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## **67<sup>th</sup> Annual CARPHA Health Research Conference**

**CARIBBEAN HEALTH and TOURISM:  
Pathways to Recovery and Resilience**

**April 27–29, 2023**

**ATLANTIS PARADISE ISLAND RESORT  
Paradise Island, The Bahamas**

**In-person Conference**

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## **Caribbean Public Health Agency**



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# Integrating Health into Tourism for Recovery and Resilience in the Caribbean via CARPHA's Regional Tourism and Health Program

*The COVID-19 pandemic reiterated the need to include health as a critical part of the travel and tourism sector.*

- The THP's unique approach improves the health and safety of Caribbean people and visitors, and contributes to recovery and strengthens resilience of Caribbean tourism and the sustainability of economies.



## Key Benefits to Hospitality Sector

- Enhanced reputation, competitiveness marketability → more arrivals, more profits
- Healthier, safer destination Stamp → enhanced regional and international reputation
- Healthier, safer tourism product → enhanced reputation, increased visitors
- FREE internal health and system tracking system for facility and tourism, supported by RAPID RESPONSE to illnesses
- Reduced illness entry and spread in facilities → reduced lawsuits, liabilities, blame
- Tourism Quality, Resilience, Sustainability

## Key Benefits to Health Sector

- Strengthened public health capacity for disease surveillance monitoring and response - locally and regionally
- Real-time, health tracking system for timely alerts and response to HSE events (many facilities at once)
- Improved regional health security; meets IHR requirements
- Strengthened capacity in food and environment safety, HSE Standards
- Rapid response by Health to tourism-based public health events
- Reduction in illness entry, spread and disease outbreaks
- Healthier safer populations; Health sector reform

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# Integrating Health into Tourism for Recovery and Resilience in the Caribbean

*Dr. Lisa Indar, Director Surveillance, Disease Prevention and Control, CARPHA*

## Introduction

Travel and tourism are crucial to the sustainability and resilience of Caribbean economies, as they drive revenue, employment and foreign exchange. However, travel and tourism can also be a source of disease introduction and spread, and consequently, have negative impacts on Caribbean health. The COVID-19 pandemic, catalyzed by travel, debilitated the Caribbean economies, caused significant illnesses, deaths, economic and job losses, disruptions of crucial services and threatened regional health security. The pandemic reiterated the need to include health as a critical part of the travel and tourism sector. Travelers are now prioritizing health when choosing a destination/service. The Caribbean Public Health Agency (CARPHA)'s regional Tourism and Health Program (THP) provides a comprehensive pathway for integrating health into tourism. The THP's approach of surveillance and response, guidelines, capacity building, setting health, safety and environmental standards, developing partnerships, creating the "healthier safer tourism recognition award" and introduction of the mobile app, improves the health and safety of Caribbean people and visitors. This contributes to recovery and strengthens resilience of Caribbean tourism and the sustainability of economies. Due to COVID-19, the THP has repurposed and expanded many of its tools for a more robust response, in order to boost travelers' confidence and re-establish a healthier, safer return to travel in the Caribbean.

## Tourism Dependency of Caribbean Economies and its Impact

The Caribbean region, renowned for its tropical weather, captivating beaches, vibrant cuisine and rich diverse culture, is a preferred travel destination for many tourists, especially for those who live in temperate climates. According to the World Travel & Tourism Council (WTTC) [1], the travel and tourism sector supported more than 2.7 million jobs and accounted for an estimated 14% (US\$61.5 billion) of the Caribbean's gross domestic product (GDP) in 2019 (pre-COVID-19), with direct and indirect contributions ranging from 25% to 74% in most countries of the Region [2]. The Inter-American Development Bank (IDB) reported that in 2019, 13 Caribbean countries were ranked in the top 30 countries globally on the Tourism Dependency Index [3-5]. Aruba topped the list with 79.8% dependence on tourism,

with Grenada (58.5%), Antigua and Barbuda (55.1%), The Bahamas (54.5%), St. Lucia (53.4%) and Dominica (42%) all within the top 10 of the Index [3-4]. The Economic Commission for Latin America and the Caribbean (ECLAC) noted that tourism's input toward GDP is much broader as tourism does not operate in a silo, but is connected to other divisions, such as food and beverage, entertainment and creative industry. Thus, the Caribbean's "tourism economy" is estimated to be about 2.5 times bigger than the sector itself, accounting for 26% of the region's total GDP [5]. Tourism also remains an essential source of foreign exchange.

## COVID-19 and other Health Threats affecting Tourism

Caribbean tourism, and by extension, its economic longevity is susceptible to health and environmental impacts. The health of Caribbean economies is inherently related to the health of its travel and tourism industry given its high number of visitors: population ratio, more than any other region in the world [6]. The Region remains vulnerable to outbreaks caused by Chikungunya, Zika, Dengue and Malaria due to its geographical location, tropical climate, the abundance of competent vectors and undefined pockets of susceptible populations. Travel, the islands' adjacency, porous borders, and interconnectedness, enable highly transmissible communicable diseases, such as COVID-19 and Norovirus, to surpass borders, disabling tourism and livelihoods. High and increasing levels of visitor arrivals, which is key for economic sustainability, also increase the potential risk for visitors and locals transmitting or acquiring diseases from each other. This is typified by the introduction and spread of new and re-emerging diseases, such as SARS, the H1N1 pandemic of 2009, Chikungunya in 2013 and Zika in 2015, Norovirus, and COVID-19 from 2020 to present. The most commonly reported illnesses among travelers include Foodborne diseases (e. g., *Norovirus*, *Salmonella*, *Shigella* *Staphylococcus*, *E. coli*, *Cholera*, *traveler's diarrhoea*), vector-borne diseases (*Dengue*, *Chikungunya*, *Yellow Fever*, *Zika Virus*), respiratory diseases (*Influenza*, *COVID-19 virus*) and Sexually Transmitted Infections (STIs) (7).

The COVID-19 pandemic has had the most profound impact on travel and tourism, causing widespread illnesses, and deaths [5,8,9]. The first case of COVID-19 in the Caribbean), and its variants, were imported via travel. As of



March 5, 2023, there were 60,721,138 confirmed cases and 6,805,474 deaths globally, and 4,466,469 cases and 36,974 deaths in the Caribbean [10,11]. The response to COVID-19 has now shifted from the initial national lockdowns, cessation of travel and closure of schools and businesses, to the present state where countries have now fully reopened with the removal of COVID-19 prevention and control measures [8]. Most Caribbean countries, like many other countries globally, are now in a post peak phase, experiencing community spread with the possibility of recurrent events, with the dominant variant of concern since June 2022 being Omicron [7]. While the number of reported deaths and hospitalizations is not as high as in previous years, cases and deaths are still occurring in our communities. COVID-19 can still lead to severe illness especially in the old, young, and other vulnerable groups, and in those who are unvaccinated. The continuation of celebrations and mass gathering events in the Caribbean, e.g., Carnival season, Easter, and cruise/tourism season, all pose increased risk for infection.

Travelers' diarrhea is one of the most common travel-related illnesses. In some Caribbean countries, the risk is intermediate, with attack rates of 8-20%. There have been over 30 large reported diarrheal/gastroenteritis (GI) outbreaks in the Caribbean in the last 10 years, with *Salmonella*, *Norovirus*, *E. coli* and *Staphylococcus* being the common causative agents. However, most outbreaks are not reported and many more go undetected because travel/tourism facilities do not routinely report their illnesses. Surveillance data collected at CARPHA indicate that between 2010 and 2021, over 300 gastroenteritis outbreaks were reported to CARPHA; of which one-third were travel-related [7]. *Norovirus*, first introduced to the Caribbean via travel, is now the most frequently reported cause of GI outbreaks in locals and visitors. Cases increased by 44% between 2005 and 2019, especially on cruise ships. One outbreak in 2012 caused 1,256 illnesses, closures of hotels, travel advisories and a 30% decline in arrivals for that country. Another outbreak in 2018 affected over 300 persons resulting in hotel closures as well. In 2022, there were 45 cases of travel-related *Salmonella* Enteritidis (SE) reported in one hotel and in 2012, a large multiple hotel outbreak (200 cases) of SE resulted in travel advisories. The region is a dominant cruise destination and during 2018-2022, over 3000 diarrheal cases were reported on Caribbean cruises [12]. CARPHA's tourism-based surveillance system captures visitors' illnesses in both accommodations and cruise ship settings and has reported over 4000 cases/incident, including 32 syndromic alerts in 2022. From October 2021 to February 2023, there were 1612 alerts of COVID-19 cases on ships. In December 2022, there was a multiple hotel outbreak of *Norovirus* and in January 2023, a dual outbreak of GI and COVID-19 on a cruise ship [13].

These outbreaks illustrate the vulnerability of the tourism sector to health threats and the necessity for early warning systems to inform prompt public health action and

minimize disease spread. Travel related illnesses are not only a health and security risk but contribute to reputational damage and economic instability in Caribbean economies. To guard against these health risks to Caribbean tourism, surveillance of visitor's illnesses and strengthening capacity to mitigate these risks and provide rapid response is critical [14].

### **Economic Impact of COVID-19 on Tourism**

The COVID-19 pandemic has evolved into one of the greatest threats to human society, resulting in a dramatic loss of human life as well as global economic and social disruption. Although the pandemic has impacted every industry, COVID-19 particularly devastated the economic sustainability of travel-dependent countries like that of the Caribbean. Global tourism suffered its worst year in 2020, resulting in a \$2.4 trillion loss [8]. The Caribbean experienced tremendously more negative effects, as its travel and tourism GDP fell by 58% and more than 70% in some countries in 2020 [15]. In 2020, air travel declined by >60% and cruise ship arrivals declined by 49% compared to 2019 [16]. With massive crowds in a confined space, cruise ships were a niche for the increased risk of infection and spread of COVID-19. During the period 2019-2020 international tourist arrivals to the Caribbean Community (CARICOM) region fell by 70%. The pandemic halted operations at ports and airports, reducing visitor arrivals which dropped close to zero in 2020. The Bahamas, Barbados and Jamaica visitor arrivals declined by 76%, 67% and 69%, respectively. The occupancy rate in the accommodation sector was at its lowest in June 2020 at 13.5% leading to closures of facilities with 14% of these businesses being viewed as likely to remain closed. The Caribbean region also faced an estimated 25% decline in the number of employees in the travel and tourism sector [17-23].

Caribbean tourism seems to have taken an upward trajectory in 2021 as the region documented the second-fastest comeback. The region is projected to have an increase of 47.3% year-on-year, leading toward an upsurge of almost US\$12 billion [24-27]. However, despite projections of an increase in arrivals, Caribbean tourism continues to be vulnerable to public health threats. As evidenced by COVID-19, travel can facilitate the rapid movement of communicable diseases and COVID-19 has aptly demonstrated the critical necessity for health in tourism. Safeguarding the health and safety of locals and visitors whilst advancing the resilient, sustainable resurgence of Caribbean tourism and its economies are of paramount importance.

### **Building Caribbean Resilience and Recovery through the Regional Tourism and Health Program**

CARPHA's THP was developed out of the necessity to address health, and safety among visitors in the Caribbean toward improving regional health and tourism resiliency. It is to be noted that the Region (i) depends on visitor arriv-

als more than any other region in the world (ii) had its first cases of new and re-emerging illnesses imported by virtue of travel, e.g., COVID-19 (iii) the incidence of travel related illnesses and outbreaks in the Caribbean (iv) suffered from the lack of visitor-based surveillance to rapidly detect public health threats and trigger measures to reduce or stop the spread of disease (v) had insufficient knowledge and capacity in tourism to mitigate, control and prevent public health threats (vi) lacked cumulative hospitality health, safety and environmental sanitation (HSE) standards, and (vii) needed health and tourism collaborations to address health threats. Before the THP, health monitoring systems were primarily focused on local populations.

The THP is addressing HSE threats to tourism in a comprehensive manner through surveillance, response, guidelines, capacity building, standards, policy, partnerships, and the incentive of a travellers health award. The aim is to strengthen countries' capacities to prepare and respond to public health threats to enhance the health of visitors and locals and thereby improve regional health security and the quality, sustainability and resilience of Caribbean tourism through the following regional public health goods [28-30]:

- Tourism and Health Information System and Caribbean Vessel Surveillance System. These are two real-time, electronic surveillance systems for monitoring and responding to public health illnesses in tourist establishments and services and cruise ships respectively.
- Regional Guidelines for Managing Public Health Illness in Accommodations and Ship Settings
- Capacity Building in COVID-19 Health Guidance, Food Safety and Sanitation
- Caribbean Travelers Health Assurance Stamp for Healthier, Safer Tourism and the Travelers Health Mobile App
- CARICOM-approved Hospitality Health, Safety and Environmental Sanitation Standards
- Health and Tourism Public and Private Partnerships
- Regional Mandates and Policy

The THP is elevating Caribbean tourism by contributing to establishing healthier, safer travel to the Caribbean especially during the COVID-19 pandemic. With the advent of COVID-19, the THP quickly expanded its tools for more rapid and relevant response to the pandemic. Implementing countries have enhanced capacity to mitigate COVID-19 and other HSE threats, leading toward sustainable tourism. The THP is currently operating at varying levels in 13 Caribbean countries. Its visitor-based surveillance systems have identified many health threats and allowed for countries to implement timely measures to reduce introduction and spread. It has built capacity for response, prevention and control of COVID-19 and other infectious diseases, provided scientific guidelines for response to illnesses and awards tourism facilities for implementing health and safety measures all leading to tourism recovery and resilience.

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**CARIBBEAN HEALTH and TOURISM: Pathways to Recovery and Resilience**

**Programme**

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***DAY 1: Thursday 27th April, 2023***

<b>Session 1</b>	<b>OPENING SESSION</b>
<b>8:00 am</b>	<b>Opening Remarks</b> Dr. Joy St. John, Executive Director, Caribbean Public Health Agency
<b>8:15 am</b>	<b>Welcome Remarks</b> Honourable Dr. Michael Darville, Minister of Health & Wellness, The Bahamas
<b>8:20 am</b>	<b>Keynote Address</b> <b>Title: 'Health is Wealth: The Role of Wellness in the National Development of The Bahamas'</b> <b>Speaker: The Rt. Honourable Philip Davis, Prime Minister of The Bahamas</b> <b>Chairperson: M. Darville</b> <b>Room: Imperial Ballroom C</b>
<b>8:45 am</b>	<b>PANEL DISCUSSION: Health and Tourism Collaboration for Resiliency</b> <b>Speaker:</b> Dr. Lisa Indar; Ms. Nicola Madden Greig; Mr. Frank Comito; President BHTA; Dr. Pearl MacMillan, Chief Medical Officer, Bahamas; Dr. Hector Bolivar; <b>Chairperson:</b> President BHTA <b>Room:</b> Imperial Ballroom C
<b>9:30 am</b>	<b>COFFEE BREAK /POSTERS/ EXHIBITS</b> <b>Room:</b> Imperial Ballroom E
<b>Time</b>	<b>Session 2a: EMERGING RESEARCH THEMES</b> <b>Chairperson:</b> C Macpherson; BAH <b>Room:</b> Imperial Ballroom C
<b>10:00 am</b>	<b>(O-31) COVID-19 Pandemic Response through the Regional Tourism and Health Program</b> <i>L Indar, S Kissoondan, F Mohammed, K Daniel, A Bissoon-Pustam</i>
<b>10:15 am</b>	<b>(O-02) The Caribbean Travellers Health Assurance Stamp for Healthier Safer Tourism: Creating a Competitive Tourism Industry during COVID-19 and for the Future</b> <i>L Indar, F Mohammed, S Kissoondan</i>



<b>Time</b>	<b>Session 2a: EMERGING RESEARCH THEMES</b> <b>Chairperson:</b> C Macpherson; BAH <b>Room:</b> Imperial Ballroom C
<b>10:30 am</b>	(O-03) <b>Association between post-infection COVID-19 vaccination and symptom severity of post COVID-19 condition patients on Bonaire, Caribbean Netherlands: a retrospective cohort study</b> <i>D.S.F. Berry, T. Dalhuisen, E. Geubbels, G. Marchena, I. Tiemessen, L. Jaspers</i>
<b>10:45 am</b>	(O-04) <b>Validation of the Trinidadian Primary Care Assessment Tool–Adult Edition and the Assessment of Primary Care in South-West Trinidad during the COVID-19 Pandemic</b> <i>S Ramjit, S Motilal</i>
<b>11:00 am</b>	(O-05) <b>The double burden of COVID-19 and a natural disaster on local food production and food security in a Small Island Developing State</b> <i>E Augustus, M M Murphy, C Guell, K Morrissey, D Ramdath, S G Anderson, N Unwin</i>
<b>11:15 am</b>	(O-06) <b>Parental perceptions, knowledge and practices related to unintentional injury among toddlers in New Providence, Bahamas.</b> <i>T Gibbs, S Carroll, S Pinder-Butler, M Frankson</i>
<b>11:30 am</b>	(O-07) <b>The lived experiences and perceptions of middle-aged adults in Dominica who have survived severe storms – a qualitative exploration.</b> <i>J Le Blanc, W Jones, H Harewood</i>
<b>11:45 am</b>	(O-08) <b>Patient reported outcomes in two outpatient clinics at a tertiary hospital in Trinidad and Tobago</b> <i>L De Freitas, D Basdeo, H Wang</i>
<b>12:00 noon</b>	(O-09) <b>The relationship between health literacy and nutrition behaviours in adult hypertensive patients at a private health facility in Jamaica.</b> <i>V Nurse, V White-Barrow</i>
<b>12:15 pm</b>	<b>LUNCH/POSTERS/EXHIBITS</b> Room: Imperial Ballroom E
<b>1:30 pm</b>	<b>FEATURE LECTURE 1:</b> <b>Title: Exploring the Evidence Ecosystem: Pathways to Institutionalize Evidence-Informed Decision-Making in the Caribbean</b> <b>Speaker:</b> Prof. Donald Simeon <b>Chairperson:</b> G Hutchinson <b>Room:</b> Imperial Ballroom C

<b>Time</b>	<b>Session 3a: COVID-19 I</b> <b>Chairpersons:</b> S. Bidaisee; H Bolivar <b>Room Assignment:</b> Imperial Ballroom C	<b>Session 3b: NON-COMMUNICABLE DISEASES/ MENTAL HEALTH</b> <b>Chairpersons:</b> D, Ramdath; L. Indar <b>Room Assignment:</b> Imperial Ballroom D
<b>2:15 pm</b>	(O-10) <b>Pandemic Perceptions and Attitudes Towards Health Adoption and Risk Avoidance Behaviors</b> <i>S Bidaisee</i>	(O-15) <b>Measuring Stress During the Caribbean COVID-19 Pandemic: Psychometric Performance and Configural Invariance of the PSS-10 in a Multi-country Survey of Medical and Health Professions Students</b> <i>MH Campbell, J Gromer-Thomas, K Khan, B Sa, PM Lashley, D Cohall, CE Chin, RB Pierre, OP Adams, MAA Majumder</i>

Time	<b>Session 3a:</b> <b>COVID-19 I</b> <b>Chairpersons:</b> <i>S. Bidaisee; H Bolivar</i> <b>Room Assignment:</b> Imperial Ballroom C	<b>Session 3b:</b> <b>NON-COMMUNICABLE DISEASES/</b> <b>MENTAL HEALTH</b> <b>Chairpersons:</b> <i>D. Ramdath; L. Indar</i> <b>Room Assignment:</b> Imperial Ballroom D
2:30 pm	<b>(O-11) Patient-reported outcome measures, one-year after COVID-19: A Cohort Study in South Trinidad, 2020–2021</b> <i>K Dharamraj, S Motilal</i>	<b>(O-76) Creating a local register for Rare Neurodegenerative Diseases: Improving clinical and molecular characterization in Martinique through bioinformatics analysis</b> <i>AG Giguet-Valard, I Antolin, A T. Vincent, N Garofalo-Gomez, Smith-Ravin, J Inamo, R Bellance</i>
2:45 pm	<b>(O-12) Trends in respiratory diseases in the emergency room visits in children and the impact of the COVID-19 pandemic. A hospital-based retrospective study in Jamaica 2019–2022</b> <i>T Gilbert, S Blagrove, M Muppuri, T Reid, K Chulani</i>	<b>(O-17) The Association Between Sociodemographic Factors, Psychiatric Disorders and Juvenile Delinquency Among Patients Remanded to Sandilands Rehabilitation Centre Bahamas Between January 2011 to December 2020</b> <i>K Orimma, E Combie A Richards, MA Frankson</i>
3:00 pm	<b>(O-13) Telehealth: Navigating the COVID-19 Pandemic and Beyond – The Sickle Cell Unit Experience</b> <i>L King, K Alexander-Gabbadon, N Chin, C Hammond-Gabbadon, P Simmonds-Brooks, J Harris, H Martin, R Bartlett, J Knight-Madden, M Asnani</i>	<b>(O-18) Trends and predictors of incidence and mortality of acute myocardial infarction in the small island developing state of Barbados</b> <i>A Harvey, C Howitt, JC Campbell, SA Forde, IR Hambleton, I Bascombe, SG Anderson, D Scantlebury, R Delice, NP Sobers</i>
3:15 pm	<b>(O-14) Youth perspectives on mental health during COVID-19 lockdown in a Small Island Developing State: implications for public health emergencies</b> <i>MM Murphy, C Pemberton, E Wheeler, LD Gulston, O Kerr-Layne, A John, B Baksh, G Thomas, C Allen</i>	<b>(O-19) Effectiveness of an inpatient stroke unit in a resource limited setting: Findings from the Barbados National Registry</b> <i>NP Sobers, R Young, IR Hambleton, JC Campbell, SA Forde, SG Anderson, DOC Corbin</i>
3:30 pm	<b>COFFEE BREAK/POSTER/EXHIBITS</b> <b>Room:</b> Imperial Ballroom E	
Time	<b>Session 4a:</b> <b>COVID-19 [II]</b> <b>Chairpersons:</b> <i>F B. YIsrael, M. Frankson</i> <b>Room:</b> Imperial Ballroom C	<b>Session 4b:</b> <b>NON-COMMUNICABLE DISEASES/</b> <b>MENTAL HEALTH</b> <b>Chairpersons:</b> <i>N. Sobers; M. Murphy</i> <b>Room:</b> Imperial Ballroom D
4:00 pm	<b>(O-20) Survival of COVID-19 cases after vaccination: Analysis using data from Jamaica's National Surveillance System</b> <i>K Webster-Kerr, A Grant, A Harris, E Campbell, M Brown, D Rowe, D Henningham, C Lord, R Thorpe, T Mullings, J Wiggan, N Martin-Chen, T Dawkins-Beharie, J AzilleLewis, T Roberts, J Duncan</i>	<b>(O-24) Findings from a process evaluation of a community garden intervention for non-communicable diseases (NCDs) prevention among an Indigenous population in the Caribbean</b> <i>R Emmanuel, UM. Read, S Harding</i>

<b>Time</b>	<b>Session 4a: COVID-19 [II] Chairpersons: F B.Yisrael, M. Frankson Room: Imperial Ballroom C</b>	<b>Session 4b: NON-COMMUNICABLE DISEASES/ MENTAL HEALTH Chairpersons: N. Sobers; M. Murphy Room: Imperial Ballroom D</b>
<b>4:15 pm</b>	<b>(O-21) Secondary Clinical Attack Rate of COVID-19 and Associated Risk Factors in Jamaica using National Surveillance Data</b> <i>K Webster-Kerr, A Grant, A Harris, J Wiggan, D Henningham, D Rowe, J Azille-Lewis, R Thorpe, T Mullings, C Lord, T Dawkins- Beharie, I Wellington, KA Gordon-Johnson, N Martin-Chen, E Campbell, M Brown, T Roberts, J Duncan</i>	<b>(O-25) Socioeconomic Status and Uncontrolled Hypertension in Urban Jamaica: A Cross-Sectional Study</b> <i>J Augustine, K Rocke, N Guthrie-Dixon, JA McKenzie, NOM Younger-Coleman, RJ Wilks, MK Tulloch-Reid, TS Ferguson</i>
<b>4:30 pm</b>	<b>(O-22) Exploring the Factors influencing COVID-19 Vaccine Hesitancy among the Adult Population of Trinidad and Tobago</b> <i>D Lamont, RJ La Foucade, V Latchman, A La Bastide, V Latchmepersad, R Lal, J Lochan, A Kong, B Bhagwandeem, J Mohan</i>	<b>(O-26) The Association between Tissue Fibrosis Biomarkers and Physical Function and Body Composition in Tobagonian Men: A Pilot Study</b> <i>AL DePaulis, Y Zhang, Y Zhao, I Miljkovic, CL Gordon, VW Wheeler, JM Zmuda, AJ Santanasto</i>
<b>4:45 pm</b>	<b>(O-23) The Risk of COVID-19 Death in Jamaica by Wave Period</b> <i>K Webster-Kerr, A Grant, A Harris, R Thorpe, D Rowe, D Henningham, T Mullings, I Wellington, J Wiggan, K Gordon-Johnson, C Lord, T Dawkins- Beharie, J Azille- Lewis, N Martin-Chen, E Campbell, M Brown, T Roberts, J Duncan</i>	<b>(O-27) The Prevalence of Chronic Airflow Obstruction in a Jamaican Cohort ≥40 years – Results of the Burden of Obstructive Lung Disease (BOLD JA ) Study</b> <i>A Aquart-Stewart, M Reid, C. Walters</i>
<b>5:00 pm</b>	<b>End of Session</b>	
<b>7:00 pm</b>	<b>Opening Ceremony</b> <b>Room: Imperial Ballroom HI</b>	

## **DAY 2: Friday 28th April, 2023**

**7:45 am** **Poster Session 1**  
**Room: Imperial Ballroom D**

<b>Time</b>	<b>Poster#</b>	<b>Time</b>	<b>Poster#</b>	<b>Time</b>	<b>Poster#</b>
7:46 am	P-01	8:02 am	P-05	8:18 am	P-11
7:50 am	P-03	8:06 am	P-08	8:22 am	P-12
7:54 am	P-04	8:10 am	P-09	8:26 am	P-13
7:58 am	Question and Answer	8:14 am	Question and Answer	8:30 am	Question and Answer

Time	<b>Session 5a:</b> <b>CLIMATE CHANGE AND HEALTH TOURISM</b> <b>Chairpersons:</b> <i>B Rolle; J. Hospedales</i> <b>Room:</b> Imperial Ballroom C	<b>Session 5b:</b> <b>INFECTIOUS DISEASES I</b> <b>Chairpersons:</b> <i>U Allen, R. Talati</i> <b>Room:</b> Imperial Ballroom D
8:35 am	<b>(O-28) Climate Change and Early Warning Systems for Health: The Caribbean Perspective</b> <i>LG Boodram; P Williams</i>	<b>(O-34) Risk of Infectious Disease Outbreaks following Natural Disasters in the Caribbean Region</b> <i>K Ramsammy- Boyce</i>
8:50 am	<b>(O-29) The Bahamas Climate Change and Health Survey - Pathways to Recovery and Resilience</b> <i>C.D. Philippe, Y.Holder, W. Hamilton, C. Watson</i>	<b>(O-35) Respiratory Syncytial Virus bronchiolitis in tropical areas: example of a 12 years analysis from French Caribbean Martinique island</b> <i>O Fléhelles, R Banydeen, M Dramé, F Najioullah</i>
9:05 am	<b>(O-30) The Caribbean Public Health Agency's response to COVID-19 and its impact on tourism in the Caribbean Region</b> <i>M Hamilton, S Nathaniel, N Winter, C Rampersad, R Singh</i>	<b>(O-73) The contribution of the high dependency unit to the Management of neonates during the covid-19 pandemic</b> <i>S Griffiths Nelson, M Thame, B Crosdale, J Lewis</i>
9:20 am	<b>(O-01) Implementation of the Tourism and Health Program for Recovery and Resilience during COVID-19: The St. Lucia Model</b> <i>L Atkins, S Kissoondan, L Indar</i>	<b>(O-37) Impact of a Vaccine Mandate on infection rates at a Tertiary Education Institution in Grenada</b> <i>N Cudjoe, PJ Fields, V Matthew-Belmar, B Sharma, E Chitan, TP Noel, K Yearwood and CNL Macpherson</i>
9:35 am	<b>(O-32) The Significance of Electronic, Real-time Health Surveillance Systems for Healthier, Safer Tourism</b> <i>L Indar, S Kissoondan, K Daniel, A Bissoon-Pustam</i>	<b>(O-38) Knowledge, Attitudes and Practices (KAP) of Stethoscope Hygiene and Microbial Contamination of Stethoscopes at Georgetown Public Hospital Corporation</b> <i>J Hatton, R Singh, C Panday, M Scott, E Tyrell, B Ally-Charles, P Carter, M Haynes, C Boston, D Van-Veen</i>
9:50 am	<b>(O-33) Long-term exposure to Sargassum-seaweed pollution in the French Caribbean Islands: clinical characteristics, consequences and outcome</b> <i>D Resiere, J Florentin, R Banydeen, M Drame, H Kallel, H Mehdaoui, R Nevire</i>	<b>(O-39) An Examination of the Growing Incidence of “Chemsex” Among the Men Who Have Sex with Men Population in Region 4 of Guyana</b> <i>C France, G Tatkan</i>
10:05 am	<b>COFFEE BREAK/POSTER/EXHIBITS</b> <b>Room:</b> Imperial Ballroom HI	



<b>Time</b>	<b>Session 6a: PUBLIC HEALTH I: POLICY Chairpersons: P McMillan, S Harding Room: Imperial Ballroom C</b>	<b>Session 6b: INFECTIOUS DISEASES II: HIV/AIDS Chairpersons: M Fredericks-James, M Reid Room: Imperial Ballroom D</b>
<b>10:45 am</b>	(O-40) <b>Estimating the direct medical and indirect cost of interpersonal violence injuries: A three country study</b> <i>J Agard, N Sobers, H Wong, M Joseph, J Toppin, N Florquin, A-S Fabre, R King, G Gordon-Strachan, SG Anderson</i>	(O-45) <b>Estimation of the Potential Effectiveness and Cost-Effectiveness of HIV Pre-Exposure Prophylaxis for STI Clinic Attendees in Jamaica</b> <i>I.J. Rao, M.L. Brandeau I, G.J. Barow</i>
<b>11:00 am</b>	(O-41) <b>Awareness of Amendments to the Jamaican Dangerous Drug Act (2015) and Substance Use: The Role of Workplace Substance Use Policy</b> <i>T Moore, C Cunningham-, U Atkinson, KP Theall</i>	(O-46) <b>Antibiotic Prescribing Patterns in Two Major Healthcare Centres Among Adult Patients in Guyana</b> <i>N Ramdeholl, C Lam, S Milton, M Sobers, S Lakhram</i>
<b>11:15 am</b>	(O-42) <b>A PESTLE Analysis on the global ageing population, a Healthcare perspective in Trinidad and Tobago</b> <i>ND Maharaj</i>	(O-47) <b>Community HIV Adherence and Adolescent Mental Health Program (CHAMP++) -. Preliminary findings of a pilot program for adolescents living with HIV in Western Jamaica</b> <i>A Barnett; Z Shim, G Reid, D Johnson Wallace, SA Williams, C Anderson, M Scott, T Evans-Gilbert</i>
<b>11:30 am</b>	(O-43) <b>The public health threat of human: dog zoonoses in the Caribbean</b> <i>MLA Macpherson, W Sylvester, TP Noel, CNL Macpherson</i>	(O-48) <b>Pilot of HIV Self Testing in Guyana</b> <i>T Jagnarine, V Wilson</i>
<b>11:45 am</b>	(O-44) <b>Research needs of postgraduate DM students at the Faculty of Medical Sciences, University of the West Indies, St. Augustine Campus: An exploratory research</b> <i>B Sa, R Maharaj, R Khan, Z Mendoza, J Partap, J Marjadsingh, S Motilal</i>	(O-49) <b>Substance Use Among Men who Have Sex with Men in Region 4 Guyana and its Effects on Risky Sexual Behavior</b> <i>N Tamayo-Jimenez, D Sharma</i>
<b>12:00 noon</b>	<b>Special Communication</b> <b>Title: The Roll-Out of the NHI Bahamas: Administrative &amp; Financial Progress</b> <b>Speaker: C Butler</b> <b>Chairperson: P Swann</b> <b>Room: Imperial Ballroom D</b>	
<b>12:30 pm</b>	<b>NETWORKING LUNCH / LECTURE</b> <b>Room: Imperial Ballroom E</b>	

