

Oral Abstracts

O-02

Impact and mental health mediation of intimate partner violence on child behaviour in Trinidad and Tobago

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Objective: Intimate partner violence (IPV) is known to have detrimental effects on persons directly experiencing this form of abuse, and on their children. Emerging research also indicates that a parent's experience of IPV may operate through various intermediary pathways to influence children's well-being. However, there is still no established model to explain these underlying mechanisms. This study is one of few assessing the extent to which maternal mental health symptoms mediate the association between maternal exposure to IPV and child behavioural problems.

Methods: Using data from a 2017 population-based, cross-sectional survey, we performed logistic regression to assess the impact of lifetime maternal IPV exposure on child behavioural problems (withdrawal or aggression). We used generalized structural equation modelling to test the mediation effect of both maternal depression and anxiety symptoms on the association between maternal IPV exposure and child behavioural problems.

Results: Over half (55%; 95% CI, 48.3-60.8) of mothers had ever experienced IPV and 12.5% (95% CI, 8.0-19.1) of children in the sample displayed behavioural problems as reported by their mothers. Mothers who ever experienced IPV were almost three times as likely to report their children displaying behavioural problems compared to mothers who had never experienced IPV (OR=2.81; 95% CI, 1.08-7.33). Additionally, we found that both maternal depressive symptoms and maternal anxiety symptoms partially mediated the relationship between maternal exposure to IPV and child behavioural problems.

Conclusion: Our results suggest that the effect of maternal IPV exposure on child behavioural problems is mediated by maternal depression and anxiety symptoms. These findings can be used to design future, longitudinal studies on the effects of IPV and can help to inform interventions aimed at improving both parent and child well-being in the Caribbean, where IPV is highly prevalent and where no similar analysis has been performed to date.

O-03

Trends in New Psychiatric Diagnoses in Persons During Peri-pandemic Periods at the Georgetown Public Hospital Corporation.

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Objective: To undertake a descriptive survey of individuals with newly diagnosed psychiatric disorders at the GPHC Psychiatry Outpatient Clinic during the peri-pandemic period 2019-2021.

Methods: This retrospective observational study was conducted assessing the period March 11th, 2020, to May 6th, 2020, with controls from the same period in 2019 and 2021. A total of 224 charts were reviewed. Variables extracted included patient demographics and psychiatric diagnoses.

Results: The average number of patients in 2020 (M=5.6, SD=2.9) was lower compared to both 2019 (M=11.9, SD=4.4) and 2021 (M=10.5, SD=3.4), with mean differences of -6.25 (p=0.007, 95% CI[-10.955,-1.545]) and -4.875 (p=0.041, 95% CI[9.580,-0.170]) respectively. Substance Related and Addictive Disorders (26.3%, 33.3%, 28.6%), Schizophrenia Spectrum and other Psychotic Disorders (22.1%, 28.9%, 11.9%) and Depressive Disorders (23.2%, 8.9%, 15.5%) represented the most prevalent new psychiatric diagnoses given to patients in 2019,2020,2021 respectively (p=0.021). In 2020 more men 73.3%) were given new psychiatric diagnoses than in 2019 (55.8%) and 2021 (46.4%) (p=0.013).

Conclusion: During the initial stages of the pandemic new psychiatric presentations decreased when compared to similar periods in 2019 and 2021 likely due to the lockdown measures imposed by Governments, the infection and death rates, hospital limitations to 'emergency cases' only and fear of contamination.

O-04

A retrospective study of central nervous system infections among patients admitted to the department of Internal Medicine, Georgetown Public Hospital Corporation

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Objective: To determine the incidence and distribution of CNS infections among patients admitted to the internal medicine department, GPHC along with the demographic characteristics, comorbidities, presenting signs and symptoms, diagnostic criteria used and outcomes in these cases.

Methods: A retrospective descriptive analysis was conducted on patient chart and microbiologic data extracted for 71 patients admitted over a two-year period. Incidence was calculated and the IBM SPSS analytical software was utilized for data analysis and identifying statistically significant relationships.

Results: The incidence of CNS infections was 0.673% (673/100,000) with bacterial/viral meningitis being the most common. Male to female ratio was more than 2:1 and Afro-Guyanese accounted for the majority of cases. HIV Infection was the most common comorbidity and altered mental status was the most common presentation. For the lumbar punctures done: there was no growth in more than 80% cases and for imaging studies done: ring-enhanced lesions, meningeal enhancement, and cerebral oedema were each noted in 1 out of 5 cases or less. In terms of outcomes, almost a third of patients died. Of those that survived: 30% remained with neurologic deficits, while 70% recovered completely.

Conclusion: Incidence of CNS infection in this study was 0.673%, more than twice the reported global incidence of 0.389%. Given that HIV Infection is the single most common comorbidity identified in patients hospitalised with CNS infections, it is imperative that all adults with a suspected diagnosis of CNS Infection be tested for HIV.

O-05

A retrospective study of five-year survival rates of women diagnosed with and treated for cervical cancer between 2012 and 2016 at the Georgetown Public Hospital Corporation

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Objective: To determine the five-year survival rate of women who were diagnosed, staged and treated for cervical cancer at GPHC

Methods: A retrospective cohort study of patients' charts from the Georgetown Public Hospital Gynaecology Out-patient Department was conducted for 2012 to 2016. All patients diagnosed at the hospital with cervical cancer during the study period were included in analyses. Survival data was extracted from charts or using contact information provided in charts if there was loss to follow-up. Additional data collected included demographic features, disease stage, presence of comorbidities, smoking and alcohol habits, and treatment received. Frequency and survival analyses were conducted using Stata IC 16.

Results: The mean age of study participants was 54 years, and there was a predominance of Indo-Guyanese (34.1%) followed by Afro-Guyanese (29.5%). Of the patients 20.5% had a pap smear done and 13.6% had visual inspection with acetic acid done prior to diagnosis. In terms of diagnosis, 11.4% presented with stage 1 disease, 50% with stage 2, 31.8% with stage 3 and 6.8% with stage 4. The five-year overall survival rate was 38.6%. Survival rates ranged from 60% in stage 1 disease to 0% in stage 4 disease. A regression model showed no association was between survival and disease stage when controlling for comorbidities, treatment received and age. Increasing age was the only significant predictor of dying from cervical cancer (OR 1.06, 95% CI 1.01, 1.10).

Conclusion: Survival decreases with increasing age, indicating a need for patient education and early diagnosis through regular screening programmes to increase five-year survival rates.

O-06

ADHERENT Study: Assessment of type 2 Diabetes mellitus pharmacological adherence in primary HEalthcare facilities Regarding social INequalities aNd Technology use

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Objective: To investigate the socioeconomic and technological factors influencing pharmacological non-adherence among patients diagnosed with type 2 diabetes mellitus (PLWT2DM) adults in public and private primary health-care clinics in Barbados.

Methods: A quantitative method was used as a sequential study following a qualitative study to strengthen the theoretical links. Patients (n=276) from both private and public

primary healthcare, were either sent a link via email to the REDCap website to complete the questionnaire online or issued a paper copy. The paper copies were entered on the REDCap website.

Results: Adherence was significantly associated with financial challenges (38.5%), psychological factors (58.3%), when patients ran out of medication (58.7%), when they were prescribed too many medications (65%), when side effects of the medication was experienced (77.4%), when patients had concerns that medications are harmful (69.8%), due to forgetfulness (96.6%), having preference towards alternative remedies (63.6%) and the patient's personal beliefs (40.5%). Smartphone technology with pill reminders and health education was found to improve adherence behaviour.

Conclusion: A holistic approach is needed to improve adherence among diabetes mellitus patients based on the factors related to social inequalities, behavioural factors, barriers to adherence such as psychological factors, especially anxiety and depression, and personal preferences. Future research to investigate how the gaps causing non-adherence can be narrowed through smartphone technology with features inclusive of pill reminders and health education is needed.

O-08

Studies on the zoonotic potential of sars-cov-2 from dogs and cats

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Objective: SARS-CoV-2 is highly contagious virus known to infect humans and animals. Numerous reports have shown that the virus infects humans, wildlife, domesticated and farm animals. Zoonotic variants of the virus have shown to have risen and may have implications for global health. The aim of this study was to determine if dogs and cats in households with and without human SARS-CoV-2 infection might act as potential reservoirs for SARS-CoV-2.

Methods: This cross sectional study was conducted from August 2020 to April 2022 among dogs (144) and cats (22) in households (17) with and without (79) cases of human SARS-CoV-2 infection in Grenada. Nasopharyngeal and oropharyngeal swabs were taken from the dogs and cats to detect SARS-CoV-2. Samples were stored on ice and transported to the Laboratory to process using qRT-PCR, targeting the E and RdRP genes respectively

Results: 16 (11%) out of 144 dogs and 5 (23%) out of 22 cats tested positive for SARS-CoV-2. The positive animals were found in 17 (18%) of households with positive individuals. No positive pets were detected in households without COVID-19. Significant (p -value < 0.0001) and a large positive association (effect size $\phi=0.64$) was found to exist between humans with COVID-19 and their pets. Sequence analysis of positive pets were 100% identical to SARS-CoV-2.

Conclusion: This study confirms the detection of SARS-CoV-2 infections in cats and dogs in Grenada. All infections in pet animals had a SARS-CoV-2 positive owner. Human and pet animals were positive synchronously, but the route of transmission from humans to their pets or their pets to humans remains equivocal. A review of the available global literature on the potential for zoonotic maintenance or transmission to humans from pets will be presented.

