Caribbean Public Health Agency

63rd Annual CARPHA Health Research Conference

Sustainable Health Systems for Economic Growth, Development and Wealth

June 14–16, 2018
St Kitts Marriott Resort and Royal Beach Casino
St Kitts and Nevis
The Vision, Goal and Mission are grounded in the mandate and the guiding principles of the Agency.

VISION
Healthy People, Healthy Spaces, Healthy Caribbean.

GOAL
A Caribbean in which people are resilient, living longer and healthier lives in a more supportive environment.

MISSION
As a professional organisation to build Member States capacity to prevent disease and promote health and wellness through leadership, partnership and innovation in Public Health.
CARIBBEAN PUBLIC HEALTH AGENCY

63rd Annual CARPHA Health Research Conference

June 14–16, 2018

St Kitts Marriott Resort and Royal Beach Casino
St Kitts and Nevis

Editor-in-Chief
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Professor DD Ramdath
Professor M Thame
Professor G Hutchinson
Professor C MacPherson
Professor M Reid
Dr S Keizer-Beache

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On September 28, 2016, CARICOM posted the following statement on its website titled ‘Caribbean declared measles free’:

‘WASHINGTON, United States CMC — The Pan American Health Organization (PAHO) says the Americas including the Caribbean, is the first in the world to have eliminated measles, a viral disease that can cause severe health problems, including pneumonia, blindness, brain swelling and even death.

“This achievement culminates a 22-year effort involving mass vaccination against measles, mumps and rubella throughout the Americas,” said PAHO, adding that the declaration of measles’ elimination was made by the International Expert Committee for Documenting and Verifying Measles, Rubella, and Congenital Rubella Syndrome Elimination in the Americas.

PAHO said the announcement came during its 55th Directing Council.’

As noted in the statement, this major accomplishment was the result of more than 20 years of significant investment of resources. The entire region of the Americas, the epicentre of the non-communicable diseases (NCD) epidemic, had conquered a communicable disease that had caused major illness for years – the epidemiological transition in action. The freedom to focus on the new epidemic of diabetes, cancers and hypertension was welcomed. Resources might be diverted from the old fight.

On September 29, 2017, one year and a day after the proud declaration, Reuters published a report entitled ‘One million unvaccinated Venezuelan kids vulnerable in measles outbreak: doctors’.

The article gave the reason for the emergence of this threat to the 2016 accomplishment: ‘A crippling shortage of medicines and vaccines, as well as decaying hospitals and an exodus of doctors has thrown Venezuela’s health sector into a tailspin’. The article cited the reasons for the threat:

- A critical shortage of medicines and vaccines
- Decaying hospitals
- An exodus of doctors

The article went on to say that the situation was critical and that the health sector in Venezuela was in a state of collapse.

The Epidemiological Update – Measles by WHO/PAHO on April 6, 2018 states:

‘Since the last Epidemiological Update for Measles issued by the Pan American Health Organization / World Health Organization (PAHO/WHO) on 16 March 2018, two additional countries in the Region of the Americas have confirmed measles cases: Argentina (1 case) and Ecuador (1 case). This brings the total number of countries with confirmed measles cases since the beginning of 2018 to epidemiological week (EW) 14 to 11. This figure is higher than in 2017, when four countries reported confirmed measles cases in the Region: Argentina (3 cases), Canada (45), the United States of America (120) and the Bolivarian Republic of Venezuela (727 cases). Between EW 1 and EW 14 of 2018, confirmed measles cases in the Region were reported in Antigua and Barbuda (1), Argentina (1), Brazil (46), Canada (4), Colombia (5), Ecuador (1), the United States of America (41), Guatemala (1), Mexico (4), Peru (2) and Venezuela (279).’ How did we go from being ‘measles free’ to being under the threat of a measles outbreak in one year? Why are our gains in the fight against HIV/AIDS also at risk? How does a small island recover from a catastrophic assault by a category five hurricane? Political instability caused by internal and external players, food security and sovereignty, migration and immigration, globalization, these are but a few of the factors that influence the health system and therefore, our capacity to maintain health and wellness.

Sustainable health systems must be capable of maintaining the gains of the past and at the same time address the new and re-emerging threats to our health and well-being, if we as a region are to have economic growth, development and wealth. These systems must be resilient in the face of the growing threats posed by changing family structures, climate change, increasing NCDs, communicable diseases and growing nationalism, issues addressed in previous Research Conferences.

The 63rd Annual Caribbean Public Health Agency (CARPHA) Health Research Conference, themed ‘Sustainable Health Systems for Economic Growth, Development and Wealth’, aims to explore the multiple facets that contribute to and influence sustainable health systems. The intricate relationships of epidemiology, health financing and universal healthcare will be discussed. The various strategies to strengthen regional health systems, including systems science, evidence-based interventions and innovative management, will be presented.

Throughout the years, the Caribbean Health Research Council and now, the CARPHA Health Research Conference have focussed on healthcare-related challenges with an aim to develop solutions best suited to Caribbean communities. By providing an opportunity for all stakeholders to become aware of the latest research findings, best practices, training through research presentations, round table discussions, symposia and capacity-building workshops, we strive to produce sustainable and resilient health systems vital for our health and, therefore, our wealth.
### DAY 1: Thursday, June 14, 2018

**Session 1  OPENING SESSION**

**8:00 am  FEATURE LECTURE 1**
Chairperson: R Ewing
Secure investments in non-communicable disease scale-up in the Caribbean through research and evidence
C Gorre
Room Assignment: Saba

**8:45 am  PANEL DISCUSSION: Sustainable Health Systems for Economic Growth, Development and Wealth**
Chairperson: R Ewing
H Laws, CJ Hospedales, C Gorre, K Theodore, F Bray

**9:45 am  COFFEE BREAK/POSTERS/EXHIBITS**
Room Assignment: Antigua

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<td><strong>10:30 am (O-1)</strong> Assessing the impact of the Barbados sugar sweetened beverage tax on grocery store beverage sales: An interrupted time series analysis</td>
<td><strong>(O-9)</strong> Mercury levels in hair from pregnant women in Suriname</td>
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<td><strong>10:45 am (O-2)</strong> Physical and mental health of adolescents in Latin America and the Caribbean: Societal specific context regardless of national wealth — a key consideration</td>
<td><strong>(O-10)</strong> Generic drug use: A 2017 survey of primary care physicians’ knowledge, attitudes and practices in Barbados</td>
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<td><strong>11:00 am (O-3)</strong> Integrated health systems planning as a tool to strengthen health systems in the tropical rainforest interior of Suriname</td>
<td><strong>(O-11)</strong> A cross-sectional study investigating texting and driving in Grenada, West Indies</td>
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<td><em>(O-4)</em> Post-flood disaster impact of perinatal healthcare coverage on birth outcomes in the rainforest interior of Suriname</td>
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<td>11:30 am</td>
<td><em>(O-5)</em> Developing a systems model to inform policies for diabetes prevention in the Caribbean: A co-design approach to engage stakeholders in policy development and evaluation</td>
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<td>11:45 am</td>
<td><em>(O-6)</em> Health determinants and health outcomes for low-income adults living in public housing communities: Focus on obesity, overall health and quality of life</td>
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<td>N Michael, J Valmond, J James, G Callwood</td>
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<td>12:00 noon</td>
<td><em>(O-7)</em> Availability of medicines in public sector health facilities of four vulnerable Regions: 1, 7, 8 and 9 in Guyana</td>
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<td><em>(O-8)</em> Geographic information systems vector surveillance capacity building: Results from the Caribbean</td>
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<td><strong>Global cancer trends to global cancer action</strong></td>
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<td><strong>(O-17)</strong> Diabetes and related risk factors disproportionately affect Caribbean women:&lt;br&gt;An updated systematic review and meta-analysis of diabetes and determinants&lt;br&gt;L Guariguata, C Brown, NP Sobers, IR Hambleton, TA Samuels, N Unwin</td>
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<td><strong>(O-21)</strong> Investigating the seroprevalence of Chikungunya virus antibodies in new rheumatoid arthritis patients at two rheumatology clinics in Kingston, Jamaica&lt;br&gt;F Bailey, G Gordon-Strachan, K Maloney, I Vickers, K De Ceulaer, S Davis, M Gossell-Williams</td>
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<td><strong>(O-18)</strong> Caribbean network of pharmacovigilance and post-market surveillance (VIGICARIB): First report&lt;br&gt;R Extavour, D Ganga, C Preston</td>
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<td><strong>(O-23)</strong> A qualitative exploration of the experiences and perceptions of women living with a diagnosis of breast cancer in Barbados: The need for empowerment&lt;br&gt;J Vigilance, N Greaves, H Harewood</td>
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<td><strong>(O-20)</strong> Sildenafil abuse among men at selected community pharmacy in a sub-urban community, Georgetown, Guyana, August 2017&lt;br&gt;D Van-Veen, J Glasgow, C Paramanand, J Saffie, D West</td>
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<td><strong>(O-24)</strong> Knowledge, attitudes, and practices regarding rabies in Grenada&lt;br&gt;L Glasgow, A Worme, M Forde, E Keku, K Vemulapalli</td>
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<td>2:15 pm – 3:15 pm</td>
<td><strong>Session 3c:</strong> STRENGTHENING HEALTH PLANNING: THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) CARIBBEAN CANCER REGISTRY HUB&lt;br&gt;Room Assignment: Dominica&lt;br&gt;Chairpersons: S Quesnel-Crooks, J Alaro</td>
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<td>The global initiative for cancer registration: Building capacity to inform cancer control&lt;br&gt;L Mery</td>
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<td>Supporting cancer registration in the Caribbean: The IARC Caribbean Cancer Registry Hub&lt;br&gt;G Andall-Brereton</td>
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<td>The National Cancer Institute’s role for cancer control in the Caribbean&lt;br&gt;D Martin</td>
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<td>Building toward sustainability: Considerations from the BNR Model&lt;br&gt;S Forde</td>
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| 3:45 pm | **Session 4a:**  
**HEALTH SYSTEMS: POLICY AND PLANNING III**  
Chairpersons: V Asin-Oostburg, F Bray  
Room Assignment: Saba  
---  
**Session 4b:**  
**STRENGTHENING GLOBAL CANCER RESEARCH AND CONTROL**  
Chairpersons: G Andall-Brereton, D Martin  
Room Assignment: Antigua |
| 3:45 pm | **Cancer care in Antigua and Barbuda and St Kitts and Nevis**  
G Avery, J Graves, G Jones  
---  
**Brief Overview of the NCI-CARPHA grant programme**  
J Alaro  |
| 4:00 pm | **Our voices: Women’s perspectives on breast and cervical cancer screening and treatment in the English-speaking Windward Islands**  
W Tarver, K Thomas-Purcell, C Richards, M Primus-Joseph, A McBurnie-James  
---  
**Gatekeepers’ perceptions of the quality and availability of services for breast and cervical cancer patients in the English-speaking Windward Islands: An exploratory investigation**  
K Thomas-Purcell, W Tarver, C Richards, M Primus-Joseph  |
| 4:15 pm | **Vasectomy concerns as a primary modality for reproductive health in New Providence, The Bahamas: A qualitative study**  
D Bain, R Roberts, C Farquharson, C Conliffe, M Frankson, F Williams, E Laville, N Bethel  
---  
**Cardiometabolic health in prostate cancer survivors and their controls: Results of the PROSCARE follow-up study**  
M Tulloch-Reid, W Aiken, T Ferguson, N Bennett, L Harrison, A Badaloo, D McGrowder, A Grindley, E Walker, M Jackson  |
| 4:30 pm | **Weight status and related risk factors among public school students on the east end of St Thomas, United States Virgin Islands**  
JM Valmond, N Michael, J James, GB Callwood  
---  
**Pre-diagnostic body size in relation to overall and prostate-specific mortality in Jamaican men**  
M Jackson, A McCaw-Binns, M Tulloch-Reid, W Aiken, T Ferguson, N Bennett, L Harrison, A Badaloo, D McGrowder, A Grindley, E Walker, S Anderson  |
| 4:45 pm | **A new regional radiotherapy centre as a catalyst for system level cancer control**  
G Jones, K Jones, C Brown, C Sin-Quee  
---  
**Exploring the use of text messages for weight-loss and healthy habit formation in St Lucia**  
E Serieux  |
| 5:00 pm | **End of Session** |
| 6:30 pm | **Opening Ceremony**  
Venue: Royal St Kitts Hotel |

**DAY 2: Friday, June 15, 2018**

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| 7:00 am | **Breakfast Session: Polishing your paper for publication**  
D Ramdath, M Reid  
Room Assignment: La Cucina Italian Restaurant |
| 8:00 am | **FEATURE LECTURE 3:**  
Chairperson: G Hutchinson  
Title: The Health of the Region is the Wealth of the Region: Really?  
K Theodore  
Room Assignment: Saba |
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<td>Economic evaluation of laparoscopic <em>versus</em> open repair for elective unilateral primary inguinal hernia and prophylaxis antibiotic use</td>
<td>Disparities in trends in pre-mature adult mortality from coronary heart disease and stroke in ten countries of the Caribbean Community 1991 to 2012</td>
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<td>Q Jones</td>
<td>NP Sobers, I Hambleton, JA Critchley, TA Samuels, N Unwin</td>
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<td>9:00 am</td>
<td>National alcohol survey of households in Trinidad and Tobago (NASHTT): An estimate of the hidden cost of alcohol’s harm to households</td>
<td>Factors that affect medication adherence in the Bahamian adult hypertensive and Type 2 diabetic population</td>
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<td>RG Maharaj, MS Motilal, T Babwah, P Nunes, R Brathwaite, G Legall, SD Reid, HH Bailey</td>
<td>K King-Strachan, D Strachan-Bowleg, M McLean-Morgan, D Watson-Providence, T Gibbs, C Conliffe, C Farquharson, M Frankson</td>
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<td>9:15 am</td>
<td>An online, distributed community of practice for antimicrobial resistance in Caribbean community member states</td>
<td>Diabetes distress and diabetes self-care in Barbados</td>
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<td>L Benjamin, P Sealy, K Georges, A Adesiyun</td>
<td>S Alexander, A Atherley, E Morris, OP Adams</td>
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<td>9:30 am</td>
<td>Cost-effectiveness analysis on the introduction of human papillomavirus vaccines in Guyana</td>
<td>Demographic and lifestyle factors that affect haemoglobin (A_{1c}) awareness amongst Type 2 diabetic patients in Trinidad and Tobago</td>
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<td>G Tatkan, S Bender-Pelswijk, E Hamilton, V Bachan, C Charles</td>
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<td>9:45 am</td>
<td>Fostering of a sustainable health system through direct engagement for health insurance benefit design</td>
<td>Effect of an alcoholic soluble extract of Momordica Charantia, Kuguacin-J and Cisplatin on Mcf-10a, Mcf-7 and Mdamb-231 breast cancer cell lines <em>in vitro</em></td>
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<td>T Hines</td>
<td>E Cummings, R Singh, K Jeeboo, J Singh</td>
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<td>10:00 am</td>
<td>A localized approach to sustaining Guyana’s paediatric cardiology programme</td>
<td>The hypoglycaemic effect of fractions obtained from ethyl acetate extract of Desmodium canum (strong back weed) in a rat model</td>
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<td>J Isaacs, G Tatkan, C Charles, T Bollers</td>
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**10:15 am** COFFEE BREAK/POSTER/EXHIBITS
Room Assignment: Antigua

**11:00 am** FEATURE LECTURE 4:
Chairperson: D Ramdath
Title: Protecting, Promoting and Sustaining the Public’s Health
B Bain
Room: Saba
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<td>11:45 am</td>
<td><strong>Session 6b:</strong> NON-COMMUNICABLE DISEASES III: The Eastern Caribbean Health Outcomes Research Network (ECHORN) Cohort Study</td>
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<td>Chairpersons: T Hassell, M Frankson</td>
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<td><strong>(O-43)</strong> HIV and Type 2 diabetes: A qualitative exploration of the burden of care experienced and perceived by persons living with multiple comorbidities in Barbados and Trinidad and Tobago NS Greaves, S Pooransingh, TA Samuels, MM Murphy</td>
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<td><strong>(O-47)</strong> ECHORN Cohort Study Protocol</td>
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<td><strong>(O-44)</strong> Evaluation of sexual dysfunction in postmenopausal women in the Bahamas S Bowe, V Sakhrkar, M Frankson, D Halliday</td>
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<td><strong>(O-48)</strong> The ECHORN Cohort Study: Alcohol use among the elderly: Associations with non-communicable diseases and psychosocial issues RG Maharaj, TA Thompson, M Nunez, C Nazario, OP Adams, JL Martinez-Brockman, M Nunez-Smith</td>
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<td><strong>(O-45)</strong> Colorectal neoplasms in an Afrocentric population: Histology, distribution and clinical significance RR Cruickshank, A Duncan, JM Plummer</td>
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<td><strong>(O-49)</strong> The ECHORN Cohort Study: Obesity and weight misperception among adults in the Eastern Caribbean S Hassan, D Galusha, T Ojo, JL Martinez-Brockman, P Adams, R Maharaj, C Nazario, M Nunez, M Nunez-Smith</td>
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<td>12:30 pm</td>
<td><strong>(O-46)</strong> Integrating parenting intervention with routine care to improve psychosocial functioning among parents of children with sickle cell disease M Asnani, D Francis, J Knight-Madden, S Chang-Lopez, L King, S Walker</td>
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<td></td>
<td><strong>(O-50)</strong> The ECHORN Cohort Study: Physical activity among participants 40 years of age and over OP Adams, RG Maharaj, M Nunez, C Nazario, JL Martinez-Brockman, M Nunez-Smith</td>
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<td>1:00 PM – 2:00 PM</td>
<td>NETWORKING LUNCH / LECTURE:</td>
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<td>Pneumococcal vaccination and its benefits to the Caribbean Public Health</td>
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<td>Speaker: Dr Rolando Ulloa</td>
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<td>Room: Calypso Restaurant</td>
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<td>2:00 pm – 3:00 pm</td>
<td><strong>Session 6c:</strong> INTERNATIONAL ATOMIC ENERGY AGENCY: Supporting member states in the Caribbean to enhance prevention, treatment and control of diseases</td>
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<td><strong>Room Assignment: Dominica</strong></td>
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<td>Chairpersons: A Badaloo, P Murillo-Fuentes</td>
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<td><strong>Objective:</strong> To disseminate information about the role of nuclear technologies in human health and the activities of IAEA Technical Cooperation Programme in the Caribbean region and to share success stories at country/regional level in:</td>
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1) applying radiotherapy to cure cancer patients,
2) IAEA success stories cancer cardiovascular and other chronic diseases: enhancing diagnostics through nuclear medicine and radiology,
3) use of nuclear nutrition techniques in the fight against the rise of non-communicable diseases in the Caribbean, and
4) ensuring cancer quality assurance in radiation medicine: protecting patients and workers