<b>Time</b>	<b>Session 7a: Poster Session 2</b>  <b>Chairpersons:</b> M Reid <b>Room:</b> Imperial Ballroom C	<b>Session 7b: Poster Session 3</b>  <b>Chairpersons:</b> S. Stewart <b>Room:</b> Imperial Ballroom D	<b>Session 7c: Research Skills Workshop</b>  <b>Chairpersons:</b> D. Ramdath <b>Room:</b> TBD
2:00 – 2:04 pm	P-14; P15; P17	P-39; P40; P-42	Assistance with:
2:08 – 2:12 pm	Question and Answer	Question and Answer	• Polishing your manuscript
2:16 – 2:20 pm	P-18; P-20; P-21	P-43; P-45; P-46	• Analysing your data
2:24 – 2:28 pm	Question and Answer	Question and Answer	• Preparing a research proposal
2:32 – 2:36 pm	P-22; P-24; P-25	P-47; P-49; P-50	♦ Meet a Professor
2:40 – 2:44 pm	Question and Answer	Question and Answer	
2:48 – 2:52 pm	P-26; P-27; P-28	P-51; P-53; P-54	
2:58 – 3:02 pm	Question and Answer	Question and Answer	
3:06 – 3:10 pm	P-29; P-31; P-32	P-55; P-57; P-58	
3:14 – 3:18 pm	Question and Answer	Question and Answer	
3:22 – 3:26 pm	P-34; P-68; P-35	P-60; P-61; P-62	
3:30 – 3:34 pm	Question and Answer	Question and Answer	
3:38 – 3:42 pm	P-37; P-38; P-67	P-64; P-65; P-66	
3:46 – 3:50 pm	Question and Answer	Question and Answer	
3:54 – 4:00 pm	P-30; P-52; P-16	P-63; P-69; P-19	
4:04 – 4:08 pm	Question and Answer	Question and Answer	
4:12 – 4:16pm	P-23; P-70; P-33	P-36; P-41; P-44	
4:20 – 4:24 pm	Question and Answer	Question and Answer	
4:28 – 4:32 pm	P-48; P-56; P-59	P-10	
4:32 – 4:36 pm	Question and Answer	Question and Answer	
<b>4:36 pm</b>	<b>End of Sessions</b>		
<b>6:30 pm</b>	<b>Awards Banquet</b> <b>Venue:</b> Imperial Ballroom HI		

**DAY 3: Saturday 29th April, 2023**

**8:00 am**                      **FEATURE LECTURE 2**  
**TTITLE: Research for Action Agenda on Climate Change and Health in the Caribbean**  
**Speaker:** CJ Hospedales  
**Chairperson:** C Phillipe  
**Room:** Imperial Ballroom C

Time	Session 8a: <b>PUBLIC HEALTH I: PRACTICE</b> <b>Chairpersons:</b> <i>H. Daisley; S. Stewart</i> <b>Room:</b> Imperial Ballroom C	Session 8b: <b>ECHORN SPECIAL SESSION</b> <b>Chairpersons:</b> <i>M Smith, OP Adams</i> <b>Room:</b> Imperial Ballroom D
<b>8:45 am</b>	(O-50) <b>The Microbial Burden in Poultry Broiler Chickens and the knowledge, attitudes, and practices of the poultry meat handler in Barbados</b> <i>JC Browne MG St. Haliare</i>	(O-55) <b>A System Dynamics Framework for Understanding Rising Childhood Obesity in the Caribbean</b> <i>S Hassan, L Guariguata, A Burlar, N Greaves, H Harewood, W Jones, R Khan, R Rosario, OP Adams, R Maharaj, CM Nazario, M Nunez, and M Nunez-Smith</i>
<b>9:00 am</b>	(O-51) <b>Microbiological Analysis of Street-Vended Beverages in Georgetown, Guyana</b> <i>B Ally-Charles, R Holder, E Tyrell, A Hutson</i>	(O-56) <b>Adult Perception of Child Weight in the ECHORN Cohort Study is Associated with Parental Self-Perception of Weight and not Socioeconomic Status</b> <i>S Hassan, D Galusha, C Magny-Normilus, C Oladele, OP Adams, R Maharaj, CM Nazario, M Nunez, and M-Nunez-Smith on behalf of the ECHORN Writing Group</i>
<b>9:15 am</b>	(O-52) <b>Evaluation of the Stop, Take a Deep Breath, and Relax (STAR) violence prevention media campaign in Grenada, West Indies</b> <i>ED Thomas, T Murray, J Noel, J Smarzinski, L Mohammed, R Isaac, R Evans, L Orlando, B Landon and R Waechter</i>	(O-57) <b>Contextual Factors and Ambulatory Blood Pressure Patterns</b> <i>B Shanab, Z Nowroozilarki, B Mortazavi, M Burg, B Roy, JL MartinezBrockman, B Tessier-Sherman, OP Adams, R Maharaj, CM Nazario, M Nunez, ES Spatz, M Nunez-Smith</i>
<b>9:30 am</b>	(O-53) <b>Safety and efficacy of a new anti-venom Fab2 variety in the treatment of Bothrops genus Snakebite Envenomings in French Territories in the Americas: a 12 years retrospective study</b> <i>D Resiere, J Florentin, H Kallel, R Banydeen, H Mehdaoui, R Nevire</i>	(O-58) <b>Diabetes Prevention in the Caribbean using Lifestyle Intervention and Metformin Escalation: Results from the LIME Study</b> <i>S Hassan, NP Sobers, J Paul-Charles, J Herbert, K Dharamraj, E Cruz, E Garcia, L Fredericks5 D Galusha, OP Adams, R Maharaj, CM Nazario, M Nunez, and M Nunez-Smith</i>
<b>9:45 am</b>	(O-54) <b>Clinical features and management of acute Ciguatera poisoning in the French Caribbean territories: a case series</b> <i>R Banydeen, J Florentin, M Drame, R Nevère, H Mehdaoui, D Resiere</i>	(O-59) <b>Caribbean Data Sharing Initiatives: Examples from the ECHORN Cohort Study</b> <i>K Wang, I Hambleton, M Campbell Britton, JL Martinez-Brockman, C Brandt, L Marengo, T McCall, S Date, OP Adams, R Maharaj, C Nazario, M Nunez, M Nunez Smith</i>

Time	<b>Session 8a:</b> <b>PUBLIC HEALTH I: PRACTICE</b> <b>Chairpersons:</b> <i>H. Daisley; S. Stewart</i> <b>Room:</b> Imperial Ballroom C	<b>Session 8b:</b> <b>ECHORN SPECIAL SESSION</b> <b>Chairpersons:</b> <i>M Smith, OP Adams</i> <b>Room:</b> Imperial Ballroom D
10:00 am	<b>COFFEE BREAK/POSTERS/ EXHIBITS</b> <b>Room:</b> Imperial Ballroom E	
10:30 pm	<b>FEATURE LECTURE 3</b> <b>TITLE:</b> SickKids Initiative <b>Speaker:</b> U. Allen & V Blanchette <b>Chairperson:</b> C Sin Quee Brown <b>Room:</b> Imperial Ballroom C	
Time	<b>Session 9a:</b> <b>PUBLIC HEALTH III: NUTRITION</b> <b>Chairpersons:</b> <i>D Simeon, A. Brathwaite</i> <b>Room:</b> Imperial Ballroom C	<b>Session 9b:</b> <b>FAMILY AND CHILD HEALTH</b> <b>Chairpersons:</b> <i>M Thame, H. Harewood</i> <b>Room:</b> Imperial Ballroom D
11:00 am	(O-60) <b>Eating Disorders Among Adolescents and Young adults in Kingston, Jamaica</b> <i>A Harrison, K Ferguson-Henry, C James, G Lowe</i>	(O-68) <b>Sickle Cell Leg Ulcer Improvised “Available Technology Dressing” Intervention Study</b> <i>A Barton-Gooden, J Garvey-Henry, L Benskin</i>
11:15 am	(O-61) <b>An assessment of the sodium, total fat, saturated and trans fats, free and total sugars content in processed and UPF products in Trinidad and Tobago using nutrition fact labels</b> <i>D Ramdath, R Rampersad, D Ramdath, D Neascu, K Qi</i>	(O-69) <b>Socioeconomic inequalities in reproductive, maternal, newborn and child health in Guyana: A time trends analysis</b> <i>G Joseph, LP Vidaletti</i>
11:30 am	(O-62) <b>The Health of First Generation Caribbeans Across the Diaspora: Findings from Population Data Surveys from Guyana, Jamaica, Canada, the United States, and the United Kingdom</b> <i>K Lacey</i>	(O-70) <b>The influence of empowerment on contraceptive use in reproductive aged Guyanese women: An analysis using DHS data</b> <i>O Perreira, S Neal, D London, S Goberdhan, Z Matthews</i>
11:45 am	(O-63) <b>Differences in income, farm size and nutritional status between female and male farmers in a region of Haiti</b> <i>P Duvivier, R P Tescar, N Unwin, M Murphy, C Howitt, E Augustus</i>	(O-71) <b>The prevalence of Venous Thromboembolism (VTE) among women using Oral Contraceptives (OCs) in Trinidad and Tobago</b> <i>R Richardson, D Reverand, R Russell, A Ramsook, F Rege, A Roberts, M Robley, K Ramsoomair, A Williams-Persad</i>
12:00 noon	(O-64) <b>Effects of biochar-amended tropical soils on herbicide pollution: column leaching studies</b> <i>G Aldana, E, Lopez-Capel, D Werner</i>	(O-72) <b>Systematic review of the psychosocial impact of infertility on men in low- and middle-income countries: a mixed research synthesis</b> <i>S Goberdhan, O Perreira, J Balen</i>
12:15 pm	(O-65) <b>Screening for Gestational Diabetes Mellitus in a primary care setting, East Trinidad, 2018–2020</b> <i>A Bridgelal-Gonzales, S Motilal</i>	(O-73) <b>The contribution of the high dependency unit to the Management of neonates during the covid-19 pandemic</b> <i>S Griffiths Nelson, M Thame, B Crosdale, J Lewis</i>



<b>Time</b>	<b>Session 9a: PUBLIC HEALTH III: NUTRITION Chairpersons: D Simeon, A. Brathwaite Room: Imperial Ballroom C</b>	<b>Session 9b: FAMILY AND CHILD HEALTH Chairpersons: M Thame, H. Harewood Room: Imperial Ballroom D</b>
<b>12:30 pm</b>	<b>(O-66) The Prevalence of Occupational Noise-Induced Hearing Loss among Power Plant Workers in Georgetown Guyana</b> <i>A Blair, A Richmond, K Niles, K Brush, L Robinson, R Pennock, M Villareal, E Cummings</i>	<b>(O-74) Zika and Neurodevelopment Among Children in Grenada: The First Four Years</b> <i>R Evans, M Fernandes, N Cudjoe, K Blackmon, M Cheng, B Landon, T Noël, C Macpherson, R Waechter, AD LaBeaud</i>
<b>12:45 pm</b>	<b>(O-67) A qualitative exploration of parenting under adversity: “Surprisingly, it worked - using firecrackers to get her accustomed to the sound</b> <i>J Mottley, K Devries, A M Buller, S Rathod</i>	<b>(O-75) Prognosis of nephrotic syndrome in children at Georgetown Public Hospital Corporation</b> <i>A Hutson, D Van- Veen, O Van-Lewin, B Ally- Charles, E Tyrell, T Braithwaite, S Hutson</i>
<b>1:00 pm</b>	<b>Closing Remarks</b>	

# 67<sup>th</sup> Annual CARPHA Health Research Conference 2023

## Poster Presentations

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### COVID-19

- (P – 1) **Online Learning Satisfaction During COVID-19 Pandemic Among Offshore Medical Students in Guyana**  
B Williams, T Jagnarine
- (P – 3) **The Impact of the Novel Coronavirus Infection on Geriatric Hospital Patients: A Retrospective Review**  
A. Adderley, A. Albury, S. Dorsett, I. Grimes
- (P – 4) **Qualitative Exploration of the Learning Styles of Second Year Medical Sciences at the UWI Cave Hill Campus pre-COVID-19**  
N Ojeh, H Harewood, N Greaves, N Sobers, K Boyce, PM Lashley, P Adams, J Paul-Charles, MAA Majumder
- (P – 5) **Perceptions and challenges of nursing students towards online learning in Guyana during COVID-19: A qualitative study**  
L. Stephanas
- (P – 8) **A Thematic Analysis of University of Guyana medical students' perspectives of online learning in the era of COVID-19**  
C Abrams, E Tyrell
- (P – 9) **Heterogeneity of SARS-CoV-2 Transmission within Departments at a Tertiary Educational Institution, Grenada, and its implications for control**  
N Cudjoe, PJ Fields, V Matthew-Belmar, B Sharma, E Chitan, TP Noel, K Yearwood and CNL Macpherson
- (P – 10) **Development of a Joint Regulatory Review Framework for COVID-19 Therapies in the Caribbean: A Practice Paper**  
J Austin, M Zheng, J St John, R Extavour
- (P – 11) **A survey on the non-conventional therapies for COVID-19 in Trinidad**  
MS Ismaila, K Lall, K Sookram, V Sundaram
- (P – 12) **Review of the Pathophysiology of the Vasa Vasorum of the pulmonary vessels in Covid19: The major vessels involved in pulmonary thromboembolism in COVID-19**  
H Daisley, O Acco, M Daisley, Li Paul, E James, Ar Rampersad, A Ramdin, F Narinesingh, O Humphrey, M Nathan, D George
- (P – 13) **A Systematic Comparison of COVID-19 Products with Regulatory Endorsement in the Caribbean Community and Major Markets**  
TR Austin, JL Austin
- (P – 15) **Personal protective equipment (PPE) related adverse skin reactions among healthcare professionals at the main COVID-19 isolation centre in Barbados**  
A Bharatha, K Krishnamurthy, D Cohall, S Rahman, C A Forde, R Corbin-Harte, MAA Majumder

### FAMILY/CHILD HEALTH

- (P – 14) **The outcomes of cervical cerclage with antibiotic use at Victoria Jubilee Hospital, Jamaica**  
M. Archer, C. Rattray, R. Chand
- (P – 15) **Physician Barriers to Obtaining the Sexual Health History of Patients in The Bahamas**  
W Bain, R Knowles-McPhee, I Cartwright, F Deveaux, C Conliffe, S. Pinder-Butler, M Frankson
- (P – 16) **Characterizing Congenital Heart Disease in Guyana**  
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### O-1

#### **Implementation of the Tourism and Health Program for Recovery and Resilience during COVID-19: The St. Lucia Model**

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**Objective:** To highlight the collaborative process involved in implementing the Tourism and Health Program (THP) in St. Lucia (SLU) for promoting sustainable and resilient recovery of the tourism sector.

**Methods:** Through public-private partnerships and numerous stakeholder engagements, the implementation in SLU followed the THP stepwise implementation framework. This involved initial concurrence from SLU, collaboration amongst THP, the Chief Medical Officer, Ministries of Health and Tourism and SLU Hotel and Tourism Association and Tourism Authority, formation of a National Steering Committee, numerous trainings for the tourism stakeholders followed by an in-country launch. The inclusion of THP's regional tools into country protocol and adoption of a THP Travel Safe Brand Ambassador also ensued.

**Results:** The THP was launched in St Lucia in September 2021; 29 persons were certified in advanced food safety; 573 persons participated in the COVID-19 and Tourism and Health Information System (THiS) training, 16 facilities issued the Caribbean Travelers Health Assurance award, 22 new facilities registered on THiS with no outbreak alerts; 84 alerts of ships with COVID-19 cases provided, and health and tourism partnerships strengthened.

**Conclusion:** COVID-19 has resulted in socio-cultural and economic impacts on tourism stakeholders and disruption to the sector. However it created a 'fertile' new context for a paradigm shift. CARPHA, in partnership with the SLU's Ministries of Health and Tourism saw COVID-19 as a transformational opportunity to reset standards and metrics for surveillance in the health and tourism sectors and accelerate technology innovation and change through the implementation of THP.

### O-2

#### **The Caribbean Travellers Health Assurance Stamp for Healthier Safer Tourism: Creating a Competitive Tourism Industry during COVID-19 and for the Future**

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**Objective:** To describe the Caribbean's Traveller Health Assurance Stamp and how it contributes to Healthier Safer Tourism (HST Stamp).

**Methods:** The HST stamp is a measurable and verifiable travellers' health assurance and recognition award for tourism entities implementing recommended proactive health, monitoring and safety measures. It was developed to encourage and incentivize tourism/hospitality facilities to implement measures for reduction of spread COVID-19 and other infectious diseases, and thereby promote healthier safer tourism in the Caribbean region. The Award is based on a tier system which encourages continuous improvement and sustainable implementation. Currently the first tier, the classic HST stamp, is being implemented in the region.

**Results:** Since its launch in November 2020 to December 2022, there have been 110 awardees in 14 countries in the Caribbean. Trinidad and Tobago rank highest with 27 awardees followed by Belize (17 awardees) and St. Lucia (12). The majority (85%) of the HST Stamps were awarded in 2021 and to accommodation facilities (76%). During this time, countries began lifting border restrictions and started to reopen for travel. Acquiring the HST Stamp provided travellers with the option of choosing a healthier safer tourism accommodation or service.

**Conclusion:** The HST Stamp can boost the reputation, recognition, quality, and the competitiveness of the hospitality sector. Health and tourism authorities and travellers now have the added assurance that facilities with the Stamp can provide a healthier, safer tourism product that could contribute to reduced spread of illnesses.

### O-3

#### **Association between post-infection COVID-19 vaccination and symptom severity of post COVID-19 condition among patients on Bonaire, Caribbean Netherlands: A retrospective cohort study.**

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**Objective:** In this retrospective cohort study, we aimed to investigate symptom severity change following COVID-19 vaccination among post COVID-19 condition (PCC) patients on Bonaire.

**Methods:** Symptomatic cases who tested positive for SARS-CoV-2 between the start of the pandemic and 1 October 2021, were unrecovered on the interview day and unvaccinated prior to infection were identified from the national case registry. Patients were interviewed by telephone between 15 November and 4 December 2021 about sociodemographic factors, pre-pandemic health, COVID-19 symptoms and vaccination status. We compared symptom severity change between the acute and post-acute disease phase (>4 weeks after disease onset) of 14 symptoms on a five-point Likert scale for 36 PCC patients having received at least one dose of the BNT162 (BioNTech/Pfizer) vaccine and 11 patients who remained unvaccinated, using separate multiple linear regression models.

**Results:** Most common post-acute symptoms included fatigue (81%), reduced physical endurance (79%), and reduced muscle strength (64%). Post-infection vaccination was significantly associated with reduced severity of heart palpitations, after adjusting for acute phase severity and duration of illness ( $\beta$  0.60, 95% CI 0.18, 1.02). We did not find a statistically significant association with symptom severity change for other, more prevalent symptoms.

**Conclusion:** Larger prospective studies are needed to confirm our observation in a small study population that post-infection COVID-19 vaccination was associated with reduced severity of heart palpitations among those with this symptom self-attributed to SARS-CoV-2 infection.

#### O-4

##### **Validation of the Trinidadian Primary Care Assessment Tool–Adult Edition and the Assessment of Primary Care in South-West Trinidad during the COVID-19 Pandemic**

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**Objective:** To adapt the Primary Care Assessment Tool–Adult Edition (PCAT-AE) for Trinidad and Tobago by assessing its validity and internal consistency, and re-analyse the data using the validated Trinidadian version (PCAT-TT).

**Methods:** A cross-sectional study was conducted in the health centres of the South-West Regional Health Authority

during the period of July 2021 to January 2022. Data was collected via convenience sampling and telephone interviews. Tests for reliability and validity were performed. The data was re-analysed using the PCAT-TT.

**Results:** There were 369 participants in total. Thirty-three items of the PCAT-AE did not meet the retention criteria and were deleted, resulting in the validated PCAT-TT with 67 items. The domains with the lowest scores included Comprehensiveness: Services Received, First Contact: Access, Coordination: Information Systems and Community Orientation. Predictors of great performance PCAT-TT overall scores were found to be primary school education level or lower, duration of attending health centre  $\geq 5$  years and referral to specialists.

**Conclusion:** The PCAT-TT has been proven to be a valid and reliable tool to extensively evaluate primary health care in Trinidad and Tobago. This study was conducted during the COVID-19 pandemic when there were national restrictions in place to limit the spread of the virus which were also reflected in the PCAT-TT scores. Recommendations to strengthen the public primary health care system include improvement in attributes such as accessibility, person-focused care, coordination through information systems, primary health care services and research in the community.

#### O-5

##### **The double burden of COVID-19 and a natural disaster on food production and security in a Small Island Developing State**

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**Objective:** To assess the impact of the concurrent COVID-19 pandemic and volcanic eruption on food production and security in St. Vincent and the Grenadines (SVG).

**Methods:** An interpretive mixed-methods sub-study was conducted among a convenience sample of consenting adults  $\geq 18$  years from 100 households in SVG through a cross-sectional survey and participant interviews (10 households) between September 2021 and March 2022. Food



insecurity prevalence over the past year was assessed using the Food Insecurity Scale (Rasch modelling) and impacts to livelihoods from the pandemic and volcanic eruption was assessed using an adapted COVID-19 FS&L Survey. Data were described using univariate, bivariate and multivariable analysis and qualitative data was used for contextual insight.

**Results:** There was a total of 177 participants (64% female; household size of >4 members (62%); 50-64 years (31%); completed primary-school (47%); responsible for food-preparation(53%)). During the pandemic, participants reported decreased income (59%), no access to markets (63%) or food aid (81%); change in food sources (34%) including decrease in food production and impact to food-production by volcanic-eruptions (81%). Almost half were severely food insecure (48%); almost two thirds were moderately to severely food insecure (64%). After adjusting for gender, age, education, and household size moderate to severe food insecurity was associated with no access to food aid during the pandemic and post-eruptions (OR 3.7 (1.51, 9.07)  $p=0.004$ ).

**Conclusion:** Food insecurity rates were high during the COVID-19 pandemic, exacerbated by volcanic-eruptions and insufficient access to food aid. Further qualitative analyses will examine mitigation strategies used by the participants.

#### O-06

##### **Parental perceptions, knowledge and practices related to unintentional injury among toddlers in New Providence, Bahamas**

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**Objective:** The aim of this study was to determine the most frequently reported accidents among toddlers; as well as knowledge, perceptions and practices among parents/guardians.

**Methods:** Two hundred seventy-nine parents and guardians of children, ages 1-4 years old, in attendance at local public health clinics were surveyed using convenience sampling. Data was collected using a combination of originally constructed questionnaires and an adapted version of the Framingham Safety Survey.

**Results:** The median parental/guardian age was 29.0 IQR (26.0, 36.0) years old. The modal toddler of interest age (in years) was 1 (1, 4). The modal accident type reported among toddlers was falls. The mean parental/guardian knowledge score was 60.7% (SD  $\pm 16.0\%$ ). The greatest areas in need of counseling included fire safety/burns (fire extinguisher, smoke alarm, hot water, smoke, electric cords), poison, choking and car safety

**Conclusion:** Knowledge level overall was satisfactory, but still has room for improvement. Knowledge was worse in the areas of fall prevention and car safety. Parents are open to receiving advice and learning about child accident prevention and their main sources are their social network (family/friends) and their child's physician

#### O-07

##### **The lived experiences and perceptions of middle-aged adults in Dominica who have survived severe storms – a qualitative exploration**

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**Objective:** To describe the perceptions of middle-aged (35–55 years) Dominicans regarding their lived experiences in the context of severe storms.

**Methods:** This phenomenological qualitative investigation, based on an interpretivist paradigm, occurred in Dominica between June and August 2022, using semi-structured, individual Zoom interviews except for one in-person interview. Middle-aged participants who previously experienced a storm in Dominica were purposefully recruited from communities stratified according to natural hazard vulnerability, using social media flyers and assisted by governmental and non-governmental disaster management and healthcare sector gatekeepers in order to achieve maximum variation. Saturation occurred at the 13th participant. Interviews were audio-recorded, transcribed verbatim and subjected to thematic analysis using a hybrid deductive and inductive coding frame, supported by ATLAS.ti software. The research team crosschecked transcripts, coding and generation of themes.

**Results:** Ten females and three males, representing each of the vulnerability districts and ranging between 35–55 years participated. Three organizing themes emerged: 1. "The diverse health effects of severe storms" (persons suffered a range of physical, mental and social health outcomes); 2. "Response to and recovery from severe storms" (depends on individual, relational and community factors); and 3. "Preparation and precaution for severe storms" (is variable and shaped by experiences). The global theme summarises that: "The physical, mental and social health impact of severe storms on Dominicans is modulated by facilitating and barricading disaster preparedness and resilience factors

**Conclusion:** The health system should implement mental health and social support systems to assist persons who experience severe storms.

## O-08

### Patient reported outcomes in two outpatient clinics at a tertiary hospital in Trinidad and Tobago

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**Objective:** To assess patient reported outcomes for patients in two outpatient clinics at a hospital in Trinidad and Tobago.

**Methods:** The study was conducted in two outpatient clinics at the Sangre Grande Hospital, Eastern Regional Health Authority, Trinidad and Tobago. A cross sectional study design was used and the three patient reported outcome measures were used: WHO % Index, PROMIS Global Health 10 (Global Physical Health (GPH) and Global Mental Health (GMH) and WHO DAS. These questionnaires were self administered to all patients attending the two clinics over a four month period.

**Results:** Data from 427 participants were analysed. Overall, there were 73.1% (n=312) participants from the Medical Outpatient Clinic (MOPC) and 26.9% (n=115) from Infectious Disease Outpatient Clinic (ID OPC). The mean WHO 5 Wellbeing Index score was 57.3 for patients in the MOPC and 56.9 for patients in the ID clinic. The mean GPH T-score was significantly higher in the ID clinic group compared to the MOPC group (ID  $39.0 \pm 8.9$  versus MOPC  $36.0 \pm 6.2$ ,  $p=0.00$ ) while the mean GMH T-score was similar in clinics (MOPC:  $38.2 \pm 6.9$  and ID:  $38.9 \pm 8.0$ ,  $p=0.37$ ). The mean WHO DAS score for patients in the MOPC was 24.2 compared to 20.6 for patients in ID OPC.

**Conclusion:** The results of the study indicated fair health and wellbeing and mild disability amongst both clinic groups. These results may be used to determine where improvement efforts should be targeted to improve patients' quality of life.

## O-09

### The relationship between health literacy and nutrition behaviours in adult hypertensive patients at a private health facility in Jamaica

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**Objective:** To examine associations between health literacy and nutrition behaviours, and related sociodemographic factors, in adult hypertensive patients at a private health facility in Jamaica.

**Methods:** A descriptive cross-sectional quantitative survey among 85 hypertensive patients selected by convenience and systematic sampling. Health literacy was measured using the Newest Vital Sign (NVS) and BRIEF health literacy tools. Binary logistic regression examined associations between health literacy and nutrition behaviours after adjusting for a priori selected demographic factors.

**Results:** Most participants were female (64%), in the age category 60-75 and overweight/obese (68%), exhibiting low consumption of fruits (57%), vegetables (61%), whole grains (61%) and low-fat dairy (74%). Only 17.6% read the nutrition facts panel. Using the NVS, 19% had adequate health literacy. Patients with both a high likelihood and possibility of limited health literacy were more likely to sometimes/rarely/never use the nutrition facts panel (OR 23.96; OR 11.11 respectively) and less likely to have low consumption of poultry/fish/beans (OR 0.063; OR 0.134 respectively). Widows were less likely (OR 0.072), and those without children at home were more likely to sometimes/rarely/never use the nutrition facts panel (OR 4.63). Using the BRIEF, 40% had adequate health literacy. Patients with marginal health literacy were 13 times more likely to sometimes/rarely/never use the nutrition facts panel and less likely to have low consumption of poultry/fish/beans (OR 0.206).

**Conclusion:** Hypertensive patients require nutrition intervention/education tailored to their health literacy deficits. Addressing health literacy through health systems strengthening, policy change and investment is critical for hypertension prevention and management in Jamaica.

## O-10

### Pandemic Perceptions and Attitudes Towards Health Adoption and Risk Avoidance Behaviors.

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**Objective:** To assess perceptions and attitudes towards health adoption and risk avoidance behaviors during the SARS-CoV-2 Pandemic.

**Methods:** During the period March to December, 2020, through an open-access online course entitled: An Examination of COVID-19, 12, 234 participants enrolled from 120 countries. Monthly modules explored the developing knowledge and understanding of the pandemic accompanied with quizzes and discussion fora which recorded participants perceptions and attitudes towards COVID-19 and compliance with recommended hygiene practices and risk avoidance for SARS-CoV-2.

**Results:** Attitudes and Perceptions: 50% (6,117) of respondents felt COVID-19 would 'somewhat' affect their health if infected while 19% (2,324) perceived their level of risk as high or very high. Mitigation: 84.9% (10,387) performed

$\geq 1$  of the three recommended hygiene-related behaviors while 93.4% (11,426) performed  $\geq 1$  of three avoidance-related behaviors during the observed time. Moderate concern about COVID-19 contributed towards the reported attitude and prevention behavior adopted. The average rate of concern of COVID-19 was lowest in the North American continent, followed by Europe while the highest rate of concern was among Africa and South America. Trust in government was one of the determining factors for the public to adopt the recommended hygiene-related and avoidance behaviors. Increase in science/health literacy levels was associated with increased adoption of behaviors.

**Conclusion:** Perceptions of risk, compliance with hygiene and adherence to avoidance measures were related to social realities of geographical location, governance and science literacy. A targeted approach based on understanding of the rationale for people's attitudes, perceptions and ultimately behavior is recommended.

## O-11

### Patient-reported outcome measures, one-year after COVID-19: A Cohort Study in South Trinidad, 2020–2021.

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**Objective:** To describe the patient-reported long-term health effects one-year post-acute COVID-19 infection, and predictors, according to illness severity.

**Methods:** In this retrospective cohort study a sample of 324 participants,  $\geq 18$  years, who were symptomatic with laboratory confirmed COVID-19 infection between March 2020 and May 2021, were followed up after 12-months for persistent symptoms. Multivariable adjusted linear and logistic regression models estimated the ORs,  $\beta$  coefficients and 95% CIs for associations between disease severity and long-term health consequences.

**Results:** A total of 324/431 eligible participants were enrolled, response rate 75.2%, after 107 were excluded. The median (IQR) age was 41.0 (34–52) years, with 51.23% men and 33.02% with co-morbidities. One year later, 60% reported  $\geq 1$  persistent symptom: dyspnoea (52.16%), fatigue (42.59%), muscle weakness (31.48%); Patient Health Questionnaire 4 (PHQ-4): anxiety/depression (13.58%). Overall, in the unadjusted analysis, participants with moderate/severe illness, had a significantly increased risk of developing fatigue or muscle weakness ( $p=0.043$ ); anxiety/depression ( $p<0.001$ ); breathlessness ( $p<0.001$ ) and reduced Health-Related Quality of Life (HRQoL ( $p<0.001$ ). When adjusted for age, gender and co-morbidities, their risk of developing fatigue or muscle weakness, anxiety/depres-

sion, breathlessness was nullified, except for HRQoL. Overall, the mean standard deviation (SD) health index value score was 0.931 (0.13), comparable to the national norms of 0.95; for those with moderate/severe illness, mean (SD), 0.894 (0.16), with a statistically significant decrease compared to mild illness ( $p<0.001$ ).

**Conclusion:** One-year post-acute COVID-19 infection, a significant proportion of survivors have persistent symptoms. The health index value for those with moderate/severe illness was below the population norms. Interventions should be prioritized for their long-term recovery.

## O-12

### Trends in respiratory diseases in the emergency room visits in children and the impact of the COVID-19 pandemic. A hospital-based retrospective study in Jamaica 2019–2022

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**Objective:** Lockdown during the COVID-19 pandemic may modify childhood respiratory disease. This study explores trends in emergency room (ER) respiratory visits among children.

**Methods:** This is a retrospective cohort study of ER visits among children 0-19 at a tertiary care hospital in Jamaica from September- December of 2019 (pre-, lockdown), 2020 (lockdown), and 2022 (post-lockdown). Demographic data was collected from the digital database and registers for asthma, and lower and upper respiratory tract infections (URTI) visits. Variables include sex and age, and asthma-related admissions. The lab database was reviewed for SARS-CoV-2 positivity rate (2020–2022) and other circulating viruses (2019–2022). Comparisons were made between periods using Fisher's exact tests.