O-09

Patterns of interpersonal violence injury location by weapon type

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Objective: To examine the distribution of injury locations of interpersonal violence injuries based on the weapon used.

Methods: The Caribbean Firearms Study was conducted in 2022 by the George Alleyne Chronic Disease Research Centre, Small Arms Survey and CARICOM Implementation Agency for Crime and Security (IMPACS). The study retrospectively reviewed 298 medical records of interpersonal violence injuries from 2019, in Barbados, Bahamas and Jamaica. The patient data from this study was further analysed to assess the distribution of the anatomical injury locations seen as it relates to the weapon used

Results: The data reveals that there is predominance of lower extremity and pelvis injuries caused by firearms, head and neck injuries caused by blunt weapons and abdominal and chest injuries caused by sharp weapons. Almost a third of patients had injuries in more than one anatomical location.

Conclusion: These findings correspond to prior studies on the common locations for firearm, blunt and sharp weapon injuries. These patterns of injuries seen with particular weapons, can help to explain resource utilisation required for treatment. We intend to undertake further analysis on the data to determine how location of injury as well as severity of injury influences the medical resources used, patient disability outcomes and the out-patient resources required.

O-10

Women's attitudes towards domestic violence in Guyana: A time trend analysis.

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Objective: To describe trends in women's attitudes towards domestic violence in Guyana.

Methods: Data from three nationally representative surveys conducted from 2009 to 2019 were evaluated. The prevalence of women who believed a husband was justified in beating his wife if she: goes out without telling him, neglects the children, argues with him, refuses sex with him, and burns the food were the main indicators we analyzed. We stratified the analyses by geographic location, ethnicity, and wealth quintile index. We calculated the slope index of inequality and the concentration index of inequality to assess differences in women's attitudes justifying domestic violence over time. We estimated the average absolute annual change of each outcome using a weighted variance regression.

Results: The overall prevalence of women who believed a husband was justified in beating his wife for any of the five reasons declined from 16.3% (95% CI: 15.8-16.7) in 2009 to 10.8% (95% CI: 9.1-11.2) in 2019. This equated to an average annual reduction of -0.53% (p=0.004), a significant downward trend. Important differences were noted between subgroups, with the poorest women and those living in rural areas showing the greatest disparities. The slope index of inequality for the combination of the five reasons decreased from -20.02 in 2009 to -14.28 in 2019. The concentration index remained relatively constant over time.

Conclusion: Guyana experienced diminishing prevalence and inequalities among various subgroups in terms of women's attitudes justifying domestic violence. Nonetheless, justification of domestic violence remains high and additional efforts are needed to reach rural and economically disadvantaged women.

O-11

Masculinities, men's health, and interpersonal violence in the Caribbean

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Objective: To analyze how masculinities in the Caribbean may be contributing to shaping and affecting male mortality and health-related perceptions and behaviors related to interpersonal violence.

Methods: This analysis was compiled based on literature review, analysis of available data, and information gathered through stakeholder surveys and interviews.

Results: Interpersonal violence is the leading cause of death for young men in the Caribbean, with one in every four deaths in the age group 15–34 years caused by interpersonal violence in 2019. The distribution of fatal and nonfatal interpersonal violence is not equal: young black males and poor, lower-educated males are disproportionately affected. According to Caribbean scholars, Caribbean masculinities are shaped by the history of the Caribbean characterized by colonialism, slavery and indentureship and the ethnic, linguistic, and religious dimensions, all with their own power dynamics. Key social determinants of masculinity in the Caribbean, including race/ethnicity, education and income, gender, and sexual identity. The analysis identifies a hegemonic Caribbean masculinity characterized by aggression, hypersexuality, risk taking and substance use

Conclusion: Promoting positive masculinities may contribute to reduction of violence-related male mortality and morbidity in the Caribbean. This will require structural and multi-sectoral approaches targeting individuals, families, and communities and strategic investments to promote, support and improve opportunities for males to adopt and express positive masculinities and healthy behaviors without fear of repercussions.

O-12

Adverse Childhood Experiences among English-Speaking Caribbean Adults Raised Without Corporal Punishment in the Home

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Objective: Adverse childhood experiences (ACEs) are potentially traumatic events that occur during childhood and increase the risk of mental illness and poor physical health

outcomes. Most research on ACEs has been conducted in high-income countries (HICs). The objective of this study was to provide insights on ACEs in a sample of English-speaking Caribbean adults raised without corporal punishment (CP) in the home.

Methods: Fifty-eight participants completed an online questionnaire that included an adapted version of the Adverse Childhood Experiences Questionnaire (ACE-Q). Thirty-four participants also participated in a qualitative interview that further explored ACEs in a wider context.

Results: From the ACE-Q, 70.5% of participants reported at least one ACE. While parental separation or divorce was the most common ACE (37.9 %), ACEs were also experienced in school and community settings, as illustrated by interview excerpts. Although the item on sexual abuse was excluded from the questionnaire, six participants disclosed experiences during qualitative interviews.

Conclusion: ACEs in the home are prevalent in Caribbean countries, even in populations who were raised without CP in the home. It is possible that our study population, as a self-identified sample who did not experience CP in the home, experienced fewer ACEs than the general population in this setting. This will need to be explored in future studies. Findings from this study indicate that future studies should include assessment of ACEs in the school and community settings, and include standard items on ACEs related to sexual abuse or violence.

O-13

A hungry youth is an angry youth: The exploration of food insecurity and school-based violence among Caribbean youth

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Objective: The purpose of this study was to investigate the relationship between food insecurity and school-based violence among Caribbean youth.

Methods: The study used data from the 2017 Jamaica and 2018 St. Lucia datasets of the Global School-Based Student Health Survey, with weighted samples of 1667 Jamaican students (60% response rate) and 1953 St. Lucian students (77% response rate). Key indicators of school-based violence and food insecurity were recoded as dichotomous variables. Covariates included demographics, substance use, loneliness, and suicidal ideation/attempts. Descriptive statistics and weighted multivariate logistic regression, adjusting for covariates, were conducted using IBM SPSS Version 25 to explore the relationship between food insecurity and school-based violence indicators.

Results: Approximately 27.5% of Jamaican and 28.4% of St. Lucian students reported school-based violence.

While 29% of Jamaican and 30% of St. Lucian students suffered from food insecurity. Food insecurity significantly correlated with violence indicators (Jamaica: p-value= 0.004- 0.001, St. Lucia: p-value= 0.03- 0.001), especially among those aged 15 or younger, males, and those with drug use or suicidal measures. The odds of physical attacks were about 2 times greater for students experiencing food insecurity in both Jamaica (OR=1.802, 95% CI:1.39 - 2.34) and St. Lucia (OR=1.921, 95% CI:1.53 - 2.42). Male students showed significantly lower odds in two school-based violence indicators (physical attacks and physical fights) if they were food insecure. At the same time, substance use and mental health factors were significantly associated with all school-based violence indicators in both samples.

Conclusion: There was a significant relationship between food insecurity and school-based violence among Caribbean youth, highlighting that these issues are still prevalent and need long-term intervention plans. By designing school-based programs that address both issues within a single program, islands can reduce the rates of two major issues that affect youth academic and social outcomes, while saving time and resources from a combined program.

O-14

Examining the context within which interpersonal violence injuries occur in the three country sites – The Bahamas, Barbados and Jamaica.

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Objective: To examine the context within which interpersonal violence injuries occur in the three country sites – The Bahamas, Barbados and Jamaica of the Caribbean Firearms Study.

Methods: In 2022 through a collaborative effort by Small Arms Survey, CARICOM Implementation Agency for Crime and Security (IMPACS) and the George Alleyne Chronic Disease Research Centre the Caribbean Firearms

Study was conducted. Data was obtained through a retrospective review of 298 medical records of persons who received injuries as a result of interpersonal violence in the Bahamas, Barbados and Jamaica from 2019.

Results: Of the 298 medical records which were reviewed, 101, 100 and 97 were from the Bahamas, Barbados and Jamaica respectively. When stratified by gender the results showed that interpersonal violence injuries were higher among males victims 84% (251 cases) than that of female victims (16%). Fighting/argument was the context of the incident with the highest percentage of interpersonal violence injuries in the Bahamas and Barbados - 60% and 37% respectively and second highest in Jamaica- 35% of cases. Robbery also featured among common causes across countries, being seen in 3% of cases in the Bahamas and Jamaica and 12% in Barbados. In a high percentage of cases, the context was not documented, 28% in Barbados and the Bahamas and 50.5% in Jamaica.

Conclusion: These findings align with previous studies that show in most cases the contributing factor to interpersonal violence injuries is usually that of fighting/an argument. By understanding the context in which these incidents occur, the public health approach can be geared toward developing conflict resolution strategies to combat the rising incidence of interpersonal violence in the Caribbean. These findings also provide implications for future research.

O-15

The lived experience of women in Intimate Partner Violence (IPV) relationships in rural communities in Trinidad

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Objective: To explore the lived experienced of women in intimate partner violence relationships, in rural communities in South Trinidad.

Methods: A qualitative, case study research. The 10 participants chosen by snowballing came from the rural communities of south – east Trinidad. Key informant interviews collected the data. Interviews were audio taped, transcribed and subjected to thematic analysis. of participants' experiences. Using the Van Manen's phenomenology, this study explored the subjective meanings.

