Oral Abstracts

O-01

Advancing public health innovations: Caribbean Public Health Agency (CARPHA)'s novel caribbean-tailored early warning and response systems and tools for regional health security

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Objective: To describe the innovative, regional early warning (EW) and response systems/mechanisms developed and implemented by the Caribbean Public Health Agency (CARPHA) to advance regional health security (RHS).
Methods: CARPHA, the region's sole public health (PH) agency and the designated health lead for CARICOM, is mandated to strengthen national public health systems and coordinate regional responses to PH threats. Through its technical divisions, these public health innovations were envisioned, pioneered, developed, and/or redesigned to address PH challenges and gaps that were made known in stakeholder consultations and other forums, particularly through 2022–2025. Data sources included programmatic documentation, surveillance system outputs, implementation reports, workshop proceedings, and operational experiences from CARPHA-led regional initiatives conducted in collaboration with Member States (MS), regional institutions, and international partners.
Results: Through CARPHA's Pandemic Fund Grant, 13 CARPHA Caribbean-tailored PH innovations were developed across three domains: (i) surveillance and EW systems (EWS), (ii) laboratory Systems and antimicrobial resistance (AMR) innovations and (iii) response readiness. These included the Regional Integrated EWS System, DHIS2 platform, mass gatherings surveillance systems, vector-borne disease forecasting tools, information environment monitoring, EWSs for tourism settings, foodborne diseases and zoonoses/One Health, environmental health, climate-integrated disease EWS; laboratory expansion, framework for integrated AMR surveillance, collaboration for improved sample transportation; development of the Timeliness Metrics and TINGUA multisectoral outbreak simulation exercise. These tools were endorsed by MS, partners, CARPHA's Executive Board and CARICOM's Council of Health Ministers. Following this mandate, CARPHA has started to implement with immediate success of identifying PH threats and responding early before escalation to large outbreaks.
Conclusion: The Caribbean context demonstrates that one-size-fits-all PH solutions are insufficient for small island contexts facing climate change, high mobility, and limited resources. Through CARPHA's leadership, the region has developed and operationalized a suite of innovative, Caribbean-tailored EW and response systems that enhance preparedness, accelerate response, and strengthen regional and global health security.

O-02

Unlocking surveillance potential through CARPHA's Novel regional integrated early warning surveillance system

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source inputs via automated ETL pipelines. An R-Shiny analytics dashboard leverages packages including shiny, leaflet, ggplot2, plotly, dplyr, surveillance and mgcv, to support aberration detection, trend analysis, spatial visualisation, and multi-indicator risk scoring.
Methods: Developed under CARPHA's Pandemic Fund Project, RIEWSS was tailored for the Caribbean context. It integrates syndromic surveillance, laboratory diagnostics (SENAITE LIMS), vector borne disease (VBD) surveillance, foodborne disease, tourism-health (THiS), antimicrobial resistance (AMR), climate and environmental indicators, and One Health monitoring. A unified data layer-supports ingestion, validation, and transformation of multiance data it, strengthens coordinated response, enhances International Health Regulation (IHR) core capacities, and addressesnthe unique vulnerabilities of Caribbean SIDS through a unified, automated early warning approach

Results: RIEWSS enables near-real-time, cross-domain surveillance with automated validation and, integrated analytics. Outputs include interactive maps, epidemic curves, anomaly alerts, AMR trend analyses, climate-linked risk projections, and multi-sector event summaries. Its interoperable architecture provides a unified regional platform for outbreak detection, AMR monitoring, and One Health event characterisation across Caribbean Small Island Developing States (SIDS) high connectivity and tourism-driven mobility increase outbreak risk
Conclusion: RIEWSS is a novel, scalable, and regionally harmonised early warning that modernises public health intelligence in the Caribbean. By integrating multi-sector surveill
Objective: To describe the design, architecture, analytical framework, and public health value of CARPHA's Regional Integrated Early Warning Surveillance System (RIEWSS), an integrated digital surveillance system incorporating multi-domain modules, an R-Shiny analytics layer, and a DHIS2-based data backbone to enable timely risk detection and coordinated regional response.