**Results:** There were a total of 2532 visits to the emergency room for respiratory diseases in children 0-19 years due to asthma (69%), pneumonia (20%), and URTI (11%), with 57% males. Post-lockdown, there was a one-fold and four-fold increase in the under five-year age visits compared with pre-lockdown and lockdown ( $p=0.0001$ ). The proportion of asthma-related visits increased by 72 % post-lockdown from 59% during lockdown ( $p=0.013$ ). Asthma-related admissions were 3.6 % in 2019, 4.6% in 2020, and 4.5% in 2022. H3N2 influenza virus was predominant in 2019, SARS-CoV-2 in 2020, and SARS-CoV-2 and H3N2 in 2022. SARS-CoV-2 positivity rate was 4%, 17%, and 8% in 2020, 2021 and 2022

**Conclusion:** Asthma visits but not severity resurged post-lockdown. Increased ER visits for children under age five

years post-lockdown compared with pre-lockdown with similar H3N2 circulation may signal attenuated respiratory disease manifestation due to the COVID-19 pandemic.

### O-13

#### **Telehealth: Navigating the COVID-19 Pandemic and Beyond - The Sickle Cell Unit Experience**

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**Objective:** To examine the use of tele-health as an alternate tool for delivery of critical healthcare in persons with sickle cell disease (SCD), a vulnerable population during the COVID-19 pandemic.

**Methods:** This study was a retrospective review of patient encounters at the Sickle Cell Unit (SCU), Jamaica during a 3-year period, 10th March 2019 to 9th March 2022. Primary endpoints of registration numbers (in-person clinical and treatment-only visits), day-care admissions and study visits (physician-patient encounters either in-person or via tele-visits) were obtained from logbooks and Patient Management System (PMS), a proprietary electronic medical record system. Descriptive analyses including counts and frequencies were performed. Data are presented mainly as figures and tables for easy interpretation.

**Results:** Over the 3-year study period, patients registered at the clinic on 17, 295 occasions, with 7,820 (45.2%) in the pre-pandemic year. Numbers fell in the 2 subsequent pandemic years by 43.8% and 35% respectively. Day-care admissions fell in the pandemic years. Overall, study visits (SVs) increased by 4.9% and 1.3% in the pandemic. SVs increased in adults by 13.1% and 8.9% but fell by 3.2% and 6.2% in children. Tele-visits accounted for 31.4% of all SVs during the pandemic years and increased by 23.6% between the pandemic years.

**Conclusion:** The SCU maintained critical healthcare delivery for a high-risk population during the pandemic. The speedy implementation of tele-visits mitigated the short-fall from in-person visits and may be more acceptable to adults with a chronic illness.

### O-14

#### **Youth perspectives on mental health during COVID-19 lockdown in a Small Island Developing State: implications for public health emergencies.**

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**Objective:** Existing studies exploring the relationship between COVID-19 mitigation measures and mental health have primarily been quantitative and conducted in larger developed countries. A qualitative study to explore the knowledge, attitudes and behaviours of young people living in Trinidad and Tobago was conducted to engage and collaborate with youth on matters affecting them during the pandemic.

**Methods:** Ten virtual focus groups were conducted with 64 participants between the ages of 18-24. Groups were stratified by geographical location and socioeconomic status. Recordings were transcribed and data analyzed to explore themes of importance to youth.

**Results:** Negative impacts on mental health emerged as a strong theme. Lack of timelines (lack of knowing when curfews and stay at home orders would end (i.e. as they were continuously extended) for movement and other restrictions to prevent COVID transmission had various mental health impacts, many home environments were toxic, longer restrictions led to erosion of the social culture, and young people were stressed about the changing face of education and job security due to the pandemic.

**Conclusion:** Measures taken to address COVID-19 aggravated mental ill-health among young people. Initiatives to help young people navigate mental health issues in their generation must be developed. The increased need for mental health services during and because of the COVID-19 pandemic highlights the general need for these services in the event of environmental and health emergencies faced by SIDS. More training and capacity building must be provided involving youth and professionals in supporting youth mental health.

### O-15

#### **Measuring stress during the Caribbean COVID-19 pandemic: Psychometric performance and configural invariance of the PSS-10 in a multi-country survey of medical and health professions students**

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**Objective:** To evaluate psychometric performance and configural invariance of the 10-item Perceived Stress Scale (PSS-10) in medical and health professions students in Bahamas, Barbados, Jamaica, and Trinidad and Tobago during the COVID-19 pandemic.

**Methods:** A cross-sectional online survey distributed to all enrolled students included items measuring readiness for online learning, the PSS-10, and the Brief Resilient Coping Scale (BRCS). The time frame was April-June 2020, during the emergency transition to virtual learning in the early phase of the COVID-19 pandemic.

**Results:** Of 1519 respondents, 1420 completed the PSS-10 and were included in this analysis. Internal consistency was very good for the full scale ( $\alpha = .91$ ) and good for perceived self-efficacy and helplessness subscales ( $\alpha = .79$  and  $\alpha = .90$ , respectively). Expected correlation with the Brief Resilient Coping Scale (BRCS;  $n = 1420$ ,  $r = -.44$ ,  $p < .01$ ) demonstrated concurrent validity. Women reported greater perceived stress than men. A confirmatory factor analysis (CFA) using maximum likelihood estimation demonstrated acceptable fit for the two-factor model. In contrast to a previous Barbadian study, all items were strongly related to their associated factors, with factor loadings ranging from .64 to .83.

**Conclusion:** Findings support a two-factor structure of the PSS-10 comprising perceived helplessness and perceived self-efficacy subscales and evidence construct validity and configural invariance across cultures. The PSS-10 is a useful resource in the armamentarium of measures in Caribbean mental health research. Established measures of stress are crucial for further work supporting regional resilience efforts in the context of socioeconomic and climate-related stressors.

## O-17

### The Association Between Sociodemographic Factors, Psychiatric Disorders and Juvenile Delinquency Among Patients Remanded to Sandilands Rehabilitation Centre Bahamas Between January 2011 to December 2020

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**Objective:** This study examined association between sociodemographic characteristics, mental problems, and juvenile delinquency in patients admitted on court remand. Hypothesis: RQ1: Does socio-demographics affect psychiatric disorders? H01: Sociodemographic characteristics do not significantly affect psychiatric diseases. Ha1 Sociode-

mographic characteristics predict psychiatric illnesses. RQ2: Does socio-demographics affect adolescent delinquency? H02 Sociodemographic characteristics do not predict juvenile delinquency. Ha2 Sociodemographic factors predict juvenile delinquency. RQ3 Can psychiatric illness cause juvenile delinquency? H03 Psychiatric illnesses do not predict juvenile criminality. Ha3 Psychiatric diagnoses predict juvenile delinquency.

**Methods:** Research design: This was a retrospective chart review and the study population included all adolescents ages 9–18 remanded by the court to the Child and Adolescent Unit for delinquent offenses. Exclusion criteria included (1) medical records of patients admitted merely on a care order through the department of social services (children in need of care). (2) Under-9 and over-18 patients. (3) Patients with unreadable medical records.

**Results:** Age and school enrollment substantially influenced educational level ( $p < 0.001$ ). Their number of admissions correlated with their living arrangement ( $p < 0.001$ ). The most common diagnoses were drug use disorder 239 (51.8%), disruptive behavior disorder 37.7%, conduct disorder 36.7%, oppositional defiant disorder 10.4%, major depressive disorder 3.9%, and post-traumatic stress disorder 17.7%. Uncontrollable behavior (173), aggravated assault (87), and burglary (56). Male sex, living with parents and siblings, living with relatives, and enrollment in grades 9-10 and 11-12 predicted drug-related status violations. Substance use disorder predicted drug-related status offenses ( $p = .000$ ). Substance-abusing women were more likely to act out. Males were 11 times more likely than females to burglarize, and those with disruptive behavior disorders were 2.5 times more probable.

**Conclusion:** Research shows psychosocial disadvantage and mental illness cause juvenile criminality. To reduce negative effects and optimize psychosocial functioning, these correlations must be identified and managed. This will involve sensitizing parents, schools, health professionals, and vulnerable communities to delinquency and mental health issues and empowering them to seek care.

## O-18

### Trends and predictors of incidence and mortality of acute myocardial infarction in the small island developing state of Barbados

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**Objective:** To determine trends and predictors of acute myocardial infarction (AMI) incidence and mortality

**Methods:** Information on each AMI diagnosis was collected by the Barbados National Registry for Non-Communicable diseases (BNR) from the island's only tertiary hospital, the Queen Elizabeth Hospital, and the National Vital Registration Department. Surviving participants were followed-up at 28-days and at 1-year post AMI via telephone and using death records. Age-standardized incidence and mortality rates were calculated. Determinants of mortality during the first month (28-days) were examined in logistic regression models. Median and interquartile range (IQR) were calculated for hospital performance metrics (such as time from pain onset to reperfusion).

**Results:** In the 10-year period between 2010 and 2019, 4,065 cases of AMI were recorded. The median age of the sample was 73 years (IQR: 61 to 83) and approximately half (47%) were female. Over the 10-year period, age-standardized AMI incidence increased for everyone, with a larger increase among men (women: 3 additional cases per 100,000 each year, 95%CI 1 to 6,  $p=0.02$ , men: 6 per 100,000, 95%CI 4 to 8,  $p<0.001$ ). There was no 10-year increase in 28-day mortality in women, but in men mortality increased each year by 2.5 deaths per 100,000 (95%CI: 0.4 to 4.5;  $p=0.02$ ). Of the risk factors examined, after adjusting for age and sex, both diabetes and hypertension were associated with higher odds of mortality at 28-days, with odds ratios (95% CI) of 2.97 (2.06,4.27) and 1.84 (1.22,2.78), respectively.

**Conclusion:** AMI incidence and mortality are broadly increasing, with rates increasing faster among men.

## O-19

### Effectiveness of an inpatient stroke unit in a resource limited setting: Findings from the Barbados National Registry

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**Objective:** To assess the reach, effectiveness and adoption of a hospital stroke unit in Barbados.

**Methods:** We used data from the Barbados National Registry for Non-communicable Diseases (BNR), for all diagnosed cases of acute stroke. We described the characteristics of those admitted to the Queen Elizabeth Hospital (reach). We examined clinical effectiveness using in-hospital case fatality rates. We assessed the adoption of stroke unit therapies by examining the factors associated with (occupational

(OT), physiotherapy (PT) or speech therapy (ST)) using multivariable logistic regression models.

**Results:** Of the 2,491 strokes registered from 2016 to 2020, 38% were admitted to the stroke unit (SU). Admission rates ranged from 32% (2020) to 42% ( $p=0.012$ ). Persons admitted to the SU tended to be younger (by 5 years), male, and had similar proportions of ischemic stroke, hypertension and diabetes compared to those on other wards. After adjusting for age, sex, Glasgow Coma Scale, co-morbidities, persons admitted to stroke unit were more likely to receive OT (Odds Ratio: 11.1 95% CI (8.0, 15.4)), PT (OR: 5.2 95% CI (3.3, 8.2)) and ST (OR: 6.6 95% CI (4.8, 9.1)) compared to those admitted to other wards. There was a non-statistically significant reduction in hospital case fatality for those admitted to SU versus those on other wards (OR: 0.77 95% CI (0.56, 1.06)).

**Conclusion:** We found SU admission led to more rehabilitative care and fewer deaths but less than half of eligible acute stroke patients were admitted. The admission reduction seen in 2020 was likely due to pandemic induced resource limitations.

## O-20

### Survival of COVID-19 cases after vaccination: Analysis using data from Jamaica's National Surveillance System

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**Objective:** To estimate (i) survival after SARS-CoV-2 infection by COVID-19 vaccination status, and (ii) COVID-19 vaccine effectiveness in a middle-income country.

**Methods:** Secondary analysis of data from the national surveillance and vaccination databases was conducted. A total of 1,582 vaccinated cases were compared with 44,196 unvaccinated cases. The primary outcome was COVID-19 death classified based on WHO criteria. Data were analyzed by vaccination status, age, sex, geographic region and wave period. Kaplan-Meier curves were plotted; log-rank followed by multiple comparison tests were used to compare survival probabilities. Cox proportional-hazards models

estimated hazard ratios (HR). Vaccine effectiveness was computed as  $(1 - \text{HR}) \times 100\%$ .

**Results:** There were 23 (1.2%) deaths among COVID-19 vaccinated and 1,821 (98.8%) deaths among unvaccinated cases after follow-up of 327 days. Survival was greater in vaccinated versus unvaccinated cases even after stratification by demographic characteristics ( $p < 0.001$ ). However, survival was greater in the 18-64 year age group when compared with the elderly ( $p < 0.001$ ), and in males versus females, irrespective of vaccination status ( $p < 0.001$ ). There was no difference in survival among vaccinated cases by geographic region and wave period ( $p > 0.05$ ) but significant differences were observed among unvaccinated cases ( $p < 0.001$ ). After adjustment for age, sex, and geographic region, the effectiveness against COVID-19 death across all vaccine types (ChAdOx1 nCoV-19, BNT162b2, Ad26.COV2.S or BBIBP-CorV) was 69% (95%CI: 53–79). Effectiveness was 77% (95%CI: 62–86) for ChAdOx1 nCoV-19.

**Conclusion:** COVID-19 vaccines were effective in preventing COVID-19 death in a population with low vaccination coverage.

## O-21

### Secondary Clinical Attack Rate of COVID-19 and Associated Risk Factors in Jamaica using National Surveillance Data

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**Objective:** To estimate the secondary clinical attack rate (SCAR) for COVID-19 and determine factors associated with SARS-CoV-2 transmission in Jamaica.

**Methods:** A cross-sectional analysis of surveillance data was conducted using confirmed COVID-19 cases reported to the National Surveillance Unit (NSU) from March 10 to July 31, 2020. Primary and secondary cases were identified through contact tracing. Definitions of confirmed, primary, and secondary cases were based on WHO guidelines, while close contacts were defined per the Ministry of Health and Wellness, Jamaica protocol. Frequency and proportions by

age and sex were calculated. Poisson regression was used to compute SCAR and crude risk ratios were calculated.

**Results:** This analysis included 362 cases (30 primary, 332 secondary) and 1,337 contacts of primary cases. The overall SCAR was 12.6% (95% CI: 10.8-14.6), and the transportation setting had the highest transmission rate (43.8%, 95% CI: 20.9-91.8). Male primary cases had a 40% lower risk of infecting close contacts compared to females (RR 0.6, 95% CI: 0.4-0.9), while contacts in the 60-to-79-year age group were twice as likely to be symptomatic compared to those 20-to-39 years of age (RR 2.0, 95% CI: 1.1-3.8). Primary cases in the North East region had 70% lower risk of infecting close contacts (RR 0.3, 95% CI: 0.1-0.9) compared to those in the South East region.

**Conclusion:** Our study found differences in the SCAR by age, exposure setting and regional distribution. These data provide the basis for public health actions aimed at mitigating COVID-19 transmission.

## O-22

### Exploring the factors influencing COVID-19 vaccine hesitancy among the adult population of Trinidad and Tobago

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**Objective:** To explore the socio-demographic, individual, social/organisational, and vaccine-specific factors influencing COVID-19 vaccine hesitancy among the adult population of Trinidad and Tobago.

**Methods:** A cross-sectional study was conducted using an online survey distributed via social media platforms in June 2022. A convenience sample of persons residing in Trinidad and Tobago, aged 18 years, completed the survey. Data were analysed using SPSS v.28.

**Results:** The majority of the 406 respondents (80%) received the COVID-19 vaccine. Persons were less likely to be vaccinated if their occupation was within the agriculture, [OR=0.11,  $p=0.009$ ] tourism, [OR=0.17,  $p=0.024$ ] education, [OR=0.18,  $p<0.001$ ] or business [OR=0.19,  $p<0.001$ ] sectors, were aged 50-59 [OR=0.38,  $p=0.021$ ] were influenced by family and friends [OR=0.14,  $p<0.001$ ] or feared vaccination because of their awareness of experiences of adverse reaction to vaccinations in general [OR=0.07,  $p<0.001$ ]. Unvaccinated participants reported international public health officials as most trusted sources of information, belief that the vaccine was ineffective (21%), that

their vaccine decision was influenced by family and friends (25%) and concerns about “an inadequate period of testing” of the vaccine (21%). A need for more information on the long-term effects of vaccines was expressed.

**Conclusion:** Various occupations, older age, the influence of family and friends, and several vaccine-specific factors such as awareness of adverse reactions to vaccines, inadequate period of testing for COVID-19 vaccines, and concerns about vaccine side effects, safety and efficacy were associated with being unvaccinated. These findings may be used to strengthen current public health measures addressing COVID-19 vaccine hesitancy.

## O-23

### The Risk of COVID-19 Death in Jamaica by Wave Period

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**Objective:** To describe the characteristics of COVID-19 mortality and to determine the risk of COVID-19 death by wave period in Jamaica.

**Methods:** A cross-sectional analysis was conducted using data on confirmed COVID-19 cases reported to the National Surveillance Unit from August 5, 2020 to October 4, 2022. Definitions of a confirmed COVID-19 case and death were based on WHO guidelines. Chi-square analysis and Fisher’s Exact tests were used to test for associations with COVID-19 mortality. Multivariate logistic regression models were used to determine risk of death by wave period, adjusting for age, sex and health region.

**Results:** 143,270 cases (42% male, 58% female) were included in the analysis. Majority of cases (53%) were <40 years of age. There were 3,394 COVID-19 deaths. The risk of death increased among males OR: 1.3 (95% CI: 1.2-1.4), persons from the Western Health Region OR: 1.5 (95% CI: 1.4-1.7) and persons 40 years and older OR: 18.6 (95% CI: 16.1-21.5). In comparison to wave 4, the odds of death were OR: 3.3 (95% CI: 2.9-3.7) for wave 3 and OR: 3.1 (95% CI: 2.7-3.7) for wave 1.

**Conclusion:** Among wave periods, the risk of death was greatest during the wave period where the Delta variant was predominant (Wave 3). There was an increased risk of death beginning at age 40 years, with males disproportionately affected. The likelihood of COVID-19 death was also highest among persons from the Western health region. This reinforces the need for a responsive and adaptive surveillance system, as well as social and clinical interventions among high risk groups.

## O-24

### Findings from a process evaluation of a community garden intervention for non-communicable diseases (NCDs) prevention among an Indigenous population in the Caribbean.

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**Objective:** There is promising evidence that faith-based organisations can help members adopt new health behaviours and address health inequalities. In the Congregants Taking Action Against Non-Communicable Diseases (CONTACT) study, the Kalinago community drove the idea of a gardening intervention with their churches to prevent the rising incidence of NCDs. We explored the feasibility of trained Indigenous health advocates (IHAs) congregants in churches promoting community gardening to prevent obesity and hypertension.

**Methods:** Using a participatory approach, four congregants, one per church, were recruited with the help of religious leaders and primary health care nurses and trained in nature gardening, screening for hypertension and health education. Eight semi-structured interviews were conducted with the IHAs pre-and post-intervention. Interview sessions were tape-recorded with consent; the average session was 45 minutes, transcribed verbatim by a professional transcriber, and reviewed by the researcher.

**Results:** Analysis of interviews produced three broad themes and nine sub-themes. These were (1) perceived enablers: community engagement and co-production, sense of ownership and self-efficacy, altruism, and social cohesion, (2) perceived benefits: diffusion into the community, increase in healthy lifestyles, and sharing with the community, (3) perceived challenges: environmental, distance and access to the garden sites, and insufficient resources.

**Conclusion:** Community engagement through co-production can enhance the acceptability, success, sustainability, and scalability of community garden interventions for promoting health and well-being in an Indigenous community. Findings contribute to knowledge on this subject and imply



that despite some environmental and logistical challenges, a culturally sensitive co-production approach can maximise social capital within places of worship in Indigenous communities.

### O-25

#### **Socioeconomic status and uncontrolled hypertension in urban Jamaica: a cross-sectional study**

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**Objective:** To estimate the prevalence of uncontrolled hypertension among persons in urban Jamaica and investigate if there were any associations with socioeconomic status (SES).

**Methods:** We conducted a cross-sectional study using data from 809 urban residents, aged >15 years, from the Cardiovascular Health in Urban Communities Study. Trained observers collected sociodemographic data and obtained blood pressure and anthropometric measurements using standardized protocols. Uncontrolled hypertension was defined as BP =140/90 mmHg among participants who were aware of their diagnosis. Education and median community property value were used as SES measures. Associations were evaluated in sex-specific logistic regression models.

**Results:** The overall prevalence of hypertension was 39.9%. Among those who were aware of their diagnosis, 67.5% had uncontrolled hypertension; there was no sex difference (males, 67.7%; females, 67.4%;  $p=0.963$ ). Education was inversely associated with uncontrolled hypertension among females [(OR 0.39, 95%CI [0.17, 0.93],  $p=0.034$  for post high school education compared to primary education) in multivariable models adjusted for age, BMI, salt intake and physical activity. For male participants, those from communities in the higher land value tertiles had lower odds of uncontrolled hypertension (middle vs lowest tertile: OR 0.38, 95%CI [0.08, 1.62],  $p=0.191$ ; highest vs lowest tertile: OR: 0.26, 95%CI [0.06, 1.08],  $p=0.063$ ) after adjusting for potential confounders.

**Conclusion:** Approximately two-thirds of persons with hypertension in urban Jamaica have uncontrolled hypertension and this was inversely associated with sex specific markers of SES.

### O-26

#### **The Relationship between Tissue Fibrosis Biomarkers and Physical Function and Body Composition: A Pilot Study**

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**Objective:** To examine the association between protein biomarkers of fibrosis and body composition and physical function in older African-ancestry men living on the Caribbean island of Tobago.

**Methods:** Men ( $n=130$ ) were enrolled in the ongoing Tobago Health Studies. Using stored blood samples, the following biomarkers were measured by multiplex immunoassays: CC Chemokine ligand 18 (CCL18), Matrix metalloprotease 2 (MMP2), MMP7, Galectin-3, Growth differentiation factor 15 (GDF15), Osteopontin (OPN), Resistin, Procollagen type III N-terminal peptide (P3NP). At the time of blood collection, grip strength, 4-meter gait speed and peripheral computed tomography (pCT) scans for calf and thigh intermuscular adipose tissue (IMAT), muscle size, and muscle density. The association between biomarker levels and the measures of physical function and body composition were determined by separate linear regression models adjusted for age, height, weight, chronic diseases, and smoking status.

**Results:** Participants had a median age of 74.5 [IQR = 69, 79]. OPN ( $\beta = -2.2$ ,  $p = 0.04$ ) was significantly associated with weaker grip strength. Galectin-3 was significantly associated with higher IMAT ( $\beta = 234.6$ ,  $p = 0.02$ ) and worse muscle density. MMP7 ( $\beta = -649.6$ ,  $p = 0.004$ ) was significantly associated with lower calf muscle volume. GDF15 ( $\beta = -57.9$ ,  $p = 0.01$ ) was significantly associated with decreased thigh muscle volume.

**Conclusion:** Higher levels of fibrosis biomarkers were associated with worse muscle strength and muscle composition profiles in African-Caribbean men living on Tobago. Fibrosis may be an understudied mechanism leading to age-related declines in muscle performance and adverse body composition remodeling.

### O-27

#### **The Prevalence of Chronic Airflow Obstruction in a Jamaican Cohort >.40 years - Results of the Burden of Obstructive Lung Disease (BOLD JA) Study.**

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**Objective:** To determine the population prevalence of Chronic Obstructive Pulmonary Disease (COPD) in Jamaica

**Methods:** As part of the international Burden of Obstructive Lung Disease (BOLD) study, an island wide multistage sampling was performed and 84 Primary Sampling Units were selected. All members of the household aged 40 and over were deemed eligible and had questionnaires administered and spirometry performed. Spirometry measured Forced Expiratory Volume in 1 second (FEV1.0) and Forced Vital Capacity (FVC) according to the American Thoracic Society (ATS) and European Respiratory Society (ERS) standards. The predicted values for FEV 1.0 and FVC were obtained using NHANES 3 reference equation and from local equations. COPD was diagnosed using Global Initiative for Chronic Obstructive Lung Disease (GOLD ) criteria. Ethics approval was obtained from the Mona Research Ethics Committee

**Results:** Of the 907 eligible participants, 795 participants completed the Questionnaires and did post bronchodilator spirometry yielding a response rate of 89%. Of the 795 responders, 578 (72.7%) had acceptable post bronchodilator spirometry of which the majority were females (58%). The population estimate for Stage 1 COPD was 12.1 % and Stage 2 COPD was 9.6% using NHANES equation with males having higher prevalence than females. The prevalence of current smoking was consistently higher in males compared with females and the largest difference was in the 60–69 age group. Estimates of COPD prevalence were greater using the NHANES 3 equation compared to the local equation (95.5%)

**Conclusion:** COPD and tobacco use are public health burdens in Jamaica and deserve calibrated health policy initiatives.

## O-28

### Climate Change and Early Warning Systems for Health: The Caribbean Perspective.

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**Objective:** To describe best practices and lessons learned to date in the development of Early Warning Systems (EWS) for health in the Caribbean.

**Methods:** This project adopted a collaborative, multi-strategic approach engaging national and regional stakeholders in the health and climate sectors. Baseline assessments and feasibility studies were conducted to determine country readiness for EWS development and pilot implementation.

Following data harvesting, statistical risk prediction models were developed integrating health and climate data. After system set up, users should conduct testing to determine the accuracy and reliability of health event forecasting.

**Results:** Incipient work in the Caribbean has focused on the development of EWS for Vector Borne diseases (VBD) due to the availability of complete health data sets in this area. EWS can be structured to include multiple hazards and other variables to increase predictive ability on a routine basis, as well as post natural disaster events. In the Region, health EWS are integrated into a multisectoral, holistic intervention strategy for building climate resilience.

**Conclusion:** EWS have been successfully used to increase the lead time before an epidemic or event occurs, allowing action to prevent significant numbers of disease cases or fatalities. To support EWS work, surveillance systems in the Caribbean should be further strengthened to increase data availability for modelling of other climate sensitive diseases and conditions. This critical work requires continuous resource mobilisation to ensure that the gains made to date in the Region are expanded on and sustained in the future.

## O-29

### The Bahamas Climate Change and Health Survey - Pathways to Recovery and Resilience

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**Objective:** To assess the knowledge, attitude and practice (KAP) with regard to climate change and health among healthcare professionals, environmental officers, civil society and the general public.

**Methods:** The KAP Survey was approved as an electronic based convenient sampling tool by the Medical Research Oversight Ethics Committee in The Bahamas. A convenient national sample between 18-65 yrs self selected to participate in the survey via targeted email marketing to healthcare professionals, environmental officers and civil society or via a national text messaging to the general population between October -November 2022. Persons were able to decline if they were not interested. Those who were interested were directed to The Bahamas KAP site to complete the survey.

**Results:** Data from 3,505 respondents were analyzed of which 86% were general public (gp), 8.67% were healthcare professionals (hp) and 5.24% represented environmental officers and civil society. Most respondents had heard about climate change (85.6%) and global warming (85.5%). Nearly 80% agreed that climate change was real and 73.3% thought that it was happening now. Among the general public and health professionals, less knew of climate resilient health systems (gp:32.6% vs hp:34.5%) and SMART/



green healthcare facilities (gp:39.9% vs hp40.5%). As to the cause of climate change, less than 2 of every 5 persons (36.6%) thought it was due mostly or entirely to human activities, with percentages only slightly higher for environmental workers and health professionals (44.0% and 43.1% respectively). However, just a quarter (24.9%) did not acknowledge the human contribution to climate change. For protection against illness due to climate change, the most frequently mentioned measures were education (47.9%), reducing air pollution (45.2%) and monitoring diseases that occur (41.2%). Over half of the respondents (56.9%), thought that it is everyone's responsibility to do something about climate change. A similar proportion (56.1%) want to do something to combat climate change but slightly less (46.9%) thought that they could do something, and even less (31.9%) have attempted to do so.

**Conclusion:** The survey indicated that although some people believe climate change is real their knowledge about the cause and their efficacy about how to address it was lacking. Therefore, there is a need for a national educational campaign to increase knowledge and understanding of climate change and its causes so as to increase persons awareness of their personal contribution and enhance their personal protection against the adverse effects of climate change. As for healthcare professionals; courses on climate change and health and on emergency planning and response be part of the training of all health care workers. Also, that repeated electronic surveys should be utilized to monitor the progress in educational level and practice of climate change interventions.

### O-30

#### **The Caribbean Public Health Agency's Laboratory response to COVID-19 and its impact on tourism in the Caribbean Region.**

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**Objective:** To provide laboratory surveillance data on COVID-19 variants in circulation in the CARPHA Member States (CMS) to facilitate identification and mitigation of the risks to their health status, tourism product and economies.

**Methods:** 153,443 suspected COVID-19 samples referred to CARPHA December 2020- December 2022 were tested. Whole-genome Next Generation Sequencing was conducted on positive samples meeting the sequencing criteria and the presence of variants of concern (VOC), variants of interest (VOI) and variants being monitored (VBM) was determined. Results were communicated promptly to the CMS to inform public health decision-making

**Results:** 42,889 (27.95%) samples tested positive for SARS-CoV-2 with 35,900 (23.4%) corresponding to new

cases. Of 4,740 samples which met the gene sequencing criteria, VOC or VOI were identified in 3,686 (77.8%). 132 (2.8%) were deemed VBM as classified by WHO. Results show that between December 2020-December 2022, the major variants in circulation globally were in circulation in the Caribbean. Additionally, during relaxation of COVID-19 restrictions and the resumption of wide-scale foreign travel in 2022, Omicron sub-lineages were the major variants in circulation in the CMS.

**Conclusion:** Determination of SARS-CoV-2 variants in circulation can be utilized to determine the potential health risk for the populations of the CMS. Laboratory surveillance data can be utilized to inform public health decision-making which not only mitigates these risks but impacts positively on the tourism product and economies of the Member States. The integrated surveillance system of CARPHA is therefore a valuable tool for the advancement of the health and economic status of its Member States.

### O-31

#### **COVID-19 Pandemic Response through the Regional Tourism and Health Program**

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**Objective:** To illustrate the multifaceted approach and versatility of CARPHA's Regional Tourism and Health Program (THP) in responding to the COVID-19 pandemic.

**Methods:** THP was developed to support the coalescence of health and safety into Caribbean tourism. With the advent of COVID-19, THP expanded and realigned its suite of RPGs for more rapid and relevant response, including the expansion of its electronic, early warning and response Tourism and Health Information System (THiS), and Caribbean Vessel Surveillance System (CVSS), tourism health technical guidelines, capacity building, advancing the Caribbean Traveller's Health Assurance Stamp for Healthier Safer Tourism (HST), COVID-19 Tourism Task Force, advocacy, promotion, partnerships and networks.

**Results:** This was expanded to include restaurants, tours, transportation, airlines, yachts, with an increase in the number of countries and facilities using THiS by 58% and 81% and the capturing of COVID-19 cases that would have gone unnoticed. Approximately, 1583 CVSS alerts were sent to Member States resulting in denying the ship's entry or other public health measures. Rapid response mitigation activities involving the accommodations and maritime sectors followed. Nine technical guidelines were produced, almost 8000 persons trained in COVID-19 measures, 110 tourism entities awarded the HST stamp, partnerships were strengthened, there were social media boosts (85,000 post

reach), 7 magazine ads promoting HST and 27 videos were produced.

**Conclusion:** This tourism-focused multifaceted approach of enhancing surveillance, response, training, awards, partnerships and advocacy, strengthened national and regional capacity to mitigate against COVID-19 and other health threats, demonstrating the necessity of THP in responding to the pandemic in tourism-dependent Caribbean region.

### O-32

#### **The Significance of Electronic, Real-time Health Surveillance Systems for Healthier, Safer Tourism**

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**Objective:** To describe the significance of electronic, real-time health surveillance systems for active/real time surveillance and response to tourism-based illnesses

**Methods:** The THP has implemented two electronic syndromic health surveillance systems for early warning as response to tourism-based illnesses. The Tourism Health Information System (THiS) captures illnesses in accommodations and other land-based facilities, and the Caribbean Vessel Surveillance System (CVSS) captures illnesses in travellers and crew onboard cruise ships and vessels. Both are geared towards collecting and analysing health data in real or near real time and issues electronic alerts to countries when a threshold of an illness is surpassed.

**Results:** In 2022, 31 syndromic THiS alerts were generated comprising of 64 individual cases, 90% of which were responded to. From October 2021-December 2022, 1583 CVSS alerts were issued to countries before ships arrived at the ports, providing timely information for appropriate public health interventions for safe cruise tourism for both local and travellers. There were also rapid response mitigation activities involving both the accommodations and maritime sectors with Tobago, Bermuda, Cayman, Bahamas, Jamaica.

