPHC) and other levels of the healthcare system. The interviews were conducted with the aim of having a holistic understanding of nature of referrals to GPHC because of

snake bites and the implications on the efficiency of Primary Healthcare system and the referral network.

Results: Guyana has a decentralized healthcare system which involve the use of a referral network; an exception should be made with snake bites because of the time nature of the needed treatment and with the absence of antivenoms time becomes an important factor. The rural areas *versus* the urban areas where snake bites are most frequent, transfer to a hospital may not be feasible within the reasonable time-frame of a few hours.

Conclusions: The experts in Guyana healthcare system also contents that Guyana should venture more into research and development of snake bite management in Guyana with special focus on the production of antivenoms which would save lives by extension reduce sequela and save tax payers dollars.

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Developments in cancer control in Antigua and Barbuda

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Objective: To assess services for prevention, detection and management.

Methods: We obtained relevant statistics and publications, and held informal discussions with providers and patients to assess experiences.

Results: There is strong interest and focus on prevention by government and residents. Screening is increasing, but remains opportunistic and includes community-located fairs. Breast is more screened than prostate and cervix.

Setting-up an Oncology Ambulatory Unit at the Public Hospital (2009) and opening The Cancer Centre Eastern Caribbean TCCEC (2015) in St John Antigua, with public funding for radiation, improved access to contemporary evidence-based treatments, interdisciplinary decision-making and coordination, and accelerated management. Referral to TCCEC is increasing, but it is low for prostate and palliative cases. There is a hospice but no palliative programme in Antigua. Patient experience with hospital and TCCEC care has been very good.

Cancer mortality was nationally quite high for several decades (*eg* 2006–2015 saw 807 deaths; 53% just from prostate, breast and cervix cancers). At TCCEC, 80% of 182 newly diagnosed patients were curative and four-year survival estimate was 78%, with curative breast survival at 92%, prostate at 100%. Organ-sparing approaches have been introduced, given ready access to radiation (*eg* surgical

de-escalation at breast and axilla) and chemo-radiation (eg larynx). The one and two-year survival for TCCEC palliative cases were 45% and 25%.

Conclusions: Systematic screening and early detection would mean simpler treatments with better outcomes at lower costs. Recent data imply better cancer control. A national registry and cancer plan are needed.

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An assessment of childhood and adolescent obesity and competitive food environments in primary and secondary schools in St George East and Tobago Educational Districts

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Objective: Assess the prevalence of obesity among children and adolescents in St George East Educational District and Tobago and to examine the consumption patterns of students in relation to competitive foods and beverages at primary and secondary schools in St George East and Tobago Educational Districts.

Methods: The study was conducted in two of eight educational districts in Trinidad and Tobago. Multi-stage sampling was used to determine the districts, schools and students participating in the study. The International Society for the Advancement of Kinanthropometry protocol use to measure anthropometrics. Consumption patterns were assessed using a validated food frequency questionnaire.

Results: One thousand five hundred and fifty-six students, 794 males, 762 females participated. Mean age was 11.34 ± 1.71. An association ($p = 0.000$) was found between weight status and central obesity. Significant differences ($p = 0.001$) between consumption at school and not at school were observed. The actual consumption of items both at school and not at school were below the Caribbean recommendations.

Conclusions: There were no significant differences between obesity and age, gender, and school groups among primary and secondary school students. The home and community environments played a role in the overall health and well-being of children and adolescents. Assessment of these environments can enable the promotion of healthful eating behaviours.

P – 13

A clinical audit on physician adherence to eye/foot screening clinical practice guidelines for Type 2 Diabetes mellitus patients at the Penal Rock Road Health Centre, South Trinidad, 2015–2017

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Objective: To assess the change in physicians' adherence to eye/foot screening clinical practice guidelines (CPG) for Type 2 Diabetes Mellitus (DM) patients following a physician continuing medical education (CME) session, 2015–2017.

Methods: Design: Descriptive, retrospective, cross-sectional. Settings and Study Participants: In 2015–2016, 200 Type 2 DM patients' notes were surveyed using systematic random sampling from the chronic disease register at the Penal Rock Road Health Centre (PRRHC). The proportion of documented physicians' eye/foot screening referrals was noted. Following this, a physician CME session was conducted. The notes were then re-audited for 2016–2017. Main Outcome Measures: Change in proportions of annual eye/foot screen referrals. Statistical Methods: Descriptive Statistics were used to calculate the proportions of referrals at baseline and following the intervention.

Results: The sample consisted of 85 (42.5%) males and 115 (57.5%) females. The mean (SD) age of the sample was 59.19 (11.44) years. Ninety per cent of the Type 2 DM patients had hypertension while 16.5% had ischaemic heart disease. At baseline, 20 (10.0%) of Type 2 DM patients, had physician documented referrals for eye screening within the past year and one (0.5%) had a foot screening referral. Following a physician CME session, there was an increase of 174 eye screening referrals and 59 foot screening referrals from baseline.

Conclusions: A physician CME session on the CPG for managing Type 2 DM patients seemed effective. In future, this study can be conducted for a larger sample of Type 2 DM patients from clinics at different geographical locations in Trinidad.

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Screening of potential anti-diabetic properties of Barbadian folklore from medicinal plants using a non-conventional drug-target

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Objective: To determine by *in vitro* analysis, potential anti-diabetic effect of the constituents of crude chemical extracts isolated from *Mormordica charantia* (Cerasee), *Phyllanthus niruri* (Seed under leaf) and *Catharanthus roseus* (Periwinkle) by the inhibition of non-conventional drug-target, protein tyrosine phosphatase 1B (PTP1B).

Research Question: Will crude chemical constituents extracted from these medicinal plants show potential anti-diabetic properties by inhibiting the drug-target PTP1B?

Hypothesis: Crude chemical constituents extracted from the plants will show potential anti-diabetic properties by inhibiting the drug-target PTP1B.

Methods: Plants were sourced locally and identified. Methanol, hexane, acetone and water were used to extract crude compounds of the dried leaves and stems of the plants. Concentrations of 0, 10, 20 and 40 µg/mL in 4% dimethyl sulfoxide solution were used with the *in vitro* assay of PTP1B.

Results: All concentrations were analysed using the enzyme. Hexane extracts of Cerasee and Periwinkle showed potential inhibitory effects. Further testing of 0, 10, 20 and 40 µg/mL concentrations was done. Hexane activity results (Absorbance (414 nm)/min) for Cerasee are $(3.7 \times 10^{-4} \pm 2.1 \times 10^{-5})$, $(-1.1 \times 10^{-4} \pm 0.8 \times 10^{-5})$, $(-1.0 \times 10^{-4} \pm 0.8 \times 10^{-5})$, $(-0.4 \times 10^{-4} \pm 0)$ and Periwinkle $(3.7 \times 10^{-4} \pm 2.1 \times 10^{-5})$, $(-0.3 \times 10^{-4} \pm 1.7 \times 10^{-5})$, $(-0.5 \times 10^{-4} \pm 2.1 \times 10^{-5})$, $(0.04 \times 10^{-4} \pm 0.4 \times 10^{-5})$, respectively. Dose response curves of the hexane extracts; Cerasee (IC₅₀ = 2.51 µg/mL) and Periwinkle (IC₅₀ = 2.98 µg/mL) were plotted.

Conclusions: *In vitro* analysis of the positive control and hexane extracts showed enzymatic activity and inhibitory effects on the activity of PTP1B. Inhibitory effects may potentially lead to development of new drug leads for management of Type 2 diabetes. Additional, work will be done to further explore drug-dose response relationships of the hexane extracts.

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Communication channels influence on parental attitudes towards nutrition of children with disabilities

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Objective: To assess parental attitudes and practices toward the nutrition of their child with a disability and to determine the channels through which nutritional information was received.

Methods: A sample of 22 primary caregivers of children with disabilities aged 2–12 years were identified using a purposive sampling technique. Two focus group sessions consisting of eight persons and six individual interviews were conducted utilizing a questionnaire with predetermined questions. *In vivo* coding was used to identify emerging themes.

Results: Parents possessed a positive attitude towards their child and nutritional needs. While mothers were noted to be the central figure in feeding and food preparation, culture was identified as a major influence on the feeding practices utilized. This influence was seen in the sources of informa-

tion identified, with the most reliable and dependent being cited as mothers and grandmothers. Other sources of nutrition information identified included interpersonal sources and mass media.

Conclusions: The findings strongly suggest that culture influences nutritional attitudes and feeding practices. This in turn influence the communication channels utilized to obtain nutritional information. Parents appeared to have prioritized the nutritional information received from their parents and grandparents however, they appeared willing to receive new information about how to improve the nutritional outcome of their child.

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A Needs Assessment Survey of households in St Croix in the aftermath of hurricanes Irma and Maria

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Objective: To identify needs resulting from damage caused by Hurricanes Irma and Maria among households in St Croix, United States Virgin Islands.

Methods: Members of St Croix Foundation staff administered surveys to 1050 persons representing households on St Croix from October to December 2017. Participants were surveyed in a number of locations across St Croix, primarily in public venues offering services to hurricane survivors (eg, aid distribution centres, health fairs). Exigencies associated with disaster response did not permit randomized sampling; however, data collectors attempted to stratify the sample geographically.

Results: Although sampling limitations limit broader inferences, we report a descriptive summary of reported hurricane damage and needs of individual households. The vast majority of respondents experienced material damage from the storms, 91.9% reported that their home sustained one or more types of damage. Nearly 1 in 10 houses reported the presence of occupants with unmet medical needs. Over half of households reported no access to water. Only a minority of homeowners (37.6%) reported having insurance, 43.3% of households had been contacted by The Federal Emergency Management Agency and 72.0% had filed for assistance. The vast majority of respondents (86.7%) intended to remain in the Territory.

Conclusions: Although the sampling strategy limits generalizations, the present study provides some useful descriptive detail of the impact of Irma and Maria in the immediate aftermath of the storms. This information regarding the nature and extent of damage, as well as the functioning of response efforts, has implications for disaster response planning and implementation.

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Nurses' documentation of client teaching and discharge planning on medical wards at a Jamaican hospital

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Objective: To determine the level of client teaching and discharge planning conducted by medical-surgical nurses at a Jamaican hospital.

Methods: This descriptive cross-sectional audit of 131 records from six medical wards. The audit instrument was developed based on the Ministry of Health Jamaica guidelines and appraised the completeness of assessment, use of the nursing process, patient teaching and discharge planning. Quota sampling was used to select medical records which met the inclusion criteria. The Statistical Package for Social Sciences, Version 22 facilitated data analysis.

Results: Eighty-eight (67.2%) adult and 43 (32.8%) paediatric records were audited; 89.3% indicated the clients were diagnosed with at least one non-communicable disease. Less than 15% of records reflected documented evidence of client teaching within the first 72 hours of admission. On the day of discharge only 18.3% reflected patient teaching. Nurses seldom began discharge planning within the 24 hours of admission as only 6.9% records had evidence of same. These trends were common to adult and paediatric units.

Conclusions: The requisite patient teaching and discharge planning appeared to be lacking in the records reviewed. Strategies designed to improve nursing documentation and practice with respect to empowering clients to care for self are needed and should include additional training for nurses. Additional research is needed to determine factors which could facilitate improved patient teaching and discharge planning.

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Generating support for food safety policies in Caribbean Nations: An approach for Trinidad and Tobago

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Objective: This paper proposes a conceptual model to inform strengthening national food safety policies in the context of a small island developing state, and international health forces, using the case of Trinidad and Tobago.

It seeks to propose national-level features of an efficient, effective and sustainable food safety policy to support participation in international trade and tourism, and to identify a conceptual approach through which Trinidad and Tobago can positively influence food safety operations.

Methods: A retrospective qualitative study incorporating document analysis was conducted. An evaluation model based on the principles of: awareness of the local policy environment, windows of opportunity and harmonization guided the document analysis. This focussed on extracting prescriptive information on how to ensure safe food for consumers and which can be translated into an action at the individual, organizational and national level.

Results: Prescriptive information on how nations are to proceed with developing a system to ensure safe food for consumers centred around five data themes: Codex Alimentarius, sanitary and phytosanitary measures agreement, technical cooperation, food safety and quality capacity and a systems approach to food safety.

Conclusions: Food safety will continue to be an important issue for the nation. However, the progress towards ensuring safe food has been limited, thus far. Considering the evidence-base of the macro and micro level factors related to food safety, incorporating these into a theoretical model sets out a pathway for strengthening food safety operations in Trinidad and Tobago.

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A SWOT analysis to assess the feasibility of implementing an environmental health surveillance system for the Caribbean Region

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Objective: To review and analyse national and international environmental surveillance systems and best practices to determine facilitators and barriers that may influence the implementation of an environmental health surveillance system for the Caribbean Region.

Methods: A literature review was conducted, and further information was gained by collecting subject matter experts' (SME) perspectives using informal interviews. The information was then applied to a strengths, weaknesses, opportunities and threats (SWOT) analysis in order to define facilitators and barriers and to advance best practices recommendations for the successful implementation of an environmental health surveillance system.

Results: Twenty-one types of literature; five strategy documents, two technical documents, six guidelines, four reviews, two modules, one editorial and one online publi-

cation were isolated and identified available best practices, associated with implementation guidelines, methodologies and standards for environmental health surveillance. Interviews with four SME from CARPHA revealed that fragments of environmental surveillance practices exist in the Caribbean, but a system that integrates environmental properties with health within the Region does not exist. A strengths, weaknesses, opportunities and threats analysis revealed the challenges in the current system that affect function and development; the potential opportunities in implementing an environmental health surveillance system based on information acquired from existing international systems; the political, resource and capacity barriers that obstruct the implementation of an environmental health surveillance system.

Conclusions: It is feasible to implement an environmental health surveillance practice for the Caribbean region. Available best practices collated from international environmental health surveillance systems, implementation guidelines, and regional strengths can assist in designing and implementing a surveillance system for the Caribbean.

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Doctor of Medicine in Internal Medicine at The University of the West Indies, Cave Hill: 1988–2018

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Objective: To examine the Doctor of Medicine (DM) programme in Internal Medicine at The University of the West Indies (UWI), Cave Hill from 1988–2018 and to determine if its mandate of training Internal Medicine specialists to meet the needs of the Caribbean islands has been met.

Methods: Candidates who enrolled at Cave Hill between July 1st 1988 and June 30th 2018, and for whom it was possible to make a definitive conclusion on outcome, were included. Information was recorded on: completion and withdrawal rates; gender distribution and countries of origin of enrollees and graduates; countries of practice and types of jobs held by graduates.

Results: Forty-eight persons met the eligibility criteria; 26 (54%) were female and 22 (46%) were male. Twenty-six persons (54%) completed the programme of whom 14 (54%) were female and 12 (46%) were male. Seventeen (35%) voluntarily withdrew from the programme while 5 (11%) were required to withdraw. Thirty-three (69%) of the enrollees and 19 (73%) of graduates were of Barbadian origin.

Of the 26 graduates, 21 (81%) were practicing in the Caribbean with the majority 18 (69%) practicing in Barbados. Nineteen of the 21 graduates practicing in the Caribbean (73% of all graduates), were in jobs that included public service.

Conclusions: In spite of a completion rate of only 54%, DM Internal Medicine at Cave Hill can claim a high Caribbean retention rate of 81%. However, that the vast majority of both enrollees and graduates are of Barbadian origin suggests that the other territories of the Eastern Caribbean might be underserved.

