Oral Abstracts

O-01

Reducing the Public Health Impact of Pandemics in the Caribbean through Prevention, Preparedness and Response via CARPHA's Pandemic Fund Project

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Objective: To support the reduction of the public health impact of pandemics in the Caribbean by enhancing surveillance, early-warning systems (EWS), laboratory systems and workforce capacity for pandemic prevention, preparedness and response (PPR) regionally at the Caribbean Public Health Agency (CARPHA) and in Member States (MS).

Methods: The executing agency, CARPHA, via the Pandemic Fund (PF) – the first multi-lateral financing mechanism for strengthening PPR and addressing critical gaps in low- and middle-income countries, is implementing a 3-year project with the Inter-American Development Bank (implementing entity). With CARPHA's mandate for Surveillance and Emergency and Response in the Caribbean, a dedicated CARPHA PF Project Execution Unit is supported at the policy, strategy and operational levels for the project's implementation across its four components.

Results: From May 10 – December 17, 2024: (i) Cricket World Cup Surveillance and Response activities (3 capacity building missions, design and implementation of Mass Gathering Surveillance System, 30 data-entry tablets, in-country support to 6 MS across 55 games with 34 daily regional and 204 daily country reports), (ii) emergency and response supplies for Hurricane Beryl-impacted MS (fogging machines, rapid tests, vector control/prevention, sanitizing agents and protective equipment), (iii) 4 regional/sub-regional workshops (Stakeholder Consultation on the PF, One Health Workshop on Foodborne Diseases and Zoonoses Surveillance, Infectious Substances Transport, Early Action Reviews of Outbreaks [7-1-7 Approach]) and (iv) mass gathering surveillance mission to 1 MS. Laboratory equipment, supplies and reagents have been procured; partnerships with regional and international entities were strengthened.

Conclusion: CARPHA PF project would lend crucial impetus to PPR activities, resulting in a comprehensive and sustainable expansion of surveillance and EWS, laboratory systems, workforce development and the integrated One Health approach. Collectively, these would enable the Caribbean region and countries to be better equipped, prepared for and prevent future disease threats or outbreaks and possible pandemics.

O-02

Regional Coordination and Collaboration for Enhanced Intelligence Surveillance at the International Cricket Council T20 Cricket World Cup 2024 held in the Caribbean

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Objective: To synergistically identify and respond to regional and global health and environmental, safety and security threats across the Caribbean host countries for the T20 Cricket World Cup 2024 (CWC), through multi-agency, multi-sectoral collaboration and partnerships.

Methods: The Caribbean Public Health Agency collaborated with global and regional stakeholders to receive epidemic, environmental and safety intelligence information to monitor and prepare for new and emerging threats, focusing on the CWC host and participating countries. This involved daily collation and reporting of scanning data for global and regional epidemic intelligence, disasters/environmental hazards, regional intelligence and security scanning with the risk analysis of any threats.

Results: During the reporting period, epidemic intelligence scanning revealed 104 incidents (new or updated) for 27 diseases/pathogens from official (n=67, 64%) or media (n=37, 36%) sources in 15 (of 19) countries participating in the CWC, excluding the West Indies team. Health and safety advice was provided by local ministries on 12 reported diseases/pathogens/events. Ten environmental weather events with a total of 61 reports (new and updated) were identified. A total of 370,208 passengers travelled to the Caribbean host countries with 241,139 (65%) passengers arriving from 17 countries that participated in the CWC. Four security-related events were identified. Summarised intelligence data received from collaborating partners, with relevant risk analysis, resulted in 34 collated documents shared with the relevant stakeholders.

Conclusion: International and regional, multi-sectoral collaboration and coordination were critical for the success of

enhanced intelligence surveillance across the region. With 20 participating country teams and the high influx of tourists to the Caribbean, bolstered surveillance was of paramount importance to protect the local and transient populations. Effective multi-agency, multi-sectoral partnerships foster trust, bi-directional information flow and better coordination; this was illustrated via the daily incident reports with the relevant risk assessments that reassured stakeholders during the tournament.

O-03

Implementation of a Novel Regional Mass Gatherings Surveillance System in the Caribbean for T20 Cricket World Cup 2024

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Objective: To proactively identify and respond to potential health/infectious disease threats during Mass Gathering (MG) events across the Caribbean host countries for the 2024 T20 Cricket World Cup using the Caribbean Public Health Agency (CARPHA)'s Regional MG Surveillance System (MGSS).
Methods: CARPHA's electronic MGSS was designed for syndromic surveillance using thresholds that were developed, considering (i) the Caribbean small island setting, (ii) data collected during the pilot testing prior to the World Cup, (iii) the UNHCR's handbook on disease surveillance thresholds and (iv) the risk profile of the event. User-friendly, on-the-field data entry with immediate analysis and reporting were also facilitated through the MGSS. Once thresholds were passed, alerts were automatically disseminated, notifying the appropriate stakeholders immediately for the necessary public health action.
Results: Thirty-one MG and Health Facility Sites were registered onto the system and surveillance teams across Caribbean host countries were able to digitally capture 146 cases (generated 17 syndromic cases: 14 acute gastroenteritis-related and 3 fever with respiratory symptoms). Syndromic thresholds were passed in two occasions triggering automated alerts and immediate investigations. The system also reported non-communicable health issues like accidents/injuries (33 cases) and heat-related illnesses (22 cases).
Conclusion: Effective surveillance of MG events is an essential component of public health planning, especially in the Caribbean region where these events are also attended by visitors of varying nationalities. The MGSS provided real-time data collection, syndromic alerts, data analytics and custom reports to public health leaders and experts for informed decision-making. The early warning and response mechanism facilitated early identification, communication

and response to infectious disease threats arising from these events and consequently reduced the risk of outbreaks that can overwhelm the health systems in the Caribbean.

O-04

The Role of Recency Testing and Linkage to Care in Enhancing Viral Suppression in Guyana

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Objective: To assess the role of recency testing in identifying recent infections, linking newly diagnosed individuals to care, and achieving long-term HIV viral suppression.
Methods: This observational study included 120 individuals newly diagnosed with HIV across Regions 4 and 5. Recency testing was conducted using samples processed at the National Public Health Reference Laboratory (NPHRL). Of the confirmed cases, 23 were identified as recent infections after verification. All participants were linked to care and initiated on dolutegravir (DTG)-based antiretroviral therapy (ART). Viral load measurements were recorded at baseline, six months, and one year. Quantitative data were analyzed using chi-square and logistic regression to assess associations between recency status, care linkage, and treatment outcomes. Ethical approval was obtained.
Results: There were 23 Positives out of 150 test, 15.3 % positivity rate, with more females than males- 91.3%. 100% linkage to care and ART initiation. Baseline viral loads ranged from 704 to 1,820,000 copies/mL. Following treatment, viral loads demonstrated reductions of 80–95% at six months p=0.00. By the one-year mark, 95% of participants achieved viral suppression below 1,000 copies/mL. Statistical analyses revealed significant associations between early treatment initiation on ART and viral load suppression with an odds ration of better viral suppression with ages below 30 years, and high viral load.
Conclusion: Recency testing proved instrumental in identifying individuals at high risk, facilitating rapid linkage to care, and optimizing treatment outcomes. These findings underscore the potential of integrating recency testing into routine HIV programs as a tool for improving epidemiological tracking, addressing gaps in care, and contributing to global HIV elimination goals.

O-05

The Prevalence of Burnout, its Determinants and Coping Techniques used by healthcare-workers under the Tobago Regional Health Authority

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Objective: To determine the prevalence of the burnout syndrome among doctors and nurses under the Tobago Regional Health Authority (TRHA), and to identify associated factors and coping strategies.

Methods: This was a cross-sectional study of 102 doctors and nurses employed under the Tobago Regional Health Authority (TRHA). The Maslach Burnout Inventory, Pandemic Experiences and Perceptions Survey (PEPS) and the Brief Coping Orientation to Problems Experienced (COPE) were the measurement tools implemented through a self-administered questionnaire hosted on the Google Forms online platform.

Results: The overall prevalence of burnout during the COVID-19 pandemic was 33.3%, with approximately 10% reporting severe levels of burnout. Lifestyle factors such as use of sleeping pills (p = 0.002) and time spent doing relaxing activities (p = 0.015) were found to have a statistically significant association with burnout. Use of sleeping pills was demonstrated to have increased odds of developing burnout (OR: 12.667; 95% CI: 2.359, 68.015) as compared to persons who did not use them. Acceptance and religion were the most utilized coping strategies. Participants taking 1-2 hours for relaxing activities had lowered odds of developing burnout (OR: 0.258; 95% CI: 0.085, 0.788) as compared to 1 hour. Behavioural disengagement was demonstrated to have a significant relationship with burnout (p < 0.001)

Conclusion: Burnout syndrome was a significant concern during the COVID-19 pandemic in the healthcare-workers serving under the Tobago Regional Health Authority. Organizational and individual measures are necessary to reduce negative outcomes to the affected staff and the patients they serve.

O-06
Labour and Birth Trauma: The immediate Psychiatric and/or Psychological implications in the Peripartum Period

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Objective: To investigate the extent to which labour and birth trauma occur at the Queen Elizabeth Hospital (QEH) and possible associations between this form of trauma and the development of immediate psychiatric/psychological outcomes. To identify changes needed to reduce this trauma.

Methods: Two questionnaires were administered over a three-month period. 'Questionnaire A' screened for depressive and anxiety symptoms in the Antenatal Clinic (n=91) to establish baseline mental health, while 'Questionnaire B' administered postnatally, used patient-designed items from previously validated research to capture indicators of labour and birth trauma; screening questions were again given postpartum to identify mental health changes (n=63). Frequency tests and a univariate count were conducted to identify the rate at which trauma occurred, while a Pearson product moment 'r' correlation test determined associations between trauma and immediate mental health changes.

Results: One in two women experienced labour and birth trauma, with disrespect, lack of information provision and failure to request consent being commonly reported; verbal and physical mistreatment occurred less frequently. About one quarter (28.6%) of women reported one case, while the highest number of incidents of trauma was five in 3.2% of participants. Trauma was significantly associated with depressive symptoms post-delivery (r(63)=0.521,t<0.01) but there was no significant relationship with anxiety pre or postpartum.

Conclusion: The study demonstrated that labour and birth trauma occurred at the QEH in many forms, and that immediate mental health changes can arise after having experienced labour and birth trauma, leading to long-term negative outcomes. Acknowledgement and accountability strategies with sensitization training may reduce occurrences.

O-07
Examining the Factors Associated with Violent Fatal Suicide Attempts in Jamaica

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Objective: To present the sociodemographic characteristics of individuals who died by suicide, compare the methods of violent and non-violent fatal suicide attempts (FSAs) between male and female populations, and examine the factors associated with violent methods of FSAs in Jamaica over a ten year period.

Methods: The Jamaica Constabulary Force maintains a comprehensive database of individuals who died by suicide. This study analyzed data from 2010 to 2019, comparing violent methods (hanging, using a firearm, jumping from a height, self-inflicted stabbing, self-immolation, and electrocution) to non-violent methods (poisoning and drowning). Logistic regression identified risk factors associated with

violent methods. Variables included in the model were age group, employment status, gender, geographical location and seasonal variation. Statistical analyses were conducted using R software, version 4.2.0., and a p-value of <0.05 was considered statistically significant.

Results: There were 459 suicide cases in the study, of which 86.3% (n=396) were males. Most individuals were young adults between the ages of 18 and 35 (40.5%), lived in rural areas (57.1%), were employed (56.3%) and worked as trade workers and farmers (40%). Hanging was the frequent method of FSA for both males (74%) and females (83.9%). Firearms were only used by males. Approximately 15% of females and 11% of males preferred non-violent methods. Adults were 11.9 times (p=0.028) more likely than individuals aged 17 and under to use a violent method. Being employed was associated with a 16.7 times (p=0.009) decreased risk of using a violent method. Violent methods were 2.94 times (p=0.029) less likely in rural areas compared to urban locations.

Conclusion: Violent methods of FSA in Jamaica are more likely among adults, those not employed and in urban settings. Recognizing this profile may help guide the evaluation of suicide risk in clinical settings and preventative efforts related to FSA risk.

O-08
Blood Pressure Control and its Associated Risk Factors in Primary Care Outpatients using the HEARTS in the Americas Hypertension Treatment Protocol in Trinidad: A Cross-sectional Study

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Objective: To determine the prevalence of blood pressure control and its associated risk factors among adult hypertensive patients using the HEARTS in the Americas hypertension treatment protocol, attending a primary care clinic in Trinidad.

Methods: A cross-sectional survey was conducted at a primary care outpatient clinic among adult hypertensive patients using the HEARTS hypertension treatment protocol over a four-month period. Anthropometric and blood pressure measurements were taken for each participant and factors associated with blood pressure control such as alcohol use, smoking status, physical activity, nutrition and treatment adherence were assessed through interviewer administered questionnaire.

Results: A total of 287 respondents were used for analysis (M 107, F 180). The overall proportion of patients with optimally controlled blood pressure was 52.3% (95% CI: 46.5%-58.0%); with a mean systolic and diastolic blood pressure ±SD of 136.6 ±18.1 and 81.9 ±10.6 respectively. Most participants were on Step 1 of the HEARTS Hypertension treatment protocol (n=155, 54%). Blood pressure control was significantly and positively associated with higher monthly incomes of greater than $10,000 TT per month (AOR: 3.536, 95% CI: 1.255-9.957, p =0.017), while being overweight (AOR 0.459, 95% CI: 0.229-0.920, p=0.028) was significantly associated with lower odds of having optimally controlled blood pressure. Having an active lifestyle (AOR 2.240, 95% CI: 0.961-5.219) was positively associated with blood pressure control though not statistically significant. Patients over 60 years of age had higher adherence scores, representing higher medication (p= 0.003), and overall hypertensive therapy adherence (p= 0.001), while 46.3% of all participants had high adherence to their antihypertensive treatment therapy.

Conclusion: The blood pressure control rate found in this study has brought much needed attention to the benefits of using the HEARTS in the Americas hypertension treatment protocol as the latest global effort to target blood pressure control rates to combat the non-communicable disease burden.

O-09
Evaluation of the Insecticidal Activity of Jamaican *Myristica fragrans* Houtt. Essential Oil against Aedes Aegypti Mosquitoes

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Objective: To evaluate the insecticidal activity of *Myristica fragrans* essential oil against all Aedes aegypti life stages

Methods: The hydro-distilled essential oil of *Myristica fragrans* was bioassayed against the eggs, L1–L4 larvae, pupae, and adults of the Aedes aegypti laboratory Rockefeller strain and L3 and pupae of a local field strain. Mortality was assessed at 72 hours (eggs), 24 hours (larvae/pupae) and 14 days (adults) using modified established protocols. GraphPad Prism 9 was used to conduct one-way analysis of variance followed by Tukey's post hoc test for the immature stages (eggs, larvae and pupae) and survival curves were constructed for the adults and compared using the log-rank (Mantel-Cox) test.

Results: Our investigations revealed that the oil had minimal activity against the egg stage but displayed potent

activity against the L1 (LC50 not determined), L2 (LC50 of 26.57 ppm, 95% CI: 25.39 to 27.83), L3 (LC50 of 7.179 ppm, 95% CI: 6.644 to 7.764) and L4 (LC50 of 246.1 ppm, 95% CI: 233.7 to 259.2). As expected, the LC50 value for the non-feeding pupal stage was higher at 1090 ppm (95% CI: 1061 to 1118). The oil also displayed excellent activity against a local field strain with LC50 values of 15.82 ppm (95% CI:14.35 to 17.42) and 965.9 ppm (95% CI: 941.7 to 990.0) for L3 and pupae respectively. At concentrations of 100 and 1000 ppm, the survival rate of adult Rockefeller mosquitoes decreased from 100% to 68.3% and 53.3%, respectively. These results clearly highlight the promising insecticidal activity of the Myristica fragrans essential oil against Aedes aegypti mosquitoes.

Conclusion: The extraordinary potency of the *Myristica fragrans* essential oil, particularly against the larvae and adult of Aedes aegypti mosquitoes, suggests that it may be suitable for development as a mosquito insecticide, subject to further testing.

O-10
Enhancing Surveillance Efforts in Eastern Caribbean Countries: Contribution of Digital Transformation in Epidemiological Surveillance Systems

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Objective: To describe the efforts aimed at improving surveillance systems in seven Eastern Caribbean countries (ECC): Antigua and Barbuda, Barbados, Dominica, Grenada, St. Lucia, St. Kitts and Nevis, St. Vincent and the Grenadines, to outline the roles of digitalization transformation and to inform and give confidence to others contemplating digitization of epidemiological surveillance systems.

Methods: Assessments of pre-existing and current systems (in the context of the COVID-19 pandemic) were conducted in seven (n=7) ECC, four (n=4) were conducted through health facility visits, while key informants, particularly Epidemiology personnel, assisted with completing assessments of the remaining three (n=3). A comparative analysis was done on data management and digital implementation practices (including an assessment of the integration of syndromic surveillance data into automated systems) from early 2021 to late 2023, where gaps and limitations were highlighted. Following the initial assessment, measures were implemented to enhance the efficiency of the existing system.

Results: Antigua and Barbuda, and Dominica transitioned from manual, paper-based syndromic surveillance to using DHIS-2 and automated scripts for syndromic surveillance (including COVID-19) morbidity surveillance. Grenada, Barbados, Saint Lucia, Saint Kitts and Nevis, and Saint Vincent and Grenadines, though most retained previous systems, introduced automated bulletin generation for reporting efficiency.

Conclusion: Despite progress made, challenges persist, but these countries' efforts provide a valuable blueprint for advancing surveillance.

O-11
Associations between Polycystic Ovary Syndrome, Pre-diabetes and Diabetes in Barbadian Women

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Objective: To evaluate associations between polycystic ovary syndrome (PCOS) and pre-diabetes and PCOS and diabetes in Barbadian women

Methods: Barbadian women aged 18-49 years were invited to participate in an online cross-sectional survey using Qualtrics during September 2023 to August 2024. After informed consent, participants reported demographic information, information on PCOS diagnosis and treatment, and diagnoses of pre-diabetes and diabetes. Proxies of the Rotterdam criteria for PCOS of hyperandrogenism, oligo-anovulation and polycystic ovaries were used to confirm self-report of PCOS. Multivariable logistic regression assessed associations between PCOS and pre-diabetes and PCOS and diabetes. This study received ethical approval from University of the West Indies (IRB #: CREC-CH.00092/09/2022) and George Mason University (IRB #:1874695-5).