**Conclusion:** These novel, electronic tourism surveillance systems has enabled the rapid capturing and response to tourism related illnesses, resulting in reduced spread and occurrence of large outbreaks, thereby contributing to improved regional health security. They also captured illnesses not reported by national surveillance systems. They allow for the health and tourism sectors in the Caribbean to work together for an integrated response to tourism based public health threats and thus healthier safer tourism.

### O-33

#### **Long-term exposure to Sargassum-seaweed pollution in the French Caribbean Islands: clinical characteristics, consequences, and outcome**

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**Objective:** Since 2010, there has been an unexplained increasing invasion of Sargassum on the coast of Caribbean countries, including Martinique, Guadeloupe, Saint Martin, Saint Kitts, Haiti, Dominican Republic, Cuba, Jamaica, Saint Lucia, Barbados, and Puerto Rico. The objective of this study was to evaluate the clinical characteristics and consequences of long-term exposure to Sargassum gaseous emissions among the local population

**Methods:** From March 2018 to December 2022, we conducted a prospective follow-up of a patient cohort admitted to the emergency department of the University Hospital of Martinique due to exposure to sargassum. Patients were managed according to the protocol established by the Research Group on Sargassum in Martinique. We assessed patients' exposure to Sargassum and air pollutants based on recordings of coastline sensors measuring H<sub>2</sub>S and NH<sub>3</sub> levels and data from the Regional Air Quality Observatory. Demographics and clinical data (including cardiovascular, neurological, and respiratory events) were collected

**Results:** In the 6-year study period, 560 patients were included (age: 48 ± 20 years, 250M/310W, hypertension (N=85), diabetes (N=89), asthma (34), chronic renal insufficiency (N=13)). Patients mostly arrived with referral letters from their general practitioner (80%) and presented headaches (76%), developed gastrointestinal disturbances (79%), dizziness (54%), skin lesions (30%), cough (44%), and conjunctivitis (33%). Not all patients were clinically symptomatic. Initial lung function tests were normal (50%). Three patients were admitted to the intensive care unit

**Conclusion:** Our study indicates that the magnitude of health effects following long-term exposure to Sargassum may be larger than previously recognized. Efforts to limit long-term exposure are necessary

### O-34

#### **Risk of Infectious Disease Outbreaks Following Natural Disasters in the Caribbean Region.**

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**Objective:** To investigate the risk of infectious disease outbreaks following natural disasters in the Caribbean, specifically from hurricanes and floods.

**Methods:** A systematic review was conducted for this research. Various research databases as well as reports and articles published by WHO, PAHO and CEDEMA were selected to abstract relevant data. This was done utilizing the PRISMA flow diagram.

**Results:** Following the inclusion and exclusion criteria, a total of 974 studies were identified from databases and an additional 13 were identified through other sources. The 974 database studies were de-duplicated and 961 were identified for screening; following which 837 were excluded (87%). The remaining 124 studies were assessed for eligibility and a further 101 were excluded because they did not fit the inclusion criteria. A total of 36 studies satisfied the inclusion criteria, (23 from databases and 13 from additional sources), and were included in the systematic review.

**Conclusion:** The risk of infectious disease outbreaks following hurricanes and floods within the Caribbean is not as common as may be perceived. Despite these findings, the risk of such occurrences should not be taken for granted, especially when taking into consideration the region's natural location and size which makes it highly vulnerable to natural disasters. Additionally, underlying challenges such as underdeveloped infrastructure, inadequate WASH systems and overall economic capacity to withstand the effects of natural disasters remain a concern especially when coupled with other health emergencies like COVID and climate change.

### O-35

#### **Respiratory Syncytial Virus Bronchiolitis in Tropical Areas: Example of a 12 years Analysis from French Caribbean Martinique Island**

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**Objective:** The main objective was to describe the seasonality of Respiratory Syncytial Virus (RSV) bronchiolitis epidemic and the clinical characteristics of hospitalized infants in Martinique. Based on few studies, epidemiology and seasonality of RSV bronchiolitis in the tropics seems different from temperate zones. Better knowledge of epidemic characteristics, could help us to improve care of the hospitalized infants in the Caribbean region.

**Methods:** Retrospective single-center observational study that included infants younger than 2 years of age hospitalized at the CHU Martinique for RSV-positive bronchiolitis

from January 2007, to December 2018. Ethical considerations: Each legal representative was informed of the study by personal letter. The Institutional Review Board of the Martinique University Hospitals approved the study. Data were collected from the patient's hospitalization report.

**Results:** In all, 1176 cases were included. Epidemics occurred during the rainy season, starting in September, peaking in October/November and ending in December/January. A distinct seasonality trend was observed: epidemic magnitudes alternating biannually between high and lower incidence peaks. The duration of epidemics was  $11 \pm 3$  weeks. Median hospital stay was 4 days (IQR 3-7 days). Median age was 3 months (IQR 2-7 months), with 14.1% of patients born prematurely, 2.5% presenting with congenital heart disease and 41.1% requiring oxygen therapy.

**Conclusion:** In Martinique, RSV bronchiolitis epidemic in infants occurs during the rainy season (September to January) with a regular biannual pattern. Knowledge of local seasonality has enabled clinicians to better anticipate hospital organization before epidemic (reinforcement of prevention measures and timing of monoclonal antibodies prophylaxis).

### O-36

#### **What we can Learn for Older Adults from the 2014 Chikungunya Outbreak in the French West Indies**

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**Objective:** The aim of the study was to highlight particularities concerning older adults infected by CHIKV compared to younger counterparts, and to propose an adaptation of the clinical forms for older adults.

**Methods:** A single centre cohort was built from retrospective cases. Eligible patients were aged 65 years or older, who underwent biological testing using RT-PCR. For the purpose of comparison, a random sample of young adults was selected. Patients whose clinical and/or biological data were missing in their medical records were excluded.

**Results:** In all, 687 older adults constituted the cohort (467 positive, and 220 negative RT-PCR). Performance indicators of the Mayotte and the Reunion Island scores in our cohort were poor: Youden's index ranged from 1% to 30%. In contrast, a new score derived from our cohort had better metrological performances (Youden's index=57% (95% CI: 54%-60%). Misdiagnosis rate of CHIKV infection was



higher in the older adults (31%) than in the younger ones (6%), ( $p < 0.001$ ). According to the WHO definitions 43% of older adults could not be classified in any category (vs. 17% in younger ones). After adaptation of the WHO definitions, the 114 unclassifiable patients were reclassified as follows: eight were reclassified as typical cases, 50 as atypical, 42 as severe, and 14 remained unclassifiable.

**Conclusion:** The most frequent clinical presentation of CHIKV infection in aged adults differs from that most commonly observed in younger adults. This leads to more misdiagnosis rates in older patients. Adapted definitions appear to be more appropriate, and could help improve management of older patients with CHIKV infection.

### O-37

#### Impact of a Vaccine Mandate on infection rates at a Tertiary Education Institution in Grenada

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**Objective:** A vaccine mandate to enter a tertiary educational institution (TEI) campus was enacted in June 2021 which aimed at reducing severe disease from SARS-CoV-2, and to reduce transmission.

**Methods:** This retrospective longitudinal study examined the positivity rate amongst the TEI community before and after the vaccine mandate.

**Results:** The average proportion of TEI positive results was 10.3% (95% CI: 9.8% to 10.8%). This varied by group from a low of 5.7% (95% CI: 4.8% to 6.6%) for staff to 17.0% (95% CI: 15.5 to 18.5) for other members comprising of vendors and fishermen. The staff and others were statistically significantly different from all other groups ( $p < 0.001$ , with Bonferroni adjustment for multiplicity).

TEI students had an average positive test proportion of 10.5% (95% CI: 9.7% to 11.4%) with a positive proportion of 8.1% (95% CI: 6.8% to 9.4%) for students living on campus and a higher proportion for students living off campus (11.7%, 95% CI: 10.7% to 12.7%). Comparing the students living on campus with the rest of the TEI community – all of whom lived off campus – the odds were 8:1 in favor of a positive test result for off-campus individuals but 11:1 for on-campus individuals giving an odds ratio of 1.4 (95% CI: 1.1 to 1.6), which is a trivial effect.

**Conclusion:** Transmission was reduced amongst students living on campus compared with those living off campus. The four distinct transmission waves of SARS-CoV-2 recorded on campus matched the records of transmission in the Grenada population. There were no severe illnesses

recorded amongst the TEI community. Vaccination did not appear to impact transmission.

### O-38

#### Knowledge, Attitudes and Practices of Stethoscope Hygiene and Microbial Contamination of Stethoscopes at Georgetown Public Hospital Corporation, Guyana

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**Objective:** To evaluate and compare the KAP of doctors and medical students about stethoscope hygiene; and investigate the microbial load and prevalence of MRSA on stethoscopes from doctors and medical students at GPHC.

**Methods:** This cross-sectional, experimental study surveyed 100 participants (50 doctors and 50 medical students) and sampled their 100 non-duplicate stethoscopes. A piloted questionnaire was used to ascertain whether there were any significant differences between doctors and medical students with respect to their KAP about stethoscope hygiene. Various microbiological tests were used to determine the microbial load and presence of MRSA on the stethoscopes.

**Results:** The mean bacterial load of stethoscopes belonging to medical students was significantly higher when compared to doctors ( $p = 0.005$ ). Additionally, 8 stethoscopes were contaminated with MRSA and these were mostly from medical students. All participants had excellent knowledge of the spread of nosocomial pathogens and the role of stethoscopes in transmission. However, only half of the participants acknowledged cleaning their stethoscopes after each patient. Furthermore, time constraints (27%), complacency over time (20%) and too many patients (17%) were the common reasons why stethoscopes were not cleaned frequently.

**Conclusion:** Medical students and doctors at GPHC possess excellent knowledge on transmission but they do not adequately clean their stethoscopes. This can increase the risk of microbial transmission, which has a negative impact for the patient and an additional economic cost to the hospital. Management and curriculum developers should use this study as an impetus to introduce rigorous quality assurance and infection control training.

### O-39

#### An Examination of the Growing Incidence of “Chemsex” Among the Men Who have Sex with Men Population in Region 4 of Guyana

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**Objective:** This study is intent on examining the influence of chemsex on the sexual behaviours of men who have sex with men (MSM) in region 4.

**Methods:** The study was conducted initially through secondary data collection to investigate the correlation between chemsex and high-risk sexual behaviour among MSM. A mixed method study design was then undertaken to investigate chemsex and sexual behaviours of a sample of 101 of the 1837 men who have sex with men who live in region 4, as well as the awareness and sensitivity of policymakers to this information.

**Results:** The investigation revealed that of the 101 respondents surveyed, 66.7% reported that they have engaged in chemsex. The study also revealed that 55.3% of all respondents reported seeing notable or major changes in their sexual behavior, with an increased likelihood of engaging in behaviour that includes condom-less anal intercourse, multiple sexual partners, and anonymous sex. The study also revealed that policymakers are aware of the correlation between chemsex and high-risk sexual behaviours but policies to address them are still being developed.

**Conclusion:** This study revealed that a substantial portion of the MSM population of region 4 has engaged in chemsex and reported a higher likelihood of high-risk sexual behaviour as a result.

#### O-40

##### **Estimating the Direct Medical and Indirect Cost of Interpersonal Violence Injuries: A Three Country Study**

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**Objective:** To estimate the direct medical and indirect cost of interpersonal violence injuries in Barbados, Bahamas and Jamaica in 2019

**Methods:** The study retrospectively reviewed 298 medical records of interpersonal injuries from 2019, in Barbados, Bahamas and Jamaica using random and convenience sampling. The “World Health Organization manual and methodology for estimating the economic costs of injuries due to interpersonal and self-directed violence” was used to estimate the economic costs of interpersonal violence. Unit cost information from services and medications utilised was collected and applied to the health care inputs collected from patient records. Cost estimations were done by injury severity as outlined by the manual. Indirect costs were estimated using productivity loss.

**Results:** Based on available incidence figures, the total direct medical costs in 2019 was US \$ 1.3 million in the Bahamas, US\$ 451,000 in Barbados and US \$1.1 million in Jamaica. The average direct medical cost per incident in 2019 was highest for serious injuries compared to other injury severities in all countries studied. Indirect costs due to productivity losses were highest for all countries for fatal injuries.

**Conclusion:** The estimates indicate that fatal injuries tend to have the highest associated indirect costs and serious injuries the highest direct medical costs. The study results can be used to advocate for interpersonal conflict resolution programmes and tighter firearm restrictions.

#### O-41

##### **Awareness of amendments to the Jamaican Dangerous Drug Act (2015) and substance use: The role of workplace substance use policy.**

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**Objective:** To examine whether workplace substance use policy moderates the association between awareness of the amended Dangerous Drug Act (DDA) 2015 and substance use among a sample of Jamaican adults.

**Methods:** Secondary analysis was conducted on The Jamaican National Drug Use Prevalence Survey, a cross-sectional nationally representative survey completed in 2016. The survey was administered to 4623 individuals aged 12-65 years in Jamaica. Our total analytic sample size was 2,446. Multivariate logistic regressions were used to examine the role of workplace substance use policy in the association between awareness of DDA and substance use.

**Results:** Factors positively associated with marijuana use in the past 12 months included Rastafarian religion (aOR =5.04, 95% CI 1.70 - 15.00) compared to Christian reli-



gion; married (aOR 0.58, 95%CI 0.41 -0.82) compared to single; and female (aOR 0.52, 95%CI 0.35 - 0.77) compared to males. Neither workplace policy nor DDA awareness were significantly associated with marijuana use, although employed individuals with a workplace policy and those aware of the DDA were less likely to use marijuana. Workplace policy was not found to moderate the association between DDA awareness and marijuana use (aOR for two-way interaction = 1.02 95%CI 0.36 - 2.88, p=0.97).

**Conclusion:** Workplace substance use policies represent an important opportunity to promote safe environments and encourage healthy employee behavior. However, marijuana decriminalization may have further implications for employers. Investigation on the effect of different types of workplace substance use policies is also needed.

#### O-42

##### **A PESTLE Analysis on the global ageing population, a Healthcare perspective in Trinidad and Tobago.**

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**Objective:** To assess external factors affecting healthcare for Trinidad and Tobago's expanding ageing population.

**Methods:** This was a Descriptive cross-sectional qualitative study of local and international policies and articles derived from PubMed and Google Scholar searches were used to extract external factors, using the established Political, Economic, Social, Technologic, Legal and Environment (PESTLE) analysis system to examining the effect of healthcare in the ageing population.

**Results:** Trinidad and Tobago's life-expectancy has significantly increased from 63 years in 1960 to 74 years in 2020, following global trends; posing several challenges to the healthcare system. The PESTLE challenges include: Political: Government plays a vital role in health and longevity influences health and labour policies. Economic: Delaying pension receipt has a positive governmental effect but negative individual impact on health for the lower socio-economic class. Social: Migration and childlessness leads to loss of support for the elderly, burdening social services. Technological: IT developments in medical diagnostics and intervention are boosting health and social involvement of the elderly. Legal: Globally, WHO calls for Universal Health Coverage for the elderly and locally, the Division of Ageing focuses on ageing initiatives to protect the rights of the elderly, preventing elder abuse. Environment: Climate change, rise in NCDs and susceptibility to infectious disease evident by the pandemic burdens the elderly.

**Conclusion:** Healthcare policy reform, regulatory oversight and fortification of information systems can solve the challenges of Trinidad and Tobago's ageing population.

#### O-43

##### **The public health threat of human:dog zoonoses in the Caribbean**

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**Objective:** Humans share 62 zoonotic infections with dogs of which 24 (38%) are helminths. Hookworm, *Strongyloides stercoralis*, and *Toxocara* pose a potential public health threat to locals and tourists visiting the region.

**Methods:** Evidence from the published literature and from unpublished theses which bring together recent human and canine studies revealed new species of zoonotic helminths in the region. Fecal samples from dogs were collected in 2020 were analysed using zinc sulphate flotation and by multiplex qPCR. Laboratory data from the Grenada General Hospital between 2006 to 2017 were reviewed. IgG ELISA was used to examine *Toxocara* antibodies in humans. These studies were conducted in Grenada.

**Results:** Human helminth infections included cases of *S. stercoralis*, *Trichuris* spp. and hookworm. 108 (46.5% 95% CI 40-52.9) of 232 dogs were found infected with a combination of *Ancylostoma* spp., *Toxocara canis*, and a few cases of *Trichuris vulpis*. Molecular studies revealed cases of *A. ceylanicum* providing the first record of this hookworm species in the region. *S. stercoralis* was also detected molecularly. 37% (95% CI 36-38) of 92 individuals tested by IgG ELISA for *Toxocara* antibodies were positive.

**Conclusion:** No human *Toxocara* syndromatic cases have been reported in Grenada and cutaneous larval migrans cases are rare. The newly described presence of *A. ceylanicum* in the region is important to note and this presentation aims to raise awareness of this newly discovered zoonosis. *S. stercoralis* could be an important human:dog zoonosis. Molecular studies are required to confirm the species of hookworm found in humans.

#### O-44

##### **Research needs of postgraduate Doctor of Medicine students at the Faculty of Medical Sciences, University of the West Indies, St. Augustine Campus, Trinidad**

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**Objective:** Research is compulsory for Doctor of Medicine (DM) postgraduate students at the Faculty of Medical Sciences, The University of the West Indies, St. Augustine Campus, Trinidad. (FMS) Little is known about the unique research needs of these graduate students. The objective of this study was to determine the research needs of DM students at the FMS.

**Methods:** A cross-sectional study of all 173 enrolled FMS DM students was done using a de novo survey administered over the period September 2022 - January 2023.

**Results:** Of the 52 participants (response rate 30%), 71 % were female and had a mean age of 32 years. A wide range of specialities were represented with radiology, internal medicine, family medicine, general surgery, orthopedic surgery, pediatrics and anesthesia/critical care accounting for 90% of respondents. The majority of students felt there was a high need for assistance with data analysis (63%), ethics approval (61%), protected research time (60%), manuscript preparation for publication (55%), use of referencing software (53%), report writing (51%), and funding of publication (51%). Although most students (73%) did not have a publication in a pubmed indexed journal at the time of the study, 91% saw the relevance of research to their clinical training. After completion of training, 64% and 63% were likely to publish and undertake research, respectively.

**Conclusion:** This study ranked the research needs of DM students at the FMS. The priority areas highlighted in this study can be used to guide faculty and programme development.

#### O-45

##### **Estimation of the potential effectiveness and cost-effectiveness of HIV pre-exposure prophylaxis for STI clinic attendees in Jamaica**

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**Objective:** To assess the potential effectiveness and cost-effectiveness of HIV pre-exposure prophylaxis (PrEP) provision for patients at sexually transmitted infection (STI) clinics in Jamaica.

**Methods:** We considered the provision of oral PrEP to STI clinic attendees and compared it to standard STI care without PrEP. Data on STI clinic attendees was based on a retrospective record review in the Western Health Region of Jamaica. PrEP clinic cost estimates were obtained from data

reported by the Jamaica Ministry of Health and Wellness. HIV care costs were obtained from a retrospective record review of 150 HIV-positive patients attending a hospital-based HIV treatment clinic in Kingston, Jamaica. We used a Markov model to track patient HIV status and care costs over a 30-year time horizon, both for individuals on PrEP and individuals not on PrEP, and measured costs and quality-adjusted life years (QALYs).

**Results:** The estimated incremental cost per QALY gained for a patient on PrEP is JMD\$1,123,007. In sensitivity analysis, PrEP was still cost-effective at a threshold of three times the GDP per capita of Jamaica even if the annual cost of PrEP is doubled compared to the base case (JMD\$36,000 vs JMD\$18,682), or if HIV incidence is approximately half as high as we estimated in the base case (0.15% vs 0.27%).

**Conclusion:** PrEP provision at STI clinics in Jamaica is likely to be effective in reducing HIV transmission and is likely to be cost-effective when using a willingness-to-pay threshold of three times the GDP per capita.

#### O-46

##### **Antibiotic Prescribing Patterns in Two Major Healthcare Centres Among Adult Patients in Guyana**

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**Objective:** The prescribing pattern of antibiotics at two primary health care centres among adult patients in Guyana between 1st January 2020 - 30th April 2022, was investigated.

**Methods:** This was a retrospective cross-sectional study conducted at the Kitty and Campbellville Health Centres of relevant prescription data for adult patients during the specified period. The data issue registration book (DIRB), medical charts and prescriptions were reviewed, and the data analyzed using SPSS version 26. The data obtained was compared to the British National Formulary and a rationality score, and ratio were calculated to determine prescribing patterns. Descriptive analyses were calculated for quantitative data while dichotomous data were presented using proportions and percentages.

**Results:** From 1152 patient prescriptions, an overall rational to irrational ratio of 0.8 was obtained, which suggested that drugs were more often irrationally prescribed amongst the 27 categories of diagnoses examined. The most identified diagnosis was abscess (15.2%), but no rationality score could be determined due to the ambiguity of the diagnosis. Lower respiratory tract infections (8.7%) were the only diagnosis with a ratio of more than 1 suggesting appropriate treatment. Twenty percent of the data fell into the categories of "illegible and missing," and could not be evaluated.

**Conclusion:** The irrational prescribing pattern aligned with similar studies, but this is worrisome since the misuse of antibiotics has severe repercussions such as antimicrobial resistance, patient harm and increased healthcare costs. We recommend devising an antimicrobial stewardship programme, locally.

#### O-47

##### **Community HIV Adherence and Adolescent Mental Health Program (CHAMP++) - Preliminary findings of a pilot program for adolescents living with HIV in Western Jamaica**

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**Objective:** To summarize the challenges of adolescents and young adults (AYA) with HIV who transition to adult care and describe the interventions to address the psychological concerns and limited mental health resources through CHAMP++, a modified Community HIV Adherence, and Adolescent Mental Health Program (CHAMP)

**Methods:** This is a descriptive retrospective study during 2019-2022, in an adolescent HIV clinic in Western Jamaica. Psychological services, program implementation, and task-sharing activities of CHAMP++ are summarized.

**Results:** Among 64 AYA, transition and psychological issues experienced included long wait times, fear of stigma and discrimination, losing caregiver support, substance misuse, sexuality and disclosure issues, vocational and academic challenges, stress management, adherence issues, sexuality, sexual orientation, and body image issues. The major psychopathology presented among adolescents in the clinic were depression(spectrum), anxiety, posttraumatic stress disorder (PTSD), substance misuse, and disruptive behavioural disorders. Psychological services provided to children, adolescent, and their families include clinical assessments, individual, family, and group psychotherapy, crisis management, community, and staff-related training and presentation, and consultation with treatment teams, families, and NGO support groups. Parenting skills, decision-making skills, and peer support were offered. AYA and families were linked to specialized care and community-based resources. A task-sharing protocol was adopted for training the treatment team in adolescent mental health, including how to identify cases and administer basic screening tools to support psychological care and make appropriate referrals

**Conclusion:** CHAMP++ can be implemented to address psychological and transition issues among HIV-infected

AYA, and increase access to the mental health workforce through training.

#### O-48

##### **Pilot of HIV Self Testing in Guyana**

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**Objective:** • This study examined the verification and feasibility of implementing the HIV Self Testing (ST) in Guyana.

• To demonstrate the accuracy of the test, and the utilization of such testing at health facilities and the community level by individuals using these tests.

**Methods:** The ST program was conducted at four facilities National Care and Treatment Center, Campbellsville health center, Midway clinic, and at the Guyana responsible parenthood association. Each site conducted 15 tests, then administer a questionnaire to evaluate the process, Sexual orientation, feedback on improvements, gender-based violence (GBV), and Suicide.

**Results:** The pilot program started in February 2022 and revealed 2 out of 64 tests being positive. All tests were returned, and no reports of GBV or suicide were reported. 98% of participants were happy with the process. 100% of participants would like to see the test implemented in other areas.

**Conclusion:** HIVST provides an opportunity for persons to test themselves discreetly and conveniently and can engage people who are not currently reached by current HIV testing services. HIVST also provides an opportunity to continue testing partners and sexual contacts of persons diagnosed with HIV through adapted partner notification and testing modalities, as well as outreach testing based on a sexual and social network approach through secondary distribution of HIVST kits. HIVST can significantly contribute to the national and regional objectives of universal knowledge of HIV status and is an empowering and innovative way to help achieve the first 95–95–95 treatment targets by 2030.

#### O-49

##### **Substance Use Among Men who Have Sex with Men In Region 4 Guyana and its Effects on Risky Sexual Behavior**

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**Objective:** Question: How is the epidemiology of recreational non-prescription drug use and its association with risky sexual behaviour manifested among Men who Have Sex with Men (MSM) in Guyana.

**Goal:** To understand substance use/abuse among MSM in the context of the most populated region in Guyana (Region 4), the reasons for such use and the underlying causes for such reasons.

**Methods:** This was a cross sectional study which described the prevalence and factors relating to substance use among MSMs in Region 4 and seeks to measure the association principally between drug use and risky sexual behaviour. Participants were all 18 years or older at the time of the survey. The data was collected using questionnaires.

**Results:** From 117 respondents 52.2% were between the ages 18–25. 71% of all participants used marijuana, 22 % used ecstasy and another 72% used alcohol. 33% of the participants had sex with a partner known to be infected with HIV/non-HIV STI, while under the influence of a drug. 76.2% of all the respondents who used marijuana were between the ages of 18–30, 40.5 % of this group were between 21–25 years old. 57.1 % identified as Afro-Guyanese. 61.9% of those who consumed marijuana also consumed alcohol and 25.6% consumed ecstasy. There was a significant association between marijuana use and the number of male partners over the last 12 months. Specifically, MSMs who used marijuana were 2.3 times more likely to have an annual number of 5 or more male partners (regular or casual). Also, there was an association between alcohol use and post-consumption unprotected sex (sex within 8 hours of consumption).

**Conclusion:** There was a need for specific interventions among MSM pertaining to drug use, risk perception and reduction efforts. Psychosocial support would also be beneficial.

#### O-50

##### **The Microbial Burden in Poultry Broiler Chickens and the knowledge, attitudes, and practices of poultry meat handlers in Barbados**

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**Objective:** To determine the correlation between the findings of knowledge, attitude, and practices (KAPs) administered to poultry processing plant workers with the microbial burden of poultry.

**Research Question:** What is the association between the microbial burden in poultry broilers and the food safety KAPs of poultry meat handlers in Barbados?

**Hypothesis:** The lack of food safety sKAPs of poultry meat handlers increases the microbial burden in broiler chickens in Barbados.

**Design and Methods:** A cross-sectional study was deployed to poultry workers randomly selected from 18 poultry plants across the seven polyclinics under the Ministry of Health & Wellness in Barbados. Consenting respondents completed a KAP questionnaire which comprised 48 questions based on killing, evisceration, cutting, packing, and training history in the poultry processing plant. Responses were uploaded to REDCap and statistically analyzed using Stata Version 16.1. Chicken breast meat sample data obtained from results as part of the “CISARA” from the Veterinary Services in Barbados were also analyzed. A multivariate regression model was used to analyze the possible impact of the level of food safety training compared with participants with respondents’ sex, age, and experience.

**Results:** Respondents (n=201) were comprised of managers (n=18) and food handlers (n=183) (M 28.4%, F 71.6%). Food handlers’ odds of food safety training decreased by 42% for every additional year of experience (OR=0.58, P=0.00). Participants in the <20 age range for food handlers had an OR=1. Evidence showed that the likelihood of food handlers receiving training had a weaker positive relationship in the younger age ranges compared to the older age ranges. Isolates of *Campylobacter* spp. and *Salmonella* spp. were spread across all catchment areas with highs ranging from 6% and 91% respectively, in the Randal Phillips catchment to lows of 2% and 2% respectively, in the David Thompson catchment.

**Conclusion:** A comprehensive training program is needed to address gaps in KAP found in the study to improve the handling practices of poultry meat workers.

#### O-51

##### **Microbiological analysis of street-vended beverages in Georgetown, Guyana.**

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**Objective:** To analyse the bacteriological quality of street-vended juices from two of the main markets in Georgetown, by enumerating the total viable bacteria and the total coliforms and identifying *Escherichia coli* and *Staphylococcus* sp.

**Methods:** This study investigated 20 samples of street-vended juices. The type of container, whether plastic bag or bottle was noted. The juices tested included cherry, passion fruit and sorrel. Standard plate count method was used to determine total viable count on nutrient agar using serial dilutions. Media such as EMB, and MSA and other identification tests, were used to select for and identify coliforms, *E. coli* and *Staphylococcus* sp. The data were presented as mean±SD and numbers of positive samples.

**Results:** Higher microbial loads were seen with sugar cane juice (7.6±0.4 log cfu/ml or 4.6x10<sup>7</sup> cfu/ml) whilst sorrel



( $3.1 \pm 4.4$  log cfu/ml or  $7.5 \times 10^5$  cfu/ml) had the least. About 90% of samples were contaminated with bacteria with an average of  $5.8 \pm 1.9$  log cfu/ml or  $2.1 \times 10^7$  cfu/ml. Of the 20 juices, 15 contained coliforms and five yielded *E. coli*. We identified *Staphylococcus* up to genus level and this was present in 13 samples. Sorrel juice had the lowest pH (4) and there were no significant differences observed when comparing containers.

**Conclusion:** Standards for ready to drink, non-carbonated beverages state that coliforms must be absent, therefore our findings are very worrying. We recommend that governmental and non-governmental agencies collaborate to bring more awareness about hygiene and storage techniques for street vendors.

## O-52

### Evaluation of the Stop, Take a Deep Breath, and Relax (STAR) violence prevention media campaign in Grenada, West Indies

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**Objective:** To evaluate the awareness and understanding of a violence prevention media campaign, and to understand exposure to media channels in Grenada, West Indies.

**Methods:** Intercept surveys were conducted with adults in Grenada before and after a two-month media campaign encouraging people to Stop, Take a Deep Breath, and Relax (STAR) to prevent violence. Participants were asked about their media use and awareness of violence prevention advertisements, and post-campaign were also asked about exposure to the STAR campaign videos and song. Participants were asked additional questions about violence in Grenada.

**Results:** In total, 313 adults completed the pre-campaign survey and 286 completed the post-campaign survey. Most (74.7%) reported at least some exposure to radio or television, or social media. Social media use was higher for participants ages 18-44, and those >55 reported greater use of radio and television. Pre-campaign, 24.3% of participants reported exposure to an advertisement about ending violence, and post-campaign 37.4% did. There was considerably greater awareness of the campaign song (54.1%) compared to videos (27.6%), but recall and a clear understanding of the song's message was low. Most participants recognized violence in Grenada as "a very big problem" and

recommended wider-reaching, social media-focused campaigns and community outreach for future interventions.

**Conclusion:** These findings suggest that short media campaigns can reach Grenadian adults, though songs may have a greater reach than videos. There is a need for clearer, more widespread media campaigns and other interventions to address a recognized need for violence prevention efforts in Grenada.

## O-53

### Safety and efficacy of a new anti-venom Fab2 variety in treating *Bothrops* genus Snakebite Envenomings in French Territories in the Americas: a 12-year retrospective study

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**Objective:** Snake bites by *Bothrops lanceolatus* are a typical medical emergency in Martinique (30 cases/year). The first specific antivenom (Bothrofav®), made in 1993, led to a reduction in mortality. However, a recent increase in cases of ischemic stroke induced by envenoming, despite early serum infusion, suggested a decreasing efficiency. A new specific antivenom (Bothrofav®) was registered in February 2011. Clinical use of a *de novo* F(ab')<sub>2</sub> Bothrofav preparation (Bothrofav®2) in Martinique restored safety and complete effectiveness. Almost 76 patients have been successfully treated with Bothrofav®2 since 2011 without fatal cases or neurovascular complications. The objective of this study was to evaluate its safety and efficacy in a prospective series of treated patients

**Methods:** Retrospective observational study including all patients admitted due to bites of *B. lanceolatus* in the three emergency services and medical-surgical ICUs of Martinique from February 2011 to September 2022. Patients were managed according to a protocol established by the Research Group on Snake Bites in Martinique. The intravenous dose of antivenom was adapted to the grade of the bite, defined as a standard score based on clinical and biological criteria. The results were expressed as mean  $\pm$  SD or %

**Results:** In 12 years, 316 patients were included (age:  $47 \pm 17$  years, 256M/60W, history: hypertension (3%), HIV (0.9%), diabetes (0.6%)). One chronic renal insufficiency patient was bitten on the arm with the fistula for dialysis. The



site was located on the lower (44%) or higher limb (56%). Edema (96%), pain (96%) and, bleeding (70%), elevated troponin (4%) were noted and no patients presented with bleeding disorders. The time between admission and anti-venom administration was <3h in 50% of the patients. The outcome was favorable, with no fatalities. Three patients (8%) were operated on because of abscesses at the bite site. One case of thrombosis was observed at the arterio-venous fistula in the patient on dialysis. One patient had an aneurysm of the left tibial artery at the site of the bite, supported in vascular surgery. Systematic venous echo-Doppler of the lower or upper limbs showed no other cases of thrombosis. Initial MRI showed no ischemic injury, particularly in two areas of the posterior inferior cerebral arteries (PICA). The duration of the ICU stay was  $1.8 \pm 3.0$  days.