Results: Four themes identified were (i) Common factors associated with intimate partner violence, (ii) Decision making, (iii) Coping and (iv) Common responses of attitudes and feelings to intimate partner violence. Participants even though they dealt with varying situations that constitute Intimate partner violence, there were commonalities

and similarities in their lived experiences. Abusers insidiously and subtly exerted control and power over participants, who influenced by limited options, decided to stay or return, for instance, lack of support. Decisions led participants to adopt strategies like spirituality to cope with their daily struggles. At times strategies used were extreme in nature. Consequently, participants exhibited common attitudes and behaviours from their lived experiences.

Conclusion: IPV continues to be manifested as total control, power and manipulation with resultant dependency by women on the abusers. While remaining in relationships may be construed as a challenge, for many women, doing so may be associated with strategies for coping , being deliberate in making a decision to maintain the immediate family social network or the development of inertia or living in hope for a change of the experience.

O-16

Self-reported experience of sexual, physical, and verbal violence among university students in Barbados during the COVID-19 pandemic

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Objective: To examine violence reported by university students in Barbados on the National College Health Assessment (NCHA), a standardised measure of tertiary students' health status, behaviours, and use of health systems.

Methods: The NCHA was distributed online to all current students at The University of the West Indies, Cave Hill, from October 2021 to March 2022. Standardized items asked students to indicate their experience of sexual, physical, and verbal violence in and outside of partnered relationships.

Results: 649 students responded to the survey; response rate was approximately 10% (accounting for enrollment fluctuation). The most reported type of violence was verbal abuse by an intimate partner, by almost 15% of respondents. The second most common was verbal threat (not from a partner), which approximately 10% of students had experienced in the past year. Rates of more severe violence, such as forced sexual contact (1.4%) and physical violence (2.3%) from intimate partners, were relatively lower but of serious concern. Women were significantly more likely to experience of unwanted sexual touch outside of intimate relationships.

Conclusion: Our findings document reported sexual, physical, and verbal violence among Barbadian university students. Verbal abuse from partners and verbal threats from others were the most reported experiences, but other types of abuse, including physical and sexual violence, were also reported and are concerning. Sampling limitations and the COVID-19 context limit generalisability of findings. More research to accurately estimate prevalence and elucidate risk factors is needed to inform health and psychosocial support systems for students.

O-17

Quality of Life Among English-speaking Caribbean Adults Raised Without Corporal Punishment—Comparing Quantitative and Qualitative Assessments

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Objective: Most children raised in the Caribbean experience corporal punishment (CP), which increases the risk for poor development and associated behaviors. However, little is known about the health and development of those who were not raised with CP. Current Quality of Life (QOL) is an important outcome to measure among adults who did and did not experience childhood CP. The objective of this study was to describe and compare different assessments of QOL within a sample of Caribbean adults raised without CP.

Methods: This study was part of the No Licks: A Mixed Methods Investigation of Corporal Punishment in the English-Speaking Caribbean study. Fifty-eight adults completed an online questionnaire including questions adapted from the World Health Organization Quality of Life - BREF (WHOQOL-BREF). The WHOQOL-BREF QOL item, "How would you rate your quality of life?", was rated on a 5-point Likert scale (1=very poor; 5=very good). Thirty-four respondents also participated in a qualitative interview, which included the question: "How do you perceive your quality of life?/ How do you view your position in life?". Responses to quantitative and qualitative QOL questions were compared.

Results: In this study, QOL among English-speaking Caribbean adults raised without CP was good. The WHOQOL-BREF QOL item appears to be appropriate and relevant to the population included in this study. Missing middle Likert scale labels may account for the discrepancy in responses given in the interviews.

Conclusion: No participants rated their QOL as very poor or poor ('1' or '2'), 8 participants selected '3' (assigned label neither poor nor good), 18 participants selected '4' (assigned label good), and 8 participants selected '5' (very good). Most (82.35%) of the qualitative responses aligned with the quantitative responses. Future studies will compare this outcome among populations that did and did not experience childhood CP.

O-18

Perceived Safety in U.S. Virgin Islands' Public Secondary Schools: Implications for Student Learning and Overall Student Health

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Objective: To examine the perception of school safety from the perspective of students and staff at secondary public schools in the U.S. Virgin Islands.

Methods: In late spring of SY2022-2023 and early fall SY2023-2024, 306 students attending public secondary schools across USVI and 72 staff teaching at schools with students in grades 7–12, participated in this study. The Safe Schools Survey – secondary students' version (grades 7–12) and the Safe Schools Survey – staff version was used for data collection. SPSS 28 was used for data analysis.

Results: Response rates were modest, at 72% for staff and at 61% for students. Most survey subscales yielded acceptable to excellent reliability ($\alpha=.81$) for USVI study participants. Yet, reliability of some subscales was fair ($\alpha=.61$) to poor ($\alpha=.49$). The findings reveal that most students do not feel a sense of belonging in their schools. Most do not feel that they can go to school staff for support and assistance. They do not feel particularly safe at their schools. Staff felt a higher sense of belonging in their schools (78% vs 26%) compared to students and differed markedly from students in that teachers worked hard to make students successful (91% vs 38%). Staff were more inclined to agree or strongly agree that students engaged in incivility and disruptive behaviors than students perceived. Discrepancies in perceptions of staff and students on approximately 50% of survey items ranged from an 11% discrepancy to a 53% discrepancy. There were significant differences in the mean scores for staff and students on Belongingness ($t=6.6$, $p<.01$) and Incivility/Disruption ($t=-3.0$, $p<.05$).

Conclusion: There may be a need for intervention, particularly around getting an understanding as to why students feel disconnected from their schools, while staff perceive that they are available for and adequately support students.

O-19

The Youth Resilience, Inclusion, and Empowerment Program: Using the Public Health Approach for the Prevention of Crime and Violence in the Eastern Caribbean

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Objective: Y-RIE developed a mixed-methods research design to identify the most prevalent risk factors for crime and violence among youth populations 10–29, understand how risk factors shape youth life trajectories, and inform the development of a risk assessment tool.

Methods: Using a mixed-methods research design, Y-RIE surveyed 4,694 respondents 10–17 and 18–29, with 1,613 from Saint Lucia, 1,601 from Grenada, and 1,480 from Guyana. The results were used to measure the relationship between exposure to risk factors and participation in problem behaviour. We also interviewed 74 justice-involved youth to better understand how young people experience risk factors that shape their life trajectories towards crime and violence. They also completed the survey to compare their responses with those of the general population.

Results: The sample size allowed for a result in a margin of error (MOE) of $\pm 3.5\%$ on a 50/50% indicator with a 95% level of confidence. The findings isolated risk factors most prevalent and common in all countries at the individual, family, and community levels. Negative peer influences and adverse childhood experiences (ACEs) presented as prevalent and common risk factors with the largest effect on self-reported problem behaviour. Using receiver operating characteristic (ROC) curve analysis, Y-RIE developed a risk assessment tool using seven identified risk factors. Y-RIE will apply this Youth Social and Family Environment (Y-SAFE) tool to determine young people who are “at-risk” and eligible for programming.

Conclusion: Isolating prevalent risk factors among Caribbean youth enhances targeted risk-reduction programming that builds specific resilience and protective factors. Y-RIE’s programming will offer soft and other skills and integrate principles recommended to build protective factors and prevent violence across one or more risk levels. Y-RIE will continue to document lessons from the Y-SAFE roll-out and dedicated risk-reduction programming to enhance Caribbean knowledge and practice for stronger evidence-based youth violence prevention.

O-20

The development of Trinidad and Tobago’s first National Clinical and Policy Guidelines on Intimate Partner Violence and Sexual Violence

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Objective: To outline the development process of National Clinical and Policy Guidelines on Intimate Partner Violence (IPV) and Sexual Violence (SV) in Trinidad and Tobago (T&T). The Guidelines aim to support implementation of quality standards for IPV and SV survivors.

Methods: The process included a review of relevant national legislation, policy, and practices, Pan American Health Organization/ World Health Organization (PAHO/ WHO) and other guidance documents on healthcare for women subjected to violence. Evidence-based practices from these documents were included in consultations on their appropriateness in the T&T context. Multidisciplinary teams of frontline health workers from each of the five Regional Health Authorities were consulted in groups of 6-13 participants, with individual follow-up discussions about scale up needs (November 2020 – March 2021). Interviews were held with 6 senior stakeholders from the Ministry of Health, Office of the Prime Minister-Gender Affairs, National HIV/ AIDS Coordinating Committee and 4 civil society agencies. A multidisciplinary team of health policy practitioners and PAHO/ WHO oversaw the process and revisions to the Guidelines based on stakeholder feedback.

Results: Participants provided recommendations to integrate quality standards into routine clinical practice. These were incorporated into National Clinical and Policy Guidelines on IPV and SV, consistent with national policy and evidence-based guidance. The Guidelines incorporate human rights principles and pathways of care including the identification of violence, clinical and psychosocial care, safety planning, referrals, prevention and care during public health emergencies. They were approved by the Ministry of Health on 15 August 2022.

Conclusion: The methods outlined provide a systematic approach to facilitate implementation of evidence-based practices. They underscore the importance of government leadership, consensus building, collaboration and feedback from professionals across health, social service and civil society sectors in addressing violence as a public health issue. Training of trainers has been undertaken to ensure implementation.

O-21

Feasibility and readiness assessment of small island developing states for development and strengthening of primary care registries

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Objective: We aim to understand the contextual factors impacting non-communicable disease (NCD) registry development in four small island developing states (SIDS) by assessing feasibility and readiness of implementing an NCD registry.