Results: Participants (n=220) were included in the study (mean age: 34.03 ±7.94 years) and after applying Rotterdam criteria proxies 59 (26.8%) had PCOS; 32 reported ever-having pre-diabetes (16.7%) and 11 reported having diabetes (5.73%). There was a significant association between PCOS and pre-diabetes (aOR: 3.51 (95% CI: 1.45-8.67), but no significant association between PCOS and diabetes (aOR: 3.42 (95% CI: 0.84-14.33). In terms of PCOS treatment, 41 of those with PCOS (n=59) reported being on a treatment intervention at least once (69.5%), however only 10 (16.9%) were on any treatment intervention for their PCOS at time of taking the survey.

Conclusion: Results demonstrate a significant relationship between PCOS and pre-diabetes in women residing in Barbados. There was also low PCOS-treatment prevalence in this population, indicating potential low treatment compliance. As pre-diabetes is a precursor for diabetes, a condition of significant public health concern for Barbados and the Caribbean, more patient education on PCOS-treatment adherence and the implementation of patient-centered mul-

tidisciplinary interventions should be considered to reduce the risk of further progression to diabetes.

O-12
Paediatric Respiratory Assessment Measure (PRAM) Score for Prediction of Admission of Paediatric Patients with Acute Asthma in Three Jamaican Hospitals

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Objective: To assess the diagnostic performance of the PRAM score as a predictor of hospital admission in children presenting with acute exacerbations of asthma, assessed at triage and first clinical review. To assess the level of agreement between physician gestalt category and the PRAM score category. To determine the odds of admission per unit change in PRAM score.

Methods: A multi-centre, prospective cohort study was conducted in the emergency departments of three southeastern Jamaican hospitals. Children between the ages of two and 17 years old who visited the University Hospital of the West Indies (UHWI), Spanish Town Hospital (STH) and Linstead Hospital (LH) for acute asthma exacerbations were selected using convenience sampling. Patient respiratory parameters were assessed by the triage doctor or nurse using data collection forms. PRAM scores were calculated both at initial triage and upon review.

Results: This study with 74 children, mostly male, aged two to 17 years, showed moderate agreement between physician gestalt and PRAM grades at triage and review, with Kappa values of 0.4726 and 0.5478. The AUC for PRAM was 0.8905 at triage and 0.8222 at review, indicating good predictive ability for hospital admissions. PRAM's Akaike Information Criterion (AIC) of 63.35428 was lower than Gestalt's 76.71461, suggesting greater efficiency of the PRAM model.

Conclusion: The PRAM score has good predictive ability for hospital admission and performed better than physician gestalt in predicting the need for admission in patients with acute asthma exacerbation.

O-13
Attitudes Toward Domestic Violence and Socioeconomic Status among Guyanese Men: An Analysis using the Multiple Indicator Cluster Survey Dataset 2019-20

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Objective: To determine whether there is any association between men's views on when wife-beating is justified and socio-economic status.

Methods: The UNICEF 2019-20 Guyana Multiple Indicator Cluster Survey Individual Men dataset, n=2214, was used to answer research objectives. Logistic regression was used to determine whether socioeconomic factors were associated with the belief that wife-beating is justified for any reason. Independent variables included age, education level, ethnicity, marital status, urban/rural residence, wealth index and alcohol use.

Results: Study participants had an average age of 30.2 years (SD 10.2), 86.5% had secondary or higher education, 56.5% of them were in a union, and there was an even distribution across five wealth classes. Almost half were of East-Indian descent, followed by 26.9% of African descent. Overall, 16.3% of men believed wife-beating was justified for at least one reason, with the most common reason being if the woman has another partner (9.7%). Age, marital status, urban/rural residence and alcohol use were not significantly associated with this belief. Men with higher than secondary education had 58% (OR 0.42, 95% CI 0.20, 0.89, p=0.012) lower odds to hold this belief than those with primary or lower education. Those in the richest wealth quintile had 53% lower odds to justify wife-beating than those in the poorest quintile (OR 0.47, 95% CI 0.26, 0.84, p=0.011). Finally, Indigenous men had 1.9 times greater odds to justify wife-beating compared with Afro-Guyanese (p=0.014, 95% CI 1.14, 3.00).

Conclusions: Indigenous ethnicity and lower socio-economic status, indicated by limited education and poor wealth, are significantly associated with men's belief that wife-beating is justified.

O-14
Adolescents in Eleuthera, The Bahamas: Help-seeking Intentions and Mental Health Literacy of Depression and Anxiety

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Objective: To assess the help-seeking intentions and mental health literacy of depression and anxiety in adolescent students in Eleuthera, The Bahamas

Methods: This was a cross-sectional study, using single stage cluster sampling of adolescent students in grades 8 to 10 enrolled in public high schools in North Eleuthera, Bahamas. Once parental consent and youth assent were

given, participants completed a 48-item structured facilitator-assisted questionnaire adapted from the Friend in Need Questionnaire and the Australian Mental Health Literacy Youth Survey, which consisted of vignettes meeting DSM-5 criteria for social anxiety disorder and depression followed by a series of questions to elicit recognition of the disorders and help-seeking intentions. Statistical analyses using descriptive and inferential statistics were performed, and the association and differences with respect to sex; and binary logistic regression was used to predict help-seeking.

Results: The sample consisted of 98 students (M 43, F 55) out of a total of 173 students with a response rate of 56.5%, in which 91.8% correctly identified anxiety and 75% correctly identified depression. Participants showed more concern regarding depression. Adolescents were more likely to suggest a therapist or counsellor as source of help for their distressed peers. Adequate mental health literacy was 48% for anxiety and 44.9% for depression. Girls displayed more concern, estimated longer times to recovery and had overall better mental health literacy than males.

Conclusions: Barriers to understanding the impact of mental health on daily functioning and limited access to care hinder adequate mental health literacy. There is a need for health promotion interventions to improve mental health literacy in adolescents, and for increased availability of school-based and community mental health professionals.

O-15

Exploring the Influence of Gender and Race on Adolescent Mental Health and Help-seeking in Bermuda

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Objective: To identify vulnerable sub-groups of adolescents in Bermuda aged 10-18 years, in relation to depression and anxiety.

Methods: A total of 2,392 adolescents, aged 10-18 years, attending middle and secondary education in Bermuda completed an online survey during the 2022-2023 academic Year. All 15 eligible middle and high schools in Bermuda agreed to be host sites. Opt-out parental consent and student assent was used. The survey sought information about students' demographic characteristics, depression and anxiety symptoms and their help-seeking intentions. Participants were presented with one of two vignettes depicting a fictional peer with symptoms of either depression or social anxiety. Symptoms of depression and anxiety were asked via the PHQ-9 (Patient Health Questionnaire-9) and the General Anxiety Disorder – 7 (GAD-7), where scores of 10+ were interpreted as having depression/anxiety symptoms present. Help-seeking intentions were assessed by responding to whether they would seek help for the problem in the vignette (Yes / No / Not sure).

Results: Compare to White males, Black males and females, white females, and minority females were each associated with a higher prevalence of moderate to severe depression/anxiety symptoms; OR (Black Male) = 1.42 (99% CI [0.91, 2.22)]), OR (White Female) = 2.30 (99% CI [1.45, 3.65]) OR (Black Female) = 3.23 (99% CI [2.14, 4.87]) and OR (Minority Female) = 4.61 (99% CI [2.95, 7.19]). Being a white female, black female and minority female were each associated with a lower intention to seek help; OR (White Female) = 0.61 (99% CI [0.41, 0.92]), OR (Black Female) = 0.68 (99% CI [0.48, 0.97]) and OR (Minority Female) = 0.53 (99% CI [0.36, 0.79]).

Conclusion: Black and minority-race females have both the greatest need of support and the lowest help-seeking intentions. Interventions focusing on prevention, early intervention and improving help-seeking must focus on minority females.

O-16

Buffering Caregiver Burden: The Role of Goal and Success Orientation in the Quality of Life of Individuals with Schizophrenia

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Objective: To examine how Goal and Success Orientation in patients with Schizophrenia can mitigate the negative impact of the Caregiver Burden on Patients' Quality of Life.

Methods: A cross-sectional, exploratory and correlational study was conducted. The sample was non-probabilistic due to availability. A total of 175 patients and their caregivers participated, using the Zarit Caregiver Burden Scale, the Recovery Assessment Scale, and the Quality-of-Life Questionnaire for Schizophrenia. A path analysis that estimated indirect effects was performed. Standardized regression coefficients were assessed to determine the relation between Caregiver Burden and Patient's Quality of Life while controlling for variables that comprise Goal and Success Orientation.

Results: Goal and Success Orientation in patients significantly reduced the negative effect of caregiver burden on the quality of life of people with Schizophrenia (direct effects β=-0.213, 95% CI [-0.204, -0.040]; indirect effects β=-0.05 95% CI [-0.058, -7.71e-4]).

Conclusion: Strengthening goals and success orientation in people with Schizophrenia can improve their quality of life, especially when reducing caregiver burden is difficult. Inter-

ventions that focus on these aspects should be considered as part of a comprehensive treatment plan, complementing interventions aimed at supporting caregivers.

O-17
Factors Associated with Depressive Symptoms among Persons with Chronic Pain

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Objective: To explore associations between patient characteristics, pain severity and depressive symptoms in patients with chronic pain.
Methods: Participants were recruited from the pain clinic of a general hospital in Kingston, Jamaica. Patients with chronic pain were administered sociodemographic and clinical questionnaires, as well as the Beck Depression Inventory II (BDI-II). Associations of interest were analyzed with Chi square, correlation, Mann Whitney U, Kruskal Wallis and linear regression analyses as appropriate.
Results: Participants (n = 43) were mostly female (79.1%) with a median (IQR) age of 47 (22) years. Sixteen percent of participants either had borderline clinical depression or moderate depression. Significantly higher ($p < 0.05$) BDI scores were found among persons whose pain adversely affected their relationships and who had a previous history of depression. Significantly lower ($p < 0.05$) BDI scores were found among persons who used religion to cope.
Conclusion: To help identify those persons with chronic pain who are susceptible to depression, clinicians should routinely inquire about the impact of their pain on their relationships and a previous history of depression. They should also encourage their patients who may be so inclined to use religion as a coping strategy.

O-18
Mapping Mental Health Research in the Caribbean: A Bibliometric Analysis of Regional Challenges and Opportunities

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Objective: This study is a bibliometric analysis of scientific publications on mental health in the Caribbean. It aims to highlight regional contributions, identify research trends, and advocate for stronger intra-Caribbean collaboration to address current and future mental health challenges.
Methods: Publications involving at least one author affiliated with a Caribbean institution were included. Data was extracted using Web of Science, focusing on publications from countries like Cuba, Jamaica, Puerto Rico, Trinidad, and other countries in the region. Bibliometric analyses were conducted using tools developed by Clarivate Analytics and VOS Viewer, examining scientific outputs by country, institution, and discipline.
Results: Between 1966 and 2023, 4,219 publications were identified, with 95% in English. Publications classified as Q1 in the Web of Science accounted for 44% of the total, and 65% of articles were indexed in the Medline Database. Major contributors included the USA (2,149 publications), Cuba (1,087), and Puerto Rico (996). Common keywords were depression (460), anxiety (214), and stress (268). COVID-19 was mentioned in 90 articles starting in 2020.
Conclusion: This study highlights the increasing focus on mental health research in the Caribbean while exposing disparities in contributions, with smaller islands often underrepresented. Strengthening regional networks and fostering collaboration are essential to address these gaps. By prioritizing interdisciplinary efforts and capacity-building, the region can enhance resilience to many problems including climate-related events and future global crises like pandemics.

O-19
Implementation of a multi-sectoral programme to improve Indigenous adolescent mental health in Brazil and Dominica: Adolescent led art-based intervention vignettes in Brazil.

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Objective: To engage Indigenous adolescents in the development of vignettes and encourage discussions about mental health (MH), how adolescents perceive it and how to promote MH, individually and collectively.
Methods: We used an exploratory design based on the creation of narrative vignettes to capture the perspectives and experiences of members of the Indigenous community. 24 students from the Guarita Lands participated in 10 workshops; two subgroups were composed, a group of n=12 members aged between 10-14 years old and a second group

with n=12 teenagers aged 15-18 years. The vignettes were conceived as a method to explore specific contexts of MH, cultural values, and interpretations of indigenous peoples about situations relevant to their daily lives.

Results: Students 10-14 years old created 16 vignettes across various media, such as videos, drawings, photos, posters, songs, and parodies. 4 vignettes focused on the school domain, 5 on the Family domain, and 8 on the Community domain. Similarly, students 15-18 years old created 13 vignettes, including videos, drawings, photos, comics, and posters. These were categorized as follows: 5 vignettes on the school domain, 3 on the Family domain, and 5 on the Community domain. Common critical issues included prejudice, self-esteem, violence, and drug abuse. Respect for their ways of life, traditions and culture, family support, sports and handcraft were areas seen as helpful in maintaining good MH. Challenges include difficulties in integrating into certain groups, self-doubt and prejudices.

Conclusion: The vignettes facilitated adolescents' engagement with MH topics by connecting their personal and community experiences with generating meaningful insights and identifying key messages. We demonstrate the effectiveness of vignettes as a strategy to promote the participation of a target population in the co-development of actions for their mental health.

O-20
Mental Health Literacy and Barriers to Help-seeking among Women in the Perinatal Period

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Objective: To assess knowledge of available services and mental health literacy among women attending perinatal clinics in Barbados.

Methods: All women receiving antenatal and postnatal services across the 9 public polyclinics in Barbados were invited to complete the Inventory of Attitudes Towards Seeking Mental Health Services (IASMHS) and items gauging their knowledge of existing services. We summarised responses and evaluated the psychometric properties of the IASMHS via internal consistency and confirmatory factor analysis (CFA).

Results: Of 178 respondents, 40.8 % were aware that mental health professionals are available free of charge in polyclinics. Ninety-five per cent (95 %) CI [.34, .48], while 88.3 % indicated they would be comfortable discussing their mental health with nurses, 95 % CI [.83, .93]. The mean Full Scale IASMHS score was 62.16 (SD = 12.99; Range:

16-87). The mean Psychological Openness score was 14.71 (SD = 5.90; Range: 0-32). For Help-seeking Propensity, the mean score was 23.30 (SD – 5.57; Range; 4-32). For Indifference to Stigma, the mean was 21.48 (SD = 6.17; Range: 4-32). Internal consistency reliability measures were good for the Full Scale and Help-seeking Propensity subscale but less adequate for the Psychological Openness and Indifference to Stigma subscales. CFA fit indices were not within acceptable limits for the 3-factor model.

Conclusion: Findings indicate a need to promote the availability of perinatal mental health services. The psychometric performance of the IASMHS was questionable in this population. Alternative measures of attitudes toward mental health services should be considered.

O-21
Examining the Prevalence, Quantity and Associated Factors of Severe Problematic and High-risk Cannabis use in Jamaica

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Objective: To determine the prevalence of severe problematic and high-risk cannabis use among Jamaicans and assess the associated quantity, beliefs, sociodemographic, and psychosocial factors using nationally representative data.

Methods: This study involved a secondary data analysis of the first Jamaica National Drug Prevalence Survey. It included 786 participants who used cannabis in the past year. Respondents who dually reported scores equal to or greater than seven on the Cannabis Abuse Screening Test (CAST) and daily or near-daily cannabis use were noted to have met the criteria for severe problematic and high-risk cannabis use (PHRCU). Data generated were analyzed with SPSS version 25 using Pearson's $\chi2$ test and logistic regression.

Results: In the past year, 45.4% of Jamaicans who smoked cannabis reported severe PHRCU and smoked an average of 67.61 joints per month. Male respondents were twice as likely to have severe PHRCU as females. Young, middle-aged, and older adults were respectively 5, 7 and 4 times more likely to report severe PHRCU than adolescent respondents. Participants who began using cannabis at age 11 or younger, as well as between 12 and 17 years of age, were 7 times more likely to report severe PHRCU than those at 26 years and older. Moreover, respondents with a high perceived need for treatment and perceived escalation in national drug use prevalence were associated with increased odds of reporting severe PHRCU.

Conclusion: Nearly 50% of Jamaicans who used cannabis in the past year reported severe PHRCU and smoked at

least two cannabis joints per day. Policymakers must look to improving treatment options at a clinical level and addressing the current national cannabis policy at a legislative level.

O-22

Sargassum and Mental Health: A Critical Concern for Caribbean Populations

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Objective: To describe the general and psychological status of individuals chronically exposed to toxic gaseous emissions by decomposing sargassum.
Methods: This single-center observational study was set at the University Hospital of the French Caribbean Island of Martinique. The records of patients receiving outpatient consultations of clinical toxicology from October 2021 to May 2023 were reviewed. Socio-demographic and clinical data were collected. Exposure status to sargassum gaseous emissions was determined based on residential or work addresses: exposure if living and/or working in areas along Martinique coastlines impacted by sargassum influxes and non-exposure if living and/or working in the island's center or along the non-impacted shorelines distant (25-50km) from sargassum stranding sites.
Results: Overall, 335 patients were considered (mean age: 57.2 ± 15.9 years, 64.5% women), with 72.2% living in sargassum-impacted zones. Frequent medical histories were systemic hypertension (29.5%) and asthma (13.5%). Personal and medical history characteristics were similar between exposed and unexposed patients, with seemingly higher frequencies of headache, dizziness, nausea/vomiting, and digestive discomfort (abdominal pain, diarrhea) in exposed patients (p>0.05). In terms of general and psychological status, exposed patients presented differing frequencies of asthenia (67.5%; p=0.04), weight loss (13.3%; p > 0.05) and anorexia (20.1%; p>0.05).
Conclusion: The present work confirms initial findings by our team during the massive sargassum inundation event which affected Martinique in 2018. These new findings contribute to the body of evidence sustaining a deleterious effect of sargassum gaseous emissions on the general well-being of exposed individuals, with reported physical but also psychological consequences which should be adequately addressed and managed for groups with chronic sargassum exposure.