3:00 pm End of Sessions
6:30 pm Awards Banquet
Carambola Beach Club

DAY 3: Saturday, June 16, 2018

9:00 am FEATURE LECTURE 5
Chairperson: M Reid
The expanded programme on immunization: Charting the future through reflections on the past
K Lewis-Bell
Room: Saba

Time CONCURRENT SESSIONS

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<thead>
<tr>
<th>Time</th>
<th>Session 7a: HEALTH SYSTEMS: COMMUNICABLE DISEASES - SURVEILLANCE AND PREVENTION</th>
<th>Session 7b: PUBLIC HEALTH III</th>
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<tr>
<td>9:45 am</td>
<td>Chairpersons: K Lewis-Bell, MA St John</td>
<td>Chairpersons: B Bain, E Le Franc</td>
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<td>Room Assignment: Saba</td>
<td>Room Assignment: Antigua</td>
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<td>10:00 am</td>
<td>J Woolford, M Thomas, RV Anthonisamy</td>
<td>NP Sobers, L Bishop, K Lewis, JC Critchley, TA Samuels, N Unwin</td>
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<td>(O-52) Pneumococcal conjugate vaccines introduction in the immunization programme from 2011 and its impact on mortality under five years in Guyana</td>
<td>(O-60) Disparities in hypertension in populations living in the Caribbean: A systematic review and meta-analysis</td>
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<td>J Edwards, N Lyons, A Hinds</td>
<td>NP Sobers, L Bishop, K Lewis, JC Critchley, TA Samuels, N Unwin</td>
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<td>(O-53) Implementation and outcomes of a patient tracing programme for HIV at the Medical Research Foundation, Trinidad and Tobago</td>
<td>(O-61) Analysis of trauma cases at the tertiary care hospital in Georgetown, Guyana, in support of the development of a trauma centre: A four-month retrospective study</td>
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<td>10:15 am</td>
<td>(O-54) Surveillance of HIV-infected mothers and infants in a prevention of mother-to-child transmission programme</td>
<td>(O-62) Methicillin resistant Staphylococcus Aureus in the primary healthcare system in Barbados and its susceptibility patterns with co-trimoxazole</td>
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<td>M St John, D Babb</td>
<td>E Chase, M Gittens-St Hilaire</td>
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<td>10:30 am</td>
<td>COFFEE BREAK/POSTERS/ EXHIBITS</td>
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| 11:15 am     | **(O-55)** HIV prevention in The Bahamas: Self-reported prevalence and attitudes toward male circumcision among selected population groups  
C George, R Roberts, D Brennen, L Deveaux, S Read  
**(O-63)** A study on the prevalence, molecular characteristics and antimicrobial susceptibility patterns of methicillin resistant *Staphylococcus Aureus* in hospitalised patients in the Queen Elizabeth Hospital, Barbados  
D Alleyne, M Gittens-St Hilaire |
| 11:30 am     | **(O-56)** Knowledge of Human Papillomavirus and Human Papillomavirus vaccines among Bahamas high school students  
C George, R Roberts, D Brennen, L Deveaux, S Read  
**(O-64)** Toxocara canis in puppies and their public health significance in Grenada  
R Schwartz, S Bidaisee, CNL Macpherson |
| 11:45 am     | **(O-57)** Human T-lymphotropic virus Type-1 co-infection among HIV-infected patients attending a large HIV Treatment Centre in Trinidad  
J Edwards, N Lyons, A Hinds  
**(O-65)** Risk assessment for potential outbreak of *Aedes*-borne diseases and mosquito identification in districts of Georgetown, Guyana  
G Punu, C Alonzo, H Cox |
| 12:00 noon   | **(O-58)** Fertility desire and awareness of fertility options among the HIV population  
K Carroll, AM Pottinger  
**(O-66)** Social and environmental factors on the health of Caribbean people in and out the region  
K Lacey, L Cummings, R Jeremiah |
| 12:15 pm     | **(O-59)** Elimination of the mother-to-child transmission of HIV and congenital syphilis in the Caribbean: Enabling factors, challenges and lessons learned  
S Jones, N Jack, S Caffe |
| 1:00 pm      | **Presentation of Prizes and Closing Remarks**                                                                                                                                                                       |
Health Systems: Policy and Planning

(P – 1) Developing essential standards for field worker training in community based rehabilitation
MT Cornielje, H Cornielje, G Liburd

(P – 2) Perceptions of nurses regarding the implementation of continuing nursing education at the New Amsterdam Regional Hospital
T Ross, S Lindie

(P – 3) Adherence to guidelines of surgical antibiotic prophylaxis: A retrospective cohort study at the Georgetown Public Hospital Corporation, Guyana, June – July 2017
V Nandan, S Rajkumar

(P – 4) Development of a digital public health database to assess risk factors of diabetes in the Federation of St Kitts
PA Rodriguez-Martinez, J Harrington

(P – 5) Quality management: Laboratory professionals prospective
C Boston, C Edwards, W Emptage, H Beephodass, R Kurup

(P – 6) Non-urgent patients’ perception of the acuity of their presenting complaint at the Emergency Department of the Princess Margaret Hospital
R Roper, C Nairn, M Frankson, K Oliver

(P – 7) The effective utilization of the Paediatric Outpatient Department, Georgetown Public Hospital Cooperation
B Alladin-Karan, S Wright, S Razack, J Joseph, N Ramsukh

(P – 8) Quality of healthcare delivery at the Paediatric Outpatient Department, Georgetown Public Hospital Cooperation
B Alladin-Karan, S Wright, S Razack, J Joseph, N Ramsukh

(P – 9) Mass drug administration for lymphatic filariasis — Is this elimination strategy working in Guyana?
D Simmons, E Tyrell

(P – 10) Workload indicators for staffing needs pilot study: The Guyana experience 2017
M Hutson, B Lachmansingh, R Dos Santos, S Bender, P Edwards, W Adu-Krow

(P – 11) Building integrated health service delivery networks in Guyana
U Fung, R Dos Santos

(P – 12) Assessing health service delivery in the Lethem sub-district by applying the integrated health service delivery network model during the period July to November, 2017
F Moses, K Yaw

(P – 13) Proposed mental health surveillance for Guyana
B Lachmansingh

(P – 14) Health system’s innovations towards Universal Health in the Caribbean
C Cavaco Dias

(P – 15) Proposal for a project management approach to implementing electronic medical records in the public health system
R Dos Santos
Health Systems: Economics

(P – 16) 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
P Persaud

(P – 18) Costing of maternity waiting homes in Guyana
G Tatkan, S Bender-Pelswijk, E Hamilton, E Tatkan, V Bachan, P Thompson, P Persaud, T Naraine, M Idal, O Williams, L Ramjag, B Nipan

(P – 19) Use of health economics data as an adjunct to traditional microbial and antimicrobial resistance surveillance systems
T Hines

(P – 20) 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
H Harewood, N Unwin

(P – 21) Open access to price, volume and other information related to medicines procured by CARICOM governments
OD Ganga, R Extavour, K Humphrey, C Preston

(P – 22) The benefits of the expanded textbooks and instructional materials Guyana programme to nursing students in terms of for access of health information and medical materials for the period October 2016 to September 2017
A Hoyte, A Harilall

Public Health

(P – 23) A comparative study of lifestyle behaviours among undergraduate nursing students from University of Guyana and a selected institution in India
L Stephanas

(P – 24) 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
T Mallampati

(P – 25) Testing and treatment for albuminuria in Type 2 diabetes mellitus in select polyclinics in Barbados
C Thompson, R Alleyne, S Agard, KR Quimby

(P – 26) Ending preventable deaths in mothers, newborns and infants in remote areas in Guyana through telemedicine
P Singh

(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
C Conliffe, MA Frankson, C Farquharson, S Belgrave, D Bowleg, J Jones, S McHardy

(P – 28) The Eastern Caribbean Health Outcome Research Network Cohort Study: Impact of alcohol use and abuse by family members on women in Trinidad
R Lakew, M Nunez-Smith, K Wang, A Schulze, J Monin, RG Maharaj

(P – 29) Socio-economic status predicts dietary choices in Barbadian antenatal clients
J Parris, M Murphy, NP Sobers

(P – 30) Alcoholism and risk factors: A cross-sectional case study of persons 15 years and above from Herstelling, Guyana (2017)
B Nipan, J Raghu

(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
M Persaud, B Alladin-Karan, S Stanton, R Luknauth-Sukhram

(P – 32) Suicides in Guyana: Exploring the suicide phenomenon among Indo-Guyanese
J Rowland
Six years of disability-related research on St Kitts and Nevis: A thematic synthesis of five studies between 2011 and 2017
MT Cornielje, H Cornielje, G Liburd

Should my patient drive? An assessment of medical standards of fitness to drive in the elderly among primary care physicians – A Barbados perspective
K Carrington, OP Adams, E Morris

The sustainability of health professional associations – perspectives from medical laboratory professionals in Guyana
E Tyrell, J Hatton, R Singh, D Sullivan

An assessment of nurses’ knowledge attitude and practice of pharmacovigilance at the University Hospital of the West Indies, Mona, Jamaica
U Obi, JE Campbell

Post-traumatic stress disorder prevention for medical students evacuated from Dominica following Hurricane Maria
D Sharma, R McIntyre, M Cuffy, A Massicot

Exploring the added value of community based rehabilitation in the Caribbean
G Liburd, U Thomson

The influence of climatic conditions on the incidence of dengue cases in Region 4 during the period 2012–2017: A comparative study
F Moses, G Punu, C Alonzo

Knowledge, attitudes and practices related to climate change and coastal ecosystems in Grenada
L Glasgow, B Langaigne, C Thomas, O Harvey, EA Campbell

Sexual practices and prevalence of sexually transmitted infections among adolescents attending public counselling clinics in Trinidad
M Olivier, J Edwards, G Legall

Trends in azole susceptibility of Candida albicans isolated from clinical samples at a tertiary care hospital in Georgetown, Guyana
P Cheddie, VD Ramdeholl, AK Ramsaroo, LA Sobers

Trends in infectious disease cases and antibiotic prescribing patterns in the paediatric medical service
R Etwaroo, B Alladin-Karan

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
S Bawa, S Horsford, M Webb

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
V Chattu, G Curry, C Cummings, K Dasigan, R Dass, S Davis, L De Barry, A De Freitas, M De Four

Diabetes mellitus: A laboratory comparative analysis between pharmaceutical drugs and herbal medicines among Type 2 diabetic patients in Guyana
C Boston, T Ganga, K Chandradatt, N Wong, R Kurup

Chronic kidney disease and risk factor screening in the Eastern Caribbean
KN Campbell, DC Crews, O Bussue, RT Browne, BA Young

The risk factors that affect prostate cancer in Guyana: Case of the Demerara Paradise Incorporated in 2017
B Nipan, J Raghunauth
(P – 49)  A qualitative study exploring the determinants of adherence to hypertensive treatments amongst males accessing public primary care in Barbados: The limited role of “Fear”  
S Gittens, N Greaves

(P – 50)  Congregations taking action against non-communicable diseases (CONTACT) study: Concept mapping to inform implementation  
Gobin, U Read, T Thomas, S Macfarlane, C Elia, P Mohamed, R Emanuel, R Nasiro, TA Samuels, A Abdulkadri, I Govia, Sandall J, Poston L, Ogedegbee O, K Cruickshank, R Wilks, S Harding

(P – 52)  The ECHORN Cohort Study: Health networks are associated with cardiovascular risk factors in the Eastern Caribbean  
C Oladele, T Thompson, K Wang, D Galusha, OP Adam, RG Maharaj, C Nazario, M Nunez, M Nunez-Smith

(P – 53)  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  
R Sealy, MM Murphy
O – 1
Assessing the impact of the Barbados sugar sweetened beverage tax on grocery store beverage sales: An interrupted time series analysis

M Alvarado, J Adams, M Suhrcke, I Hambleton, TA Samuels, N Unwin
Sir George Alleyne Chronic Disease Research Centre, The University of the West Indies, Cavehill, Barbados; Centre for Health Economics, University of York, United Kingdom; Centre for Diet and Activity Research, MRC Epidemiology Unit, University of Cambridge, United Kingdom
Email: mra47@cam.ac.uk

Objective: A 10% excise tax on sugar sweetened beverages (SSBs) was implemented in Barbados in September 2015. We sought to determine whether there has been a change in sales of SSBs following implementation of the tax.

Methods: We used electronic point of sales (EPOS) data from a major grocery chain over the period January 2014 to December 2016. We calculated litres sold per week of SSBs and non-SSBs and included vinegars as a non-beverage comparison group. We used an interrupted time series design to assess whether the introduction of the tax was associated with a change in level or trend in sales. We analysed data from the same grocery chain in Trinidad and Tobago to examine overall trends in beverage sales in a Caribbean country without a SSB tax over the same period.

Results: The introduction of the SSB tax in Barbados was associated with a decrease in SSBs sold (litres) per week as compared to the estimated counterfactual without the SSB tax. This decrease was significant from four months after implementation. Neither Barbados non-SSBs nor Trinidad SSBs were associated with any statistically significant change following the tax.

Conclusion: This analysis suggests that the introduction of the Barbados SSB tax was associated with a decrease in SSB sales in Barbados. No change was observed in sales of SSBs in Trinidad or vinegar or non-SSBs in Barbados over the same period. Additional research is needed to assess possible substitution to non-taxed powdered beverages and syrups.

O – 2
Physical and mental health of adolescents in Latin America and the Caribbean: Societal specific context regardless of national wealth — a key consideration

C Elia, M O’Keeffe, D Browne, R Gobin, S Goberdhan, S Hutson, A Dregan, T George, J Wolfe, JK Cruickshank, A Samuels, R Wilks, C Morgan, J Sandall, L Poston, S Harding
Department of Nutrition Science, School of Life Course Sciences, Faculty of Life Sciences & Medicine, King’s College London, Franklin-Wilkins Building, London, SE1 9NH; Ministry of Education, Guyana; School of Medicine, University of Guyana, Guyana; Department of Psychological Medicine, Institute of Psychiatry, Psychology & Neuroscience, King’s College London, Denmark Hill, London, SE5 8AF; Department of Primary Care and Public Health, School of Population Health Sciences, Faculty of Life Sciences & Medicine, King’s College London, Addison House, Guy’s Campus London SE1 1UL; The University of the West Indies, Barbados; The University of the West Indies, Jamaica
Email: seeromanie.harding@kcl.ac.uk

Objective: Adolescents in the Caribbean and Latin America have experienced dramatic changes in opportunities and constraints over the last decade. Improvements in national incomes were accompanied by an increase in globalised risky exposures (e.g., fast foods). The objective of this study was to examine the prevalence of suicide-related mental health problems and overweight among adolescents, and also the perspectives of adolescents, teachers, policy-makers and parents on health priorities.

Methods: Indices of national incomes and human development were merged to national surveys of adolescent health (2009–2013, aged 13–16 years). Overweight/obesity was objectively measured, and information on suicide ideation, planning and attempts were used to derive a composite suicide behaviour variable. Concept mapping workshops were conducted with adolescents (n = 24, aged 11–16 years) and with teachers, policy-makers and parents (n = 15) in Guyana, one of the poorest countries and with high suicide rates.

Results: Generally, as gross domestic product per capita increased, the Human Development Index increased, with
Issues might be more challenging than dietary habits. Interlocutors' perspectives in Guyana suggests that addressing these drivers. The lack of emphasis on mental health in adolescent development. Specific societal contexts may be important. Behaviours were consistently related to national indices of overweight and suicidal-related mortality and protective influences, while among the advantaged, emphasis was placed on protective lifestyle choices and environmental factors. Nutrition resonated with the perspectives of teachers, parents and policy-makers, among whom mental health, and family and school environments were also emphasised.