Methods: We used a sequential mixed methods design to conduct this study in four SIDS. We examined feasibility and readiness, focusing particularly on resource availability (human, financial, technological), leadership and team engagement and access to knowledge and information resources relevant to registry development. We sent an online survey to NCD stakeholders identified through snowball sampling and followed this with four in-depth focus groups (4–8 persons each) which sought to clarify and contextualize the responses to the quantitative survey. Questionnaire development and qualitative analysis were both guided by the consolidated framework for implementation research (CFIR). Focus groups with each of four countries were recorded, transcribed verbatim and analyzed using thematic content analysis guided by theory-based deductively derived coding framework.

Results: Feasibility scores ranged from 13 to 19 (maximum = 28); readiness scores ranged from 3 to 9 (maximum = 9). Respondents reported there was verbal support from the outer setting (political directorate) for the establishment of registries in territories. The inner setting (ministries and clinics) of several territories had structural deficits including the presence of paper-based health information systems, lack of unique identifiers, lack of registry science knowledge and insufficient number of human resources. Individuals interviewed currently conducted many roles and thus it was unclear from several territories who would constitute the registry team. Despite these challenges, leadership engagement was generally high and respondents described that success of these ventures usually relied on the high value/level of relational connectedness that existed.

Conclusion: There was high interest at central government levels in NCD registry development but infrastructural and human resource capacity barriers likely contribute to implementation deficit in all territories.

O-22

Garbage Codes as Underlying Causes of Out-of-Hospital Deaths in East Trinidad, 2022-2023

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Objective: To determine the proportion of garbage codes reported as the underlying cause of out-of-hospital deaths in East Trinidad.

Methods: Cross sectional study was performed. Data on deaths occurring in the communities of East Trinidad from January 2022–August 2023 were reported by District Medical Officers. Variables collected were the address of deceased, date of birth, date of death, age at death, sex, ethnicity, medical cause of death, post mortem requested and the county at which the deceased body was located. The medical cause of death was coded into ICD11 and classified as garbage codes using WHO Digital Open Rule Integrated cause of death Selection. Data was analysed using Excel® version 2108, SPSS® version 27.

Results: Of the reported 150 deaths, 85 (56.7%) were male and 64 (42.7%) were female. The mean age was 66.3 years (SD19.8 years). The most common underlying cause of death included Cardiopulmonary arrest (11.6%), Brought-in-Dead (10.3%), Diabetes Mellitus (6.8%) and Certified (6.2%). Lack of specificity, abbreviations, use of immediate and intermediate causes of death were noted. Of the underlying cause of death, 70 (46.3%) were garbage codes such as Brought-in-Dead (n=13), Cardiopulmonary Arrest (n=7), Certified (n=9), Indeterminate Natural Cause (n=3), Myocardial Infarction (n=3) and (n<3): Kidney Failure Unspecified, Gun-Shot-Wound, Ischemic Heart Disease unspecified, Malignant neoplasms of colon unspecified, Epilepsy. 31 (44.3%) decedents with garbage codes were subsequently referred for post mortem.

Conclusion: There is a need to improve the quality of data reported as medical cause of deaths to accurately inform on burden of diseases and population statistics in a community. Using automated ICD-11 software can assist public health policy makers in deciphering garbage codes.

O-23

Physical Activity, Sedentary Behavior and Muscle Health: The Tobago Health Study

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Objective: Increased skeletal muscle adipose tissue infiltration (i.e. myosteatorsis) is now recognized as a major risk factor for cardio-metabolic diseases. Therefore, a lifestyle modification that reduces myosteatorsis would be of great public health importance. However, studies examining the association of relevant lifestyle factors with this adiposity depot are lacking, particularly in the Caribbean region. Thus, we examined an association of objective measures of physical activity and sedentary behavior with myosteatorsis among Tobagonian African Caribbeans.

Methods: Analyses were conducted among 355 men (mean age 62 years) and 682 women (mean age 59 years), participants of the Tobago Health Study. Objectively measured physical activity (PA) and sedentary behavior (SB) were collected using Bodymedia SenseWear armbands worn over 7 days. Calf muscle area (cm²) and muscle density (mg/cm³, a marker of intra-muscular fat), were measured using Stratec XCT-2000 scanner.

Results: Women spent less time in light PA (LPA) (144 vs. 270 min/day) and moderate to vigorous PA (MVPA) (14 vs. 41 min/day), but more time in SB (813 vs. 645 min/day) than men (age-adjusted $p < 0.0001$). Muscle density was lower (i.e. more muscle adiposity infiltration) among women (71.7 mg/cm³) compared with men (72.7 mg/cm³; age- and BMI- adjusted $P = 0.037$). After adjusting for age, BMI, smoking and alcohol intake, in both women and men, MVPA was positively associated with muscle density ($r = 0.08$ and 0.18 , respectively, $P < 0.05$) and muscle area ($r = 0.11$ and 0.20 , respectively, $P < 0.05$), while LPA was positively associated with muscle area only ($r = 0.08$ and 0.11 , respectively $P = 0.05$).

Conclusion: Our novel findings indicate that there is significant association between MVPA and myosteatorsis and muscle area among Tobagonian African Caribbeans, while LPA may be relevant for muscle area only. Promoting interventions to increase physical activity intensity may have an impact on lowering myosteatorsis, an adipose tissue depot with an emerging role in cardio-metabolic health.

O-24

Enablers, challenges, and benefits of multilevel intersectoral collaboration for NCD Prevention: The Kalinago in Dominica

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Objective: To assess the perceived enablers, challenges and benefits of a multilevel intersectoral NCD prevention program, Congregants Taking Action Against Non-Communi-

cable Diseases (CONTACT), with the Kalinago community in Dominica.

Methods: Partnerships included local primary care, Kalinago Leaders, Church Leaders, and central government agencies. CONTACT implemented nature gardening, screening for NCD risk factors and health education over 10 months. Evaluation used pre- and post-implementation longitudinal qualitative interviews (n=52, 28 females, 24 males) with Kalinago health advocates, Kalinago congregants, primary care nurses and religious leaders. Interviews were analysed using thematic analysis.

Results: There were 13 themes and 28 sub-themes. Enablers: (i) motivations of RHAs - altruism, community health improvement, enhance knowledge and skills; (ii) value of community engagement- research and primary healthcare partnerships; (iii) community-centeredness- church as a trusted institution and community support; (iv) cultural centeredness - shared cultural identity; (v) faith-based approach-aligning religious teachings with health messages. Challenges: (i) lack of professional recognition for RHAs - professional scepticism and reluctance to share personal information; (ii) resource limitations- insufficient health education materials, insufficient gardening resources, financial & time constraints; (iii) accessibility to programme sites - lack of transportation; (iv) environmental challenges- poor soil quality and lack of water; (v) COVID-19. Benefits: (i) strengthening the healthcare system- reduced nurses' workload, increased access to screenings and referrals for specialist care; (ii) promoting a healthy lifestyle - improved health education, encouraged physical activity, provided access to fresh vegetables, increased vegetable intake (iii) community diffusion- community dialogues, communal sharing, adoption of backyard home gardens.

Conclusion: It is possible to successfully implement multi-sectoral collaboration for NCD prevention with Indigenous communities in the Caribbean. This study highlights potential transformative strategies for NCD prevention in the Kalinago community, which are relevant to both Indigenous and non-Indigenous contexts.

O-25

Assessing the effectiveness of a gym-based childhood obesity management program and the implementation of the addition of a nutrition education curriculum

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Objective: To assess the effectiveness of a gym-based childhood obesity management program and evaluate the

implementation of a six-week nutrition education curriculum as an enhancement to the gym-based program.

Methods: Phase 1 was a retrospective chart review of 238 children aged 6–19 years with obesity who participated in weekly physical activity (PA) sessions from October 2016 to January 2023. Mean body mass index (BMI), body fat percentage (BFP), and systolic blood pressure (SBP) were calculated at baseline. Mean change and 95% confidence intervals for BMI, BFP, and SBP were calculated at three, six, and twelve months. Phase 2 was a Type 3 implementation-effectiveness pilot study that followed 24 children aged 7–16 years who participated in six nutrition education classes. Effectiveness was assessed using paired Wilcoxon signed rank tests for median differences in health behavior surveys (HBS) results and BMI, SBP, and waist circumference (WC). Implementation was assessed using thematic analysis of semi-structured interviews with implementers and participants' parents.

Results: In phase 1, a decrease in SBP of 4.29 mmHg, 95% CI [-8.53, -0.06] over three months in girls aged 12–19 years and a decrease in SBP of 9.91 mm/Hg, 95% CI [-16.82, -2.99] over twelve months in boys aged 12–19 years was observed. In phase 2, there were no significant differences in BMI, SBP, WC, or HBS results. Interviews with participants' parents revealed increased consumption of fruits and vegetables and decreased consumption of ultra-processed foods. Interviews with implementers revealed barriers such as staffing and scheduling conflicts.

Conclusion: The weekly PA sessions were effective in reducing SBP over three months in girls aged 12–19 years and over twelve months in boys aged 12–19 years. The curriculum did not significantly improve anthropometric measurements through six classes but was noted to be acceptable to parents and implementers.

O-26

An assessment of the knowledge, attitudes and practices regarding ultra-processed foods among residents of Trinidad and Tobago: a social media study

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Objective: To assess the knowledge, attitudes, and practices of ultra-processed foods among social media users in Trinidad and Tobago.