O-23

A systematic review of the relationship between Paraquat Dichloride exposure and the development of Parkinson's disease

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Objective: (1) To summarize the existing data on the link between Paraquat Dichloride (PQ) exposure and the development of Parkinson's disease (PD) based on epidemiological research, and (2) to discuss the mechanistic toxicology findings from animal studies.
Methods: Two independent reviewers conducted a systematic search for articles that met the inclusion/exclusion criteria during the period 2014 and 2024 using PubMed. A total of 10 articles met inclusion/exclusion criteria. Quality assessment was conducted using the Newcastle-Ottawa Scale and the SYRCLE tool, respectively.
Results: The findings from human studies highlight mixed results. One study found a nonsignificant increase in PD mortality (OR = 1.22, 95% CI = 0.99–1.51); in another, PQ was associated with PD only in workers not using protective gloves (OR 3.9, 95% CI 1.3-11.7). PD risk was also found to be higher at locations where agriculture and PQ use were prevalent. Data from animal models delved into the mechanisms by which PQ may induce PD-like symptoms, producing compelling evidence that PQ exposure induces many of the pathological features of PD such as loss of dopaminergic neurons, motor deficits, neuroinflammation, α-synuclein aggregation, and oxidative stress, which supports the association between PQ and PD that is observed in numerous other studies.
Conclusion: This review of human epidemiological studies and animal models, suggest that exposure to PQ is a significant risk factor for PD. The results highlight the urgent need for protective measures to reduce the risk of developing Parkinson's disease due to pesticide exposure.

O-24

The Saving Brains Grenada Conscious Discipline Intervention Study: Self-Regulation, Resilience and Mental Health

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Objective: To promote resilience in children, the Saving Brains Grenada (SBG) Conscious Discipline (CD) Inter-

vention study trained pre-primary and primary school teachers across the island. This study assessed the impact of the SBG CD intervention which aimed to empower teachers with skills that emphasize safety, social-emotional connection, and self-regulation.

Methods: Schools were recruited from the existing SBG network. Data were collected on 25 teachers pre-intervention and 19 post-intervention. T-tests and correlation analyses were conducted to compare the pre-and post-intervention scores from the Impact Subscale of the Conscious Discipline Fidelity, the Neuroception of Safety Scale-Generic Version (NPSS-G) Social Engagement subscale, the Brief HEXACO Inventory (BHI), and the Patient Health Questionnaire (PHQ-9).

Results: The total post-intervention CD impact scores across 5 items (score range 5 - 25) increased significantly from pre-intervention (M=15.25) to post-intervention (M=21.95) t=-12.01, p<.001. The personality factor of Extraversion was associated with the post-intervention total SBG CD impact score as indicated by a significant correlation between the variables (R=.489, p=.033). The post-intervention NPSS Social Engagement subscale score correlated significantly with the perceived impact of the intervention training (R=.470, p=.043). Greater social engagement was associated with lower depression as measured by the PHQ total score (R=-.468, p=.043). There was a significant negative correlation between depression and Conscientiousness (R= -.593, p=.007).

Conclusion: The results support the continuation of the SBG CD intervention to promote safety, emotional connection, and self-regulation in classrooms.

O-25

Internet gaming addiction is associated with depression in adolescents in Jamaica

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Objective: This study sought to determine the prevalence of depression, substance use, internet gaming disorders (IGD), and the associated risk factors among Jamaican adolescents' post COVID-19.

Methods: This was a cross-sectional quantitative study that sampled 432 adolescents from a Jamaican high school. The sample was gathered by selecting two classes from each grade level with the smallest number of students. Informed consent and adolescents' assent were obtained from all participants before conducting research. Responses were de-identified and no compensation was provided. A self-administered questionnaire consisting of 4 main parts was completed. The 4 parts screened for 1. depression (Patient Health Questionnaire 9 (PHQ-9)), 2. substance use (Car, Relax, Alone, Forget, Friends, Trouble (CRAFFT) Screening Tool), 3. internet gaming symptoms (Gaming Addictions Scale for Adolescents (GASA)) and 4. demographic information. STATA 18 and Canva were used to analyze data and produce all results.

Results: The prevalence of depression among participants was 79%. Among the 79%, moderate to severe depression in females (55%) was greater than in males (37%). The prevalence of substance use in adolescents was low (15%). The prevalence of IGD was 31%. There was a significant association between gender, depression, and IGD (p<0.001). Adolescents with mild (OR=2.15, 95% CI=0.99, 4.66) and moderate to severe depression (OR=5.58, 95% CI=2.65, 11.74) have significantly higher risks for IGD compared to adolescents without depression. Females have a 70% decreased risk (OR=0.30, 95% CI=0.18, 0.50) compared to males for developing IGD.

Conclusion: This study reported the prevalence of depression (79%), substance use (15%), and IGD (31%) among adolescents. Depression and being a male were positive predictors for IGD. Screening programs for mental health issues in adolescents should include screening for IGD.

O-26

The role of law in addressing the hidden pandemic' of mental health in the Commonwealth Caribbean – An examination of legislative reform in The Bahamas and Guyana

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Objective: To explore human rights based mental health legislative reform in The Bahamas and Guyana as concrete examples of the role of law in addressing the 'hidden pandemic' of mental health in the Commonwealth Caribbean.

Methods: The mental health legislation of The Bahamas and Guyana were sourced from the respective government online portals and online searches conducted of WHO/PAHO databases and websites for relevant country reports, mental health data, policy and legislative guidance. Searches were also conducted in broader peer-reviewed and grey literature on these countries' implementation experience. Searches were conducted between December 2023 and November 2024. Our review was limited by the availability of online information and the paucity of published research on these countries' implementation experience to date.

Results: In The Bahamas, the passage of their legislation has supported "transformative progress in both the quality and accessibility of mental health programs and services,

underpinned by a renewed emphasis on human rights and community-based solutions". Similarly, in Guyana the passage of the new legislation has prompted allocation of resources to mental health services together with further policy development in the form of a new National Mental Health Action Plan and National Suicide Prevention Plan.

Conclusion: Law has a role to play in promoting mental health, especially by adopting a rights-based approach to mental health law. The Bahamas and Guyana experiences show that, properly implemented with the appropriate financing, rights-based mental health reforms can positively contribute to the management of mental health issues and help transform societal attitudes to mental health.

O-27

Beyond the Bedside: Investigating Burnout Among Doctors and Nurses at Georgetown Public Hospital Corporation, Guyana

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Objective:
1. To determine the rate of burnout among doctors and nurses at GPHC.
2. To identify key factors contributing to burnout, including workload, administrative responsibilities, and work-life balance.
3. To assess differences in burnout rates by gender, age, and professional role.
4. To evaluate the impacts of burnout on mental health, job satisfaction, and well-being.

Methods: A cross-sectional, quantitative study was conducted using the pretested Maslach Burnout Inventory (MBI-HSS) to assess burnout levels among 321 participants, including 202 doctors and 119 nurses. This tool was amended to include de novo questions that assessed the variables relating to the respondents' biographical data. Independent variables such as age, gender, and professional role were analyzed using chi-square tests and independent samples t-tests. Statistical significance was set at $p < 0.05$.

Results: The prevalence of burnout was 58.6%, and was higher among nurses (66.4%) compared to doctors (53.9%; OR: 2.25, $p = 0.0016$). Female respondents were 24% more likely to be at risk for burnout than their male counterparts ($p = 0.14$, OR: 1.24). Younger professionals under 29 exhibited the highest burnout rates (80.1%; OR: 7.82, $p < 0.00001$). Medical interns, when compared to GMOs, residents, and registrars, and registered nurses, when compared to nursing assistants and patient care assistants, were most affected. Medical interns and registered nurses had burnout

rates of 91.4% (OR: 12.46) and 90% (OR: 12.2), respectively.

Conclusion: This study highlights the significant issue of burnout among healthcare professionals at Georgetown Public Hospital Corporation (GPHC) in Guyana. These findings underscore the need for targeted interventions to address burnout, including improved staffing, administrative support, mental health resources, and enhanced work-life balance strategies.

O-28

Prevalence, Patterns, and Self-reported Impacts of Cognitive Enhancer Use Among Medical Students at the University of Guyana

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Objective: This study aimed to determine the prevalence, patterns, and self-reported impact of cognitive enhancer (CE) use among medical students at the University of Guyana, including, motivational factors and risk-benefit perceptions.

Methods: A descriptive, observational, cross-sectional study was conducted among 162 medical students at the University of Guyana, School of Medicine, selected via simple random sampling. A structured, 25-item online questionnaire was distributed via email. Quantitative data were analyzed using SPSS v22.0. Descriptive statistics were used to calculate frequencies and percentages, while chi-square tests assessed associations between CE use and demographic variables. P-values were computed for statistical significance while the qualitative responses underwent thematic analysis. Ethical approval was obtained, and confidentiality was maintained.

Results: Based on the 162 responses, there was a 53.1% prevalence of CE usage. Caffeine-based products were the most frequently consumed enhancers. These include coffee (70.9%) and energy drinks 55.8%) while Adderall and L-Tyrosine were the least consumed (1.16% respectively). Primary motivations included enhanced energy levels (82.6%), management of increased academic workload (57%), enhanced memory and concentration (54.7%), and stress alleviation (24.4%). For 32.7% of users, perceived benefits surpassed risks, while 64% reported awareness of potential adverse effects. CE use was more prevalent among female students (67.4%) and those aged 22-25 years (62.4%). Statistical analysis showed no significant associations between demographic factors (gender, age, academic year, work status) and CE use ($p > 0.05$). However, significant associations were found between caffeinated CE use

and reported side effects, including tachycardia (p = 0.002), insomnia (p = 0.006), and anxiety (p = 0.006).

Conclusion: This investigation revealed a substantial prevalence of CE use among medical students, primarily driven by academic demands and stress management needs. The findings underscore the necessity for initiatives addressing the risks and implications of CE use.

O-29
Intimate partner violence and psychosocial loss during adolescent pregnancy in Jamaica and associations with adolescents' mental health

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Objective: To better understand high school-aged females' psychosocial experiences and mental health needs during pregnancy, we investigated partner violence and loss during pregnancy and their association with self-harm and resilience.

Methods: This was a cross-sectional study in which 100 pregnant or parenting females, age 14-18 years, were recruited from seven sites connected to a national programme on adolescent pregnancy. A study questionnaire consisting of demographic, sexual and reproductive data, perceived pregnancy-related losses, intimate partner violence before and during pregnancy, self-harm ideation, and resilient behaviour was interviewer-administered between November 2020 and March 2021. Bivariate analyses and regression models were applied to the data.

Results: Losing the support of parents was associated with a higher probability of emotional abuse by an intimate partner (73% vs 27%, p<.0005). Partner violence experienced before pregnancy increased the chance of violence during pregnancy (p<.001) and violence exposure was associated with self-harm ideation (p<.05). More than half of the sample reported at least five psychosocial losses arising from the pregnancy but being in a relationship with the father of their baby (FOB) was associated with lower mean overall loss scores (M=4.64, SD= 1.82) compared to those who had no contact with their FOB (M=5.92, SD= 1.99), p<.05, η2= .07. Resilience was moderately related to total loss experiences for the adolescent (β = -.069 ± .034, p< .05).

Conclusion: The findings suggest an interrelatedness between loss and violence and the influence of these adverse events on the mental health of pregnant and parenting adolescents, which are often unrecognised. We highlight the relevance of monitoring mental health needs in adolescent reproductive health care services.

O-30
The Prevalence of Depression and The Associated Factors Among Adolescents Attending Public Schools in Georgetown, Guyana

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Objective: To assess the prevalence of depression, the severity, and associated factors among adolescents attending public schools in Georgetown, Guyana.

Methods: A cross-sectional study design was employed, anticipating a sample of 302 adolescents aged 15 to 19 from four public schools in Georgetown. Data were collected using the Beck Depression Index to screen for depression and associated risk factors, including socio-demographic characteristics, family dynamics, and social support. Statistical analyses included descriptive statistics, chi-square tests, and logistic regression to identify depression-related factors.

Results: A total of 91 students from three public schools (St. Rose's High, Tutorial High, and Richard's Ishmael High) participated in this study, with 51.6% being female, in grade 10 (50.5%), and 15 years old (59.3%). The prevalence of depression was found to be alarmingly high at 72.5%, with mild to moderate depression being the most common. It was mostly found in female students (78.7%). Significant associations were observed between depression and factors such as age, family dynamics, and health-related behaviors.

Conclusion: Addressing the complex interplay of demographic characteristics, psychosocial aspects, and health-related behaviors is crucial for promoting adolescents' mental health and well-being due to the high rates of mild to moderate depression found in this study. Future research and targeted interventions tailored to the specific needs of diverse populations are essential to mitigate the growing burden of adolescent depression.

O-32
Measuring university student suicide risk in Barbados: Psychometric properties of the SBQ-R

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Objective: To characterise suicide risk using the Suicidal Behaviour Questionnaire-Revised (SBQ-R) among university students in Barbados during the COVID-19 pandemic. 2) To establish psychometric properties of the SBQ-R for future use in Caribbean mental health research.

Methods: The SBQ-R was distributed online to all current students at The University of the West Indies, Cave Hill, from October 2021 to March 2022 as part of the National College Health Assessment. We calculated scores by sex; evaluated internal consistency; assessed concurrent validity by comparison with relevant criterion measures; and examined the configural invariance of the SBQ-R via confirmatory factor analysis (CFA).

Results: Over six hundred (643) students completed some or all of the SBQ-R. The mean score for biological females was 6.19 and, for males, 6.05. 231 students (35.6%) screened positive for suicide risk using the US-based non-clinical population cutoff score of ≥ 7, including 185 females (37.7 %) and 46 males (32.2 %). There were no significant gender differences in scale scores or assignment of risk. Internal consistency was very good ($\omega = .85$), and the SBQ-R correlated in the theoretically expected direction with five measures of concurrent validity. CFA supported a unidimensional factor structure, consistent with findings from previous studies.

Conclusion: The percentage of students exceeding the cutoff score for suicide risk is concerning. However, caution in generalising findings is warranted given voluntary response sampling, collection of data during COVID-19 lockdown, and use of cutoff scores established outside the region. This study provides evidence for reliability as well as criterion and construct-related validity of the SBQ-R. Future research should evaluate the instrument in broader Caribbean populations and estimate cutoff scores specific to these groups.

O-33
Iron deficiency is associated with risk of Alzheimer's Dementia in Tobagonian women of African ancestry

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Objective: To test whether iron deficiency is associated with risk of Alzheimer's Disease (AD) in African Caribbean women. Iron deficiency disproportionately affects women, particularly those of African ancestry. In women from the Tobago Health Study cohort of African Caribbeans aged ≥ 60, lower levels of amyloid beta (Aβ)42/40 ratio and higher phosphorylated tau (p-tau181) levels—both indicators of elevated AD risk—were previously observed when compared to men. These sex differences persisted after adjusting for age, cardiometabolic diseases, and lifestyle. Considering the role of iron in amyloid clearance, we hypothesized a link between iron deficiency and AD biomarkers in women.

Methods: We analyzed fasting serum iron biomarkers, including functional iron deficiency (iron saturation $\leq 20\%$ with ferritin >100 ng/mL), ferritin, hepcidin, and soluble transferrin receptor (sTfR), in a random sample of 109 postmenopausal women aged 65+ years from the Tobago Health Study. Associations between iron parameters, AD biomarkers (Aβ42/40 ratio, p-tau181), and cognitive function (Digit Symbol Substitution Test, DSST) were explored.

Results: Women had high prevalence of hypertension (80%), diabetes (25%), obesity (average BMI 31.5), and sedentary behavior (16 min/week physical activity) in this postmenopausal cohort. Lower ferritin was associated with a lower Aβ42/40 ratio, indicating greater AD risk. Among women with functional iron deficiency (51%), higher sTfR levels correlated with worse DSST scores (r=-0.35, p=0.0154), independent of age, linking poor iron status with reduced cognitive function.

Conclusion: Caribbean women and its potential role as an early AD risk factor. While inflammation from cardiometabolic factors likely elevated ferritin levels, true iron deficiency was uncommon. Findings suggest a J-shaped relationship between serum and brain iron levels in AD pathology. Measuring iron status in populations at high risk for AD and iron deficiency could inform early interventions and risk assessment.

O-34
Examining Exclusive Breastfeeding Practices in Barbados - A Cross-Sectional Study

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Objective: To investigate the prevalence and mean duration of exclusive breastfeeding and its factors among mothers of infants aged six months to twelve months living in Barbados.

Methods: This cross-sectional study collected data via self-administered questionnaires completed by mothers of infants aged six to twelve months residing in Barbados.

Participants attended private and public child health clinics and were recruited using systematic sampling. Analysis was done using descriptive and inferential statistics.

Results: The prevalence of exclusive breastfeeding for at least six months was 15%, and the mean duration was 2.27 months. Increased odds of exclusive breastfeeding for the first six months were seen in mothers who had mixed ethnicity (OR 3.68, p=0.01), tertiary education (OR 2.52, p=0.02) and marital relationships (OR 2.54, p=0.03).

Other results showed that offering facilities to express milk at work (OR 2.19, p=0.18) or providing contact information for breastfeeding support (OR 1.93, p=0.14) increased the odds of exclusively breastfeeding for the first six months. Conversely, receiving information on infant feeding antenatally or having an infant requiring intensive care (OR 0.31, p=0.12) lowered the odds of the practice, and taking maternity leave had no impact (OR=1.02, p=1.00).

Conclusion: The prevalence of exclusive breastfeeding for the first six months of life in Barbados remains low. Coupled with the mean duration of exclusive breastfeeding being less than three months, there are negative implications for the health of Barbadians. The relationships between the factors identified in this study which increased exclusively breastfeeding for the first six months of life can be utilised to implement strategies to increase the practice.