Conclusion: Neither overweight nor suicidal-related behaviours were consistently related to national indices of development. Specific societal contexts may be important drivers. The lack of emphasis on mental health in adolescents’ perspectives in Guyana suggests that addressing these issues might be more challenging than dietary habits. Interventions that bridge families and schools could be explored.

O = 3 Integrated health systems planning as a tool to strengthen health systems in the tropical rainforest interior of Suriname

GK Baldewsingh, ED van Eer; MS Mac Donald-Ottevanger; MY Lichtveld, L Shi, CWR Zijlmans

Medical Mission Primary Healthcare Suriname, Suriname; Scientific Research Centre Suriname/Academic Hospital Paramaribo, Paramaribo, Suriname; Tulane University School of Public Health and Tropical Medicine; Global Environmental Sciences Department, New Orleans, USA

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Objective: To determine the accessibility of healthcare and its impact on perinatal outcomes and surveillance following the May 2006 flood disaster and the impact on birth outcomes.

Methods: Medical Mission retrospective data covering five integrated health system time periods (IHSP) were analysed using descriptive statistics for core healthcare accessibility indicators: clinic visits, perinatal outcomes: birth rate, maternal mortality rate (MMR), neonatal mortality rate (NMR), and vaccination coverage; and surveillance findings on: malaria, diarrhoea and respiratory infections; and integration of PHC in remote areas.

Results: Average clinic visit rate ranged from 3.5 (IHSP1) to 1.7 (IHSP5), birth rates decreased from 35.0/1000 (IHSP1) to 24.6/1000 (IHSP5) MMR decreased from 156.3/100.000 (IHSP4) to 42.1/100.000 live births (IHSP5), NMR decreased from 5.4/1000 (IHSP3) to 5.2/1000 live births (IHSP5). Children’s vaccination coverage 0–1 year increased from 68.0% (IHSP1) to 86.0% (IHSP5), and remained stable in children aged 1–2 years. Malaria cases decreased significantly from 8121/year (IHSP1) to 33/year (IHSP5), diarrhoea and respiratory infections decreased from 7789 to 5022 and 23 638 to 22 908 cases/year, respectively.

Conclusion: Integrated health systems planning resulted in improved healthcare accessibility, positively influenced perinatal outcomes and decreases in high priority infectious diseases. Community engagement is essential to improve integration of PHC in remote areas.

O = 4 Post-flood disaster impact of perinatal healthcare coverage on birth outcomes in the rainforest interior of Suriname

LF Soares, ED van Eer, B Jubitana, AR Gokoel, ML Lichtveld, CWR Zijlmans

Tulane University School of Public Health and Tropical Medicine, New Orleans, USA; Medical Mission Primary Health Care, Suriname; Scientific Research Centre, Suriname

Email: soares@tulane.edu

Objective: To determine potential differences in the coverage of perinatal care provided by the Medical Mission Primary Healthcare Suriname (MM) for the indigenous population in the tropical rainforest interior of Suriname following the May 2006 flood disaster and the impact on birth outcomes.

Methods: Medical Mission perinatal health database was used, comparing 1419 infants born two years post-flood to 1474 infants born two years pre-flood. For areas not affected by the flood within the MM service area, 896 additional post-flood births were compared to 907 pre-flood births. Binary variables measured included coverage of at least four antenatal care (ANC) visits, skilled birth attendant (SBA) at delivery, neonatal data regarding the condition of the child at four weeks, and prevalence of low birthweight, stillbirth, low five-minute interval Apgar score (1–6), birth rate, maternal mortality rate (MMR), neonatal mortality rate (NMR), and vaccination coverage; and surveillance findings on: malaria, diarrhoea and respiratory infections; and integration of PHC in remote areas.

Results: There were statistically significant increases in ANC coverage (74.1% to 79.5%, p = 0.001) and SBA (77.0% to 84.1%, p < 0.001) in the post-disaster period. In unaffected areas, there was a decrease in ANC coverage (68.0% to 62.9%, p = 0.026) and no significant change in SBA coverage (83.0% to 80.0%, p = 0.234). There were no significant changes in poor birth outcome prevalence in both affected and non-affected areas.
Conclusion: In the aftermath of the severe flooding in the interior of Suriname that affected 60% of the indigenous population, MM coverage of perinatal healthcare remained high and in some regions improved. These changes did not impact poor birth outcome prevalence.

O – 5
Developing a systems model to inform policies for diabetes prevention in the Caribbean: A co-design approach to engage stakeholders in policy development and evaluation

L Guariguata, C Guell, TA Samuels, EAJA Rouwette, J Woodcock, IR Hambleton, N Unwin
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Objective: Type 2 diabetes is a serious and growing problem in the Caribbean. Progress in implementing effective policies for prevention has been slow. It is proposed that engaging policy-makers in systems thinking, such as in understanding the complex interrelationships between the determinants of diabetes, will lead to more effective policy formulation and implementation. In this paper, we present findings from a group model-building with expert stakeholders in the Caribbean.

Methods: In 2016, we held a group model-building workshop with stakeholders from multiple sectors across four countries (Barbados, Belize, Jamaica and St Vincent and the Grenadines). Causal system maps on the determinants in the Caribbean of physical inactivity, poor diet and obesity were developed and potential leverage points amenable to policy interventions were identified.

Results: Stakeholders identified social-health determinants, and their interlinkages and feedback loops driving high rates of diabetes. Examples include car-dominated urban planning and transport policies driving physical inactivity, and unhealthy eating connected to low local production of fruits and vegetables, a reliance on food imports and a lack of food sovereignty.

Conclusion: The group model-building workshop enabled expert stakeholders to map the systems driving high rates of diabetes in the Caribbean. This demonstrated the interconnectedness of diabetes determinants and the importance of a multi-sectoral response. The system maps form the basis for developing a quantitative system dynamics model, which can be used as a tool by policy-makers to undertake a ‘what if’ analysis of the potential effectiveness of the different types and combinations of interventions and inform decision-making.

O – 6
Health determinants and health outcomes for low-income adults living in public housing communities: Focus on obesity, overall health and quality of life

N Michael, J Valmond, J James, G Callwood
University of the Virgin Islands
Email: nmichael@uvi.edu

Objective: To assess the association between select health determinants and health outcomes for low-income adults living in public housing communities in the US Virgin Islands. The specific aims of the study were to: (1) assess the overall health status, quality of life and weight status, and (2) determine the association among key health determinants and health status, quality of life and weight.

Methods: A concurrent, mixed-methods design (Creswell, 2009) was used. Quantitative data collection included the 2014 Behaviour Risk Surveillance Survey (developed by the Centres for Disease Control and Prevention), administered to a stratified random sample of adult residents in public housing communities, through a telephone survey. There was an 85% response rate. Quantitative data analysis was conducted using statistical package for the social sciences (SPSS) 25.

Results: Females represented 80% of study participants, 52% of households (HHs) were households with no children and 26% of HHs reported having two or more children. Over 60% of participants were 45 years or older; 50% had never been married and 31% were divorced, widowed or separated. Seventy per cent reported their health as ‘excellent’ or ‘very good’; approximately four in 10 reported having poor mental or physical health that kept them from usual activities; seven in 10 reported being overweight or obese. Logistic regression was used to assess the association between health determinants and health outcomes. Health determinants showed significant associations ($p < 0.05$) with the dependent variables of interest.

Conclusion: Results have implications for policy-makers and healthcare providers, relative to care of the elderly and women’s health, specifically, obesity.

O – 7
Availability of medicines in public sector health facilities of four vulnerable Regions (1, 7, 8 and 9), in Guyana

G Dath, AV Raja
PAHO/WHO Guyana Country Office, Georgetown, Guyana; Department of Math, Physics and Statistics, Faculty of Natural Sciences, University of Guyana, Guyana, South America
Email: dathgom@paho.org

Objective: To conduct an assessment on the availability of essential medicines in four vulnerable regions (1, 7, 8 and 9)
of Guyana, during August to October 2017 to provide data to inform pharmaceutical management and services.

**Methods:** A retrospective analysis of 62 health facilities within Regions 1, 7, 8 and 9 was performed. Data were analysed with the statistical package for the social sciences (SPSS) 20.

**Results:** The inventory level for anti-allergic drugs was 94% and analgesic/anti-pyretic/nonsteroidal anti-inflammatory drugs (NSAID) was 76%. Antibacterial tablets were the most frequently out-of-stock medicines, anti-helminthic tablets and antibacterial injections were the medicines available in excess. Approximately, 79% of public health facilities in these four regions had storage facility with over 50% adequate number of shelves and cupboards. A storage ledger was maintained in 76% of the facilities.

**Conclusion:** Strengthening of the public sector availability of medicines is a complex long-term process. It is recommended that the Ministry of Public Health evaluate their procurement system to ensure efficiencies and make necessary reforms to improve availability. The analysis from the present study could be used as a baseline to evaluate the effectiveness of a centralized procurement and decentralized distribution systems for medicines.

**O – 8**

Geographic information systems vector surveillance capacity building: Results from the Caribbean

DP Evans, A Gates, N DeSouza-Williams, O Manders, LS Martin, M Coleman, S Dunkley, A South, M Stanton, R Ragoo, K Polson-Edwards, R Levine, A Lenhart

Center for Humanitarian Emergencies, Rollins School of Public Health, Emory University, Atlanta, GA, United States; Liverpool School of Tropical Medicine, Liverpool, United Kingdom; Caribbean Public Health Agency, Port-of-Spain, Trinidad and Tobago; US Centers for Disease Control and Prevention, Atlanta, GA, United States

Email: dabney.evans@emory.edu

**Objective:** The aim of the Geographic Information for Vector Surveillance (GIVeS) programme is to improve geographic information systems (GIS) capacity for vector surveillance. The data presented here represent outcomes from the Caribbean.

**Methods:** To assess existing GIS capacity for vector surveillance, the GIVeS team launched the project with a baseline needs assessment. Next, we developed a curriculum focussed on using QGIS, a free and open source software. Two trainings were conducted in July 2017 that included 44 participants from 19 Caribbean countries. Participants were entomologists and key vector surveillance decision-makers. Individual learning was assessed using pre- and post-tests. A quantitative survey of participants was conducted to assess course effectiveness and success. Quantitative data were entered and analysed in Epi info 7.

**Results:** Forty-three participants completed the pre- and post-test assessments. Ten per cent reported being comfortable with GIS software in pre-test compared to 61% post-test. Only 26% of participants reported that they could create maps from entomological surveys before the workshop; nearly all (95%) reported they could do so at post-test. The pre-test assessment revealed that 26% of participants were incapable of accessing/creating spatial data, which dropped to zero after the workshop.

**Conclusion:** The GIVeS programme successfully met its objectives, receiving positive feedback across evaluation metrics. Vector programmes focussed on other diseases may benefit from the adoption of the GIS software. To that end, we intend to develop a second-level training for countries that have already participated in our training and expand our geographic focus outside of the Latin America and the Caribbean Region.
O – 9
Mercury levels in hair from pregnant women in Suriname

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Objective: To compare the levels of mercury in hair samples from women of reproductive age from three regions of Suriname.

Methods: Hair samples were collected from female volunteers considered to be of reproductive age and who were pregnant at the time of enrolment. Samples were collected from women in Paramaribo, Nickerie and interior villages in the Brokopondo region. One gram of hair samples obtained close to the scalp was rinsed, cleaned and processed for total mercury analysis using cold vapor atomic absorption spectroscopy. Hair: blood conversions (250:1) were carried out to facilitate comparison with levels from other biomonitoring studies in the United States of America. Levels of mercury among villages were analysed using non-parametric methods.

Results: Mercury levels in the hair were determined in 266 women from Paramaribo, 56 from Nickerie and 25 from the interior area. Median levels were 0.6 µg/g (range 0.0–4.1 µg/g), 0.7 µg/g (0.1–4.4 µg/g with one at 21.2 µg/g), and 2.1 µg/g (0.7–11.8 µg/g) in Paramaribo, Nickerie and the interior area, respectively. The individual in Nickerie with the highest exposure was deemed a statistical outlier, and follow-up indicated her exposure was likely not dietary. Mercury levels in the interior were significantly higher than those in Nickerie or Paramaribo (p < 0.001, KW 44.1).

Conclusion: Levels of mercury in women from coastal Suriname were similar to those in the USA. Levels of mercury in the interior were much higher than in coastal communities which may reflect consumption of fish from watersheds with high mercury concentrations.

O – 10
Generic drug use: A 2017 survey of primary care physicians’ knowledge, attitudes and practices in Barbados

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Objective: To determine the knowledge, attitudes and practices (KAP) of registered primary care physicians in the private and public health sectors of Barbados regarding generic drugs and their use.

Methods: A self-administered questionnaire was used to capture the KAP of randomly selected registered primary care physicians in the public and private health sectors of Barbados. Data were analysed using descriptive statistics, Chi-square test and regression models.

Results: Data on 120 respondents were used for analysis; 70% were private sector physicians. Fifty-seven per cent responded ‘no’ to manufacturing standards being the same for both generics and branded drugs. The mean knowledge score was 4.9 ± 0.16 out of eight. Most physicians believed generics were as safe as branded drugs and were more affordable (53% and 95%, respectively) and 65% believed that generic drug substitution contributed to the cost-effective management of disease. Two-thirds of physicians were opposed to automatic substitution of generics by pharmacists. Public physicians were three times less likely to agree that generics were as safe as branded drugs (p = 0.01) and that patients should be encouraged to use more generics (p = 0.03). They were also six times less likely to agree that generics were as effective as branded drugs (p < 0.001). All physicians prescribed generics; however, six in 10 were hesitant to and 31% did not recommend generics to family, with public physicians time times less likely (p = 0.02) to recommend to family.

Conclusion: All physicians prescribed generics. However, gaps in physician knowledge have been identified. Public physicians had more negative attitudes towards generics.
O – 11
A cross-sectional study investigating texting and driving in Grenada, West Indies

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Objective: The aims of this study were to determine the prevalence of texting while driving behaviours, the factors associated with this behaviour, as well as to assess public receptiveness to interventions in Grenada, West Indies. This will inform efforts to curb motor vehicle accidents (MVAs) locally.

Methods: An anonymous 16-item questionnaire assessing cell phone usage while driving was completed by Grenadian drivers recruited from across Grenada. The survey assessed incidence and prevalence of texting while driving, frequency of MVAs involving texting, participant risk perception, demographic data, as well as which interventions were perceived to be effective in reducing texting while driving. Drivers were approached in public car parks and road-sides by the study researchers to obtain their participation.

Results: A total of 191 survey responses were collected. The mean age was 37.05 ± 10.038 years; 50.3% admitted to texting while driving. Statistical significance between group differences was documented with variables of gender (females comprised 59% of the never texted group, vs only 40% of the texting while driving group, p = 0.001). The highest frequency of above normal BMI occurred in participants residing in Region 4 (67%) [p = 0.001]. There was no significant association between the other demographic factors tested.

Conclusion: Younger age, male gender and knowing other drivers who had MVAs texting while driving were associated with increased incidence of persons texting while driving. Interventions targeting the socially reinforcing effects to these groups, safer technologies, as well as legislation may mitigate the consequences of texting while driving in Grenada.

O – 12
An assessment of how obesity levels vary with demographic factors in students entering secondary schools in Georgetown, September 2017

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Objective: To assess the prevalence of obesity, by calculating the body mass index (BMI) and comparing to BMI for age, the World Health Organization (WHO) Z-scores, in students entering secondary schools in Georgetown in September 2017.

Methods: A cross-sectional study was conducted for the period of August to September 2017. Random sampling methods were used to identify five secondary schools in Georgetown, with the intention of collecting data from students who would be enrolling in those schools. Demographic data were collected via questionnaire. Students’ weight and height were measured. Body mass index was calculated for each student and then WHO Z-scores were generated.

Results: Two hundred and forty-two students were assessed (M 40.8%, F 59.2%); 28.5% of the students had above normal BMI with 9.9% of them being obese and 18.6% being overweight. Obesity was found to be more common in boys than in girls (M 15%, F 6%); however, more boys than girls were overweight (M 22%, F 14%). There was a significant association between gender and BMI (p = 0.045). The highest rate of obesity was shown in the mixed race (42%) and the frequency of obesity (50%) and overweight (42%) were highest in nuclear families. Participants from families with two or less siblings demonstrated the highest rate of obesity (75%). The prevalence of obesity was increasingly greater in families earning a total gross income of 100 000 GYD or more per month. The highest frequency of above normal BMI occurred in participants residing in Region 4 (67%) [p = 0.001]. There was no significant association between the other demographic factors tested.

Conclusion: Overweight and obesity affected a significant proportion of the paediatric population in Guyana.

O – 13
Determinants of health behaviour using a modified Health Belief Model: The case of tobacco smoking in secondary school students in Guyana in 2015

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Objective: This study sought to determine whether the modified Health Belief Model (HBM) was applicable in determining smoking status in secondary school students in Guyana.