**Conclusion:** Our data support the excellent safety and likely effectiveness of early infusion of new anti-venom Bothrovav®2 if bitten by *B. lanceolatus* in Martinique or *B. caribbean* in Saint Lucia. Further studies are needed to optimize its dose regimen, especially in the most severe cases.

#### O-54

##### **Clinical features and management of acute Ciguatera poisoning in the French Caribbean territories: a case series.**

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**Objective:** Here we describe the clinical characteristics and complications of acute ciguatera poisoning in Martinique

**Methods:** Observational, retrospective, single-center study covering ten years (October 2012 to November 2022), including all patients reported for Ciguatera intoxication following microalgae-infected fish ingestion. Patients were identified through admissions to the University Hospital of Martinique or case reporting to the Regional Health Agency.

**Results:** 223 patients were treated for acute Ciguatera poisoning in the emergency room and intensive care unit of the University Hospital of Martinique (mean age  $48 \pm 3$  years, 58% women), with an incidence rate of 0.60 cases per 10,000 patient-years over the study period. The average time between meal ingestion and symptom onset was  $9 \pm 3$  hours. Clinical presentation was: 90% gastrointestinal symptoms (nausea, vomiting, diarrhea, abdominal pain), 83% neurological disorders, and 42% emergencies with cardiovascular complications (bradycardia, hypotension, inter-

ventricular block). 39% of patients also had hypothermia. Ingestion of jackfish (*Carangidae*) was related to abnormal abdominal symptomatology and significant risk of chronic signs, with respective odds ratios [95% Confidence Intervals] of 3.2 [1.5 - 6.6] and 3 [1.2 - 8.0].

**Conclusion:** Ciguatera intoxication is a public health problem to be increasingly reckoned. Its clinical presentation in Martinique (mainly defined by digestive, followed by peripheral neurological disorders and cardiovascular symptoms) presents similarities with that of other Caribbean islands, as opposed to intoxication cases observed in the Pacific (predominant peripheral neurological disorders). In endemic inter-tropical areas, the general population, medical community, and public health organizations must be better informed of ciguatoxin risks. Physicians should be particularly aware of the potential risk of significant cardiovascular complications of ciguatera poisoning.

#### O-55

##### **A System Dynamics Framework for Understanding Rising Childhood Obesity in the Caribbean**

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**Objective:** We present a framework causal loop diagram for the Caribbean that links the complex modifiable determinants of childhood obesity (social, economic, and environmental) using a stakeholder-driven systems approach

**Methods:** A participatory systems dynamic modeling approach was used to engage key stakeholders in Barbados, Puerto Rico, Trinidad & Tobago, and the US Virgin Islands to generate a causal loop diagram to represent the many interacting factors that lead to, and result from, rising childhood obesity. Through stakeholder engagement these diagrams were used to identify priority intervention areas and themes that represent a common causal loop for childhood obesity in the Caribbean

**Results:** Determinants and drivers of childhood obesity common across islands included the role of government policies in driving healthy school environments and healthy households, the role of commercial entities in informing

government policies and households, the role of societal norms accepting childhood obesity that result from the rising rates of childhood obesity and continued unhealthy households and communities, and the effect of obesity on the physical and mental health of the child which further drives unhealthy behavior. To address the challenge using the diagrams, stakeholders favored a global and all-encompassing intervention that worked with policymakers, communities, parents, and the children themselves for a healthier environment.

**Conclusion:** Participatory systems dynamics led to a deep understanding of the drivers and determinants of childhood obesity across the Caribbean. This allowed the identification of priority areas for intervention emphasizing the importance of a multi-faceted and multi-sectoral approach.

## O-56

### Adult Perception of Child Weight in the ECHORN Cohort Study is Associated with Parental Self-Perception of Weight and not Socioeconomic Status

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**Objective:** To understand the medical, environmental, behavioral, and social determinants of health associated with parental perception of a child's weight.

**Methods:** Data from the Eastern Caribbean Health Outcomes Research Network (ECHORN) Cohort Study were analysed (n=2923). Participants with children reported on whether they perceived their child to be overweight. Bivariate analyses conducted to see the association of several demographic (age, sex, socioeconomic status) and clinical factors (medical history, self-perception of weight) with perception of child weight were analysed using chi-square. Multivariable logistic regression was used to investigate association of parental-level factors with perceived child weight.

**Results:** Only 13% of respondents (n=560) perceived their child was overweight. Parental medical history of cardiovascular-related risk factors were different in the group that perceived having a child who was overweight (versus normal weight): elevated body mass index (BMI) >25kg/m<sup>2</sup> (88% vs. 74.4%, p=0.0102), history of hypertension (52 versus 36.4%, p=0.0096), history of diabetes (21% vs 16%, p=0.0078), mis-perception of their own parental weight

(10.7% vs 25.4%, p=0.0051). Parental overweight or obesity conferred a 2.14 greater odds of reporting their child overweight (p=0.0602), and parental history of diabetes confers a 1.88 great odds of reporting your child to be overweight (p=0.0432).

**Conclusion:** Parental sociodemographic factors are not associated with perception of having a child who is overweight. Presence of lifestyle diseases, such as from obesity and diabetes, conferred greater odds of perceiving a child to be overweight.

## O-57

### Contextual Factors and Ambulatory Blood Pressure Patterns

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**Objective:** High-risk BP patterns differentially impact racial, ethnic, and socioeconomic groups yet they are less often detected given reliance on ambulatory BP monitoring (ABPM). We assessed prevalence of high-risk BP patterns and the clinical and contextual factors associated with these patterns.

**Methods:** Among a sample of adults from the Eastern Caribbean Health Outcomes Network study, we assessed 24-hour ABPM, 3-day/night sleep and fitness patterns using Actigraph wristbands, and clinical and contextual data (sociodemographic characteristics, lifestyle behaviors, social experiences, and community-level variables). Gradient-boosted decision trees, K-means clustering, and one-way ANOVA (Kruskal Wallis for non-parametric data) were used to analyze associations between contextual factors and hypertension as well as to identify unique phenotypes for high-risk BP patterns.

**Results:** Among the cohort (n=77; mean 57.6 years; 65% Female), 32% had sustained hypertension, 19% normotension, 1% masked hypertension, 46% whitecoat hypertension, and 45% nocturnal hypertension/non-dipping. Clinical factors associated with hypertensive BP patterns were: obstructive sleep apnea, diabetes, asthma, menstruation, and adverse pregnancy outcomes; associated non-clinical contextual factors included: housing insecurity, neighborhood disorder and violence, absent social support, health-care overutilization, and lower life evaluation. K-means

clustering generated four unique phenotypes of clinical and non-clinical contextual factors, although not aligning with high-risk BP patterns.

**Conclusion:** Several contextual factors were associated with high-risk BP patterns, potentially informing more personalized approaches to hypertension prevention and control. However, larger cohort studies are needed to determine whether contextual factors cluster among specific hypertensive phenotypes and could be used to identify persons who would most benefit from ABPM.

## O-58

### Diabetes Prevention in the Caribbean using Lifestyle Intervention and Metformin Escalation: Results from the LIME Study

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**Objective:** To describe the reach and effectiveness of the Lifestyle Intervention and Metformin Escalation (LIME) Clinical Trial in reducing the risk of diabetes among individuals with pre-diabetes in the Caribbean.

**Methods:** LIME is a quasi-experimental study using a pre-post study design that took place between 2018 and 2021. LIME recruited individuals with high-risk pre-diabetes (hemoglobin A1c – HbA1c – between 6.0 and 6.4%) across clinical sites in Barbados, Trinidad & Tobago, Puerto Rico, and the US Virgin Islands. Eligible participants were enrolled in a 6-week lifestyle modification workshop. Six months later, individuals who did not lose at least 5% of their bodyweight or had an HbA1c of 6% or higher were prescribed metformin medication. The primary outcome was change in HbA1c at 6- and 12-months.

**Results:** Of 914 individuals screened, 211 (23%) had high-risk pre-diabetes. Of those, 114 enrolled in the study (54% reach). At 6-months follow-up, there was a reduction in average HbA1c from 6.19% to 5.95% ( $p=0.0007$ ), average weight from 86.7kg to 85Kg ( $p=0.0005$ ), with a reduction in added sugar intake from 7.3 tsp/day to 3.8 tsp/day ( $p<0.0001$ ) but no significant change in physical activity level or fruit and vegetable intake. Reduction in HbA1c (6.19% to 5.67%,  $p<0.0001$ ) and weight (85.1 to 83.7,  $p=0.0149$ ) was maintained at 12 months.

**Conclusion:** LIME is an effective diabetes prevention intervention for individuals with pre-diabetes in the Caribbean. LIME demonstrates the high burden of pre-diabetes in the community. Future work should investigate cost-effectiveness, and scale-up of the intervention.

## O-59

### Caribbean Data Sharing Initiatives: Examples from the ECHORN Cohort Study

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**Objective:** To describe the experience and lessons learned of the Eastern Caribbean Health Outcomes Research Network (ECHORN) in sharing data from the ECHORN Cohort Study (ECS). The network's flagship study is the ECHORN cohort study (ECS), which examines risk and protective factors for cancer, diabetes, and heart disease in diverse populations over time.

**Methods:** ECHORN has established groups dedicated to developing robust, sustainable solutions for data integration and dissemination. This team works to identify data needs, test ideas, and implement activities that integrate the FAIR guiding principles for scientific data management (findable, accessible, interoperable, reusable) with the values of equity, inclusivity, and collectivity embodied in the CARE principles of data governance.

**Results:** ECHORN has established two data sharing mechanisms: Explore ECHORN, a free public web site with data displays, and the Data Access and Scientific Review committee, an expert panel that reviews research and policy proposals. ECHORN groups continue to work on pressing issues around data sharing, including developing training opportunities in data management to complete the network's journey along the FAIR and CARE pathways.

**Conclusion:** Through this process ECHORN groups have identified the importance of transparent and equitable engagement of community and stakeholders in data sharing efforts, the continuous learning needed to ensure adherence to the FAIR and CARE principles, and the tremendous potential of data sharing to inform policy and strengthen the impact of research, particularly in the Caribbean.



## O-60

### Eating Disorders Among Adolescents and Young adults in Kingston, Jamaica

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**Objective:** This study aimed to characterize the clinical presentation, management and outcome of eating disorders (EDs) in adolescents and young adults, AYA (10-29 years old) in Kingston, Jamaica.

**Methods:** A retrospective cross-sectional study design was utilised. Patient charts for AYAs who received treatment in the Kingston metropolitan, Jamaica for an ED between January 2010 to December 2022 were reviewed. Data extracted were deidentified and stored electronically with restricted access. Ethical approval was obtained from the Mona Campus Research Ethics Committee. Descriptive and inferential analyses were performed to determine the association between variables. Statistical significance was determined at the 5% level.

**Results:** Sixty-six patient charts were reviewed (F: n=58, 87.9%; M: n=8, 12.1%). Anorexia nervosa (n=30, 45.4%) was the most common ED subtype, followed by bulimia nervosa (n=18, 27.3%). The mean (SD) age in years at diagnosis did not differ significantly by subtype ED (AN: 15.0 (4.5); BN :17.3 (2.1); BED: 18.8 (4.4),  $p>0.05$ ). Fifty-eight (87.9%) participants received psychotherapy with an ED psychologist; 14.5% (n=9) had non-ED specific therapy and 8.5% (n=6) had no formal psychotherapy. Seventeen (27.4%) participants were followed by a dietician. Eleven patients required hospital admission (n=11, 16.7%), majority diagnosed with anorexia nervosa (n=10, 91%;  $p=0.032$ ), with the most common reason for admission being failure of outpatient management (n=7).

**Conclusion:** The prevalence of eating disorders among Jamaican AYAs appears to have increased, with younger adolescents being diagnosed, and increased number of hospital admissions for management.

## O-61

### An assessment of the sodium, total fat, saturated and trans fats, free and total sugars content in processed and ultra-processed UPF products in Trinidad and Tobago using nutrition fact labels

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**Objective:** To assess levels of nutrients of concern (NOC): sodium, total fat, saturated and trans fats, free and total sugars in processed and ultra-processed (UPF) products in Trinidad and Tobago (T&T).

**Methods:** A cross-sectional study assessed energy and NOC in processed, UPF products and non-alcoholic beverages through a systematic survey of packaged foods sold in supermarkets in T&T from March to June 2021. NOC content was determined from nutrition labels and levels of excess determined using the PAHO Nutrient Profile. Data was analyzed using descriptive statistics and ANOVA on ranks.

**Results:** Data was collected from 1239 products in T&T supermarkets (n=9). “Sauces, Dips, Gravy & Condiments” had the highest sodium concentration followed by “Soups and Processed Fish & Seafood”. Overall, 61% of products exceeded the PAHO sodium threshold. In regard to fats, “Fats and oils” had the highest total fat content, as expected; overall, products exceeding the limit were: 48% for total fats; 40% for saturated fats and 2% for trans fat fats. Overall, 38% exceeded the sugar limits with “Cakes, biscuits, pastries, and sweet breads” (87%), “Beverages” (80%), and “Breakfast Cereal” (77%) being the major categories with the highest percentage of excess sugar. Regarding free sugars, 18% of products exceeded the limit, with “Granola and energy bars with nut butters/spreads”, “Cakes, biscuits and pastries” and “Breakfast Cereals” having similar percentages of products (each ~41%) with excess free sugars; 31% of “Beverages” exceeded this limit.

**Conclusion:** This survey confirms that many of the processed and UPF sold in T&T supermarkets contain excess amounts of NOC.

## O-62

### The Health of First Generation Caribbeans Across the Diaspora: Findings from Population Data Surveys from Guyana, Jamaica, Canada, the United States and the United Kingdom

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**Objective:** This five-country study examined the physical and mental health of Caribbeans within the region and those in host countries. The study further evaluates whether length of time in host countries is associated with the declining health of first-generation Caribbeans.

**Methods:** Population data collected in Jamaica (2005), Guyana (2005), Canada (2000–2005), the United States

(2001–2003), and England (1998–2000) were utilized using descriptives statistics and multivariate logistic regression procedures. Both objective and subjective physical and mental health measures were used for this study.

**Results:** Caribbeans within the region generally maintained a higher degree of health advantage with lower rates of cardiovascular conditions compared to first-generation Caribbeans in North American and European countries. However, this finding did not consistently hold for other health indicators. Length of time was also associated with physical [AOR = 0.86(95% CI 0.83, 0.88)] and mental health [AOR = 0.83(95% CI 0.83, 0.83)] within certain host countries, though unexpected results were found. Sociodemographic factors contributed both positively and negatively to physical and mental health.

**Conclusion:** The study suggests that while first-generation Caribbeans might initially lose certain health benefits in host countries, there are signs of improvement over a longer period. Nonetheless, this might depend on the location of destination and the type of health condition.

### O-63

#### Differences in income, farm size and nutritional status between female and male farmers in a region of Haiti

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**Objective:** To explore differences in income and nutritional status between female and male farmers in nine rural communities in Haiti.

**Methods:** A sample of 108 farmers was selected, 28 women and 80 men. Our questionnaire included sections on demographics such as age, sex, farm size, and income; physical and medical details including height and weight to calculate body mass index (BMI), and define overweight and obesity; as well as blood pressure to define hypertension. Farm size (FS) was divided into: small (0.16 ha=FS<1.13 ha), medium (1.13 ha=FS<2.42 ha) and large (2.42 ha =FS=12.09 ha). Analyses were undertaken in Stata and R.

**Results:** The mean age of farmers was 46.1 (95% CIs 43.5 to 48.3) years. Female farmers were 6.3 (1.3 to 11.3) years younger than male. Exploiting 1.2 ha on average, women had smaller farms than men (1.2 ha). More than half (57%) of women had a small farm compared to 24% of men (p=0.005). Annual farm revenue, representing more than

70% of all household revenue, was substantially lower in women than men (1399 USD vs 3110 USD, 95% CIs on difference 1294 to 2127). Compared to men, women were more likely to be obese (11% vs 1%, p=0.022) and hypertensive (89% vs 70.0%, p=0.043).

**Conclusion:** In the study region, women farmed smaller areas and had lower income than men. They had poorer nutritional status, with higher levels of obesity and hypertension. Hence, interventions to improve livelihoods and nutrition must be gender sensitive.

### O-64

#### Effects of biochar-amended tropical soils on herbicide pollution: column leaching studies

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**Objective:** To performing column leaching studies to determine whether biochar-amended tropical soils can reduce herbicide contamination.

**Methods:** Column leaching experiments followed the OECD 312 guidelines for testing of chemicals – leaching in soil columns. Three different soil types were sampled from agricultural sites in Belize. Pyrex glass columns were separately hand packed with soils amended with 2.5% (w/w) rice husk biochar. Extreme rainfall events were simulated to present a worst case scenario of herbicide leaching event. Herbicides atrazine and diuron were added to the column to determine whether biochar-amended soils will aid in leaching reduction. Leachate samples were analysed using Liquid Chromatography-Mass Spectrometry.

**Results:** The application of biochar to both loam and sandy silt loam soils reduced the leaching of both atrazine and diuron. Column leaching linear K<sub>d</sub> (m<sup>3</sup>/kg) of atrazine in biochar amended loam was 0.15 and for biochar amended sandy silt loam was 0.8. Leachate analysis showed that samples collected from the biochar-amended soils had a much lower herbicide concentration than soils that were not amended with biochar. The presence of biochar increased sorption sites in the soil matrix, that stopped the herbicides from leaching.

**Conclusion:** Column leaching studies showed that tropical soils amended with 2.5% rice husk biochar can reduce the leaching of atrazine and diuron, thus protecting human health and the natural environment from water contamination.



## O-65

### Screening for Gestational Diabetes Mellitus in a primary care setting, East Trinidad: 2018-2020.

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**Objective:** To estimate the prevalence of Gestational Diabetes Mellitus (GDM) in primary care using the International Association of Diabetes and Pregnancy Study Groups (IADPSG) criteria. Secondly, to determine the risk factors associated with GDM and primary care physicians' adherence to the IADPSG recommendations in the diagnosis of GDM.

**Methods:** A cross-sectional study was conducted from January 2018 to December 2020 at three public primary care health centres in East Trinidad. Data collected from the consecutively sampled, antenatal health records included demographic data, risk factors for GDM, the oral glucose tolerance test readings at booking visit and at 24-28 weeks gestation. The data was analysed using the chi-squared test and univariate logistic regression.

**Results:** Of the 256 health records, 78.9% of the women were screened for GDM. The estimated prevalence of GDM in primary care in East Trinidad, 2018-2020 was 9.9%. Of the women who met the criteria for GDM, 60% were diagnosed as GDM cases by the health care providers. The variables significantly associated with GDM were Age $\geq$ 25 years (OR 6.22,  $p=0.016$ ), and Family History of DM (OR 3.28,  $p=0.025$ ). Hyperglycaemia in pregnancy was significantly associated with Age $\geq$ 25 years (OR 4.67,  $p=0.016$ ), Family History of DM (OR 3.32,  $p=0.024$ ) and BMI (OR 1.14,  $p=0.024$ ) when adjusted for gestational age.

**Conclusion:** In East Trinidad, 2018-2020, one of every ten women attending the antenatal clinics in primary care screened positive for GDM. Health services must ensure to screen and manage such patients and that health care providers receive continuous medical education to ensure guidance adherence.

## O-66

### The Prevalence of Occupational Noise-Induced Hearing Loss among Power Plant Workers in Georgetown Guyana

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**Objective:** To create awareness and assess the prevalence and risk factors that contribute to ONIHL among power plant workers of Power Producers and Distributors Inc. (PPDI)

**Methods:** A pretested questionnaire was self-administered to 74 power plant workers with a minimum of 2 years' experience between the ages of 21 to 55 years. A Tatedo sound level meter was used to measure of the noise levels in the Power Plant. Analysis of the data was done with the Statistical Package for Social Sciences (SPSS) version 23 in conjunction with Microsoft Excel.

**Results:** Participants had a average age of 49 years, with the overall prevalence of ONIHL of 31.1% with an average age of exposure to noise being 20 years as compared to 7.5 years in those who were not classified with ONIHL. A total of 39 % had 10 years of exposure while 52 % were exposed between 11 to 25 years and 8.6 % greater than 25 years. Among the risk factors that contributed to ONIHL were advanced age, high working area noise level, and prolonged working experience among others

**Conclusion:** The results of this study indicate that noise induced hearing loss is prevalent among noise exposed workers at PPDI. The measured noise levels were found to be higher than the WHO acceptable limit of 85 decibels. Preventative measures include proper utilization of hearing devices engineering controls among others.

## O-67

### A qualitative exploration of parenting under adversity: "Surprisingly, it worked - using firecrackers to get her accustomed to the sound" A qualitative exploration of parenting under adversity: "Surprisingly, it worked - using firecrackers to get her accustomed to the sound"

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**Objective:** To assess the impact of adversity on the parenting experience in Trinidad during a period when several national crises converged.

**Methods:** We recruited a sample of parents with children under the age of 18 in Port of Spain, Trinidad during March 2022. Through a series of focus group discussions with mothers and fathers, we explored parent's perceptions of parenting under adversity. Finally, we performed a narrative analysis of participants' responses, highlighting some of the mechanisms through which adversity might influence parent and child well-being.

**Results:** The majority of parents in our sample indicated that their personal well-being was challenged by present adverse circumstances. Nevertheless, parents adopted a range of coping mechanisms in their attempts to remain resilient parents. Despite their efforts to adopt a form of parental stoicism, many parents indicated a decline in their

mental health under adversity and some indicated their use of negative parenting practices. Unequal gender norms and mental health stigma also appear to contribute to poor parental well-being and strained family dynamics in the context of adverse circumstances.

**Conclusion:** Parents in our sample expressed a deep commitment to their children's well-being and often displayed a strong sense of pride in their identity as parents. In an effort to achieve parental resilience, most parents reported expending intense energy on their children's care during periods of adversity; perhaps with the right resources made available, some of this same vigour can be channelled into parents' improving their own well-being for their family's long-term benefit.

## O-68

### Sickle Cell Leg Ulcer Improvised "Available Technology Dressing" Intervention Study

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**Objective:** To compare self-care with improvised "Available Technology Dressings" (ATDs) against negative and positive controls for safety, effectiveness, acceptability, affordability, and improved quality of life (QoL) in Jamaicans with sickle cell leg ulcers (SCLUs) after 12 weeks.

**Methods:** This randomized, outcomes-blinded, non-inferiority study evaluated persistent wound and dressing change pain with FPS-R, QoL with WQoL-17 and ASCQ-Me tools, and wound size with Health-E-Pix software. Participants (n=48) with chronic SCLUs were randomized into 3 groups. 1: Usual Practice (negative control: saline-soaked, wet-to-moist gauze); 2: ATDs (semi-permeable plastic, moisture-barrier ointment, and gauze); 3: Advanced (positive control: polymeric membrane dressings) and taught their assigned protocol with demonstration/return demonstration.

**Results:** Given the small sample sizes (N=40; 83%) and large outliers, most parameters were too heterogeneous for meaningful calculations. However, potential variable biases all favored Usual Practice. Confidence Intervals (80%) between Usual Practice and ATDs for relative wound size change found non-inferiority of ATDs for effectiveness. ATD costs were half that of Usual Practice. Because three Usual Practice participants (18.75%) developed wound infections versus none in the ATD or Advanced Groups. Mean participant score for acceptability of ATD was 4.7/5.0.

**Conclusion:** Improvised ATDs proved to be safe, effective, affordable, and acceptable for SCLU management in the tropics, with improved quality of life. Because SCLUs are among the most challenging of all wound types, further

studies should be conducted to see if the ATD protocol is equally beneficial for patients with other wounds.

## O-69

### Socioeconomic inequalities in reproductive, maternal, newborn and child health in Guyana: A time trends analysis.

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**Objective:** To assess the patterns of change in reproductive, maternal, newborn and child health (RMNCH) in Guyana from 2006 to 2019.

**Methods:** We used data from four nationally representative Demographic Health Surveys (DHS) and Multiple Indicators Cluster Surveys (MICS) conducted in Guyana from 2006 to 2019. We assessed trends in RMNCH indicators at national level, by place of residence and by wealth index. We calculated the slope index of inequality and the concentration index of inequality to assess trends in inequalities overtime. We calculated the average absolute annual change (AAAC) of the indicators using a weighted variance regression.

**Results:** From 2006 to 2019, Guyana was able to increase the coverage of institutional delivery by 15.0%; children who breastfed exclusively by 31.0% and under-five stunting prevalence decreased by 49.0%. Neonatal mortality decreased by 22.5% and under-five mortality by 27.4% from 2006 to 2019. Five (ANC4+, institutional delivery, SBA, exclusive breastfeeding, careseeking for pneumonia and DPT3) out of the 16 intervention indicators assessed had a positive increase in AAAC. The gap between poorest and richest women tended to decrease for 12 out of the 16 interventions indicators assessed. Institutional delivery was the best performer in increasing coverage and decreasing inequality overtime, while immunization with measles was the worst performer. The gaps between poorest and richest in both under-five stunting prevalence and under-five mortality rate tended to decrease overtime.

**Conclusion:** Guyana has made some progress in increasing coverage of several RMNCH indicators and decreasing inequalities from 2006 to 2019. Such findings can be used as a warning signal to double efforts to achieve the SDGs and reduce inequalities.

## O-70

### The influence of empowerment on contraceptive use in reproductive aged Guyanese women: An analysis using DHS data

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**Objective:** To determine how level of empowerment influences the use of modern contraception among Guyanese women.

**Methods:** The Guyana DHS dataset for 2009 was used along with an accompanying recode manual. Of 4996 women surveyed, 2656 were eligible for contraceptive use. Analyses were conducted using StataSE 16. A binary regression model was created to understand the determinants of family planning. Current contraceptive use was the dependent variable with women's empowerment (represented by : domestic violence, sexual autonomy and decision-making) as the independent variable. Control variables included age, wealth index, location of residence, exposure to media, and number of living children.

**Results:** Women with low empowerment category (none, low, medium, high) in the sexual autonomy index had 2.7 (95% CI 1.46, 5.01) times higher odds of using modern contraception compared to women with no empowerment. There were no other significant predictors of contraceptive use among the empowerment variables. The remaining empowerment indices had no effect on contraceptive use. Women aged 45-49 years had half (95% CI 0.31, 0.81) the odds of using modern contraception compared to those aged 15-19 years. The middle and richest classes of women had 1.63 (95% CI 1.13, 2.34) and 1.84 (95% CI 1.23, 2.75) higher odds of using contraception than those in the poor class. Indigenous women had 32% (95% CI 0.48, 0.97) lower odds of using contraception compared to Afro-Guyanese.

**Conclusion:** Some amount of sexual autonomy among women predicted significantly higher odds of using contraception but in the domestic violence and decision-making indices, there were no significant associations.

## O-71

### The prevalence of Venous Thromboembolism among women using Oral Contraceptives in Trinidad and Tobago.

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**Objective:** To assess the prevalence and cause of VTE development in women using Oral Contraceptives (OCs).

**Methods:** A cross-sectional study design among women between the ages 18-49-years-old using oral contraceptives. Convenient sampling utilizing an online questionnaire was distributed through the University of the West Indies and social media platforms with ethical approval from The UWI's Ethics committee. Data analysis was completed using IBM SPSS ver. 28.0.1.0(142) software.

**Results:** Data from 80 participants was analysed with mean age 25.7 years, ethnicity 36% African, 36% Indian and 28% mixed race. Average BMI 24.5 kg/m<sup>2</sup> (SD  $\pm$  4.5) with 51.1% being either overweight (BMI 25 kg/m<sup>2</sup>- 29.9 kg/m<sup>2</sup>) or obese (BMI 30 kg/m<sup>2</sup> - 39.9 kg/m<sup>2</sup>). Among participants diagnosed with VTE (n = 5 (6%)) 100% used 3rd generation OCs, 66.7% were overweight and 33.7% were obese. No statistical significance (p-value > 0.05) between BMI and VTE diagnosis was found but a positive correlation (r = 0.280) was obtained. Prior knowledge of VTE as a complication of 86% with 51% claiming personal research and 18% from doctors.

**Conclusion:** Being overweight, the type of oral contraceptive used, in addition to, lifestyle habits and ethnicity places users at risk for developing venous thromboembolism. A regional study is recommended for more conclusive evidence.

## O-72

### Systematic review of the psychosocial impact of infertility on men in low- and middle-income countries: a mixed research synthesis.

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**Objective:** To address a knowledge gap existing within infertility research by examining the impact of infertility on the psychosocial well-being of men in low- and middle-income countries within the era of the Sustainable Development Goals.

**Methods:** A systematic review was conducted with a mixed research synthesis of both quantitative and qualitative evidence. Comprehensive searches of six databases were conducted, along with citation and reference tracking, to identify all relevant papers. Data extraction and quality assessment were performed in tandem, followed by data analysis and synthesis.

**Results:** From 1,227 papers, 18 were included in this review, configuration of which led to the development of three main themes: men are pressured by family and society to father children; high levels of psychosocial disorders are present among those unable to achieve this; and lack of awareness



and support for male infertility hinder men from seeking treatment and coping with their condition. Men have limited ways of coping with their infertility, opting to avoid discussing their diagnosis and keeping themselves occupied with work.

**Conclusion:** Traditional fertility beliefs and male roles in society work to pressure men to father children. Men facing fertility challenges often encounter stigma and other negative psychosocial consequences, fear of which promotes risky behaviours and perpetuates a cycle of stigma. Further research is needed within the Global South to better understand contextual male experiences of infertility so that men can be included in the reproductive rights agenda and be provided with appropriately tailored psychosocial support.

### O-73

#### The Contribution of The High Dependency Unit To The Management Of Neonates During The COVID-19 Pandemic

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**Objective:** To determine the number of neonates admitted to the HDU and of those admitted, the number who tested positive for COVID; to document the symptomology of these neonates; to describe the outcome and to determine if maternal factors contributed to their outcome.

**Methods:** A retrospective descriptive study was conducted on the neonates who were admitted to the HDU at the University Hospital of the West Indies between August 2020, to June 2021. Collated data were summarized and explored from our demographic sheet using univariate analyses to describe the outcome of the neonates studied.

**Results:** Fifty four % (54) of mothers had an unknown COVID status, 30% were negative and 16% were positive. There was no statistical significance between the type of maternal conditions and whether a mother was COVID positive or negative. Nine Covid-19 mothers had babies with respiratory distress while 16 non-covid mothers did. A chi-squared analysis revealed no significant differences between the mothers with covid and without ( $p=0.850$ ). That is, it is just as likely for a baby from a mother with COVID to have respiratory distress as a baby from a mother without COVID.

**Conclusion:** No patient tested positive for COVID-19 at twenty four hours of life. The risk of vertical transmission is low. There was no clinical difference between the profile, symptomology and outcomes of neonates born to covid positive vs non-covid mothers.

### O-74

#### Zika and neurodevelopment among children in Grenada: The first four years

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**Objective:** To determine the impact of in utero Zika virus (ZIKV) exposure on child neurodevelopment in the first four years of life.

**Methods:** A total of 384 mother-child dyads were enrolled during the Grenada ZIKV outbreak (April 2016 – March 2017) and followed annually four years postnatally. Maternal serum samples collected during pregnancy determined the child ZIKV-exposed and unexposed groups of this prospective cohort. At each annual visit, children were physically examined and administered an age-appropriate measure of neurodevelopment to track their progress over time. During the study, mothers provided information at each visit about their child's home environment. Data were analyzed using chi-square tests, independent samples t-tests, and ANCOVAs where appropriate.

**Results:** Postnatal anthropometric measures indicated no differences in rates of microcephaly (5% vs. 4%,  $F=0.31$ ,  $p=0.74$ ) nor wasting and stunting between the groups. At 1, 2, 3, and 4 years, there were no significant differences in cognition, motor, language, and behaviour between the exposed and unexposed. While neurodevelopment remained equivalent between groups at age 2, delays in visual acuity (31%;  $p=0.035$ ) were detected in the ZIKV-exposed children. At ages 3 and 4 these deficits were no longer apparent in the exposed group.

