

Poster Abstracts

Health Systems: Policy and Planning

P – 1

Developing essential standards for field worker training in community based rehabilitation

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Objective: The objective of this applied research project is to develop essential standards for training curriculum of community based rehabilitation (CBR) field workers that contain up-to-date content, guidelines for course facilitators, clear outcomes, and uses appropriate methodology, applicable to national CBR strategies. The main research questions of this study is: what is the current and ideal (1) profile, (2) training curriculum, (3) and support system of CBR workers in the CBR programmes of six countries.

Methods: In each of the six selected countries data was collected in CBR programmes. Data was collected in three phases and three different categories of methods were used: (a) - Distance methods: survey and desk study; (b) Field methods: workshops, interviews, observations and focus group discussions, (c) “Validation” method during a workshop in Lusaka and a Delphi-panel.

Results: This study was finalized in February 2018. They were reviewed and validated at the 6th African CBR Conference in Zambia in May 2018.

Conclusion: Policy Implications: gaining insight in the current skills and knowledge of CBR field workers would help to develop essential standards for the training of CBR field workers on a national, and possibly regional and/or international level. There is an urgent need to get a better understanding among policy-makers about the role and position of CBR in national rehabilitation policy-development and given the current interest in the Caribbean, the Region would contribute greatly to the outcomes of this study.

P – 2

Perceptions of nurses regarding the implementation of continuing nursing education at the new Amsterdam Regional Hospital

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Objective: To assess nurses’ willingness to implementation and participation in continuing nursing education (CNE) and determine barriers to participation at the New Amsterdam Regional Hospital.

Methods: A sample of 60 nurses were used. A quantitative approach was taken and purposive sampling technique was used. The method used in the collection of data was a close format questionnaire, using Likert’s scale and multiple-choice questions. The research had a pre-testing of its questionnaires prior to distribution by senior nurses at the New Amsterdam Hospital and a few other nurses.

Results: Data from 50 nurses (Bachelor of Science, Registered Nurses, Registered Midwives and Single-Trained Midwives) were used for analysis. The results indicated that 94% (n = 47) of the nurses at the NARH were in favour of the implementation of CNE at the Hospital and they believed that it can help to improve the quality of care provided. Moreover, 94% were willing to participate and to encourage others to participate in CNE activities; major barriers though were, impromptu planning, understaffing, off-duty issues and financial constraints.

Conclusion: Nurses need to stay in line with new trends and practices in nursing and its each nurse’s professional responsibility to be up to mark. The American Nurses association understood this when they posited, “nursing professional development builds on the basic education and experience of nurses throughout their professional careers for the goal of ensuring the quality of healthcare to the public” (2016).

P – 3

Adherence to guidelines of surgical antibiotic prophylaxis: A retrospective cohort study at the Georgetown Public Hospital Corporation, Guyana, June – July 2017

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Objective: To assess whether the surgical antibiotic prophylactic (SAP) practice at Georgetown Public Hospital Corporation (GPHC), Guyana are in adherence to internationally accepted ASHP guidelines of SAP.

Methods: A Retrospective Cohort study was carried out. Five hundred and four patients met inclusion criteria *ie* had clean or clean-contaminated procedures, within the General Surgery, Obstetrics and Gynaecology and Orthopaedics Departments during the study period. All contaminated or dirty surgeries, in addition to those patients who received therapeutic antibiotic before surgery or those with signs and symptoms of infection after surgery were excluded. Each patient was enrolled at the time of admission for surgery and followed up to 24 hours post-operatively. Data evaluating antibiotic need, agent and dose selection, timing, redose and duration of SAP use were collected from the patients' charts and analysed using statistical package for the social sciences (SPSS) v23 applying descriptive methods.

Results: Overall compliance for the studied parameters were very low (1.6%). However, 75.0% cases had appropriate use while 23.8% had appropriate antibiotic selection and 20.2% received the appropriate dose. One hundred per cent of cases were adherent to recommended redosing guidelines. 82.6% were adherent to duration. Adherence to SAP guidelines were significantly different across the Departments ($p < 0.05$). Obstetrics and Gynaecology had much better compliance to the guidelines. There was a very low compliance in the documentation (4.2%) of timing of first dose.

Conclusion: Lack of instituted guidelines and unavailability of appropriate SAP agents explain the low adherence to appropriate surgical antibiotic prophylaxis at GPHC, with a high-rate of broad spectrum antibiotic use and incorrect dosage. In addition, inadequate documentation is a major limitation to assessing current practices.

P – 4

Development of a digital public health database to assess risk factors of diabetes in the Federation of St Kitts and Nevis

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Objective: We aimed to develop a digital public health database for the community of St Kitts and Nevis that will provide updated data regarding prevalence of risk factors, associated chronic conditions like diabetes for diagnosed and undiagnosed cases.

Methods: Students and faculty collected patient data sheets ($n = 85$) in a series of health fairs conducted through the University of Medicine and Health Sciences, St Kitts in collaboration with the St Kitts Ministry of Health. A standardized Patient Profile Sheet was completed to document self-reported prior diagnosis and

the clinical measures. Client information was coded and entered into a private access Google Sheets document. Average age of client was determined for patients with high (> 200 mg/dL) or low (< 200 mg/dL) random blood sugar (RBS).

Results: The preliminary findings indicate clients with previously diagnosed diabetes and high RBS are older (average 63.3 years) than patients with low RBS and no history of prior diabetes diagnosis (average 43.6 years).

Conclusion: The project is ongoing and requires more patient data for population trends. The information collected in the database will facilitate the healthcare workers in developing intervention strategies for specific age groups in the population.

P – 5

Quality management: Laboratory professionals prospective

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Objective: To assess knowledge, attitude and practices (KAP) of medical laboratory professionals towards improving Laboratory Quality Systems in Guyana. The study seeks to assess what is Knowledge of Medical laboratory professionals towards using total quality management (TQM), what is attitude and practice of Medical laboratory professionals towards using total quality management and what are the associated factors that hinder satisfactory knowledge and practices and positive attitudes towards total quality management. The hypothesis for the study stated that there is poor knowledge, attitude and practices of laboratory professionals towards total quality management.

Methods: The cross-sectional study design was administered *via* questionnaires to the selected laboratories to assess the KAP of medical professionals towards improving laboratory quality systems in Guyana. The data was entered and analysed using SPSS version 13.30 software.

Results: From a total of 55 study participants, 50.9% had poor knowledge, 54.5% had poor attitude and 49.1% had poor practices as it relates to laboratory quality systems. It was noted that those having fewer than five years' work experience were less likely to have better knowledge ($X^2 = 5.56, p = 0.03$), as compared with their more experienced colleagues. Laboratory personnel other than medical technologist were more likely to have a negative attitude towards quality ($X^2 = 5.05, p = 0.02$). Also, laboratory professionals with five or more years of experience were more likely to have better practices than less experienced colleagues ($X^2 = 5.06, p = 0.02$). The major factors associated with good laboratory quality control were found to be educational level and work experience.

Conclusion: It can be concluded that a large number of participants were considered as having poor KAP as it related to laboratory quality systems. This may have a negative impact on attaining the objectives of laboratory quality systems. While lack of motivation and organizational culture were less causes for poor knowledge and practices, it was educational level and work experience that stood out.

P – 6

Non-urgent patients' perception of the acuity of their presenting complaint at the Emergency Department of the Princess Margaret Hospital

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Objective: To identify reasons for which non-urgent patients choose the Accident and Emergency Department (ED) for care and determine if the managing physicians viewed their visits as valid.

Methods: This was a single-centre prospective study, with a cross-sectional design. It was conducted over a three-month period and in two parts. After being triaged, five to seven non-urgent patients were interviewed on two randomly selected weekday shifts. Patient questionnaires captured demographics, perception of the urgency, reasons for choosing the ED and factors that influenced this choice. Without knowledge of patients' responses, physicians determined if the patients' complaint warranted ED inter-vention or could have been equivalently managed at the community clinics. The data were analysed quantitatively. Descriptive and inferential statistics were produced and included multivariate analysis to assess possible confounding variables.

Results: Patients (316) were predominantly adults (89.6%), Bahamians (90.2%), with a high school education (61.7%), employed (66.7%) and arrived at the ED *via* private means (75.3%). Neither marital status, employment, job type, nor the levels of education were found to be a statistically significant influencer of choice. Most patients perceived their complaints as emergencies (80%) and that the clinic would have referred them to the ED (33.2%). A discordant relationship was observed between expert medical opinion and the participants' perception of their complaint being an emergency ($\Phi = 0.148$, $p = 0.010$). Physicians concluded that 60% (183) of these patients could have been treated at the community clinics.

Conclusion: Patients rationalized their choice of healthcare institution which contradicted the opinion of their corresponding physicians.

P – 7

The effective utilization of the Paediatric Outpatient Department, Georgetown Public Hospital Cooperation

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Objective: To determine what are the common presenting illnesses at the Paediatric Outpatient Department (POPD), to investigate why caregivers choose to utilize the POPD and to investigate the reasons for underutilization of the community Health Centre.