Methods: Descriptive analysis was performed on the secondary data from the 2015 Global Youth Tobacco Survey (GYTS) dataset. Logistic regression was used to examine the relationship between the smoking status (smoked and smokeless tobacco) and the various independent variables with odds ratio (OR) generated.
Results: The mean age of the 1697 participants was 12.9 years. Males accounted for 41.9% and females 58.1%. The main predictors for smoked tobacco use were barriers to smoking (OR: 0.616; 95% confidence interval: 0.479–0.99) and perceived susceptibility (OR: 0.589; 95% confidence interval: 0.431, 0.804). Regarding smokeless tobacco use, the main predictors were barriers to smoking (OR: 1.878 confidence interval: 1.254, 2.813) and perceived susceptibility (OR: 2.178; 95% confidence interval: 1.637, 4.060). Cues to action and perceived severity were not statistically significant for both smoked and smokeless tobacco. Smoked tobacco use was associated with increased age; gender had no significant effect. Age and gender were not significant in determining smokeless tobacco use.

Conclusion: Most students of all ages smoked at some point in time, which only solidifies the need to strengthen prevention policies and programmes to target all school children including primary school students.

O – 14
Parental smoking and peer pressure as predictors of adolescent smoking: The case of Guyana

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Objective: To determine if parental smoking and peer pressure were predictors for smoking in secondary school students in Guyana.

Methods: Secondary data from the Global Youth Tobacco Survey was analysed using Statistical Packages for Social Sciences (SPSS) Version 20. Logistic regression models were fitted to the cross-sectional data to estimate the effects of parental smoking and peer pressure defined as being invited to smoke or being offered a smoke by a friend (independent variables) on smoking status (dependent variable).

Results: Peer pressure (odds ratio [OR] of 3.2; p < 0.001; 95% confidence interval (CI) 1.9, 5.4) was a significant predictor of smoking in students. Additionally, having a parent as a smoker was a significant predictor (OR 2.1; p < 0.002, 95% CI: 1.3, 3.2).

Conclusion: This study showed that peer pressure and smoking parents were good predictors of the smoking habits of adolescents. There is the need for policy to be put in place to address the smoking epidemic in students – starting from primary schools to secondary schools.

O – 15
Association between body composition and physical function in urban Jamaican elderly men and women: Assessing sarcopenia

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Objective: To test the hypothesis that lower indices of lean body mass (LBM) is related to lower function and sarcopenia in Jamaican elderly.

Methods: The study was non-randomized with non-probabilistic sampling of free living participants. Lean body mass and fat mass (FM) were measured using reference methods (DEXA and deuterium dilution with collection of saliva) and bioelectrical impedance (BIA). DEXA appendicular lean mass (ALM) was calculated and all measurements were adjusted for height (kg/height²) to give LBMI, FMI and ALMI. Function was assessed by measuring six-metre walking speed, six-minute walk distance (6MINW) and handgrip strength using a dynamometer.

Results: Participants were 56 females and 54 males, aged 60 to 80 years. Bland Altman comparisons showed no significant difference among the three LBM methods, and they showed similar associations with each of the functional assessments controlling for age and gender. Lean body mass index and ALMI were positively related to handgrip (p = 0.0001) but not related to the walk tests. Fat mass index and BMI were negatively associated with the walk tests. The 6MINW was low in 35% of the participants compared to less than 10% for the other functions, but only 5% were classified as sarcopenic.

Conclusion: The findings indicate that handgrip was useful to monitor strength in Jamaican elderly and that there might be a combined effect of LBM and FM on walking ability. Bioelectrical impedance which is the least expensive and cheapest of the methods can be useful for measurement of LBM where resources are low.

O – 16
The prevalence of maternal depression in a primary care setting, in a small Island state with a high gross national income per capita

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Objective: To measure the prevalence of maternal depression in a primary care setting in North-Central Trinidad and to determine its socio-economic, geographic and health-related risk factors.

Methods: A cross-sectional observational study to determine the point prevalence of maternal depression in women attending primary care facilities in North-Central Trini-
dad was conducted. The population consisted of pregnant women attending primary care facilities. The systematic sample of 400 women was taken. A two-part questionnaire was administered after informed verbal consent. The questionnaire collected demographic data and the nine-item Patient Health Questionnaire (PHQ) was administered. 

**Results:** Six hundred and two patients were entered into the study, consisting of 441 antenatal women and 161 postnatal women. The point prevalence of postpartum depression was 38.5 (95% CI: 31.0, 46.5) and prenatal depression 49.7%.

**Conclusion:** The study provides evidence that maternal depression is common in the developing world. Therefore, detection and treatment must be a priority as children born to mothers with depression have more behavioural problems, more psychiatric illness, more visits to paediatricians, lower IQ scores and attachment issues.
O – 17
Diabetes and related risk factors disproportionately affect Caribbean women: An updated systematic review and meta-analysis of diabetes and determinants

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Objective: The Caribbean is one of the only two regions in the world where the prevalence of diabetes is higher in women than in men. This systematic review analysed the latest available data on diabetes and its risk factors in the Caribbean by gender and other social determinants.

Methods: We updated a systematic review to December 2016 that had initially covered January 1, 2007 to December 31, 2013. In addition, we included WHO-related surveys. We searched for studies conducted in the Caribbean that presented the distribution of one or more social determinants in adults by diabetes, its outcomes and risk factors. Meta-analysis was conducted on diabetes and gender the only relationship with sufficient data for analysis.

Results: A total of 9212 manuscripts were identified. Of those, 282 were selected for full text review and 114 papers for abstraction. Thirty-five papers, including STEPS surveys, had sufficient information for meta-analysis. Women were more obese (OR: 2.1, 95% CI: 1.65, 2.69), less physically active (OR: 2.18, 95% CI: 1.75, 2.72) and had a higher prevalence of diabetes (OR: 1.48, 95% CI: 1.25, 1.76) than men. Smoking rates were higher for men than women (OR: 4.27, 95% CI: 3.18, 5.74).

Conclusion: Our analyses added 32 additional studies to the previously conducted systematic review of which 13 were added to the meta-analysis. Diabetes and its risk factors continued to disproportionately affect women in the Caribbean. Smoking interventions should be targeted at men in the region.

O – 18
Caribbean network of pharmacovigilance and post-market surveillance (VIGICARIB): First reports

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Objective: This paper aimed to describe suspected adverse drug reactions (ADRs) and substandard and/or falsified (SF) medical products reported by CARICOM member states in the initial phase of the regional network for pharmacovigilance and post-market surveillance (VIGICARIB).

Methods: A structured reporting form was developed and sent to country representatives in September 2017. Spontaneous reports were received from national centres via email, and sorted to remove duplicates and invalid cases. Reports were cleaned to remove duplicates and to classify based on the World Health Organization terminology.

Results: Forty-four of 50 ADR reports were received from St Vincent and the Grenadines (70.5%), Dominica (27.3%) and the British Virgin Islands (2.3%) via pharmacists (59.1%) and nurses (40.9%). Patients were mostly female (70.5%), with an average age of 48 years. Common ADRs reported were urticarial/rash (27.3%), angioedema/swollen lips (13.6%), headache (13.6%) and cough (11.4%). Suspected medicines included: penicillins/cephalosporins (27.3%), ACE-inhibitors (22.7%), oral hypoglycaemic agents (13.6%) and thiazides (9.1%). Twenty-eight reports of suspected SF products were received from Trinidad and Tobago (92.8%) and Haiti (7.1%), via pharmacists (57.1%) and nurses (28.6%). Oral (50%) and intravenous medicines (28.6%) were the most common dosage forms, whereas antibiotics (25%) were the most common therapeutic class. Common issues were due to physical anomalies (53.6%), package issues (25%) and device defects (17.9%).

Conclusion: The VIGICARIB network may strengthen monitoring and evaluation of medicines safety, as well as regulatory activities to protect public health in the
Caribbean, through information exchange, resource-sharing and capacity-building.

O – 19
How and for whom do parental relationships predict problem behaviours among English-speaking Caribbean youth: A look at gender differences and the role of depressive symptoms

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Objective: To test a gender stratified model, among English-speaking Caribbean (ESC) youth, in which parent-adolescent relationships predict problem behaviours both directly and indirectly through depressive symptoms.

Methods: Data were pooled from nine ESC countries that completed the World Health Organization (WHO’s) Global School Health Survey (n = 10 932). Study participants were 49.5% male and had a mean age of 14.09 years (SD = 0.02). Structural equation modelling (SEM) was used to test the model.

Results: Structural equation modelling revealed an adequate model fit (CFI = 0.97, RMSEA = 0.02, X² = 222.28, p < 0.001). Among both males and females, a stronger parent-adolescent relationship was directly linked to a lower likelihood of four problem behaviours: skipping school, fighting, alcohol use and having experienced sexual intercourse (copulation). Standardized path coefficients ranged from -0.18 to -0.30 and were all significant to at least the p = 0.05 level. A direct path from parent adolescent relationship to cigarette use was only significant among boys (β = -0.28, p < 0.001). Among both males and females, a stronger parent-adolescent relationship was indirectly, through lower depressive symptoms, related to a lower likelihood of three problem behaviours: fighting, alcohol use and cigarette use. The path coefficient products ranged from -0.05 to -0.11 and the confidence intervals did not include 0. The indirect path from parent adolescent relationship to skipping school was only observed among boys (β = -0.05, 95% CI: = -0.01, -0.08 and having experienced sexual intercourse was only significant among girls (β = -0.07, 95% CI = -0.01, -0.16).

Conclusion: The study findings suggest that a gender-specific family-focussed intervention may help to prevent problem behaviours among ESC youth, at least partially by reducing depressive symptoms.

O – 20
Sildenafil abuse among men at selected community pharmacy in a sub-urban community, Georgetown, Guyana, August 2017

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Objective: To determine if sildenafil was abused by patrons of a selected pharmacy in a large sub-urban area in Guyana in August 2017.

Methods: A cross-sectional study was performed in August 2017 where a self-administered questionnaire was given to all participants who purchased a sildenafil product and agreed to participate in the study. The questionnaire collected data on demographics, reasons for taking sildenafil, other drug-use and dosage of sildenafil. The questionnaire was piloted and validated before use in study. Convenience sampling was used.

Results: Of the 157 males who were asked to participate in the study, 119 (75.7%) agreed. Of the 119, 77 (65%) were under the age of 40 years, 74 (62%) were taking Sildenafil without the guidance of a medical professional and only 44 (37%) were taking it for the correct ailment. No participant was able to answer the question on dosing.

Conclusion: It can be concluded that there was a high probability that sildenafil was abused in the community by males. More research to determine the extent and the causes are recommended in addition to greater education campaigns and greater pharmacovigilance.
O – 21
Investigating the seroprevalence of Chikungunya virus antibodies in new rheumatoid arthritis patients at two rheumatology clinics in Kingston, Jamaica

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Objective: To confirm the presence of CHIKV IgG antibody among newly diagnosed rheumatoid arthritis (RA) patients presenting to the two clinics under investigation; to determine the frequency of newly diagnosed RA patients who experienced musculoskeletal symptoms before or after the 2014 CHIKV outbreak through self-reporting; to compare the results of self-reporting with the presence of the CHIKV IgG antibody; to determine if, among the study participants, there was any association between the appearance of symptoms of RA and the 2014 CHIKV outbreak in Jamaica.

Methods: The project was a cross-sectional study between September 2016 and February 2017, involving the recruiting of adult RA patients (age ≥ 18 years), diagnosed with RA after August 2014, presenting to the clinics under investigation. The patients were assessed by clinical rheumatologists for RA using the American College for Rheumatology (ACR)/ The European League Against Rheumatism (EULAR) 2010 Classification Criteria for RA and patients fitting the criteria were recommended to the study. Fifty-two patients were recruited to the study.

Records of participants in the study were assessed using a data abstraction form to determine whether symptoms appeared prior to or after August 2014 and to collect data on the co-morbidities, blood test results and drugs prescribed. All 52 recruited patients were serologically tested for CHIKV IgG antibodies.

Results: Eighty-four per cent of the participants in the study were found to be seropositive for CHIKV IgG. However, there was no statistical significance between the time of appearance of RA symptoms and the CHIKV outbreak. All participants (100%) who believed they had contracted CHIKV were tested positive for CHIKV IgG antibody (p < 0.001).

Conclusion: This is the first study to our knowledge from the Caribbean that specifically reports on the relationship between CHIKV infection and RA. There was a high seroprevalence (84%) of CHIKV IgG among study participants, although there was no significant association found with CHIKV infection and RA. However, we did find that the percentage of participants that were infected during the 2014 CHIKV outbreak was significantly higher in the study population of RA patients as compared to that found by self-report in the general population. It was also found that self-report of CHIKV infection in this population had high specificity (100%), with all participants who diagnosed themselves with CHIKV testing positive for CHIKV antibodies. There was also no temporal association found between the appearance of joint pain in CHIKV infection and the development of RA. The study was, however, limited by its small sample size and insufficient follow-up time. Further studies should be considered in the future with a larger sample size and a longer follow-up period and a nationally representative seroprevalence study.

There is also scope for research evaluating the impact that CHIKV infection may have on severity of rheumatoid arthritis and its possible effects on joint involvement.

O – 22
Zika virus outbreak in 19 English- and Dutch-speaking Caribbean countries and territories, 2015–2016

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Objective: To describe the epidemiology of laboratory-confirmed Zika cases reported to the Caribbean Public Health Agency (CARPHA) from 19 English- and Dutch-speaking countries from October 1, 2015 to December 29, 2016.

Methods: Caribbean Public Health Agency member states reported clinically suspected cases of Zika and submitted serum specimens to the Agency for laboratory investigation. A patient was considered a confirmed case if Zika virus was detected by real-time reverse-transcriptase-polymerase
chain-reaction assay (qRT-PCR) or serological test. Due to the documented link between Zika virus and congenital syndrome and Zika virus and Guillain-Barré syndrome (GBS), data on these disease outcomes were extracted and presented.

**Results:** During the epidemic period of October 1, 2015 to December 29, 2016, 5614 cases from 19 English- and Dutch-speaking Caribbean countries and territories were tested for arboviral pathogens. Of these, 1447 cases tested positive for Zika virus. The majority of cases were female (83%), of which 614 (51%) were pregnant. Fifty-nine per cent of cases were aged 20–39 years (median 30 years, range: 5 days to 90 years). Rash, fever and arthralgia affected 87%, 63% and 60% of all reported cases, respectively. Four confirmed cases of congenital syndrome associated with Zika virus infection were reported from three countries during the period. One hundred and twenty-one cases of GBS were reported from 10 countries with 13 reported cases laboratory confirmed for Zika virus.

**Conclusion:** The emergence of Zika virus in the English- and Dutch-speaking Caribbean underscores the ongoing challenge posed by arboviral infections, the need for vigilance across all areas of surveillance and innovative prevention and control strategies.

**O – 23**

A qualitative exploration of the experiences and perceptions of women living with a diagnosis of breast cancer in Barbados: The need for empowerment

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**Objective:** This qualitative study sought to examine the factors influencing cancer survivorship in Barbados, with a view to identifying health system, societal and individual characteristics that facilitate or inhibit access.

**Methods:** Female participants, aged 27–69 years, were purposively selected with the assistance of a cancer charity on the Island. Individual, face-to-face semi-structured interviews were conducted until the point of saturation (n = 12). All interviews were audio-taped and transcribed verbatim. Data were analysed using thematic analysis with constant comparison. ATLAS.ti (8) data management software used.

**Results:** A major theme that emerged was that of the need for empowerment of patients through the care pathway.

Factors affecting empowerment included the need for frank humane communication between healthcare personnel and patients, and for information and guidance in navigating the healthcare system.

**Conclusion:** These results highlighted the need for training and sensitization of healthcare personnel who relate with cancer patients and for the development of communication standard operational procedures (SOP). The aim of the SOP would be to empower patients to navigate healthcare access.

**O – 24**

Knowledge, attitudes and practices regarding rabies in Grenada

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**Objective:** This study was conducted to assess knowledge, attitudes and practices regarding rabies in Grenada as well as to receive feedback from the public about the rabies control programme conducted by the Ministry of Health.

**Methods:** A cross-sectional survey was administered to 996 households on the mainland. A semi-structured questionnaire was administered via face-to-face interviews in July 2017. The survey focussed on knowledge of rabies and prevention, vaccination practices, perception of institutional responsibilities for rabies control and evaluation of the anti-rabies programme.

**Results:** More than half of the households, 62%, had animals that were susceptible to rabies. Respondents were very aware of rabies as a disease that can infect animals and humans. The rate of participation in the vaccination programme was 51.6% for pets and 38.0% for livestock. About 40% of respondents were knowledgeable about the extent of protection by rabies vaccine. Respondents did not demonstrate exceptionally high levels of knowledge about animals that were susceptible to the disease. School/work and the electronic media were the primary sources of initial knowledge about rabies. The three most frequent recommendations made to improve the rabies-control programmes were: increase education programmes, control the mongoose population and expand the vaccination period each year.