O-35
Exploring Associations between Sex Hormones and Pain Detection Thresholds Among Premenopausal Women with Sickle Cell Disease

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Objective: Women with sickle cell disease (SCD) often report worse pain compared to men. Vaso-occlusive crisis (VOC) pain episodes are frequently associated with menses, and their frequency is often reduced with concurrent use of hormonal contraceptives. Based on these findings, this study tested the hypothesis that sex hormones are associated with pain detection thresholds among women with SCD.
Methods: Premenopausal SCD women aged minimum 18 years with regular menses, and without acute illnesses, preg-

nancy, oophorectomy or hormonal contraceptives within three months prior, were included. Measurements of pain detection thresholds for heat (HPT) and pressure (PPT), and serum hemoglobin, estradiol, progesterone and testosterone were taken at follicular and luteal visits. Validated questionnaires included the Adult Sickle Cell Quality of Life Measurement Information System (ASCQ-Me) which measured quality-of-life and VOC frequency and severity. A study instrument assessed menstrual characteristics and medical history. Multivariate generalized linear mixed models were performed, including days since the last menstrual period standardized by cycle length.
Results: The study recruited 125 participants (mean age 29.0 ± 7.5 years and 79.2% with severe genotype of either homozygous SS or Sβ-Thalassemia0). In multivariate analyses, worse VOC scores (β=1.7) and severe genotype (β=-46.0) were associated with higher and lower trapezius PPT, respectively. Older age was associated with lower forearm HPT (β=-0.1). Among leg measurements, the presence of ovulatory cycles (β=-1.1) and hydroxyurea use (β=-1.2) were associated with lower HPT, while worse VOC scores (β=0.1) were associated with higher HPT. Higher estradiol was associated with lower HPT at the leg (β=-0.02), with an interaction with the cycle day (β=0.001) predicting lower thresholds earlier in the cycle for the same estradiol level.
Conclusion: Estradiol is associated with a time-varying, length-dependent peripheral neuropathy among SCD women; and may be a potential therapeutic target and biomarker for cyclical pain and neuropathic pain.

O-36
Prenatal and Early-Life Acetaminophen Exposure: A Systematic Review of Neurodevelopmental Impacts

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Objective: This systematic review examines the association between acetaminophen exposure during prenatal and early childhood stages and adverse neurodevelopmental outcomes, including autism spectrum disorder (ASD), attention-deficit hyperactivity disorder (ADHD), and cognitive delays. The findings emphasize implications for public health in the Caribbean.
Methods: A systematic search of PubMed (2000–2024) identified randomized controlled trials, cohort studies, and case-control studies assessing neurodevelopmental outcomes in children exposed to acetaminophen. Studies meeting inclusion criteria underwent quality appraisal and narrative synthesis due to heterogeneity.
Results: Prenatal acetaminophen exposure was consistently linked to increased risks of ASD (odds ratio [OR] 1.26–1.37) and ADHD (OR = 1.21, 95% CI 1.07-1.36). Postnatal expo-

sure was associated with attention-related behavioral problems and mixed evidence on motor development, including higher neurodevelopmental scores in some cohorts (β 0.08, 95% CI 0.01–0.16). Dose-response effects and environmental interactions, such as co-exposure to cannabinoid receptor agonists, were observed in some studies.

Conclusion: Evidence supports significant neurodevelopmental risks associated with acetaminophen exposure. In the Caribbean, where acetaminophen is widely used and easily accessible over the counter, these findings highlight the need for public health campaigns, stricter pregnancy guidelines, and further region-specific research to refine dose thresholds and minimize risks.

O-37
Assessment of quality of life among the aging community in Grenada

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Objective: To assess the quality of life of the aging population in Grenada

Methods: A cross sectional, mixed methods approach for both in persons surveys and interviews of elderly persons was used during the period March to August2024. A multi-stage sampling strategy gained quantitative survey feedback across all parishes and a random representative approach among parishes was applied for the qualitative interview process. Study participants were recruited from databases at the Ministry of Social and Community Development, Housing and Gender Affairs. Quality of life assessment was based on criteria from the United States, National Council on Aging (NCOA, 2020).

Results: A total of 408 participants 264 females (64%), 143 males completed the survey, and 40 participants participated in interviews. Study participants have a mean age of 71 years, reported marital status by 74%, primary school education among 94.6%, monthly average income of 500 Eastern Caribbean Dollar (XCD) and a mean work experience of 39 years. Quality of life encompasses various dimensions, including physical, mental, social, spiritual, occupational, and financial well-being. Optimal quality of life was reported among 13.7% for physical health, 25.5% for mental health, 28.7% for social health, 94.4% for spiritual wellbeing, 18.8% for occupational wellbeing and 29.2% for financial wellbeing. Independent sample 2 tailed t test recorded a significant difference in quality of life among participants based on their health condition (p<0.001), religious engagement (p<0.001) and socio-economic status (p<0.001) Thematic analysis of interviews emphasized personal characteristics of family and religion with quality of life while health burdens and financial challenges compromised quality of life.

Conclusion: Quality of life of the elderly in Grenada was found to be variable and dependent on health and socioeconomic status. Social relations with family, community and engagement with religious practices are consistent with promoting wellbeing.

O-38
Dietary Sodium Intake and Risk Assessments with the Impact of the Adoption of the WHO Global Sodium Benchmark of Bread in Lagos, Nigeria

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Objective: To assess the potential impact of adopting the WHO global sodium benchmark on dietary sodium intake and risk from bread in Lagos, Nigeria.

Methods: The level of sodium in bread in Lagos, Nigeria was estimated from on-pack nutrition labels of breads sold in the open markets and supermarkets in some local government areas in Lagos, Nigeria, and daily bread consumption data from the GEMS/Food Cluster Diets. These calculations were done to estimate dietary sodium intake and risk from bread using the methods stipulated in the Codex Food Safety Risk Analysis Manual and FAO Dietary Risk – Pesticide Registration Toolkit. Comparison of the estimated dietary intake was made with the Nutrient Reference Value – Non-communicable Disease for Sodium from Codex Guidelines on Nutrition Labelling. Also, a comparison of the estimated sodium content in bread was made with the WHO global sodium benchmark.

Results: This study's estimated dietary sodium intake from bread was 1.99 g per day and contributes 100% of the WHO recommended maximum dietary sodium intake per day. The estimated dietary sodium intake if the WHO benchmark was adopted was 1.1 g per day and contributes 55% of the recommended WHO maximum dietary sodium intake per day.The estimated relative risk is 0.55 and relative risk reduction is 45%.

Conclusion: From this study, it is concluded that a significant proportion of sodium in the Lagos, Nigeria diet comes from bread. Consumption of bread in Lagos, Nigeria poses a significant risk of excess sodium intake and hypertension. The adoption of the WHO global sodium benchmark may contribute to reducing dietary sodium intake and risk from bread significantly.

O-39
Growth patterns in premature and term infants - a case-control study

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Objective: To compare growth patterns in premature and term infants born at the UHWI over the first two years of life.

Methods: This case-control study was conducted in the UHWI's Prematurity and Child Welfare clinics, where two-year-old preterm (cases) and term (controls) infants and their primary caregivers were recruited. Target sample size was 128 (64 in each group). Anthropometric data were collected from each child's health passport, a questionnaire on child feeding was administered, and the child's blood pressure was measured. Data on preterm infants were also collected from electronic health records due to a paucity of participants available prospectively. Descriptive analyses were conducted to determine, means, proportions, and standard deviations. The Student's t-test was used to compare continuous variables and the Chi-square test for categorical variables.

Results: Data were obtained for 57 controls and 44 cases (18 prospective and 26 electronic health records). At two years old, preterm girls and boys were shorter than their term peers (p=0.012). Preterm boys had weights comparable with term boys by 12 months (p=0.186), while preterm girls continued to weigh less than term girls up to 24 months old (p=0.039). The highest prevalence of excess weight at two years old was noted in preterm boys, who were also the most likely to have been prematurely introduced to complementary feeds. Caregiver knowledge and attitudes towards child feeding were similar between cases and controls. No statistically significant difference between systolic (p=0.33) or diastolic (p=0.64) blood pressures of cases and controls was found, but clinical significance is possible, as 25% of preterm infants required referral for further follow-up, versus 12% of term infants.

Conclusion: Preterm infants are at risk of reduced linear growth in the first two years of life and are more likely to require blood pressure follow-up.

O-40
A comparison of fertility and quality of life outcomes between women who had undergone laparoscopic vs. abdominal myomectomy at The University Hospital of the West Indies during the years 2016-2024

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Objective: The study aimed to compare fertility and quality of life outcomes between women undergoing laparoscopic and abdominal myomectomy.

Methods: A retrospective cross-sectional study was conducted on 94 patients who had abdominal and laparoscopic myomectomy at the University Hospital of the West Indies between January 2016 and February 2024. Women aged 18–45 years were included. Data was collected via medical records and interviewer-administered questionnaires, including the Patient-Reported Outcomes Measurement Information System (PROMIS) for quality assessment. Differences by group were done by t-test and associations by logistic regression.

Results: The mean (sd) age for the women was 38.9 (5.2) years, and the mean (sd) BMI was 28.3 kg/m2 (5.9). There were no statistically significant differences in age, and anthropometric variables (weight and height) between the groups. There was no statistically significant difference in the post procedure adjusting for their pregnancy proportion by surgical group. The p=0.359. The surgical group meaning abdominal or laparoscopic myomectomy. However, patients in the laparoscopic group had significantly greater physical function (p=0.042), less intraoperative blood loss (p<0.0001), and shorter hospital stays (p<0.0001). No significant differences were observed in QOL domains such as anxiety, depression, and pain interference.

Conclusion: Fertility outcomes were not different between women who had laparoscopic and abdominal myomectomy. However, laparoscopic myomectomy was associated with better physical function, less blood loss, and shorter hospital stays. These findings support laparoscopic myomectomy as a favourable option for patients seeking improved postoperative recovery and minimal morbidity without compromising fertility.

O-41
The prevalence of Class I, II and III malocclusions in children ages 6-12 in Georgetown, Guyana

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Objective: To determine the prevalence of class I, II and III malocclusions in children ages 6-12 in Georgetown, Guyana.

Methods: A cross-sectional study on the prevalence of malocclusion was conducted among primary school children aged 6-12 years in Georgetown, Guyana. The study area was divided into 4 geographic locations (Northeast, Northwest, Southeast, and Southwest) and 11 schools were randomly

selected. A clinical examination was performed on a total of 368 children. The class of malocclusion present was determined using Angle's classification system. The data were recorded and the distribution of malocclusion according to class, age, sex and associated oral habits was analyzed using descriptive statistics in SPSS.

Results: The overall prevalence of malocclusion was 72.6%. Class I malocclusion was the most common type, affecting 51.4% of children, followed by Class II at 13.8% and Class III at 7.3%. Children aged 9 showed the highest frequency of malocclusion (79.4%), followed by children aged 11 (75.9%). There was a higher frequency of malocclusions in males (75.4%) compared to females (69.9%). Among Class I malocclusions, there were 20.6% open bites, 21.2% crowding, 15.3% deep bites, 11.6% edge-to-edge bites, 6.9% spacing, 10.6% rotation, 4.8% crossbite, and 2.1% scissors bite. The most common oral habits in the studied population were nail biting (29.1%) and thumb sucking (14.9%).

Conclusion: Malocclusion is highly prevalent in children aged 6-12 attending primary schools in Georgetown, Guyana, affecting 72.6% of children. Class I Malocclusion was the most common, with Class III being the least prevalent. Despite a higher frequency of malocclusion among males compared to females and between children ages 7, 9, and 11 years, the differences were not statistically significant.

O-42
Predictors of psychological health-related quality of life in persons living with the Human Immunodeficiency Virus in Jamaica

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Objective: To determine predictors of psychological health-related quality of life (QOL) in persons living with the Human Immunodeficiency Virus (PLHIV) in Kingston and St. Andrew (KSA), Jamaica.

Methods: A questionnaire examining sociodemographics and QOL using the 'World Health Organization QOL HIV BREF' tool was interviewer-administered to 358 randomly selected PLHIV from three different HIV treatment sites in KSA. The QOL tool consisted of 29 questions divided into six domains (including a psychological health domain). Adherence to antiretroviral therapy (ART) was measured using the Adherence to Refills and Medication Scale. Descriptive statistics assessed participants' profiles and QOL scores by domain. Higher QOL scores indicated better QOL. Mann-Whitney U and Kruskal Wallis tests determined the differences in mean rank score for each QOL domain by select variables. A multiple linear regression model identified independent predictors of each QOL domain (this manuscript focuses on the psychological health-related QOL domain). Psychometric properties of the QOL domains were analyzed.

Results: Participants (56% female; mean age 49.2 +/- 13.7 years) scored highest in the spirituality domain (median 19.0 +/- 4.0), followed by the physical (18.0 +/- 3.0), level of independence (17.0 +/- 2.0), psychological (16.8 +/- 3.6), social relationships (16.0 +/- 3.0) and environmental (15.5 +/- 3.5) domain. Older persons (p= 0.005), those employed (p= 0.006), non-smokers (p= 0.003), persons without comorbidities (p= 0.018), and persons with good ART adherence (p< 0.001) had better psychological health-related QOL. Cronbach's alpha for each domain ranged from 0.81-0.85.

Conclusion: Increased focus must be placed on improving the psychological health of PLHIV. This may be achieved through targeted psychosocial interventions towards younger persons, skills training and formal educational opportunities to increase employability and income, reducing drug use, optimally managing comorbidities, and improving ART adherence.

O-43
Did Telemedicine Adoption Increase the Geographic Reach of Mental Health Specialists?

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Objective: To examine the association between telemedicine adoption and the geographic reach of mental health specialists.

Methods: This cohort study analyzed 100% Medicare fee-for-service claims data from 2018 to 2023. Mental health specialists (psychiatrists, psychologists, social workers, and psychiatric nurse practitioners) were categorized into four groups by telemedicine use in 2021: lowest (0-40%), low-mid (41-79%), mid-high (80-98%), and highest (99-100%). Linear regression models estimated yearly differential changes between higher and lower telemedicine specialists. Patient location was fixed to their first recorded address to isolate the effect of moving versus new patients.

Results: The cohort included 17,742 mental health specialists, mostly in solo practices (61.9%) and urban areas (90.5%). Specialists in the highest telemedicine group (n=4,581) had more visits with rural patients (12.6% increase; 95% CI 7.6, 17.5), out-of-state patients (26.3%

increase; 95% CI 16.7, 35.9), and patients ≥20 miles away (19.8% increase; 95% CI 14.8, 25.0) compared to those in the lowest telemedicine group (n=4,586). However, changes for patients in mental health specialist-shortage areas were not significant (6.81% increase; 95% CI -7.33, 20.9). Over two-thirds of the increase in out-of-state visits and nearly half of the increase in visits for patients residing ≥20 miles away were due to established patients moving, not new patients entering practice. Additionally, specialists with the highest telemedicine use saw fewer new patients post-pandemic.

Conclusion: Telemedicine adoption among mental health specialists increased geographic reach, primarily by retaining established patients who moved, rather than expanding access to new patients in rural and underserved communities. Policy interventions should incentivize telemedicine use in these communities and encourage specialists to take on new patients.

O-44
Substance Use among university students in Barbados during the COVID-19 pandemic

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Objective: To determine the prevalence, pattern and consequences of substance use among students, Cave Hill Campus, UWI, Barbados.
Methods: The American College Health Association (ACHA) National College Health Assessment III (NCHA) was administered as a cross-sectional survey between October 2021 and March 2022. Five successive email invitations were sent to all currently enrolled students at the University of the West Indies, Cave Hill Campus.
Results: A majority of students, 77.6 % (95% CI [.74, .81]) of students reported having used alcohol (e.g., beer, wine, liquor). 31.6 % (95% CI [.28, .35]) reported use of cannabis products (e.g., marijuana, weed, hash, edibles, vaped cannabis). 17.6 % (95% CI [.15, .21]) used tobacco or other nicotine products (e.g., cigarettes, e-cigarettes, Juul or other vape products, water pipe or hookah, chewing tobacco, cigars). The lifetime alcohol use rate for females was 79 %, 95 % CI [.75, .83]; for males, the rate was 73 %, 95 % CI [.65, .80]. 33% of males, 95 % CI [.25, .41], and 31 % of females, 95 % CI [.25, .41], reported ever using cannabis. For tobacco, lifetime usage rates were 22 % for males, 95 % CI [.16, .30], and 16 % for females. 95 % CI [.13, .20]. ASSIST Rates of moderate risk for problematic substance use were highest for cannabis (11.4 %), followed by alcohol (8.9 %), tobacco (5.2 %), sedatives (2.0 %), and opioids (0.8 %). Furthermore, 6.7% of students reported experiencing two or more negative outcomes after drinking alcohol. 8% of students reported doing something they later regretted, while the rate of engaging in unprotected sex was 9.1%.).
Conclusion: The rates of substance use and associated health consequences suggest that the UWI should seek to review and reinforce policies on substance use, promote preventative strategies, and increase awareness and accessibility of mental health services.

O-45
Implementation of a Multisectoral Programme to improve Indigenous AdolesCenT mental health (IMPACT) in Brazil and Dominica: co-development with Kalinago adolescents and multisector stakeholders in Dominica

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Objective: To co-develop the components of a sustainable adolescent mental health (MH) community programme with Kalinago adolescents and multisector stakeholders.
Methods: We conducted readiness assessments at 3 PHCs and 4 schools in the Kalinago Territory and border areas, a focus group with 14 Kalinago school children (10-13 years), and 2 half-day World Café workshops with stakeholders (n=31) including teachers, parents, government actors, primary care clinicians, MH specialists and community leaders. Adapted readiness questionnaires incorporated the WHO Building Blocks and Mental Health GAP - Community Toolkit. Collaborative sense-making with stakeholders triangulated quantitative and qualitative findings.
Results: There was strong alignment across all stakeholder groups on the importance of protecting adolescent Kalinago MH, programme engagement with the Kalinago socio-economic and cultural contexts, and for capacity building of practitioners and communities in adolescent MH prevention. Primary care MH services were minimal, with a paucity of trained on-site practitioners in MH. Protocols for referring children to the primary health care clinics (PHCs) are absent. Students reported a positive outlook on life, particularly in relation to future aspirations but there were concerns, which aligned with the narratives from teachers and community leaders, about bullying, family dynamics and loneliness.
Conclusion: This formative phase co-identified key considerations to increase the likelihood of IMPACT's effectiveness, sustainability, and scalability. These included the

importance of multisector governance anchored by adolescent voices, capacity building, co-development of protocols, and using art-based and digital technologies for implementation, evaluation, and advocacy.