**Conclusion:** Data from this cohort indicate that children exposed to the Zika virus in utero do not show any neurodevelopmental delays up to their 4th year of life. Overall, normocephalic ZIKV-exposed children have been spared the effects of the ZIKV neurotropism and are progressing on par with their ZIKV-unexposed peers.

## O-75

### Prognosis of Nephrotic Syndrome in children at Georgetown Public Hospital Corporation.

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**Objective:** In this present study, we reviewed the demographics and outcomes of children diagnosed with nephrotic syndrome at Georgetown Public Hospital Corporation from 2010 – 2015. Children treated with steroids for nephrotic syndrome will have a better prognosis.

**Methods:** An analytical, retrospective cohort study was done at the Georgetown Public Hospital Corporation. The charts of pediatric patients diagnosed with nephrotic syndrome and admitted for treatment over the period of 1st January, 2010 – 1st June 2015 were reviewed. The study population comprised 131 pediatric patients. The demographics and the outcomes of these patients were recorded.

**Results:** A comparison of the mean age of diagnosis for patients who developed chronic renal failure versus all other outcomes was significant ( $p = 0.013$ ). A male preponderance was found among the children diagnosed with nephrotic syndrome at Georgetown Public Hospital Corporation. Response to steroid therapy typically ranges from 80-90%. This study shows an overall response to steroid therapy of 67.2%, this together with the demographic associations and findings of a higher mean age ( $9.6 \pm 2.9$  years) of diagnosis for children who later develop chronic renal failure indicates that other subtypes of nephrotic syndrome may be the likely cause of disease. These findings indicate determination of subtype by renal biopsy for targeted diagnosis. This study recorded a lower percentage, with 3.8 % of the population developing chronic renal failure as compared to other studies.

**Conclusion:** In general, mortality attributed to nephrotic syndrome is low. The overall mortality reported in previous studies ranged from 2.2 %- 3.1%. Our study had a single death, giving a prevalence of 0.8%, which reflects the lowering trend of childhood deaths associated with nephrotic syndrome. Nevertheless, the study presents data which supports the use of biopsy to diagnose the type of nephrotic syndrome prior to starting steroid treatment.

## O-76

### Creating a local register for Rare Neurodegenerative Diseases: Improving clinical and molecular characterization in Martinique through bioinformatics analysis

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**Objective:** Design a proof-of-concept study to build local capacity for clinical and molecular characterization of rare neurodegenerative diseases.

**Methods:** Cornerstone for our pilot study is the creation of a synthetic registry to collect clinical and biological specificities. This step is the basis of a single-center retrospective clinical study of 300 adult patients with rare neurodegenerative disease. Next Generation Sequencing (NGS) is used to show the potential of this registry. A cohort of 14 patients who are highly susceptible to genetic damage has been tested. The experiments were subcontracted and the interpretation of the NGS data was done by our local researchers.

**Results:** The retrospective clinical study confirm the originality of certain phenotypes and reveals some atypical characteristics such as: a high prevalence of Huntington's disease, a phenomenon of anticipation rarely described in a large family of amyotrophic lateral sclerosis, and a few cases of dominant or recessive spinocerebellar ataxia. The NGS allowed us to: identify very rare mutations in dominant and recessive SCA families, suspect digenism in the family case of ALS with anticipation and propose candidate genes in the case of Multisystemic Atrophy.

**Conclusion:** This study is a proof of concept that confirms the need to consider our Caribbean population in its specificities. The creation of a registry is essential. Based on the need to share expertise, this study opens up opportunities for collaboration and promotes cooperation.





## “Improving health outcomes across CARICOM Member States”

**T**he project aims to strengthen health systems across CARICOM Member States and CARPHA to prevent, control, and respond to the COVID-19 pandemic and other emerging and re-emerging threats; and to generate evidence and information to inform decision-making on the management of public health priorities and emergencies and disease control programmes and policies.

### Expected Results:

**ER 1:** Evidence of the Caribbean public health preparedness and response to the COVID-19 pandemic documented.

**ER 2:** Evidence of the CCH-IV, the Sustainable Development Goals 3, and other SDG health-related targets documented.

**ER 3:** Strengthened capacities of CARICOM Member States' health systems to treat COVID-19 patients.

**ER 4:** Improved capacity of CARICOM Member States to care for COVID-19 patients based on the Spanish experience.



Ninth Meeting of the Joint Technical Committee of the CARICOM-Spain Joint Fund for Scientific and Technical Cooperation



**L-R:** Mr. Esteban López, Programme Director, AECID Technical Office, Dominican Republic; Ms. María Suárez, Country Expert, Department for Cooperation, Central America, Mexico, and the Caribbean; Mr. Andrés Zulueta, Technical Advisor, Department for Cooperation, Central America, Mexico, and the Caribbean; His Excellency Mr. Fernando Nogales, Ambassador of Spain to CARICOM; Mrs. Sonia Álvarez, Head of Department Cooperation, Central America, Mexico, and the Caribbean; Her Excellency Mrs. Christina Perez Gutierrez, Ambassador-at-large for Caribbean Strategy; Mr. Akhenaton St. Hillaire, Programme Manager, CARPHA; Mr. Sean Jodhan, Finance Manager, CARPHA; Ms. Patricia Smith-Cummings, Monitoring and Evaluation Specialist, CARPHA

### Health Systems Strengthening for CARICOM Member States to Respond to the COVID-19 Pandemic and Other Emerging and Re-emerging Threats

The Joint Fund for CARICOM-Spain Scientific and Technical Cooperation

## Poster Abstracts

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### P-01

#### Online Learning Satisfaction During COVID-19 Pandemic Among Offshore Medical Students in Guyana.

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**Objective:** To investigate how satisfied the students of Rajiv Gandhi University of Science and Technology (RGUST) and Greenheart Medical University (GMU) were with online learning during the pandemic.

**Methods:** This study adopted a quantitative approach to determine the satisfaction of the medical students. Data was collected via an online questionnaire from 50 undergraduate medical students from two offshore medical universities, namely Rajiv Gandhi University of Science and Technology (RGUST) and Greenheart Medical University (GMU). The questionnaires comprised three sections: (i) biodata, (ii) information related to the university, and (iii) information related to online learning. Students' satisfaction was measured using a 5-point Likert Scale, which was utilized in ten open-ended questions in the online survey which ranged from strongly disagree (1) to strongly agree (5).

**Results:** Overall, the majority (40%, n=20) of students portrayed a level of dissatisfaction with online learning, with a mean of 3.4 and a standard deviation of 3.01. Several challenges were faced which resulted in demotivation. The most prevalent is poor internet connectivity (42%, n=21) followed by technical difficulties and the absence of practical sessions. Most medical students demonstrated a preference for synchronous online learning, with google classroom and zoom (62%, n=32) being the most frequently used.

**Conclusion:** Incorporating mixed or blended online learning is recommended for the full effectiveness of online learning in the medical curriculum since both pre-clinical and clinical students opt for more practical sessions.

### P-03

#### The impact of the novel coronavirus infection on Geriatric Hospital patients: A retrospective review

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**Objective:** To evaluate the prevalence, severity and outcomes of the novel coronavirus infection on patients of a local geriatric hospital

**Methods:** A retrospective cohort study was conducted. Whole counts and proportions were calculated. Pair-wise, multi-way cross-tabulations, and frequency tables were utilized. T-test, chi-square test and ANOVA test evaluated associations between patient characteristics, diagnosis, severity of disease and treatment.

**Results:** Approximately 45% of patients belonged to the older old subgroup. The prevalence of COVID-19 at the hospital was 70.4%. The main reason for testing was symptomatology (42%). Amongst the positive patients, most persons had mild disease (27.8 %). Of the positive patients, 39.5% of patients received treatment for 2 weeks to 1 month. COVID-19 was associated with a 39% mortality rate. The persistent symptoms were noted among 14.3% of participants. Fifty percent (50%) of those treated received intravenous fluids and 59.5% received oxygen. There were no statistically significant associations between treatments and survival.

**Conclusion:** The novel coronavirus had significant effects on residents of a Bahamian long-term care facility. Protocols to ensure decrease prevalence of this disease are a priority.

### P-04

#### A Qualitative Exploration of the Learning Styles of Second Year Medical Sciences Students at the UWI Cave Hill Campus pre-COVID-19

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**Objective:** To examine the perceptions and experiences of second year medical students with different learning styles, relative to their learning approaches, teaching exposures and preparation for assessments, within the setting of a Caribbean-based medical school.

**Methods:** This qualitative arm of a mixed-methods study was conducted between November 2018 and February 2019. Focus group discussions (FGDs) elicited the views and lived experiences of a heterogeneous sample of purposively selected Year 2 students who had completed the VARK Learning Styles inventory within the preceding semester. FGDs were audio-recorded, transcribed verbatim and subjected to inductive coding with rapid thematic analysis.

**Results:** Six participants (F:M= 5:1) between the ages of 18 and 24 years, with a range of learning styles were recruited. Coding, rapid analysis and data reduction yielded four basic themes (“Student preference”, “Lecturing limitations”, “Adaptability”, and “LS theory awareness”). Participants described various methods of taking in information during class and gave perspectives on the types and perceived effectiveness of lecturers’ pedagogical methods. In managing information received in class, regardless of LS students used textbooks mainly to augment perceived gaps in the combination of lecture delivery, slides and their personal notes; interestingly, YouTube videos were used universally. Regarding future application of LS, multi-modal participants because they already employed all four learning modes, anticipated little change as they progressed through medical school.

**Conclusion:** LS theory and testing appears to be useful for student and teacher awareness but in practice honing students’ adaptability to varying learning settings may be more relevant in helping students achieve desired learning outcomes.

#### **P-05**

##### **Perceptions and challenges of nursing faculty towards online learning in Guyana during COVID-19: a qualitative study.**

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**Objective:** To explore the nursing faculty’s perceptions and experiences of online learning during the COVID-19 Pandemic and to identify barriers and facilitators to online nursing education in Guyana.

**Methods:** Qualitative phenomenological approach was used. Ethical approval and informed consent were obtained. Semi structured interviews with respective Principal tutors of five Schools of Nursing were conducted over zoom and recorded. Each interview lasted for 20 to 30 minutes. Data was transcribed from audio file to text file. Codes were generated using MAXQDA analytics Pro 2022 version 22.2.1.

**Results:** Thematic analysis led to the following themes and subthemes. The responses were both positive and negative. In the beginning of COVID-19, faculty felt prepared inadequately, as time passed on, they were able to pick up confidence in conducting online teaching. Under perception subthemes were “overall perception”, “face to face Vs online teaching”, “and online assessment” and “curriculum changes”. Challenges subthemes were “Internet connectivity issues”, “Electricity issues”, “distractions” and “Lack of technological skills”. Advantages were “convenience”, “cost effective” and “time efficient”. Faculty expressed the need for training in online teaching methods and how to conduct assessment online.

**Conclusion:** Curriculum review is highly recommended to suit online mode of delivery. Theory classes can be taught online whereas practical sessions should be done physically at labs, hospital units in small groups.

#### **P-08**

##### **A Thematic Analysis of University of Guyana medical students’ perspectives of online learning in the era of COVID-19**

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**Objective:** To use thematic analysis to understand the general perceptions of medical students about the remote eLearning environment; their views about the benefits and challenges and their suggestions for improvement.

**Methods:** This qualitative study used one focus group involving 8 medical students who had to transition to online learning when the COVID-19 pandemic began. The session occurred via Zoom and was recorded and later transcribed verbatim and analysed for thematic content. Open-ended questions addressed the following aspects of online learning: 1) their overall thoughts 2) the positive aspects 3) any difficulties and 4) suggestions for improvement. Responses were coded and thematic analysis was then used to identify and refine themes.

**Results:** Themes were as follows: 1) Positive and/or negative perceptions 2) Academic processes; Time Management, Economic Issues 3) Technical, Personal and Educational Problems, Lack of Staff Support 4) Activities to increase motivation; Elimination of Technical and Physical Problems and Recommendations for Successful Outcomes. Students had several suggestions for improvement including



the use of videos; provision of UG ICT hubs on campus and in the outlying regions; training for lecturers on online delivery; avenues for increased interaction with lecturers such as online office hours; and providing orientation modules on time management and keeping focused.

**Conclusion:** Medical students perceive online learning in a favourable way however, they highlighted several challenges including access to technological resources, inability to focus and lengthy delays for feedback/assistance from lecturers. These issues, in addition to continuous monitoring, will improve the effectiveness of online learning.

#### P-09

##### **Heterogeneity of SARS-CoV-2 Transmission within Departments at a Tertiary Educational Institution, Grenada, and its implications for control**

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**Objective:** Non-pharmaceutical (physical distancing, masks, hand washing, ventilation, physical barriers, testing with isolation and quarantine for infected individuals and contact tracing, etc.) were coupled with a vaccination mandate to limit transmission of SARS-CoV-2. The aim to limit transmission and maintain low infection rates were important drivers of policy which aimed to limit severe outcomes of SARS-CoV-2 infection.

**Methods:** This retrospective longitudinal study examine transmission patterns within and between departments at a tertiary education institution in Grenada which enforced a vaccination entry requirement to a closed campus from June 2021 to date. PCR and rapid tests were freely available to all individuals who were allowed access to the campus facility. The null hypothesis assumed that the rate of infection would be the same in all departments adjusted for size. Data from all 48 departments were collected and assessed from August 2020 – December 2022.

**Results:** A total of 233 (10.7%) out of 2181 individuals tested positive. Adjusting for differences in the sizes of departments, six departments were found to have proportions significantly higher than expected ( $p < 0.001$ ) and accounted for 40% of all positives. In contrast, four departments experienced zero positive test results, which was much lower than the 14 to 15 that would have been expected.

**Conclusion:** The concentration of positive cases in a few departments, whilst others experienced no cases, reflects inter and intra exposure rate differences related to human behavior and reflects departmental responsibilities. Reduc-

tion of transmission necessitates additional preventative measures for high-risk groups.

#### P-10

##### **Development of a Joint Regulatory Review Framework for COVID-19 Therapies in the Caribbean: A Practice Paper**

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**Objective:** Objective: To conduct a review of the regulatory environment and stakeholder perspectives towards developing a framework for consultative and/or joint reviews of medicines and vaccines in CARICOM.

**Methods:** Design and Methods: A SWOT analysis and a risk assessment analysis were undertaken, and supplemented by interviews with focal points of 6 CARICOM countries and with representatives of a Central American mechanism for work-sharing, to explore the regulatory landscape, identify anticipated challenges, and to inform the joint review framework.

**Results:** Results: Based on the existing verification review process for COVID-19 vaccines, findings of the analyses, and feedback from focal points, the framework was developed as “fit-for-purpose” with three stages of implementation: Process 1 (consultation after CRS Caribbean Regulatory System (CRS) review for COVID-19 medicines and vaccines), Process 2 (Member State request for review and consultation), and Process 3 (work-sharing among Member States for medicines to treat prevalent conditions).

**Conclusion:** Conclusion: The proposed joint review framework as a staged process of consultations or work-sharing reviews of medicines / vaccines is a welcome initiative. It will require further discussion with Member States, and agreement on participation, harmonization of requirements, adoption of outcomes, and timely market decisions by participating Member States. This approach may be considered by other resource-constrained country groups considering collaborative or work-sharing approaches.

#### P-11

##### **A survey on the Non-conventional Therapies for COVID-19 in Trinidad**

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**Objective:** To assess the non-conventional therapies used by the residents of Trinidad and Tobago for COVID-19 to attain documentation and records for further pharmaceutical studies and research

**Methods:** A cross-sectional online survey (using google forms) was conducted throughout Trinidad and Tobago amongst the general population ( $\geq 18$  years) via social media channels (Facebook, Whatsapp, and Instagram) between 20th June to 19th July 2022.

**Results:** The questionnaire was completed by 57 persons, with 10 persons (17.54%) not being vaccinated, while 47 (82.46%) were vaccinated. Most of our respondents (81%) used both conventional and non-conventional therapies, (12%) used conventional treatment, while (7%) used non-conventional treatment alone. Antibiotics, ivermectins, anti-inflammatories, analgesics, bronchodilators, and cough/flu syrups are the most frequently reported conventional treatments. While non-conventional therapies reported include vitamins, minerals, supplements, and plants and animal products including herbal teas, cloves, lime, honey, caraille, bandia roots, Spanish thyme, CBD oil, liquid chlorophyll, papaya leaves, Echinacea, eucalyptus oil and vervine were documented. In the persons who used conventional therapy (either alone or in combination with non-conventional therapies), 13.21% (7/53) reported side effects, which included severe thirst, headache, nausea, drowsiness, and one case of weight gain. There were no reports of any side effects noted when non-conventional treatment alone was used.

**Conclusion:** Non-conventional therapies showed promising effects in the management of COVID-19, proper selection, research, and development of some of their bioactive might help in producing better alternatives to conventional therapies for COVID-19.

## P-12

### Review of the Pathophysiology of the Vasa Vasorum of the pulmonary vessels in Covid19: The major vessels involved in pulmonary thromboembolism in COVID-19.

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**Objective:** Pulmonary thromboembolism is a major pathological event seen in COVID-19. There were many reports

in medical literature in which the source of pulmonary thromboembolism was indeterminate. Our main objective was to identify the pathophysiology of pulmonary thromboembolism in COVID-19.

**Methods:** Autopsies were performed on patients who died of COVID-19 and histopathological examination was done on all tissues.

**Results:** The lung showed among other changes, thrombosis of the vasa vasorum of the large pulmonary vessels. Thrombosis of the vasa interna was also noted. Thromboembolism of the large pulmonary vessels was seen to be originating from the thrombus of the vasa interna in all autopsied cases.

**Conclusion:** Thromboembolism of the major pulmonary artery arises from thrombosis of the vasa vasorum interna. This is the major pathophysiological process which accounts for the frequent pulmonary thromboembolism seen in COVID-19.

## P-13

### A Systematic Comparison of COVID-19 Products with Regulatory Endorsement in the Caribbean Community and Major Markets

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**Objective:** This work was intended to examine the products with regulatory endorsement in major pharmaceutical markets in comparison to the Caribbean Community (CARICOM) for the treatment or prevention of Coronavirus Disease (COVID-19).

**Methods:** For this analysis, major pharmaceutical markets were represented by the 3 International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use (ICH)-founding entities (European Union, Japan, and the United States). Recommendation by the Caribbean Public Health Agency (CARPHA)-Caribbean Regulatory System (CRS) was selected as the representation of regulatory endorsement in CARICOM. A systematic review of public listings was conducted to quantitate, chronologically assess, and classify COVID-19 vaccines and medicines approved by these ICH-founding entities in comparison to those recommended by the CARPHA-CRS for CARICOM Member States.

**Results:** Japan approved 17 COVID-19 products; 16 products were approved in the EU and 11 products in the US. In contrast, there were 6 distinct products with CRS recommendations for CARICOM. On average for vaccine products, the CARICOM regulatory endorsement occurred approximately 83 days after the earliest ICH endorsement.

**Conclusion:** The total number of distinct COVID-19 products with regulatory endorsement in CARICOM represented a reasonable portion of the total number of prod-

ucts approved in ICH countries. Overall, CARPHA-CRS made timely recommendations for CARICOM during the COVID-19 pandemic, signifying its value for preparing the region for future public health emergencies.

#### P-14

##### The outcomes of cervical cerclage with antibiotic use at Victoria Jubilee Hospital Jamaica

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**Objective:** To assess how cervical cerclage with antibiotic use effects maternal and foetal outcomes.

**Methods:** This study was a retrospective cohort study that analyzed the clinical data of pregnant women who received cervical cerclage at The Victoria Jubilee Hospital, Jamaica between 2010 and 2021. After Ethics approval was obtained, data was extracted from the patients' dockets using a data extraction sheet. Data was analyzed using students T test, chi-square and multivariate logistic regression.

**Results:** 200 patients with cervical cerclage were analyzed: 100(50%) received antibiotics and 100(50%) did not. There was a significant increase in the latency period in the antibiotic group of 20(+/-5) weeks compared to 17(+/-7) weeks without antibiotics(p<0.005). The mean gestational age at delivery was improved at 37(+/-3) weeks with antibiotic compared to 34(+/-6) weeks without antibiotics. There was an improved birth weight of 2.89(+/-0.785) with antibiotic use(p<0.05). The number of admissions to nursery and respiratory distress rates were reduced in the antibiotic group (p<0.001). The use of antibiotics reduced the percentage of neonates that died from 20% to 4%(p<0.001).

**Conclusion:** The use of antibiotics with cervical cerclage has demonstrated significant improvements in the latency period from cerclage placement to delivery, delivery at term, as well as reductions in preterm births, admissions to nursery and neonatal death.

#### P-15

##### Physician Barriers to Obtaining the Sexual Health History of Patients in The Bahamas

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**Objective:** To determine the frequency of obtaining the sexual health history, and professional and personal barriers among physicians.

**Methods:** A cross-sectional quantitative study was conducted on physicians practicing at public and private institutions in New Providence, The Bahamas from General Practice, Family Medicine, Internal Medicine, Pediatrics and Obstetrics & Gynecology specialties using an anonymous, self-administered 13-item questionnaire. Statistical analysis was done using SPSS.

**Results:** A total of 181 physicians participated with 97 (53.9%) of physicians reported taking a sexual health history as "if relevant to the chief complaint", with a strong relationship between medical specialty and frequency (Cramer's V = 0.355, p<0.001). The median response for the 5Ps was "often" for most questions except for 5 questions involving sexual partners, sexual practices, past history of STIs, and prevention of pregnancy, where the median response was "sometimes". Professional barriers were reported as lack of time (41.9%), lack of space/privacy (54.2%), and lack of psychosexual counselling (31.1%), with a strong relationship between medical specialty (p = 0.024, p <0.001, and p = 0.004, respectively). One common personal barrier was reported as sex being a "sensitive subject" in 37 (20.4%) of physicians. The median comfort level with the Transgender patient group was "neutral" and for all other patient groups the median comfort level was "comfortable".

**Conclusion:** A sexual health history should be done annually, and incorporation of a standardized form can be used at public and private institutions. Further studies are needed to assess responses from physicians practicing on all islands of The Bahamas.

#### P-16

##### Characterizing Congenital Heart Disease in Guyana

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**Objective:** To estimate the birth prevalence of congenital heart disease (CHD) in Guyana based on Georgetown Public Hospital Corporation (GPHC) pediatric presentations and to describe CHD characteristics in children seen.

**Methods:** All pediatric patients aged 18 and under seen by the GPHC cardiology team were identified using the echocardiography lab online database and paper files. Echocardiographic findings were used to determine the underlying cardiac abnormality. Descriptive analysis was used to characterize CHD abnormalities seen and a retrospective study

design was used to estimate the birth prevalence of CHD in Guyana based on Guyana Programme for Advancement of Cardiac Care (GPACC ) GPACC presentations from 2015–2018.

**Results:** 386 pediatric patients aged 18 or under were included in this study. The birth prevalence of CHD in Guyana was found to be 0.8 per 1,000 live births. Ventricular septal defects were the most common form of CHD (n=107), followed by Atrial Septal Defects (n=107). There were 20.5% of patients who had complex lesions (n=79), with Tetralogy of Fallot being the most common diagnosis within this group. The percentage of f patients with simple obstructive lesions was 10.4%, and 4.1% had isolated valvular insufficiency. Surgical intervention was required in 52.1% (n=201) of children.. After initial presentation, 29.8% of patients were lost to follow-up.

**Conclusion:** The calculated birth prevalence was considerably lower than the expected birth prevalence reported for South America in the literature suggesting undiagnosed or unreferred CHD. Obstacles to identification, referral, and management of children with CHD in Guyana need to be addressed with the goal of more complete access to timely intervention and improved outcomes.

#### P-17

##### **Retrospective Cross-sectional Study of the Incidence rate of Cardiac Malformations in the Pediatric population at Georgetown Public Hospital Corporation using Echocardiography.**

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**Objective:** This study aimed to assess the incidence rate of cardiac malformations by echocardiography in a pediatric population (from 1 day to 12 years) at the echocardiography laboratory of Georgetown Public Hospital Corporation.

**Methods:** Cardiac malformations were diagnosed using a combination of clinical signs and symptoms and ultrasound/ echocardiographic imaging data. A retrospective Cross-sectional study of the incidence rate of cardiac malformations was conducted at the Georgetown Public Hospital Corporation. This design comprised two steps. Firstly, a permission letter with details of the study protocols was issued to the head of both the Research Committee and the Health Science and Education department at Georgetown Public Hospital Corporation to gain permission to access medical records from the echocardiography lab. Then the files were reviewed.

**Results:** In this study, it was found that the incidence rate of congenital heart malformations is 10.3 per 10,000 live births as diagnosed by echocardiography. Factors such as age, gender, ethnicity, place of residence, and the types of cardiac malformations affected patient outcomes. Males were found to have a higher number of cardiac malformations as compared to females. However,, more female patients were diagnosed with multiple cardiac malformations..

**Conclusion:** The incidence of congenital heart malformations per region was calculated and it was found that region 4 had the highest incidence rate (5.3 per 10 000 children).

#### P-18

##### **Teenage Pregnancy, its prevalence, and adverse obstetric and perinatal outcomes at New Amsterdam Hospital**

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**Objective:** To determine the prevalence of teenage pregnancy along with the obstetric and perinatal outcomes at New Amsterdam Regional Hospital between the period of May 2019 to May 2021.

**Methods:** This is a cross-sectional study conducted at the New Amsterdam Regional Hospital. The medical records of teenagers (13 to 19 years old), who delivered at the institution during the period of May 2019 to May 2021 were reviewed. This information was collected using a data collection tool, analyzed and a final report was prepared.

**Results:** A total of 7234 women gave birth during this period, of which 5.8% (n=417) were teenagers. The age with the highest prevalence was 17 years old (25.4% (n=77)). Most patients had term deliveries as opposed to preterm (76.9 % (n= 233) vs 12.5% (n=38)). A significant number of patients had adverse obstetrical outcomes (98% (n= 297)); the need for an episiotomy (51.4% (n= 156) p = 0.818) and delivery via Cesarean section (14.5% (n=44) p= 0.252) were the most common. One hundred and fifty-four (50.8%) neonates had adverse outcomes with a low APGAR score at 1 minute while low birth weight was the most frequent (13.2% (n=40) p=0.004).

**Conclusion:** Although the prevalence of adolescent pregnancy in Guyana may be lower than in some countries; it is significant. Adolescent pregnancies are a public health problem associated with considerable adverse obstetrical and perinatal outcomes. Hence there is an urgent need to focus attention on the reproductive health needs of our young women.



## P-19

### Socioeconomic Predictors for Infant Congenital Heart Disease: A Scoping Review

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**Objective:** To determine whether socioeconomic status is a predictor for infant congenital heart disease.

**Methods:** A Scoping Review was conducted using the Joanna Briggs Institute (JBI) guidelines. Multiple databases were searched using a predefined Boolean logic and search criteria. All search results were managed using Zotero - an open source reference management software. Duplicate results were deleted and multiple levels of screening were used to remove any articles that did not meet all of the inclusion criteria. For the articles that met the inclusion criteria, the overall findings were extracted and entered into an Excel Spreadsheet for Narrative Analysis.

**Results:** Of the 7156 items that were initially returned by the search, 16 were used in the final analysis. Three different approaches to measuring socioeconomic status emerged namely: personal parental factors; environmental factors; and neighbourhood factors. All 16 of the studies demonstrated an inverse relationship between the parental socioeconomic level and the risk of the neonate having congenital heart disease.

**Conclusion:** Independent of the method used to determine socioeconomic status, there is an inverse relationship between parental socioeconomic status and the risk of a neonate being diagnosed with Congenital Heart Disease.

## P-20

### Management and examples of rare diseases: the genetic peculiarities of the Caribbean population

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**Objective:** To inform the Caribbean population about rare diseases, taking into account the genetic peculiarities of the Caribbean population, and to draw attention to the difficulty of obtaining a diagnosis for these diseases.

**Methods:** A list of examples of rare diseases in the Caribbean with genetic peculiarities seen from 2003 to 2022 at the Caribbean Center of Reference for Neuromuscular and Neurogenetics, as well as implications and recommendations.

**Results:** Around 1,75 million people in the Caribbean are estimated to be affected by a rare disease, however, they receive insufficient attention. There is a high prevalence of Huntington's Disease Like 2 and Steinert's disease. A rare form of Amyotrophic Lateral Sclerosis has been found in Martinique. SCA 2 is surprisingly more prevalent than SCA 3. These examples emphasize the significance of investigating the genetic peculiarities of the Caribbean population as they challenge the assumed prevalence and symptomatology of certain diseases. To improve patients' care and inform families about the importance of prevention, diagnostic testing is necessary. Only a few laboratories can perform the required testing for rare genetic diseases.

**Conclusion:** It has proven crucial to work together to tackle rare diseases within the unique genetic backgrounds of our population, as evidenced by successful examples of collaboration between Caribbean regions. Interested countries are invited to collaborate with Martinique.

## P-21

### A Qualitative Exploration of Exclusive Breastfeeding: Perspectives of Healthcare and Childcare Providers and Policy Makers in Barbados

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**Objective:** To explore perspectives of health and childcare providers and policy makers regarding factors influencing exclusive breastfeeding experiences in Barbados.

**Methods:** An interpretivist qualitative study was conducted (2019-2021) using audio-recorded one-on-one semi-structured interviews via Zoom by three trained female researchers. Breastfeeding mothers and other participants from public, private, and civil society healthcare and childcare sectors were recruited according to the principles of maximum variation. Saturation occurred at the 28th participant. This paper is a preliminary sub-analysis of the views of health and childcare professionals and policy makers. Interview audio was transcribed verbatim, and consistency of coding established using an agreed deductive coding frame. One researcher reviewed all transcripts creating completing rapid analysis summary notes while another researcher coded 50% of transcripts using Atlas ti for data management. Emerging thematic constructs were discussed and differences resolved.

**Results:** Ten females and one male with healthcare and childcare experience ranging from nine to 39 years, participated in the study. Participants' perspectives identified that nursing mothers framed an inter-related four-phase exclusive breastfeeding experience, which was influenced by multiple factors operating at the four levels of the Socio-



Ecological Model: personal, inter-personal (relationship), community and societal. The dominant emergent theme relevant to each model level, were maternal engagement; inter-personal influences; support mechanisms; and conflicting socio-cultural and policy norms, respectively.

**Conclusion:** Multiple inter-related socio-ecological factors influence the exclusive breastfeeding experience of mothers in Barbados. A re-invigorated, integrated approach addressing these factors could strengthen existing health system policies and practices to promote exclusive breastfeeding in Barbados.

## P-22

### **An Investigation into the common Demographic, Clinical and Immunological Features of patients diagnosed with Systemic Lupus Erythematosus at Georgetown Public Hospital Corporation**

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**Objective:** To evaluate the demographic, clinical and immunological features among patients diagnosed with Systemic Lupus Erythematosus (SLE) at a GPHC Medical clinic.

**Methods:** This study was a quantitative, retrospective study which surveyed charts of lupus patients from 2005 to 2020 at the Rheumatology clinic, GPHC. All SLE patients enrolled at GPHC during this time >18 yrs were included. 23 patients met the inclusion criteria and were studied. All data were analyzed using SPSS v 26.

**Results:** The mean age of SLE patients was 30.3±8.1 years, of which 43.47% were 18-28 years old, 39.13% were 29-39 years and 17.39% ≥ 40 years old. Women (95.65%) accounted for most cases. Indo-Guyanese accounted for 47.8% of cases and both Afro-Guyanese and mixed ethnicity accounting for 26.1%. The most common clinical feature was cutaneous manifestations (91.3%) followed by Arthritis (65.21%). Renal (52.17%), Serositis (47.82%), constitutional (43.47%), hematological (30.43%) and neurological (13.04%) manifestations were seen. All SLE patients had positive ANA, 39.13% also had positive Anti-dsDNA.

**Conclusion:** This study found that younger females of Indo-Guyanese heritage are most frequently diagnosed with SLE. The results also showed both pathognomonic and rare symptoms are among the clinical manifestations observed. Moreover, incidental findings suggest that there may be the presence of ANA-negative SLE among cases in Guyana; and require further immunological testing to follow up. These findings will suggest the need for more research on SLE and implementation of a robust recording and follow up system for patients with SLE at GPHC medical clinic.

## P-23

### **Parental knowledge, perceptions and practices towards childhood fever in the Emergency Department, Princess Margaret Hospital, The Bahamas**

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**Objective:** To assess the knowledge, attitudes, and effects on management practices towards fever, of parents attending with their febrile child at the Accident and Emergency Department (AED), Princess Margaret Hospital (P.M.H.), Nassau, Bahamas.