Methods: An online self-administered questionnaire was used to collect the data. A snowball sample of participants was selected to represent a quota sample of participants. The sample size was determined by the number of participants who submitted a completed questionnaire (512 respondents). The data was analysed using SPSS version 29.

Descriptive statistics were used to summarize the data. One-way ANOVA was used to test the relationships between the independent and dependent variables.

Results: A total of 512 social media user participated in the study. The overall nutrition knowledge, attitude, and practice scores were 7.09 ± 3.87 , 3.40 ± 1.59 , 12.50 ± 2.96 , respectively. Most participants were somewhat knowledgeable (79–60%) on 8 out of the 11-nutrition knowledge questions and not knowledgeable in 3 out of 11 nutrition knowledge questions. Many individuals ($n=406$, 79.3%) had a favourable attitude, 43 (8.4%) had a negative attitude and 63 (12.3%) moderate attitude. Two hundred and six ($n=206$) participants stated that product packaging has a significant influence on their choice to purchase UPF. There was a statistically significant difference between knowledge and sex (male and female) as demonstrated by one-way ANOVA ($F = 12.56$, $p < 0.001$).

Conclusion: The study revealed that social media users in Trinidad and Tobago have a limited understanding of proper nutrition and generally lack awareness regarding the classification of foods according to their level of processing. However, more research using other sampling methods and larger sample sizes may be required to establish the findings' general validity.

O-27

Primary Care Physicians' Practices and Barriers in Evaluating and Managing Chronic Kidney Disease in New Providence, The Bahamas

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Objective: To assess the practices and barriers in evaluating and managing chronic kidney disease among primary care physicians in New Providence, The Bahamas.

Methods: A cross-sectional study utilizing an anonymous, self-administered questionnaire was given to General Practitioners, Family Medicine, and Internal Medicine physicians after using a simple random sampling approach. Descriptive and inferential statistical analysis was conducted using IBM SPSS software.

Results: There were 119 physicians in this study with Family Medicine specialty area representing 52.1%. Seventy-four (74) physicians reported following CKD guidelines. The most common at-risk groups identified were Diabetes Mellitus (100%), Hypertension (98.3%), and use of nephrotoxic agents (97.5%). The most common diagnostic test used to identify CKD was eGFR (97.5%) and 72.2% of physicians used eGFR alone to stage CKD. Physicians overall agreed (40.3 – 50.4%) they were comfortable in diag-

nosing and managing CKD and its complications except for bone disorders (43.2%) and metabolic acidosis (34.7%) where responses were neutral. Physicians were neutral in having tools/resources to help them manage bone disorders (35.3%) and metabolic acidosis (31.9%) and disagreed to having educational tools for patients to understand bone disorders (32.2%) and metabolic acidosis (32.8%). Physicians agreed-strongly agreed with 12 of 13 perceived barriers, and there were 26 unique barriers expressed (8 patient-level, 7 provider-level, 11 systems-level).

Conclusion: Deficits in the evaluation and management of CKD, and numerous barriers to CKD care were discovered. Recommendations include the development of a national CKD guideline, local CKD continuous medical education seminars, and public health campaigns on CKD education.

O-28

Cancer burden in Tobago, West Indies

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Objective: To determine the cancer burden in the island of Tobago West Indies and to develop a cancer registry for the island of Tobago.

Methods: This was a retrospective study. Cancer diagnosed during the period 2018–2023 at the department of Pathology at the Scarborough General Hospital were collected with their demographics. All the surgical specimens received in the histopathology laboratory were examined and those diagnosed with cancer formed the basis of this study. The total number of surgical specimens received was 6204 and the total number of cancers diagnosed was 742, which accounted for 11.9% of all surgical specimens received.

Results: Prostate (215), Breast (181) and Colorectal (91) carcinomas were the most common cancers diagnosed during the study period. Female gynecological cancers; endometrium, cervix and ovaries accounted for 58.7%, 29.7% and 11.6% of all gynecological cancers respectively.

Conclusion: In Tobago, prostate cancer had the highest prevalence among males and breast cancer had the highest incidence among female. Endometrial cancer was the second most common cancer in females. Colorectal cancer was also prominently featured in this study being second and third most common cancer diagnosed in males and females respectively. Cancer screening should be directed towards its early detection. There is a need for a cancer registry on the island, so that health agencies can plan oncology policies specific to the needs of this population.

O-29

The trend of stroke hospitalizations in the Academic Hospital of Paramaribo by sociodemographic and geographical differences from 2018 to 2021: a retrospective study.

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Objective: This study aims to analyze the trend by sociodemographic factors and geographical differences for stroke hospitalizations over the period 2018 to 2021 at the Academic Hospital Paramaribo (AZP), This is important to identify vulnerable populations in order to inform resource strategies.

Methods: This retrospective study, conducted with data from the AZP, Suriname's largest hospital, analyzed stroke admissions (ICD 160-169 Code) from January 1, 2018, to December 31, 2021. The investigation included sociodemographic factors (age, gender, ethnicity) and geographical differences (across 10 districts), employing the one-way ANOVA (numeric data) and Chi-square tests (categorical data) for statistical analysis.

Results: A total of 3707 stroke hospitalizations were analyzed across four years. There was a significant decrease in the number of hospitalizations across the four years ($F(3,287,419)=1.9, p < 0.01$). The mean age of patients admitted to the hospital was similar across the four years (63 ± 14.6 years), ($F(3,3703)=1.8, p=0.13$) and there was a similar hospitalization rate for men and women ($x^2(3,3707)=7.52, p=0.057$). More people from the coastal area were admitted compared to the rural areas ($x^2(30,3707)=45.02, p=0.038$). Compared to other ethnic groups, more Hindustanis were admitted ($x^2(24,3707)=39.64, p=0.023$).

Conclusion: Our results have demonstrated an increasing trend in the rate of Hindustanis from the coastal area admitted for stroke followed by the Creoles as the second largest ethnic group. This study has compelling importance for prevention efforts and suggests more research including sex-specific factors as well as the impact of the covid pandemic.

O-30

A Research Agenda to Support Evidence Generation and to Inform Policy Decisions on Vector-borne Diseases in the Caribbean

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Objective: To develop the Caribbean Vector-Borne Disease Network Research Agenda to address health priori-

ties and assist in planning and policy formulation towards the improvement of the health status in CARPHA member states.

Methods: The development of this agenda consisted of a multi-stage process, including a rapid review of existing evidence, qualitative consultations with global and regional experts, and the prioritization of the research domains and themes by the Caribbean Vector-Borne Disease Network Steering Committee.

Results: The findings revealed the complex interplay of factors influencing the prevalence and management of vector-borne diseases (VBDs) in the Caribbean. The research identified the region's varied responses to VBDs, underscoring the need for strategies that are adaptable to different political and social environments. The agenda highlighted key assets and strengths, such as regional collaboration, expertise in vector control and community engagement. It also identified and prioritized 11 research domains and 38 corresponding themes aiming at improving knowledge, prevention and control through effective strategies, strengthening surveillance for early detection, monitoring, and response, supporting capacity building through training programs and workshops, as well as promoting collaboration and information sharing among stakeholders to address VBDs collectively. Specific recommendations emphasized the importance of data-driven approaches and the integration of health strategies with environmental management, especially in the context of climate change and its impact on the spread of VBDs. The research agenda also stressed the need for better resource allocation and the development of a robust health infrastructure to combat VBDs effectively.

Conclusion: Developing a comprehensive and tailored research agenda for VBDs in the Caribbean is crucial for addressing the challenges these diseases pose in the region. By focusing on key research priorities and fostering collaboration between public health institutions and academia, CARPHA seeks to improve public health outcomes, enhance vector control efforts, and mitigate the impact of VBDs in the Caribbean region.

O-31

The impact of the coronavirus disease 2019 pandemic on stroke hospitalizations in the Academic Hospital of Paramaribo with data from 2018 to 2021: are there reasons for concern?

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Objective: This study aimed to compare the number of stroke hospitalizations during COVID-19 pandemic (2020–2021) to comparable data from preceding years before COVID (2018–2019) admitted to the Academic Hospital of

Paramaribo (AZP). The findings from this study may show which groups are more vulnerable and were disproportionately affected and may aid in the development of tailored stroke health care.

Methods: Our database consisted of the number of new stroke hospitalizations and was restricted to the period of 1st Januari 2018 – 31st December 2019 (pre-COVID period) and comparable months in 2020 to 2021 (during COVID). Moreover, sociodemographic data (age, sex, ethnic and geographic background) was collected. The T-test (numerical data) and Chi-square test (categorical data) were used for statistical analysis.

Results: The number of stroke hospitalizations decreased (3%) during the pandemic ($t(3705)=-104.62$, $p<0.00$). The mean age of patients admitted pre-COVID (62.9 ± 14.7 years) was similar to those admitted during COVID (63.9 ± 14.4 years), ($t(3705)=-2.26$, $p=0.23$). Moreover, there were consistently more men admitted than women in AZP (17% before COVID versus 8% during COVID) with an increase of women admitted during COVID ((2.6%), ($x_2(1,1)=7.33$, $p<0.00$). More Asians were admitted (49.7%) compared to African (34.7%) and Other (15.6%) ethnic groups during COVID ($x_2(2,2)=9.16$, $p=0.01$). The people admitted to the hospital came from similar districts when the pre-COVID period was compared to the COVID period ($x_2(3,3)=5.85$, $p=0.11$).