P-21

Determinants of glycaemic control in a specialist diabetic population in Barbados

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Objective: To identify the characteristics and determinants of glycaemic control in patients with Type 2 diabetes attending a private specialist clinic in Barbados and to compare results with that of a large Canadian registry.

Methods: A cross-sectional study of patients with Type 2 diabetes attending a private specialist diabetes clinic in Barbados. Using haemoglobin (HbA1c) as a marker of glycaemic control, other variables were analysed to determine which were independently related to it. Haemoglobin A1c was also divided in three groups: good control (HbA1c = 7%); moderate control (HbA1c 7.1–8.9%) and poor control (HbA1c = 9%) and the groups with good *versus* poor control compared.

Results: one hundred and ninety-three patients were enrolled (58% female, 87% black). The mean age was 64.8 ± 11.6 years. The median duration of diabetes was 14 years (IQR 7, 21). Thirty-eight per cent of patients used insulin, the mean HbA1c was 7.6% ± 1.33%, 43% of patients had good control and 16% had poor control. Haemoglobin A1c was independently related to body mass index (BMI) and insulin use. Patients on oral anti-hyperglycaemic agents only, had significantly better control (mean HbA1c 7.1%) compared to those on insulin alone (8.4%, $p < 0.001$), or in combination with oral medication (8.6%, $p < 0.001$). Patients with poor control had younger age at diagnosis, longer duration of disease, more use of insulin and had a higher BMI than the group with good control.

Conclusions: The characteristics and determinants of control of this private specialist population in Barbados were similar to that of a larger Canadian specialist database. Insulin use and BMI were strong predictors of glycaemic control.

P-22

Attitudes of emergency medical services stakeholders in Barbados: A convergent parallel mixed-methods study

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Objective: To examine the attitudes of Accident and Emergency (A&E) doctors, pre-hospital emergency medical services (EMS) providers and A&E nurses based on the tripartite model of attitudes theory. How do the attitudes of EMS stakeholders in Barbados align with the attributes of the 1996 EMS Agenda for the Future?

Methods: A convergent parallel mixed-methods design was used. Beliefs, affect, and behaviour measures were used as dependent and independent variables. Stakeholders were examined collectively and separately. Purposeful sample ($n = 105$). Semi-structured interviews and a four-part survey were used to answer eight research questions. Inferential statistical methods were applied using SPSS. NVivo was used to code qualitative information collected.

Results: A confidence interval of 0.95 was used to report findings. A significant regression model based on beliefs and behaviours was identified for pre-hospital EMS providers ($F(1, 63) = 9.278, p = 0.003$), with an R^2 of .130. A significant regression model based on affect and beliefs was identified for A&E doctors ($F(1, 27) = 5.896, p = 0.022$), with an R^2 of 0.179; pre-hospital EMS providers ($F(1, 62) = 10.931, p = 0.002$), with an R^2 of 0.150; and A&E nurses ($F(1, 9) = 7.318, p = 0.024$), with an R^2 of 0.448. Eight themes emerged from the research.

Conclusions: Emergency medical services legislation and regulation and medical direction are important in the English-speaking Caribbean as they address a strategic priority of the CARICOM. A 2050 “EMS Agenda for the Caribbean” is suggested to strengthen pre-hospital EMS and serve as a future model for out-of-hospital care in the Region.

P – 23

the use of tracer medicines for the monitoring of availability of maternal and child health medicines: The case of Guyana

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Objective: To determine the availability of essential medicines in Maternal Child Health (MCH) care, in the Primary Healthcare Facilities in Regions 2, 3, 5, 6 and 7 from 12 sites between January and June in 2018 in Guyana.

Methods: A questionnaire was administered to examine the availability and stock-outs of essential tracer or representative MCH medications at the selected facilities. A team of investigators visited pharmacy outlets at the various health facilities with survey instruments to record the availability and stock-outs of the tracer medicines.

Results: An analysis of the data is summarized as follows. When focussing on contraceptives, 29% had an adequate

supply, whereas 18% had low stocks. A further 9% had available but expired stocks and the remaining 44% were out of stock. For antibiotics, 29% were adequately supplied, 57% had low stocks, 0% had expired stock and 14% were out of stock. Other tracers showed 22.5% of adequate supply, 55% had low stocks, 0% had expired stocks and 22.5% had no stocks. Finally, in the case of all medical supplies, 31% had adequate supply, 25% had low stocks, 20% had expired stocks and 24% had no stocks.

Conclusions: Guyana has a maternal mortality of 229/100 000. From the data, it can be concluded that the availability of contraceptives and Maternal Child Health Medicines should improve so as to enhance the care to pregnant mothers and their children in the common bid to decrease the maternal mortality ratio.

P – 24

A catastrophic cost of tuberculosis on infected patients and their affected households in Regions 2, 4 and 8 in Guyana, 2018

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Objective: To investigate and determine the catastrophic cost of tuberculosis (TB) had on infected patients and their affected households in Regions 2, 4 and 8 in Guyana, 2018.

Methods: This study employed a cross-sectional, quantitative and descriptive design. A population of 45 participants, aged 18 to 65 years were elicited, using a random stratified sampling. The tool to Estimate Patient Costs, developed by the KNVC Tuberculosis Foundation and The World Health Organization (WHO) was modified for this study. Data obtained *via* pretested questionnaire and analysed using SPSS Version 23.0.

Results: Findings of this study revealed that 69.9% of the participants were diagnosed with pulmonary tuberculosis of which 76% were males. The most affected age range were 26–35 years. Amerindians (33.3%) were the most vulnerable ethnic group. Mean number of occupants in home was 5.3.

Results shown that 57.8% of respondents had no changes to diet because of limited financial support. Those who could afford spent over \$250 USD per month on their nutritional status, 42.2% bought additional supplement, 53.3% spent \$25–50 USD monthly, 88.9% had at least one to two visits per month to the hospital and 53.3% spent \$1–10 USD per visit.

Region 8 had the highest mean of transportation cost of \$150 USD per visit, 82.2% stopped working due to TB illness, 40.5% had non productivity for three to six months, 44.4% had no additional financial support and 20% had relatives who stayed at home to care for them.

Conclusions: Patients diagnosed with the TB disease are faced with much discomfort and financial hardships. Accessibility, affordability, policy-making and need for social security interventions is pivotal in preventing catastrophic impacts due to TB disease in the country. Therefore, the Health sector plays a vital role in ensuring optimal health is accessed and afforded by all citizens of Guyana.

P – 25

Detection of extended-spectrum beta-lactamase and AmpC beta-lactamase production in clinical isolates of escherichia coli and klebsiella pneumoniae in a tertiary care hospital in Georgetown, Guyana

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Objective: The aim of this study was to determine the frequency of isolation of extended-spectrum beta-lactamase (ESBL)- and AmpC beta-lactamase-producing clinical isolates of *Escherichia coli* (*E coli*) and *klebsiella pneumoniae* (*K pneumoniae*) at a tertiary care hospital in Georgetown, Guyana. This study also sought to compare the double disk synergy (DDST) method to the widely recommended Clinical and Laboratory Standards Institute (CLSI) combination disk method for the detection of ESBLs.

Methods: The study was conducted between the months of May to August 2017. All *E coli* and *K pneumoniae* isolates identified by the hospital were subjected to ESBL and AmpC screening and confirmatory testing.

Results: It was found that the frequency of isolation of ESBL-producing *E coli* was almost 40% (22 positives out of 55 clinical isolates); and that of *K pneumoniae* was 63% (37 positive out of 60 clinical isolates). AmpC Lactamase production was also detected in strains of both organisms at a rate of 10.8% for *E coli* and 8.4% for *K pneumoniae*. The study findings also indicated that the DDST method used by the hospital was inadequate for the detection of ESBLs in both of these commonly encountered pathogenic organisms.

Conclusions: This is the first study of this type to examine ESBL and AmpC production in clinical isolates in a hospital setting in Guyana and the findings highlight the urgent need for effective testing, surveillance and monitoring strategies to prevent and/or control the spread of resistant *E coli* and *K pneumoniae*.

P – 26

The implementation of a standardized paper-based chronic non-communicable diseases registry at primary healthcare clinics, South-West Regional Health Authority, 2017

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Objective: To implement a standardized paper-based chronic non-communicable diseases (CNCD) registry in the primary healthcare Centres, South-West Regional Health Authority (SWRHA).

Methods: Design: Cross-Sectional. Settings and Study Participants: In 2017, a standardized paper-based registry was implemented at the thirty-three public primary healthcare clinics, SWRHA. A CNCD Registry Assessment Survey was administered to 94 end-users to evaluate the implementation outcomes of the registry. Main Outcome Measures: The implementation outcomes were assessed in the domains of feasibility, fidelity, penetration, acceptability, sustainability, uptake and costs. Statistical Methods: Descriptive Statistics (number and percentages) were used to evaluate the implementation outcomes of the registry.

Results: Responses from fifty-two end-users were analysed. Most of the responses came from County St Patrick 19 (36.5%) and County Caroni 19 (36.5%) and from the Primary Care Physicians 1 (50.0%). Most end-users thought that the CNCD registry was well accepted (84.2%); easily adopted (91.02%); appropriate (76.0%); feasible (82.7%); had fidelity (85.9%); and easily penetrated (82.7%), 42.3% thought that the cost of implementation was high, while 30.8% were neutral, 71.2% thought that the paper-based CNCD registry should be sustained, and 94.2% of end-users thought that an electronic CNCD registry should be implemented.

Conclusions: The implementation of a standardized paper-based registry is possible and feasible. We were able to define the burden of five main CNCDs and two risk factors of overweight/obesity and smoking for the chronic disease clinic population through this process. For the future, we wish to implement an electronic CNCD registry.

P – 27

Adolescent smoking and the Health Belief Model: A literature review

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Objective: The objective of this research was to determine the main predictors of tobacco smoking using the tenets of the Health Belief Model (HBM).

Methods: A systemic literature review was conducted using keywords in five databases. Boolean operators “AND” and “OR”, truncations and wildcards were used to locate relevant articles in the databases namely Medline, EMBASE, Global Health, PsycINFO and Scopus.

Results: A total of 259 articles were found utilizing the systemic literature approach. However, after careful review only five final articles were included that met all inclusion criteria and found to be of relevance to the HBM and smoking in adolescents in the Caribbean and Guyana context. The main tenets identified from the HBM were cues to action, self-efficacy, perceived benefits and perceived barriers.

Conclusions: The main predictors identified in the model that influences behaviour change were cues to action followed by self-efficacy and perceived benefits and lastly perceived barriers. While systemic reviews usually include a larger amount of final records to make concrete conclusions, the results of these five studies are fairly generalizable to the Caribbean and Guyana context since there is paucity of data on the HBM and adolescent smoking. That said, further studies are much encouraged to gain a broader understand of this relationship.

P – 28

Climate change, food security and small island developing states in the Caribbean

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Objective: To assess the correlation between extreme weather events/climate change and the food supply/production and health indicators in the small island developing states (SIDS) Region.

Methods: Statistical data from the Food and Agriculture Organization of the United Nations, FAOSTAT, was accessed and interpreted alongside data from the Nutrition Landscape Information System (NLIS) Integrated The World Health Organization (WHO) Nutrition Global Databases, and National Oceanic and Atmospheric Administration for the years 1995–2014. This project is still ongoing.

Results: Between the years of 1995–2014, the Caribbean Region saw an increase in the number of tropical storms, hurricanes and major hurricanes. In the same timeframe, this SIDS Region witnessed a 50% production decrease in its most produced commodity, raw sugar cane, (from ~ 4 million tons to ~2 million tons) and a ~50% decline in fresh vegetable production since 2002–2003. Fresh fruit production has remained consistent on average since 2002–2003. However, the SIDS Region is seeing a steady increase in food supply and fat/protein quantity in this same timeframe. Between 1990 and 2016, five Caribbean SIDS countries had between 11% and 53% of their population that were undernourished.

Conclusions: Extreme weather events are leading to a decrease in the domestic production of food, an increase in food imports in the Caribbean SIDS Region and worsening health outcomes.

P – 29

Effectiveness of niosomal (non-ionic surfactant vesicles) levofloxacin in a *Staphylococcus Aureus* Model of peritonitis in Sprague Dawley Rats

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Objective: To examine the efficacy of levofloxacin loaded niosomes in treating Sprague Dawley rats infected with *Staphylococcus aureus* (ATCC 29213).

Methods: Three groups of six animals were infected with a known dose inoculum of *Staphylococcus aureus* via the intraperitoneal (Ip) route. At eighteen hours post-infection, animals were treated with drug free niosomes (control), free levofloxacin (conventional) and levofloxacin trapped in niosomes (Ip). Complete blood counts and viable bacterial colony forming units (CFU/ μ L) were performed on blood collected via tail snips on days 0, 1, 3, 5, 7 and 10. At day ten the animals were sacrificed and samples from the kidney, liver and spleen were examined for bacterial counts.

Results: One animal in each group succumbed to the infection. The mean lymphocyte count (X 10⁹) was similar for the treated groups - niosome (8.726 \pm 1.864) versus conventional (9.29 \pm 2.744) versus control (14.214 \pm 7.396) [p < 0.663] at day ten. Neutrophil counts (X 10⁹) was similar for the treated groups at day ten - niosome (2.726 \pm 1.864) versus conventional (2.214 \pm 0.725) versus control (14.73 \pm 20.997) [p < 0.21]. The niosome treated group showed greater reduction in liver colony forming units (CFUs), whilst the kidney and spleen CFUs were similar for the treated groups. The CFUs for niosome vs conventional vs control in liver, kidney and spleen were (9.4 \pm 13.539) vs (19.6 \pm 25.324) vs (42.8 \pm 36.64) [p < 0.174], (9.8 \pm 19.189) vs (9.4 \pm 11.216) vs (45.4 \pm 41.09) [p < 0.92] and (8.2 \pm 15.123) vs (11.2 \pm 15.116) vs (51.4 \pm 46.21) [p < 0.205], respectively.

Conclusions: Further work using niosomes as a drug delivery system to treat intracellular infections caused by *Staphylococcus aureus* in intact animals is recommended.

P – 30

Perspectives from the congregations taking action against non-communicable diseases (CONTACT) study: Opportunities and challenges for a paradigm shift in strengthening primary healthcare systems

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Objective: To embed places of worship (PoWs) into primary healthcare (PHC) systems for prevention and control of non-communicable diseases (NCDs), the CONTACT study sought to identify a set of both important and feasible targeted actions for implementation in Guyana, Jamaica and Dominica.

Methods: Concept mapping, a mixed-methods systems approach, uses qualitative procedures to generate thoughts across a group on a topic of interest, followed by quantitative methods to synthesize and represent the group's ideas visually in a series of maps. Multi-sectoral samples of stakeholders (Guyana = 18; Jamaica = 12; Dominica = 16) representing religious, health and community sectors were purposefully recruited. Data collection involved generation and sorting of statements by participants. Concept maps were then developed using hierarchical cluster analysis.

Results: Brainstorming resulted in 371 final statements. Across all countries, perspectives signalled a strong perception of benefits from embedding PoWs into the primary care pathway. The overall view was that at-scale, multi-sectoral action and cooperation were important and feasible actions, with emphasis on buy-in at the outset from communities, congregations, government ministries and healthcare practitioners. Actions included appropriate recruitment and training of health advocates (HAs) from the congregations, financing, and preparedness of PHC centres and PoWs. There were also areas for proposed action that participants rated as important, yet did not regard as feasible. These varied within and between countries and related more to recruitment and training of HAs than ability of PHC centres to promote the service or impact of HAs.