Methods: This was a prospective, cross-sectional study that was done at the POPD, Georgetown Public Hospital Cooperation (GPHC) during the period of 25th July to 8th August 2017. A sample population of 500 caregivers was utilized. A questionnaire was administered to retrieve sociodemo-graphics, the common presenting complaints, the reasons for utilization of POPD, the presence of a Health Centre in their community and reasons for its underutilization, if so. Data were analysed using SPSS 21 and Excel 2016.

Results: The mean age of patients was four years, the gender distribution was equal, the majority of patients ($n = 431$) was accompanied by a parent. The most common chief complaint was of the respiratory/ ear, nose and throat (42%, $n = 210$), followed by dermatologic ($n = 83$). Two hundred and seventy-two patients were seldom or first time users of the POPD. Eighty-three per cent ($n = 414$) of patients lived within 20 minutes walking distance from a Health Centre. Lack of medications (19.8%, $n = 99$), followed by poor satisfaction with previous treatment (9.2%) were the main reasons for underutilization of nearby Health Centres.

Conclusion: The most common presenting illness at the POPD was respiratory tract infections. Underutilization of the Health Centre was attributed to unavailability of medications and poor satisfaction with previous treatment. Improvement in primary care service including drug supply will prevent over-utilization of the POPD services at GPHC.

P – 8

Quality of healthcare delivery at the Paediatric Outpatient Department, Georgetown Public Hospital Cooperation, Guyana

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Objective: To measure the quality of healthcare delivery using patient experience at the Paediatric Outpatient Department the (POPD) and to compare the services of POPD to the community health centres.

Methods: A cross-sectional study done at the POPD, Georgetown Public Hospital Cooperation (GPHC), from 25th July to 8th August 2017 using a sample of 500 caregivers. A questionnaire using the STEEP model was administered to retrieve sociodemographics, frequency of visits, child privacy, waiting time, environment at the POPD, ratings of the clerk, nurses and doctors. Data were analysed using SPSS 21 and Excel 2016.

Results: A total of 94.8%, (n = 474) of caregivers believed that their privacy was maintained. Forty per cent (n = 200) had an average waiting time of less than 30 minutes, while 21.6% (n = 108) had a waiting time of more than 60 minutes, 76.8% (n = 384) thought that the waiting time was acceptable. Eighty per cent (n = 400) thought that the environment at POPD was clean and welcoming most or all of the time. For the services of the clerk 25.4% of caregivers thought it was excellent while 46.4% (n = 232) said it was good. When the nursing service was rated, 27.6% (n = 138) said it was excellent while 53.4% said it was good. Doctors' service at POPD was rated as excellent by 40.4% (n = 202) of the caregivers and good by 54% (n = 270). Paediatric Outpatient Department received better ratings in all categories compared to health centres but this was not statistically significant.

Conclusion: The overall quality of healthcare delivery at the paediatric clinic is efficient. This system can be used as a model for improvement of primary healthcare in Guyana with improvements where necessary.

P – 9

Mass drug administration for lymphatic filariasis — Is this elimination strategy working in Guyana?

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Objective: To conduct a post mass drug administration (MDA) and knowledge, attitudes and practices (KAP) survey for lymphatic filariasis (LF) in order to assess the coverage of the 2015 MDA campaign and the KAP among residents of selected communities in Region 4.

Methods: A cross-sectional study was conducted from April to July 2016 on residents in 30 randomly selected communities using the population-proportionate sampling method identified by The World Health Organization (WHO). A questionnaire, modified from WHO, was used to collect data on sociodemographics and numbers of persons who took the drugs, numbers of ineligible persons, and reasons for eligible persons not taking the drugs; and a KAP Assessment which focussed on the household. A formula provided by WHO was used to calculate surveyed coverage.

Results: Three hundred and thirty persons participated and the coverage was found to be 66%. Of those who were

eligible to take the drugs and did not take them (92 persons), the reasons for their non-compliance included refusal (41%) and advice by others to not take drugs (17%). Sixty-four per cent of respondents incorrectly indicated mosquitoes as the cause of LF, but 63% individuals knew correctly that LF was spread by mosquitoes. The majority (89%) was able to correctly identify the signs and symptoms. Health information was most commonly sourced from health centres and healthcare workers and TV.

Conclusion: Although the coverage of > 65% was achieved, more needs to be done to promote and encourage participation in the programme and the LF prevalence should be investigated to verify elimination.

P – 10

Workload indicators for staffing needs pilot study; The Guyana experience 2017

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Objective: To examine the feasibility of applying the workload indicators of staffing needs (WISNs) method of managing human resource to Guyana's healthcare context.

Methods: Two hospitals were selected for pilot study based on geographic coverage and diverse service availability. A data collection tool was developed using the package of essential health services. Additional data on number of working days, number of holidays, number of sick days, and number of leave days was collected. A second tool was developed to capture staffing complement at each site. Additionally estimates were made to fill gaps in the data provided. Data were entered into the WISN software that calculated results.

Results: Diamond Institutional Report – overstaffed were: dental aide (Staff Difference [SD] 0.64), multi-purpose technician (SD 0.84) and general surgeon (SD 0.78). For general medical officers, the SD is 18.04. Areas of indicated deficits of staff required were: stats clerk (SD -34.22). Leonora Institutional Report – overstaffed included: registered nurses (SD 2.04) and general medical officers (SD 5.3). Areas of laboratory technologist (SD -1.44), nurse assistant (SD -1.02) and pharmacist (SD -1.36) all require at least one additional staff to manage workload.

Conclusion: Standard activities and times need to be re-evaluated. Availability of data was a great hindrance for the pilot, therefore, standard operating procedures need to be developed for documenting better quality data at the facility level for staffing data at all levels. Pilots are needed for every level of healthcare, as facilities at different levels of care have their own requirements and unique challenges.

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Building integrated health service delivery networks in Guyana

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Objective: To assess the levels of integration and challenges of healthcare delivery in Regions 1, 4, 9 and 10 in Guyana.

Methods: The assessments of the integrated health service delivery networks (IHSDNs) took the form of Regional Consultations. Participants for the assessment of IHSDN included key members of the Regional Administration and Healthcare Workers from across the five levels of the healthcare system. For each of the regions, a two-day assessment was conducted by a core team which utilized the IHSDN assessment tool, a questionnaire type instrument which output both qualitative and quantitative data. The framework of the tool is focussed on 14 attributes which is grouped into four principal domains.

Results: Each of the regions highlighted a number of areas with challenges but the ones which were significant for all of the four regions were: communication, transportation, medical equipment and supplies, human resource, monitoring and evaluation of programmes, referral and counter referral system, accommodation for staff and incentives. The total IHSDN was quite similar for every region; Region 1, 4, 9 and 10 showed 27.6%, 29.5%, 30.8% and 29.5%, respectively.

Conclusion: There is significant indication which suggests that the healthcare delivery services integration is in its nascent stages of development in Guyana as suggested by the level of IHSDN in the four regions. The literature proposes that the IHSDN can strengthen healthcare delivery systems.

P – 12

Assessing health service delivery in the Lethem sub-district by applying the integrated health service delivery network model in the context of international health model during the period July to November, 2017

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Objective: To assess the level of health service delivery in Lethem sub-district by applying the Integrated Health Service Delivery Networks model.

Methods: This study is a quantitative analysis done in three parts: desk reviews, questionnaires and IHSDN tool application with key informants and focus groups. The IHSDN tool is based on the four domains and 14 attributes of IHSDNs as defined by PAHO/WHO. These criteria are arranged on a scale from one to four and the answer is represented as the percentage of development. The questionnaire answers required Likert scale type responses and short sentence explanations. The questions were matched to the IHSDN attributes.

Results: The IHSDN tool was applied to 32 health and non-health workers from all five sub-districts in Region 9 divided into three groups; and the Regional Health Officer and Doctor in charge of Lethem District Hospital in four digital platforms. All participants (18) from Lethem sub-district were identified to complete the questionnaire: 13 responses (4M, 9F) were collected; 76.9% of the respondents were health workers. From the use of the IHSDN model, it can be concluded that the level of development in the Lethem sub-district is in the range of 30.6% to 46.4%.

Conclusion: Our methodology can be extrapolated to other like settings with the limitation of existing policies and border relations that may require more than improvement of IHSDN to resolve cross-border health issues. Border communities that have commonalities in culture have been successful at globalization in health, therefore, the Guyana-Brazil border is expected to follow pattern.

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Proposed mental health surveillance for Guyana

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Objective: The objective of this paper is to propose a Mental Health Surveillance System that will encompass routine Health Surveillance of common mental health disorders, case based surveillance of self-harm clients and surveys targeting the general population. The main aim of developing such a system is to ensure that the data collected from each component will be analysed using data triangulation techniques that will provide robust data to inform the programme and to develop policies as needed.

Methods: Literature searches revealed that mental health surveillance is a complex system and it was decided that only the essential elements applicable to Guyana currently will be worked on. Additional components can be built on as the system strengthens. Discussions were held with experts for the Region on the feasibility and practicality of this proposed system.

