

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 (β 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 ≥ 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 ≥ 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 ± 8.9 versus MOPC 36.0 ± 6.2 , $p=0.00$) while the mean GMH T-score was similar in clinics (MOPC: 38.2 ± 6.9 and ID: 38.9 ± 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

≥ 1 of the three recommended hygiene-related behaviors while 93.4% (11,426) performed ≥ 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, ≥ 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, β 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 ≥ 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 Sickie 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 Sickie 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 H₂S and NH₃ 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 ± 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 who's 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 “Chem-sex” 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* syndromic 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 specialties 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 4.6×10^7 cfu/ml) whilst sorrel

(3.1 ± 4.4 log cfu/ml or 7.5×10^5 cfu/ml) had the least. About 90% of samples were contaminated with bacteria with an average of 5.8 ± 1.9 log cfu/ml or 2.1×10^7 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')₂ 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 ± 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 ± 3.0 days.

Conclusion: Our data support the excellent safety and likely effectiveness of early infusion of new anti-venom Bothrofav® 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 ± 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 ± 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/m² (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_d (m³/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, care seeking 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 poorest 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/m² (SD \pm 4.5) with 51.1% being either overweight (BMI 25 kg/m²- 29.9 kg/m²) or obese (BMI 30 kg/m² - 39.9 kg/m²). 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 ± 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”

The 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. Maria 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