Conclusions: These findings informed the logic model for subsequent phases of implementation in the CONTACT study. They strongly support transformative improvements to NCD prevention and a paradigm shift in how we invest in and strengthen health systems for prevention.

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Recruitment and training of health advocates in the congregations taking action against non-communicable diseases (CONTACT) study in Guyana: Challenges and solutions

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Objective: The CONTACT study aims to integrate places of worship (PoWs) into the primary care pathway by training lay congregants as health advocates (HAs). This paper describes the procedures utilized, and approaches to overcoming challenges encountered, in HA selection and training.

Methods: Three churches, three mandirs and three mosques were recruited for the study. We aimed to engage one male and one female HA from each PoW, using prespecified criteria that were publicized at POWs. Religious leaders nominated candidates to be interviewed and tested on numeracy and literacy. An HA Training Manual, based mainly on the Lay Diabetes Facilitator Training Manual for six English-speaking Caribbean countries (PAHO, Bridges), was used to train HAs to provide health promotional support for NCD prevention and control. Facilitators included CONTACT Staff and technical experts from the health sector.

Results: Twenty-two females and seven males were nominated. Candidates did not all meet minimum criteria for selection, especially those related to literacy and previous volunteer experience, leading to relaxation of criteria. Fifteen HAs were eventually selected after 19 interviews: 10 females and 5 males, aged 18–66 years. All HAs participated in the training. The Training Manual (content, language) was simplified to accommodate literacy levels of HAs and their target audience. Refresher training sessions and daily reminders *via* a WhatsApp group allowed reinforcement of key concepts and solution of challenges as they arose.

Conclusions: In order to better serve its target population, the CONTACT Study modified its intervention and related HA training based on characteristics and recommendations of the communities involved.

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Understanding the drivers of childhood: Important preliminary findings of qualitative inquiry into the socio-ecological factors influencing childhood obesogenic environments in the island of Barbados

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Objective: To understand the socio-ecological factors influencing food choices in children and adolescents aged 8–19 drawn from the general population attending a childhood obesity prevention and management programme (COPMP) in Barbados.

Methods: Participants with a diagnosis of childhood overweight/ obesity in Barbados were purposively selected with the assistance of a Civil Society Organization providing care on the islands of Barbados. Fifteen individual, face-to-face semi-structured interviews- in-depth interviews were conducted in reaching saturation. All interviews were audio-taped and transcribed verbatim. Data was analysed using thematic analysis with constant comparison.

Results: Childhood obesity is a complex phenomenon, with multiple inputs from the individual, health system and societal level. We identified concepts influencing childhood obesity. These were: Non-Supportive Food School Environments, The Nature of Family Support, Psychological perception of food and Skewing of food choices to western non-traditional Caribbean food types.

Conclusions: This work has produced promising hypothesis on the determinants of obesity in a youth population of a small island developing state at population level and examine the feasibility of options for intervening. The hypotheses generated by this study are consistent with the relevant literature. What is known about the local context suggests similarities with other settings in which similar factors have been found to drive the levels of childhood obesity. Further work will look at exploring these themes at the population level. Additionally, work should be done to examine the feasibility of interventions that would address these themes in the local context.

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Identifying health determinants in rural Trinidad with a community-based participatory research approach

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Objective: Assess community perspective on key health issues in rural Trinidad using a Community-based Participatory Research approach (CBPR).

Methods: An anonymous cross-sectional needs assessment survey consisting of 14 questions was administered to 91 community members. Health determinants were ranked based on response frequencies from participants.

Results: Findings showed a wide range of health determinants, including diabetes (55%, n = 48), high blood pressure (43%, n = 37) and health problems associated with ageing (29%, n = 25) as the three most important health problems. More than one-third of respondents reported “a good place to raise children”, “access to healthcare”, “good schools” and “clean environment” were key factors for determining a ‘healthy community’. Alcohol abuse (76%, n = 67), drug-abuse (50%, n = 44) and poor eating habits (32%, n = 28) were reported as the top three riskiest behaviours.

Conclusions: The primary health concerns for Toco community members were chronic, non-communicable diseases like diabetes and hypertension as well as poor lifestyle habits including alcohol and drug-abuse as well as poor dietary habits. Community-based Participatory Research approach identified these health determinants with community involvement and provide the opportunity to create tailored interventions to reduce health disparities while addressing top community concerns.

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The cost to fully immunize an infant at one year in Guyana

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Objective: The purpose of this study is to address the question: How much does it cost to fully immunize an infant at one year.

Methods: A micro-costing study analysing the direct costs related with vaccination of the 12 months and under population was conducted utilizing secondary data. Data was extracted from the Family Health Services Budget, the Essential Neonatal and Obstetric Care Survey-2018 as well as administrative data of the Ministry of Public Health, it accounted for purchase of vaccines, administrative cost and vaccine delivery.

Results: The total direct cost to fully immunize the 12 months and under population is \$781 657 and the average cost to fully immunize an infant of this population in Guyana is US\$49.80. The calculated unit cost as provided by the Pan American Health Organization/World Health Organization (PAHO/WHO) and GAVI is \$18–\$24. Cost varies depending on location and if access to service is in the private or public system.

Conclusions: The average direct cost to fully immunize a child at one year in Guyana is \$49.80 which is two times the cost proposed by PAHO/WHO. Other indirect costs if factored into this equation will further increase this cost.

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Exclusive breast-feeding among mothers at health centres in the North Central Regional Health Authority in Trinidad and its associated factors: A cross-sectional study

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Objective: To determine the prevalence of exclusive breastfeeding and significant associated factors influencing exclusive breastfeeding, and to assess the knowledge, attitudes/beliefs and practices of breast-feeding among mothers.

Methods: A cross-sectional survey was conducted amongst a convenience sample of mothers attending child health clinics at local health centres in North Central Regional Health Authority using a pretested structured questionnaire.

Results: Of two hundred and forty-six mothers approached, 240 mothers were interviewed using a pretested questionnaire. The prevalence of exclusive breastfeeding for at least six months was 15.4% with a mean duration of 2.84 months. The percentage of mothers who initiated breastfeeding was 96.25%. The main reasons for not exclusively breastfeeding were baby not satisfied (26.5%), insufficient milk (20.1%) and work related reasons (15.3%). Regarding knowledge of breastfeeding and its benefits, mothers were well informed and displayed positive attitudes towards breastfeeding. However, 117 mothers (49.5%) agreed that babies need water in addition to breast milk in first six months of life and this was proven to be a positive significant predictor of exclusive breastfeeding ($p = 0.000$). Other positive significant predictors were mother's monthly income, marital status, social and financial support, and advice given by family/friends.

Conclusions: Breastfeeding rates are slowly rising, which are reflected in all categories. The paternal role impacts on breastfeeding and should be assessed in future studies. Assignment of lactation consultants/ availability of professional breastfeeding support services at the primary care level will assist in increasing national breastfeeding rates.

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Breast cancer experience in Antigua and Barbuda at The Cancer Centre Eastern Caribbean

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Objective: To assembly analytics for women with breast cancer referred to the cancer centre 2015–2019, after the centre opened in St John, Antigua.

Methods: Prospective data were acquired effective July 2015, and cases grouped by clinical contexts (eg newly diagnosed, distant failures) for series and cohort analyses.

Results: Of 291 Antigua cases, 93 (32%) were women with breast cancer. Eighty-two had consultation before January 1, 2019: 27 palliative and 55 curative situations (7 curative were detected by screening). Palliative situations included newly diagnosed Stage IV, progressive locally-advanced disease, loco-regional recurrences (no prior adjuvant radia-

tion) and distant failures. These 27 had lower age and higher stages at initial diagnosis and experienced shorter survivals from diagnosis, naturally. For the 53/55 with newly diagnosed curative disease (2 were follow-up cases) there were some breast conservation operations plus sentinel node biopsies because radiation was available. Radiation volumes included breast only or breast plus nodal levels in 20 cases, else chest wall plus nodal levels in 26 cases. Most nodal levels were contoured with reference to new atlases and all contours and plans were quality assured. With excellent follow-up being maintained, four-year overall survival for all 53 newly diagnosed curative cases was 92%, with three deaths occurring in patients who initially had Stage III disease.

Conclusions: These benchmark statistics are reasonable for a new centre. They can help direct system improvements and research. Understanding this development in Antigua and Barbuda can possibly expedite similar implementation of Oncology and Radiation Centres in neighboring nations.

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Sustainable Development Goal SDG6: The water sanitation and hygiene sector in Trinidad and Tobago in relation to the Global analysis and assessment of drinking water, sanitation and hygiene Survey GLAAS 2018

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Objective: To describe the institutional structure of the water sanitation and hygiene (WASH) sector in Trinidad and Tobago (TTO) in November 2018 at TTO's inaugural participation in The Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) Survey.

Methods: A literature and desk review of WASH related TTO documents was undertaken. Focused interviews with WASH-related sector-wide TTO Ministry, agency and authority personnel were administered. The national dialogue meeting to validate the GLAAS-data was also used to describe the WASH sector's institutional structure in TTO.

Results: Water sanitation and hygiene is not identified as a separate sector in TTO. The WASH-related Ministries and Tobago-specific local government include: Ministries of Health (MOH), Public Utilities (MPU), Planning and Development (MPD), Rural development and Local government, Tobago House of Assembly (THA), Agriculture and Ministry of Education (MOE). The Water and Sewerage Authority (WASA) under the MPU is the main water and wastewater services provider. The THA implements public health services and oversees the Regional Health Authority (RHA) in Tobago. The Regional Health Authorities implement WASH in healthcare facilities in TTO. The MOE implements WASH in schools in TTO. The regulators

include the MOH and THA, the Environment Management Authority under the MPD, with the Water Resource Agency (WRA) in WASA and the Regulated Industries Commission under the MPU. Joint select committee recommendations were made in 2012 for the WRA to be separated from WASA.

Conclusions: The WASH sector exists over multiple ministerial portfolios. Collaboration is needed both to maximise successful GLAAS implementation to measure progress and ultimately to achieve SDG6 in TTO. Continued implementation of measures addressing systematic institutional structural issues is needed.

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Prevalence of features suggestive of asthma phenotypes among toddlers in Barbados: A prospective audit of cohort of babies born in 2015–2017

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Objective: In this report from an ongoing study we present we explore the prevalence of symptoms and other correlates of asthma phenotypes as well as the prevalence of asthma predictive risk factors and management of these toddlers.

Methods: This is a prospective study of a cohort of babies recruited immediately after their delivery at the Queen Elizabeth Hospital during the period July 2015 and June 2018. In keeping with the study protocol, the mother of all of the subjects in this cohort were contacted using WhatsApp messaging system immediately after their first birthday. Information on symptoms and other correlates of asthma phenotypes were collected after their first birthday.

Results: There were 338 males (41.5%) and 476 (58.5%) females. Overall 31.1% (95% CI = 27.9%, 34.4%) had either symptoms suggestive of and/or correlates of one of the asthma phenotypes. History of symptoms suggestive of Allergic Rhino-Conjunctivitis was reported much more commonly among toddlers with asthma phenotypes (60.9%; 95% CI = 54.5%, 66.9%) when compared with those without asthma phenotypes (37.3%; 95% CI = 33.3%, 41.4%). Overall, (47.8%; 95% CI = 41.6%, 54.2%) of toddlers presenting with acute symptoms of asthma phenotypes seek medical care at the government funded polyclinics in this country. Of the toddlers with acute symptoms of asthma phenotypes 32.0% received first generation antihistamine and 20% received antibiotics.

Conclusions: Nearly a third of all toddlers have asthma phenotypes and nearly two-thirds of them have associated allergic rhino-conjunctivitis. A significant proportion of these children receive unnecessary medications during acute symptoms.

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Exploring the role of the public and private funded primary healthcare facilities for children in a pluralistic healthcare setting of Barbados

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Objective: In this operational research study we critically examine the available resources in the public and the private primary health facilities, describe the utilization of the public and the private facilities by the children of this country including the demographics as well as the profile of the presenting illnesses.

Methods: This report is based on a National professional consultancy for strengthening the paediatric primary care commissioned by the Ministry of Health, Barbados. Data was collected through interviews with the primary healthcare providers and from multiple other sources such as annual reports to the ministry. An analysis of all the available data was conducted to develop a comprehensive primary healthcare service utilization and resources inventory.

Results: In the public sector there are eight polyclinics that provide primary healthcare to the children. All the polyclinics have immunization services and curative acute care. Some of the polyclinics have services including dental care, eye care and some rehabilitative care services. In the private sector, primary healthcare is delivered through the private office of the individual physicians and mostly curative acute care for children. Over all 87.5% of all the immunizations were done at the polyclinics. In the public sector 59.5% were under five years children while 40.5% were five years or older. The corresponding figures in the private care settings were 80.9%, 19.1% and 9.4%.

Conclusions: While the private sector has major role in the curative acute care of children, the public sector plays a pivotal role in the immunization services.

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The perceived needs of parents caring for children with special needs at the Ptolemy Reid Rehabilitation Centre, Georgetown, Guyana

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Objective: To assess the perceived needs of parents caring for children with special needs at the Ptolemy Reid Rehabilitation Centre, Georgetown, Guyana.

Methods: A qualitative phenomenological approach was used to assess physiological, emotional, financial and social

needs of parents of children between the ages of 0–12 years old. A non-probability convenience sampling technique was used to draw a required sample size of 25 parents and a structured interview schedule was used to collect data using Maslow's theory as a guideline.

Results: The findings of the study were themed under the following headings: "Expectations," "Maintenance," "Stability," "Support," and "Happiness". It is clear that some parents cope well with physical, psychological and emotional needs while others still struggle to cope. Parents expressed that great need is the "maintenance" of the financial need. They described the subsistence given by the government as "meagre" since it cannot sustain their daily activities whilst caring for their child. The emotional needs of the parents are far beyond one's thinking as trust is hard to establish since they are "broken" from previous relationships or they are currently in unstable relationships.

Conclusions: Empowering parents through the development of strong collaboration between the relevant stake holders can reduce or even eliminate these challenges.

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Evaluating dissemination activities designed to bridge the gap between research and practice

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Objective: To evaluate the dissemination activities of a national population-based registry and assess healthcare provider (HCP) penetration and satisfaction.

Methods: The Barbados National Registry for Non-communicable Diseases (BNR) collects data on heart attacks, strokes and cancer cases and disseminates information on the data it collects. We used a framework developed by the University of Washington Health Promoting Research Center (HPRC) to assess the dissemination activities of the BNR. The domains of this framework are conducting systematic reviews; conducting formative research; developing readiness to disseminate assessment tools; balancing fidelity; monitoring/evaluation; influencing policy as technical experts and testing dissemination approaches. Number of seminar attendees and their satisfaction levels were calculated.

Results: Of seven researcher dissemination roles identified by the HPRC framework, the BNR has engaged in six. Its strongest impact has been in the domain: influencing policy. The Barbados National Registry data dissemination in academic journals and presentations made to local, regional and international policy-makers has impacted the development of a stroke unit, cancer and myocardial infarction clinical guidelines. The BNR's weakest domain impact was: developing readiness to disseminate assessment tools - no

output identified. Attendance at seminars held 2010 to 2018 ranged from 25 - 148 HCPs with a satisfaction level of 86% (average). Registry data requests improved from 15 (2014) to 29 (2018).