**Conclusion:** The anti-rabies programme is critical for Grenada to maintain a zero-rabies status for humans and reduce the risk of epizootic transmission. A comprehensive revision of the rabies control programme is warranted, focusing on a national education programme and policy revision to improve the public health response systems.
Strengthening Health Planning: The International Agency for Research on Cancer Caribbean Cancer Registry Hub

Chairpersons: S Quesnel-Crooks, J Alaro

The Global Initiative for Cancer Registration: Building capacity to inform cancer control
L Mery

Supporting Cancer Registration in the Caribbean: The IARC Caribbean Cancer Registry Hub
G Andall-Brereton

The National Cancer Institute’s role for cancer control in the Caribbean
D Martin

Building toward Sustainability: Considerations from the BNR Model
S Forde
Health Systems: Policy and Planning III

Objective: To review the importance of cancer on the people of Antigua and Barbuda and St Kitts and Nevis and assess measures being taken to show how these countries were adapting to the wider availability of advanced treatment options available in Antigua.

Methods: An analysis was made of available records on new cases and deaths for all cancers in Antigua and Barbuda and St Kitts and Nevis. A review was also made of treatment, screening and prevention activities.

Results: Cancer is the second most common cause of death in both countries after coronary heart disease. The most common cause of cancer deaths overall is prostate. The gender-specific cancers are responsible for around half of cancer deaths for males and females in both countries. Screening for prostate cancer is well developed, and screening for breast and cervical cancer is readily available. Biopsy, surgical treatment and chemotherapy are carried out locally, but more advanced radiotherapy can now be carried out in Antigua as well as further afield.

Conclusion: Antigua and Barbuda and St Kitts and Nevis have recognized the adverse effects of cancer on their people. The setting-up of an advanced treatment centre in Antigua and improved treatments in other centres are allowing patients to obtain quality treatment closer to home. Improved data collection through the development of registries will better inform future activity in cancer care.

Objective: Although extensive screening services for breast and cervical cancers are available in the Caribbean, these cancers continue to be the leading causes of cancer death among women in this region. The purpose of this study was to determine women’s perspectives of breast and cervical cancer screening in the Windward Islands of Dominica, Grenada, St Lucia and St Vincent.

Methods: A qualitative research design using semi-structured, focus groups was used to gather data from women who had never been diagnosed with breast or cervical cancer. Data were collected on their knowledge, attitudes and beliefs about screening and treatment and then coded using the themes obtained via thematic analysis of the data.

Results: A total of 106 women participated in the study (Dominica, 29; Grenada, 25; St Lucia, 21; St Vincent and the Grenadines, 31). The participants’ age ranged from 21 to 46 years. The codes encompassed a range of cultural and socio-economic factors that influence breast and cervical cancer screening beliefs and behaviour in the Windward Islands. The preliminary results related to cancer knowledge, cultural beliefs about cancer and barriers to screening are presented.

Conclusion: In this study, we were able to capture the attitudes and perceptions of cancer and cancer screening among women living in the Windward Islands. Preliminary results indicate that the importance of screening to prevent disease mortality was not adequately emphasized. Despite improvements in technologies to detect breast and cervical cancers at an early stage, the benefits will not impact those who do not participate in the prevention process. It is important to develop health education messages that normalize screening and promote the benefits.
O – 27
Vasectomy concerns as a primary modality for reproductive health in New Providence, The Bahamas: A qualitative study
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Objective: To identify knowledge, attitude and practice concerns among men in The Bahamas towards vasectomy, comparing vasectomized men to those not vasectomized.

Methods: This qualitative study utilized a purposive method of questioning and random convenient sampling of 150 men age 18–85 years who were self-selected to participate in an anonymous interview. The tape-recorded interviews were transcribed verbatim and coded using AntConc version 3.4.4. A thematic analysis with modified grounded theory was utilized to present the results.

Results: Men over 55 years old predominantly participated in the study and the average number of children increased with age. Educational level had little impact on the men’s choice for vasectomy as less than 1% of the men in this study chose vasectomy.

Conclusion: The general responses of the men suggests that the responsibility of family planning rested primarily on the shoulders of women. Traditional acceptance of ‘the norm’, the choice to use condoms and overall refusal to accept or encourage other men to use vasectomy reveals that the men in Nassau did not accept vasectomy and were at a pre-contemplation stage of change.

O – 28
Weight status and related risk factors among public school students on the east end of St Thomas, United States Virgin Islands
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Objective: To examine weight status, nutrition and physical activity behaviours among 4th, 8th and 11th-grade students attending public schools on the east end of St Thomas, United States (US) Virgin Islands, during the 2015 school year.

Methods: A representative sample of 314 students enrolled in elementary, middle and high school on the east end of St Thomas completed the School Physical Activity and Nutrition Survey, modified for use in the US Virgin Islands, and anthropometric measures of height and weight using standard protocols were taken. IBM SPSS 25 was used to conduct analyses. The sample consisted 90 4th-graders (M = 51%); 100 8th-grade students (M = 49%); and 125 11th-graders (M = 40%). Mean age for 4th-graders was 9.6 (SD = 0.7) years; 13.6 (SD = 0.7) years for 8th-graders and 16.8 (SD = 0.7) years for 11th-graders.

Results: Prevalence of overweight/obesity among 4th-grade students was 41.1%. Twenty-eight per cent of 8th-grade students and 34% of 11th-grade students were classified as overweight/obese. Older adolescents who reported eating French fries at least once on the day before the survey were more than twice as likely to be overweight/obese (OR: 2.178; 95% CI: 0.99, 4.7; p = 0.05).

Conclusion: The prevalence of overweight/obesity among 4th, 8th and 11th-grade students attending public schools on the east end of St Thomas was high. Interventions to reduce the prevalence of overweight/obesity in this population should focus on education and improved access to healthy food choices. Future research could add to the literature and inform culturally adapted interventions to combat overweight/obesity in these and similar populations.

O – 29
A new regional radiotherapy centre as a catalyst for system level cancer control
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Objective: Many developing nations are challenged by cancer and with bringing high-value radiation medicine to their populations. Successful introduction of a radiotherapy facility can have wide strategic potential — as a platform for clinical care, training and research and as an intervention to improve the cancer-system context. We assessed the early impact of introducing The Cancer Centre Eastern Caribbean (TCCEC) as a regional facility for nine Organization of Eastern Caribbean States.

Methods: Three studies were conducted on this unique experience, as essential parts of a complete impact analysis. A historical review included materials from 2005 to 2017. A clinical audit included 327 cancer cases referred from opening, in 2015, to the end of 2017. A context analysis included a review of system elements affected by the cancer centre and an audit of some important quality indicators in 47 Antiguan women with breast cancer.

Results: Difficulties included commitments from government, and developing referrals towards financial stability and sustainability. The Partnered Care Model from The
Bahamas for financing care was implemented. The clinical audit in 327 cases documented expected patient and disease presentations and radiation management. The context analysis catalogued more issues, especially around the slow pace of overall management and how TCCEC was having a positive impact. It is too early to explore cross-country comparisons.

**Conclusion:** We provided a preliminary model as to how to plan for and develop a sustainable, regional, comprehensive, academic cancer centre around a state-of-the-art radiation programme.
Strengthening Global Cancer Research and Control

Chairpersons: G Andall-Brereton, D Martin

CARPHA – National Cancer Institute Grantee 1:
Gatekeepers’ perceptions of the quality and availability of services for breast and cervical cancer patients in the English-speaking Windward Islands: An exploratory investigation

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Objective: Although extensive screening services for breast and cervical cancers are available in the Caribbean, these cancers continue to be the leading causes of cancer death among women in this region. The purpose of this study was to determine the quality and availability of breast and cervical cancer treatment care and support services from the perspective of the gatekeepers who provide care for the patients in the Windward Islands of Dominica, Grenada, St Lucia and St Vincent and the Grenadines.

Methods: A qualitative research design using semi-structured, in-depth interviews was used to gather data from gatekeepers who provided oncology prevention and care services to patients for at least one year. Data were collected on availability and quality of cancer care and treatment services and coded using the themes obtained via thematic analysis of the data.

Results: Twenty-three current providers participated in the study (Dominica, 5; Grenada, 7; St Lucia, 5; St Vincent and the Grenadines, 6). The participants’ years of work experience ranged from 2 to 45 years. The codes encompassed a range of social ecological factors that influence breast and cervical cancer screening and treatment in the Windward Islands. The emergent themes were: socio-economic status, availability of resources and social support.

Conclusion: The findings emphasized the varying social determinants of health that affected breast and cervical cancer prevention and treatment. It also highlighted the disparities in availability of treatment within the wider Caribbean. It is necessary to broaden the perspective on health from a biomedical paradigm to include a social perspective.

CARPHA – National Cancer Institute Grantee 2:
Cardiometabolic health in prostate cancer survivors and their controls: Results of the PROSCARE Follow-up Study

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Objective: Cardiovascular disease and prostate cancer (PCa) are leading causes of death in Jamaican men. Androgen deprivation therapy (ADT) used in PCa treatment could result in the metabolic syndrome (MetS) and increase the risk of cardiovascular disease. We determined the prevalence of MetS and its components among PROSCARE survivors and investigated the effect of ADT use on these abnormalities.

Methods: Cardiometabolic health was evaluated 11 years after initial enrolment in the PROSCARE study, 2005–2007. Assessment included fasting glucose and lipids, waist circumference and blood pressure. Metabolic syndrome was defined using the American Heart Association/National Heart Lung and Blood Institute (AHA/NHLBI) criteria and comparisons made between PCa survivors and PCa-free controls.

Results: Data from 128 PROSCARE participants [54 cases (including 8 incident PCa cases) and 74 controls] were used. Over half of the PCa cases (55%) had received ADT. While persons without PCa had a higher waist circumference there were no significant differences in the other cardiometabolic risk factors examined. Approximately 16% of participants had MetS. There were no significant differences in prevalence of MetS (5% PCA ± ADT−, 17%-PCA+/ADT+, 19% PCa-/-ADT−; p = 0.22) or its components by PCa status. Among PCa survivors, ADT was not associated with an increased risk of MetS even after adjusting for age, education and cigarette smoking (OR: 5.4, 95% CI: 0.52, 55.3).

Conclusion: Androgen deprivation therapy use was not associated with MetS or its components among PROSCARE survivors. Larger studies may be required to better explore this relationship.
**Objective:** General and central adiposity are associated with an increased risk of developing prostate cancer, but the role of these exposures on prostate cancer (PCa) survival among men of African ancestry has been less studied. This study aimed to investigate whether pre-diagnostic anthropometric characteristics were associated with overall and prostate cancer-specific mortality in a hospital-based cohort of men with prostate cancer and compare these with cancer-free controls.

**Methods:** In a case-control follow-up study of 517 men (baseline: cases, 242, controls, 275), we examined associations of pre-diagnostic body mass index (BMI), waist circumference and waist-to-hip ratio with risk of all-cause and prostate cancer-specific cancer. Multi-variable Cox proportional hazard models were used to calculate hazard ratios (HRs) and 95% confidence intervals (CIs).

**Results:** Over a mean follow-up of 10.9 years 215 deaths occurred of which 57 (26.5%) were due to PCa (including 12 new-onset PCa among controls). In a multi-variable analysis, pre-diagnostic overweight (BMI 25.0–29.9 kg/m²) but not obese men diagnosed with prostate cancer showed an increased risk of all-cause mortality (overweight: HR, 1.63; 95% CI: 1.10, 2.41; obese: HR, 0.76; 95% CI: 0.41, 1.41). Men with BMI ≥ 25.0 kg/m² showed positive but non-significant association with prostate cancer as a cause of death. Abdominal obesity was not associated with all-cause mortality or prostate cancer-specific death.

**Conclusion:** We were unable to establish a relationship between anthropometric characteristics and prostate cancer mortality but showed that pre-diagnostic overweight in men diagnosed with PCa was associated with lower overall survival. Large prospective studies are needed to confirm these findings.
**O – 31**

**Economic evaluation of laparoscopic versus open repair for elective unilateral primary inguinal hernia and prophylaxis antibiotic use**

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**Objective:** The base-case analysis found total extraperitoneal (TEP) without antibiotic prophylaxis to be the leading cost-minimizing strategy. The incremental cost-effectiveness ratio for TEP with antibiotic prophylaxis was £61 768.90 per additional quality adjusted life year (QALY). The deterministic sensitivity analysis revealed that the results were mostly sensitive to the cost of hernia repair via TEP, cost of treatment of surgical site infection (SSI), and probability of death secondary to SSI. To determine whether laparoscopic TEP repair under general anaesthesia, with or without antibiotic prophylaxis, is cost-effective — as measured by cost per QALY gained — than open Lichtenstein technique (LT) using regional anaesthesia, for elective unilateral primary inguinal hernia repair (PIHR).

**Methods:** After a literature search for guidance on a model structure and new evidence on the costs and effectiveness of TEP and LT with and without prophylaxis antibiotic use, via electronic bibliographic databases (Cochrane, Hinari, MedLine and PubMed electronic), a Markov model was built. The model was populated with data on male patients aged 18 years or older undergoing elective unilateral PIHR via TEP under general anaesthesia or LT under regional anaesthesia — with or without the use of antibiotic prophylaxis — in England. The model results were then used to appraise the cost-utility of the two interventions from a third-party payer perspective.

**Results:** The base-case analysis found TEP without antibiotic prophylaxis to be the leading cost-minimizing strategy. The incremental cost-effectiveness ratio for TEP with antibiotic prophylaxis was £61 768.90 per additional QALY.

The deterministic sensitivity analysis revealed that the results were mostly sensitive to the cost of hernia repair via TEP, cost of treatment of SSI and probability of death secondary to SSI.

**Conclusion:** Total extraperitoneal without antibiotic prophylaxis should be the first-line treatment for elective unilateral PIHR. Clinical and economic studies are needed to determine categories of risk of SSI and congruent cost-effective treatments.

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**O – 32**

**National alcohol survey of households in Trinidad and Tobago (NASHTT): An estimate of the hidden cost of alcohol’s harm to households**

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**Objective:** To estimate the hidden cost of alcohol’s harm to households (HHs) in Trinidad and Tobago (TT).

**Methods:** A cross-section of HHs was surveyed in 2014 from a random sample of enumeration districts (ED) to identify a set of harms and outcomes associated with alcohol consumption, and the proportion of HHs using alcohol. Extrapolating to the 2011 Census, the number of HHs using alcohol was estimated. The minimum and maximum costs of the series of harms and outcomes experienced by HHs using alcohol versus HHs not using alcohol were estimated.

**Results:** One thousand six hundred and ninety-five HHs (from 53 ED) responded, a response rate of 92%. All the harms and outcomes reported occurred with greater frequency among HH members falling sick (38 703 more episodes), HH members calling in sick to work (10 553 more episodes), involvement in a motor vehicular accident (8351 more episodes), among others. The cost associated with the elements in our model...
was estimated to be between 78 million and 499 million TTD annually.

**Conclusion:** In TT, compared with HHs that reported not consuming alcohol, HHs that consumed alcohol experienced harms and outcomes, associated with the elements in our model, to a maximum cost of 0.5 billion TTD annually (0.3% of GDP (2014)).

**O – 33**

**An online, distributed community of practice for antimicrobial resistance in Caribbean Community member states**

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**Objective:** To propose an online, distributed community of practice (CoP) for antimicrobial resistance (AMR) in Caribbean Community member states.

**Methods:** The CoP’s domain will include well defined issues related to AMR. The community will consist of residents of the Caribbean Community and Common Market (CARICOM) member states and the shared practice will include an educational website, a Mendeley open group for research networking (www.mendeley.com/groups) with a database of regional AMR abstracts sourced during a scoping review, protocols for gathering scientific evidence for AMR and best practices for minimizing AMR.

**Results:** A preliminary search yielded abstracts from only 12 of the 15 CARICOM states (all except Suriname, Montserrat and The Bahamas) which span the years 1958 to 2017. The top three countries which were sole subjects of reports were: Trinidad and Tobago (94), Jamaica (73) and Grenada (29). The major topic of most reports was not AMR.

**Conclusion:** A distributed online CoP is flexible, can operate across geographical boundaries and address relevant issues if design is user-centric. Preliminary scoping review results suggest that further research on AMR is needed, especially, in states in which no medical or veterinary schools are located. A CoP can prove useful for evidence-based decision-making regarding this threat to health.

**O – 34**

**Cost-effectiveness analysis on the introduction of human papillomavirus vaccines in Guyana**

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**Objective:** The main objective was to conduct a cost-effectiveness analysis (CEA) of the introduction of human papillomavirus vaccines (HPV) in Guyana.

**Methods:** This study employed the use of CEA to determine the effectiveness of the introduction of HPV vaccines in Guyana. The tool used to measure cost-effectiveness was the Papillomavirus Rapid Interface for Modelling and Economics (PRIME) tool which is a Microsoft Excel-based model that estimates the health and economic effectiveness of vaccination of girls against HPV before sexual debut. This tool is supported by the World Health Organization.

**Results:** The results from PRIME yielded a cost for $9.9 for a fully vaccinated female for 2017‒2018, the total number of deaths prevented would be 123 and 218 cervical cancer prevented and 2060 life years saved. The DALYs Stage I a, was estimated at $513 per DALY’s adverted, Stage II b or II a was estimated to be $1171 DALYs, Stage II b, III or IV a $857 DALYs and Stage IV b $400 per DALYs. One-way sensitivity analysis showed a price of $17.6 for a fully vaccinated female for 2019 to 2021, the total number of deaths prevented would be 123 and 218 cervical cancer prevented and 2060 life years saved.