**Methods:** An observational cross-sectional research study was conducted with eligible candidates interviewed during randomly selected computer-generated ED shifts, from August 2011 to February 2012 using a standardized, validated investigator-administered questionnaire. Data collected were analyzed to assess statistical significance and extent of associations.

**Results:** Three hundred and twenty-six caregivers were surveyed. The correct definition of fever 38°C/100.4°F was noted in 40.2% of caregivers. The minimum temperature at which antipyretics would be administered for a fever was 98.6°F. Seizures, infections, and brain damage were the most frequent concerns of caregivers. The most frequent dosing intervals for antipyretics were four hourly, for both acetaminophen and ibuprofen. Median temperature with which a caregiver would call the doctor was 100.4°F, and 100.2°F was the median temperature indicated by caregivers regarding when a child would be taken to the ED.

**Conclusion:** There continues to be misconceptions towards fever in a child in caregivers attending the ED, which have some influence on practices for fever management, irrespective of educational level. Emergency Department patient education is necessary.

## P-24

### **Characteristics of pregnant women identified as near-miss and factors related to maternal deaths in Saint Lucia: a review of case records**

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**Objective:** To determine factors related to maternal deaths and near-miss cases in Saint Lucia.

**Methods:** This descriptive study included all maternal deaths from 2006-2015 (n=23), near-miss (n=111) and potential near-miss (n=121) from 2011-2015. Uncomplicated pregnancies for 2015 were used for comparison. Data was analyzed using Chi square, ANOVA, T-tests and Logistic Regression.

**Results:** 47.8% of maternal deaths were misclassified (absent from the national maternal mortality database). The main causes for misclassification were lack of pregnancy information on death certificates and coding errors. Misclassified deaths occurred at home or non-maternity hospital wards; were postpartum, in early pregnancy or died undelivered. Advanced maternal age and being unemployed, were significantly associated with mortality,  $p < 0.05$ . Direct maternal deaths predominated, 65%. Embolic events, hypertensive disorders, postpartum haemorrhage (PPH) and ectopic pregnancy, were the main causes of maternal deaths. The 3 main causes of near-miss were hypertensive conditions, PPH and ectopic pregnancies. Cesarean section was 3 times and preterm births 6 times as likely for pregnancies with Severe Maternal Outcomes ( $p < 0.001$ ). Newborn outcomes were best for uncomplicated pregnancies and worsened as the severity of maternal complications increased ( $p < 0.001$ ).

**Conclusion:** Multi-source methods will improve identification of maternal deaths, especially in settings of low incidence. The source of maternal death data should encompass mortuary records, non-obstetric hospital wards, hospital death registers, along with the Civil Status Registry and Health Department. Practitioners should be trained on maternal death certification and coding. Implementing near-miss surveillance, and health promotion re warning signs in pregnancy would positively impact maternal deaths.

## P-25

### Physician perspectives on unnecessary clinical care in Trinidad and Tobago

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**Objective:** To evaluate the attitudes and practices of physicians in Trinidad and Tobago towards unnecessary clinical care.

**Methods:** An online cross sectional study design and convenience sampling was used to collect data. Attitudes towards unnecessary care and awareness of the international Choosing Wisely campaign were assessed. A descriptive

analysis was performed using the Statistical Package for the Social Sciences, Version 23 (SPSS 23 for Windows).

**Results:** Data from 218 physicians were analysed. Most participants worked in Internal Medicine (n=59, 27.1%) and the majority of participants were junior doctors (n=147, 67.4%). Most participants (n=97, 44.1%) said they rarely recommended low value care to patients while 51.8% (n=113) said their colleagues sometimes recommended low value care. Almost all participants (n=210, 97.1%) were interested in learning more about evidence-based recommendations that could address when a test/procedure is unnecessary. Approximately 40% (n=87) participants agreed that unnecessary tests harmed the environment. Reasons for ordering unnecessary tests included because it was an order from the senior doctor in the specialty or the admitting doctor requested the test (68.3%, n=149), inadequate information (61.5%, n=134), difficulty accessing prior medical records (126, n=57.8) and fear of litigation (57.3%, n=125). Strategies to reduce unnecessary care were training (92.2%, n=201), ease of access to external records (72.9%, n=159), clinical pathways (64.2%, n=140) and educational materials for patients (64.2%, n=140)

**Conclusion:** Unnecessary care is an area of concern in Trinidad and Tobago. Identifying areas of overuse and developing targeted plans to reduce unnecessary care are important next steps.

## P-26

### The Knowledge, Attitude and Practices of Antibiotic Use Amongst Patients at Agape Family Medicine Clinic in Nassau, Bahamas

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**Objective:** To assess the knowledge, attitudes, and practices with relation to antibiotic use in patients who attend the Agape Family Medicine Clinic in New Providence, Bahamas.

**Methods:** A cross-sectional study was conducted on individuals attending Agape Family Medicine Clinic. One hundred and eighty-three English-speaking individuals, 18 years of age or older with previous use of antibiotics were invited to complete a self-administered 47-item questionnaire. Data was collected from February 1, 2020 - July 31, 2020 and analyzed using the IBM SPSS statistical analysis software.

**Results:** There was a 13% refusal rate with 161 persons agreeing to participate in the study. More than half (54.4%) of the participants believed that antibiotics reduced recovery time of most coughs and colds and 44.3% thought they were effective against viruses. Overall, poor knowledge was

demonstrated. However, more than half (57.8%) had positive attitudes; 88.2% preferred not to self-medicate. Most participants (92.5%) had good practices; 70.0% completed their last antibiotic course. However, a small percentage (6.3%) of respondents reported self-medication, half of which obtained the antibiotic used from a pharmacy.

**Conclusion:** There is a significant deficit in the knowledge of antibiotic use among patients attending Agape Family Medicine clinic. Overall, good attitudes and practices were observed however, improvements can be made. Physicians must practice evidence-based medicine and explain treatment decisions to their patients. Public educational campaigns geared towards antibiotic use and misuse are also critical. Furthermore, laws and regulations concerning the distribution of antibiotics by pharmacies must be implemented and enforced.

## P-28

### Factors Influencing Knowledge on the Completion of Treatment Among Tuberculosis Patients Under Directly Observed Treatment Strategy (Dots) in A Selected Health Facility, The Bahamas.

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**Objective:** To determine the factors influencing completion of DOTS in Tuberculosis treatment in the Bahamas

**Methods:** A quantitative, descriptive cross-sectional survey. Tuberculosis patients aged 18 years and above were considered regardless of the site or the smear status of their TB. Sample size was 62. Data analysis and interpretation done using the statistical package for the social sciences software (SPSS version 22), through the exploration and calculation of descriptive (frequencies, percentages, means, standard deviations and inferential (Anova) statistical methods. Statistical significance was determined to be a p value of 0.05.

**Results:** The mean age of the respondents, 39.9 years, SD 11.65, and 73% of them were men. 63 percent of participants, 78% of whom were citizens of the Bahamas, reported having no annual income. Seventy-eight percent (31) of the participants said they had insufficient food and drink while they were unwell. More than half of the participants in the survey reported being on at least one pharmaceutical regi-

men, although 36% said they were not actively taking any of the prescription medications.

**Conclusion:** Less than a third were noncompliant with DOTS, this was influenced by factors such as, annual income, no family support, marital status, employment status and educational level.

## P-29

### Establishment of an adolescent HIV clinic, retention in care and outcomes of HIV-infected adolescents and youth

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**Objective:** To describe the model used to establish an adolescent HIV clinic and describe retention, adult transition, and viral suppression of HIV-infected 10-19 year olds enrolled in care

**Methods:** This is a retrospective cohort study of HIV-infected adolescents aged 10-19 years enrolled in an adolescent HIV clinic from 2014- 2019. Data entered on an on-site database identified demographic characteristics, viral loads, clinic visits, retention, lost-to-follow, death, and outcomes after the transition to adult care as of December 2022. Pregnancies, deliveries, and educational or employment status were summarized.

**Results:** The adolescent clinic model that was used was a sequential transition. This is an adolescent clinic covering the transitional periods: paediatrics to adolescence and adolescence to youth held in the adult clinic setting with integrated support. Among 86 HIV-infected adolescents and youth, 64 (75%) were in care, 3 (4%) were lost to follow, 11(13%) were transferred, and 8(8%) died. 60 (94%) were perinatally infected. Among those in care, 8% were 10-14, 38 % were 15-19, 43 % were 20-24 and 11% were older than 25 years old. 60% were in adult care. Unemployment was 12%. Virologic suppression was 69 %. There were 23 offspring of 15 HIV-infected youth. Two perinatally infected parents had 2 HIV-infected children.

**Conclusion:** A sequential transition model resulted in high retention in care of HIV-infected adolescents, 3-8 years after enrolment. Vigilant integrated support must be maintained until self-management is established to help maintain viral suppression into adulthood. More adolescent-trained practitioners are needed in the public sector.

### P-30

#### **Epidemiology and distribution pattern of cutaneous Leishmaniasis in Guyana- a surveillance study**

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**Objective:** The goal of this study was to identify the epidemiologic pattern and the degree of distribution of Leishmania species in Guyana.

**Methods:** A retrospective study was conducted over five years (2017- 2021) examining the epidemiologic pattern and the degree of distribution within the country, using heat maps. Data was collected from different testing sites across the country such as Vector Control Services in Georgetown, Lethem hospital, and Bartica hospital. All 23 positive microscopy slides preserved for cutaneous leishmaniasis were sent for species identification with support from PAHO.

**Results:** This study provided a correlation between socio-demographic characteristics of cutaneous Leishmaniasis in Guyana. The study identified the disease predominantly affects the male gender, the Agro-Guyanese ethnic group, and between the ages of 34, who live or work in the hinterland region, particularly regions 7, 9, and 10. Notably, males with mining occupations or in the army stationed in the hinterland regions were at the highest risk due to significant exposure to the bite of sandflies that are widespread in these regions.

**Conclusion:** This study presented a comprehensive depiction of how Leishmania species are distributed across Guyana. Molecular diagnosis and genotyping of Leishmania from smear-positive samples of patients confirmed Leishmania spp subgenus L. (Viannia).

### P-31

#### **Visualization of scientific collaboration and themes for dengue, zika and chikungunya diseases in the Caribbean**

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**Objective:** The (re-)emergence of arboviruses in the Caribbean, and worldwide, is a major public health issue of concern to all scientific research stakeholders. This study aimed to use bibliometric analysis to identify the contribution of Caribbean countries to scientific production regarding the

three arboviruses with the greatest impact, namely zika, chikungunya and dengue.

**Methods:** Bibliographic data related to arbovirus diseases were collected from three international databases (Web of Science, Pubmed, and Scopus), filtered by Caribbean islands of affiliation. VosViewer was used to identify scientific connections between countries or institutions and to identify research themes.

**Results:** The dataset comprised 1332 indexed articles, with 50% of articles categorized in the top quartile of quality. Cuba was found to lead research on dengue, with a total of 300 articles, and 18 international connections. The USA-Puerto Rico duo was found to be the leader on emerging arboviruses (Zika and Chikungunya), followed by a predominantly French-language cluster (mainland France, Guadeloupe, Martinique). Key research topics were related to clinical presentations, epidemiology, and research on mosquito-borne viruses

**Conclusion:** Co-authorship network analysis on emerging arboviruses revealed the dynamics of collaboration, and provides insights into Caribbean collaborations that deserve to be created and consolidated in case of resurgence of new arbovirus epidemics.

### P-32

#### **The Prevalence of Human Immunodeficiency Virus (HIV) Exposed Infants and Outcome of Direct Blood Spot Test during the period January to December 2019 at Georgetown Public Hospital Cooperation**

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**Objective:** To evaluate the prevalence and management of HIV Exposed Infants born at the Georgetown Public Hospital Cooperation (GPHC) during the year 2019.

**Methods:** A retrospective analysis was done on records collected by both hard and soft (electronic) copies of all HIV Exposed Infants born at GPHC during the period of January to December 2019. The data collection excluded all infants whose charts lacked documentation of the variables that were under study. Relevant data were then inputted into a spreadsheet to obtain researchers' objectives.

**Results:** This research shows 2.5% of all neonates born in 2019 at Georgetown Public Hospital were born to mothers who are HIV positive. It was revealed that there was 100% adherence to guidelines pertaining to the start of prophylactic ARVs in neonates. 85% of neonates had Direct Blood Spot testing done prior to discharge from hospital. This research showed that the correlation between mothers with known HIV Positive status and use of ARVs prior to delivery is significant at the 0.01 level.



**Conclusion:** Overall it can be concluded that World Health Organization (WHO) & Ministry of Health National AIDS Programme Secretariat guidelines for HIV Exposed Infants are satisfactorily being practiced to prevent mother to child transmission in Guyana.

### P-33

#### **Incidence of Acute Respiratory Illnesses and Diarrheal diseases in children under five years of age and its relationship with maternal knowledge, attitudes, and practices.**

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**Objective:** To understand the knowledge, attitudes, and practices of mothers of children between ages 1 to 5 years old with regard to diarrhea and acute respiratory tract illnesses as well as to determine their incidence.

**Methods:** A non-random convenience sampling was performed targeting 110 mothers of children ages 1-5 years. The questionnaire was designed to measure the knowledge, attitudes, and practices of mothers in regard to acute respiratory tract infections (ARIs) and diarrhea utilizing a Likert scale, along with demographics.

**Results:** The study showed that only 67.27% of mothers knew the correct definition of diarrhea. "Not washing hands" was the most popular response with 36.36% of respondents selecting that option, while 23.64% believed "teething" to be the cause of diarrhea. Our study showed a mean incidence of diarrhea of 1.02 episodes per child per year. The study showed that only 50.91% of persons were able to identify "infections" as the cause of a chest cold. 23.64%, 2.15%, and 14.55% believed that the cause was "playing in the rain", "not wearing enough clothes", and "dew falling down on the head" respectively. The mean incidence of ARIs per child per year was calculated to be 1.53.

**Conclusion:** The data suggests that the knowledge, attitudes, and practices of the mothers attending the Lodge Health Center as it pertains to Acute Respiratory Illnesses and diarrheal diseases are heavily influenced by culture.

### P-34

#### **Antibacterial activity of Mustard leaves (*Brassica juncea*) – a potential for alternative antibiotic therapy?**

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**Objective:** To analyze the antibacterial activity of mustard leaves (*Brassica juncea*) against *Staphylococcus aureus*, *Escherichia coli*, *Klebsiella pneumoniae*, *Pseudomonas aeruginosa* and an Extended-spectrum  $\beta$ -lactamases (ESBL) *K. pneumoniae*.

**Methods:** The extracts from the leaves were obtained using three solvents; ethanol, hexane, and ethyl acetate and concentrated using a rotary evaporator. Serial dilution was used to obtain varying concentrations of the extracts (100-0.78mg/ml) and sterile filter paper discs were placed in the extracts. The Kirby Bauer disc diffusion method was done using Mueller Hinton agar seeded with the five test bacteria. Discs were placed in triplicate on each plate. Discs soaked in pure solvent were used as the negative control and the antibiotics ciprofloxacin, ceftazidime and tetracycline constituted the positive controls. After incubation, any zone of inhibition around the discs was measured in millimeters and the results expressed as mean  $\pm$  Standard Deviation.

**Results:** Zones of inhibition were seen with extracts from ethyl acetate for 100mg/ml for *K. pneumoniae* (20.7  $\pm$  5.0mm), *K. pneumoniae* ESBL (13.0  $\pm$  0.0mm), *S. aureus* (17.3  $\pm$  6.8mm), *E. coli* (11.0  $\pm$  1.0mm) and *P. aeruginosa* (13.3  $\pm$  1.5mm). Zones for the 100mg/ml extracts against *K. pneumoniae* ESBL and *P. aeruginosa* were larger than the zones for tetracycline in some cases; and the zones for the ATCC *K. pneumoniae* were larger than those for both ceftazidime (14mm) and tetracycline (18mm).

**Conclusion:** *B. juncea* is potentially a novel alternative to antibiotic treatment and this study provides a template for investigation of its antifungal and phytochemical properties.

### P-35

#### **A description of the schizophrenic patients admitted to the Psychiatric Outpatient Clinic at Georgetown Public Hospital Corporation from 2019 to 2021.**

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**Objective:** To describe newly diagnosed schizophrenic patients at Georgetown Public Hospital Corporation's Psychiatric Outpatient Clinic from 2019 to 2021.

**Methods:** This was a cross sectional study involving 3170 charts. 96 charts were identified for analysis. Variables were collected. Categorical tests for an association, such as the Chi square/Fisher's Exact test were used to infer relationships among patients presenting with schizophrenia.

**Results:** Over 3 years, 3% (67.7% males, 32.3% females) of admissions were diagnosed with schizophrenia. The incidence per year was: 2019 4.2%, 2020 2.5%, 2021 2.2%. 8% were married (19% females, 5% males). Median age of onset of: males 25, females 38 (p: 0.002). 52% were employed. 49% AfroGuyanese, 55% IndoGuyanese com-

pleted at least secondary education. 48% of males dropped out of secondary school. Families of origin supported 32% females, 62% males. 62.5% use substances, 36.6% were current multi drug users (31% males, 6.5% females).

**Conclusion:** Schizophrenia is not a frequent diagnosis at first consult. The incidence of the diagnosis per year was: 2019 4.2%, 2020 2.5%, and 2021 2.2%. Most schizophrenic patients were male and single, of no particular ethnicity. Females were more likely married. Men were a younger age at diagnosis than females. More than half of the patients were employed and had completed at least secondary school. Almost half of males dropped out of secondary school. Males were more likely than females to be supported by their family of origin. More than half of the patients presently used substances and many of these patients were multi-drug users.

### P-36

#### **An Investigation into the Prevalence and Effects of Burnout among Medical Students in Guyana**

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**Objective:** To determine the rate of burnout among medical students of Guyana and to identify the causes and effects of burnout among those medical students affected.

**Methods:** This cross-sectional, quantitative study surveyed 238 medical students from all five medical schools in Guyana. The Burnout Inventory Student Survey (MBI-SS) score was used to determine the risk of burnout among the surveyed students. A piloted, online, de novo questionnaire was used to evaluate the variables recorded on the questionnaire including age, gender, year of study, employment status, causes, effects of burnout inter alia. All quantitative data were analyzed using SPSS v. 26.0 with the chi square and independent samples t-test being used to assess the association between variables. ( $p=0.05$ )

**Results:** Data on 238 medical students were analysed ( $F=152$ ,  $M=86$ ), 51.3% of surveyed medical students showed signs of high burnout. ( $M=48.3\%$ ,  $F=61.8\%$ ,  $p<0.000$ ,  $OR=3.4$ ). While there was no significant difference between burnout rates of students in the 1st and 5th years ( $p=0.07$ ), the 5th years were 3.7 times more at risk for burnout than their first years. Majority of the respondents attributed the cause of burnout to 'poorly designed curriculum' and 'high tuition fees.' Consequently, 36.1% of the respondents have 'thoughts of suicide', 25.4% engage in 'safe/unsafe sexual gratifications', and others use alcohol/'hard' drugs to cope with burnout.

**Conclusion:** Medical students are at a high risk of burnout. Medical schools need to design programmes to address the

mental health of its populace and reduce the prevalence and effects of burnout.

### P-37

#### **Quality of life, depression, anxiety and stress among older adults living with HIV/AIDS in Kingston and St Andrew, Jamaica during the COVID-19 pandemic**

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**Objective:** To assess the quality of life and mental health of older adults living with HIV/AIDS in the Kingston and St. Andrew, Jamaica during the COVID-19 pandemic.

**Methods:** A quantitative non-experiment design cross-sectional study was conducted between the period of February 2022 to August 2022, among 204 participants and who were 50 years and older from healthcare centres and HIV/AIDS support centres. The standardized WHOQOLHIV-BREF and DASS-21 were utilised to assess quality of life and mental health respectively. A Brief Researcher-developed assessment tool assessed the impact of COVID-19 on the participants.

**Results:** The socio-demographic profile revealed more male participants than females. All participants were being maintained on antiretroviral therapy. Majority reported an overall good quality of life. The prevalence of depression, anxiety and stress was found to be less than 40%. Also, majority reported satisfaction with family, community and national support during the COVID-19 pandemic. There was no statistical difference observed in relation with quality of life and depression, anxiety and stress.

**Conclusion:** In sum, among older adults living with HIV/AIDS during the COVID-19 pandemic, the quality of life was rate as good while depression, anxiety and stress levels were considered low.

### P-38

#### **Mental Health and Suicide Risk among Undergraduate University Students in Barbados during the COVID-19 Pandemic**

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**Objective:** To conduct a cross-sectional survey of student mental health and suicide risk during the COVID-19 pandemic using the National College Health Assessment (NCHA), a standardised comprehensive measure of tertiary students' health status, behaviours, and use of health systems.

**Methods:** The NCHA was distributed online to all current students at The University of the West Indies, Cave Hill, from October 2021 to March 2022. Measures included the Kessler-6 (K6; a measure of generalised psychological distress), Diener Flourishing Scale (DFS), two-item Connor-Davidson Resilience Scale (CD-RISC2), Short UCLA Loneliness Scale (ULS3), and the Suicide Behaviours Questionnaire-Revised (SBQ-R).

**Results:** A total of 649 students responded to the survey and the response rate was approximately 10 % (accounting for enrollment fluctuation). Approximately, 76.5% of students reported moderate or serious levels of psychological distress. A total of 634 students completed the SBQ-R, of which 231 (36.4%) screened positive for suicide risk. Sex differences in suicide risk were not significant. Another 17 students (2.7%) reported attempting suicide in the past 12 months. Comparison of mean total scores by sex for all mental health scales showed significant gender differences only for the K6. Biological females reported greater levels of psychological distress than did males. Approximately, 30.4 % of students indicated they had received mental health services previously, 14.3% in the past 12 months. Approximately, 75.6% indicated they would consider seeking mental health services in the future.

**Conclusion:** Alarming rates of self-reported psychological distress and suicidal ideation underscore the need to prioritise student mental health supports during and after the COVID-19 pandemic. Focused interventions informed by longitudinal research are needed.

### P-39

#### **Barriers to Diabetes Self-Management in Grenada During the COVID-19 Pandemic: A Qualitative Study**

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**Objective:** The purpose of the study was to gain a deeper insight into the barriers of diabetes self-management experienced during the COVID-19 lockdown in Grenada.

**Methods:** This study adopted a qualitative methodology and a descriptive phenomenological approach to better understand the experiences of diabetes self-management practices during the lockdown period. Semi-structured interviews were conducted with 13 participants with type 2 diabetes in Grenada over two months. Patterns emerging from the data were identified systematically through the inductive generation of codes from the data using qualita-

tive software. Codes with similar meanings or relationships were grouped, and links between categories and themes were established.

**Results:** Ten categories were identified, which were then grouped into two overarching themes: 1) environmental factors and 2) personal factors. Environmental factors like high costs, limited access to resources, COVID restrictions, and lack of support from family and friends were notable barriers. Personal factors like negative attitudes, worry and concern, personal beliefs and values, underlying health conditions, and perceived behavioral control toward self-management were also significant barriers.

**Conclusion:** This study contributes to an understanding and fills the gap in current knowledge relating to diabetes self-management practices during the COVID-19 lockdown. Findings indicated that several personal and environmental barriers significantly affected adherence to self-management during the pandemic across the five self-management behaviors. The findings may be used to develop a multidisciplinary approach to improve self-management skills and attitudes and promote appropriate diabetes disaster planning for future pandemics. Addressing those barriers to diabetes self-management will improve health outcomes and quality of life.

### P-40

#### **A Comparison of the progress of stroke patients referred early versus those referred late for rehabilitation.**

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**Objective:** To assess the effect of early and late referrals of rehabilitation for stroke patients who underwent rehabilitation at the Palms Rehabilitation Center.

**Methods:** A retrospective chart review study was done in which 743 charts of stroke patients from the years 2011-2013 were reviewed. Of the 743 patients, 63 met the criteria for inclusion in the study. Of these 63 individuals, the research team was able to contact 51 of them. An initial Barthel index score and a late score were used to assess patient progress.

**Results:** Out of the 51 stroke patients assessed, 58.8 % were males while 41.2% were females. The mean change in the Barthel Score for the early referral group was 31.4 and 25.88 for the late referral group. The mean difference in Barthel score change between both groups was not significant at an alpha of 0.05 using unpaired ttest ( $p=0.057343$ )

**Conclusion:** Failure to demonstrate a difference in outcome as assessed by change in Barthel score between the early referred group and the late referred group may represent a type 2 error.

#### P-41

##### **A Qualitative Exploration of Factors Affecting the Survivorship Experience of Persons Diagnosed with Colorectal Cancer in St. Vincent and the Grenadines Accessing Public Oncology Care**

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**Objective:** To understand the factors impacting the survivorship experience of persons living with a diagnosis of colorectal cancer (CRC) receiving public oncology care in St Vincent and the Grenadines (SVG).

**Methods:** An interpretive qualitative methodology was used to purposively sample patients with a histological diagnosis of CRC receiving public oncology care in SVG for more than 3 years. Sample size included twelve eligible persons identified by credible gatekeepers at the public oncology center. However, only ten persons participated (8 males and 2 females). All interviews were conducted by one female researcher with a medical background and graduate training in qualitative methods. Interviews were semi-structured and conducted face-to-face in a mutually convenient non-clinical location between June-July 2022. Interviews averaged thirty (30) minutes each, were audio-recorded, transcribed modified verbatim, and coded deductively using Atlas ti 9.

**Results:** Peer support, financial support and spirituality emerged as socio-economic and cultural factors influencing survivorship. We found that financial challenges reduced access to treatment and diagnostic investigations. This reduction was counteracted by mobilization of support through friends, family, and civil society organizations such as churches, local cancer support groups and donations from persons residing in the diaspora.

**Conclusion:** Further research is needed in SVG towards development of a) sustainable financial model to support patients undergoing care and b) culturally acceptable CRC health educational material which includes elements of spiritual care. These tools could positively influence adherence to treatment, reduce fear, and increase health agency among patients, thereby facilitating attainment of Sustainable Development Goal 3.

#### P-42

##### **Responding to the changing needs of Caribbean Cancer Registries through international collaborations and electronic innovation**

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**Objective:** Cancer registration activities in English-speaking Caribbean countries would benefit from improvements to the information technology (IT) application and infrastructure currently in use. In 2020, in response to these identified regional needs, the International Agency for Research on Cancer (IARC) Caribbean Cancer Registry Hub, based at the Caribbean Public Health Agency (CARPHA), began investigating possible alternative IT applications. As a result, a collaborative project developed between IARC, CARPHA, the University of Oslo and the Rwanda National Cancer Registry. Over the period March-October 2022, the DHIS2 Oncology Module – which was developed by the Rwanda National Cancer Registry - was installed, customized, and tested at CARPHA.

**Methods:** The project Executive Committee was formalized and the DHIS2 Metadata files were imported onto a CARPHA server. The variable list was customized to the core dataset recommended for Caribbean cancer registries and usability testing to assess fit for purpose and ease of use was completed.

**Results:** The DHIS2 Oncology module was successfully installed and customized for use in Caribbean cancer registries. User-testing participants expressed satisfaction with the DHIS2 Oncology Module application, with the exception that internal-consistency validation rules were not included in the tested application. Additionally, participants reported issues due to a lack of experience using the DHIS2 platform.

**Conclusion:** The DHIS2 Oncology Module can be installed and customized for use in Caribbean cancer registries. Appropriate training materials would need to be developed to support its installation, customization, and use. Additionally, incorporating the validation rules for internal data consistency is needed.

#### P-43

##### **Factors Influencing Adherence To Pharmacologic Treatment Of Type 2 Diabetes Mellitus In Public Primary Healthcare Clinics In Barbados: The Role of Social Inequalities In An Advancing Technological Age**

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**Objective:** To understand the phenomenological experiences regarding pharmacological adherence amongst patients (25-65 years) living with type 2 diabetes mellitus



(T2DM) who access care at public primary healthcare facilities in Barbados.

**Methods:** A qualitative research methodology, informed by an interpretivist philosophical paradigm was used. 52 semi-structured in-depth interviews amongst low-socioeconomic patients living with T2DM in Barbados was conducted via a virtual platform. The interviews which were recorded lasted approximately 30-45 minutes each and they were subsequently transcribed using a modified verbatim process. Inductive coding was performed and thematic content analysis using constant comparison, was carried out by the researcher with assistance from the ATLAS.ti version 9 software programme.

**Results:** Four basic themes emerged as factors affecting pharmacological adherence: the bio-psycho-social perspective of the patients living with T2DM, barriers to T2DM treatment, the effects that the T2DM treatments caused and the need for a patient-centred health system. Many technological features were described, however some elderly participants were not familiar with smart-phone technology and therefore more innovative strategies is needed for this population. All the results converged towards the global theme implying that the need for a patient-centred T2DM management approach.

**Conclusion:** The patient-centred T2DM management should be the main focus for public health measures and strategies in Barbados. Several factors, including social inequalities, have influenced the pharmacological adherence to T2DM treatments and hence targeted strategies are needed.

#### P-44

##### **Inaugural Project to Assess the Burden of Cancer in the Caribbean: Processes, Challenges and Lessons Learned**

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**Objective:** In recognition of the lack of available data on cancer incidence in Caribbean countries and territories, the IARC Caribbean Cancer Registry Hub, Caribbean Public Health Agency (CARPHA) commenced the inaugural surveillance project to assess the burden of cancer in the Caribbean. This manuscript outlines processes used, as well as the challenges and lessons learned throughout this project.

**Methods:** Ethical approval was received, and ten population-based cancer registries (PBCRs) were officially invited to participate. Participating registries were required to submit official documentation and incidence data for all complete diagnosis years during the period 2000-2020. Data specifications were provided, and a secure reporting portal was established. The quality of submitted data will be assessed and standardized cancer incidence rates generated. A report on cancer incidence in the Caribbean region will be produced and disseminated.

**Results:** Nine PBCRs verbally agreed to participate. One cancer registry submitted the required documentation and cancer incidence data. Official documentation and data are outstanding for the remaining registries.

**Conclusion:** Positive feedback from Caribbean PBCRs indicates a general awareness of the importance of and need for high-quality reports on cancer for the Caribbean region. Administrative requirements for official documentation surrounding PBCR participation have delayed project timelines. Ongoing engagement of staff and capacity building in cancer registries to support file preparation, data cleaning and submission is needed. The learning process to overcome challenges is important for CARPHA and for Caribbean PBCRs. The report on cancer incidence in the Caribbean region is expected by December 2023.

#### P-45

##### **The Willingness of Individuals, with Noncommunicable Diseases, towards Adopting a Plant Based Diet**

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**Objective:** To analyze how associated socio-demographics and health factors impact willingness and perceptions of individuals with noncommunicable diseases towards adopting a plant-based diet.

**Methods:** A sequential transformative design was used to fulfill the aim of this study. A convenient sample of 344 outpatient clinics attendees at Kingston Public Hospital was used for the study. Data were collected using interviewer administered questionnaires and in-depth interviews; constructs from the Trans-theoretical (TTM) and Health Belief Models were utilized as theoretical frameworks.

**Results:** Majority (90.9%) of the participants indicated they were not eating a plant-based diet. Willingness to start eating a plant diet in the next six months was expressed by 53.8% of participants. Frequencies for the weekly consumption of fruit juice ( $p<0.05$ ), fruit ( $p<0.05$ ) and orange vegetables ( $p<0.001$ ) significantly differed across the stages of the Trans-theoretical Model. Once participants started eating a plant-based diet, there was a mean increase, of 2 more servings, in the consumption of food categories by

participants in the preparation, action and maintenance stages of the TTM.

**Conclusion:** Majority of the participants were not eating a plant-based diet but some were willing to change their diet in the next six months. As willingness is essential to behavior change, this study provides information that may be useful in the management of chronic diseases.

#### P-46

##### **Factors associated with medication adherence among persons with hypertension in faith-based organizations in Barbados**

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**Objective:** To identify socio-demographic factors associated with medication adherence amongst hypertensive persons between 40-75 years-old within faith-based organizations in Barbados.

**Methods:** Baseline cross-sectional data were collected within faith-based organizations in Barbados as part of a planned cluster randomized trial. Data were obtained from patients who volunteered to participate and who had a blood pressure reading >130/90 mmHg and/or previous medical history of hypertension. We used the Hill-Bone medication adherence scale (reliability(a)= 0.91) as the main outcome. Ordinal logistic regression was used to explore the relationships between medication adherence and socio-demographic factors (age, sex, employment, education and marital status).