Conclusions: Improvements in data requests and seminar attendees suggest that direct users are engaged with the BNR. Evaluation of dissemination methods employed is critical so that countries adopting NCD registries are aware of the effectiveness of various methods.

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Knowledge, attitudes and practices of lymphatic filariasis and the mass drug administration – A pilot study in two communities in Guyana

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Objective: To investigate the knowledge, attitudes and practices (KAP) as it relates to lymphatic filariasis (LF) and the mass drug administration (MDA) programme in two housing schemes and to determine the coverage for the MDA 2017 round.

Methods: Between March and June 2018, residents of two housing schemes (one in an endemic area in Georgetown-GT and a new housing scheme in West Bank Demerara-WBD) were randomly sampled and interviewed using a predominantly close-ended, face-to-face, questionnaire. Responses were elicited about KAP as it related to LF and the MDA programme and the coverage and reasons for non-compliance.

Results: A total of 403 persons (287 from the Georgetown (GT) area and 116 from the WBD area) participated in the study. Only 92 (22.8%) knew correctly that LF is caused by worms but some identified mosquitoes as the cause (n = 110, 27.3%). The majority (n = 246, 61.0%) of persons mentioned 'big foot' and 'goadie' or hydrocele (n = 60, 14.9%). The majority, 95.0% (n = 383) did not know how to check a child for LF. Many indicated that tablets/drugs were treatment for LF (n = 227, 56.3%), but only 29 persons indicated 'taking drugs' as prevention. The coverage was 64% and some of the main reasons for non-compliance were that they did not receive the drugs, they were not at home, they feared the side effects and some felt they did not have the disease.

Conclusions: Educational campaigns should utilise the different forms of media including social media as well as MDA personnel; and should be cohesively organised using resources from governmental and non-governmental institutions.

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Cerebral palsy: Assessing caregiver knowledge and its impact on family life

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Objective: To identify epidemiological factors, causes, complications, motor functionality, caregivers' knowledge of cerebral palsy and its impact on family life among patients attending the Paediatric Neurology and Developmental Clinics at Georgetown Public Hospital Corporation.
Methods: A descriptive study conducted *via* questionnaire at the clinics from June to August 2018 and the data was analysed by SPSS.

Results: Fifty-three patients were diagnosed with cerebral palsy, 47 patients (CI 95%) were sampled, 60% were males, 40% were females, 32% were four to six years old and 43% were East Indian, 87% were born vaginally and 70% were diagnosed at less than one year old. A total of 53% of children did not attend physiotherapy and 87% did not attend school, 51% of caregivers did not understand what cerebral palsy is and 53% did not know what caused it. Seventy-nine per cent of caregivers reported financial burden while 81% and 70% of caregivers' reported limitations in child and family activities, respectively. Fifty-five per cent reported loss of hope and the average quality of life was 7.45% reported Perinatal Asphyxia as the common cause of the condition. The frequent complications were global developmental delay 81%, seizures 77%, spasticity and contractures 68% and constipation 62%. Also 51% had Spastic Quadriplegia and 53% of patients had Gross Motor Function Classification of stage 5 (GMFCS).

Conclusions: Most caregivers did not have knowledge on cerebral palsy and its causes. Low-income households faced the greatest financial burden from cerebral palsy. The most common cause was Perinatal Asphyxia and most patients were Stage 5 in GMFCS.

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Is there need for a Paediatric Emergency Department at Georgetown Public Hospital?

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Objective: To determine the number of paediatric patients less than 12 years and six months seen at the Accident and Emergency (A&E) over six-month period as part of a feasibility of a Paediatric ER at the Georgetown Public Hospital.
Methods: A retrospective observational study which includes all paediatric patients less than 12 years six months seen at the (A&E) November 2017 to April 2018. Data collection from the A&E charts and registry log and analysis by SPSS and Microsoft Excel.

Results: Total visits during November 2017–April 2018 was 21 510 of which paediatric patients less than 12 years six months was 16.2% (n = 3483). Respiratory pathologies were identified or queried in 24.4% of the patients, Trauma 18.7%, Infectious 16.3%, Gastrointestinal 13.7%, Genitourinary 4.6 % and Others 20.6%. Triage assessments were 85.1% (n = 2965) 'Urgent' and 5.3% (n = 186) 'Immediate'. The average time for a patient to be seen by a doctor after triage was one hour and five minutes. The average time from triage to discharge was four hours and five minutes while the median time was three and hours 20 minutes. Admissions 594 (17.1%) and six deaths.

Conclusions: This study has revealed that there is need for a paediatric emergency based on the large volume of patients, however, future research needs to be done to for assessment of an entire feasibility study.

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A pilot study on the prevalence of pre-diabetes and it's perceived risk factors among University of Guyana Students

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Objective: To determine the prevalence of pre-diabetes and it's perceived risk factors among sampled University of Guyana students attending the Turkeyen Campus.

Methods: A prospective study was conducted using a random sampling. After informed consent was given each participants was given a questionnaire, which was piloted prior to being used, to answer question on diabetes and related issues. Participants were also instructed to return the following day for fasting blood glucose analysis, which was used to assess prevalence of pre-diabetes. Data were recorded and analysed using Microsoft Excel and the SPSS software.

Results: The study showed strong positive correlations were seen in ethnicity (r = 0.7), family history (r = 0.8) and physical activity (r = 0.6) due to a sedentary lifestyle due to "lack of time". In this study, 51% of students were at no risk, 27% of students at a minimal risk, 19% at a moderate risk and 2% of students at high-risk of being for developing Type 2 diabetes.

Conclusions: The life of university students are often hectic and most students find it hard to find the balance between school and social life. This often results in a form of pseudo sedentary lifestyle, which enables all the pre-disposing factors and places each student that lives according to this daily routine at a risk of developing Type 2 diabetes. Therefore, more extracurricular activities need to be encouraged among students. In addition, there must be healthier food choices on campus to encourage health.

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Incidence of pre-diabetes and its' association with central obesity among a sampled University of Guyana, Turkeyen Campus, students

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Objective: To estimate the incidence of pre-diabetes and assess its' association with central obesity among a sampled University of Guyana, Turkeyen Campus, students.

Methods: A questionnaire was distributed to each participant to assess pre-disposing risk factors. Body mass index was used to ascertain if the participant was overweight or obese. The SPSS software was used to analyse data to answer research questions. Frequencies, descriptive statistics, and analysis of variance were used to investigate the research questions. A *p*-value of < 0.05 was considered to be significant for all analyses.

Results: A total of seventy-four students were randomly selected for the completion of this study; by the use of questionnaires, anthropometric measurements and blood samples, the risk of developing pre-diabetes was assessed. The findings of this study revealed an incident pre-diabetes of 30 (40.5%) and a weak positive correlation between central obesity and pre-diabetes, with R-values of 0.25 (males), 0.27 (females) and 0.26 (overall).

Conclusions: There was a weak association between central obesity and pre-diabetes incidence. Therefore, since this is only a very small sample there should be a follow-up study with a larger sample size. Prioritisation of pre-diabetes care and prevention is recommended such as the hosting of nationwide awareness sessions, development of an operational policy/strategy/action plan to reduce overweight and obesity and extend health promotion to reduce pre-diabetes and its complications.

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The effectiveness of salivary glucose as a non-invasive method of monitoring glucose metabolism

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Objective: To estimate the salivary glucose levels and serum glucose levels of the sample population; and to determine the correlation coefficient between salivary glucose and serum glucose.

Methods: The data was obtained from the Georgetown Public Hospital Corporation. This prospective experimental study assessed 55 patients amounting to a total of 110 samples (55 venous samples and 55 salivary samples): two from each participant. Venous samples were analysed using

the ChemWell chemistry analyser and Un-stimulated saliva were processed using the glucose oxidase method. The results were entered into a spreadsheet and analysed using SPSS version 20.

Results: The correlation coefficient between serum glucose and salivary glucose was calculated and the *r* value obtained was 0.266, which was statistically significant (*p* < 0.05). The means of the salivary glucose levels of persons with blood glucose levels (BGL) below and above 140 mg/dL was 3.36 mg/dL and 2.79 mg/dL, respectively. This indicates that salivary glucose level (SGL) was not elevated consistently with BGL in our population. The results of this investigation could not establish a significant correlation between BGL and SGL.

Conclusion: Although saliva offers the advantage of being non-invasive, the weak positive correlation established between BGL and SGL is insufficient to suggest saliva to be used as an alternative to blood in monitoring glycaemic status. Research on glucose stability in saliva as well as a larger sample population is necessary before conclusively rejecting saliva as a reliable means of measure glucose metabolism.

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Caregivers' knowledge, attitudes and practices of seizure and use of anti-seizure medications among patients admitted to Paediatric Neurology Clinic, Georgetown Public Hospital

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Objective: To assess caregivers' knowledge of seizures, healthcare seeking and first-aid practices and use of anti-seizure medications; and to assess impact of seizures on the patient.

Methods: The caregivers of 55 patients of the Neurology Clinic aged 2–16 years managed for seizures between 2017 and 2018 were asked to participate in a questionnaire. The information was analysed using SPSS.

Results: Among caregivers 89.1% were females; 47.3% were aged 31–40 years; 45.5% and 40% were of African and East Indian descent, respectively; 36.4% were from low-income homes and 50.9% were unemployed. Nearly 38.2% of the children were aged 7–9 years; 63.6% were males; 36.4% were African and East Indian, respectively and 52.7% attended school. Approximately 83.6% of caregivers could not define a seizure; 52.7% showed good ability to recognize seizures; 60% and 80% had good knowledge of first-aid and healthcare seeking practices, respectively. The majority 98.1% said instructions for doses were clear; 83.6% named the drugs; 58.2% skipped doses;

78.2% changed doses unsupervised and 80% could not state a side-effect. Nearly 50.9% of children had no Emergency Department (AE) visits; 29.6% had one to three admissions with 66.6% having seven days hospital stay.

Conclusions: The majority of caregivers demonstrated good knowledge of first-aid and health-care seeking practices and were unable to state side-effects and practiced unsupervised medication changes. The majority of children had no AE visits or hospitalizations.

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Glaucoma and patient compliance with anti-glaucoma medication at the University Hospital of the West Indies, Jamaica

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Objective: To identify factors associated with glaucoma and assess patient compliance with anti-glaucoma medication in a predominantly Afro-Caribbean population.

Methods: A cross-sectional study was conducted to obtain data on glaucoma prevalence and its associated risk factors. Data was extracted from 370 randomly selected files of patients who visited the University Hospital of the West Indies (UHWI) Eye Clinic between January and March 2017. Additionally, researcher-guided interviews were conducted among consecutive adult patients who attended the UHWI Glaucoma Clinic between April and June 2017, to assess compliance with anti-glaucoma medication. Chi-square and odds ratios analyses were performed.

Results: Glaucoma was the most prevalent (45%) ocular condition ($n = 370$). Glaucoma was significantly associated with age; patient history of cataract, hypertension and sickle cell anaemia; and also with a family history of glaucoma, blindness, hypertension and sickle cell anaemia ($p < 0.05$). Of 117 patients with glaucoma interviewed, 80% were fully compliant with their anti-glaucoma medication. Majority of patients were on single-agent therapy (55%). Prostaglandin analogues (35%) were the most frequently prescribed anti-glaucoma agents. Patients indicated forgetfulness (68%) and high-cost of medication (23%) as their main reasons for lack of full compliance. Compliance increased in patients on multiple-agent therapy when compared to those on single-agent therapy ($p < 0.02$).

Conclusions: Glaucoma was significantly associated with patient history of cataract and hypertension, as well as family history of glaucoma and hypertension. There was overall high compliance with anti-glaucoma medication. Compliance was higher in patients on multiple-agent therapy than those on single-agent therapy.

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Quality of antenatal care services at healthcare centres in the Tropical Rainforest of Suriname

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Objective: The objective of this study is to evaluate the quality of antenatal care (ANC) provided by the Medical Mission Primary Healthcare Suriname (MMPHCS) on birth outcomes among pregnant women in Suriname's interior.

Methods: Desktop study of the MMPHCS ANC guidelines for good quality defined as at least 80% of use. Two hundred and two tribal and indigenous women with singleton pregnancy, potentially exposed to mercury (Hg), receiving prenatal care and is included in the overall environmental epidemiologic cohort study as part of the Caribbean Consortium of Environmental and Occupational Health (CCREOH). Perinatal data on low birthweight (LBW < 2500 gr), preterm birth (PTB < 37 weeks), low Apgar score (< 7 at five minutes), parity (= 1 vs > 1) and antenatal visits (ANC = 8) in 15 interior villages were retrospectively analysed using descriptive statistics.

Results: Mean age of women was 26 year, 43 were < 20 years (21%), 110 women (67%) had eight or more ANC, 6% of ANC data was missing. Of the 164 children born, 12 (7%) had LBW, 4% of birthweight data was missing. No newborn had low Apgar scores < 7 at 5 minutes. Maternal age, ethnicity and ANC were associated with PTB (0.2 = 9, 73, $p < 0.002$, 0.2 = 3, 88, $p < 0.048$, (0.2 = 14, 97, $p < 0.001$, respectively). Preterm birth was associated with LBW ($p < 0.001$, Fisher's exact test).

Conclusions: Quality of ANC provided by the Medical Mission is according to the recommended World Health Organization (WHO) standards. Almost 90% of the women had no adverse birth outcome indicative for an adequate integrated care delivery throughout pregnancy and a sufficient referral system.

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Climate and public health: A participatory, transdisciplinary approach to examining the impact of climate and weather events on the health of caribbean communities

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Objective: The Caribbean Region is disproportionately affected by climate change (CC). While CC has an impact on health, public health decision-making based on meteorological data is lacking in the region. The purpose of this study is to co-produce the effective, user-defined application of weather and climate (W&C) data in public health decision-making by communities in the Caribbean.

Methods: This transdisciplinary study has three phases and focusses on Dominica and Puerto Rico. In Phase I, an environmental scan will be conducted of health outcome data that characterizes the historic burden of health disparities, W&C data demonstrating the risk posed by changing climate conditions and health outcomes impacted by changing W&C. This will inform the Vulnerability, Consequences, and Adaptation Planning Scenario (VCAPS) process in Phase II which deploys a stakeholder-engaged participatory modelling framework to integrate W&C information to bolster community resilience. In Phase III, in collaboration with decision-makers in each country, a decision support tool will be developed.

Results: Preliminary environmental scan results show endemic and seasonal epidemic episodes of Dengue and Zika in Dominica and Puerto Rico. Dominica: 723 Zika cases and Dengue outbreaks in 2010 (641 cases) and 2013 (233 cases). Within the top-ten causes of mortality for Puerto Rico and Dominica, are cardio-vascular disease and respiratory conditions that can be worsened by PM_{2.5} exposures.

Conclusions: Climate change has the potential to exacerbate vector-borne diseases and non-communicable diseases in the Region. This study is ongoing; final results of the environmental scan will be available at the conference.

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Urinary pesticide metabolite concentrations in pregnant women from Suriname

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Objective: To explore urinary pesticide metabolites in pregnant women from three Regions in Suriname with different agricultural practices.