**Conclusion:** Human papillomavirus vaccines were cost-effective because the DALYs averted was three times less that the GDP per capita. Therefore, there is a need to implement prevention measures for cervical cancer such as the HPV vaccination campaign for girls aged 10 years.

**O – 35**

**Fostering of a sustainable health system through direct engagement for health insurance benefit design**

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**Objective:** To engage public feedback as indicators for perceived needs for healthcare and to inform potential inclusion of health insurance benefits in a national standard package.

**Methods:** A mixed method survey was developed and deployed to healthcare providers and the public at large to obtain their attitudes towards the importance and need for coverage of suggested health benefits by free response texts. Responses were analysed and shared in a public forum to continue discussion of gaps and solution identification as well as cited in further stakeholder discussions for health financing reform.

**Results:** Surveys were collected from 704 respondents and used for analysis, surpassing the nationally statistically significant threshold, based on prior studies. Of the 704 survey responses received, 208 (29.55%) were healthcare workers within over 30 different specialties and 496 (70.45%) were non-healthcare respondents from over
29 fields of employment. In each of the five domains, a range of scores per benefit were identified between 3.34 and 4.86 out of 5.00, with 5.00 being the most important and necessary to include for all health insurance holders in Bermuda. Qualitative feedback analysis identified themes surrounding increased variety of covered services, advocating for vulnerable populations, balancing health costs with access, and restructuring of regulation for fee-for-service. The survey themes were corroborated by a follow-up public forum.

**Conclusion:** A patient-centred, comprehensive healthcare approach that affords flexibility and increased access was favoured as being the most sustainable for the foundation of the national standard health insurance benefits.

**O – 36**

A localized approach to sustaining Guyana’s paediatric cardiology programme

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**Objective:** To assess if localized treatment of paediatric cardiology based on collaboration with international charities and non-profit organizations was more sustainable and effective than subsidizing interventions overseas.

**Methods:** The analysis was based on a comparison between actual aggregated cost, patient and access from six localized interventions through collaboration with an international medical charity (Baby Heart Foundation) against those under the alternative (subsidizing overseas intervention) approach between May 2015 and September 2016. A comparison of per patient cost and out of pocket expenditure under the two approaches was also conducted.

**Results:** The average per patient cost under the localize approach was estimated at $765,047 as opposed to $1,050,000 per patient under the subsidy approach. Additionally, the collaborative approach would eliminate about $1,613,640 of out of pocket expenditure associated with overseas travel incurred under the alternative approach. Patients with fragile conditions e.g. Tetralogy of Fallot (hole in heart), may not be able to travel overseas to access intervention (required under subsidies approach) and therefore, would be better served under the localized approach.

**Conclusion:** The localize approach to paediatric cardiology was more financially sustainable to both the Ministry of Public Health and patients. Additionally, it improved local capacity to develop a fully localized paediatric programme by building on infrastructure and skills attained through the localized process.
Non-communicable Diseases I

O – 37
Disparities in trends in premature adult mortality from coronary heart disease and stroke in ten countries of the Caribbean Community 1991 to 2012

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Objective: To determine the relative change and examine disparities in trends in coronary heart disease (CHD) and stroke mortality among countries within the Caribbean Community and Common Market (CARICOM) from 1991 to 2012 for adults aged 30–69 years.

Methods: For 10 full member states of CARICOM, we obtained numbers of deaths by age and gender from the World Health Organization mortality database and population data from the United Nations World population prospects. We compared age-standardized CHD and stroke rates between countries and between selected time periods (1991, 2001, 2012) using the 2000 world standard population, for adults aged 30–69 years. We measured disparity using absolute mean difference (AMD). For each country, we assessed relative change between the periods 1991–2001 and 2002–2012 using log-linear modelling.

Results: In both time periods, six countries noted declines in premature CHD mortality rates. In 2002–2012, three countries noted 25% or greater reduction: Barbados -0.65 (95% CI (0.53, 0.79)) St Lucia -0.74 (0.61, 0.91) and Trinidad and Tobago -0.61 (0.52, 0.70). Increases were noted in Antigua and Barbuda 1.14 (0.93, 1.41), Grenada 1.55 (1.34, 1.79), Guyana 1.25 (1.13, 1.38) and St Vincent and Grenadines 1.56 (1.24, 1.96). Most countries noted declines in premature stroke mortality rates in both time periods. Using AMD, the highest level of disparity between countries was found in 2012 relative to 2001 and 1991 for CHD; for stroke disparity was greater in 1991.

Conclusion: We found differences in trends in premature CHD among 10 Caribbean populations. Understanding reasons for these differences is critical in informing policies shaping cardiovascular diseases management.

O – 38
Factors that affect medication adherence in the adult hypertensive and Type 2 diabetic population

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Objective: To identify demographics and factors that affect medication adherence in the adult hypertensive and Type 2 diabetic population in The Bahamas.

Methods: A survey was conducted using a cross-sectional design and convenience sampling approach. Target population were adults aged 18 years and older with hypertension and/or Type 2 diabetes at public clinics and/or Accident and Emergency Department in New Providence and Grand Bahama. Using Cochrane’s equation, with a 10% refusal rate, the total number of participants needed to complete questionnaires was 427. The Morisky Medication Adherence Scale (MMAS) and brief medication questionnaire (BMQ) were used. The IBM statistical package for the social sciences (SPSS) statistics were employed to produce descriptive and inferential statistics.

Results: Of the 281 participants, 193 (68.7%) were female; 1.8% did not specify. Median age range was 50–64 years (IQR: 30–49 years, > 65 years). Median Morisky score was three (IQR 1, 5). Scores were related to participant’s age (rSp = 0.142, p = 0.041), use/or not of bush/alternative medicines (rSp = -0.278, p<0.001), amount of medications taken (rSp = 0.145, p = 0.036), difficulty remembering to take medications (rSp = 0.751, p<0.001), concerns about
Conclusion: Over 50% of this population demonstrated adherence, in keeping with the World Health Organization findings. Leading factors associated with improved adherence were increasing age/amount of medications, no use of complementary and alternative medicine, the ability to remember medications, taking both hypertensive and diabetic medications and less concern about long-term side effects. This study’s findings reflected reasonable adherence in the Bahamian population.

O – 39
Diabetes distress and diabetes self-care in Barbados

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Objective: To measure the prevalence of diabetes distress and to determine diabetes self-care behaviours in people with Type 2 diabetes mellitus in Barbados.

Methods: A quantitative cross-sectional study using consecutive sampling among people with Type 2 diabetes attending all nine primary care, public-sector, polyclinics in Barbados. Data were collected using a questionnaire including demographic data, the diabetes distress scale (DDS) and the summary of diabetes self-care activities (SDCA) scale. Participants were weighed; glycated haemoglobin and height were obtained from the charts.

Results: There were 179 participants (85% response rate) with a mean age of 64 years (SD 10.6), 29% male, 97% black, 43% completed secondary school, 47% retired, 34% employed and a mean HbA1c of 8.1% (SD 2.2%). The prevalence of moderate or greater diabetes distress was 13% (95% CI: 8.3, 18.7). The DDS scores were higher in the 40–59 vs 60–79 years age group (p = 0.007) and increased as BMI increased (p = 0.026) and number days/week participants paid attention to their diet decreased (p = 0.001). The average number of days in the previous week that participants paid attention to their diet, exercise, blood sugar monitoring and foot care were 3.8 (SD 1.5), 2.8 (SD 2.3), 3.8 (SD 2.7) and 5.0 (SD 2.3), respectively. Insulin users were more likely to have positive self-care behaviours related to blood sugar monitoring (p = 0.0001) and foot care (0.02).

Conclusion: Diabetes distress (moderate or greater) prevalence was lower than reported in other populations. Many deficiencies in diabetes self-care were found.

O – 40
Demographic and lifestyle factors that affect haemoglobin A1c awareness amongst Type 2 diabetic patients in Trinidad and Tobago

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Objective: To determine the awareness of personal haemoglobin A1c (HbA1c) values among a Type 2 diabetic population in Trinidad and correlate this awareness with educational levels, dietary intake and physical activity.

Methods: A cohort study of a total of 222 Type 2 diabetic public clinic attendees were assessed via questionnaire evaluating their demographics, type and duration of diabetes, type and frequency of glucose testing, medical history and diabetes care via dietary intake and physical activity. Haemoglobin A1c data were coded as patients who were aware vs patients who were not aware. Pearson Chi-square analyses were used to detect significant differences between the proportion of persons who were aware of their HbA1c values and their carbohydrate intake, exercise intensity and education level. A p-value of < 0.05 was regarded as being statistically significant.

Results: A total of 222 persons were surveyed accounting for 93 (41.9%) males and 129 (58.1%) females. Of the respondents, 41.9% were aware of the term HbA1c while 58.1% were unaware. Statistically, there were positive correlations (p < 0.05) between HbA1c awareness and level of education received by Type 2 diabetic patients as well as between HbA1c awareness and intensity of exercise performed (p < 0.05). However, the relationship between dietary breakfast choices and HbA1c awareness was not significant (p = 0.079).

Conclusion: A significant correlation was established between HbA1c awareness and intensity of exercise performed by Type 2 diabetic patients. There was also a significant correlation between HbA1c awareness and level of education obtained.

O – 41
Effect of an alcoholic soluble extract of Momordica charantia, Kuguacin-J and Cisplatin on Mcf-10a, Mcf-7 and Mdamb-231 breast cancer cell lines in vitro

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Objective: This study was designed to investigate the anti-cancer properties of an alcoholic soluble extract of Momordica charantia (M charantia) and one of its isolated compounds, Kuguacin-J (K-J) on isolated breast cancer cell lines. The effect of cisplatin was investigated for...
comparison. Prior to the availability of chemotherapeutic agents, dietary measures, including traditional medicines derived from plants, were the major forms of cancer treatment. Momordica charantia is believed to possess anti-carcinogenic properties, and it can modulate its effect via xenobiotic metabolism and oxidative stress.

**Methods:** This was an in vitro study that employed time course reaction that involved the use of Kuguacin-J (K-J), an isolated commercial compound from M charantia, an alcoholic extract from the green fruits of M charantia and compared to cisplatin, a commercial anticancer drug on normal human mammary primary epithelial healthy cells) MCF-10 and, (MCF-7) and [human mammary primary epithelial cancer cells] (MDAMB-231) breast cancer cells.

**Results:** The results showed that the ethanol soluble extract of M charantia or K-J killed the MCF-7 cells only at high concentration (8 µg–80 µg/mL) compared to cisplatin which killed the cells using 80 µg–800 µg/mL either alone or when combined. In addition, all concentrations (8 µg–800 µg/mL either alone or when combined) of the ethanol extract, K-J or cisplatin killed MDAMB-231 cell line almost 100%.

**Conclusion:** The M charantia extract, however, did not kill the normal cells, unlike cisplatin. The anticancer effect is through the release of caspases.

O – 42
The hypoglycaemic effect of fractions obtained from ethyl acetate extract of Desmodium canum (strong back weed) in a rat model

**Objective:** To purify compounds from Desmodium canum that show hypoglycaemic activity in normal Sprague-Dawley Rats.

**Methods:** Crude hexane, ethyl acetate and methanol extracts of Desmodium canum were bioassayed on Sprague-Dawley rats using oral glucose tolerance test (OGTT). In this research, a fasting blood glucose level (BGL) reading was taken followed by intravenous administration of extracts (50 mg/kg bodyweight [BW]) or control (dimethyl sulfoxide [DMSO]). Blood glucose level readings were taken at 30-minute intervals for one hour, followed by an oral administration of glucose at 1.75 g/kg BW. Blood glucose levels were then taken at 30-minute intervals for a further 2.5 hours. The most hypoglycaemic extract was separated using a series of column chromatography and the products bio-assayed.

**Results:** The crude ethyl acetate extract had the most significant hypoglycaemic activity when compared with the DMSO control at times: 60 minutes (4.08 ± 0.21 mmol/L vs 4.69 ± 0.26 mmol/L, p < 0.01); 120 minutes (4.89 ± 0.083 mmol/L vs 5.50 ± 0.17 mmol/L, p < 0.00024) and 150 minutes (4.42 ± 0.22 mmol/L vs 4.64 ± 0.25 mmol/L, p < 0.008). A series of purification of the crude extract resulted in the semi-purified fraction, KLF6.3E-M which showed the most hypoglycaemia vs the control, DMSO. This was evident especially throughout the post-prandial region (90‒180 minutes) such that at 90 minutes (4.43 ± 0.15 mmol/L vs 5.62 ± 0.11 mmol/L, p < 0.05) and at 150 minutes (3.43 ± 0.29 mmol/L vs 4.64 ± 0.25 mmol/L, p < 0.05), respectively.

**Conclusion:** From the crude ethyl acetate extract, fraction KLF6.3E-M showed the most significant hypoglycaemic effect. The isolation of the hypoglycaemic principles may introduce new therapeutic approaches to diabetes within Jamaica.
O – 43
HIV and Type 2 diabetes: A qualitative exploration of the burden of care experienced and perceived by persons living with multiple co-morbidities in Barbados and Trinidad and Tobago

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Objective: To explore how persons living with human immunodeficiency virus (PLHIV) and Type 2 diabetes mellitus (T2DM) experienced and managed these co-morbidities in the context health systems and culture.

Methods: Participants with a diagnosis of both HIV and T2DM for more than two years were purposively selected with the assistance of HIV treatment centres in Barbados and Trinidad and Tobago. Individual, face-to-face semi-structured interviews were conducted using an interview guide which explored self-care, healthcare delivery, socio-economic support and internal resilience. Saturation was reached at the 10th interview on each island (13 females and seven males aged 39–65 years were interviewed). All interviews were audio-taped and transcribed verbatim. Data were analysed using thematic analysis with constant comparison. ATLAS.ti (7) data management software used.

Results: Aspects of diabetes self-care such as blood glucose monitoring, and diet were more onerous than minimal HIV care actions of adhering to oral anti-retroviral therapy and clinic visits. While HIV was experienced and perceived as having lower physical workload, there were more psychological challenges related to this diagnosis. These were throughout the disease trajectory, and centred on stigma and discrimination which affected social determinants of health such as employment and housing. A preference for centralized integrated HIV/T2DM care stemming from stigma and discrimination within healthcare settings in Barbados and Trinidad and Tobago was also identified.

Conclusion: Integrated communicable and non-communicable care models which assess psychological workload should be considered in HIV healthcare. In addition, addressing stigma and discrimination and their impact on health outcomes for PLHIV is imperative.

O – 44
Evaluation of sexual dysfunction in postmenopausal women in The Bahamas

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Objective: To determine the average menopausal age and sexual function of Bahamian women.

Methods: The research was conducted using a descriptive questionnaire that included items from the sexual function questionnaire and was given to postmenopausal women attending the Family Medicine Clinic and Gynecology Clinic at Princess Margaret Hospital (PMH) from June 2015 to March 2016. The questionnaire was self-administered.

Results: There were 314 participants. Their ages ranged from 40 to 78 years, the median age was 55.5 years and the mean age was 56.1 (+8.28) years; 88.2% (277) were Bahamians. A total of 76% (238) had no previous surgery, 11.8% (37) had hysterectomy, 10.2% (32) had total abdominal hysterectomy and oophorectomy and only 1.9% (6) had oophorectomy. There were no statistically significant differences between menopausal and non-menopausal participants based on demographics. Using the STRAW classification, 37.8% (93) were early postmenopausal and 62.2% (153) late postmenopausal. Dyspareunia was more significant in the early menopausal participants (22.6%, 21) versus 13.1% (20) in the late postmenopausal participants. For the entire group, 29.3% were not satisfied with orgasm achieved, 45.9% had inadequate lubrication and 48.7% had difficulty achieving orgasm.

Conclusion: Sexual dysfunction was prevalent in our study and higher rates were more frequent among early menopausal women. Sexual dysfunction care (education and interventions) may need to be provided to improve the quality of life in affected women in The Bahamas.
O – 45
Colorectal neoplasms in an Afrocentric population: Histology, distribution and clinical significance

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Objective: To determine the histology, distribution and clinical significance of colorectal neoplasms in the Jamaican population and to compare our findings to trends in the literature.

Methods: Neoplasms were identified from all colonoscopies performed from 2008 to 2016 and matched with the corresponding histology reports. Variables included demographics, indication, lesion(s) identified, location, size and histology of the lesion(s).

Results: Of 3361 colonoscopies, 21% (698) had neoplasm(s), but 535 of these fulfilled all inclusion criteria. Rectal bleed (27%) and screening (22%) were the most common indications. 499 polyps and 155 adenocarcinomas were identified in 535 colonoscopies. Fifty per cent of patients were female and the mean age was 65 years (SD: 13). Most (37%) polyps were large (> 10 mm), 35% were diminutive (≤ 5 mm) and the remainder (28%) small (6–10 mm). Eighty-one per cent of the polyps were neoplastic. Most polyps were tubular (45%) and tubulovillous (34%). The majority of the polyps (38%) were located in the sigmoid and adenocarcinoma (41%) was located in the rectum (p < 0.001) with 77% of adenocarcinomas being moderately differentiated. Carcinoma in situ was seen in 12% of the polyps in patients with a mean age of 70 years (SD: 11) (p = 0.0075). Overall, proximal neoplasms (7%) and advanced proximal neoplasms (5%) were found in patients with distal polyps.