Results: While the existing health surveillance system collects data on depression, anxiety disorders, dementia, epilepsy, mental retardation, psychotic disorders,

substance related disorders, and other diseases of the nervous system, this data is under-reported. Additionally data and report are unavailable for the mental health module of STEPS survey.

Conclusion: Amendments to the country's current mental health policy and programme can only be done if there is complete and comprehensive data analysis and triangulation. Therefore, it is crucial to ensure that routine surveillance data, data from surveys conducted and the National Self-Harm Surveillance System data need to be used comprehensively to better determine the magnitude of the mental health situation on Guyana.

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Health system's innovations towards Universal Health in the Caribbean

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Objective: This paper aims to identify critical success factors in the development of health systems innovations and to discuss subregional mechanisms to promote a supportive environment for innovation in the Caribbean.

Methods: The research uses a mixed methods approach and is informed by the following instruments: literature review of the critical success factors of innovation in the Caribbean Subregion, a selected number of case studies of innovation development and insights from a two-day workshop discussion.

Results: The analysis suggests that innovation thrives in an environment characterized by the following features: a clear vision and strategy; an efficient system for knowledge creation and diffusion, systematic experimentation to develop and test new solutions, focus on governance and implementation and a skilled workforce. These five critical success factors stand out as being essential to successful development and dissemination of innovation, regardless of country or type of innovation. Further, the paper discusses the main implications to foster a more innovative and sustainable health system.

Conclusion: Health systems are opening up their innovation processes and creating new and more effective solutions through increasingly wide networks of collaboration. The potential of these collaborations foster innovations towards a sustainable and resilient health system in order to enhance economic growth and social cohesion in the Caribbean.

P – 15

Proposal for a project management approach to implementing electronic medical records in the public health system

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Objective: To document a proposed project management-based approach to implementing electronic medical records in a public health setting. Many medical record systems are paper based, especially in lower-income countries, according to The World Health Organization (WHO), with 35% of lower-middle and 15% of low-income country adopting electronic medical record (EMRs). However, adoption has continued to increase, with a 49% global increase in five years. Data have shown that use of EMRs, while costly, if effectively implemented, can have much benefits, including long-term cost savings and more efficient patient management and better evidenced-based decision-making. A project management-based approach can aid in effective implementation.

Methods: Literature review was done on the actual implementation of a pilot for EMRs done in Guyana, as well as lessons learnt from being a part of the implementation team, looking at the best practices.

Results: Electronic medical record adoption has been increasing over the past 15 years even with the many challenges faced. Some key finding of the WHO include:

- Steady growth in adoption of EMRs over the past 15 years with a 49% global increase in five years.
- Over 50% of upper-middle and high-income countries have adopted EMRs but with 35% of lower-middle and 15% of low-income country adoption.
- Most frequently cited challenges/ barriers were lack of funding, infrastructure capacity and legal frameworks.

This evidence clearly shows that with the current trends, over the next decade, there will be even more widespread adoption. Results of a currently ongoing pilot in Guyana have shown that the approach can be effective, especially in implementing an initial pilot of an EMR system that is developed in-house. This approach can also be leveraged to implement and pilot a pre-developed (Commercial or Open-Source) system.

Conclusion: Electronic medical record adoption is increasing, and can improve efficiency in patient management and workflow, data collection, storage and reporting for evidenced-based decision-making. Implementation does have challenges and a project management based approach to implementation can aid in rapid development, implementation and management and evaluation, and long-term deployment and effectiveness.

Health Systems: Economics

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The upgrade of districts hospitals to regional status in the Hinterland Regions to decrease the economic and financial burden of medical evacuations (Medevac) in Guyana

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Objective: Propose alternative solutions to reduce the number of medical evacuations (Medevac) in the Hinterland regions of Guyana.

Methods: The focus of the study was to gather the following information: The records of Medevac for the Hinterland Regions 1, 7, 8 and 9; were analysed specifically focussing on: cost, airlines, medical condition; examination of the current district hospitals to determine their capacity for regional upgrade; determine medical personnel and equipment that are needed for the hospital upgrades. Propose solutions to reduce the total number of Medevac.

Results: From the data analyse the number of Medevac has increase with the upgrade of the health facility, thus implicating increasing cost to the Government of Guyana.

Conclusion: The studies recommended the following: (a) the decrease of Medevacs; (b) having functioning equipment for the specialist to work with at the facilities; (c) having the available drugs and medical supplies; and (d) implementing an incentive scheme for the doctors to stay in the hinterland.

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Costing of maternity waiting homes in Guyana

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Objective: The objective of this research is to estimate the annual operational cost of maternity waiting homes (MWH) *versus* the alternative treatment which is to medically evacuate (Medevac) a pregnant woman (counterfactual) and the budget impact of an expansion of the MWH initiative.

Methods: The costing MWH was derived from the direct costs and indirect costs using actual expenses with 2016 as the baseline. The budget impact analysis was estimated by taking the recurrent health budget of an administrative region. For this analysis the researcher used Region # 1 for analysis.

Results: The total recurrent cost to provide maternal and child health service for 150 women at a MWH would be US \$ 75 798 annually. The counterfactual is the cost of medevac of an emergency obstetric case. Ministry of Public Health records indicates approximately 60% of all the medevacs are maternity related cases. Guyana would have spent \$ 576 733.00 on medvacs of which \$ 346 040.00 would be attributed to maternity cases. Recurrent budget for Region 1 for 2016 was \$ 3 186 600.00 to administer health services to 7938 females of reproductive age which translate to 57% of the total females are of reproductive age. The budget impact would be a 2% increase expenditure. Increase in total health expenditure would be 0.062%.

Conclusion: The analysis showed that the budgetary impact is infinitesimal when compared to the total health expenditure. The MWH reduces the possibility of maternal deaths the low direct and indirect costs and current health system are key considerations when implementing MWHs.

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Use of health economics data as an adjunct to traditional microbial and antimicrobial resistance surveillance systems

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Objective: To employ collected health economics data as a novel supplement to surveillance systems deployed, with annual retrospective comparison to microbial and antimicrobial resistance (AMR) trends.

Methods: A literature review was conducted along with novel data analytics development to supplement current surveillance techniques for the country of Bermuda. Pharmaceutical analytics demonstrating trends in prescribing patterns and diagnoses are compared, retrospectively, from annual nationwide data submissions.

Results: The literature revealed 138 articles for inclusion with implications for dual functioning microbial and antimicrobial surveillance systems. Themes of the surveillance system data sources were analysed, as well as the adaptability and functionality of existing infrastructure in an international framework. The gaps in health economics were identified and addressed with on-going retrospective analytics from annually collected transaction level data, provided by all public and private health insurers, in Bermuda. Collected health insurance claims demonstrated corroborating seasonal diagnoses as well as a novel trend of provider pharmaceutical prescribing practices.

Conclusion: The successes of matching historical data with trends of diagnoses coupled with novel derivation of provider prescribing patterns of antimicrobials, using health economics measures, demonstrate the possibility of advancing existing infrastructure for sustainable decision-making. Additionally, the implications exist for informing clinical guidelines, islandwide, and impacting antimicrobial resistance by addressing prescribing patterns, without the introduction of additional resources for AMR surveillance.

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The process and cost of seeking sexual and reproductive health services: Findings from a qualitative enquiry into the factors influencing unintended pregnancy in polyclinic patients in Barbados

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Objective: To explore patient and health provider perspectives on factors influencing unintended pregnancy in polyclinic patients in Barbados.

Methods: The overall design was a simultaneous mixed methods approach. The qualitative arm involved nonobtrusive observations plus face-to-face semi-structured interviews with purposively selected participants: four antenatal patients recruited from the quantitative arm of the study population of women aged 15–44 years and three primary care nurse providers. Interviews were audio-taped, transcribed verbatim and analysed *via* thematic analysis with constant comparison using Dedoose data management software.

Results: “Achieving contraceptive access” was a major theme which encapsulated experiences and perceptions around the process of accessing sexual and reproductive health services. Patients identified pragmatic reasons including convenience, the perceived quality of care and aspects of service delivery as factors influencing where they sought to receive care. Although subsidised in polyclinics, the direct cost of contraceptives was identified as a deterrent for some participants. Participants also alluded to indirect costs such as long-waiting time for care. Experiences with deferred tubal ligation revealed the longer-term costs that patients can incur including an unintended pregnancy. Some contraceptive methods appeared to have a social acceptability cost, particularly vasectomy.

The described interventions for adolescents are limited by the legal, logistical and social constraints that prevent minors (youth under 18 years of age) from freely accessing clinic services.

Conclusion: Barriers to contraceptive use include direct and indirect costs associated with accessing SRH services. Programmes to reduce unintended pregnancy must be reframed to address contraceptive use barriers.

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Open access to price, volume and other information related to medicines procured by CARICOM governments

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Objective: This study aims to (i) describe the publicly available information related to medicines procured by CARICOM governments and (ii) describe the feasibility and utility of implementing a regional medicines procurement database in CARICOM.