O-46
Clinical and Epidemiological Characteristics of Severe Acute Intoxications in Martinique (2011-2020)

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Objective: The main aim of this study was to describe the incidence, sociodemographic and clinical characteristics, and management of severe acute poisoning in Martinique.
Methods: We conducted a descriptive, retrospective, monocentric study. All patients admitted to the emergency department and intensive care unit of the University Hospital Center of Martinique over a 10-year period (2011-2020) for severe acute intoxication were included.
Results: A total of 241 patients were admitted for severe acute intoxication, with an incidence of 6.9 cases per 100,000 inhabitants. The median age of patients was 56 years [IQR, 39-72], with an almost equal gender distribution (51% women/49% men). Of these intoxications, 60% were voluntary and 40% were accidental drug overdoses. The toxic substances involved included drugs in 88% of cases and chemicals in 29%. Specific antidotes were administered in 33% of patients, and 5 patients received extracorporeal membrane oxygenation (ECMO). The median hospital stay was 10 days [4-25]. Mortality was 15%, with 35 patients dying at a median age of 73 years [59-79]. Factors associated with a fatal outcome included arterial hypotension (p = 0.003), shock (p < 0.0001), hyperlactatemia (p = 0.002), acute renal failure (p < 0.0001), elevated troponins (p < 0.0001), hepatic cytolysis (p = 0.003), and thrombocytopenia (p = 0.02). Drug overdose accounted for 83% of deaths, with the main lethal toxic agents being metformin (10 cases), cardiovascular drugs (10 cases), anticoagulants (7 cases), and psychotropics (5 cases).
Conclusion: Severe acute poisoning remains a major public health concern in the French Departments of America. In Martinique, although the incidence of serious poisoning appears to have fallen, the mortality rate has risen, mainly due to metformin overdoses. This epidemiological trend could be explained by changes in socio-environmental factors, such as an aging population and multimorbidity.

O-47
A machine learning approach to modelling intimate partner violence exposure risk among university students in Barbados

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Objective: To present the first comprehensive assessment of intimate partner violence (IPV) exposure among university students in Barbados and to elucidate the most important predictors of IPV exposure through application of machine learning (ML).
Methods: A cross-sectional survey of 649 students investigated the most reported forms of IPV. ML models, specifically eXtreme Gradient Boosting (XGBoost), were employed to identify predictors of IPV. Data were obtained from the American College Health Association National College Health Assessment (NCHA) conducted at the University of the West Indies Cave Hill campus during the 2021-2022 academic year
Results: Verbal abuse from partners was the most reported type of IPV (15.1 %). Stalking behaviour and physical violence were less common but non-trivial. Findings from ML models indicated students whose parents had associate degrees or technical training are at higher risk of experiencing IPV compared to those whose parents have either lower or higher levels of education. Additionally, married or partnered students and members of gender and sexual orientation minority groups are at higher risk of IPV exposure.
Conclusion: These findings provide novel insights into IPV exposure risk among university students in Barbados and the complex interplay of socio-demographic factors in predicting exposure. The results may be useful to inform the development of targeted interventions and support systems to address IPV on campus and in the broader community.

O-48
Evaluating Cancer Control Efforts in the OECS: What's Working, What's Missing?

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Objective: To examine existing cancer control policies, initiatives, and infrastructure across six members of Organization of Eastern Caribbean States (OECS) from the regional to the community level to inform strategies for improvement.

Methods: A literature review was performed using PubMed, Google, and Google Scholar with defined keywords. We analysed data from cancer control initiatives in the OECS (Antigua and Barbuda, Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia, and Saint Vincent and the Grenadines), WHO cervical cancer country profiles and the CanScreen5 repository. Anecdotal accounts from local stakeholders were collected for deeper insights into cancer control initiatives.

Results: Cervical cancer prevention programs are well-established across OECS member states, while screening for breast, prostate, and colon cancers remains predominantly opportunistic, relying on physician recommendations or regular mass screening events. Organized screening programs—proven to be more cost-effective and impactful in reducing mortality—are absent, particularly for colorectal cancer, despite its significant mortality burden. Civil society organizations and healthcare professionals play a critical role in supplementing gaps in cancer screening and support services. Progress was noted in cancer surveillance, including financial commitment from governments to support national cancer registries and initiatives to collect and review hospital-based data on cancer incidence. Efforts are ongoing to build a research group for robust epidemiological studies to study cancer prevention and care within the OECS.

Conclusion: While cervical cancer prevention efforts are commendable, OECS member states may require more structured screening programs for other cancers to ensure equitable access and systematic data collection, quality control, case tracking and evaluation. Establishing a regional cancer screening taskforce under the OECS Commission, improving access to nuclear medicine and radiotherapy, and expanding research on overseas medical travel for cancer care are critical next steps to strengthen cancer control in the sub-region.

O-49

The Positive (biopsy proven) Predictive Value of the Breast Imaging Reporting and Data System Category 3, 4 and 5 at the University Hospital of The West Indies

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Objective: To evaluate the positive predictive value (PPV) of BI-RADS category 3, 4, and 5 breast lesions for malignancy at our Women's Imaging Center at the UHWI. Additionally, to assess the age distribution of malignant lesions, malignant histological subtypes, region of breast involved and prevalence of axillary involvement at diagnosis.

Methods: Mammography reports of patients with prior ultrasound guided core needle biopsy were retrospectively reviewed from the data archiving system and those assigned BI-RADS categories 3-5 during the three-year study period were analysed. The histology reports were matched to BI-RADS categories assigned and the positive predictive values of the categories were determined after exclusion criteria was applied.

Results: There were 268 suitable cases of which 140 are benign and 128 malignant. Fibroadenoma is the most prevalent benign histology and invasive ductal carcinoma is the most prevalent malignant subtype. The average age for benign and malignant lesions is 43 and 51, respectively. Specifically for malignant lesions, upper-outer quadrant (57%) is most commonly involved and 45% axillary involvement was demonstrated. The commonly observed imaging features for BI-RADS 4 and 5 lesions is ill-defined mass on mammogram and hypoechoic ill-defined mass on

ultrasound. The PPV for malignancy of BI-RADS categories was 8% for BI-RADS 3, 69% for BI-RADS 4 and 98% for BI-RADS 5.

Conclusion: The positive predictive value for the BI-RADS categories examined in this study corresponds to the literature for categories 4 (study 69% vs literature 2-95%) and 5 (study 98% vs literature >= 95%). For BI-RADS 3 category, we demonstrated an 8% PPV compared to the literature 0-2%. The Jamaican population is predominately black, which increases the risk for malignancy despite less aggressive features on imaging. Therefore, we recommend biopsy for higher-risk patients, even if benign features are demonstrated on imaging.

O-50

Prevalence and Predictors of Colon Cancer Screening among an Afro-Caribbean Cohort: Insights from the Living in Full Health Project

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Objective: Colorectal cancer (CRC) is a common malignancy preventable through screening for pre-malignant lesions. We assessed the prevalence and predictors of CRC screening and up-to-date screening among average risk Jamaicans 50-years and older.

Methods: We performed a sub-group analysis of self-reported prevalence and predictors of CRC screening among participants 50-70 years using data from the Living in Full Health (LIFE) project. Logistic regression was used to identify factors associated with undergoing any form of CRC screening and maintaining an appropriate CRC screening interval.

Results: Of 2,496 participants eligible for CRC screening, 239 (9.6%) had undergone screening. Those screened were significantly older (mean age 61.1 ± 7.1 versus 59.7 ± 6.6 years; $p=0.002$), better educated (secondary education 75.3% versus 67.1%; $p=0.010$), employed/retired (84.7% versus 74.9%; $p<0.001$), reported higher monthly income ($\geq$JMD\$120,000 in 34.5% versus 16.5%; $p<0.001$), had health insurance (40.6% versus 16.8%; $p<0.001$), at least one non-communicable disease (NCD) (75.3% versus 55.5%; $p<0.001$), and history of colon polyps (5.1% versus 0.4%; $p<0.001$). Overall, 24.3% were up-to-date for CRC screening. In multivariate analysis having health insurance (OR 1.9; $p=0.021$), and a NCD (OR 1.9; $p=0.026$) were significant predictors for CRC screening. Those with low

monthly income (JMD \$<28,000 [OR=0.2; $p=0.004$]) were significantly less likely to be screened. Not having a personal healthcare provider (unadjusted OR=0.4; p=0.044) was the only significant predictor of not being up-to-date with CRC screening.

Conclusion: Approximately 10% of eligible Jamaicans were screened for CRC. Access to affordable CRC screening services and a personal healthcare provider may help to improve CRC screening in Jamaica.

O-51

Exploring the Use and Reporting of Cancer Registry Data by the Caribbean Region in Peer-Reviewed Literature: A Scoping Review

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Objective: To conduct a scoping review of peer-reviewed publications that have used data from Caribbean cancer registries (CR). The overall goal is to capture the reach of Caribbean CR data, characterize the type of information disseminated, and identify knowledge gaps.

Methods: We searched PubMed, Scopus, Web of Science: Core Collection and LILACS, and included full-text articles in English, French, or Spanish, published between 2003-2023, that used data from a CR based in at least one Caribbean country or territory. The screening process was completed in two stages using Covidence (screening at abstract and full text levels) by two reviewers independently. Data were extracted from each full text of included articles using a standardized, predefined form in Covidence by two reviewers.

Results: A total of 127 articles met the inclusion criteria. CR data from 1958 to 2018 were reported. Of the 33 Caribbean countries and territories included, 14 had published at least one article. Almost all publications (96%) used data from population-based CR (PBCR). Three of the countries/territories with PBCRS had fewer than 3 publications and three had no publications. Breast, cervical, and colorectal cancers were the most reported. The most reported factors of interest assessed were tumor characteristics, followed by environment and socioeconomic status.

Conclusion: This scoping review shows that while Caribbean cancer registries have contributed substantially to the peer-reviewed literature, this is limited to less than half of the region. Several countries/territories with PBCRs had

low or no publications represented. The research published presents important research on cancer types of interest for the region, and possible associations with important risk factors. Continued efforts are needed to strengthen, support, and sustain high-quality PBCRs in the Caribbean, as well as the use and dissemination of these data to fill knowledge gaps and prioritize key research questions and inform cancer control policies.

O-52
"That's our culture…": Understanding Cervical Cancer Stigma Through Caribbean Voices

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Objective: To explore the cultural and social factors influencing cervical cancer-related stigma, screening behaviors, and HPV vaccination in three Caribbean nations: Grenada, Jamaica, and Trinidad and Tobago.
Methods: A qualitative study was conducted using nine focus group discussions involving 69 participants (54 women and 15 men) recruited from community organizations, health centers, and cancer support networks. Semistructured interviews explored perceptions of cervical cancer, its causes, screening, and healthcare experiences. Thematic analysis was used to identify recurring themes related to stigma, cultural beliefs, healthcare trust, and social norms.
Results: Six primary themes emerged: (1) Cancer-related stigma and fear, characterized by cancer fatalism and perceptions of cancer as a death sentence; (2) Cultural beliefs linking cervical cancer to promiscuity and divine punishment; (3) Knowledge gaps and misinformation about cancer causes and screening procedures; (4) Gender and societal expectations that reinforced social judgment of women; (5) Barriers to screening and HPV vaccination, including healthcare mistrust, confidentiality concerns, and cost; and (6) Family history and hereditary concerns, often shrouded in secrecy due to stigma. Participants highlighted a lack of confidentiality in healthcare settings, which amplified fear and discouraged health-seeking behaviors.
Conclusion: The findings reveal that cervical cancer-related stigma in the Caribbean is shaped by deep-rooted cultural beliefs, misinformation, and limited healthcare trust. Addressing these barriers requires culturally sensitive

public health campaigns, enhanced healthcare system confidentiality, and regionally coordinated HPV vaccination and cancer prevention initiatives.

O-53
The Biochemical Profile of Patients with Localized Prostate Cancer

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Objective: This study evaluated the biochemical profile of Jamaican men newly diagnosed with localized prostate cancer (PCa) by analyzing routine and specialized tests.
Methods: This prospective study, investigates 41 histologically confirmed PCa patients diagnosed at the University Hospital of the West Indies between January 2023 and August 2024. Each participant provided approximately 10 mL of blood to assay total prostate specific antigen (tPSA) and other special and routine tests. All data were analyzed using the Statistical Package for Social Science version 22.0 and, differences with $p < 0.05$ were deemed statistically significant.
Results: The largest proportion (36.6%) of the participants were in the 60-69 years age group and the mean age was 66.4 years. The tPSA was significantly elevated with a mean of 38.5 ng/mL and 93.9% had tPSA above 4.0 ng/mL. The liver function tests profile showed that serum aspartate aminotransferase (AST) levels were elevated in 19.4% and serum alanine aminotransferase (ALT) in 22.2% of participants. Sixty two and a half percent (62.5%) of participants showed increased levels of serum amylase and 31.3% showed abnormally high creatine kinase (CPK) levels. Analysis of the data using One-Sample t-test showed that there are significant differences between elevated and normal levels for AST (p = 0.003), amylase ($p < 0.001$) and CPK ($p < 0.001$). Anemia screening showed 24.2% of the participants had elevated serum ferritin levels, 16.1% had elevated transferrin saturation (TS) and 25.0% had decreased total iron binding capacity (TIBC). There were statistically significant differences between higher and normal levels for ferritin ($p = 0.002$) and TIBC ($p = 0.009$).
Conclusion: The results of this study demonstrated that biomarker enzymes including AST, ALT, CPK and amylase, as well as ferritin are elevated in men with localized PCa. The findings could be useful in developing diagnostic and prognostic models tailored to Jamaican men with this disease.

O-54

A Longitudinal Investigation of University Students Health and Lifestyle Across an Academic Year

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Objective: University students adopt poor health-related behaviours and develop adverse markers of body composition, but there is a dearth of robust longitudinal data on the topic. This study assessed fluctuations in markers of health-related behaviours and cardiometabolic health outcomes across an academic year in university students.
Methods: Participants were enrolled on a longitudinal study at a university in the East Midlands, UK. Two separate cohorts of undergraduate students completed an online survey at the beginning of terms one, two and three or a battery of physiological tests at the beginning of terms one and three of an academic year. One-way repeated measures ANOVAs assessed changes in survey outcomes and paired samples t-tests were conducted for physiological health markers.
Results: Diet quality was substantially reduced by term three compared to term two ($p < 0.05$). Alcohol consumption was highest in term two and lowest in term three ($p < 0.05$). Body mass, waist circumference, body mass index, and body roundness index were all higher in term three compared to term one ($p < 0.05$).
Conclusion: University students develop poorer dietary habits towards the end of the academic year, potentially due to increased academic workload and financial constraints. This may also explain why students consume more alcohol during the second term before reducing intake in the final term. These behaviours may contribute to adverse changes in body composition in the final term. Stakeholders should use these data to develop effective surveillance systems and interventions to mitigate negative changes in students' lifestyle and optimise their health.

O-55

To PrEP or Not to PrEP - Key informant interviews regarding the initiation of Human Immunodeficiency Virus Pre-Exposure Prophylaxis in Trinidad and Tobago

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Objective: To determine the attitudes, concerns and expectations among Human Immunodeficiency Virus (HIV) stakeholders regarding the potential introduction, and feasibility of introduction of HIV Pre-Exposure Prophylaxis (PrEP) in Trinidad and Tobago.
Methods: In-depth, semi-structured interviews were conducted with key stakeholders from government agencies, civil society and researchers working in the field of HIV in Trinidad and Tobago. Transcribed interviews were analysed with Qualitative Data Analysis Miner (QDA Miner), in order to identify utterances, concepts and themes.
Results: Twenty invitations were issued, and nine participants representing government agencies, research organizations, and men who have sex with men (MSM) advocacy groups were interviewed. The analysis revealed four recurring themes related to stakeholder attitudes, concerns, expectations, and the feasibility of implementing PrEP.. These themes included Social and Cultural Barriers, Knowledge and Education, Structural and Systemic Barriers, and Rights and Advocacy. Additionally, one unique theme emerged for each research objective: Health and Risk Concerns for the first objective and Implementation and Demand for the question of feasibility.
Conclusion: Many HIV stakeholders understand the need and benefit of the prophylactic drug in the country as PrEP implementation becomes more common globally and in the Caribbean. The majority of participants supported the introduction of PrEP, while acknowledging the potential barriers and considerations within the context of the country. It was concluded that the benefits of implementing PrEP would far outweigh the risks involved once strategies for monitoring and evaluation, and the dissemination of educational information surrounding PrEP are established and implemented.

O-56

with the pre-pandemic period - a prospective population based study from BarbadosReasons for non-COVID-19 hospitalization among children during the COVID-19 pandemic compared

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Objective: To compare the non-COVID-19 reasons for hospitalization among children during the COVID-19 pandemic and comparison this date with pre-pandemic data.
Methods: This is a population based prospective clinical audit of children (Age <16 years) admitted for COVID-

19-unrelated illnesses during the ongoing COVID-19 pandemic. The Study period extended from April 2018 through March 2022. The primary measured outcome was the primary discharge diagnosis. Other outcome measures were frequency of admissions, frequency of intensive care and number of deaths. Measured outcomes during the pandemic were compared with the corresponding period in the pre-pandemic period.

Results: There were 1282 non-COVID medical admissions from children during the COVID – 19 pandemic compared to the 2168 admissions during the corresponding months in the immediate pre-pandemic period. This corresponds to a decline of 40.7% (95% CI = 8.1%, 42.9%). Mean monthly admissions from acute respiratory illnesses (acute exacerbation of asthma phenotypes and respiratory tract infections) and acute gastroenteritis were 5.4 (+ 1.8) and 2.6 (+ 0.7) during the pandemic months compared to 35.1 (+ 7.2) and 5.3 (+ 0.8) during the corresponding pre-pandemic months respectively. Both these differences were statically significant (P <0.0001).

Conclusion: There was a significant decline in the admissions from medical illnesses among children and this was almost entirely due to a sharp and significant decline in admissions from acute respiratory illnesses and acute gastroenteritis.

O-57

Compliance with Surviving Sepsis Campaign One Hour Bundle and Sepsis Related Twenty-Eight Day Mortality at the University Hospital of the West Indies.

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Objective: To evaluate sepsis management at the University Hospital of the West Indies (UHWI) using the Surviving Sepsis Campaign (SSC) one hour bundle. Compliance with the SSC one hour bundle is comparable to other institutions and there is no difference in 28-day mortality between patients who have all the components initiated and those who did not.

Methods: This was a monocentric, prospective clinical trial carried out in the emergency department at UHWI from May 1 to November 30, 2022. The study was carried out in two phases. Phase one spanned from May 1 to July 31, 2022, and phase two from August 1 to November 30, 2022. Phase one involved research assistants training, and documentation of usual care. In phase two, staff received detailed information about the sepsis one-hour bundle and the process of identification, enrollment and documentation repeated.