Methods: As part of the Caribbean Consortium of Research in Environmental and Occupational Health research programme urine samples were collected from pregnant women in Paramaribo, Nickerie and the interior of Suriname. The samples were analysed at the United States of America Centers for Disease Control and Prevention's environmental health laboratory for three pesticide classes which include, phenoxy acid herbicide, organophosphate insecticides, and pyrethroid insecticides, as these are commonly used in agricultural and residential settings in Suriname.

Results: Pregnant women in Nickerie had the highest urinary metabolite concentrations of 2, 4- dichlorophenoxy-acetic acid and pyrethroids compared to those living in Paramaribo or the interior. Pregnant women living in Paramaribo had higher urinary metabolite concentrations of organophosphates compared to women in Nickerie or the interior. However, a notable individual in Paramaribo had a high urinary concentration of organophosphate metabolites, which contributed to the high average concentrations of Paramaribo women.

Conclusions: Urinary pesticide metabolite concentrations varied among pregnant women in Paramaribo, Nickerie and the interior. In Nickerie, pyrethroid and phenoxy acid herbicide metabolite concentrations were higher compared to pregnant women living in Paramaribo and the interior probably because of differences in residential use and heavy rice production. Organophosphate metabolite concentrations were higher in pregnant women living in Paramaribo compared to those living in Nickerie and the interior, which could be due to residential use and more intense mosquito control. Analysis of additional urine samples is underway.

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Health literacy in patients requiring joint replacement

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Objective: To assess the general and musculoskeletal health literacy in a group of patients requiring joint replacement at the public hospitals; and to determine which factors affect both general and musculoskeletal health literacy.

Methods: This is a cross-sectional study; each of the 82 patients completed a demographic survey as well as the Newest Vital Sign (NVS), a general health literacy tool, and the Literacy in Musculoskeletal Problems (LiMP) which

assesses musculoskeletal health literacy. Statistical analysis was performed using Stata version 15. A x2 analysis was used to compare results from both the NVS and LiMP questionnaires to determine the relationships between general and musculoskeletal health literacy and demographic variables.

Results: There were 61 females and 21 male patients (74% and 26%, respectively) with a mean age of 63.5 years (SD \pm 8.2). The mean scores for the NVS was 2.3 (SD \pm 0.9) and LiMP 3.7 (SD \pm 1.7). Male patients, secondary school education, being employed and previous healthcare experience were all statistically associated with higher NVS and LiMP scores.

Conclusions: Inadequate general and musculoskeletal health literacy (90% and 80%, respectively) was found in the majority of patients. The inability to make good decisions about healthcare due to insufficient health literacy is associated with poor outcomes and increased utilisation of resources. Greater emphasis should be placed on educational campaigns to improve health literacy.

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The demographics and the morbidity profile of children attending a private paediatric primary care facility in the pluralistic healthcare settings of Barbados

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Objective: To describe the size and dynamics of a private paediatric primary care set-up in the pluralistic healthcare settings of Barbados. Additionally, to describe the demographic and the health insurance profile of children attending a private practice centre for primary care. We also describe the disease profile and pattern over the period of time of follow-up among children attending this centre for primary care.

Methods: It is a retrospective clinical audit of children attending a private paediatric clinic for primary care. All of the children enrolled during the period 2006 to 2018 were included in this audit report. The electronic database of enrolment registry and the patient visit records were used to extract the data on patient demographics, health insurance information and the clinical information on their visit to this clinic.

Results: Over the 12-year audit period there were a total of 2818 children who enrolled for care at this facility. There were 1366 (48.5%; 95% CI: 46.6%, 50.3%) females and 1452 (51.5%; 95% CI: 49.7%, 53.4% males). Overall, 1216 (43.1%; 95% CI: 41.3%, 45.0%) were enrolled before their first birthday. There were a total of 16 650 visits from the 1366 clients during the 12-year period. There were 7447 (44.7%; 95% CI: 44.0%, 45.5%) females and 9203 (55.3%; 95% CI: 54.5%, 55.0%) males. Overall, 9643 (57.9%) had

five or more visits over the audit period, whereas, 5953 (35.8%) had ten or more visits during the audit period. Overall, visits from allergic rhino-conjunctivitis, asthma and atopic dermatitis 58.3% of all visits. There were a total of 5198 (31.2%; 95% CI: 30.5%, 31.9%) visits from children five years or older in age at the time of their visit to the facility. In this age group allergic rhino-conjunctivitis and asthma accounted for the 3015 (58%; 95% CI: 56.9%, 59.2%) of all visits to the facility over the audit period. In this age group 70.2% of the times acute asthma was not associated with any respiratory infection.

Conclusions: A large number of children avail their primary care at the paediatrician's private office, although only a third have private health insurance. Acute exacerbations of allergic disorders such as allergic rhinoconjunctivitis and asthma phenotypes are most common reason for visit.

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Endometrial cancer in Barbados: A ten-year retrospective study

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Objective: To extract and examine preliminary data on cases of endometrial cancer in Barbadian women between 2008 and 2017 for use in a clinical pharmacology study.

Methods: In this retrospective observational study, all cases of women diagnosed with endometrial cancer between 2008 and 2017 at the Queen Elizabeth Hospital, Barbados, were searched to abstract data on the age, postmenopausal status and clinical presentation of each woman, the date and method of tissue diagnosis, and the cancer's histological type and grade at diagnosis.

Results: Three hundred and eighty-one cases of women diagnosed with endometrial cancer during the timeline were extracted. Ages ranged from 28 to 96, (mean age 66.0 \pm 10.23). Three hundred and seventy women were postmenopausal. The number of cases diagnosed annually increased over 2009–2015 and trended downwards after 2015. The most cases per year 47 were diagnosed in 2015 and the least 30 in 2009. Endometrial aspirates diagnosed over 95% of cases. Endometrioid adenocarcinoma comprised 69% of the specimens and 325 were assigned grades 1–3, with 43% diagnosed at grade 3.

Conclusions: This is the first assessment of major endometrial cancer trends in the Barbadian population. Cases have trended upwards over the last ten years in Barbadian women. Despite 69% of tumours being Type 1, known to have a better prognosis, almost 50% of cases were diagnosed at high grades, associated with a worse prognosis, depicting a possible high prevalence of more aggressive tumours. The study may be integral in developing a clini-

cal pharmacology study to assist with individualised, targeted management of endometrial cancer in Afro-Caribbean populations.

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Obesity and weight concerns in children with special needs in a developing country

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Objective: To investigate weight concerns in children with special needs.

Methods: Data from an established patient database on Microsoft Excel for a local community paediatric service was analysed between September 2015 and August 2016. Patient diagnoses were categorised as follows: Attention Deficit and Hyperactivity Disorder (ADHD), Autism Spectrum Disorder (ASD), Learning difficulty (LD), Cerebral Palsy (CP), Global Developmental Delay (GDD), Trisomy 21, Other syndromes and > 2 of the above diagnoses. The proportions of these children being overweight/obese, underweight, having eating problems, requiring dietician services and having behavioural problems were recorded.

Results: One thousand and seventeen patients attended the clinics, 15.4% of patients had weight concerns, with 9.3% being overweight or obese and 6.1% underweight. Nearly 5.1% of children experienced eating problems. Approximately 80 (7.9%) patients accessed the dietician services and behavioural concerns were noted in 90 (8.8%) patients. Regarding ASD, 3.7% were overweight or obese and 3.5% were underweight. For ADHD, 15% were overweight or obese and 4.7% were underweight. Amongst children with Learning Difficulty 17.5% were overweight or obese and 3.6% underweight. 14.9% and 12.3% of children with CP and GDD, respectively were underweight. For Trisomy 21 and Other syndromes 18.2% and 16.7%, respectively were overweight or obese.

Conclusions: International data indicates that persons with disability are at a higher rate of being overweight and obese. This study also shows that a high proportion of children with special needs are overweight or obese and at risk of non-communicable diseases (NCDs). Strategies locally to address NCDs must give particular emphasis to children with special needs.

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Determining associations between the occurrence of depression and sociodemographic factors in persons 65 years and older presenting to the Accident and Emergency Department of the Princess Margaret Hospital

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Objective: To determine associations between the occurrence of depression and sociodemographic factors (eg age and family support) in persons greater than 65 years old who present to the Accident and Emergency Department (AED) at the Princess Margaret Hospital (PMH) in Nassau, The Bahamas.

Methods: A prospective, cross-sectional observational study employed a questionnaire interview format to persons > 65 years in the AED during a six-month period. Measurements included: patient demographics; a Six Item Screener (SIS) determining persons cognitive impairment; and the Geriatric Depression Scale - short form (GDS-15/GDS-S).

Results: Two hundred and fifty-one participants attempted the questionnaire. Forty-six persons did not progress to completing the GDS-15 due to scoring = 2 on the SIS. However, their socio-medico-demographics were still analysed. Mean (\pm 1 SD) age of the participants was 75.18 (\pm 7.80) years old, 123 (49%) were males and 128 (51%) females. Most persons were either widowed-89 (35.5%) or married-84 (33.5%) and lived with their children or relatives-102 (40.6%). The most common co-morbidity in participants was hypertension -202 (80%). The most common presenting complaint was shortness of breath-51 (20.3%) and 158 (62.9%) persons were admitted. Of 205 persons completing the GDS-15, 20 (9.76% [95% CI: 8.56,10.97]) had a score = 6 and assessed as depressed. Eight (7.34% [95% CI: 6.41,8.27]) of the 109 males were depressed and 12 of the 96 females (12.46 [95% CI: 10.97,13.95]) were depressed.

Conclusions: Once cognitive impairment is excluded most elderly ED patients were not depressed. Marriage, the use of paracetamol, levothyroxine and Daflon™ were found to be protective against depression in this sub-population.

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Characteristics of heart failure admissions between 2013 and 2015 in the Academic Hospital Paramaribo in Suriname

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Objective: To characterize the hospital admissions of heart failure (HF) in regards to patient characteristics and clinical parameters in the Academic Hospital Paramaribo (AHP).

Methods: This is a retrospective study using discharge data from the AHP between January 1st 2013 and December 31st 2015. Data on patient demographics (age, gender and ethnicity), length of stay and co-morbidities (hypertension (HT), diabetes mellitus (DM) and chronic kidney disease (CKD) was collected from all admissions with primary or secondary discharge of ICD-10 codes: I50-I50.9 and I11.0. Statistical significance was tested using ANOVA in continuous variables and Chi-square test for categorical variables.

Results: The mean HF admission was 2.5% and increased over the years. There was no gender predominance (50.4% male), the mean age of admittance was 64 years with a median length of stay of seven days. The prevalence of HT, DM and CKD was relatively low with 15.5%, 13.7% and 8.7%, respectively and were predominately found in Asians (Hindustani, Javanese and Chinese). Hypertension due to ischaemic heart disease was significantly more prevalent in Asians (76.6%) compared to Africans (Creole and Maroon, 16.3%), whereas Africans (66.7%) had more hypertensive cardiomyopathies compared to Asians (33.3%).

Conclusions: Hypertension admission is increasing and patient characteristics are in line with other countries in the Region. Ethnic differences confirm the cardiovascular disease risk factor profiles seen in risk factor population studies. Further research into specific HF patient characteristics, care and outcomes are needed in order to fully examine the HF burden in Suriname.

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Knowledge, attitudes, practices and beliefs regarding prostate cancer among adult men working in Government Ministries in Georgetown

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Objective:

- To assess the knowledge of prostate cancer among men working in Government Ministries with respect to their knowledge of the prostate and prostatic problems
- To determine the knowledge, attitudes and beliefs of prostate cancer among these men

Methods: A cross-sectional study was conducted using an interviewer-administered questionnaire which was distributed to the head offices of 16 Ministries. A total of 224 men participated and included adult males who were 18 years of age or older.

Results: The majority of respondents were aged between 20 and 40 years old. Over 70% of the men were Christians and 43.3% were of African ethnicity. The majority (80%)

had heard of prostate cancer through the mass media. About 58.9% thought that digital rectal examination (DRE) was used for prostate cancer detection while only 28.6% selected the blood test. The intention to do a blood test was expressed by about two-thirds of the respondents. Although 91.6% thought that getting the DRE would help find cancer early, only 4% had actually undergone a prostate screening and only 57.6% intended to have one done within the year.

Conclusions: The level of education played a major role in the knowledge and awareness of prostate cancer despite the fact that the majority of respondents were 50 years or younger. There was a perception that although DRE was an important screening tool, it also causes discomfort and this would have to be addressed in any awareness campaigns along with screening for those over 45 years.

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Normative values for handgrip strength in the adult population of Trinidad and Tobago

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Objective: To establish normative handgrip strength (HGS) data for Trinidad and Tobago and to assess factors that may influence HGS within this population.

Methods: A cross-sectional study of 1233 participants between the ages of 18–80 years was conducted at five distinct geographic Regions in Trinidad and Tobago. Demographic data was collected including hand dominance. Handgrip strength was measured using a Jamar dynamometer. Descriptive statistics were performed for all direct measurements and Pearson's correlation coefficient used to analyse the relationship between variables. All statistical analysis was performed using the Statistical Package for Social Sciences (SPSS ver 20) *p*-value < 0.05 was considered significant.

Results: A total of 1354 participants took part in the study, with 121 exclusions leaving 1233 for analysis. There were 561 males (45.5%) and 672 females (54.5%). The mean age of the participants was 42.5 years (SD ± 15.5) and mean body mass index (kg/m²) 27.3 (SD ± 6.0). The overall mean HGS for our sample was 28.4 kgs (SD ± 12.9) with males having a higher overall HGS compared with females.

Conclusions: This study presents previously unreported normative data on HGS in a Trinidad and Tobago population. This data will allow for a more objective evaluation of hand function in patients following injury and has implications for the assessment of disability in workmen's compensation.

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Contributions and challenges of health economics in Guyana: A critical focus

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Objective: The objective of this study is to make a critical presentation about the development that health economics has had in the Guyanese context. Specifically, we answer the following question: Does Health Economics have any impact on Development within the Health Sector of Guyana?

Methods: The study was designed using a statistical model and a quantitative approach which entailed the selection of experts, experience and knowledge in the thematic area; therefore, it is necessary to select the best candidates for the study. This was further corroborated using the Delphi Method which relies on a panel of experts to finalize the relevant variables.

Results: Expert criteria have indicated that there is an eminent shortage of professionals dedicated full-time to the health economy, the slowness in the maturation process of a scientific community in the subject, few resources and intermittent financing for research, limitations in the coordination with the needs in health policy, methodological incongruities (especially in the area of economic evaluation) and non-systematic contact with experts from other countries.

Conclusions: The integration of teaching, research and practice in health economics in Guyana must be accentuated. It is the best way to know the economic resources in our health context and to maintain a profitable relationship with the most advanced economic concept and the success of decision-making.

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Diabetes Type 2 – Case study of patients between ages of 10 and 28 at Demerara Paradise Limited of Guyana in 2018

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Objective: To describe clinical and biochemical features of children, adolescents and young adults with recent onset Type 2 diabetes mellitus.

Methods: Retrospective study that included adolescents and adults between the ages of ten and 28 with fasting glucose above 126 mg/dL, absence of antiGAD and C peptide above 1.5 ng/dL. Patients with previous diagnosis of Type 1 diabetes, diabetes type MODY or drug associated diabetes were excluded.

Results: Mean age was 16 years; 59% were females and 43% had at least one parent with Type 2 diabetes. At the time of diagnosis, the body mass index was 42.8 kg/m²; 85% had acanthosis nigricans and 68% had Tanner Stage IV or V. Initial treatment included oral hypoglycaemic drugs in 75%, metformin was the most common drug used (64.3%). Only 41% of cases received insulin.