Methods: A Google search was performed to identify national medicines procurement lists published by CARICOM governments. The data were analysed to identify common variables, differences and missing information. The lists were combined into an Excel spreadsheet to determine the feasibility and utility of maintaining a regional database. Medical devices and vaccines were excluded.

Results: Three publicly available national medicine procurement lists published by Jamaica, the Organisation of Eastern Caribbean States (OECS) [which represents nine CARICOM governments] and Trinidad and Tobago were identified. This represents 11/20 (55%) CARICOM governments. Information found among the lists primarily related to the drug product (*eg* INN, dose and formulation), the manufacturer and distributor, and commercial information (*eg* price and volume). The OECS list was the most comprehensive in terms of categories of information. When combined into one spreadsheet, the database consisted of more than 2000 entries and enabled comparisons across the lists.

Conclusion: Important information on medicines can be obtained from national procurement lists: related to the product, manufacturer, price and volume. However, what is reported, and whether it is publicly reported, is not consistent across CARICOM governments. Establishing common data standards, formatting and public reporting policies could help facilitate a regional medicines database. Such a tool could enable comparisons across governments, and improve decisions related to access, availability, rational use and regulation.

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The benefits of the expanded textbooks and instructional materials Guyana programme to nursing students in term of for access of health information and medical materials for the period October 2016 to September 2017

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Objective: To investigate the knowledge and preference of nursing students of the Expanded Textbooks and Instructional Materials programme in providing affordable and updated instructional materials and textbooks for nursing students.

Methods: A questionnaire tool was distributed and used to obtain primary data to highlight the impact of the pro-

gramme, in order to find out whether or not the programme has been beneficial.

Results: Two hundred questionnaires were distributed to students of the four Nursing schools in order to capture the data to evaluate the performance of the programme in Guyana. Of the 200 questionnaire given out, 188 questionnaires were received, sorted and evaluated. The 188 nursing students responded when asked, "How they knew of the PALTEX programme" 36% indicated they heard of the programme through advertisement, while 23%, 22%, 19% heard of the programme *via* being told by a friend, online and by other means, respectively. When asked "if they are satisfied with the quality of materials PALTEX offers" 89% were satisfied with the materials offered. Good reviews were given on the marketing strategy of the programme, whereas 87% of the nursing students indicated that the marketing strategy used met their expectation.

Conclusion: This is the first research done with regards to the benefits of the PALTEX programme in Guyana. As a consequence, limited documents were reviewed due to lack of information for a literature review. The Purpose of the research was to investigate the knowledge and preferences of the students towards the programme in Guyana.

Public Health

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A comparative study of lifestyle behaviours among undergraduate nursing students from University of Guyana and a selected institution in India

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Objective: To compare lifestyle (dietary and physical activity) behaviours among undergraduate nursing students from the University of Guyana (UG) and a selected institution in India.

Methods: A comparative, cross-sectional survey was done on youth physical activity and nutrition among 112 BSc Nursing students from MVJ College of Nursing, Bangalore, India and 50 BSc nursing students from the UG. Dietary and physical activity behaviours were assessed by a modified NYPANS tool, a self-administered questionnaire.

Results: Nursing students (34.8%) from MVJ College of Nursing were underweight whereas 38% of nursing students at UG were overweight. Forty-two per cent of nursing students at UG did eat vegetables four to six times during the past seven days, whereas in MVJ, 36% of nursing students did eat vegetables three times a day during the past seven days. Only 30% of UG and 58% MVJ nursing students did eat one to two cups of vegetables daily. Forty-two per cent of UG and 47% of MVJ nursing students reported

not doing vigorous physical activity for at least 20 minutes during the past seven days.

Conclusion: While the majority of nursing students are aware of the importance of healthy lifestyles, an unsatisfactory percentage of them actually take an active part in pursuing a healthy lifestyle.

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Perceptions of final year professional nursing students, registered nurses and nurse educators regarding challenges and strategies of nursing education and nursing practice in Guyana and in India, 2015–2016: A mixed study

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Objective: To explore the perceptions of final year professional nursing students, registered nurses and nurse educators regarding the challenges and strategies of nursing education and nursing practice in the 21st Century in Guyana and in India.

Methods: The study used a mixed approach, quantitative and qualitative methods. Sampling was purposive and convenient. It comprised of 299 participants (231 from Guyana and 68 from India) for the survey and 15 participants (8 from Guyana and 7 from India) for the interviews. The data were analysed using descriptive statistical analysis and grounded theory analysis by doing inductive thematic analysis.

Results: The methodology successfully identified the findings that adequate supply of human and material resources are critical for quality patient care. This study supported that the government policies, regulatory frameworks and funding models that foster collaboration are essential in meeting the growing demands of the nursing profession in the 21st Century. Perceptions of nurses from both countries are largely similar with a few variations with regards to prioritizing the resources based on local socio-economical context.

Conclusion: Quality nursing education is imperative for quality nursing workforce and quality patient care. Consistent, sustainable, innovative and collaborative approaches should be adopted to address the challenges of the nursing profession in the 21st Century.

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Testing and treatment for albuminuria in Type 2 diabetes mellitus in select polyclinics in Barbados

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Objective: Albuminuria in Type 2 diabetes mellitus (T2DM) is associated with adverse clinical outcome. International guidelines suggest annual screening followed by specific treatment after confirmed micro-albuminuria. This study investigated the (1) patients' knowledge of their renal status (2) documentation of albuminuria status and management and (3) correlation between clinical practice guidelines.

Methods: Type 2 diabetes mellitus patients attending six local clinics were interviewed regarding their history and management of albuminuria. Available notes were searched to confirm patient responses. Clinical staff were interviewed regarding their knowledge, attitude and behaviour related to albuminuria management.

Results: Eighty-two per cent of patients were interviewed. Eighty-eight per cent reported ever having a urine dipstick, 64% of these discussed results with their doctor, 2% reported albuminuria but were not on specific therapy. Thirty-three per cent reported ever having a spot-urine, 63% recalled a discussion, 0% reported albuminuria. Nine per cent reported ever having a 24-hour urine collection, 29% recalled a discussion, 0% recalled albuminuria. Seventy-four records were searched. Out of the 1121 visits, 182 visits from 32 notes documented dipstick results. Twenty-five per cent recorded albuminuria. There were no spot-urine or 24-hour results recorded. One hundred per cent of staff agreed that screening should occur at least yearly. One-third identified spot-urine as the ideal screening method. If the initial screen was positive, 1/3 indicated they would repeat in three to six months. Twenty per cent indicated that persons with micro-albuminuria should commence treatment.

Conclusion: Data highlights inadequacies in albuminuria recording and management in T2DM. The majority of patients with recorded albuminuria were unaware of their status. Guidelines are available; however, implementation is deficient. Institution of a departmental protocol might be beneficial.

P – 26

Ending preventable deaths in mothers, newborns and infants in remote areas in Guyana through telemedicine *P Singh*

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Objective: To improve response time using telemedicine to reduce maternal, neonatal and infant mortality.

Methods: A comprehensive search of both academic and gray literature was conducted. An onsite physical assessment and needs assessment was also conducted at the regional facilities in the areas of Mabaruma, Lethem, Suddie, Mahdia, West Coast Demerara, Linden, Bartica, Fort Wellington and New Amsterdam to determine the information and communication network system.

Results: Generally, most systems utilized at the major health facilities were manual and paper based systems operational systems with data collection and storage. The onsite and needs assessments conducted in the various regional health facilities of Guyana identified that even though there were internet accessibility in all areas, it was very limited. Challenges identified included medical services provision, financial needs, lack of resources, as well as lack of skilled healthcare professionals. There is definitely a need to update the Information and Communication Technology (ICT) infrastructure in all the major health facilities, inclusive of robust data links and ICT based systems.

Conclusion: Guyana currently has a maternal mortality ratio of 112 per 100 000 (Ministry of Public Health, 2017). Thus, it is imperative to develop a sustainable and cost-effective telemedicine programme for the reduction of maternal, newborn and infant mortality especially in remote locations. It is recommended that telemedicine be piloted as a tool to improve response time to address this critical issue.

P – 27

Attitudes and practices of adult patients with and without chronic diseases to complementary and alternative medicine and conventional medicine in Nassau, New Providence

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Objective: To evaluate the attitudes and practices of adult patients with and without chronic diseases to complementary/alternative medicine (CAM) therapies and conventional medicine in New Providence Island, the Bahamas.

Methods: The authors carried out a descriptive cross-sectional survey concerning participant attitudes toward conventional medicine and CAM on adult patients 18 years and older with and without chronic diseases enrolled at one of the community or primary care clinics. IBM SPSS Statistics was used to obtain descriptive and inferential statistics.

Results: The 337 participants minimum age was 19 years old, their maximum 89 years old, their median (IQR: Q1, Q3) age was 51 (IQR: 40, 62.0) years old and these participant's median and mean ages were statistically significantly different by CNCD presence or absence ($p < 0.001$). Two hundred and forty-three (72.1%) were females, their median educational level completed was secondary/ high school (IQR: secondary/high school, college/university) and 304 (91.6%) were Bahamian. The overall prevalence of CAM use was 93%. The most commonly used modalities were bush/herbal medicine (162, 48.1%) and vitamins and minerals (135, 40.1%). The majority of CAM users reported

use either for preventing illness (132, 39.2%) or for treating illness (123, 36.5%). In terms of decision-making, 133 (40.7%) wanted control in their own hands, 194 (59.3%) wanted equal partnership with their doctor and none wanted to leave it solely up to the doctor.