Conclusion: The presence and size of distal polyps did not predict the likelihood of advanced proximal lesions. Our study also revealed that most diminutive and small polyps were neoplastic, recommending removal of all polyps regardless of size.

O – 46
Integrating parenting intervention with routine care to improve psychosocial functioning among parents of children with sickle cell disease

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Objective: To assess the efficacy of problem solving skills training intervention, delivered during routine monthly clinic visits, in improving psychological outcomes in parents of infants with sickle cell disease (SCD).

Methods: This randomized controlled trial recruited 64 babies with SCD, aged six to 12 months, and their parents from the Sickle Cell Unit, Jamaica. Baseline measurements assessed parents’ coping and problem-solving skills, depression and parental stress. Parents were then randomly assigned to intervention or the control groups. Problem-solving skills intervention was delivered through six sessions, occurring a month apart when babies attended routinely for penicillin prophylaxis. All measurements were repeated for both groups at the end of the intervention period.

Results: The mean age of mothers in the intervention group was 28.7 years (± 6.4) and 28.8 years (± 5.4) in the control group. Intervention mothers had more household possessions compared to mothers in the control group at baseline (p < 0.04). The intervention had a significant positive effect on difficulty managing parental stress with mothers in the intervention arm experiencing a 10-point (95% CI: (-16.99 to -2.66)) reduction in level of difficulty managing stressful events compared to mothers in the control group. There were no other significant effects.

Conclusion: This education intervention targeting mothers of children with SCD had small benefits to mothers’ ability to manage stressful events. The lack of any further significant benefits may reflect on the intensity of the intervention.
The Eastern Caribbean Health Outcomes Research Network (ECHORN) Cohort Study Protocol

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Objective: In the last decade, heart disease, cancer and diabetes have replaced infectious diseases as the leading causes of morbidity and mortality in the Caribbean and now contribute to almost 50% of disability-adjusted life years lost in the region. There is a need for locally generated information to address this disproportionate disease burden in the Caribbean. The purpose of this paper was to describe the research protocol of a regional cohort study that aimed to provide longitudinal information on diabetes, cancer, and cardiovascular disease and their associated risk and protective factors in the Caribbean.

Methods: The Eastern Caribbean Health Outcomes Research Network (ECHORN) cohort study is a longitudinal study performed in four Caribbean countries that differ in language, infrastructures, governance and ethnic/racial composition. Study procedures included a survey on sociodemographics and known risk factors for diabetes, cancer, and heart disease, a clinical assessment, laboratory tests and biobanking. A total of 2900 participants have enrolled into the study and will be followed at 4–5-year intervals to assess lifestyle and health changes. Primary outcomes include prevalence of risk factors for diabetes, heart disease, and cancer and changes in metabolic (eg blood pressure) and behavioural factors over time.

Conclusion: The ECHORN Cohort Study was an important step in characterizing the burden of non-communicable chronic diseases at a regional level in the Caribbean.

This longitudinal study will provide valuable information on three chronic diseases in different country settings and advance knowledge of healthcare utilization across different healthcare delivery systems in the eastern Caribbean.

The ECHORN Cohort Study: Alcohol use among the elderly: Associations with non-communicable diseases and psychosocial issues

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Objective: To report on the prevalence of alcohol use and its association with non-communicable diseases (NCDs) and psychosocial issues.

Methods: The sample was 1032 participants aged 60 years or older from the Eastern Caribbean Health Outcomes Research Network (ECHORN) Cohort Study (Barbados, Puerto Rico, Trinidad and the US Virgin Islands). Four drinking profiles (ever drinker, current drinker, problem drinker and heavy drinker) were created and demographic, social, health and psychosocial characteristics were analysed for each profile using Chi-square tests.

Results: Nearly 70% (69.3%) reported ‘ever’ drinking, 21.8% were ‘current’ drinkers, 5.0% ‘problem’ drinkers and 6.5% ‘heavy’ drinkers. Respondents from Trinidad reported more ‘problem’ drinking (30.8%) and ‘heavy’ drinking (43.3%) compared to their counterparts on the other three Islands (p < 0.001). Nearly 52% (51.9%), had either Stage 1 or 2 hypertension: 32.1% were diabetic and 7.9% reported cancer. Approximately 12.5% reported symptoms suggestive of depression. Those with Stage 1 hypertension were more likely to report ‘heavy’ drinking
in the past month, compared to those who were not heavy drinkers ($p < 0.05$). Those who reported ‘ever’ drinking were more likely to report cancer, compared to those who reported not drinking ($p = 0.039$). Religiosity/spirituality was associated with less alcohol use ($p < 0.001$). All alcohol profiles were associated with early sexual activity ($p < 0.001$) and having more than five sexual partners ($p < 0.05$). Employment was significantly associated with heavy drinking in the past month.

**Conclusion:** Eastern Caribbean elderly with hypertension or psychosocial issues should be screened for heavy alcohol use.

**O – 49**

**The ECHORN Cohort Study: Obesity and weight misperception among adults in the Eastern Caribbean**

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**Objective:** Evidence suggests that weight misperception (underestimating one’s actual weight) may reduce engagement in weight-loss programmes. The purpose of this study was to examine the prevalence of weight misperception among Eastern Caribbean adults and how it influenced engagement in weight control behaviour.

**Methods:** Data from the Eastern Caribbean Health Outcomes Research Network (ECHORN) Cohort Study (ECS) at baseline were analysed. The ECS is comprised of approximately 3000 adults aged 40 and older residing in the US Virgin Islands, Puerto Rico, Barbados and Trinidad and Tobago. Weight misperception is defined as participants who under-assess their actual weight. Binary multivariable logistic regression ($n = 1957$ participants) was used to examine the association of weight misperception with body mass index (BMI) category, age, gender, educational level, known history of non-communicable disease (NCD) and participant attempt to lose weight.

**Results:** Weight misperception was common with 55% of the overweight (BMI 25–29 kg/m$^2$), and 24% of obese class I (BMI 30–34.9 kg/m$^2$) participants under-assessing their actual weight. There was no difference in weight misperception between men and women, but odds of weight misperception were lower in participants with higher education ($OR = 0.51; p < 0.0001$) and known history of prediabetes versus no known NCD ($OR = 0.63; p = 0.002$). Participants with weight misperception were less likely to report they were ‘trying to lose weight’ than those with accurate weight perception ($OR = 0.15, p < 0.0001$).

**Conclusion:** Weight misperception was common among overweight and obese adults in the Eastern Caribbean and was associated with lower likelihood of attempting weight-loss. Addressing weight misperception is critical to the success of obesity interventions targeting Eastern Caribbean adults.

**O – 50**

**The ECHORN Cohort Study: Physical activity among participants 40 years of age and over**

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**Objective:** Determining physical activity levels of adults aged 40 years or over in Barbados, Puerto Rico, Trinidad and Tobago and the US Virgin Islands (USVI).

**Methods:** A representative population-based sample completed the Global Physical Activity Questionnaire. Associations with physical activity levels were explored by univariate Chi-square test and logistic regression.

**Results:** Of 2362 participants 34.0%, 29.2%, 24.9% and 12% were from Barbados, Trinidad and Tobago, Puerto Rico and the USVI, respectively; 34.3% were male; 24.5%, 35.2%, 39.3% were normal weight, overweight and obese, respectively, 60.5% had hypertension and 27.3% diabetes. Low, moderate and high physical activity levels were reported by 44.7%, 19.3% and 36%, respectively. People with diabetes vs those without (49.2% vs 43%, $p = 0.0064$) or hypertension vs those without (49.3% vs 37.7%, $p < 0.0001$), or obesity vs normal weight counterparts (51.5% vs 39.4%, $p < 0.001$) were more likely to report low physical activity levels. Men were less like than women to report low activity (36.1% vs 49.2%, $p < 0.001$). Logistic regression controlling for age and gender indicated that diabetes (odds ratio [OR] 1.23, 95% CI: 0.99, 1.53), hypertension (OR 1.57, 95% CI: 1.28, 1.92), obesity vs normal weight (OR 1.85, 95% CI: 1.45, 2.36), Puerto Rico vs Barbados (OR 2.54, 95% CI: 1.97, 3.27) or Puerto Rico vs Trinidad origin (OR 1.69, 95% CI: 1.31, 2.19) were predictors of low vs high physical activity levels.

**Conclusion:** A low level of physical activity was associated with increasing age, female gender, obesity, hypertension, diabetes and residing in Puerto Rico.
Moderate food insecurity is associated with nutrition-related cardiometabolic conditions in the ECHORN Cohort Study

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Objective: To describe the prevalence of food insecurity in the Eastern Caribbean Health Outcomes Research Network (ECHORN) Cohort Study and its association with the following nutrition-related cardiometabolic conditions: obesity, Type 2 diabetes mellitus, hypertension and heart disease.

Methods: Stratified multi-stage random sampling was used to empanel the ECHORN Cohort between 2013 and 2016 in Barbados, Trinidad and Tobago and Puerto and simple random sampling was used in the United States Virgin Islands of St Thomas and St Croix. The present study was a cross-sectional analysis of baseline data from all island sites (n = 2087). Household food security was measured using a previously validated version of the Latin American and Caribbean Food Security Scale (ELCSA), nine-item sub-scale for adults (Cronbach’s alpha = 0.90).

Results: Nearly 30% (28.7%) of the ECHORN Cohort had some level of household food insecurity: mild (17.4%), moderate (6.5%) or severe (4.7%). The prevalence of food insecurity was highest on the Island of Trinidad, followed by Puerto Rico, Barbados and USVI. Women, younger participants and those less educated were significantly more likely to report food insecurity. In multivariate regression models adjusting for gender, participant age, education, island site, and obesity status, participants from moderately food insecure households had significantly higher odds of heart disease and Type 2 diabetes, compared to those from food secure households.

Conclusion: Moderate food insecurity was associated with increased odds of heart disease and Type 2 diabetes. Households that are moderately food insecure may use limited resources to buy more energy dense processed foods that are cheaper and more readily available than fresh produce.
International Atomic Energy Agency (IAEA):
Supporting Member States in the Caribbean to Enhance Prevention,
Treatment and Control of Diseases

Chairpersons: A Badaloo, P Murillo-Fuentes

Room Assignment: Dominica

Objective: To disseminate information about the role of nuclear technologies in human health and the activities of IAEA Technical Cooperation Programme in the Caribbean region and to share success stories at country/regional level in:

• applying radiotherapy to cure some cancers,

• IAEA success stories in cancer, cardiovascular and other chronic diseases: enhancing diagnostics through nuclear medicine and radiology,

• use of nuclear nutrition techniques in the fight against the rise of Non-Communicable Diseases in the Caribbean, and

• ensuring cancer quality assurance in radiation medicine: protecting patients and workers.
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Pneumococcal conjugate vaccines introduction in the
immunization programme from 2011 and its impact on
mortality under five years in Guyana

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Objective: To assess the impact of routine pneumococcal
conjugate vaccines (PCVs) on the mortality of children
under five years of age due to all causes including pneu-
monia.

Methods: Data were extracted from national authori-
ties’ secondary mortality data from 2000 to 2013. Crude
mortality rates and cause-specific mortality rates were
calculated. Frequency distributions, descriptive statistics
such as mean, median, correlation and linear regression
models were calculated for interpretation and prediction
purposes. Data analysis was done using SPSS 20.0 for the
deaths as coded in the International Classification of Dis-
eases, 10th edition.

Results: Mortality cases from 2000 to 2013 were reviewed
(n = 4931). There was a steady decline in the mortality rate
over the years. Data revealed that the mortality rate was
highest in the period prior to the introduction of PCVs and
decreased to 263 or 35.3 per 1000 births at the end of 2013.
There was a high negative correlation (-0.882) between year
and the number of deaths due to respiratory-related illness
for children below five years of age and this was highly
significant at p-value = 0.000 < 0.05. The linear regression
model was significant since the p-value = 0.000 < 0.05 and
the coefficient of determination was 77.7%. Applying the
model, the under five years mortality predicted for 2014,
2015 and 2016 were 17 (26/1000), 15 (23/1000) and 12
(19/1000), respectively.

Conclusion: This study showed that the national authorities
should continue to invest in PCV immunization programme,
look into other major causes of death under five years and
prepare plan of action for the management.

O – 53
Implementation and outcomes of a patient tracing pro-
gramme for HIV at the Medical Research Foundation,
Trinidad and Tobago

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Objective: To describe the implementation and outcomes
of a missed appointment tracing programme to reduce loss
to follow-up (LTFU) among the human immunodeficiency
virus (HIV) patients in care at the Medical Research Foun-
dation, Trinidad and Tobago (MRFTT).

Methods: A list of patients who missed their clinic appoint-
ments between July 2016 and June 2017 was generated
using the Electronic Medical Records System. Between
April and September 2017, two social workers who were
hired as patient tracers contacted patients or their given
next of kin were via telephone to reschedule their visits.
The outcomes of all calls were logged, monitored and
updated intermittently to see whether patients returned.

Results: Tracing activities were conducted on 1058 patients
who were identified as missing their clinic appointments.
Initial outcomes were identified for 192 patients: 27 (2.5%)
were transferred to another clinic, 64 (6%) confirmed dead,
35 (3.3%) hospitalized, 50 (4.7%) migrated and 16 (1.5%)
incarcerated. An additional 866 patients were identified for
active follow-up and were contacted through phone calls
including, 589 (68%) who were successfully returned to
care, of whom 507 (86%) restarted medications. One hun-
dred and twelve (13%) had not yet returned despite repeated
phone calls and 165 (19%) could not be contacted. The three
most common barriers patients reported were forgetting
their appointments, being too busy and/or having to work
and not wanting to be seen coming to the clinic.

Conclusion: A patient-tracing programme is a practi-
cal and feasible approach to routinely track patients who
missed appointments, reduce LTFU and retain patients in
HIV care.
Surveillance of HIV-infected mothers and infants in a prevention of mother-to-child transmission programme

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Objective: To evaluate the trends and outcomes among human immunodeficiency virus (HIV) infected pregnant women and infants.

Methods: The national surveillance prevention of mother-to-child transmission (PMTCT) programme was expanded and fully implemented in 2002. The medical records of HIV-infected pregnant women who delivered live births between January 2012 and December 2016 were reviewed. Specific maternal indicators among women with live births were evaluated: age, parity, gestation, highly active antiretroviral therapy (HAART), delivery type and indicators for infants: birthweights, outcomes and mother-to-child transmission (MTCT) rates were analysed. Data were entered on a Microsoft Excel spread sheet.

Results: One hundred and four pregnant women delivered live infants and were aged 18‒40 years. Ten (9.6%) were primiparous and the remainder multiparous. There were two (2%) women with repeat pregnancies. All except for four women were taking HAART at the time of delivery. There were 107 live births, with one twin delivery and one triplet delivery. Eighteen per cent of deliveries resulted after Caesarian sections. Birthweights ranged from 1600 g to 4.4 kg and gestations from 30 weeks to post term. Four infants (4%) were admitted to the Neonatal Intensive Care Unit after birth. Two routine polymerase chain reaction (PCR) tests done by four months of age revealed infection in three (2.85%) infants.

Conclusion: This surveillance study revealed an increased infection rate of MTCT during the period of surveillance. This merits a need for strengthening of measures in the PMTCT national programme to achieve an even better outcome among HIV-infected pregnant women and their offspring.

HIV prevention in The Bahamas: Self-reported prevalence and attitudes toward male circumcision among selected population groups

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Objective: This study explored Bahamian males’ self-reported prevalence of circumcision, their attitudes towards male circumcision (MC) and willingness to be circumcised.

Methods: For the study survey, we used a cluster sampling technique currently in use by the Department of Statistics. We recruited both males and females but for this report, the focus was on males only. For the Royal Bahamian Police and Defence Force personnel, we used convenience sampling. A standardized questionnaire adapted from the Joint United Nations Programme on Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome/World Health Organization (UNAIDS/WHO) was used to elicit data from adults with an age-appropriate version being used for high school students. The study was approved by the Research Ethics Board of the University of Ontario Institute of Technology and the National Ethics Committee of The Bahamas. Data analysis was done in SPSS.

Results: Our sample included 104 individuals within the Royal Bahamian Defense Force (RBDF), 150 Royal Bahamian Police (RBPF) officers, 210 male college students and 723 male high school students. Self-reported circumcision was as follows: 23% RBDF, 31.5% and 35% younger and older RBPF officers, respectively, 33% and 16.5% college and high school students, respectively. Of the uncircumcised men, 33%, 29%, 20% and 35% of the RBDF, RBPF, college and high school students responded positively to wanting circumcision.

Conclusion: Our study indicated that if MC was offered to men as part of a comprehensive package of men’s health, there would be a high uptake. Further, there was a knowledge gap on MC as a health protection practice.

Knowledge of Human Papillomavirus and Human Papillomavirus vaccines among Bahamas high school students

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Objective: This study explored school-aged youth knowledge of human papillomavirus (HPV) and HPV vaccines using and standardized questionnaire.