Conclusion: According to our findings both men and women and people with an Asian background were vulnerable regarding stroke hospitalization during COVID. These groups require personalized interventions.

O-32

Severe Dengue Cases with Multivisceral Failure Admitted to an Intensive Care Unit: A Prospective Study in Martinique

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Objective: Since July 2023, the ongoing dengue epidemic in Martinique has led to over 45,000 diagnosed cases, resulting in nearly 696 hospitalizations across Martinique and Guadeloupe. Among these, 71 severe cases required intensive care unit (ICU) admission due to multivisceral failure, presenting with hematological, cardiovascular, and hepatic impairments. To date, the epidemic has directly caused 13 fatalities in these French Departments of America. This study aims to thoroughly assess the clinical characteristics and complications of severe dengue cases.

Methods: This prospective study was conducted in the medical ICU of the University Hospital of Martinique, including all patients admitted since July 2023 with a confirmed dengue diagnosis. Diagnosis was determined through early tests using gene amplification (RT-PCR) or NS1 antigen detection and late tests for specific IgM and IgG antibodies. Data are presented as median [range] or percentages.

Results: From July 1 to December 10, 2023, 295 patients (140 males/155 females, median age 51 years [range 31-67]) were treated for dengue. Of these, 43% underwent RT-PCR testing, identifying serotype 2 in 100% of the cases. Overall, 114 (38%) required hospitalization, with 26 (20 males/6 females, median age 56 years [range 18 months-77 years]) presenting with severe dengue fever. Among severe dengue cases, 9 patients (35%) had pre-existing conditions, such as sickle cell disease, diabetes, heart failure, chronic alcoholism, and/or epilepsy. Six patients succumbed to complications, including multiple organ failure (33%), refractory hypoxemia (13%), and cerebral hemorrhage (8%).

Conclusion: This study highlights the potential severity of dengue fever. Key indicators of severity include acute hepatitis and significant thrombocytopenia. Despite intensive care efforts, the mortality rate is 30%, emphasizing the need for ongoing research and vigilance to manage severe dengue cases during epidemics.

O-33

The Public Health importance of Detecting Enveloped and Non-Enveloped Viruses in Wastewater

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Objective: Improvement of wastewater surveillance tools aimed at recovery of enveloped and non-enveloped viruses in wastewater to facilitate the implementation of public health emergency programs.

Methods: Composite wastewater samples were collected. The first aliquot (non-flocculated control) was spiked with a known concentration of: 1) *Pseudomonas syringae* virulent phage 6 (Phi 6), an enveloped virus, and 2) the coliphage MS2, a non-enveloped virus. Two Methods were evaluated: Method 1 was an aluminium driven flocculation system that used acidification at pH 3.5 before spiking with the viruses. Method 2 was an aluminium driven flocculation system that used acidification at pH 6.0. Viral RNA was extracted, and RT-qPCR performed.

Results: The average Ct reduction of Phi 6 and MS2 show a higher yield for Method 2 than Method 1: Phi 6 (-2.79 ± 3.16 [CI 95% $-5.95 - 0.37$] Method 1 and 3.45 ± 2.5 [CI 95% $0.92 - 5.98$] Method 2) and MS2 (0.06 ± 3.64 [CI 95% $-3.58 - 3.70$] Method 1 and 3.91 ± 1.67 [CI 95% $2.234 - 5.582$] Method 2). The student's t test found a significant difference at 95% confidence in the recovery of Phi 6 ($p=0.001$) and MS2 ($p=0.02$) between the two methods.

Conclusion: The results indicate that the aluminium concentration with acidification to pH 6.0 before flocculation can successfully be implemented to concentrate and recover both enveloped (like SAR-CoV-2) and non-enveloped viruses for Public Health surveillance.

O-34

An assessment of sputum cultures in patients at the Infectious Disease Hospital in Guyana during the COVID-19 era

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Objective: To investigate the prevalence of bacteria and fungi from sputum cultures, obtained from COVID-19 patients from the Infectious Disease Hospital, and to determine antimicrobial susceptibility patterns.

Methods: A retrospective examination of laboratory records was conducted for 116 patients from March 2020-March 2023. Results from sputum cultures indicated the microorganism identified and antibiotic susceptibility testing (AST) results; and whether the patient was COVID positive or negative. Data were analysed to determine prevalence of bacteria and fungi, susceptibility patterns and to compare the susceptibility patterns to the COVID-19 status of the patients.

Results: A total of 186 isolates were observed, of which 146 (78.5%) were bacteria, 13 (7%) were fungi and the rest were normal flora. There were 58 COVID-19 positive patients and 58 COVID negative patients. Of the 159 identified pathogens, 86 (54.1%) were from COVID positive patients and 73 (45.9%) were from COVID negative patients; 146 (92%) were bacteria and 5 (8%) were *Candida* sp. No antifungal susceptibility testing was done. *Klebsiella pneumoniae*; *Acinetobacter* sp. and *Pseudomonas aeruginosa* were the most prevalent bacteria for both COVID positive and negative patients. In patients positive for COVID-19, *K. pneumoniae* was susceptible to gentamicin (70%) and ciprofloxacin (65.5%); and susceptible to imipenem (41%) for the negative cases. For COVID positive patients, *Acinetobacter* sp. was susceptible to piperacillin-tazobactam (66.7%) and imipenem (50%); and showed susceptibility to ceftazidime (60%) and ciprofloxacin (60%) in negative patients. For

COVID-19 positive patients, *P. aeruginosa* was susceptible to piperacillin-tazobactam (56.5%) and in the negative cases, susceptibility was seen for gentamicin (45.8%) and ceftazidime (45.8%). Pairwise comparisons using Wilcoxon Rank Sum Test showed no statistical differences between susceptibility and COVID-19 status.

Conclusion: Our recommendations include rigorous epidemiological surveillance using our study as a template and sharing our findings with the Infection Control Committee and Pharmacy Department.

O-35

Complementary and Alternative Medicine views and practices for the treatment and prevention of COVID-19 symptoms. A Cross Sectional Analysis in East Trinidad, 2022.

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Objective: To assess the attitudes and practices of patients with COVID-19 illness on the use of Complementary and Alternative Medicine (CAM) in the treatment of the COVID-19.

Methods: A cross sectional study was designed using an interviewer-administered survey on the use of CAM for the treatment of COVID-19. A convenience sampling was conducted on COVID-19 positive patients who accessed medical care from the primary and tertiary care units of the Eastern Regional Health Authority (ERHA) for the year 2022. Data was collected on demography, comorbidities, types of CAM used, COVID-19 symptoms and attitude to vaccination. Data analysis conducted with Microsoft® Excel® version 2108 and SPSS® version 27.

Results: Of the 200 respondents, the majority (86.5%) used CAM and 72.1% were vaccinated against COVID-19. The commonly used types of CAM were ginger (66.7%) and garlic (45%) and plants (52.9%) such as moringa, neem and fever grass. Less commonly (< 2%) used herbs including cloves and cinnamon and aromatherapy steams involving a variation of oils such as peppermint, eucalyptus or shilling. More than half of the participants believed that CAM helped to prevent/improve their COVID-19 symptoms (56.9%), that CAM helped to shorten the duration of their viral symptoms (50.8 %) and that CAM aided in boosting their immune systems (67.3 %).

Conclusion: The majority of the study population trusted in the use of CAM as a form of treatment for symptoms of COVID-19 illness. Further investigations in to the efficacy of CAM and associated risks of their use and outcome are required.

O-36

Phytochemical screening and Antibacterial potential of *Psidium guajava* (Guava) leaf extract.

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Objective: To screen for the presence of phytochemicals and to determine the antibacterial potential of *P. guajava* leaf extracts.

Methods: Dried pulverised guava leaves were macerated using four solvents: hexane, ethyl acetate, methanol and 95% ethanol; and concentrated using a rotary evaporator. The crude extracts were screened for phytochemicals namely; saponins, alkaloids, tannins, flavonoids, phenols, steroids and terpenoids, according to standard testing procedures. Sterile filter paper discs were soaked in different concentrations of the various extracts. The Kirby Bauer disc diffusion method was done on Mueller Hinton agar seeded with bacteria. Discs were placed in triplicate on each plate. Discs soaked in pure solvent were used as the negative control. The positive controls used were ciprofloxacin, ceftazidime and tetracycline. After incubation, zones of inhibition around the discs were measured in millimeters and the results expressed as mean \pm SD.

Results: All the phytochemical that we screened for were present the guava leaf extracts. Large zones of inhibition were seen with the ethyl acetate extracts especially at 100mg/ml for *S. aureus* (22.0 \pm 6.1mm), *E.coli* (16.3 \pm 0.9mm) and *P. aeruginosa* (15.0 \pm 0.0mm). Zones of inhibition were seen for the ethanolic abstracts especially at 100mg/ml for *K pneumoniae* (22.0 \pm 4.3mm) and *P aeruginosa* (14.0 \pm 1.0mm). Zones for the 100mg/ml extracts against *S. aureus* were larger than those for ceftazidime (19mm), while those of *P. aeruginosa* were larger than those for tetracycline (9mm).

Conclusion: *P. guajava* leaves contains many phytochemicals which in turn posses great antibacterial activity and therefore have great potential as a novel alternative to antibiotic treatment.

O-37

Can we use wastewater surveillance to detect patterns of antibiotic resistant in bacteria?