Results: The total sample was 124 of whom 59.86% were females. Sixty participants were enrolled in phase one, 53% of them died within 28 days. Also, 60% of the participants received antibiotics and 80% received intravenous fluid (IVF) within an hour. Of those who received antibiotics, 64% died. Of those who received IVF, 58.% died. In phase two, 41.% of the participants died within 28 days. Also, 56% of the participants received antibiotics and 76.% received IVF within an hour. Of those who received antibiotics, 36.% died. Of those who received IVF, 54.% died. Chi-square showed that there was no relationship between gender and mortality (p = .56). Chi-square and binary log regression also showed no statistical significance between phase and mortality (p = .18). Levene's Test and T test showed that mortality was not affected by the number of SSC components completed in either phase (F = 0.02, p = .88), (t(121) = -0.54, p = .59, 95% CI [-0.41, 0.23]) Chi-square testing showed mortality was also not affected by the number of SSC components performed (X2(1) = 2.44, p = .12). Of all the SSC components, only IVF administration was associated with higher 28-day mortality (odds ratio = 0.17, 95% CI [0.05, 0.61], p = .01).

Conclusion: Compliance with antibiotic and intravenous fluid administration within an hour were similar for both phases. Neither compliance rate nor mortality showed significant statistical difference between the phases.

O-58

Automated Teller Machines (ATMs) - Sources of Bacterial Contamination and Antimicrobial Resistance in Georgetown, Guyana

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Objective: To determine the microbial load and prevalence of bacteria on ATM keypads in Georgetown, investigate the susceptibility and resistance of isolates to specific antibiotics and examine whether there are significant relationships between the banks, their location, size and the microbial load.

Methods: 53 ATM keypads, across five banking institutions, were sampled in July-August 2024. ATMs were classified into Downtown, Outer, and Greater Georgetown areas. Samples were collected using sterile swabs, diluted and processed to determine total viable counts. Isolates were identified using standard protocols, and antibiotic resistance patterns were determined. Data analysis involved descriptive statistics and statistical tests to assess relationships between banks and categories (Low:0-<5x10,000

cfu/ml; Medium:5x10,000 - 2.5x100,000 cfu/ml; High >2.5x100,000 cfu/ml).

Results: A total of 132 (40.7%) of 324 samples processed, showed growth. Forty-four (83%) out of 53 ATMs sampled, had growth. Most ATMs were in Downtown Georgetown, with 21 having Low, 12 having Medium, and 11 having High growth. A significant association between location and categories was found using Fisher's Exact Test, with Downtown ATMs having five times greater odds of Low colony count (P= 0.0376, OR = 5.12, 95% CI: 1.14–23.0). Isolates identified were 16 Gram-positive cocci (GPC) and five Gram-negative bacilli (GNB). Among the GPCs, 12 were Staphylococcus aureus, two of which were MRSA. Pseudomonas aeruginosa, Pseudomonas stutzeri, Pantoea sp., and Klebsiella oxytoca were identified for GNB. Most Staphylococcus isolates were resistant to ceftazidime-avibactam, ampicillin, and ceftolozane-tazobactam, while most GNBs were resistant to cefazolin and ampicillin. Twenty isolates were sensitive to sulphamethoxazole-trimethoprim. Six GPCs were multidrug-resistant, but none of the GNBs.

Conclusion: We recommend stringent cleaning schedules, proper hand hygiene, and alternative disinfection methods such as UV-C light. The Guyana Association of Bankers Inc and the stakeholders involved in Guyana's AMR strategy will be informed of these results.

O-59
The effect of climate variables on the incidence of Dengue in Brazil

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Objective: This study aimed to evaluate the effect of climate variables (e.g., temperature and rainfall) on Dengue morbidity and to describe the spatiotemporal trends of Dengue fever (DF) incidence in the presence of other explanatory variables, such as the social deprivation Index in Brazil.

Methods: This secondary analysis combined Dengue fever surveillance data (2010-2019) with climate variables and national population data, including a socio-economic index and Brazilian Index of Deprivation. The number of monthly probable cases of Dengue Fever was modelled based on a spatiotemporal model using Poisson regression with a log link where a population offset was applied, which included a Brazilian index of deprivation as a covariate.

Results: The models used suggested an association between temperature and Dengue incidence and this relationship was modified by social deprivation. The effect of rainfall was less clear. The monthly incidence of DF varied seasonally. The effect of mean maximum daily temperature on DF incidence was stronger for urban areas with higher index of deprivation.

Conclusion: The importance of climate change as a driver of higher incidence of arboviral diseases such as Dengue fever in South America, has been highlighted by several studies in the last decade. The compounded effect of social determinants of health in the context of climate change has, on the contrary, received less attention. Understanding the spatiotemporal patterns of DF transmission in Brazil can provide information for effective public health action. Importantly these can inform policies in the Caribbean as well.

O-60
Epidemiological Trends of Dengue and Related Arboviruses in the Caribbean Region: A Comparative Analysis from 2018 to 2024

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Objective: To analyze and compare epidemiological trends of dengue and related arboviruses in the Caribbean region from 2018 to 2024, emphasizing patterns, risk factors, and implications for public health interventions.

Methods: This six-year epidemiological study (April 2018–July 2024) at the CARPHA Medical Microbiology Laboratory involved 4,621 clinical samples from arboviral outbreaks. Samples collected within five days of symptom onset were tested using the CDC's Trioplex real-time RT-PCR assay for DENV, CHIKV, and ZIKV, while those collected after five days were analyzed for NS1, IgM, or IgG antibodies using ELISA kits (Focus Diagnostics and EUROIMMUN). Viral RNA was extracted using manual and automated systems adhering to manufacturer protocols. Laboratory confirmation was conducted across diverse patient demographics.

Results: This study analyzed 4,587 samples, confirming dengue in 34.7%, primarily via PCR, with serotype-3 most prevalent (765 cases) overall; amongst males and age group 1-10 yrs. Dengue exhibited seasonal peaks (August–November), with notable surges in 2023–2024. Chikungunya (0.2%) and Zika (0.1%) were rare. Fever was the most common symptom across all dengue serotypes, with serotype-specific variations such as pain, vomiting, and chills. Serological trends revealed high dengue activity in 2019, 2020, and 2023, with a resurgence in 2024. Statistical analy-

ses indicated significant variations in serotype distribution by age and gender.

Conclusion: The study highlights dengue's substantial public health burden in the Caribbean, with serotype-3 predominating and seasonal peaks coinciding with the rainy season. Rare chikungunya and zika cases underscore limited transmissibility. Elevated arboviral activity in 2023–2024 emphasizes the need for enhanced vector control, entomological surveillance, and outbreak preparedness to mitigate risks effectively.

O-61

Pilot study for the characterization of antibiotic-resistant genes present in wastewater samples from a community in Grenada

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Objective: Antibiotic resistance poses a significant global threat to healthcare systems. While it is often considered a clinical issue, non-clinical environments, such as wastewater, have recently been recognized as key contributors to the dissemination of antibiotic-resistant genes (ARGs) into the environment. This pilot study aimed to investigate the presence of various ARGs in municipal wastewater as a potential source of environmental contamination in a community in Grenada.

Methods: Wastewater samples were collected between January and April 2024. Samples were homogenized, and 50 mL aliquots were centrifuged to collect pellets. DNA was extracted from the pellets using the commercially available PowerSoil® DNA Isolation Kit (Mo BIO™). The extracted DNA was analyzed using a ThermoScientific Nanodrop 2000c Spectrophotometer and screened for ARGs via PCR. Target genes included sul1, sul2, blaCTX-M, blaTEM, blaSHV, and gyrA, which confer resistance to sulfonamides, β-lactams, and fluoroquinolones.

Results: Preliminary findings revealed the presence of several ARGs in the wastewater samples. Among the 16 samples analyzed, gyrA and blaTEM were detected in 100% (16/16) of samples, blaSHV in 87.5% (14/16), blaCTX-M in 37.5% (6/16), sul1 in 81.25% (13/16), and sul2 in 18.75% (3/16).

Conclusion: These findings highlight the role of municipal wastewater as a reservoir of ARGs and emphasize the need for continued monitoring to understand the potential spillover of ARGs into aquatic environments. While this study provides baseline data, further research involving prolonged sampling periods and additional sites is necessary to capture spatial and temporal variations. Moreover, the development of improved wastewater treatment methods is critical to mitigate the release of ARGs into the environment.

O-62

Streamlining Wastewater Surveillance for Viral Tracking in Underserved Communities

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Objective: Wastewater-based epidemiology (WBE) provides a cost-effective approach to monitoring pathogen prevalence at a community level; however, its application in resource-limited environments, such as the Caribbean, remains largely underexplored. This study addressed this challenge by developing and validating a SARS-CoV-2 protocol optimized for these settings. The primary objectives of this study include enhancing viral recovery methods from wastewater, comparing sample collection protocols, and improving RT-qPCR sensitivity.

Methods: (I) Enveloped and non-enveloped surrogate viruses, Pseudomonas syringgae bacteriophage (Φ6) and coliphage MS2, respectively, were added to wastewater samples in triplicate to test the efficiency of the VIRus ADsorption ELution method with two different conditions. Samples were either untreated (NT) or pre-treated with hydrochloric acid (HCl) to a pH of 3.5. The membrane filters were eluted with Tris-EDTA-NaCl buffer followed by Trizol RNA extraction and reverse transcription-quantitative polymerase chain reaction (RT-qPCR) to quantify viral particles (II) Composite samples were collected every half hour over a 12-hour and a 24-hour period, and the viral recovery concentration listed above adjusted to a pH of 3.5 and concentrated by membrane filtration, Trizol RNA extraction followed by RT-qPCR was performed to detect viral particles (III) For each RT-qPCR mastermix, 1ul of Dimethyl sulfoxide (DMSO) or Bovine serum albumin (BSA) was added to improve the RT-qPCR reaction.

Results: This study demonstrated that acidification of wastewater to pH 3.5 improved viral recovery, with 24-hour composite sampling demonstrating greater sensitivity compared to 12-hour composite sampling. The RT-qPCR sen-

sitivity was further enhanced by utilizing DMSO, enabling the detection of low-concentration targets.

Conclusion: These findings highlight the potential for wastewater surveillance to inform public health strategies in low-resource settings as it provides a scalable template for implementing WBE in these settings. Future research should expand this framework to additional pathogens and approaches to enhance scalability.

O-63
Risk Factors Associated with Trace Element Concentrations in Tobagonian Adults

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Objective: Trace element exposure is linked to adverse health outcomes, but biomonitoring studies in non-pregnant Caribbean adults are limited. This study examined urinary trace element concentrations and the associated risk factors among African Caribbean adults in Tobago.

Methods: Urinary concentrations of 18 trace elements were measured in 935 adults (aged 40–87) from the Tobago Health Study. Trace elements detected in >60% of samples were compared with US adults from the National Health and Nutrition Examination Survey (NHANES). Risk factors included demographics, anthropometrics, lifestyle and diet. We used sex-stratified partial least squares (PLS) regression to identify risk factors associated with trace element concentrations. PLS was chosen to handle a large number of potentially correlated variables.

Results: Twelve trace elements, arsenic (As), barium (Ba), cadmium (Cd), cobalt (Co), cesium (Cs), copper (Cu), molybdenum (Mo), lead (Pb), tin (Sn), thallium (Tl), uranium (U) and zinc (Zn) were detected in >90% of samples. Of the 10 trace elements measured in NHANES, geometric means for eight were higher in Tobagonian samples. In PLS models, older age was associated with higher concentrations of six trace elements in men and eight in women. For men, attending some secondary school was associated with lower Cd and Pb, while smoking was associated with higher Cd and U. Higher BMI was associated with higher Tl, and lower Cd in men. Fish consumption was associated with higher As in both sexes. In women, higher consump-

tion of processed fish was associated with higher U, rice with higher Ba and Pb, and root vegetables with higher Tl. In men, non-root vegetable and root vegetable consumption was associated with higher Tl and Co, respectively.

Conclusion: Urinary trace element concentrations in Tobagonian adults exceeded US levels. Key risk factors reveal complexities in trace element exposure and metabolism, highlighting the need for interventions to reduce exposure in vulnerable groups.

O-64
The Obesity Paradox in Older Adults: a Counterintuitive Phenomenon. A Cohort Study and Systematic Review

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Objective: To analyse the role of BMI in different mortality timepoints, and realise a systematic review in order to summarise the knowledge in the literature on the obesity paradox (OP) phenomenon in older adults.

Methods: The prospective study included adults over the age of 75 years hospitalised via the emergency department. They underwent a comprehensive geriatric assessment, and were followed up for 24 months. BMI was used to determine four groups: <18.0 kg/m2; 18-24.9 kg/m2; 25-29. 9 kg/m2 and ≥30.0 kg/m2. The systematic review was based on the PRISMA guidelines. The main outcome was death.

Results: In all, 1306 subjects were included in the cohort (age=85±6 years). By Cox analysis, 12- and 24-month mortality were inversely associated with a BMI >30 kg/m2 (HR=0.8, 95%CI=0.6-1.0, p=0.05; HR=0.8, 95%CI=0.6-1.0, p=0.03, respectively). Six-week mortality was not significantly associated with BMI. In the systematic review, 58 studies were included. Of these, 38 found evidence of the OP. Regarding timepoints, 7 out of the 9 studies that looked at short-term mortality found evidence of the OP. Of the 28 studies that examined longer-term mortality, 15 found evidence of the OP. In the studies that included people with a specific medical condition (n=24), there was OP in 18 cases. In studies with no specific medical condition (n=34), there was OP in 17 cases.

Conclusion: Our findings seem to support existence of the OP in older adults mainly when they have comorbidities and/or an acute event. Nonetheless, as BMI does not really reflect body composition, the term "BMI paradox" would be more suitable.

O-65

The Prevalence of Overweight and Obesity in the Under-Five Population in a Regional Health Authority in Trinidad and Tobago.

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Objective: To determine the prevalence of overweight and obesity in the under-five age group in a Regional Health Authority in Trinidad and Tobago.
Methods: The study population for this project was those under-five years of age. The sample size was obtained through random sampling technique. From thirty-two health centres in the south-west region, twenty health centres were sampled and fifteen patient case files were randomly selected and analysed from each, totalling three hundred case files. Anthropometric data recorded for all patient visits to the health centre up to the time of data collection wERE documented. BMI and BMI z-scores were calculated and classified based on the WHO BMI-for-age growth charts. SPSS was utilized to analyse the data.
Results: 63.7% of the three hundred participants were normal, 7.3% obese, 10.3% overweight, 12% at risk of becoming overweight and 6.7% wasting. For those overweight and obese, the average age of detection of overweight was 9.42 months (SD: 7.22), ranging 2-36 months with a modal age of detection being 6 months. 25% of overweight cases occurred by 4.25 months, 50% by 6 months, and 75% by 12 months. The average age of detection of obesity was 12.86 months (SD:11.56), ranging 1 to 48 months with a modal age of detection being 12 months. 25% of obesity cases occurred by 5.5 months, 50% by 10.5 months, and 75% by 18 months. A statistically significant association between BMI and health centres attended was detected. No statistically significant association between BMI and gender was detected.
Conclusion: This study highlights the high proportion of overweight and obesity among Trinidad and Tobago's under-five population, with many cases detected in infancy. These findings emphasize the importance of targeting the under-five population, particularly through early intervention strategies, education on proper nutrition and balanced efforts to manage overnutrition.

O-66

Knowledge, Attitudes, and Practices of Middle-Aged Persons Living with Type-2 Diabetes who attend Polyclinics in Barbados regarding Renal Complications

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Objective: To assess knowledge, attitudes and practices (KAP) of middle-aged persons living with type 2 diabetes who attend polyclinics in Barbados regarding renal complications (chronic kidney disease [CKD])
Methods: This cross-sectional study was conducted at the Ministry of Health and Wellness (Barbados) polyclinics between May and August 2024 where self-administered questionnaires were completed by the target population of 35- to 65-year-olds living with type 2 diabetes (T2DM). Adapted KAP questionnaires were employed. Descriptive analyses and multiple logistic regression were employed to elucidate relationships between KAP, CKD and socio-demographic factors. There were 222 participants.
Results: There was a response rate of 93.3% and a mean age of 58 (SD±8) years. The mean score of knowledge was 48.7%(SD±1.7), attitude 83.9%(SD±20.2), and practices 72.3%(SD±7.0). The frequency of self-reported CKD was 10.8%. After regression analyses, the odds of reporting good knowledge were 2.32 times higher in those who had secondary and tertiary education versus primary (OR 2.32, 95% CI $1.06 - 5.04$, p=0.034). Regarding sources of T2DM information, for every one-unit change in internet use, the mean change in combined KAP was 4.64% (95% CI $1.33 - 7.95$, p=0.006) and for health professionals it was 6.38% (95% CI $2.99 - 9.77$, p=0.000). However, it was found that there was no relationship between CKD and KAP.
Conclusion: Of all 3 dimensions, knowledge scored the least. Though there was no observed relationship between CKD and KAP, it is important to note that various socio-demographic factors such as education level affect KAP. This, in turn, can affect the prognosis and progression of T2DM and the likelihood of complications such as CKD. Given the historical connection between T2DM and CKD, it is important to improve KAP among those with T2DM.

O-67

Diabetes Distress and the Effect of COVID 19 in a Caribbean Population

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Objective: To determine the level of and risk factors for diabetes distress in a sample of persons living with diabetes in Barbados during the COVID-19 pandemic and explore how the COVID-19 pandemic influenced diabetes distress in persons living with diabetes in a population in Barbados.

Methods: A parallel (convergent) mixed-methods approach was used to achieve the aim, using the Diabetes Distress Scale (DDS) and semi-structured interviews among patients referred for diabetes management at a specialty clinic in Barbados between 1 April 2021 and 31 October 2021. The data were analyzed using descriptive and inferential statistics and content analysis.

Results: Diabetes Distress was present in 47 (50.5%) of the participants; specifically, regimen distress and emotional distress were equally present in 52 (55.91%) of the participants. We found no associated demographic factors. The COVID-19 pandemic impacted participants' distress in three interconnected ways —optimizing health, maintaining connection and battling fear and psychological distress.