Methods: We used a cluster sampling technique in use by the Department of Statistics to recruit students in 2014. We recruited both males and females. A standardized HPV questionnaire was used to elicit data. The study was approved by the relevant Research Ethics Boards. Data analysis was done in SPSS.
Results: A total of 1553 students completed the questionnaire. For this paper, our sample of interest were those who answered the question: ‘Before today, did you hear about HPV?’ 146 (10.7%) responded ‘yes’. Only gender differentiated between those who had not heard (males) versus those who had heard about HPV (females). With regards to those who had heard about HPV, there was a serious gap in detailed knowledge of HPV and the vaccine. More than 60% of the students did not know that HPV can cause cervical cancer. Overall, 30% of participants knew that there were no visible signs of HPV.

Conclusion: Only gender, differentiated between those who had not heard (males) versus those who had heard about HPV (females). With regards to those who had heard about HPV, there was a serious gap in detailed knowledge of HPV and the vaccine. More than 60% of the students did not know that HPV could cause cervical cancer. Overall, 30% of participants knew that there were no visible signs of HPV.

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Human T-lymphotropic virus Type 1 co-infection among HIV-infected patients attending a large HIV treatment centre in Trinidad

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Objective: To determine the prevalence of Human T-lymphotropic virus Type 1 (HTLV-1) infection in patients attending the HIV Clinic and to determine the CD4 counts of HIV/HTLV-1 co-infected patients compared to HIV singly infected patients at initial visit to the HIV Clinic at the Medical Research Foundation as studies showed that HIV/HTLV-1 co-infected patients may have artificially elevated CD4 counts.

Methods: The Electronic Medical Records System generated a list of HIV/HTLV-1 co-infected patients who attended a large HIV Treatment Centre in Trinidad between 2002 and October 2017 and a comparison group of HIV singly infected patients during the years 2015–2016. A chart review study was conducted on these patients.

Results: Between April 2002 and July 2017, 8646 HIV patients were enrolled at the clinic and 160 (1.85%) were HIV/HTLV-1 co-infected; 74 males (46.2%) and 86 females (53.8%), age range 17–81 years, mean age 40.8 years, mean CD4 count = 371 cells/mm³. Between January 2015 and December 2016, 744 HIV singly infected clients were enrolled, 448 males (60.2%), mean age 35.5 years. Mean CD4 count was 335 cells/mm³. Human T-lymphotropic virus Type 1-1/HIV co-infected patients at initial visit were more likely to be female (95% CI: 1.25, 2.48, p = 0.001) and of older age (95% CI: 3.17, 7.51, p < 0.0001). There was no statistically significant difference in CD4 counts among HIV co-infected patients compared to those singly infected with HIV (p = 0.17).

Conclusion: The HTLV-1 seroprevalence increased with age and was higher in females confirming the findings of other studies and there was no statistically significant difference in CD4 counts between HTLV-1 co-infected and HIV singly infected patients.

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Fertility desire and awareness of fertility options among the HIV population

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Objective: To explore fertility desires and intent of people living with HIV and determine if sero-discordant couples were aware of assisted reproductive methods that reduced the risk of infection.

Methods: A cross-sectional design conducted at the Centre for HIV/AIDS Research and Education (CHARES) with 178 men and women aged 18–49 years. A questionnaire on fertility desire and intent and awareness of assisted conception was interviewer-administered. Ethical approval was received from The University of the West Indies Ethics Committee. Chi-square and Fisher’s Exact test, when applicable, were conducted to explore differences among study variables.

Results: Whether in serodiscordant or seroconcordant relationship, 62% indicated an interest in having children, with a larger percentage being serodiscordant (64% vs 47%), p = 0.09. Both groups reported active attempts at conceiving through unprotected intercourse (32% sero-discordant and 27% sero-concordant). There was no difference between younger (below 30 years) and older participants (over 40 years) and their desire for children (31% vs 28%). Older persons and men were more likely to disclose their status to their partners (p = 0.04 and p = 0.02, respectively). Fifty-one per cent described being aware of methods of fertility treatments to reduce transmission, with younger participants being more aware of options than their older counterparts (59% vs 45%, p = 0.05).

Conclusion: Human immunodeficiency virus status did not dampen the desire of PLHIV to have children or pursue a pregnancy, with higher interest reported by sero-discordant couples who were at increased risk of transmission. The results highlighted awareness of fertility options but the uptake of these options remained low.
Elimination of the mother-to-child transmission of HIV and congenital syphilis in the Caribbean: Enabling factors, challenges and lessons learned

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Objective: To present an overview of the enabling factors, challenges and lessons learned from the implementation of the strategy for the elimination of the mother-to-child transmission of HIV and Congenital Syphilis (EMTCT) in six Caribbean countries.

Methods: A comprehensive desk review and qualitative analysis was conducted on the national EMTCT reports, which were submitted by countries applying for validation between April 2015 and July 2016. Gaps and challenges identified and documented by countries during an informal assessment process were also analysed.

Results: The analysis revealed that the enabling factors such as political commitment, strong maternal and child health services and adequate budgetary allocations were common across all the countries. While there existed a solid structure for the prevention and management of HIV of the pregnant woman and the exposed infant within the framework of maternal and perinatal services, the same was absent for syphilis. Universal and early access to ANC services and the level of awareness of the two infections among pregnant women affected the manner in which the services were accessed and subsequently delivered.

Conclusion: Strengthening of the national structure that supports the quality management of maternal and perinatal programmes with clear protocols is needed. This should be supported by ongoing monitoring and evaluation of the primary prevention and treatment services for HIV and syphilis.
Disparities in hypertension in populations living in the Caribbean: A systematic review and meta-analysis

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Objective: This study sought to assess the distribution of hypertension prevalence, awareness and control by known social determinants for populations living in the Caribbean.

Methods: We searched Medline, Embase and five databases through the Virtual Health Library, for Caribbean studies published between 2007 and 2016. PRISMA guidance on reporting systematic reviews on health equity was followed. Only quantitative studies (n > 150) were included. Meta-analyses using random effects models were performed for gender distributions only.

Results: Out of 2883 articles screened, 114 required full text review and 31 described the distribution of hypertension prevalence (31), awareness (6) and control (4) by one or more social determinants. Social determinants studied were gender (31 articles), education (6), ethnicity (5), occupation (4), income (3), marital status (2), residence (2) and employment status (1). Of the articles with low risk of bias which examined hypertension prevalence by gender, four found higher rates in women and two reported higher rates odds ratio (OR) of 0.96 and 95% CI of 0.67, 1.38. Five of six studies found that compared to women, men were less likely to be aware of their diagnosis OR 0.44, 95% CI (0.20, 0.94). Among those on treatment, men were less likely to be controlled: OR 0.58, 95% of CI 0.45, 0.76.

Conclusion: There was a paucity of literature on distribution of hypertension by social determinants other than by gender. Markedly, lower awareness and control in men indicates a need for more effective strategies to improve screening and treatment in Caribbean men.

Analysis of trauma cases at the tertiary care hospital in Georgetown, Guyana, in support of the development of a trauma centre: A four months retrospective study

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Objective: To study trauma cases at the Georgetown Public Hospital, Guyana between September and December 2017 in support of the development of a trauma centre.

Methods: A retrospective study was done with analysis of 2946 trauma cases from the Trauma Registry, Georgetown Public Hospital, Guyana. Templates were generated in MS Excel sheet with univariate and bivariate analyses conducted.

Results: There were 2946 trauma cases which represented 20.1% of all cases with a female to male ratio of 1:2.8. For the four months, the number of cases peaked at 20‒24 years with 410 (13.9%) cases; the working population, 15‒54 years, was affected by 67.8% (1996/2946) of all the trauma cases; the mechanisms of injury were assaults, falls and motor vehicle accidents. Overwhelmingly, the triage scores were identified as urgent and approximately 16% were admitted to Ward with a resulting mortality of 9.5% whereby the female to male ratio was 1:2.7. Motor vehicle accidents, falls and burns accounted for a combined 77.8% mortality. There were a total of 12.4% (364/2946) trauma cases referrals from all 10 Regions with referrals predominantly from Regions 4, 5 and 3.

Conclusion: A little over one of every five cases of all patients was a trauma case with males more than twice as much impacted those aged 20–24 years were most affected through assaults, falls and motor vehicular accidents and the overwhelming majority was urgent. The analysis is supportive of the development of a trauma centre to reduce death or permanent disability and to better serve patients.

Methicillin resistant Staphylococcus Aureus in the primary healthcare system in Barbados and its susceptibility patterns with co-trimoxazole
Obiective: To assess the prevalence of meticillin resistant *Staphylococcus aureus* (MRSA) in the primary healthcare system in Barbados and to determine its susceptibility patterns with Co-trimoxazole.

Methods: Swabs were conveniently collected from the eight polyclinics and their satellite clinics in Barbados between 2013 and 2016. These swabs were taken from various anatomical locations and were analysed at the Winston Scott Public Health Laboratory utilizing the following test methods: catalase test, coagulase test, antimicrobial disk diffusion test, conventional polymerase chain reaction (PCR) and agarose gel electrophoresis. Data were analysed using the WHONET 5.6 software programme.

Results: Swabs (n = 193) collected from wounds, nasal and abscesses showed 71%, 8.8% and 6.2% MRSA positivity, respectively. Regarding the antimicrobial susceptibility testing, resistance was observed in erythromycin (100%), ciprofloxacin (97.4%), clindamycin (13%) and co-trimoxazole (5.7%). No resistance to vancomycin was seen. The panton valentin leukocidin (pvl) gene was detected in 97.9% of the isolates, the mecA gene in 2.1% and the mecC gene (0%). The D-zone effect was observed in 4.7% of the isolates tested. All isolates were catalase and coagulase positive.

Conclusion: In Barbados, > 90% of CA-MRSAs were sensitive to co-trimoxazole, while > 90% were resistant to erythromycin and ciprofloxacin which are the two antibiotics commonly used in outpatient therapy for skin and soft-tissue infections. All beta-lactam antibiotics were resistant; therefore co-trimoxazole should be considered as the antibiotic of choice. Frequent monitoring of susceptibility patterns of MRSA and the formulation of a definitive antibiotic policy should be established.

O – 63

A study on the prevalence, molecular characteristics and antimicrobial susceptibility patterns of meticillin resistant *Staphylococcus Aureus* in hospitalised patients in the Queen Elizabeth Hospital, Barbados

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Objective: To study the prevalence, molecular characteristics and antimicrobial susceptibility patterns of meticillin resistant *Staphylococcus aureus* (MRSA) in hospitalised patients in the Queen Elizabeth Hospital, Barbados.

Methods: Meticillin resistant *Staphylococcus aureus* isolates were conveniently collected in the Microbiology Department at the Queen Elizabeth Hospital. Identification and antibiotic resistance were performed using the MicroScan dried gram positive panel. The molecular characteristics were analysed using the multiplex polymerase chain reaction, for amplification of the mecA, mecC gene, panton valentin leukocidin (pvl) and spa genes.

Results: One hundred isolates were identified as MRSA. All isolates were sensitive to vancomycin, rifampin, linzolid and trimethoprim/sulfamethaxazole. Eighty-two per cent of the isolates were sensitive to Clindamycin. All isolates were resistant to Ceftriaxone and Ciprofloxacin. Ninety isolates were resistant to Erythromycin, with two isolates showing inducible Clindamycin resistance. A total of 77/100 isolates showed the presence of the mecA and spa genes. The pvl gene was present in 76/77 isolates. A further 15 isolates showed amplification of the spa and pvl gene only. The remaining eight isolates showed no amplification of the spa mecA/C and pvl genes.

Conclusion: The prevalence rate was determined as 19.7% for the period of study. The presence of the pvl gene and the high susceptibility antibiotic profile to the non-ß lactam antibiotic was a predictor that the isolates were of the community acquired strain. These two factors are markers associated with community origin of MRSA in hospitalized patients at the Queen Elizabeth Hospital.

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Toxocara canis in puppies and their public health significance in Grenada

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Objective: To determine the prevalence of Toxocara canis in dogs below one year old. What is the prevalence of Toxocara canis in puppies using fecal flotation in Grenada? There is a significant burden of Toxocara canis among puppies in Grenada.

Methods: A cross-sectional study of 306 puppies was done across all six parishes in Grenada. Puppies were selected after a referral system and informed consent from members of the community centres across all parishes. Samples collected were examined using fecal flotation with centrifugation technique. All parasitic eggs and larvae were visualized under the microscope at 40 x magnification.

Results: One hundred and forty-seven out of 306 (48%) puppies were positive for Toxocara canis. 142 (57%) and five (9%) of puppies less than seven months old and more than seven months old were positive, respectively. The oldest puppy found infected was 10 months of age while
Toxocara canis eggs were identified in puppies as young as two weeks old. All 35 puppy owners interviewed did not deworm the puppies, 97% did not have the adults spayed or neutered and 68% allowed for the puppies to freely roam in the environment. 6.5% of persons considered Toxocara canis to be a health risk, 3.3% were aware of the clinical toxocariasis syndromes and 64.5% identified the route of transmission for human infection.

Conclusion: There was a high prevalence of Toxocara canis among puppies in Grenada. This burden presented a significant zoonotic threat to public health. The puppy deworming protocol should be included as part of the mandatory registration and vaccination programme for the Dogs Control Act in Grenada. An education and promotion campaign towards prevention and control strategies in schools should be included for Toxocara canis.

O – 65
Risk assessment for potential outbreak of Aedes-borne diseases and mosquito identification in districts of Georgetown, Guyana

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Objective: To map the current risk status of Georgetown using the Breteau Index (BI) calculation.

Methods: A total of 3200 houses were investigated in 32 districts of Georgetown for mosquito breeding sites. The types of breeding sites were recorded in a special data collection sheet. Aedes larvae collected from the districts were raised to adults under control conditions. Samples of the adults were stored in Alcamphor beads for molecular analysis in future. A map was then created to show the distribution of Aedes mosquitoes using Epi Info software and the BI was calculated using the formula: BI = (number of positive containers/ Number of houses inspected) x 100. The calculated BI of every district when put together indicates either one of the following risk status: transmission blocked (BI is less than 5), transmission risk (BI is more than or equal to 5 but less 10), outbreak risk (BI is more than or equal to 10 but less than 20) or regional epidemic risk (BI is more than or equal to 20). The results from BI calculation were used to create a risk map using Epi Info software.

Results: This study proved that 18 districts were at regional epidemic risk while outbreak risk was expected in three, transmission risk was likely in no more than eight and transmission was blocked in only three. Moreover, only Aedes aegypti mosquito was found in Georgetown, city Guyana.

Conclusion: The potential risk for contracting Aedes-borne diseases in Georgetown Guyana was highly possible.

O – 66
Social and environmental factors on the health of Caribbean people in and out the Region

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Objective: This study examined the environmental context and factors contributing to poor mental and physical health, including sources of stress and other health conditions among Caribbean people.

Methods: Population-based samples on Caribbean descendants collected in the United States of America (USA), Guyana and Jamaica were analysed. A modified version of the World Health Organization Composite International Diagnostic Interview (WHO CIDI) defined by the Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) was administered to assess substance abuse and major depression disorder. Physician-diagnosed physical health including hypertension, as well as self-rated health were also examined. Multivariate logistic regression analytic procedure was used to explore the influences of physical and mental health.

Results: Gender was predictive ($p < 0.01$) of hypertension across contexts. Environmental sources of stress including discrimination and neighborhood violence were associated with health among Caribbean people residing in the Caribbean region and the USA. Major depressive disorders (AOR = 4.19; 95% CI: 2.17, 8.10) and hypertension (AOR = 0.704; 95% CI: 0.587, 0.845) made both positive and negative contributions to fair or poor self-rated health.

Conclusion: The study provides evidence of the need to explore other sources of stress that are generally discussed but are under-explored in empirical studies.
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 nurses’ willingness to implementation and participation in continuing nursing education (CNE) and determine barriers to participation at the New Amsterdam Regional Hospital.
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 PODP 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 PODP, 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 PODP. 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.
P – 11
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 nacent 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 1 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.

P – 13
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.

**P – 14**

**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**

**P – 16**

**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 focusing 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.

P – 18

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 MHW 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 medevacs 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.

P – 20

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

Methods: The overall design was a simultaneous mixed methods approach. The qualitative arm involved unobtrusive 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.

P – 21
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 (e.g., INN, dose and formulation), the manufacturer and distributor, and commercial information (e.g., 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.

P – 22
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-
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.

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.

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
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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, Demerara, 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.

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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 Bahamian 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.

**P – 30**

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 anaemia 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 haemoglobinopathy 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 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.

**P – 33**

**Six years of disability-related research on St Kitts and Nevis: A thematic synthesis of five studies between 2011 and 2017**
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.
**P – 36**

**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.

**P – 37**

**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 West Indies, Mona, Jamaica.
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 Hydrometerological 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 Hydrometerological Office and sorted by year and location (East Coast, East Bank, Georgetown). The mean temperature and rainfall annually 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.

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.

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 clin-
ic 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* (36.5%), 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 thursday (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 were studied. 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.

P – 45
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 ≤ 0.05), religion (p ≤ 0.05), ethnicity (p ≤ 0.05), education (p ≤ 0.05), marital status (p ≤ 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 A1C, 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 albuminuria 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-
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. Atlas.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 healthcare 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 congregations 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 participants' 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 towards 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.
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