Conclusion: Bahamian adults showed an enthusiasm for CAM yet a hesitancy to completely abandon the standard health system. Physicians should be knowledgeable in both therapeutic approaches.

P – 28

The Eastern Caribbean Health Outcome Research Network Cohort Study: Impact of alcohol use and abuse by family members on women in Trinidad

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Objective: To characterize the lived experience of women in Trinidad who have at least one family member with chronic alcohol use.

Methods: In-person, semi-structured qualitative interviews were conducted, recorded and transcribed. A multi-disciplinary team coded the interview transcripts and assisted in identifying the key utterances, concepts and themes.

Results: twenty-two interviews were conducted. The analysis suggested that 1) The cultural context in which women with alcohol dependent relatives live shapes their understanding of their roles; 2) a tension emerged between the participants' idealized role in their family and the reality; 3) participants employed a range of coping mechanisms to deal with their alcohol dependent relative; and 4) the experiences of the participants can be better understood in the larger context of systems of support and enablement in Trinidad.

Conclusion: This study presented an opportunity to study how women's familial relationships are altered as a result of alcohol misuse. Understanding the complex experiences of women in Trinidad with alcohol dependent family members may help to inform the development of family-level interventions and alcohol policies.

P – 29

Socio-economic status predicts dietary choices in Barbadian antenatal clients

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Objective: To determine current dietary habits of women who are antenatal clients in both the public and private sector in Barbados.

Methods: A quantitative cross-sectional survey, was conducted of women ages 18 to 44 years, registered in the antenatal clinics in both the private and public sector in Barbados. Participants were randomly selected during their antenatal visit, and asked to participate. A total of 101 telephone dietary questionnaires were administered.

Results: The mean age of the study population was 28 years, with those in private care having a higher mean age (32 years), than the public population (mean age 27 years). The average body mass index (BMI) at booking was 26.45 kg/m² (SD 7.61). At booking 51.4% (95% CI 41.60, 61.10) of private patients and 42.2% (95% CI 32.56, 51.82) of public patients were overweight (BMI 25 – 30 kg/m²); while 25% (95% CI 32.56, 51.82) of public and 24.3% (95% CI 15.95, 32.69) of private clients were obese (BMI of = 30 kg/m²). Of obese clients, 8.1% of private and 4.7% of public patients received advice about weight management. Overall 29.7% and 14.1% of private and public clients received advice about weight gain, respectively. Women (41%) who were employed had the highest overall consumption of foods high in mercury. Consumption of shellfish was significantly higher in those who were earning more than \$4001.00 per month.

Conclusion: Weight management needs to be given higher priority by healthcare providers during the antenatal period. Greater emphasis should be placed on giving advice on potentially harmful foods.

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Alcoholism and risk factors: A cross-sectional case study of persons 15 years and above from Herstelling, Guyana (2017)

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Objective: The Objective of the study is to determine the risk factors that are most frequently associated with alcoholism in patients from Herstelling.

Methods: A methodological procedure of a cross-sectional descriptive epidemiological study was carried out in the village by a questionnaire, a diagnostic questionnaire Indicator (DIC) and the CAGE, the family functioning perception test with a Chi-square of 0.97 (only a 3% error) from a sample of 77 patients.

Results: The sample for the study consisted of 77 male persons, with alcohol-related ailments, 15 years and older, who would have received treatment at the Health Centre in

the area; 68.25% of the sample were 15 years and older, 17.6% did not accept that they were alcoholics, 53.7% reported having parents, in most cases (90%) fathers who are alcoholic and 8.3% came from dysfunctional families who had an alcoholic history; while 12.6% claimed that there were no social activities except the consumption of alcohol and 7.8% did not think they had any alcohol related problem.

Conclusion: It was found that the vast majority of respondents developed alcoholism after the age of 20 years. More than a third of them did not think they had an alcohol problem and a similar percentage coexist in dysfunctional families. A large number of alcoholic patients face personal, social and health related problems.

P – 31

Lessons learned by caregivers of patients with sickle cell anaemia admitted to the Haematology Clinic at the Paediatric Outpatient Department of Georgetown Public Hospital Cooperation

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Objective: To understand which current practices related to sickle cell anaemia (SCA) patients could be improved towards the enhancement of access and services within the National Health System in Guyana.

Methods: A cross-sectional prospective study was done at Paediatric Haematology Clinic from April to August 2017. Caregivers were given questionnaires asking knowledge about anemia and SCA, types of haemoglobinopathy, method of diagnosis of SCA, awareness of cure, treatment and academic performance of their patients. Fifty-four questionnaires were analysed using Microsoft excel 2016 and SPSS 21.

Results: Forty-three per cent (n = 23) of caregivers knew what is anaemia, 85% (n = 46) had knowledge of what is SCA. Fifty-nine per cent (n = 32) knew the different types of hemoglobinopathy in SCA. Fifty per cent (n = 27) of the caregivers were unaware of the method of diagnosis of their child. Only 46% (n = 25) knew that there was a cure for SCA. Eighty-seven per cent (n = 47) of the caregivers knew their patient's treatment. However, 37% (n = 20) of caregivers would seek medical attention as first line management, whilst 16.7% (n = 9) would give pain management, increase oral fluids and observe before seeking medical attention. Forty-four per cent (n = 24) of the caregivers indicated that SCA affects their child's academic performance at school and 63% (n = 34) indicated that school attendance was affected. This study identified gaps in caregivers' knowledge on SCA and its effect on the quality of life of patients.

Conclusion: There is need for effective awareness and support programmes and counselling for patients and families living with SCA through the public health and education sectors in Guyana.

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Suicides in Guyana: Exploring the suicide phenomenon among Indo-Guyanese

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Objective: To provide understanding of the lived experiences of Indo-Guyanese suicide attempters and family-member survivors within Guyana's regions with the highest suicidality for the period 2010–2016, and to develop appropriate strategic interventions and postventions to help mitigate Indo-Guyanese suicides. **Methods:** In a phenomenological study, five Indo-Guyanese suicide attempters and five Indo-Guyanese family-member survivors were interviewed, from Guyana's Regions two two to six. Interviews were digitally recorded, transcribed verbatim and thematically analysed. The interview data was analysed using a Constructivist grounded theory methodology. Two independent persons helped to make meaning of the interview data to avoid researcher bias. The research findings were diffused in a Consultation forum comprising key stakeholders, who developed appropriate suicide intervention and postvention strategies to help mitigate Indo-Guyanese suicides.

Results: The study found that Indo-Guyanese suicides are linked to unbearable pain of hopelessness, and thwarted belongingness, stemming from abusive relationships with alcohol being a contributing factor; rejection; misunderstandings on significant life events; household dysfunction caused by difficult parent-child, parent-parent relationships; lack of socialization and coping skills, easy access to agrochemicals and pharmaceuticals and minimal professional counselling support. Family-member survivors were hurting, had unanswered questions, experienced guilt and often blamed themselves for the suicides.

Conclusion: Indo-Guyanese suicide attempters experienced overwhelming psychache and family-member survivors experience agonizing memories, making both high-risk groups. Addressing the fundamental causes of the perturbation is just as, if not more, important than medicating for mental illness. Interventions and postventions must include Government controls on agrochemicals and pharmaceuticals; strategic psychosocial support and psychoeducation; family, school and community-based training programmes

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Six years of disability-related research on St Kitts and Nevis: A thematic synthesis of five studies between 2011 and 2017

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Objective: The objective of this study is to provide a comprehensive overview of recent disability-related research in St Kitts and Nevis.

Methods: For this study, the results, conclusions and recommendations of five disability-related studies have been analysed. The five studies were conducted by students of the University of Applied Sciences Leiden or The VU University Amsterdam between 2011 and 2017. One study was quantitative, three were qualitative and another had mixed-method design. The data of these studies were coded by theme and arranged according to three topics: scope of disability and disease, services and support, and needs and challenges.

Results: For 'scope of disability and disease', attention is given to the relation between ageing, chronic diseases and disability. Health education, especially on healthy lifestyles, may help to prevent the increase in chronic diseases and disability. On 'services and support' it is found that both the formal and the informal care is not sufficient to meet the needs of people with disabilities and the elderly. Training and retraining of key players, a community-based approach and a rehabilitation centre are key recommendations. Finally, 'needs and challenges' are mainly in the areas of financial assistance, mobility, employment and education and information provision.

Conclusion: The rehabilitation needs of the people of Nevis are currently unfulfilled and likely to increase. St Kitts and Nevis need to prepare themselves for a future with a larger proportion of elderly people, with more people who are chronically ill and/or have a disability.

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Should my patient drive? An assessment of medical standards of fitness to drive in the elderly among primary care physicians: A Barbados perspective

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Objective: The study sought to identify the knowledge, attitudes and practices of primary care physicians, of the laws and/or guidelines concerning fitness to drive in the elderly in Barbados.