Conclusion: COVID 19 affected the mental health of those living with diabetes in this population not only through direct effects but through indirect effects in routine care. Diabetes distress was found in almost half of the study population with emotional distress being the most common subtype of diabetes distress.

O-68
Cumulative Flood Exposure and Cardiometabolic Health in Urban Jamaica: A Cross-Sectional study

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Objective: To explore the association between cumulative flood exposure and cardiometabolic risk factors in urban Jamaica.

Methods: We conducted a cross-sectional and ecological study using secondary data from a survey that evaluated cardiometabolic health in Jamaica between June 2018 and July 2019. Participants included persons aged ≥15 years who resided in urban communities across four parishes in Jamaica. The primary outcomes were four cardiometabolic risk markers: 1) systolic blood pressure; 2) diastolic blood pressure; 3) fasting blood glucose; and 4) total cholesterol, operationalized as continuous measures. Correlational analysis was used to assess the association between cumulative community flood exposure and age- and sex-adjusted community cardiometabolic health outcomes. The association between historical individual flood exposure (1963 to 2017) and each outcome was examined using ordinary least squares linear regression models and sequential linear mixed models.

Results: The sample consisted of 837 individuals (276 males; 561 females; mean age 47.6±18.4 years) who resided in communities that were relatively evenly distributed across categories of flood exposure (none: 24.6%; low: 30.9%; moderate: 21.6%; and high: 22.8%). No significant correlations with outcomes were revealed at the community level but the inclusion of the community clusters contributed to the variations observed in individual-level associations. Baseline mixed models showed a significant improvement in model fit when compared to ordinary linear models ($p<0.001$), revealing significant associations of individual flood exposure with both systolic blood pressure ($b=1.72$, $p=0.005$) and diastolic blood pressure ($b=0.54$, $p=0.039$). Final models for each outcome were built by adjusting the respective intermediate models for significant covariates. However, in the adjusted models, statistically significant associations were not retained with the main exposure.

Conclusion: Community-level differences exist in flood patterns across urban communities in Jamaica. These flood profiles may contribute to individual-level variations in urban Jamaicans' cardiometabolic health.

O-69
Baseline Demographic Characteristics of the Barbados Diabetic Foot Study: An Inpatient Cohort with Diabetic Foot Ulceration

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Objective: To assess incidence and factors associated with tertiary level hospital admission for diabetic foot ulceration (DFU) in Barbados.

Methods: This prospective cohort study recruited adults (>18 years) between January 1, 2024 and June 30, 2024 who presented to Accident and Emergency department of the Queen Elizabeth Hospital with a clinical diagnosis of DFU. Baseline data gathered via interviewer administered questionnaire included demographics, SINBAD staging of ulceration, as well as comorbidities. Incidence of inpatient ulceration was estimated, and univariate and multivariate analyses were then conducted to assess association.

Results: 176 persons were enrolled. The inpatient incidence of DFU was estimated at 0.23%. A known history of peripheral arterial disease was found in 39.2% of study participants with infection present in 53.4% of the cohort. Lower level of education and lower income/ state support were associated with ulceration. Only 1.1% of the sample reported completing undergraduate university-level education. Almost thirty-seven percent (36.9%) of participants were in the lowest national census income band (0-49 000 Barbados dollars), while 40.9% reported receiving welfare or national insurance benefits.

Conclusion: This study identifies possible factors influencing the incidence of DFU and highlights the possible role of social determinants of health. It potentially informs fur-

ther work explicating the link between social and biological DFU risk factors for possible high-risk groups.

O-71
Sex differences and correlates of cardiac structure and function from the first population-based assessment of echocardiography in African Caribbeans

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Objective: Abnormalities in cardiac structure and function lead to increased risk of heart failure and other cardiovascular morbidity; yet, there are no population-based studies of these in any Caribbean nation. Therefore, we performed the first population-based assessment of cardiac structure and function in African Caribbean men and women from the Tobago Health Studies echocardiography on African Caribbean men and women from the Tobago Health Studies (N=936 recruited, N=623 complete).
Methods: Transthoracic echocardiography was performed by trained sonographers. Analyses focused on assessment of left ventricular (LV) ejection fraction (EF), LV mass index (LVMI), diastolic dysfunction, and LV geometry. Other data collected included questionnaires of health history and lifestyle, medications, and clinical measures such as height, weight, and blood pressures. Sex differences were tested using T-Tests or ANOVA, as appropriate. Risk factor associations were tested using linear or logistic regressions with adjustment for age and sex in all models, and significant independent CVD risk factors were identified through multiple regression methods, as appropriate.
Results: Participants were aged 50-96 years (mean 61 years) and were typically obese (mean BMI 31kg/m^2) and hypertensive (79%), though these varied by sex (BMI 32kg/m^2 in women vs 26kg/m^2 in men, P<0.001; 80% hypertension in women vs 71% in men, P=0.03). Overall, 13.5% had some diastolic dysfunction and 1.4% had LVEF<50% (11.2% had 50<=LVEF<60). 81% had cardiac structural remodeling (68% concentric remodeling, 13% left ventricular hypertrophy (LVH)). Women had 1% better LVEF and were less likely to have structural abnormalities than men (all P<0.05). Risk factors generally included age, sex, blood pressures, and anti-hypertension medication use; with alcohol use being independently associated with LVH only.

Conclusion: Both hypertension and obesity are highly prevalent conditions in Tobagonian adults. While cardiac remodeling was present in most participants, some also had LV diastolic dysfunction or reduced ejection fraction. Analyses of sex-differences highlight striking differences in cardiometabolic burden, though cardiac function was largely similar between sexes.

O-72
Business Power and Sugar: A qualitative exploration of power in NCD policymaking on sugar as a dietary risk factor for health in Trinidad and Tobago

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Objective: A qualitative exploration of how power dynamics affect and shape NCD health policymaking in Trinidad and Tobago.
Methods: Qualitative, semi-structured interviews with 26 stakeholders from industry, third sector and government were conducted in 2022. The data was thematically analysed using Fuchs and Lederer's theory-driven, three-dimensional framework of business power, which offers a systematic account of how corporations and other actors exert and respond to power within a policy debate.
Results: Stakeholder interviews highlighted how power was perceived to operate by all actors and impacted on their views and acceptability of different public health intervention methods to reduce dietary risk factors for NCDs in Trinidad and Tobago. All three forms of instrumental, structural and discursive power were evident in the data, which were applied by different actors who exerted influence in the health decision-making process on sugar as a dietary risk factor for NCDs in Trinidad and Tobago. This was most obvious in stakeholder discussions on industry influence affecting the outcome of policies including Front of Pack Warning Labels (FOPWL), reformulation as means to reduce high sugar content in, and taxation on sugar-sweetened beverages (SSBs).
Conclusion: The insights gained on power dynamics from such a policy debate draw urgent attention to important issues resulting from corporate power and health policymaking, which detrimentally affect the health and high NCD prevalence in the population of Trinidad and Tobago.

O-73
Adherence to World Health Organization Dietary Guidelines and its Association with Type 2 Diabetes Mellitus: The Tobago Health Study

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Objective: This study aims to investigate the dietary intake patterns of Tobagonians and evaluate the association between the WHO dietary guidelines and associated risk of type 2 diabetes (T2DM).

Methods: This was a cross-sectional study using a stratified random sample of Tobagonians 50+ years. Dietary intake patterns were assessed from 856 men and 841 women, using a 146-item semi-quantitative culturally sensitive food frequency questionnaire in the Tobago Health Study (median age=60, median BMI=28.9). and compared to the WHO dietary guidelines. Participants were placed into two groups based on adherence to dietary guidelines of each food/nutrient group. T2DM was defined as fasting serum glucose 126 mg/dL or currently taking anti-diabetic medication. Associations between T2DM and adherence to each food/nutrient group were assessed using multivariable logistic regression models.

Results: T2DM prevalence was marginally higher among Tobagonian women (20.8%) compared to men (19.6%). Overall, there was good adherence (>79%) to the dietary intake guidelines for fruits and vegetables, fibre, meats and beans, and total fats. Adherence to fibre consumption guidelines was associated with 39.3% lower odds of T2DM (OR: 0.607; 95% CI: 0.463-0.797) when compared to those not adhering to the guidelines. Following daily caloric intake guidelines was also associated with reduced odds of T2DM compared to those who had low calorie intake (<2000 kcal). Associations were greater among men than women.

Conclusion: Adherence to WHO dietary guidelines for fibre and caloric intake was associated with reduced odds of diabetes among Tobagonians.

O-74

Enablers and challenges of delivering a health promotion intervention in places of worship in Guyana: a qualitative study

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Objective: The CONgregations Taking ACTion against NCDs (CONTACT) study investigates the feasibility of recruiting and training lay congregants from places of wor-

ship (PoWs), including mosques, churches and mandirs, to act as health advocates (HAs) within their congregations. This paper explores HA views and experiences of delivering the CONTACT intervention to provide insights into perceived enablers and challenges of collaborating with primary health care centres and working within diverse PoWs to implement a health promotion programme.

Methods: We conducted semi-structured interviews with 17 HAs at baseline and endline, which were audio recorded and transcribed verbatim. First level codes were developed from interview topic guides. Sample transcripts were coded independently by two researchers, who developed second level codes derived inductively from the transcripts. First and second level codes were refined through comparison and discussion among the researchers.

Results: We identified 9 key themes: 4 enablers and 5 challenges. Key enablers included motivation of HAs, HA preparedness, PoWs as enabling environments and HA ability to adapt the intervention. The perceived challenges were competing priorities, limited support from religious leaders, limited resources, lack of trust in primary health care and limited understanding of the value of lifestyle changes. These key themes related to various aspects of the intervention, including recruitment and retention of HAs, mobilising resources and networks, strategies for engaging congregants and building successful community – primary health care partnerships.

Conclusion: Our research suggests the potential of embedding interventions within PoWs for the prevention and management of NCDs in Guyana and the wider Caribbean, but points to the need to account for social, cultural and religious differences between PoWs and their relationship with their congregants and communities.

O-75

Public's awareness and attitude towards the dangers associated with counterfeit medicines in Trinidad and Tobago: A cross-sectional study

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Objective: To determine the public awareness and attitude to the sale of counterfeit medicine (CM) in Trinidad and Tobago.

Methods: The study was conducted amongst Trinidad and Tobago nationals who were >18 years of age. The survey

comprised 22 questions and was distributed to the public using snowball sampling via social media platforms, and QR coded flyers. Statistical analysis was carried out using Statistical Package for the Social Sciences (SPSS) version 29, and Chi-Square analysis was used to detect a significant association between demographics and measured variables.

Results: Respondents (n=404) were mostly females (64%), had a mean (± SD) age of 37.33 ± 15.24 years, attained tertiary level education (47.5%), resided in Central Trinidad (35.9%) and were employed in the nonmedical field (60.4 %). The majority (89.7%) obtained their medication from community pharmacies, and 27.4% were not familiar with the term CM. Familiarity of CM was associated with increased education levels ($\chi2$ (3,305) =70.886, p<0.001) and occupation in the medical field ($\chi2$ (1,305) = 28.909, p<0.001). Those familiar with the term CM, heard of it from social media (61%) and television (46.1%). Only 26.3% were certain they had never purchased CM and less than half were able to identify features of CM. Education level was associated with awareness and the likelihood to seek advice from the pharmacist ($\chi2$ (3,305) = 32.05, p<0.0001). Reporting of CM was low with 29.7% stating they would report to the Ministry of Health, and only 18% to CARPHAs VigiCarib.

Conclusion: Participants were unable to identify features of CM which could lead to its detection, and some were still willing to purchase CM due to cheaper prices and medication shortages. Reporting to regulatory authorities was low, and pharmacist led education campaigns using social media and television can increase awareness, vigilance and reporting of CM.

O-76

The First Turks and Caicos Islands Global School Health Survey: Brief Findings, Challenges, Lessons Learned, and Next Steps

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Objective: This paper describes our experiences administering the Global School Health Survey and a subsection of the Global Youth Tobacco Survey (GYTS) for the first time in the Turks and Caicos Islands. It also presents brief findings and our action plan following the survey results.

Methods: In 2022, we administered the survey to high school students nationwide. The response rate at the school and student level was 81.2% and 66.5%, respectively. A total of 1,484 students between 13 and 17 years old completed the surveys (50% female; 78% 13 - 15 years). We conducted frequency analysis to determine the prevalence of sexual risk behaviors, substance use behaviors, and experiences of violence. We also conducted a Pearson chi-square test to determine differences in behaviors by sex. Finally, we present the challenges faced and lessons learned from the survey administration.

Results: Recent (30-day) substance use ranged from 9.7% for Cannabis use to 29.7% for Alcohol use. A quarter (25%) reported having sexual intercourse. Of these, 57.6% reported using a condom the last time they had sex. Experiences of violence ranged from 14.9% for being bullied off school premises to 32.2% for being in a physical fight. Several challenges emerged during the survey administration, including financial barriers, limited school and student engagement, and competing activities during the time of the survey administration. A consistent funding stream in the recurrent budget, better communication, and improved coordination with schools are among the lessons learned from this first iteration of the survey.

Conclusion: TCI adolescents' health risk behaviors are consistent with the region but surpass global averages. Next steps, including plans to disseminate the findings, influence policy and establish adolescent health programming, are discussed.

O-77

The Benefits of Real-time, Electronic Surveillance Tools for Public Health

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Objective: To elucidate on the benefits of implementing real-time electronic surveillance systems to improve and enhance disease detection and public health response.

Methods: The Caribbean Public Health Agency (CARPHA) through its Regional Tourism and Health Program designed and developed two electronic-based health surveillance applications targeted towards real-time data collection and rapid response. The Tourism and Health Information System (THiS) platform is a multi-modular (Tourism, Mass Gatherings (MG) and Shelter Surveillance) web-based system built upon syndromic surveillance, and includes a real-time alert mechanism that immediately notifies of a possible health threat. The Caribbean Vessel Surveillance System (CVSS) electronic, data sharing platform captures syndromic illness and enhances the monitoring and response to illnesses and outbreaks in travellers' and crew onboard cruise ships.

Results: Between 2017 to 2024, via the Tourism module on THiS, over 1000 tourism entities have been registered with over 3800 cases reported, resulting in 1058 identified syndromic cases. These cases generated 48 Alerts with over 93% being responded to within 24-hours of notification. With the MG module, 32 MG sites were registered across 7

MS. During the events, 177 cases were reported on the field with 19 syndromic cases identified and two alerts generated. From 2021-2024, 1889 CVSS alerts were sent to Member States notifying them at least 24hrs in advance of elevated numbers of ill passengers coming to their country.

Conclusion: Early detection and response to any communicable disease threat are critical. Electronic systems facilitate easier and faster data collection at the early stages of disease, increasing the likelihood of timely intervention. With the application of key underlying characteristics of a high functioning public health surveillance system, the THiS platform and CVSS aim to improve overall population health outcomes and reduce the impact of widespread disease transmission and the associated economic and reputational damage.

O-78
Assessing trends and patterns in premature mortality in Jamaica: A population-level descriptive ecological study

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Objective: To describe temporal changes and differences between demographic groups in all-cause and cause-specific premature mortality over a 10-year period in Jamaica.
Methods: We conducted a descriptive ecological study of deaths among Jamaican residents between January 1, 2010 and December 31, 2019 using data from death certificates (the Registrar General's Department) and the National Census (Statistical Institute of Jamaica). Premature mortality was measured as the years of potential life lost (YPLL) before age 70 years, and was calculated per 100,000 population, overall, by age group, sex, and cause. Direct standardized rates were calculated using the World Standard Population (2000-2025). Trends over the study period were assessed using the absolute difference in age-standardized and age-specific rates of YPLL, with Joinpoint regression used to identify statistically significant changes.
Results: Between 2010 and 2019, there were 170,689 registered deaths among Jamaican residents. Of these, just over 40% were premature (N=72,557; 42.5% of all deaths). Overall, the age-standardized rate of all-cause premature mortality increased by 1.45% per annum over the 10-year study period, from 6,246 to 7,355 YPLL per 100,000 population (average annual percent change [AAPC] 1.45; 95%

confidence interval [CI] 0.52 to 2.42). Notably, the rate of all-cause premature mortality was consistently higher among males, but females experienced a larger increase over time (females: AAPC 1.88, 95% CI 0.29 to 3.46; males: AAPC 1.13, 95% CI 0.02 to 2.21). Leading causes of premature death across sexes were maternal & perinatal conditions (range: 1,287 to 1,730 per 100,000), neoplasms (range: 1,066 to 1,192 per 100,000), and circulatory diseases (range: 801 to 1,150 per 100,000).
Conclusion: Findings suggest that premature mortality is rising in Jamaica, with variation by sex, age, and cause. These data can be used to inform, develop, and tailor strategies to enhance life expectancy in Jamaica and beyond.

O-79
Digitalisation and Healthcare: Knowledge, attitudes and practices of healthcare workers and patients at public Hospitals in Trinidad

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Objective: To determine the knowledge, attitudes and practices (KAP) regarding digitalisation of the healthcare sector among patients and healthcare professionals at two Health Authorities in Trinidad.
Methods: A cross-sectional study of patients and healthcare professionals was conducted at the medical, surgical and paediatric outpatient clinics at the North-West Regional Health Authority (NWRHA) and the South-West Regional Health Authority (SWRHA). Interviewer-administered questionnaires were employed to ascertain participants' KAP on digital technology.
Results: Of 330 responders, 66.4% had a positive attitude toward digitalisation and felt they could easily adapt to technology. Younger patients were more comfortable with technology than older ones (p<0.001), and responders from North Trinidad had higher knowledge than those from the South (p= 0.03). Over 30% reported they would need 1 to 3 months to gain confidence in using new technologies, with free online training preferred to face-to-face sessions at a health care facility.
Conclusion: The study highlights a digital knowledge divide by geography and age. Participants believe digitalisation can improve healthcare efficiency and outcomes. The government should address this divide by improving internet access in rural areas and offering free digital health training to support the implementation of digitalisation

in the healthcare setting which would facilitate universal health coverage.