Conclusions: Children and adolescents with Type 2 diabetes in this setting have a high frequency of obesity, acanthosis nigricans and family history of Type 2 diabetes. In general, these patients have poor metabolic control and receive metformin as initial treatment.

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Knowledge and confidence among Georgetown Public Hospital (GPHC) staff, post- paediatric fundamentals of critical care support (PFCCS) Course: A preliminary assessment

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Objective:

- To assess the improvement of knowledge in doctors and nurses post-paediatric fundamentals of critical care support
- To assess the level of confidence among doctors and nurses, immediately and at one year, post-paediatric fundamentals of critical care support

Methods: The paediatric fundamentals of critical care support (PFCCS) course was offered in January and December of 2018, at the Georgetown Public Hospital Corporation. Non intensivist doctors and nurses participated. Pre and Post-tests were administered to all participants, to assess the difference in their knowledge base. A likert survey was administered to participants to assess their confidence. The December group of 31 participants were issued the survey immediately after PFCCS. The January group of 19 participants were issued the survey at one year post-PFCCS. Statistical analyses was performed using a statistical programme [Epi Info software version 7.2.2.6]. Chi-square analysis where appropriate was used for categorical variables. Continuous variables were analysed by student *t*-test.

Results: The mean post-test scores, when compared to the pretest scores, were significantly higher in both the immediate (86% vs 50%) and one year (88.27% vs 43%) groups. The confidence level amongst participants in both groups (across all parameters) were high *ie* 4.4/5 for the December (immediate) group and 4.6/5 for the January (one-year) group. Paediatric advanced life support certification of participants conferred greater confidence immediately post-PFCCS when compared to confidence levels of those participants without (4.71 vs 4.18; *p*-value = 0.0049).

Conclusions: Knowledge and confidence levels were high, immediately post-PFCCS and remained high at one-year post PFCCS regardless of job description and assigned unit.

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Clinical debut of AIDS: A case study at the Demerara Paradise Limited in 2018 of Guyana

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Objective: To estimate the magnitude of the problem and characterize these patients in terms of factors potentially associated with the clinical debut of AIDS at Demerara Paradise Limited (DPL).

Methods: The investigators studied all patients who were reported to the Demerara Paradise Limited (DPL) with the diagnosis of clinical AIDS debut, in the period between January 2013 and early 2018. Same is corresponded to data collection using the archives of the Facility of time.

Results: A total of 23 patients classified as clinical debut and same represented 4.2% of the total number of patients; an increase of 1.5% was observed in the study. It was observed that the risk of clinical debut increases with age and was predominant in men, who are four times greater risk than women. The majority of patients were others but the presence of black and mix patients was higher than in the epidemic in general.

Conclusions: It was concluded that the lack of knowledge about the patient's serological situation constitutes a barrier to their treatment and survival. Knowledge of the factors associated with clinical debut allows the creation of prevention strategies, with a view to minimizing complications for these patients which is pivotal for future studies.

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The role of health economics in the updating process of the economic pattern of Guyana in 2018

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Objective: To determine the role of health economics in enhancing efficiency and efficacy towards the sustainability of Health Services in Guyana.

Methods: The study cases were determined from records of the budgetary expenditures incurred for the last five years in Guyana. The period was selected *via* expert criteria, risk estimation was obtained through a conditional logistic regression and analysis-synthesis of the economic patterns of Guyana.

Results: There was a statistically significant association amongst the fiscal allocations which carry an opportunity cost and had an impact of the health economics and the essence of decision-making whilst calculating the cost of different health actions. Budgetary allocation fluctuated between primary and secondary healthcare as well as other sectors which limited the successful development of all health promotion and disease prevention actions. Training was seen as a pivotal indicator for sustainability and amelioration in the sector.

Conclusions: Health economics has become a valuable tool to respond to the efficiency of the health system in different countries; but although in Guyana some successes have been achieved in the sector, achieving greater efficiency acquires an imperative character. It is important to train human capital in health economics, in the execution of research in health systems and services.

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Participatory mapping informs implementation of the congregations taking action against non-communicable diseases (CONTACT) study health system strengthening intervention in rural Guyana

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Objective: In the absence of detailed maps and registries in Guyana, participatory mapping was used to construct a sampling frame of places of worship (PoWs) in rural communities and obtain contextual information to inform the implementation of the CONTACT study intervention.

Methods: Seventeen field researchers conducted participatory mapping of PoWs in 19 primary healthcare centre catchment areas. Meetings were held with the staff of local Neighbourhood Democratic Councils (governing bodies responsible for small geographic areas) to generate lists of PoWs based on local knowledge. These PoWs were then mapped onto official printed maps or sketched on plain sheets of paper, which served as guides to their location and direct observation. Contextual information, including congregation size, service timings and congregants' willingness to participate, were obtained through community dialogues.

Results: Verification of the augmented maps resulted in field researchers covering approximately 3300 kilometres to directly observe 260 PoWs: 169 churches, 52 mandirs and 39 mosques. Cost of the participatory mapping exercise was estimated at US \$4.55 per PoW. Receptiveness of commu-

nity members taught researchers about the motivations of rural communities to participate in the intervention. Overwhelmingly, discussions with religious leaders and congregants signalled enthusiasm, with the majority of PoWs agreeing to participate without any compensation.

Conclusions: Participatory mapping provided a valuable method of constructing a sampling frame, identifying and providing information on PoWs that would have never been included on official lists. It allowed the CONTACT team to build relationships with the community, which supported implementation and ensured a wide reach of the intervention.

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Use of local primary healthcare centres in rural Guyana: Confidence in quality of services a major theme in the congregations taking action against non-communicable diseases (CONTACT) study

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Objective: To examine the factors influencing use of free services provided by primary healthcare centres (PHCCs) and inform the development of the health systems strengthening CONTACT intervention in Guyana.

Methods: Baseline surveys from the CONTACT implementation study in Region 3 were conducted with congregants from nine places of worship within the designated catchment areas of three purposefully selected PHCCs. Data were obtained through quantitative congregation surveys (442 participants) and qualitative interviews (subset of 42 participants). Analytic methods included regression analyses and inductive thematic coding.

Results: Only 26.2% of participants used PHCCs when seeking care. Of the alternate facilities used, government hospitals were the most frequented (41.4%) followed by private facilities (18.4%). Approximately 12% of participants reported that they do not seek healthcare. Chronic disease status was the only significant correlate of use of the PHCCs (OR 2.25; 95% CI: 1.31 – 3.84). In this generally low resource context, socio-economic circumstances and religion were not related to usage. Qualitative interviews revealed that the principal reason for underutilization of PHCCs was a negative perception of PHCC facilities (21%), due to inadequate medication, poor quality of treatment and inferior facilities. Limited awareness of available PHCC services (18.4%) and limited access to PHCC (15.8%) fol-

lowed close behind. Other reasons included being members of alternate clinics, inadequate staff, long waiting times and severity of illness.

Conclusions: Chronic disease status and low confidence in PHCCs, regardless of the socio-cultural context, influenced usage. These findings underpin the development of the culturally apt CONTACT intervention.

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Woman-to-Woman: Feasibility of a Lay Health Advisor Programme for cervical cancer education in Grenada, West Indies

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Objective: Despite declining global rates, cervical cancer remains a major cause of morbidity and mortality in developing countries. While access to primary preventive services has traditionally been a major hurdle in this setting, cultural influences and inadequate knowledge have been shown to play a pivotal role in promoting this disparity. The aim of this study was to evaluate the impact of Woman-to-Woman (W2W), a lay health advisor (LHA)-led educational intervention on cervical cancer and human papillomavirus (HPV) knowledge in a cohort of at-risk Grenadian women.

Methods: Lay health advisors from the high-risk parishes were trained in the administration of the educational intervention. Seven LHAs recruited and administered the programme to 78 local women. The participants completed a knowledge survey pre- and post-intervention, and an overall evaluation of the educational sessions.

Results: Sixty-eight of the participants obtained higher knowledge scores following the educational intervention. The difference between the pre- and post-survey scores was statistically significant ($p = 0.05$). Almost 94% of the participants agreed that they were taught new and useful information by credible, community informed and responsive LHAs. Similarly, 90% indicated: 1) that the educational goals were achieved through relevant and understandable objectives; 2) great satisfaction and 3) high motivation to recommend W2W to other women.

Conclusions: The results demonstrate that a LHA-led educational intervention significantly improved participant's knowledge of cervical cancer, HPV, Papanicolaou test and vaccination against HPV. Therefore, this W2W presents an opportunity for increased knowledge for improved HPV-related cancer.

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Assessing the readiness and suitability of faith-based organisations as sites for the Barbados Diabetes Remission Study 2: A community-based diabetes remission intervention

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Objective: This study investigates the readiness and suitability of faith-based organizations (FBO) to become community hubs for the Barbados Diabetes Remission Study 2 - a low calorie intervention for persons who are overweight with Type 2 diabetes or pre-diabetes.

Methods: Three FBOs were purposively selected and interviewed using an adapted 'Places of Worship' survey. Readiness was determined using the CFIR definition which comprised (1) leadership engagement in intervention-related activities (2) availability of physical space and human resources *ie* congregants willing to be trained as Health advocates (HAs) and (3) access to intervention-related information which was estimated by change in skill in the trained HAs. The suitability of the FBOs to become community hubs was gauged from (1) the FBO's relationship with the community and (2) the availability of eligible congregants with whom we can pilot the process.

Results: All three FBOs accepted the proposal. The leadership described the intervention as 'timely' and 'necessary'; the physical plant was adequate. Twenty-seven HAs were trained in skills necessary to support the intervention; success ranged from 74% in glucose measurement to 100% in blood pressure measurement. The relationship with the community was described as cooperative. Of the 126 congregants seen, 86% were 20–70 years old; of these 66% were overweight or obese and 95% had at least one other risk factor for T2DM; 16% had a previous diagnosis of T2DM / pre-diabetes.

Conclusions: Select FBOs are ready and suitable sites for the implementation of the BDRS2 protocol and are poised to become sites for expansion into the surrounding community.

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Nasopharyngeal pneumococcal carriage among healthy children in Barbados ten years post introduction of universal conjugate pneumococcal vaccination

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Objective: To identify currently carried prevalent serotypes of *Streptococcus pneumoniae* (*S. pneumoniae*) among Caribbean children; to determine whether there are any differences in serotype prevalence among children of varying geographic and socio-economic backgrounds; and to determine the antimicrobial susceptibility of isolates, overall and by serotype.

Methods: This was a prospective multi-centric study involving multiple Caribbean countries. Study subjects included healthy children under 16 years of age. Study sites were the out-patient clinics at the government primary care centres. Children whose parent consented, had a NP swab obtained for pneumococcal carriage determination. Isolates were serotyped by polymerase chain reaction (PCR) for 40 serotypes and *cps-A* housekeeping gene and/or capsular swelling with commercial antisera as appropriate.

Results: A total of 216 children (0–6 years) in Barbados during the 2015/2016, 207 samples were screened for *S. pneumoniae* carriage and 25/207 (12%) were found to be carriers. Overall, 41.7% (10/24) of those children who were a nasal carrier of *Streptococcus pneumoniae* were carrying VT7, additionally 8.3% (2/24) were carrying VT5 and 4.2% were carrying 6A. The serotype 19F, most common serotyped carried in children in this population, was highly resistance (100%) to Amoxicillin, Augmentin, Azithromycin, Cefuroxime, Cefdinir and Co-trimoxazole. The other common serotype 19A was also resistant (50%) to Amoxicillin, Augmentin, Azithromycin, Cefuroxime, Cefdinir and Co-trimoxazole.

Conclusions: In Barbados, 19F (29.2%), 15C (12.5%) and 35B (12.5%) were the commonest serotype carriage among under six years children. The most worrying finding from this study was the resistance pattern seen in the nasal carriage isolated from these young children.

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The link between skipping breakfast and obesity among students of The University of the West Indies, St Augustine Campus

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Objective: To determine the link between obesity and not eating breakfast among participants. The aims of the study were to determine: a) percentage of overweight and obese; b) percentage of breakfast skippers; c) the association between obesity and breakfast habits of the population; d) the major reasons for skipping breakfast.

Methods: In this cross-sectional descriptive study, self-administered structured questionnaire was utilized. A total of 377 respondents were surveyed. Breakfast habits and patterns of the participants were examined based on a 3-page, 17-question questionnaire and their anthropometric data were collected with the use of stadiometer and bioimpedance analyser. Data were analysed using SPSS version 23. All tests utilized a statistical significance of $p < 0.05$.

Results: Majority of the participants were females – 60.2% with males constituting 39.8%. Most of the respondents were between the ages of 21–24 (33.4%), (32.1%) were between the ages 18–20, (27.6%) were between the ages of 25–28 and (6.9%) were in the age range of 29–34. The majority of the respondents (56%) declared skipping breakfast. The major reasons for skipping breakfast were: a) lack of time (25.3%), b) not feeling hungry (22.4%); c) overslept (16.3%); d) attempt to lose weight (12.4%); e) on a special diet (10.1%); f) did not like breakfast (8.4%); g) and could not afford it (5.3%). Approximately 41.1% of the population was overweight, 33.2% were categorized as being class 1 obesity, 22.3% were of healthy weight, 1.9% were categorized as class 2 obesity and 1.6% were underweight. No statistically significant association was found between obesity and the habits not eating breakfast.

Conclusions: Most of the participants were found to skip breakfast. Although most of the subjects, who skipped breakfast, were either overweight or obese, no association was found between obesity and the habits of not eating breakfast.

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Woman-to-Woman: Implementation of a cervical cancer education training programme for Grenadian Lay Health Advisors

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Objective: The reduction in cervical cancer (CC) in developed countries, due mainly to Pap testing, has not filtered down to Caribbean countries including Grenada despite accessible screening. This is attributed to a lack of knowledge and low screening. Researchers in low resource settings successfully trained lay health advisors (LHAs), using theory-based, culturally relevant interventions to reverse this trend. The use of LHAs in Grenada was not documented in the literature; therefore, the purpose of this study was to implement and evaluate a culturally relevant curriculum in an effort to educate Grenadian LHAs on CC.

Methods: Using convenience sampling, eight Grenadian women were recruited from the parishes with the highest rates of CC. They participated in Woman-to-Woman (W2W), a two-day CC and human papilloma virus (HPV) prevention education programme facilitated by local content experts. Woman-to-Woman was adapted from an evidence-based curriculum and tailored for the Grenadian context. Training consisted of modules on CC and HPV. Knowledge of LHAs was measured pre and post-intervention. Summative evaluation was assessed using a focus group discussion.

Results: There was a significant increase in CC knowledge among LHA post-training ($p < 0.05$) and LHAs had positive opinions about the intervention. They had an enhanced sense of self-efficacy and valued feeling part of a team.

Conclusions: The W2W results indicated that an evidence-based and culturally tailored educational intervention has the potential for significant gains in CC and HPV knowledge. Future research will evaluate the LHA-led CC and HPV educational intervention in the community setting.

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Understanding factors affecting acute myocardial infarction outcomes in the small island developing state context: A qualitative study of the experiences and perceptions of healthcare professionals of a tertiary level hospital

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Objective: This study sought to explore the experiences and perceptions of healthcare professionals employed at the Queen Elizabeth Hospital regarding the use of a “draft”

ST segment elevation myocardial infarction thrombolysis protocol with a view to identify and understand facilitators and barriers which affect its practical use in order to inform health service design and delivery to improve patient outcomes regarding acute myocardial infarctions.