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Objective: The objective of this study was to determine the presence of antibiotic resistance in *E. coli* for selected antibiotics isolated from wastewater samples.

Methods: Composite wastewater samples (31) were collected between January 2022 and October 2023 via autosampler. *E. coli* was isolated from the samples using lactose fermentation, colony patterns in selective media, and indole, methyl red, Voges-Proskauer, and citrate (IMViC) test. Antibiotic susceptibility phenotypes of *E. coli* from 40 isolates were determined using the standard disk diffusion technique following the Clinical and Laboratory Standards Institute guidelines against 12 different antibiotics.

Results: Eleven (27.5%) of the 40 isolates examined showed resistance to at least one of the antibiotics tested, with 10% demonstrating multidrug resistance. Resistance to ampicillin at 15% was the most commonly resistant antibiotic recorded.

Conclusion: This is the first report on antibiotic *E. coli* resistance in wastewater in Grenada. Similar results were obtained for studies on wastewater on a small community in Georgia, USA, where ampicillin was also the dominant resistance antibiotic recorded. The results show that wastewater can be utilized as a surveillance tool to monitor the occurrence of antibiotic resistant bacteria and may play a critical role in the detection of potential public health threats like superbugs.

O-38

A knowledge, attitudes and practices survey amongst veterinarians in Barbados on antibiotic usage, resistance and antimicrobial stewardship.

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Objective: To identify the knowledge, attitudes and practices amongst veterinarians in Barbados regarding antibiotic usage, resistance and antimicrobial stewardship.

Methods: A cross-sectional study was performed in Barbados between February to June 2023, to identify the knowledge, attitudes, and practices of registered veterinarians in Barbados towards antibiotic prescribing, antibiotic resistance and antimicrobial stewardship using a pre-tested 69-point structured questionnaire distributed via SurveyMonkey. Veterinarians were contacted via email through the Barbados Veterinary Association. Survey questions were developed based on pre-existing questionnaires from surveys conducted in Australia and Nigeria respectively.

Results: 22/44 (50%) veterinarians responded with 8 males, 13 females and 1 undisclosed. Most respondents (88.9%) believed that Barbados has a serious problem with antimicrobial resistance. Only 26% of respondents were knowledgeable regarding antibiotic resistance and antimicrobial stewardship where >10 years of experience culminated in better knowledge. Knowledgeable veterinarians have better attitudes towards antibiotic use. Barriers to implementing antimicrobial stewardship practices included client pressure (72.2%), time constraints (68.9%), lack of awareness of antimicrobial stewardship (59.5%) and understanding antibiotics (50%). Antimicrobial treatment failure was noted by 86% of veterinarians with *Staphylococcus* spp (12) being the most common pathogen. There was a strong correlation between prescribing and antimicrobial susceptibility testing ($r=0.85$), especially among large animal veterinarians ($r=0.92$). Most (71%) respondents did not participate in continuing education sessions on antimicrobial resistance and stewardship over the last 3 years.

Conclusion: Increased education, support and resources are needed for veterinarians in Barbados to implement antimicrobial stewardship practices which will reduce the frequency of antimicrobial resistance in animals.

O-39

Sargassum Invasions and Their Impact on Caribbean Shorelines: Exploring Environmental Violence and Potential Effects on the Human Neurological System

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Objective: To investigate the potential effect of environmental exposure to H₂S gas emitted by decomposing sargassum on the central regulation of breathing.

Methods: This single-center retrospective cohort study is set at the tertiary-care sleep center of the University Hospital of the French Caribbean Island of Martinique. The records of patients having programmed functional polysomnography explorations from 01/01/2018 to 31/12/2022 were retrospectively reviewed and socio-demographic data, medical history and polysomnographic characteristics were collected.

Results: 685 patients were considered (mean age: 55 ± 16 years, 60 % women). Frequent medical histories were systemic hypertension (50.9 %) and diabetes (11.8 %). Related sleep apnea symptoms were as follows: 67.5% nycturia, 24.5% dyspnea, 24% headache. A total of 186 patients (27%) were exposed to sargassum emissions. Compared

with non-exposed patients, exposed ones had similar sleep apnea syndrome risk factors, but had increased levels of central sleep apneic (CSA) events. Multivariate regression retained only male gender and mean H2S concentration over a 6-month exposure period as independent predictors of an increase in CSA events. A minimal exposure length of 1 month generated a significant rise in CSA events, with the latter increasing proportionally with a cumulative increase in H2S concentration over time.

Conclusion: This novel work adds to previous findings by our team describing, in exposed individuals, a symptomatologic presentation (general, respiratory, digestive, neurological, cardiological) suggestive of chronic exposure to average H2S doses <10 ppm, and a risk of early onset of preeclampsia in pregnant women living close (<2 km) to impacted coastlines. Jointly, these studies now constitute a body of evidence strongly supporting a deleterious effect of sargassum-H2S on the health of individuals chronically exposed to low to moderate concentration levels over time. Further multidisciplinary studies targeting the cognitive functions and brain structures of exposed subjects should be considered.

O-40

Determinants of Long-term Mortality in Barbados

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Objective: To investigate determinants of long-term mortality in Barbadian men and women comparing those with and without chronic diseases at baseline

Methods: The study combines data from the Health of the Nation study (2011–2013) with mortality statistics obtained from national records in December 2022. Logistic analyses were used to determine the association between multiple risk factors and all-cause mortality after more than a decade follow-up.

Results: Vital status data was available for 97.32% of participants, with the remaining 2.68% assumed alive. Of the 1233, 127 including 70 (9.2%) women and 57 (12.1%) men died during the 12 years of follow-up, with a mortality rate of 10.58%. Those who died were older, had higher levels of baseline systolic BP and HbA1c. Univariable analyses indicated that age [odds ratio (95% confidence intervals); 1.12 (1.10, 1.14)], hypertension [3.56 (2.4, 5.28)], stroke [3.05 (1.29, 6.64)], high cholesterol [2.68 (1.83, 3.94)], systolic blood pressure (per 1 mmHg) [1.03 (1.02, 1.03)] and HbA1C (%) [1.26 (1.14, were directly associated with mor-

tality. In a multivariable model, hypertension [1.75 (1.05, 2.92)], and diabetes [1.68 (1.01, 2.78)] independent of age (1.12 (1.10, 1.14, per year), sex [1.93 (1.20, 3.11), male] and level of education (tertiary vs primary: 0.55 (0.30, 0.99) were associated with increased risk of death. Education level attainment at the secondary vs primary and smoking were not associated with mortality in this model.

Conclusion: The findings here emphasise the importance of early, effective health interventions and policies on reducing levels of NCDs including hypertension and diabetes to mitigate against the significant burden of premature morbidity and mortality.

O-41

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

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

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

Methods: The study is a cross sectional research that describes the prevalence and factors relating to substance use among MSMs in Region 4 and seeks to measure the association principally between drug use and risky sexually behaviour. Participants will all be 18 years old or older at the time of the survey. The data will be collected using questionnaires.

Results: From 117 respondents 52.2% were between the ages 18–25. 71% percent of all participants used marijuana, 22% used ecstasy and another 72% used alcohol.33% of the participants had sex with a partner known to be infected with HIV/non-HIV STI, while under the influence of a drug. 76.2% of all the respondents who used marijuana were between the ages of 18–30, 40.5% of this group were between 21–25 years old. 57.1% identified as Afro-Guyanese. 61.9% of those who consumed marijuana also consumed alcohol and 25.6% consumed ecstasy.

There is a significant association between marijuana use and number of male partners had in the last 12 months. Specifically, MSMs who used marijuana were 2.3 times more likely to have an annual number of 5 or more male partners (regular or casual). Also, there is an association between alcohol use and post-consumption unprotected sex (sex within 8 hours of consumption).

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

O-42

Evaluation of Risky Sexual Behavior and Associated Factors among University Students in Guyana: A Cross-Sectional Study

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Objective: The overall aim of the study is to assess the prevalence of sexual risk behavior, and its associated factors and explore some safe sex behaviors adopted by university students in both the private and public sectors in Guyana. To achieve this aim, the study has three main objectives as follows:

- 1 To evaluate the prevalence of risky sexual behaviors in university students.
- 2 To assess the expected risky sexual behavior and associated factors in university students.
- 3 To explore safe and secure preventative sexual measures adopted by university students.

Methods: The present cross-sectional study used an online survey among 340 university students at 12 tertiary institutions in Guyana. The survey included questions related to demographic information, Risky Sexual Behaviors (RSB), Adverse Childhood Experiences-International Questionnaire (ACE), and measures related to safe sexual behavior.

Results: A total of 340 students with a response rate of 88.31% participated in the study. 67.9% reported having had sexual intercourse. Risky sexual behaviors were prevalent, with males exhibiting higher tendencies. The common RSB included unprotected sex, regretful encounters, pornography, and masturbation addiction, influenced by factors like marijuana and alcohol use, sex toy engagement, age, gender, and adverse childhood experiences. A negative correlation was found between RSB and concerns about STIs, pregnancy, and encounters with unknown partners. Regarding safe sex practices, males demonstrated a higher degree of proactivity than females.

Conclusion: Understanding gender-specific patterns in safe sex practices is crucial for developing targeted strategies to bridge existing gaps and promote a culture of informed and responsible sexual behaviors among university students.

O-43

Implementation of a Multisectoral Programme to Improve Indigenous Adolescent Mental Health in Brazil and Dominica (IMPACT).