Methods: A cross-sectional survey was conducted of primary care physicians registered to practice in Barbados. The data collection was carried out during the months of February and March 2017 with a total of 134 responders and a response rate of 79%.

Results: We found that 57% of physicians were aware of the law regarding fitness to drive in the elderly in Barbados. Notwithstanding this knowledge, 84% needed further training and education on the topic and 94% preferred a standardized clinical assessment tool to assess fitness to drive. Significantly, 80% of physicians were confident in their ability to assess fitness to drive. There was variability in the type and number of assessments chosen to assess fitness to drive.

Conclusion: It is hoped that this study will encourage collaboration between medical, legal and transportation agencies to provide further guidance to physicians and relevant authorities on this very important issue of fitness to drive in the elderly.

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The sustainability of health professional associations – perspectives from medical laboratory professionals in Guyana

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Objective: To investigate the barriers to and benefits of joining the Medical Technologists Association of Guyana (MTAG) and the knowledge, attitudes and perceptions of Medical Laboratory Technologists (MLTs) and Medical Technicians (MTs) towards MTAG and the Caribbean Association of Medical Technologists (CASMET) Biennial General Meeting (BGM) to be held in Guyana in October 2017.

Methods: A cross-sectional study was conducted from January to August 2017. The data were collected, using piloted, *de novo* questionnaires and encompassed 19 medical institutions in Georgetown. The questionnaire also elucidated their views on their employment and their use of social media and other media sources.

Results: A total of 92 persons participated in the study. Only 21.7% of MLTs and 6.3% of MTs were found to be MTAG members. Nonetheless, there was a significant difference ($p < 0.05$) in the level of awareness of MLTs of the BGM when compared to MTs. The MLTs were nine times more likely to be aware than MTs. There was no significant difference between MLTs and MTs in terms of the perceived benefits of joining MTAG. The benefits identified included advertising job opportunities; networking and continuing educational programmes. In terms of barriers, MLTs felt that their needs were not being represented by MTAG whilst MTs were either unaware of the existence of MTAG or unfamiliar with its functioning.

Conclusion: We recommend that MTAG puts more resources into the marketing of its association using a variety of media and encourage MTs and university students to be part of its executive.

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An assessment of nurses' knowledge attitude and practice of pharmacovigilance at the University Hospital of the West Indies, Mona, Jamaica

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Objective: To assess nurses' knowledge, attitude and practice (KAP) of pharmacovigilance.

Methods: A cross-sectional study that utilized questionnaires to evaluate nurses' KAP of pharmacovigilance. A sample size of 234 nurses was selected using a 95% confidence level with the raosoft online sample size calculator. Stratified random sampling method was used to ensure homogeneity in selecting nurses from different departments. Data were analysed with the SPSS 20 using descriptive and inferential measures. The Chi-square test was used to test the association between two attributes at a $p < 0.05$ significance level.

Results: The questionnaires were distributed to 260 registered nurses, with a response rate of 80%. It was found that 13.5% of the nurses had heard of the term pharmacovigilance prior to the study, while 58.4% correctly stated the functions of pharmacovigilance. Attitudes towards pharmacovigilance revealed that 93.7% of the nurses felt it was a professional obligation to report adverse drug reactions (ADR), 98.1% of nurses felt that ADR reporting was necessary. Results for pharmacovigilance practice revealed that 68.8% of nurses indicated that they had noted an ADR while in practice, while 55.3% had reported an ADR. There was a significant association between nurses who noted ADRs in clinical practice and nurses who reported ADRs, $\chi^2 (1) = 86.642, p < 0.05$.

Conclusion: Registered nurses at University Hospital of the West Indies had a positive attitude towards pharmacovigilance, although their knowledge and practice were limited. Instituting pharmacovigilance training programmes that will improve nurses' knowledge and hopefully impact their practice is recommended.

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Post-traumatic stress disorder prevention for medical students evacuated from Dominica following Hurricane Maria

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Objective: To assess the effectiveness of protective measures on the stress reactions of medical students who were evacuated from Dominica after hurricane Maria.

Methods: Students who presented for clinical psychiatric care one month after experiencing hurricane Maria in Dominica were clinically assessed for signs and symptoms of post-traumatic disorder (PTSD) and for factors which may have mitigated the impact of the hurricane.

Results: Students who presented for clinical care at the Health Clinic were assessed to have low levels of PTSD. Psychiatric initial visits was 108 out of a total 316 for the semester. Of these students screened for PTSD, two students from the cohort, representing a 0.25% prevalence rate, were assessed as having PTSD. The results were generally positive with respect to the support received in the campus shelter, following the hurricane. Examination performance at the end of the semester was reported to be similar to that of previous semesters, prior to hurricane Maria.

Conclusion: The low prevalence rate for PTSD may have been related to the protective factors in place for the eventuality of a hurricane including a comprehensive evacuation plan, safe shelter with adequate supply of water, food and electricity and the quick resumption of study after the hurricane. Planning effectively, providing social and educational support during and after Hurricane Maria appear to have contributed to the low prevalence rate of PTSD symptoms among Ross University Students of Medicine.

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Exploring the added value of community based rehabilitation in the Caribbean

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Objective: The objective of this retrospective analysis is to determine the value of the CARICOM and Dutch Caribbean Community-based rehabilitation (CBR) node (as part of the CBR Network for the Americas and the Caribbean) for the Caribbean region and to generate strategies for the advancement of CBR in the Caribbean region.

Methods: Participants were interviewed seeking their views on CBR and how it could be enhanced in the Caribbean.

Results: Participants mentioned the following: building a database of people working in the field of disability; creating a CBR platform; raising awareness on disability and CBR; Each country should have a national CBR committee guided by the CARICOM and Dutch Caribbean Node; more in depth workshops on CBR; CBR should be a meeting/ workshop that is part of CARPHA meetings; strengthen the role of the parents; the need for more participation of government officials.

Conclusion: Families, community workers and organisations have expressed their enthusiasm and see the benefits of CBR for persons with disabilities in their communities. Research is needed on the disability prevalence in the

region, the best-practices of CBR in the Caribbean, how CBR is utilized in the Caribbean and the cost-effectiveness of CBR in the region.

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The influence of climatic conditions on the incidence of dengue cases in Region 4 during the period 2012–2017: A comparative study

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Objective: To determine the relationship between the incidence of dengue cases and climatic conditions in three areas of Region 4.

Methods: This was a comparative study that used data from the Hydrometeorological Department and the Vector Control Services to explore the relationship that exists between Dengue occurrence and the environment to guide public health interventions. Data on temperature and rainfall in Region 4 over the last five years was obtained from the Hydrometeorological Office and sorted by year and location (East Coast, East Bank, Georgetown). The mean temperature and rainfall triannually for each year was calculated. Dengue cases from 2012–2017 were identified from the Tropical Disease Laboratory register at the Vector Control Services and sorted into Immunoglobulin G and M (IgG, IgM) for all persons having being possibly infected in Region 4. The IgM and IgG/IgM cases were grouped by month/ year and grouped into three areas: East Coast, Georgetown and East Bank. The calculated data were plotted and interspersed on a line graph. These data were analysed and interpreted.

Results: No correlation was noted between mean temperature and Dengue cases, however, it was noted that peak rainfall periods were followed by an increase in the incidence of Dengue cases in all three areas. A positive link was established between the incidence of Dengue cases and rainfall.

Conclusion: It was found that environmental conditions such as peak rainfall periods have an influence on the incidence of vector density. This could inform public health and environmental health interventions to prevent and respond strategically to outbreaks of Dengue and Zika.

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Knowledge, attitudes and practices related to climate change and coastal ecosystems in Grenada

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Objective: This study was conducted to assess knowledge, attitudes and practices related to climate change and coastal and marine ecosystems of residents in the parishes of St Mark and St John in Grenada.

Methods: A phenomenological research study design was utilized. Qualitative interviews were conducted in focus groups with three distinct groups of fishers, students and community members. The interviews focussed on seven thematic areas: knowledge and awareness about climate change, components of the coastal and marine ecosystems; impact of climate change on the ecosystems, marine protected areas, attitude to climate change and impacts, responses to climate change and impacts, and education and sources of information.

Results: The results showed differences in the extent of knowledge about climate change and its impact on the coastal and marine ecosystems as well as attitudes to management of the resources. The students were more knowledgeable about factors that contributed to climate change and the consequences while the fishers were more knowledgeable about marine protected areas and the benefits that can be derived from coastal and marine resources. The general community residents had the lowest level of knowledge, however, the group felt that education was necessary to effect positive change. The fishers and community members demonstrated a high level of interest in supporting the marine protected area (MPA) project in St John.

Conclusion: The results highlight a need to address gaps in the level of knowledge across all groups about the interplay between components of the environment and the potential social and economic impacts on the communities. Such knowledge is also necessary to build community support for the MPA project.