O-80
Attitudes and Practices toward Food Labels and Nutrition Information for Packaged and Restaurant Foods among Adults: Findings from the Jamaica Salt Consumption Study

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Objective: To describe the attitudes and practices of Jamaicans toward food labels and nutrition information of packaged and restaurant foods and their association with sociodemographic characteristics.
Methods: A nationally representative cross-sectional study of Jamaicans ≥18 years was conducted between April 2022 and December 2023. Trained data collectors administered questionnaires regarding attitudes and practices on food labelling and nutrition information of packaged and restaurant foods. Survey weight proportions of responses to questionnaire items were obtained using Stata software. Pearson's chi-squared test was used to assess relationships between responses and sociodemographic characteristics.
Results: Of the 945 participants (38% males, mean age of 40.6 years), most were urban dwellers (74%), had high school (51%) or more than high school education (37%), and relatively young (78% 18-54 years). Overall, 98% of participants (male 99%, female 97%, p=0.006) thought the amount of salt in foods should be included on the labels of packaged foods, while 83% thought restaurants should report the amount of salt in foods (female 85%, male 80%, p=0.002). Approximately 97% of the population supported the use of warning labels to indicate when foods were high in salt. However, less than 20% always or often checked the salt content on food labels, while 24% often or always read food labels; only 15% reported that the information on food labels influenced their choice in purchasing food items.

Most responses varied by age and education level but usually not by urban vs. rural residence.

Conclusion: A large majority of Jamaicans support providing information and warnings regarding the salt content of foods, but few currently read labels or are guided by information on food labels. Public health policy should support positive attitudes towards food labels and institute measures to make labels easy to understand and thus influence choices.

O-81
Attitudes toward salt consumption among Jamaican Adults: Findings from the Jamaica Salt Consumption Study 2022-2023

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Objective: To describe attitudes toward salt consumption among Jamaican adults and evaluate associations with sociodemographic and clinical characteristics, and estimated sodium and potassium consumption.
Methods: We conducted a cross-sectional study from a nationally representative sample of Jamaicans ≥18 years. Research assistants administered a questionnaire which included items on sociodemographic and clinical characteristics, and attitudes toward salt consumption. Responses were used to create three categories: "Favours high salt", "Favours low salt" and "neither high nor low salt". Spot urine samples were used to estimate sodium and potassium intake. Survey weighted multinomial logistic regression was used to obtain odds ratios (OR) for associations comparing participants who favoured low salt diets (LSD) to those who favoured high salt diets (HSD).
Results: Data from 952 participants (374 males, 578 females; mean age 40.9 years) were analysed. Overall, 53.2% of participants favoured LSD, 12.2% favoured HSD and 34.6% favoured neither high nor low salt diets. Higher proportions of older persons, rural residents, and those less educated favoured LSD. In sex-specific mul-

tivariable models, men who favoured LSD to HSD were older (OR 1.03, p=0.004), and more likely to have high cholesterol (OR 3.68, p=0.014), high physical activity (OR 2.36, p=0.006) or rural residence (OR 2.42, p=0.024). Among women, those who favoured LSD were older (OR 1.08, P<0.001), and more likely to have diabetes (OR 3.17, p=0.004), but less likely to be smokers (OR 0.26, p=0.001). Men who favoured LSD had lower potassium intake compared to those who favoured HSD, but there was no statistically significant difference in sodium intake for men nor for sodium or potassium intake for women.

Conclusion: While a majority of Jamaicans, particularly older adults, preferred LSD, 12% of the population prefers HSD. Public health campaigns and policies should build on the preference for LSD to address Jamaica's cardiovascular disease burden.

O-82
Self-reported multimorbidity and knowledge, attitudes and practices concerning salt intake, and estimated sodium consumption among Jamaican adults: a cross-sectional study

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Objective: To investigate whether having non-communicable disease multimorbidity is associated with knowledge, attitudes and practices concerning salt consumption (KAP-SC), or estimated sodium consumption (SC), among Jamaican adults.
Methods: Trained interviewers administered a questionnaire on self-reported health conditions and knowledge, attitudes and practices regarding salt consumption in a nationally representative survey of Jamaicans ≥18 years. Multimorbidity was defined as reporting ≥2 of the following conditions: hypertension, heart disease, stroke, diabetes, hypercholesterolemia, asthma, sickle cell disease, kidney disease, cancer. KAP-SC was assessed from scales created from the questionnaire. Daily sodium consumption was estimated from spot urine samples using published formulae. Logistic regression was used to explore associations between multimorbidity, KAP-SC, and estimated SC. Estimates were weighted for survey design..

Results: Data from 980 participants (380 males, 600 females; mean age 40.8 years) were analysed. Prevalence of multimorbidity was 15.9% (95%CI 14.5%-17.5%) and increased with age (2.5% for 18-34 years vs 52.7% for ≥75 years). Prevalence was higher in women (20.3% vs. 11.1%, p<0.001), rural residents (19.4% vs. 14.7%, p=0.012) and the less educated (<high school (HS) 42.7% vs. HS 14.4% vs. >HS 8.5%, p<0.001). In sex-specific multivariable models adjusted for sociodemographic variables and other KAP-SC indices, higher consumption of minimally processed foods (OR 0.89 [95%CI 0.79-0.99]) and preference for low salt diet (OR 0.38 [95%CI 0.19-0.77]) were associated with lower odds of multimorbidity in men. Among women, odds of multimorbidity were higher with higher scores indicating limiting salt intake (OR 1.54 [95%CI 1.18-2.01]), and lower with more intake of ultra-processed foods (OR 0.88 [95%CI 0.84-0.93]). There was no association between multimorbidity and SC knowledge or estimated SC. .
Conclusion: Multimorbidity was not associated with SC knowledge or estimated SC, but there were sex-specific associations with SC attitudes and practices. Public health interventions addressing KAP-SC among people with multimorbidity are urgently needed.

O-83
Post Campaign Evaluation of Knowledge and Attitudes towards Octagonal-Front-of-Package (FOPWL) Warning Labeling in Barbados

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Objective: To conduct a post-campaign evaluation assessing levels of public support for health policies, specifically for Octagonal Front-of-Package Warning Labels (FOPWL).
Methods: Evaluation targeted Barbadians of both sexes and socio-economic status: A-C (Upper/Middle/ Low), 18–65-y, including parents/guardians/caregivers of school-aged children under 16 years, policymakers: government officials, technocrats, politicians, political advisors. A survey with approximately 30 questions was administered by trained individuals contracted by Hope Caribbean. Sample size 602, the overall results projectable +/- 4% at the 96% confidence level (CI). Median interview was 45 minutes, data collected Aug 15th - Sept-15th, 2024. Sample excluded those who work in: advertising, tobacco, junk foods, sugary drinks, market research & health.

Results: Overall, 93% supported clear Octagonal FOPWL to warn against unhealthy ingredients 63% responded that labels would help eliminate the difficulty of identifying packaged food as healthy or unhealthy. Additionally, 82% reported having read the nutritional label on the back, and 81% on the front of ultra-processed foods and drinks; those aware of campaign ads were more likely to do so. Half (50%) agreed that the current nutritional information helps them avoid Ultra-Processed Products (UPPs). Those aware of campaign found it difficult to say the same. Most parents (92%) were concerned about health risks of their children consuming UPPs high in sugar, sodium and fats. Similarly, 92% of parents expressed concern about the health risks of their children consuming ultra-processed products.

Conclusion: There was a strong call to action, with most respondents expressing support for government intervention in implementing Octagonal FOPWLs on products, and with 90% supporting campaigns that advocate such measures.

O-84
The Relationship between Maternal Body Composition and Breastmilk Volume Intake

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Objective: To use the deuterium oxide dose-to-mother technique (DTM) to explore the relationship between maternal body composition and breastmilk volume intake

Methods: Mother-infant dyads were recruited and consented to participate in a breast milk intake study, using the International Atomic Energy Agency (IAEA) stable isotope deuterium oxide dose-to-mother technique. Deuterium oxide (30 g) was only administered to the mothers on day 0. Saliva samples were collected from the mother-infant dyads on 7 days (Day 0,1,2,3,4, 13, and 14). On day 0, maternal weight, infant's weight and length were measured. On day 14, the infant's weight and length were repeated. Fourier Transform Infrared Spectroscopy (FTIR) measured deuterium oxide enrichment. The amount of human milk consumed by the infant, the infant's water intake from sources other than human milk, and the mother's body composition were calculated.

Results: There were 92 DTM studies during the study period. Of these studies, 78 (85%) satisfied IAEA quality assurance criteria. The prevalence of exclusive breast feeding in the sample was 52.6 %. There was substantial agreement between the classification of exclusive breast-feeding by the DTM method and by questionnaire (agreement 76.9%, kappa 0.54, p<0.001). There was no significant association between maternal body fat percent and fat free mass with breast milk volume intake. However, there was a significant positive association of maternal body fat mass with breastmilk intake adjusting for feeding mode, duration of breastfeeding postnatally, maternal age and parity. For each 1 kg increase in body fat mass, the amount of breast-milk consumed increased by 5.5 g/d.

Conclusion: Maternal fat mass was positively associated with breast milk volume intake. Further research is needed to gain a more in-depth understanding of the factors affecting breastfeeding practices in Jamaica. Nonetheless, policy makers and public health educators should pay close attention to maternal nutrition.

O-85
Predicting the effect of phytoconstituents from Cocoa on human health

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Objective: To identify target proteins of Cocoa's phytoconstituents and elucidate biological processes and biochemical pathways that may impact human health.

Methods: Cocoa's phytoconstituents were identified from the literature and aligned with unique identifiers in PubChem. Molecular modelling was performed in ChEMBL to predict target proteins and return standardized values indicating the strength of the predicted interactions. The R programming language utilized the package PCSF and prior knowledge from STRING to identify affected protein networks. Utilizing the protein database UniProt and the gene annotation database GO, the R package clusterProfiler extracted biological processes that were significantly (p<0.0001) altered.

Results: Twenty-six phytoconstituents had unique identifiers. ChEMBL generated 1,247 unique phytoconstituent-protein interactions with a mean (±SD) standard value of 5.46±1.08. 98.9% were single proteins, three hundred (24.0%) were G-protein-coupled receptors (GPCRs), 59 (4.7%) were protein kinases, 30 (2.4%) were nuclear receptors and 849 (68.1%) were classed as "other". The PCSF algorithm generated a network containing 112 Terminal Nodes, 132 Edges and 14 Steiner Nodes. ClusterProfiler refined this into subnetworks, mapped the target proteins to UniProt and using the GO database of gene annotations, returned 10 significantly (p<0.0001) altered biological processes with GO Terms. GO Terms relate the action of gene products and the biological processes involved. These were one-carbon metabolic process, dopamine uptake, synaptic transmission, dopaminergic catecholamine uptake, estrogen metabolic process, catecholamine transport, dopamine uptake involved in synaptic transmission, catecholamine

uptake involved in synaptic transmission, norepinephrine transport and extracellular matrix disassembly. Seven of these processes imply effects on synaptic function and cognition and may be associated with the pathophysiology of neurodegenerative disorders.

Conclusion: Phytoconstituents found in Cocoa may impact biological processes that promote cognitive function. The bioinformatic procedures employed represent steps that can evolve into bioinformatic "pipelines" to query the effect of phytoconstituents on biological processes in human health.

O-86
"Eat what you grow, grow what you eat": a Caribbean population's beliefs about the relationship between diet, food systems, and mental health

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Objective: To examine the beliefs and perspectives on the relationship between diet, food systems, and mental health in a sample of St. Lucian adults.

Methods: This qualitative study is nested in the Global Community Food for Human Nutrition and Planetary Health in Small Islands (Global CFaH) project. In 2024, fifteen online food system stakeholder interviews and five in-person focus groups of laypersons (stratified by age and gender) were conducted. The convenience sample of recommended stakeholders were recruited via email, and focus group participants were recruited via email from a pool of existing participants of a survey from the Global CFaH study. Analysis followed a mixed deductive and inductive thematic approach using Dedoose software.

Results: Participants highlighted the significant impact of diet, food security, food sourcing on mental health and wellbeing. Participants linked unhealthy diets of processed or chemically-treated foods to poor mental health, and two mechanisms of action emerged to explain these perceived effects, both moderated by physical health. Food insecurity, exacerbated by reliance on imports and insufficient local production, was considered a key threat to mental health by leading to anxiety and worry. Local foods, in particular, were valued for their mental health benefits due to their perceived higher nutrient quality and lower chemical content, but stigma against local foods as 'poor man food' persists. On a wider level, more rural agricultural-based communities were perceived to have better mental health due to access to fresh food and the meditative and spiritual benefits of farming the land.

Conclusion: St. Lucian perceptions of the interconnectedness between diet, food security, and local food production with mental health at individual and community levels highlight opportunities for holistic interventions to improve both physical and mental health. Multifaceted interventions should prioritise the expansion of nutrition education to include mental health benefits alongside the promotion of local food production.

O-87
The Impact of Sleep Quality, Dietary Habits, and Stress Levels on Migraine Prevalence Among Medical Students

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Objective: This study aimed to assess the prevalence of migraines and identify correlations with sleep quality, migraine-triggering food intake, and stress levels among third-year medical students at the U.W.I Faculty of Medical Sciences, St Augustine Campus.

Methods: A sample of 283 third year medical students, aged ≥20 years, were surveyed using stratified random sampling. Migraine prevalence, socio demographic variables and associated levels of sleep, food habits, and stress were collected using the ID migraine test, Sleep Quality Scale, and Perceived stress scale via a self-administered e-questionnaire. Spearman correlation was utilized for the associated factors and levels of migraines.

Results: The study revealed a 59.4% prevalence of migraines, with the majority being females (61.1%), aged 20–25 years (44.9%), and of mixed ethnicity (44.9%). Fifty four point one (54.1%) percent reported a family history of migraines. Among migraine sufferers, 62.5% had severe migraines (mean score: 9.35 ± 1.997). Significant weak to moderate correlations were observed between migraine levels and frequency of Migraine Triggering Food (MTF) intake ($r = 0.305$) and sleep quality ($r = 0.202$), as well as between frequency of MTF intake and sleep quality ($r = 0.313$) and stress levels ($r = 0.445$). A moderate correlation was noted between stress levels and sleep quality ($r = 0.355$), while stress levels showed a weak, non-significant correlation with migraine levels ($r = 0.136$). Associations with age ($\chi^2 = 8.865$, $p = 0.031$), ethnicity ($\chi^2 = 21.024$, $p < 0.001$), and family history ($\chi^2 = 17.333$, $p < 0.001$) were also observed.

Conclusion: The results suggest that migraine-triggering food intake and poor sleep quality are strong contributors to migraine occurrence and severity among university students. Stress, although correlated, had a weaker association with migraines. Given the significant impact of migraines on academic performance, interventions addressing diet and sleep patterns, along with stress management, are essential for improving student well-being.
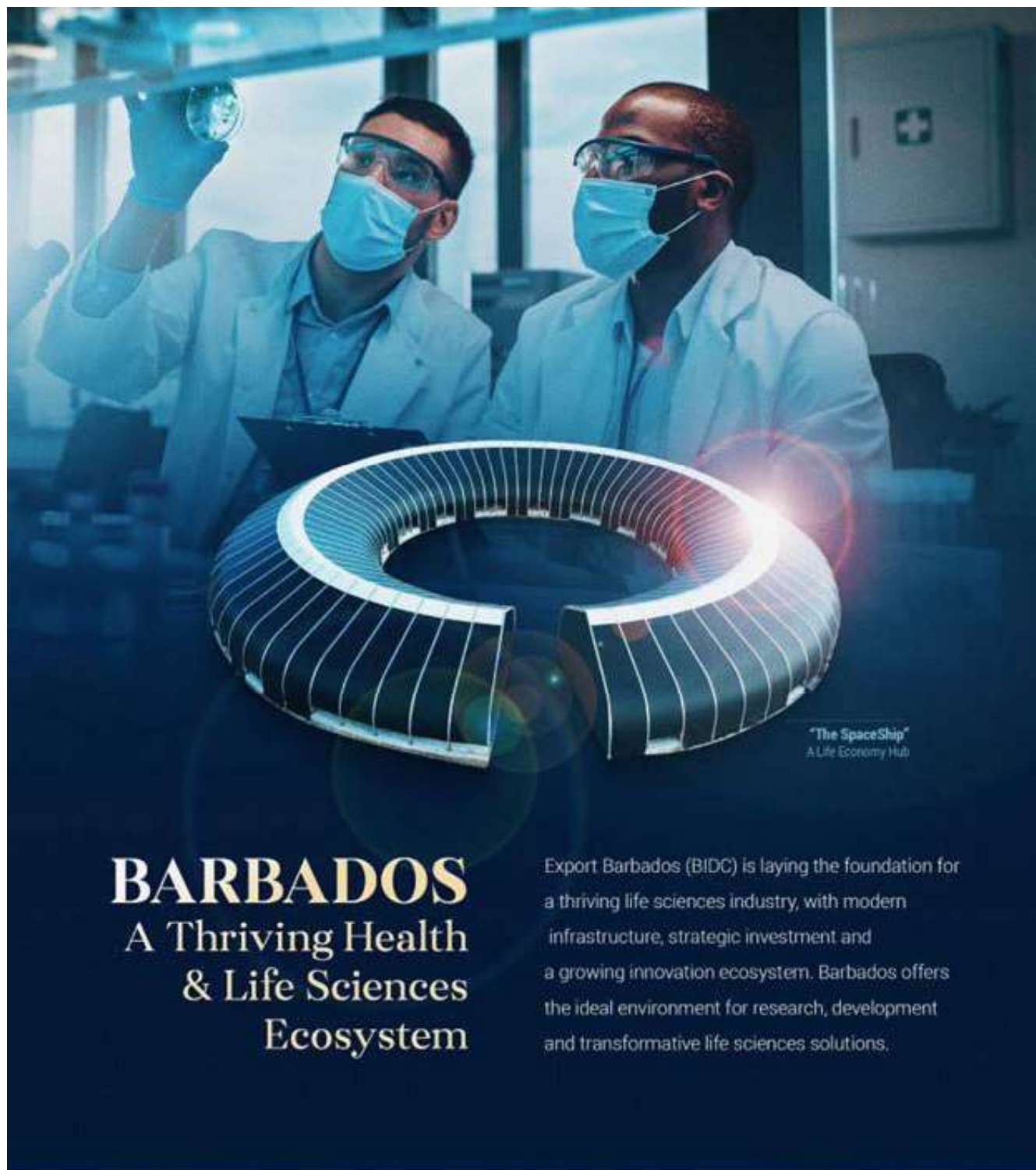
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