Methods: Individual, face-to-face semi structured interviews were conducted until the point of saturation (18th interview). Healthcare professionals were purposively selected. All participants were employed at the Queen Elizabeth Hospital and played an active role in the care pathway of patients diagnosed with acute myocardial infarction. All interviews were subject to rapid thematic analysis followed by verbatim transcription with further thematic analysis and constant comparison supported by the Atlas.ti (8) data management software.

Results: The study found that participants were knowledgeable of the protocol, however, application of knowledge was limited by health system factors such as workforce capacity, physical plant resources, healthcare priority settings, communication with administrative staff and socio-economic factors which affected its practical use.

Conclusions: The outcomes of ST segment Elevation Myocardial Infarction patients are affected by multiple factors. Additionally, barriers identified can be resolved by appropriate needs assessment and communication with the key players involved to facilitate efficient and effective execution of the draft ST segment elevation myocardial infarction thrombolysis protocol.

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A qualitative exploration of masculinity and health: Living with a prostate cancer diagnosis

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Objective: To explore the lived experience of adult Barbadian men as it relates to prostate cancer survivorship. The perceptions and experiences of this vulnerable group are described, with emphasis placed on their decision-making process and factors influencing their utilization of cancer care services.

Methods: A qualitative methodology was used to explore the lived experiences of men residing in Barbados, aged 25–80 years, diagnosed with prostate cancer for greater than three months. Purposive sampling was utilized to recruit participants from a holistic wellness clinic. Semi-structured in-depth interviews were performed. Interviews were audio recorded and transcribed verbatim. Additionally, a rapid analysis was performed using data from summary sheets to determine emerging themes. Data were interpreted using thematic analysis, with constant comparison made for emerging and developing themes, and validated using reflectivity, memos and respondent validation.

Results: Two global themes were noted, namely the impact of social networks on men's health behaviours and the decision-making process. Informal social networks were found to be influential before and after diagnosis. These were not limited to face-to-face interactions but also included social media. Moreover, they were sources of health information and support. Finally, the decision-making process was found to be influenced by health beliefs, financial capabilities and perceived quality of care among other factors.

Conclusions: Multiple factors in the individual, social and financial domains shape the experiences and decision-making processes of Barbadian men living with prostate cancer. Although social groups may hinder screening behaviour, they provide health information and social support post-diagnosis, thereby facilitating health-seeking behaviours. Social networks should therefore, be targeted more for health promotion type interventions.

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Knowledge, attitudes and perception on the use of pesticides by vector control personnel: A cross-sectional descriptive survey in pesticide use and management

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Objective: To analyse the knowledge, attitudes and perceptions of vector control personnel on the use of insecticides and larvicides as compared with The World Health Organization (WHO) guidelines for vector control of the *Aedes aegypti* mosquito, whilst also reviewing mosquito index data before and after the rainy period 2012–2016 to test the efficiency of the chemical control used.

Methods: Vector control personnel who worked with pesticides for the control of *Aedes aegypti* were surveyed in a cross-sectional descriptive study using an administered questionnaire. Comparisons and descriptions of the population were made whilst looking at the knowledge, attitude and perception of the personnel using the monitoring and evaluation indicators for integrated vector management (IVM) as a guideline. Data were obtained from the Vector Control Unit on the mosquito indices, namely the House, Breteau and Container indices to check on the efficacy of the programme.

Results: Nearly 45.5% of the population responded to the questionnaire (48% F, 52% M) with the modal education level being associate degree. Vector control personnel lacked knowledge of IVM but knowledge about aspects of policies existed. The attitude towards proper usage, storage and handling was identified and the perception of what constituted judicious use was sound. Poor documentation and

absent datasets (Pupae index and adult survey) meant that the efficacy of the programme could not be determined.

Conclusions: Vector control personnel need more documented training in judicious use of pesticides for the *Aedes aegypti* mosquito. Integrated vector management protocols for pesticides need to be implemented at a national level to supplement the training for the vector control personnel.

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Human papilloma virus prevalence and cervical cancer experience in St Kitts and Nevis

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Objective: To survey and review cervical cancer in St Kitts/Nevis. This cancer is one of the most serious cancers experienced by women in the Caribbean. It is most commonly found in working age women and can be a devastating and challenging experience for them.

Methods: We reviewed historical information on women experiencing cervical cancer in St Kitts and Nevis. This included deaths, screening, treatment and prevention activities.

Results: Treatment for cervical cancer is mainly carried out by surgery and chemotherapy in St Kitts and Nevis. Radiotherapy is now carried out in Antigua. Some women travel further afield to get treatment. Deaths from gender-specific cancers account for nearly 50% of female cancer deaths. Pap smear testing for cervical cancer is carried out in several clinics. A recent independent study on human papilloma virus (HPV) serology has found a high prevalence of high-risk HPV genotypes. This supports the early introduction of an appropriate HPV vaccine. There is a good programme of education in schools, and the media about the value of safe sex and good health.

Conclusions: If cervical cancer is detected at an early-stage there are good prospects for successful outcomes. If diagnosed late it can spread rapidly and become very difficult to treat. There are now possibilities for the use of other methods of screening and treatment of cervical cancer.

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Barbadian adolescents living with human immunodeficiency virus adherence study: An evaluation of adherence to anti-retroviral therapy and factors affecting adherence

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Objective: To determine the factors affecting adherence to HIV medication in adolescents in Barbados.

Methods: This study was a mixed methods study with qualitative and quantitative components. The qualitative aspect only is discussed in this paper. Adolescents living with HIV aged ten to 19 who were aware of their HIV status; on anti-retroviral therapy (ART) for at least one month and had received long-term management in Barbados were recruited from the paediatric and adult HIV clinics. Thirteen participants were enrolled in interviews using an in-depth questionnaire to collect qualitative data regarding factors affecting adherence which was then analysed using thematic analysis. The themes were analysed for each group: adherent and non-adherent.

Results: The following themes were common amongst both adherent and non-adherent participants: level of readiness to start anti-retroviral therapy, self-efficacy, self-image, self-motivation, outlook on the future, attitude towards taking anti-retroviral therapy, sadness and apathy and early experiences with taking anti-retroviral drugs in perinatal HIV patients. The level of knowledge about HIV, anti-retroviral therapy and its long-term benefits was suboptimal in both groups but was not a determinant of adherence itself.

Conclusions: This study provides some indication that special efforts are needed to improve the level of knowledge about HIV, ART and its long-term benefits among ALHIV, and to involve patients in management decisions to improve self-efficacy particularly in perinatally infected patients. Also there is a need for psychological and adherence support at the time of HIV disclosure to minimize any negative psychological impact from this experience, as well as ongoing support as necessary.

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Prevalence of refractive errors in selected secondary school students in Hinterland versus Coastland Regions of Guyana

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Objective: Uncorrected refractive errors are a prominent cause of eye problems such as visual impairment. Children are especially affected by this problem since it can negatively impact their educational outcomes. This study sought to determine the prevalence and factors associated with the occurrence of refractive errors in school-aged children in two distinct geographical areas in Guyana.

Methods: This cross-sectional study was conducted to assess the prevalence of refractive errors in high school students of aged 13–17 in two distinct areas in Guyana. A total of 328 students were interviewed for demographic and other relevant information and subjected to visual acuity testing.

Results: There was an overall prevalence of 18% of refraction errors. The most prevalent refractive error was Myopia (14.6%) followed by Astigmatism with (5.4%) In the Hinterland Region there was an overall prevalence of 21% as compared to 16.4% in the Coast. Refractive errors were more common among females and descendants of Asians as compared to other groups. The study also found a significant uncorrected refractive errors in the Hinterland (85%) as compared to (67%) along the coast.

Conclusions: Among the factors found to have contributed to the prevalence of refractive errors were ethnicity, age, gender, extra-curricular activities, academic tasks, awareness and availability of eye care services.

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Exploring implementation planning and process of school nutrition policies in the Caribbean island of Barbados: A qualitative policy analysis

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Objective: We aim to explore adoption, acceptability and feasibility of implementing school nutrition guidelines/policies in a Caribbean state (Barbados) with high rates of childhood obesity.

Methods: We purposively selected a sample of seven primary and secondary schools and conducted semi-structured qualitative interviews with school administrators and performed observations of school grounds for evidence of healthy school initiatives. Verbatim-derived transcripts were coded using inductive thematic analysis facilitated by NVIVO software. The themes obtained were matched against select constructs of the Consolidated Framework for Implementation (CFIR). Documentary analysis assessing comprehensiveness and strength of each guidelines was performed on three national nutritional guidelines using the modified WELLSAT questionnaire used for school policy analysis.

Results: School administrators were supportive of a nutritional policy that originated from both Ministries of Education and Health. There was a lack of awareness of the existing national school nutrition guidelines but positive attitudes towards implementation of future policies within their respective schools. Champions and resources are present but financial challenges and institutionalised vending are likely barriers. The three main documents addressing childhood-related nutrition policy were moderately comprehensive in addressing nutrition standards for food and beverages provided and sold (scores-85%, 77%, 62%) but scored zero in two domains of the WELLSAT questionnaire: nutrition education and communication and evalua-

tion. Recommendations addressing nutrition standards were found to be weak – 62%, 23%, 8%.

Conclusions: The climate for implementation of school nutrition guidelines appears favourable. Policy-makers need to act promptly to develop stronger policies that comprehensively address all aspects of effective school nutrition interventions.

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Prevention of childhood obesity: Options for nutrition in a cohort of schools in Barbados

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Objective: This study sought to describe the lunchtime choices and vending facilities available to secondary school-aged children in Barbados within the perspective of influence on incidence of childhood NCDs, specifically focussing on overweight and obesity.

Methods: This incidence study performed in November 2018, captured the content of canteen menus offered at twenty-two secondary schools. Students attending the Heart and Stroke Foundation (HSFB) Yute Gym, were interviewed to determine: the offerings of their respective school canteen, the presence and status of; water fountains, vendors and or vending facilities on the school compound.

Results: The most frequent food items offered were; white potato fries (88%), burgers (82%), snack boxes – prepared baked/fried chicken and chips (71%), and rotis (65%). Some schools sold salted high fat protein (pig tails) snack boxes (18%). Meals lacked adequate vegetable servings. Sugar-sweetened beverages were available on all compounds (100%). Fruits were available at 13% of the schools whilst working water fountains were present at 41%.

Conclusions: The school environments reviewed, facilitated the easy access of children to a large number of less healthy food options either by their direct nature or indirectly by the method of preparation. There is much scope for incorporating healthier food preparation methods. To achieve favourable impact on the epidemic of childhood obesity and NCDs in this target group of schools, we recommend the introduction of: food-based standards- to have a positive impact on the ready access and selection of unhealthy foods, as well as the implementation and enforcement of national food policies within canteens.

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Living with breast cancer: A qualitative inquiry of the experiences and perceptions of Barbadian women

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Objective: To explore the lived experience of women living with a diagnosis of breast cancer and what was perceived by them as factors affecting survivorship.

Methods: Participants who were diagnosed and sought care in Barbados for breast cancer were purposively selected with the assistance of a Civil Society Organization providing cancer care to the entire island of Barbados. Twelve individual, face-to-face, semi-structured, in-depth interviews were conducted until data saturation was reached. Participants were aged 27–69 years. All interviews were audio-taped and transcribed verbatim. Data were analysed using thematic analysis with constant comparison.

Results: Breast cancer survivorship is a complex phenomenon, with multiple inputs from the individual, health system and societal level. We identified 50 thematic concepts influencing survivorship. These were rooted in three foundational determinants: 1. Referral and treatment pathways; 2. Nature of the patient-provider communication experienced throughout the care pathway and; 3. Likelihood or actual experience of healthcare induced financial hardship. Additionally, women described varied periods of watching and waiting before seeking services through “non-standardized” care pathways. This resulted in delays particularly for women without well-established relationships with a provider in a primary healthcare/ community setting.

Conclusions: Further research is needed to identify and systematically address gaps in coordination and financing of breast cancer health services. In addition, research to inform the implementation of population level breast health education and care navigation programmes is needed.

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A study to delineate factors contributing to multi-drug resistant organism (MDRO) outbreak and control at the Sangre Grande Hospital

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Objective: To identify the factors contributing to the multi-drug resistant organism (MDRO) acquisition and its control.

Methods: A case-control study design was chosen. This was done from January to March 2015. Cases and controls were unmatched. Cases were defined as patients admitted to wards with a contracted MDRO, who had been discharged or had died and had a stated medical or surgical diagnosis. Multi-drug resistant organisms included Methicillin resistant *Staphylococcus aureus* (MRSA) and Multi-drug Resistant Gram-Negative Bacilli (MDRGNB). Controls were any other patients on the wards, with similar demographics and

diagnosis and disposition, not infected or colonized with a MDRO and had a medical or surgical diagnosis.

Results: Eight cases and ten controls were incorporated in the study. Patients recently hospitalized had 14 times the odds of the group not recently hospitalized, of developing a MDRO, 95% CI: 1.1352 – 172.6502, $p < 0.0395$. Length of stay (LOS) on the ward for a minimum of five days showed a significant association with MDRO acquisition ($p < 0.0485$). Contributory factors to increased MDRO acquisition included greater than one invasive devices, urinary catheter and/or central venous catheter ($p < 0.019$ and $p < 0.003$, respectively). Most MDRO cases had at least one invasive device attached to them during their stay on the ward: CVC, a Urinary/Catheter or both. Multi-drug resistant organism cases mean LOS: 29.5 days (19.27 SD) versus controls: 5.2 days (4.29 SD).

Conclusions: A significant association exists between recent hospitalization and developing an MDRO. Patients with an MDRO stayed a mean of 29.5 days compared to 5.2 days for controls.

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Knowledge, attitude and practice regarding wound care among diabetic and non-diabetic foot ulcer patients at the Public Hospital, in Guyana, South America

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Objective: The present study explored knowledge, attitudes and practice among diabetic and non-diabetic foot ulcer patients at Georgetown Public Hospital in Guyana.

Methods: A cross-sectional study was conducted among 170 patients during November 2016 to February 2017 at the only tertiary hospital in Guyana.

Results: Multivariate linear regression was done to examine the association between diabetes related knowledge, attitude and practice (KAP) and other covariates. The mean (\pm SD) age (years) of all the study participants was 55.5 ± 16.0 (SE = 1.41, 95% CI: 52.7–58.3) and basal metabolic index (BMI) was 28.8 ± 4.3 . As such, a higher percentage in diabetic foot (DF) ulcer (72.9%) were unemployed compared to non-diabetic foot (NDF) ulcer [53.3%] ($= 5.3, p = 0.02$). The mean (\pm SD) KAP and barrier score among DF were 6.5 ± 1.7 , 4.6 ± 1.0 , 9.5 ± 1.8 and 6.4 ± 1.6 , respectively. Non-diabetic foot mean (\pm SD) KAP and barrier score were 5.8 ± 2.0 , 4.1 ± 1.1 , 10.6 ± 2.0 and 6.7 ± 1.7 , respectively. The Logistic Regression Model revealed that onset of foot ulcer, site of ulcer, practice score, previous ulcer, amputation, peripheral artery disease were the significant contributors for the diabetic population.