Communicable Diseases

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Sexual practices and prevalence of sexually transmitted infections among adolescents attending public counselling clinics in Trinidad

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Objective: To identify the sexual practices among adolescents attending public counselling clinics in Trinidad and examine the relationship of these practices with the prevalence of sexually transmitted infections (STIs) among the adolescent attendees.

Methods: A cross-sectional study was conducted between November 2015 and November 2016 at the public STI clinic

ics in North and South Trinidad. A convenience sampling of 213 adolescents was used.

Results: The study showed that there was an overall STI prevalence of 39.4%; 38.7% STIs among sexually experienced male adolescents and 40% among sexually experienced female adolescents. Gonorrhoea was the most common STI among all male adolescents (prevalence: 58.3%). Significant findings regarding sexual practice included among males and females separately, irregular condom use ($p = 0.001$) or no condom use ($p = 0.017$). Prevalence of STIs among those who used condoms irregularly or not at all was 95.2% compared to those who always used condoms (2.4%). The prevalence of any of the STIs was 17.9% among those who reported a single lifetime partner compared to those who had multiple partners (79.8%).

Conclusion: The prevalence of STIs among adolescents at the clinics was found to be 39.4%. Although no strong statistically significant association was found, there is clinical significance enough to make a case for the need for age appropriate sex education in all schools, regular STI screening, education on the use of condoms in sexually active persons, consideration for strengthening the HPV vaccination for primary school children between nine to 12 year olds.

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Trends in azole susceptibility of *Candida albicans* isolated from clinical samples at a tertiary care hospital in Georgetown, Guyana

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Objective: This study sought to examine the frequency of isolation and azole susceptibility patterns of clinical *Candida albicans* (*C. albicans*) isolates from a tertiary hospital in Georgetown, Guyana during a three-month period.

Methods: Isolation and germ-tube identification of *Candida* sp were done by the Hospital Microbiology Department. Further identification was made by assessing the distinctive colour and morphology of *Candida* isolates subcultured from SDA onto HardyCHROM™ *Candida*. Antifungal susceptibility testing and results interpretation were performed in accordance with the CLSI M44-A2 guidelines.

Results: Sixty-two non-duplicate isolates of *Candida* were analysed from multiple patient sources. The majority of these isolates were *C. albicans* (56.5%), while the remainder (43.5%) were non-*C. albicans* species of which *C. glabrata* (32.3%) and *C. krusei* (8.1%) were the predominant species. Only 28.6% of the *C. albicans* isolates were resistant to fluconazole and voriconazole respectively, while 40% of the isolates were resistant to itraconazole.

Conclusion: Azole resistance is a common phenomenon among *C. albicans* isolates within the setting of the Georgetown Public Hospital Corporation (GPHC).

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Trends in infectious disease cases and antibiotic prescribing patterns in the paediatric medical service

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Objective: To identify the current antibiotic prescribing patterns for children with infectious disease admitted to the Paediatric Medical Service (PMS), to assess the culture and sensitivity reports and length of hospital stay and review number of referrals.

Methods: A prospective quantitative observational study was conducted. This included all patients of the PMS with a discharge diagnosis of an infectious disease and who would have received antibiotics during admission from July to December 2016. Data collection sheets were completed by relevant doctors and analysed using Microsoft Excel 2016.

Results: A total of 181 patients (M = 103, F = 78) were analysed. The mean age was three years. Average length of hospital stay was 10.7 days. Sixty cases (33%) were referred from regional hospitals while 101 patients (56%) were admitted as walk-in from the Emergency Department (ED). The most common admitting diagnosis was pneumonia (50%, $n = 99$), followed by sepsis ($n = 18$). Sixty-six per cent of patients ($n = 121$) received antibiotics in the ED while only 47% of these had the same antibiotics continued on ward. Ceftriaxone was the most commonly prescribed antibiotic in the ED (56%) and on thward (24.7%) followed by benzyl penicillin (15%). Fifteen specimen culture results were positive mainly for *Staphylococcus aureus* ($n = 4$) and coagulase negative staph ($n = 3$). All bacteria identified were sensitive to cotrimoxazole and clindamycin.

Conclusion: Antibiotic prescribing patterns were not in keeping with international guidelines, local culture and sensitivity patterns may offer some justification. There is a need for improvement of antibiotic prescribing. Further research using adequate local microbiology data will assist in the development of local protocols and reduce the threat of antimicrobial resistance.

Non-communicable Diseases

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Perception of Tobagonians aged 45–65 years on the effectiveness of complementary alternative medicine as

compared to conventional medicine in the management of hypertension and diabetes mellitus

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Objective: To determine the perception of males and females between the ages of 45–65 on the effectiveness of complementary and alternative medicine (CAM) as compared to conventional medicine on the Island of Tobago, the Republic of Trinidad and Tobago. The scope of the study were: a) identification of individuals, who considered herbal medicine to be more helpful and effective than conventional medicine; b) finding out the reasons for herbal medicine use among the participants; c) determining the relationship between price and the use of herbal medicine and conventional medicine.

Methods: In this cross-sectional descriptive study, a self-administered structured questionnaire was utilized. A total of 253 respondents with non-communicable diseases (hypertension and diabetes mellitus) were surveyed. Data included sociodemographic characteristics, extent of the use of CAM, including traditional herbal medicine (THM), perception and practices towards utilization of THM, factors associated with the use of THM, including prices of purchased products. Data were analysed using SPSS version 21. Statistical significance was set at $p < 0.05$.

Results: Majority of the respondents were males (56.9%), 73.1% were of African-descent and 37.5% had completed tertiary education. Seventy-one per cent of respondents believed that herbal medicine was as effective as conventional medicines. The respondents (39%) used herbal medicines because they perceived them to be safe with very minimal side effects as opposed to many drugs used in conventional medicine. Sixty-eight (26.9%) of the participants stated that price was not a contributing factor for the use of herbal or conventional medicine. Orange peel, aloe, fever grass and moringa were the most used THM. For the treatment of hypertension, most participants utilized both pharmaceuticals and herbal medicine at the same time rather than using them singly. Pharmaceuticals alone were mostly used in the treatment of diabetes mellitus.

Conclusion: Participants perceived herbal medicine to be as effective as conventional medicine and were more inclined to use complementary alternative medicine because they believed it was safer than conventional medicine.

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A cross-sectional study on the behavioural and nutritional determinants of obesity and their correlation to

hypertension among students of The University of the West Indies, St Augustine campus

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Objective: To investigate the behavioural and nutritional determinants of obesity and their correlation to hypertension amongst students attending The University of the West Indies, St Augustine campus.

Methods: A sample of 526 students were surveyed using convenience sampling. Interviewer administered questionnaires were utilized to assess the nutritional and behavioural habits of the students as well as their mental health using the Patient Health Questionnaire (PHQ-9). Additionally, height and weight measurements were taken and body mass index values were computed to assess the prevalence of obesity. Blood pressure measurements were also taken to assess the prevalence of hypertension.

Results: Our findings revealed a large proportion of obese (12.7%) and hypertensive (20.8%) students. The data provided strong evidence of a relationship between obesity and hypertension ($p = 0.000$) since the obese student population had the highest prevalence (44.8%) of hypertension. The obese students reported to be making more lifestyle changes such as altering their diet ($p = 0.001$) and exercising in attempt to lose weight ($p = 0.001$). Exercise ($p = 0.023$), frequency of carbonated soft-drink consumption ($p = 0.001$) and having a relative who suffers from cardiovascular disease ($p = 0.016$) were found to be significantly correlated with weight status. Weight classification was also found to be correlated with moderately severe depression ($p = 0.049$).

Conclusion: A relationship between obesity and hypertension was established as well as correlations between obesity and several behavioural and nutritional determinants. Strategies should be implemented to promote healthy lifestyle habits in order to reduce the prevalence of obesity and hypertension.

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Diabetes mellitus: A laboratory comparative analysis between pharmaceutical drugs and herbal medicines among Type 2 diabetic patients in Guyana

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Objective: The main objective of the study was to compare, using laboratory data, the efficacy of herbal medicine against pharmaceutical drugs in treating and managing diabetes among Type 2 diabetic patients.

Methods: Patients were included in the study from a Herbal Clinic and the Diabetic Clinic at the Georgetown Public Hospital after giving their consent and satisfying the inclusion criteria. Patients were placed into three groups: Group A: Pharmaceutical, Group B: Pharmaceutical and Herbal; Group C: Herbal and a control group designated Group D. Laboratory analysis was done and analysed using SPSS version 17 with a p -value of 0.05 being used to determine statistical significance.

Results: Age ($p \leq 0.05$), religion ($p \leq 0.05$), ethnicity ($p \leq 0.05$), education ($p \leq 0.05$), marital status ($p \leq 0.05$) and monthly income ($p = 0.000$) were all found to have significant associations with the use of herbs with monthly income being highly significant. The results showed that persons using herbal medicine alone had normal haemoglobin A_{1C}, fasting blood sugar and lipid profile. Haemoglobin values had a statistically significant p -value of 0.01 whilst all the parameters besides: high-density lipoproteins, very low density lipoprotein and nicotinic acid, had significant p -values of ≤ 0.05 . The most common herbs used were *Momordica charantia* (local name – Carilla) and *Azadirachta indica* (local name – neem) which were used in combination or alone. Results showed a positive effect on coronary heart disease risk ($p = 0.000$).