**Results:** We present baseline data from 73 eligible persons. Of these, 71% were female, mean age was 59.3 years and mean systolic blood pressure 142 mmHg, 95%CI (141, 146). In this study, 42% of participants indicated that they forgot to take their medication at least some of the time, 49.1% indicated that they sometimes decide not to take their medication; 21.8% sometimes run out of medication and 29.1% do not take their medication before going to the doctor. No one reported the practice of using other people's medications. Employment status was the only statistically significant predictor for medication adherence in the demographic model fitted, retired persons more likely to adhere than working individuals (Odds Ratio 3.69 95% CI 1.13, 12.0).

**Conclusion:** The findings showed relatively low levels of medication adherence. The medication adherence deficits highlighted can be used to develop interventions and health promotion activities to increase adherence in this population.

#### P-47

##### **Clinico-radiological profile of patients with myeloma-related skeletal events at a tertiary institution: a retrospective analysis from 2014 -2018**

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**Objective:** This study sought to determine the prevalence of skeletal-related events in patients with multiple myeloma at the University Hospital of the West Indies between 2014-2018 and to describe their characteristics.

**Methods:** A cross-sectional retrospective design was used, and 116 patients were eligible. Eligibility included newly registered patients aged 18 years and older patients who were being investigated for a plasma cell disorder between 2014 and 2018. Data was collected to review the type of monoclonal gammopathy, the number of patients with related bone disease, the type of skeletal event and the number of patients with negative surveys that received additional radiological testing.

**Results:** Multiple Myeloma was commonest diagnosis (n=67, 57%, P<0.05). Only 1 patient (1%, P<0.05) was diagnosed with smoldering myeloma, and 2% (n=2, P<0.05) with plasma cell leukemia. The mean (sd) age 62.81 (11.9) years. For the profile of skeletal events 11% (n= 5, P<0.05) had lytic lesions, 7% (n = 8, P<0.05) compression fracture, 2% (n=2, P<0.05) plasmacytoma, 1%, (n=1, P<0.05) had a mildly displaced fracture. MRIs detected 9% (n=11) compression wedge fractures, 2% (n=2, P<0.05) lytic lesions. 15 patients in this study obtained negative bone surveys and over 60% (P<0.05) of these patients were positive for skeletal events by either Computed Tomography or Magnetic resonance imaging.

**Conclusion:** Skeletal related events are common in multiple myeloma. The adherence to the 2014 International myeloma working group guidelines for the diagnosis of Skeletal Related Events are poor and further training of clinicians on these guidelines are warranted.

#### P-48

##### **The potential role and scope of integrative oncology on the quality of life of patients diagnosed with breast cancer, colon and metastatic prostate cancer who are on active treatment in the Haematology/ Oncology Clinic at the University Hospital of the We**

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**Objective:** To assess the quality of life of patients diagnosed with breast, colon and metastatic prostate cancer who are on active treatment and the potential role of Integrative Oncology in impacting quality of life.

**Methods:** A sample of 52 patients diagnosed with breast cancer, colon cancer and metastatic prostate cancer on chemotherapy at the UHWI were enrolled in this cross sectional study. Quality of life was assessed using the abridged version of The WHO quality of life scale questionnaire.

The Pearson Chi-squared test was used to determine the association between different variables and the quality of life.

**Results:** Quality of life was rated as good (55.8%) and very good (28.8%) for most participants. Only one participant (1.9%) rated the quality of life as poor, and no respondent indicated a very poor quality of life.

**Conclusion:** Quality of life scores were noted to be good and very good in the majority of participants diagnosed with breast cancer, colon cancer or metastatic prostate cancer at the UHWI. There however were lower scores in the psychological domain for patients with colon cancer. There are also also limited dietary and psychology referrals noted in this study. Despite the high quality of life scores noted here, the literature has highlighted the significant impact of integrative oncology.

#### **P-49**

##### **An Assessment of the Relationships between Hypertensive Patients' Level of Blood Pressure Control and their Personal Continuity of Care in Selected Public Health Centres in New Providence, Bahamas**

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**Objective:** To evaluate the relationship between personal continuity of care (PCC) and blood pressure control in patients attending selected public health centres in New Providence, Bahamas

**Methods:** Retrospective chart review with a cross-sectional component on Hypertensive patients attending two government primary care clinics in New Providence, Bahamas: Family Medicine clinic (FMC) and Flamingo Gardens clinic (FGC). Personal continuity of care was assessed by using the usual provider care index (UPIC). UPIC of zero

signifies no continuity while one reflects perfect continuity ie. in all visits, the patient saw the same provider. The averaged mean systolic and diastolic reading were calculated on Hypertensive adult patients who had at least 2 clinic visits within the last 12 months. The JNC8 guideline was used to assess level of blood pressure control.

**Results:** 353 participants were involved in this study. The mean averaged SBP was 149.7 ( $\pm$  18.4) mmHg and DBP was 82.7 ( $\pm$ 10.9) mmHg. Of the 224 participants at FMC, 110 (49%) had controlled BP and the UPIC score was 0.76 ( $\pm$ 0.02). The uncontrolled group had 114 (50.9%) participants with a UPIC score of 0.80 ( $\pm$ 0.02). Of the 129 participants at FGC, 45 (34.9%) had controlled BP and the UPIC score was 0.50 ( $\pm$ 0.04). The uncontrolled group had 84 (65.1%) participants with a UPIC score of 0.52 ( $\pm$ 0.02).

**Conclusion:** PCC was not related to blood pressure control in the study. FMC had a similar high UPIC score value for both controlled and uncontrolled hypertensives groups. FGC had a similar intermediate UPIC score value for both the controlled and uncontrolled hypertensives groups.

#### **P-51**

##### **Distribution and frequency of principal Rh blood group antigens (D, C, c, E, and e), Kell antigen, and DAT positivity among blood donors at the National Blood Transfusion Services in Guyana**

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**Objective:** To determine the prevalence of Kell antigen, DAT positivity, Rh antigen, and Rh phenotype among blood donors at the National Blood Transfusion Services in Guyana.

**Methods:** The study was a retrospective, laboratory-based study collected for the year October 2019 - October 2021. All information regarding Kell antigen, DAT, Rh antigen, and Rh phenotypes was collected from the NBTS. Ethical approval for the study was granted by Institutional Review Board, Ministry of Public Health, Guyana.

**Results:** The study had 15,494 donors from regions 2, 3, 4, 6, 9, and 10 and mobile drive. The study had blood group O at 47.7%, A at 22.3%, B (at 23.9%, and AB at 6.1%. Among the total blood donors, 392 (2.5%) had a negative Rh and 15,102 (97.5%) had a positive Rh. Interestingly, 63 (0.4%) were recorded as having the presence of weakly expressed D antigen. Percentage of Kell antigen recorded with 208 (1.3%) and DAT positivity with 19 (0.1%). The phenotype distribution of c+ was the most dominant antigen (76.3%) followed by e+ (72.2%), C+ (53.8%), and E+ (31.8%). The most common phenotype among Rh-positive (D antigen) donors was Dccee (40.1%) followed by DCcee (27.8%).

The most common phenotype among Rh-negative (D antigen) donors was dccee (1.6%). The majority of the Dccee phenotype was present in the Afro-Guyanese ethnic groups. **Conclusion:** The knowledge on the presence of antigens would help in better handling of databases of blood donors as well as provide information on blood incompatibility of patients with various alloantibodies.

## P-52

### **Effectiveness of diversion pouch and modified skin disinfectants in reducing bacterial contamination of platelet components at the National Blood Transfusion Services, Guyana**

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**Objective:** To determine the prevalence of bacterial contamination in donor-collected platelets components using the diversion pouch integrated blood collection system at the National Blood Transfusion Services, Guyana.

**Methods:** This is a single-site cross-sectional, comparative study that was carried out at the blood bank from July 2022 to August 2022. A total of 70 platelet concentrates were collected, 35 samples were from donors swabbed with isopropyl alcohol while 35 samples were from donors with a combination of iodine and isopropyl alcohol. Gram staining, culture, and subculture were done in Trypticase Soy Broth, blood agar and eosin methylene blue agar media, MacConkey agar, and Chocolate agar.

**Results:** Of the 70 samples tested, 7 (10%) samples had contamination. Of the 7 samples that were found contaminated with the presence of various bacterial species, 5 samples were found contaminated with Gram-negative bacilli, 1 sample was found contaminated with Gram-negative cocci, and 1 sample identified Gram-positive cocci. The occurrences of bacterial contamination of platelets were significantly lower when utilizing the combination of hand scrub, iodine, and isopropyl alcohol (1 in 35) in comparison to the usage of isopropyl alcohol alone (6 in 35) ( $p=0.05$ ). The study also identified a significant reduction in bacterial contamination with the usage of a diversion pouch (10%) than the usage of collection bag (85.7%) ( $p=0.05$ ).

**Conclusion:** A diversion pouch blood collection system in combination with aseptic method of iodine, isopropyl alcohol, and a hand scrub is an efficacious method in reducing bacterial contamination in platelets during the collection of blood.

## P-53

### **Quantitative and Qualitative Analysis of Potable Water at Water Refill Stations and Purchasers' Perceptions Within Selected Communities In Guyana**

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**Objective:** To comparatively assess the quality of potable water from selected water refill stations in an urban and rural community and to understand purchasers' attitudes and practices towards water refill stations.

**Methods:** A cross sectional study was conducted which included six (6) water refill stations and 612 randomly selected purchasers. The water samples were collected at various times and on different days of the week. Data was collected using pretested interview schedule, observational checklist, and purchaser questionnaire. The questionnaire consisted of demographic variables inclusive of : gender, age, educational level, and ethnicity. The questionnaire included a section on preliminary data, a section on attitudes and practices and another section on differential association and another section on differential reinforcement. The questionnaire was divided into: 3 questions in the preliminary data section, 13 questions in the attitudes and practice section, 6 questions in the differential reinforcement section and 9 questions in the differential association. Prior to being operational the questionnaire was piloted. The Cronbach alpha test revealed a score of 0.80. A p-value of  $=0.05$  was used to determine statistical significance.

**Results:** The results showed that only 50% of the refill stations avail themselves of any form of independent water quality testing. Moreover, water refill stations within the urban community showed more voluntary compliance with the local standard. A significant association of water quality parameters was seen in pH (0.00), turbidity (0.04), iron (0.01), and aluminum (0.000). There were also notable differences within the means of total dissolved solids (Urban (44.1)-Rural (50.7) and total coliform Urban (18.6) Rural (2.1). There were generally good attitudes and practices among purchasers with sex (0.05), education (0.00), and ethnicity (0.03) showing significant association.

**Conclusion:** While the framework exists, though voluntary, for water refill stations to operate there are concerns surrounding the quality of refill water. Several water quality parameters were out of range which justifies quality concerns. Nevertheless, water refill stations within the urban community had fewer violations as compared to those in the rural community. That aside, purchasers were noted as having good attitudes and practices towards refilling water and water refill stations.



#### P-54

##### **Healthcare resilience in Trinidad and Tobago: A short report on the Healthy Hospital Initiative at the Sangre Grande Hospital**

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**Objective:** To describe the establishment of the Healthy Hospital Initiative (HHI), its activities and accomplishments, challenges and future steps.

**Methods:** The initiative was implemented at the Sangre Grande Hospital in the Eastern Regional Health Authority (ERHA), one of five Regional Health Authorities in Trinidad and Tobago. A review of personal records maintained by members of the Healthy Hospital Initiative was undertaken. These records included descriptions of the activities, accomplishments and obstacles that the team experienced.

**Results:** The Healthy Hospital Initiative was launched in November 2019 with the aim of creating an environmentally sustainable health system and improving the physical and mental health of staff and patients. A senior doctor led the initiative and team members included a range of staff including both clinical and non-clinical professionals who were all volunteers. This allowed for a multi-directional inclusive approach and created a sense of ownership amongst the staff.

In 2022 several activities were implemented: green spaces, recycling bins, a kitchen garden and staff exercise sessions. In addition, team members participated in training on Pan-American Health Organization (PAHO) Smart hospitals and collaborated with a local non-governmental organisation as well as the University of the West Indies, St. Augustine campus engineering department to develop further projects.

**Conclusion:** The Healthy Hospital Initiative has created a more health conscious and climate-friendly culture within the hospital. Next steps include promoting similar projects in community health facilities, developing a hydroponics system, assessing the disaster resilience and carbon footprint of the hospital.

#### P-55

##### **Histopathologic Findings in Clinical Acute Appendicitis: the University Hospital of the West Indies Experience in the Era of Computed Tomography**

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**Objective:** To classify and determine clinicopathological concordance of appendectomy specimens submitted for clinically suspected appendicitis in the era of computed tomography within a Jamaican institution.

**Methods:** A retrospective review of 1406 Pathology reports, generated during a 10-year period was done. Chi squared and T-tests were used to determine statistical significance where appropriate.

**Results:** Acute appendicitis was histologically confirmed in 1110 (79%) of 1406 cases; 658 (59%) were complicated, with an overall perforation rate of 5%. Age-specific frequency of complicated appendicitis was greatest in persons within the 7th decade of life (100%). The overall negative appendectomy rate declined to 21%. The gender-specific negative appendectomy rate was highest in child-bearing women (34%).

**Conclusion:** A high concordance rate between the clinical and histological diagnoses exists. The overall rate of complicated appendicitis is high; however, the rate of perforated appendicitis is low. Elderly patients with acute appendicitis seem more likely to have a complicated course, as such early diagnosis is critical to decrease mortality and morbidity. Despite the general decline in overall negative appendectomies, the rates remain significantly high, even in the era of increased availability of computed tomography at the University Hospital of the West Indies.

#### P-56

##### **Assessing the effect of motivation factors on the employees' work performance in Public Healthcare**

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**Objective:** To scrutinize the effects of intrinsic and extrinsic motivation factors on employees' performance in public Healthcare.

Research Questions

1. Is there a correlation between motivation and employee performance in public healthcare?
2. To what extent does intrinsic and extrinsic motivation impact work performance in public healthcare?

**Methods:** A qualitative approach was utilized for this investigation. It involved the identification of relevant research questions followed by the selection of literature based on keywords as well as inclusion and exclusion criteria. The scientific materials obtained were rationalized and categorized into distinct areas such as Motivation theories, Performance management, and Motivation in Public Adminis-

tration. The data was then extracted for further evaluation, interpretation and synthesis.

**Results:** The findings showed that there is a considerable link between job performance and work environment as employees need a cooperative, happy and clean environment to function to the best of their ability. Moreover, it was asserted job satisfaction is influenced by intrinsic motivational elements as such self-efficacy, and fulfillment occurs when healthcare professionals are given the opportunity to test their professional core competencies. In addition, extrinsic motivators such as compensation and benefits have significant effect on employee performance therefore extrinsic motivational elements are critical in addressing challenges and job satisfaction in the public healthcare industry.

**Conclusion:** This study revealed that motivation has a significant impact on the effectiveness of government entities; As a result, it is critical to ensure that every person in the organization is motivated.

#### P-57

##### **An Assessment of the Frequency and Knowledge towards Needlestick injury among Health Care Workers in the Emergency Medicine Division of the University Hospital of the West Indies: Does educational intervention make a difference?**

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**Objective:** Healthcare workers are at risk for occupational exposure to blood-borne infections from accidental needlestick injuries (NSIs). This study aims to assess the overall frequency and knowledge of needlestick injury (NSI) among healthcare workers in the Emergency Department (ED) at the University Hospital of the West Indies.

**Methods:** This was a prospective interventional study, which was conducted at the University Hospital of the West Indies from January 1, 2019, to March 31, 2019. There were 128 study participants. The data was analyzed using the Statistical Package for Social Sciences version 20.0. The Chi-square test and McNemar's test were utilized in the data analysis.

**Results:** 29.7% of the study population had experienced an NSI during their careers in the emergency room. Doctors accounted for 57.9% of all NSIs in the study population. The rates of reporting of NSIs were 40.9% amongst doctors, 50% in ancillary staff, and 100% in certified emergency nurses, registered nurses, emergency room technicians, and phlebotomists.

**Conclusion:** The overall frequency of NSIs was 29.7%, with doctors being the category of healthcare workers with the majority. Most of the participants who attended the edu-

cational session stated that it was beneficial; however, there were inconsistencies in the improvement in knowledge.

#### P-58

##### **Development of Scientific and Clinical research Cooperation in the CARibbean: feasibility study (DOSCCAR)**

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**Objective:** The Caribbean zone presents several epidemiological specificities that constitute major public health issues. The objective of this study is to provide a combined information from different types (bibliometric data, regulatory aspects, research Funding...), to researchers and research institutions in the Caribbean to facilitate collaboration and the development of research production in the region

##### **Methods:**

- Bibliometric analyses will be performed with the analytic tool Web Of Science. The search period for all scientific publications by country will cover the period from 1990 to 2022.
- Regulatory aspects : presentation of the different regulatory approaches specific to each country by type of research project
- Connecting support team : Bringing research support units closer together in order to share support methods for researchers and thus improve knowledge of the organization of the various research units.

**Results:** With the bibliometric results, we will obtain for each 5-year period, the evolution and the specificity of publications produced by 18 Caribbean countries organized by quantitative and performance indicators. An atlas of each regulatory process by country in the Caribbean will be available by type of research with all mandatory documents to submit. Several exchanges of practices between the research support units in the region could give place to a uniform descriptive card allowing the various institutions and researchers to project themselves on collaborations by knowing better the environment

**Conclusion:** Collaborations between our neighboring countries are undoubtedly the key to success in research in order to reduce the burden of health care issues

#### P-60

##### **Sickle Cell Disease Patients' Self-Reported Experiences Regarding their Emergency Department Pain Management in Nassau, The Bahamas**

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**Objective:** Objective: To evaluate SCD patient's knowledge, attitude, practice and self-reported experiences including perception of adequacy of pain management received in the ED.

**Methods:** Design and Methods: This longitudinal study spanned six-months using an administered questionnaire to measure participants' knowledge of SCD, their knowledge and perception of pain management, and satisfaction with their ED treatment and selected socio-demographic variables. Computer-aided quantitative analyses produced descriptive and inferential statistics.

**Results:** Results: Study participants included 30 SCD patients. Their median age grouping was 21-30 (13-20, 21-30) years with 12 (40.0%) male visits and 18 (60.0%) female visits. Patients were generally aware of SCD and care-related factors with just over (70.0%) having adequate to excellent knowledge scores. The ED was the preferred place for help in 27 (90.0%) participants and 28 (93.3%) reported their pain intensity as severe before help was sought. The door-to-doctor time was > one hour for 20 (66.7%) participants and the door-to-analgesia time was > two hours for 17 (56.7%) participants. Seventeen (56.7%) patients disagreed they were seen in a timely fashion. Eighteen (60.0%) patients disagreed that they received analgesics in a timely fashion. Twenty-four (80.0%) participants agreed that they had a knowledgeable attending physician and 25 (83.4%) agreed that they had a good relationship with their physician. Nineteen (63.3%) patients agreed that they received adequate pain management and 20 (66.7%) were satisfied with their ED experience.

**Conclusion:** Conclusion: Patients were knowledgeable about SCD and their pain management and were satisfied with the care received during their crisis. However, institutional protocols are needed to correct the delay in care during the management of a VOC.

## P-61

**Applications of chemical, environmental and biological techniques to control phlebotomine sandflies in an effort to reduce Leishmaniasis in Guyana: A field study**

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**Objective:** The aim of this research was to determine which geographical areas, in Guyana are most affected by leishmaniasis and to identify the efficacy of different vector control

techniques in reducing the number of phlebotomine sandflies vectors.

**Methods:** The experiment was conducted in Regions 4, 7, and 10 in zones which were near bushes, grass, and fresh water. The sampling strategy used 3 trapping methods namely the BG Sentinel, the Human Landing Catch, and the Light Trap. The traps were set between 6am and 6pm and 10pm in the evening. Permethrin-treated bed nets were placed over two cartilages to examine the effectiveness of the environmental treatment. Bioassays were used in chemical applications to assess efficacy.

**Results:** A total of 71 charts were assessed for the retrospective chart review(RCR), but only 54 were actually used. The highest cases were found in Regions 7 and 10, according to the analysis. Permethrin-treated bed nets have been shown to completely eradicate newly introduced sandflies in environmental applications. Comparatively, the indoor residual spraying (IRS) had a 90% fatality rate for chemical applications.

**Conclusion:** In comparison to the light trap, the BG-Sentinel and HCL were more successful at catching sandflies. According to the experiment that was done for this study, both chemical and environmental applications were effective in eliminating sandflies.

## P-62

**Preliminary Assessment of Disaster Preparedness Education/Training for Health Care Workers in The Bahamas**

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**Objective:** To identify the current disaster preparedness knowledge, experience, and education level of healthcare workers at healthcare facilities in The Bahamas.

**Methods:** The study was a cross-sectional survey of a public and private healthcare providers in The Bahamas. The assessment survey tool was designed by the researcher and evaluated by the research team because there are no tools available locally. The study was conducted between the periods of April 01 to May 31, 2022. Participants were canvassed via emails and phone calls. Respondents were self selected. Participants comprised of registered physicians, nurses, Emergency Medical Technicians (EMT), and other allied health professionals involved in disaster response. Respondents will be sought at the Princess Margaret Hospital (New Providence), Doctors Hospital Health System (New Providence), Sandilands Rehabilitation Centre (New Providence), National Emergency Medical Services (NEMS) base (New Providence), The Rand Memorial Hospital (Grand Bahama), and The Department

of Public Health Community Clinics. The assessment survey addressed questions surrounding disaster preparedness training/education, care of victims as well as health and disaster related agencies. The survey was conducted via Google forms and included the following information:

- Basic demographic information
- Education and knowledge regarding disasters
- Preference on type of disaster to focus education on
- Preference of education modality
- The amount of time able or willing to dedicate to disaster education/training
- Barriers to participation in disaster education/training

**Results:** Data from 139 respondents was used for analysis (M 18, F 121), 6.5% had not served during a disaster event prior. 60.4% had not received prior disaster preparedness training/education. Of the 39.6% that received training, 49.1% utilized continuing education courses. 60.7% of health care workers training was focused on a natural event i.e. tornado/fire/hurricane. 54.9% of participants indicated a general lack of education programs as being a barrier to participation in education/training. 37.1% preferred hands-on training as the method for receiving training/education, while 49.3% were willing to participate in at least 2 training/events per year.

**Conclusion:** Some healthcare workers in The Bahamas reported a lack of disaster preparedness training/education. Priority should be given to ensuring all healthcare workers are trained in disaster preparedness because The Bahamas along with other Small Island Developing States in The Caribbean are most at risk for disasters. Therefore disaster training/education is critical building block for climate resilient health system.

### P-63

#### Choosing Wisely Trinidad and Tobago: Top 5 Recommendations for Emergency Medicine

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**Objective:** To identify the top five Choosing Wisely recommendations for the Trinidad and Tobago Emergency Medicine Association (TTEMA)

**Methods:** A modified Delphi process was used. An initial list of 27 recommendations was developed by compiling all Choosing Wisely Emergency Medicine recommendations from existing international campaigns. This was distributed to an expert panel from the TTEMA. To generate the final

list of five, each panel member voted on each recommendation based on: action-ability, effectiveness, safety, economic burden, and frequency of use.

**Results:** The top five recommendations were:

- 1) Avoid instituting intravenous (IV) fluids before doing a trial of oral rehydration therapy in uncomplicated emergency department cases of mild to moderate dehydration in children
- 2) Do not order CT head scans in adult patients with simple syncope in the absence of high-risk predictors
- 3) Do not request imaging of the cervical spine in trauma patients, unless indicated by a validated clinical decision rule
- 4) Do not order CT pulmonary angiograms or VQ scans in patients with suspected pulmonary embolism until risk stratification with decision rule has been applied and when indicated, D-dimer biomarker results are obtained
- 5) Avoid coagulation studies in emergency department patients unless there is a clearly defined specific clinical indication, such as for monitoring of anticoagulants, in patients with suspected severe liver disease, coagulopathy, or in the assessment of snakebite envenomation

**Conclusion:** This is the first Choosing Wisely initiative in the Caribbean. Next steps include creating awareness, working groups for each recommendation and developing strategies for implementation.

### P-64

#### The Students Are Hungry: A Theoretical Application to Understanding Food Insecurity Among Minority College Students in Urban Settings”

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**Objective:** To identify a model and solutions on food insecurity mitigation for minority college students in urban institutions.

**Methods:** Two prominent student development were combined with public health and psychological theories to develop a new approach to theory-based methods of addressing food insecurity for minority students at urban institutions. Social network, ecological systems theory, and mattering and belonging were used to assess pathways on how food security can be addressed in the college setting through connections between minority students and higher education professionals. The traditional ecological system theory model was updated to reflect the modern student and college experience; hence a networked approach was used.

**Results:** A sample model was developed, which highlighted the relationship between the minority student and 8 key personnel within the college setting that can influence their food insecurity status. The model also showed how the key players can use their social networks with other key players



to gain resources and knowledge to address food insecurity of minority students on their campuses. A demonstration of how the model can be used by higher education professionals is provided along with an example of how higher education professionals can address students' mattering and belonging on campus through the development of a Comprehensive College Transition Program College Transition Program.

Comprehensive College Transition Program.

**Conclusion:** Findings of the developed model suggest pathways of social connections that higher education professionals can use for direct alleviation of food insecurity, which has major implications for the academic achievement, social connections, and a general sense of mattering and belonging.

#### P-65

##### Amiodarone Induced Hypothyroidism- A Case Study

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##### **Objective:**

- To provide some clarity as to the best approach for the management of patients on Amiodarone in a clinical setting.
- The paper will also help to highlight the role of routine monitoring of a patient on amiodarone for thyroid dysfunction since the chances of a thyroid-related event is unpredictable

**Methods:** This is a case study that reviews several research papers critiquing the pros and cons of Amiodarone use in a clinical setting. Best practice decisions are highlighted in what is done around the world in both first-world settings and rural communities

**Results:** Even though the cases discussed may be common and easily treatable, especially with new guidelines, research data available, better screening options, and new medication, Amiodarone induced-thyrotoxicosis (AIT) continues to be very challenging for physicians to diagnose and treat properly. The various subtypes can be difficult to identify or result in an easy mix-up. In cases of a poor initial assessment, the best treatment approach can be affected. Amiodarone remains superior to dronedarone as an antiarrhythmic drug especially as it relates to potency, tolerability, and availability. The side effect of amiodarone on thyroid function would not deter physicians from its uses in arrhythmias but rather physicians are encouraged to perform a thorough initial thyroid review of patients and develop a proper follow-up plan for monitoring thyroid function

**Conclusion:** While the decision to discontinue amiodarone after the onset of thyroid problems is challenging, careful

thought should be given to its benefits in stabilizing patients with arrhythmias and the possibility of still having to worsen or prolong thyroid dysfunction symptoms even after stopping the drug due to its prolonged half-life. In order to have a clear distinction between type one and type two AIT, a thorough clinical history needs to be taken, complimented with a physical examination and screening for pre-existing thyroid problems.

#### P-66

##### Examining Cancer Stigma and its Role on Cervical Cancer Prevention within Highrisk Caribbean Countries

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**Objective:** To investigate the manifestations of cancer stigma among men and women aged 18-85 in Grenada, Jamaica and Trinidad & Tobago and its potential role in cervical cancer prevention behaviors.

**Methods:** A cross sectional qualitative study design was employed using focus groups in Grenada, Jamaica, and Trinidad & Tobago to understand stigma and its role in cervical cancer prevention behaviors. Thematic analysis was conducted using MAXQDA data analysis software.

**Results:** Three focus groups were conducted in each country. Major themes surrounding the impact of stigma on cervical cancer prevention efforts included fatalism, cultural views, and confidentiality. Participants were knowledgeable about the sexually transmitted nature of HPV that causes cervical cancer -- this fed into the stigmatization of cervical cancer. Stigma was associated with unfounded associations with female promiscuity. Expressed as blame and the belief that women with cervical cancer ought to feel ashamed, this stigmatization of cervical cancer creates major barriers to HPV vaccination and pap testing. Cancer is often considered a death sentence and seldom discussed among family and friends -- further barring women from screening and early detection and getting support. Fear and misinformation associated with the pap testing procedure and perceived lack of medical confidentiality also hinder screening.

**Conclusion:** Both generalized cancer stigma (death sentence) and specific cervical cancer stigma (shame, blame)

negatively influence cervical cancer prevention efforts. Additional research measuring the multiple dimensions of cancer stigma is required to inform interventions for improving cervical cancer screening and HPV vaccination in the Caribbean.

#### P-68

##### **Ant's bush (*Struchium sparganophora*): An indigenous Guyanese plant with antimicrobial properties**

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**Objective:** To investigate the effects of ant's bush (*Struchium sparganophora*) against *Escherichia coli*, *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Candida albicans* and *Cryptococcus neoformans*.

**Methods:** Hexane and methanol extracts were obtained from the ground leaves and concentrated using a rotary evaporator. Sterile filter paper discs were soaked in different concentrations; obtained by mixing distinct volumes of crude extract with varying amounts of solvent from 100% pure extract to 1% (10µl of pure extract and 990µls solvent). The Kirby Bauer technique was done, and discs were placed in duplicate. The media and positive control for the bacteria were: Mueller Hinton and ciprofloxacin; and for the fungi: Sabouraud's Dextrose Agar, and ketoconazole and fluconazole. The pure solvents were the negative controls. Susceptibility zones were measured in millimetres and expressed as mean ± Standard Deviation.

**Results:** The methanol extract was effective against *S. aureus* at 50% (11 ± 1mm) and 25% (9 ± 0mm), whilst the hexane extract was most effective at 100% (11 ± 1mm). Of note, the mean zone diameter observed with methanol extracts (25%) for *P. aeruginosa* was 21.5mm, when compared with ciprofloxacin, for which susceptibility is a zone of =21mm. For *C. neoformans*, the largest zone was seen with the 20% hexane extract (35.5 ± 5mm), which was comparable to the zones obtained for fluconazole (32 ± 2mm) and ketoconazole (39.5 ± 0.5mm). Zones of inhibition were also seen with *C. albicans*.

**Conclusion:** We recommend that further antimicrobial and phytochemical analyses with additional solvents be undertaken with other microbial species.

#### P-69

##### **"Letting our hair down"- Practices of Chemical Hair Relaxer, Texturizer and Straightener Use amongst Women in New Providence, The Bahamas**

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**Objective:** This study aimed to assess the practices of chemical hair relaxers, texturizers, and chemical hair straightener use among women in New Providence and to determine if these substances were harmful.

**Methods:** A cross-sectional study was conducted within women's social and civic groups and at the Elizabeth Estates Clinic using a self-administered questionnaire. Convenience sampling was used, statistical analysis was done, and bivariate and multivariate analyses were performed to determine associations between practices and disorders reported.

**Results:** Women between the ages 18 and 70 completed 480 surveys, the mean age being 39.3 (±12.8) years. The mean Body Mass Index (BMI) reported was 30.8kg/m<sup>2</sup>. Almost all participants (95.8%) used chemical hair straighteners previously. Most had used hair relaxers (87.1%), Most processed their hair for less than 15 minutes (62.9%), most used neutralizing shampoo to remove the product (83.7%), and (60,7%) were prompted to remove the product by a burning sensation. The most common problems experienced included hair breakage (30.4%), split ends (27.3%), chemical burns to the scalp (25.8%), scalp irritation (18.0%), brittle frizzy hair (16.7%), dandruff (12.5%), receding hairline/edges (8.2%) and temporary hair loss (8.0%).

**Conclusion:** The findings in this study suggest that participants largely adhered to the recommended use of these products. There is an association between hair relaxers and texturizer use and BMI/obesity and dermatologic adverse effects. These results can be used to inform physicians and advise women on product use.





# Celebrating 10 YEARS OF SERVICE To Our Member States

*Addressing Regional Public Health Priorities Through:*

## **Health Systems Strengthening**

- Laboratory services
- Regulation of essential medicines through the Caribbean Regulatory System and Medicines Quality Control and Surveillance Department
- Regional Health Security
- Training and capacity building

## **Health and Well-being through the Life Course**

- 6-Point Policy Package for healthier food environments
- Management of priority NCDs
- Prevent, respond and contain outbreaks of communicable diseases

## **Effective Leadership**

- Governance structures to provide effective leadership

## **Safe and Healthy Environments**

- Environmental health
- Tourism and Health Program
- Vector management strategies

## **Evidence-based Decision making**

- Supporting Ethical Conduct of Research
- 67 years of Research Conferences
- Monitoring and evaluation
- Knowledge translation
- Surveillance

## **Partnership Building and Resource Mobilisation**



*Preventing disease, promoting health and wellness through  
leadership, partnership and innovation in public health*

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