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Objective: To implement and evaluate a culturally adapted multi-sectoral program to improve Indigenous adolescent mental health (MH) in Brazil (Guarita Lands) and Dominica (Kalinago Territory).

Methods: About 1400 adolescents are expected to take part in IMPACT via their school and village activities in 2 components (i) Mental health promotion programme to improve awareness of maintaining good MH, preventing, and treating MH problems, and (ii) Mental health care programme, supported by trained Indigenous Community Health Workers, to identify and manage common adolescent MH problems. Trained Indigenous researchers will support evaluation over 3 years.

Results: IMPACT started in August 2023 and the following have been achieved: a detailed co-developed Logic Model and Theory of Change containing 4 work packages (WPs): WP1: Partnership building and co-development. Local Adolescent Indigenous Groups and Stakeholder Implementation groups (SIG) co-developed all aspects of the study. WP2: Training of Indigenous implementors in MH promotion and mental health Gap Action Programme (mhGAP). WP3: Programme evaluation will use a theory-generating case study methodology to facilitate theoretical generalisations for wide-scale implementation. WP4: Knowledge exchange and impact include a Youth Expert Group and a capacity building hub. . The Narratives centred around family, school, and community life, and will be developed using creative arts.. Role-play for training and creative methods in MH Promotion and creative methods for the training of carers and communities on mh-GAP were felt to be critical. **Conclusion:** Respectful and equitable coproduction processes with Indigenous adolescents and their communities are critical for a sustainable and culturally acceptable MH programme.

O-44

Reproductive health history and late life cognition in Tobagonian women

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Objective: Dementia prevalence is higher for women compared to men, with women of African ancestry being especially vulnerable. Emerging evidence suggests reproductive health may play a role in dementia risk, yet no data exists in the Caribbean region. We assessed the association of reproductive health with cognition in the Tobago Women Study.

Methods: Digit Symbol Substitution Test (DSST) and self-reported reproductive health data were obtained from 776 women aged 55.8±8.9 years in 2021–23, who reported having had at least one pregnancy. Multivariable regression models estimated the association between 5 indicators of reproductive health (age at first live birth, parity, pregnancy complications, age at menarche and menopause) and DSST score, adjusted for age and education level, and further adjusted for cardiometabolic conditions, due to their known association with DSST.

Results: Among 776 women, 43 did not have any live child birth, and the average parity was 2.83±2.4. A total of 172 of 776 (22%) women in this cohort had at least one pregnancy complication; five (5%) had pre-eclampsia, 2% had gestational diabetes and 16% had another, non-specified pregnancy complication. Age at first live birth was 22.6 (5.6), age at menarche and menopause were 12.7 (1.9) and 48.9 (5.8), respectively. Older age at first live birth was positively related with DSST (standardized beta: 0.145, p<0.001); this association remained independent of cardiometabolic conditions, parity and pregnancy complications. Conversely, parity, history of pregnancy complications, age at menarche or menopause were not associated with DSST after adjustment for cardiometabolic conditions.

Conclusion: In this population-based study of women of African ancestry, older age at the time of first live birth appears protective for cognitive function, independent of number of children or complications. Our results indicate potential novel strategies to protect women from dementia risk.

O-45

Hangin Suicide in Martinique

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Objective: This study aims to comprehensively elucidate the epidemiological, clinical, and therapeutic aspects of attempted suicide by hanging in Martinique.

Methods: This retrospective study involved a meticulous analysis of medical records pertaining to all individuals admitted to the intensive care units at the University Hospital of Martinique (UHM), Trinite Genral Hospital, and Lamentin General Hospital - over a nine-year period (2005–2014) following hanging incidents. Additionally, data from the pre-hospital emergency medical service (SAMU 972) were incorporated into the analysis.

Results: A total of 165 patients were admitted, comprising 139 men and 26 women, with a mean age of 44 years (ranging from 9 to 89 years). Notably, 5% of patients had significant pre-existing medical conditions. Analysis of predictive mortality parameters revealed the significance of prehospital cardiac arrest, Glasgow Coma Scale scores, mechanical ventilation, and convulsions.

Unfortunately, all patients with pre-hospital cardiac arrest (5%) succumbed to their injuries. Moreover, the mortality rate was high, with 75% of patients not surviving, with only 41 out of 165 patients being actively monitored during the study period. The average length of hospital stay was 3 ± 7 days.

Conclusion: Suicide represents a significant public health issue, particularly pronounced in the French West Indies. In Martinique, for instance, there is a notably high rate of suicide attempts by hanging, averaging approximately 32 cases annually within a population of 375,000. Outcomes for individuals who attempt suicide by hanging are often gravely serious, particularly if a pre-hospital cardiac arrest occurs. This underscores the critical need for immediate and comprehensive medical intervention.

O-46

The Impact of COVID-19 and Online Schooling on Medical Students' Academic Performance and Mental-Health.

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Objective: To assess and compare the impact of online-schooling on mental-health and its advantages and disadvantages on the academic-performance of medical-students across the year groups 2, 3 and 4.

Methods: A descriptive cross-sectional study using convenience sample of 255 medical-students attending the University of the West Indies, St. Augustine across year 2 through 4 was conducted. Data collection involved distribution of an online questionnaire to participants which assessed the impact on academic performance and mental-health of the

medical-students. Data analysis was done using IBM SPSS to record and analyse the findings.

Results: A total of 255 students completed the questionnaire. Females accounted for 57.6% of the sample, while 42.0% were male with a mean age of 23. Each year-group observed 33.3% participation for year 2, 3 and 4 respectively. Among respondents, 51% reported improved grades during online-school. Compared to in-person classes, 40% reported lowered stress levels and 44.71% of students indicated experiencing depression, during online-schooling. Overall, 47.7% of students suggested that online-schooling was more negative compared to in-person.

Conclusion: Most participants reported improved academic performance when schooling virtually, but this was associated with a significant decline in mental-health. Despite the improved academic standing, participants described the overall online-schooling experience as more negative compared to in-person. Supplemental face-to-face classes were suggested to improve the online-schooling experience.

O-47

Addressing the Determinants of Stress among Adolescent Students through PetOwnership

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Objective: To assess whether pet-owning students are less stressed than those who do not own pets.

Methods: A cross-sectional survey was conducted in high school across Grenada during January to June 2023. Data collected included demographic information of age (years) and gender (male, female). Academic attendance and performance was self-reported. Pet ownership was determined as having at least one pet at home that is cared for by the student self-perceived and stress was rated on a scale from 1 (lowest) to 10 (highest).

Results: 187 students completed the survey which included 87% female and mean age of 17 years. 95 (51%) students reported attendance between the 75th and 95% percentile and overall mean GPA of 3.1 (2.2, 3.7) was recorded. 73 (39%) of students, N=73, had at least one pet living with them. Lack of pet ownership was significantly associated with stress ($p=0.02$). However, it was not associated with gender, GPA, or class attendance (all $p>0.10$). Among students with any pets, 58% owned one or more dogs, and 41% owned one or more other animals. Within pet owners there was no association between stress and either species or number of pets (all $p>0.5$). Almost all (93%) of pet owners reported that their pet decreased their stress, while only one (1.5%) reported that the pet increased their stress.

Conclusion: Study is consistent with the protective effect of pets on stress in this population. There was however, a lower rate of pet acquisition among people with high stress levels.

O-48

Completed and attempted suicides, and methods used among adolescents in Trinidad and Tobago from 2013-2022.

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Objective: To identify rates of and methods used in completed and attempted suicides among adolescents in cases recorded by the Trinidad and Tobago Police Service (TTPS) Crime and Problem Analysis (CAPA) Unit from January 2013 to April 2022.

Methods: Secondary data on completed and attempted suicide were obtained from the CAPA unit. Methods used in suicide were categorised using the ICD 11 “external causes of morbidity or mortality- self-harm category.

Results: Records yielded 178 cases (age 10 to 19 years, 51.4% male), comprising 37% (N=65) completed and 63% (N=113) attempted suicides. An 85% increase in cases of attempted suicides was observed during the pandemic (2020–2022 vs 2013–2019). Males were significantly more likely to complete suicide (OR=2.126, 95% CI [1.374, 3.290]), and less likely to attempt suicide (OR=0.659, 95% CI [0.521,0.832]) than females. Among completed suicides, methods used were “threat to breathing” (80%) (e.g., hanging), and “exposure to non- medicinal substances”, (20%) (e.g., weedicides, pesticides, solvents). Among attempted suicides, the most common methods were “exposure to non-medicinal substances” (59%), “threat to breathing” (15%), and “exposure to drugs/medicaments” (14%). “Threat to breathing” was 15 times more likely to be reported in completed than attempted suicides when compared to “exposure to non-medicinal substances” (OR=15, 95% CI[6.67, 33.71]).

Conclusion: Similar to adults, completed suicides in adolescents were associated with male sex and more lethal methods. Suicide prevention interventions should target sex, include public education campaigns to raise awareness, limit access to substances more commonly used, and mitigate the negative impact of the pandemic.

UNIVERSAL HEALTH COVERAGE

ADDITIONAL SERVICES TO MATERNAL AND CHILD HEALTH SERVICES
AT NO COST

✓ Laboratory
Services

✓ Ultrasound
Services

PERIOD OF JUNE TO DECEMBER 2023

1302 ULTRASOUNDS WERE DONE

1463 PREGNANT WOMEN
RECEIVED ROUTINE LABORATORIES

1014 NEW REGISTERED
EXPECTANT MOTHERS



SAINT LUCIA