Conclusions: It is concluded that the overall level of knowledge and attitude concerning wound care among diabetic population was good compared to the non-diabetic population, but the overall level of practice was poor among diabetic population.

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Psychological effects on prostate cancer screening in men attending the Guyana responsible parenthood association clinic

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Objectives: To determine a) the characteristics of the population that attended the Guyana Responsible Parenthood Association Clinic to have the prostate-specific antigen (PSA) screening test for prostate cancer and b) the psychological effects associated with the testing.

Methods: A descriptive pre-and post cross-sectional study was done for five months. It used the HADS and the DASS-21 questionnaires in the pre- and post-PSA testing stages. Convenience sampling was done. The data was collected, put into Microsoft Office Excel and exported to SPSS software version 20 for analysis. The paired *t*-test and analysis of variance (ANOVA) were applied to the data using *p*-values < 0.05 as being statistically significant.

Results: Seventy-four subjects including; 42 of African descent, 22 between ages of 41 and 50 years old, 50 with exposure to college education, 57 employed, 40 married, 55 did not have a first degree relative with prostate cancer and 35 had a prostate-specific antigen test done due to referrals by medical practitioners. Using the paired *t*-test and the ANOVA, comparing the pre- and post-test results of the HADS and the DASS-21, no statistically significant levels nor changes were found, 95% confidence interval used.

Conclusions: The population undergoing PSA test screening was made-up most of men of African descent, between 41 and 50 years of age, that had some college education, were employed, married, did not have a first degree relative with prostate cancer and were referred by medical personnel. There was no statistically significant relationship found between depression, anxiety or stress levels and PSA test screening for prostate cancer.

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Postnatal mothers' knowledge of essential newborn care practices: A study done at the only tertiary hospital in Guyana

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Objective: This study examined knowledge of postnatal mothers regarding essential newborn care practices at the Georgetown Public Hospital Corporation in order to decrease neonatal morbidity and mortality by identifying maternal deficiencies in knowledge and practice.

Methods: A cross-sectional study of 80 postnatal mothers on the postnatal ward. The study instrument was a self-administered questionnaire. Data were analysed using SPSS Version 20. An overall knowledge score was calculated. The scores were categorized as poor, fair and good using the groups 0–4, 5–7 and 8–10, respectively (fair knowledge being equivalent to greater than 50% knowledge questions answered correctly). Using the Chi-square test, *p* < 0.05 was considered statistically significant for all tests.

Results: The most common age group of the postnatal mothers was 20–29 with 75.9% having completed secondary education. A majority of postnatal mothers 88.6% answered that the umbilical stump should be cleaned with methylated spirits. Regarding feeding practices, 67% knew that they should exclusively breastfeed for six months. Concerning the mothers' knowledge of thermoregulation, 32.9% did not know when their newborn should have their first bath. A mere 8.9% were able to identify > 8 of the listed danger signs whilst 57% of the study population received information from the nurses. The majority of the study population had fair knowledge (68.4%), only nine women had good knowledge and 16 had poor knowledge.

Conclusions: Only nine women had good knowledge on essential newborn care. It is therefore, recommended that a standardized educational neonatal care brochure/lectures be implemented to encourage proper care and detection of complications by mothers for their newborn.

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Feasibility of nocturnal haemodialysis in the Eastern Region Health Authority

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Objective: To determine the quantity of patients that would be interested in attending late night and/early morning dialysis (LNEM).

Methods: Using a Convenience Sampling Methodology, random phone calls were made to patients on the Eastern Regional Health Authority (ERHA) dialysis waiting list, as well as current patients being dialyzed at the Sangre Grande Hospital (SGH). This gave a target population of approximately 155 patients. The telephone interviews were conducted over a period of one day and the data collectors were guided by short survey instrument.

Results: Sixty-four persons were surveyed, 41% responded. Age: 27–78 years, μ 55. 34.9% of patients had dialysis for two years. Fourteen patients resided outside the ERHA

catchment. Fifty-eight per cent were interested in LNEM sessions: 24%, 8:00 pm–12:00 pm, 60%, 2:00 am–6:00 pm. Fifty-seven per cent with LNEM preference had support of a friend/family. Twenty-two per cent will have to hire a vehicle for transportation, 14% will depend on public transportation. Seventy per cent had interested in LNEM sessions rated themselves as moderately-very sick. Fifty-four per cent had one person accompanying them with 35% attending by themselves. Forty-two per cent of respondents had indicated that they were not interested in LNEM sessions, they (67%) sited transportation as the main hindrance followed by limited social support (63%).

Conclusions: Late night/early morning dialysis is a feasible option in the ERHA. Efforts should be made to assist patients with transport and social support to facilitate this option.

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The epidemiology of sharp injuries at the Sangre Grande Hospital, Trinidad, West Indies

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Objective: To describe the epidemiology of sharp injuries at the Sangre Grande Hospital.

Methods: A retrospective descriptive study was done by sampling of the case notes. This was from 2007–2017. All persons recorded as having being injured by sharps at the Infection Prevention and Control Department were included.

Results: A total of 148 dockets were reviewed. Ages were: 20–77. Ages 26–29 were most affected. One hundred and nine females were injured compared to 36 males. From 2013–2017: There was an almost three-fold increase over the period: approximately 6.5/ 1000 staff members in 2007 to 18.1/ 1000 staff members in 2017. Persons injured were mainly from wards (63%): Accident and Emergency (9%), Internal Medicine (32%) and General Surgery (16.2%). Nurses (25%), Physicians (16%) and students (13.5%) were the main categories affected. The highest number of events occurred between 10:30 am–11:00 am. One hundred and twenty five (84.5%) incidents were first reported to Accident and Emergency, 134 (90.5%) persons, 141 (95%) were eventually reported to IPC. Most injuries occurred: recapping needle/action failure (9%), suturing (1.3%), taking bloods (0.7%), occupational eg cleaning and lancets (7%). Seventy-four case occurred on the fingers (50%). Human immunodeficiency virus, Hepatitis A & B were done in 140 persons (94.5%). In 122 (82%) events the source patient was tested. In 90 (61%) cases the type of device causing the injury was undocumented. One hundred and eighteen (80%)

persons had been vaccinated. Forty-two (28%) persons had PEP for one month. One (1.3%) person reported seroconversion after six months.

Conclusions: Sharp injuries have been increasing in this hospital over the study period. Only a small percentage of cases underwent seroconversion after six months.

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Verification of carrot broth media for Group B *Streptococcus* identification and cost comparison

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Objective: To verify the utility and feasibility of carrot broth for Group (Gp) B *Streptococcus* Identification.

Methods: Isolates were collected from pregnant patients by culturing low vaginal swabs (LVS) from May to September 2015 at Sangre Grande Hospital, Trinidad. These were screened in carrot broth (CB). Isolates were gram stained and plated on blood agar (BA) and *Streptococcus* selective agar (SSA). Identification (ID) was confirmed with the Microscan Autoscan[®] and Streptex[®] - Streptococcal Grouping kit. Discrepant results were those with mismatch between Microscan Autoscan[®] and Streptex[®]. The Microscan Autoscan[®] panel only ID Gps B & D, Streptex[®] ID Gps A-G. Antimicrobial susceptibility was done with the Microscan Autoscan[®] only for Gp B *Streptococcus*. Direct costs were used in Trinidad and Tobago dollars (\$).

Results: Thirty-six LVS samples were collected: 16 Gp B, 1 Gp C, 11 Gp D and 8 which had no *Streptococci* Gp ID, but were gram-negative. Prevalence of Gp B *Streptococcus*: 31%. Agreement between CB and other methods was 86.1%. Sensitivity: 100%: CI (72%–100%), Specificity: 80%: CI (59%–93%). Accuracy: 86.1%: CI (70%–96%). Microscan Autoscan[®] and Streptex[®] ID 100% of isolates correctly. There were no discrepant results.

Penicillin resistance was 12.5%. Vancomycin and Clindamycin were 100% sensitive.

SSA: \$2.17/plate, BA/plate: \$1.50. Total *Streptococcus* ID and sensitivity using Microscan Autoscan[®] Panel 33: \$90/isolate. Total *Streptococcus* ID using Streptex[®]: \$170/Card. Carrot Broth: \$49/vial.

Conclusions: Microscan Autoscan[®] Panel was cheaper than Streptex[®] for final ID and sensitivity testing. Carrot broth is cost-effective for screening.

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Screening for hyperglycaemia in pregnant women in the primary healthcare setting of St George Central, North West Regional Health Authority

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Objective: To determine when screening for hyperglycaemia in pregnancy occurs in the Antenatal Clinic at El Socorro Health Centre (ESHC).

Methods: The American Diabetes Association (ADA) recommendations for screening and diagnosis of hyperglycaemia in pregnancy were used as the standard criteria in this audit: Test for undiagnosed Type 2 diabetes mellitus at the first prenatal visit in those with risk factors, using standard diagnostic criteria. Testing for gestational diabetes mellitus (GDM) was done at 24–28 weeks of gestation in pregnant women not previously known to have diabetes. Dockets were audited of patients who attended the antenatal clinic at ESHC for June 2017. Data were collected retrospectively by convenience sampling. A data extraction tool was used.

Results: A total of 26 patients were seen in the Antenatal Clinic during the month of June 2017. Fifty-two per cent of patients were assessed for the risk factors of GDM. Fasting blood sugar (FBS), HbA1C, 50 g oral glucose tolerance test (OGTT) and the 100 g OGTT were not conducted. Random blood sugar (RBS) testing was done in 92% of patients at the booking visit and 31% of patients at 24 to 28 weeks gestation. While 75 g OGTT was done in 15% of patients at the booking visit and 75% of patients at 24 to 28 weeks gestation.

Conclusions: Random blood sugar screening was commonly done at the booking visit as well as use of the 75 g OGTT at 24 to 28 week gestation in this population.

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Knowledge, attitudes and utilization of traditional medicine for Type 2 diabetes among residents of St Cuthbert's Mission, Guyana: A cross-sectional study

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Objective: To determine the knowledge, attitudes and utilization of traditional medicine (TM) for Type 2 Diabetes among residents of St Cuthbert's Mission, Guyana.

Methods: A descriptive cross-sectional study was carried out among 318 residents of St Cuthbert's Mission, Guyana following informed consent. A systematic random sampling was used to select households. Data were collected through house to house interviews and analysed using SPSS.

Results: A total of 318 participants were studied. Of these, 60.1% (n = 191) were females and 39.9% (n = 127) were males, with 30.5% (n = 97) found in the > 60 age group. The mean (\pm) value knowledge score was 85.1 ± 16.8 with

50.9% (n = 162) of the study participants having good TM knowledge. Nearly 40.3% (n = 128) of the study participants were affected by Type 2 diabetes with 49% (n = 155) having a family history of diabetes. Of this, 50.4% (n = 66) started using TM to control signs and symptoms. The mean value for attitudes was found to be 76.1 ± 11.6 . 83% (n = 264) of participants were considered as having good attitudes. We found that the use of TM was significantly associated with the age and gender of the population (p -value < 0.02).

Conclusions: The majority of the study population is considered to have good knowledge and attitudes towards TM with age and gender being highly associated with its use. Therefore, there needs to be greater efforts to revive and coordinate the use of medicinal plants/herbs by the Ministry of Public Health and Ministry of Indigenous People's Affairs.

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Oscillations of the laser-doppler resting cutaneous perfusion signal in primary open-angle glaucoma

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Objective: The vascular dysregulation in the optic nerve head in primary open-angle glaucoma (POAG) may be a consequence of vascular endothelial dysfunction. Endothelial dysfunction has been shown in the peripheral forearm macro-circulation in POAG, but the study of the peripheral micro-circulation has been limited. The aim of this study was to investigate the oscillations in resting microcirculatory skin blood flow in POAG patients and controls.

Methods: We studied five POAG patients and eight controls. Skin blood flow in the finger and forearm, expressed as cutaneous red cell flux, (RCF) was measured by laser-doppler flowmetry (LDF). Spectral analysis was performed on the LDF signal.

Results: Within POAG patients and controls, mean (\pm SD) baseline finger skin RCF was higher than at the forearm, (20.6 ± 11.4 PU vs 5.8 ± 0.8 PU; $p = 0.006$) and (25.7 ± 19.5 PU vs 7.4 ± 4.5 PU; $p = 0.016$), respectively (Mann-Whitney U test). Within POAG and controls, the mean amplitude in the finger for each of the six frequency sub-intervals was higher than in the forearm ($p < 0.05$). In both subject groups, for both skin sites, the relative amplitude of the lower frequency sub-intervals III-VI, was higher than in frequency sub-intervals I and II.

Conclusions: The higher mean amplitude of resting skin blood flow oscillations in the finger compared with forearm skin indicates greater vasomotor activity in the skin of the finger compared with the forearm skin in POAG patients and controls. Endothelial, neurogenic and myogenic activity contributed more to the vasomotion than did breathing or cardiac activity, under resting conditions.

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Survival rates of women with breast cancer in Guyana, retrospective study from 2006 – 2017

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Objective: To assess survivorship of female breast cancer patients in Guyana.

Methods: Secondary data were obtained from the Cancer Institute of Guyana for 795 female breast cancer cases, recorded from 1st January 2006 to 31st December 2017. Survival time was calculated from date of diagnosis to date of death. Estimates of survival were derived using the Kaplan Meier method.

Results: The ages of the women diagnosed with breast cancer ranged from 12 years to 87 years, Stages 0 to 4. The average age of patients with breast cancer treatment was 49.4 years with standard deviation of 13.6 years. Women less than 40 years old at age of diagnosis with breast cancer who underwent treatment had a 99% chance of survival. Further, if a patient was diagnosed with cancer in both of their breasts and had received treatment then their cumulative survival time was approximately five years. The probability of survival was low for patients diagnosed with cancer in both breasts and who had not received treatment.

Conclusions: After due consideration of stage and treatment, age remained an independent risk factor for breast cancer mortality. Women diagnosed at Stage 1 of the disease, received treatment and were less than 40 years at age of diagnosis had longer survival rates. Women affected by breast cancer who had not received treatment had higher risks of mortality. Survival data over-time can support

decision-makers in designing prevention and control treatments to enable women diagnosed with breast cancer to live longer.

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Knowledge, attitudes and practices of screening for prostate cancer in men above age 45 in Georgetown, Guyana

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Objectives: To determine the level of knowledge in men above age 45 about prostate cancer, prostate cancer screening and the practices associated with it; and to identify the attitudes (misconceptions, myths, cultural belief) that influence decisions about prostate cancer screening.

Methods: A quantitative study was undertaken between June and July 2018. The target population was 105 men above age 45, without prostate cancer or any prostatic disease. Random sampling was done at three Health Centres in Georgetown. Data were collected using a semi structured questionnaire that had three sections and focussed on the health belief model as the thematic origin. All associations were adjusted for potential confounding effects of age. A pamphlet was given after answering the questionnaire.

Results: Overall, men were not knowledgeable (43.8%) about screening methods. They had a positive attitude (56.2%) as it relates to being screened. A positive response was obtained for cues of action (59%). Participants at Campbellville were more educated than those at Kitty Health Centre, however, participants at the Sophia Health Centre were more knowledgeable (41.3%) whereas those at Campbellville (21.7%) were not.

Conclusions: Strategies should be implemented in the healthcare setting to focus on men's health to decrease the mortality rate in Guyana with early screening and treatment for prostate cancer.