Conclusion: The information generated from the study indicated that a significant number of diabetic patients using herbal treatments alone had normal laboratory glucose and lipid results. However, a more controlled study is required to validate these results.

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Chronic kidney disease and risk factor screening in the Eastern Caribbean

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Objective: To determine population-based estimates of chronic kidney disease (CKD) and associated risk factors for CKD in four Eastern Caribbean Islands.

Methods: Kidney function, albuminuria and CKD risk factor assessments were conducted in five community-based locations in St Kitts, Nevis, St Vincent and the Grenadines.

Results: A total of 3370 persons, from Nevis ($n = 950$), St Kitts ($n = 1028$), St Vincent and the Grenadines ($n = 1392$) were screened by the Caribbean Health and Education Foundation. In St Kitts/Nevis 21.5% had diabetes, 53.1% had hypertension; 40.3% were obese and 4.7% had an eGFR < 60 mL/min/1.73 m², indicating CKD. In St Vincent and the Grenadines, a total of 1392 individuals were screened in the girls high school (GHS) [$n = 650$, 46.7%] and black point (BPL) ($n = 742$, 53.3%) locations. By site, at GHS, 27.6% reported a history of diabetes and 41.5%

reported a history of hypertension. Of those tested, 46.8% had either systolic or diastolic hypertension and 45% were obese. A total of 8.4% had an eGFR < 60 and elevated albu-minuria was present in 31.3%. In BPL, 35.8% reported a history of diabetes, while 49.3% reported a history of hypertension and 45% were obese. Blood pressure was elevated in 54.2% of subjects and 8.8% had an eGFR < 60 mL/min/m². Elevated levels of albuminuria were present in 49% of those who had urine tested.

Conclusion: Chronic kidney disease and its risk factors are prevalent among adults in the Eastern Caribbean Islands of St Kitts, Nevis, St Vincent and the Grenadines. Public policy strategies for prevention and treatment of these conditions are needed.

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The risk factors that affect prostate cancer in Guyana: Case of the Demerara Paradise Incorporated in 2017

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Objective: The objective of the study is to determine the role of some genetic, hormonal, lifestyle and environmental factors in the risk of developing clinically manifested prostate cancer using information from Demerara Paradise Incorporated, a local health institution in Guyana.

Methods: The study cases were determined from records of the Institution ($n = 33$) diagnosed during 2016–2017, with histological verification or cytological cancer of prostate, in persons under 90 years. The controls ($n = 108$) were selected by age and records were obtained from the same hospital. The risk estimation was obtained through a conditional logistic regression.

Results: There was a statistically significant association between skin color and risk of prostate cancer (OR = 1.30, 95% CI: 0.92, 1.84) or smoking habit (OR = 0.82, 95% CI: 0.58, 1.16). A positive association of the risk of prostate cancer with venereal diseases was observed ($p = 0.01$), as well as with the age of onset of these diseases ($p = 0.06$). No differences were found regarding the age of onset of sexual intercourse ($p = 0.111$) or in the number of sexual partners ($p = 0.48$).

Conclusion: There was a significant association between the risk of prostate cancer and having suffered from a venereal disease, limited physical exercise between 45 and 50 years and the frequency of sexual intercourse more than 10 times a week.

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A qualitative study exploring the determinants of adherence to hypertensive treatments amongst males access-

ing public primary care in Barbados: The limited role of “Fear”

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Objective: To understand the factors which determined adherence to hypertensive treatment regimens in adult males in public primary healthcare (PPHC) institutions in Barbados.

Methods: A multi-method qualitative study informed by an interpretivist paradigm was used. Ten semi-structured interviews were conducted with males 46–63 years diagnosed with hypertension for three to five years who accessed two rural and two urban polyclinics. This was triangulated with one focus group with health professionals (2 doctors and 3 nurses) with > 2 years of active involvement in the treatment of hypertensive males in the PPHC setting. Interviews and focus group were audio recorded and transcribed verbatim and subjected to thematic analysis with constant comparison. Atalas.ti 8 was the data management software. Reflexivity was *via* memoing throughout the research process.

Results: The emotion of “Fear” (encompassing the fear of pain, death or end organ sequelae) was found to be the primary factor initiating decisions to adhere. Fear did not sustain adherent behaviour although eliciting it was used with this intent by health professionals. Adherence was also found to be negatively affected by low prioritization of hypertension as compared to other chronic diseases in particular diabetes, as well as gender inappropriate health education – support systems.

Conclusion: Public primary healthcare delivery of hypertensive care in men may benefit from holistic non-emotive communication strategies that a) acknowledge the existence of fear while b) operating in a health environment that prioritizes HTN, and c) uses gender congruent health promotion/education interventions.

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Congregations taking action against non-communicable diseases (CONTACT) study: concept mapping to inform implementation

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Objective: In face of the high non-communicable diseases (NCD) burden in the Caribbean and the huge pressure on its fragile health systems, CONTACT uses an asset-based approach to support NCD prevention and control. In this pre-implementation phase in Guyana, we explored the perceptions of key stakeholders on the barriers and/or facilitators to the systematic integration of health advocates (HA) in the primary care pathway for the management and control of NCDs.

Methods: We recruited a sample (n = 18) of multi-disciplinary stakeholders with representation from congregations (Muslims, Christians, Hindus), primary health-care centre (PHC) practitioners, administrative support staff at PHCs, regional health directors and staff from the Ministry of Public Health. They participated in a concept mapping process that included brainstorming the factors influencing optimal management and control of NCDs, sorting and organising the factors into similar domains and rating the importance and feasibility of efforts to address these factors.

Results: In total, about 120 statements were generated and sorted in categories that reflected issues related to funding; competence, attitude and participation of congregations; content, and delivery of training; religion and governance arrangements in places of worship; government support and inadequate PHC resources. Although there was general agreement across stakeholders on feasible actions, several important hurdles were identified. These included time constraints for HAs, especially those in full-time employment, small size of congregations, the education level of congregants and sustainability.

Conclusion: The findings underscored the importance of participatory and adaptive approaches to implementation. Phase 2 of CONTACT has been informed by these findings.

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The ECHORN Cohort Study: Health networks are associated with cardiovascular risk factors in the Eastern Caribbean

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Objective: Cardiovascular disease (CVD) is the leading cause of morbidity and mortality in the Caribbean region. Cardiovascular disease associated lifestyle risk factors are influenced by social networks, the structure of a person's

relationships. This study explored the concept of a health network and examined associations with CVD risk factors in the Eastern Caribbean.

Methods: The Eastern Caribbean Health Outcomes Research Network (ECHORN) Cohort Study (ECS) is an ongoing community-dwelling prospective study conducted across four Caribbean sites: US Virgin Islands, Puerto Rico, Trinidad and Tobago and Barbados. Participants (n = 2207) completed a baseline health survey, including questions on health networks using three name generator questions that assessed who they spoke to about health matters, whose opinions on healthcare mattered and who they would trust to make healthcare decisions on their behalf. Logistic regression was used to examine associations between health networks, physical activity, hypertension and smoking.

Results: Health networks were mainly comprised of family members followed by friends. Eight per cent of participant's health networks included healthcare professionals, average network size was four and 77% of health contacts were perceived to be in good to excellent health. Persons with larger health networks had greater odds of being physically active compared to those with smaller networks (OR = 1.09, CI = 1.04, 1.14). The proportion of health network contacts that participants believed were in good or excellent health was significantly associated with a reduced odds of hypertension.

Conclusion: There is a benefit to using health networks to understand social influence on CVD risk factors in Caribbean contexts. Health networks may be useful to intervention efforts for CVD risk factor reduction.

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A qualitative study of the knowledge, attitudes and behaviour of Barbadians towards lifestyle modification in the treatment of hypertension in a private clinic in Barbados

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Objective: What are the knowledge attitudes and behaviour (KAB) of Barbadians towards lifestyle modification in the treatment of hypertension in a private clinic in Barbados?

Methods: Using a qualitative methodology employing semi-structured interviews and a purposive sampling technique, eight males and eight females were chosen within a private clinic setting to explore the knowledge, attitudes and behaviour towards lifestyle modification hypertension treatment. Thematic content analysis was used for the data analysis.

Results: With respect to knowledge, persons were not sure about the definition of hypertension and the treatment goals; obtained information primarily from their physicians; had adequate knowledge of lifestyle modification but lacked specifics on diet; were knowledgeable about the benefits of physical activity and demonstrated a basic knowledge of alternative and complementary medicines. The general approach towards lifestyle modification was positive and patients showed keen interest. The approach to physical activity was also positive; however, the major challenge noted was lack of motivation. The behavioural change toward physical activity was positive amongst most patients due to a knowledge of its benefits. Dietary modification also took place primarily with the reduction of sodium.

Conclusion: Most patients had a basic knowledge base of hypertension and lifestyle modification and had positive attitudes to lifestyle modification and behavioural change.