O-03
CARPHA's Aberration Reporting System: A DHIS2-Based web application for syndromic surveillance and timely detection of elevated signals

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Objective: To describe the design, implementation, and performance of CARPHA's Aberration Reporting System (CARS v2.0), focusing on its unique dual-gate aberration detection engine, automated email alerting, and alignment with CARPHA's Regional Integrated Early Warning Surveillance System (RIEWSS).
Methods: CARS v2.0 processes weekly syndromic reports for six priority conditions. Data undergo automated validation before being analysed by a dual-gate detection system that integrates CDC's Early Aberration Reporting System (EARS) C1-C3 algorithms with a seasonally adjusted Locally Estimated Scatterplot Smoothing (LOESS) regression baseline. Alerts are generated only when both short-term (EARS) and long-term (LOESS) thresholds are breached. Outputs include rule computations, highlighted aberrations, and instantaneous email notifications.
Results: Application testing using historical CMS datasets demonstrated that CARS v2.0 identifies elevated signals in under five seconds. It displays full computational transparency for EARS thresholds, LOESS expectations, and dual-gate determinations. Dual-gate logic reduced false positives while maintaining sensitivity. The integrated automated email alert system enables instant dissemination to national and regional stakeholders.
Conclusion: CARS v2.0 operationalizes a robust, automated surveillance analytics platform within DHIS2, advancing CARPHA's RIEWSS and strengthening early warning systems in the Caribbean. Its dual-gate design, user-friendly interface, and real-time alerting represent a significant innovation and a scalable model for digital public health surveillance. The system is particularly valuable for the Caribbean, where the geographic dispersion, small population sizes, tourism-driven mobility, and resource constraints of Small Island Developing States (SIDS) demand a highly sensitive, automated, and regionally harmonised early warning mechanism.

O-04
Fiction to Function: CARPHA's novel caribbean tailored Republic of Tingua emergency preparedness and outbreak response simulation exercise

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Objective: To describe the development and application of the Republic of Tingua, a fictional, Caribbean-specific immersive simulation environment, for strengthening multisectoral emergency preparedness and outbreak response (E&R) capacities across CARPHA Member States (CMS).
Methods: Under CARPHA's Pandemic Fund Project, a Caribbean-tailored, flexible, templated multi-hazard E&R simulation exercise was created in 2025 using adult-learning principles, international and regional preparedness frameworks, and regionally grounded scenario design. World-building included detailed fictional country profiles, realistic datasets, and injects delivered through various virtual and physical formats, including multidisciplinary team-based tasks aligned to learning objectives. Anonymous pre- and post-surveys assessed changes in participant knowledge and confidence.
Results: Between July and December 2025, more than 120 participants from 21 CMS from across surveillance, environmental health, emergency preparedness and One Health disciplines, engaged in Tingua E&R simulations across three CARPHA-hosted workshops. These simulations were supported by 22 CARPHA staff with expertise in laboratory, surveillance, emergency preparedness, workforce development, vector-borne and foodborne illnesses, outbreak response and communication. . These workshops covered realistic scenarios of zoonotic disease outbreaks, cross-border spread, natural disasters and compound emergencies. Participants consistently reported strengthened skills in communication, critical thinking, teamwork, and

application of surveillance tools under pressure. Workshops produced tangible outputs, including draft ministerial briefings, rapid response plans and updated One Health National Action Plans, demonstrating transfer of skills into realistic products. The inaugural Tingua 1.0 exercise received an average rating of 4.5/5. Participants highlighted the value of a multisectoral approach, role clarity, and rapid decision-making in realistic emergency environments. Lessons learned included the need for clearer participant briefings, enhanced facilitator preparation, multilingual accessibility, and more staff involvement.
Conclusion: The Tingua simulation demonstrates that an immersive, culturally resonant fictional environment can effectively enhance preparedness skills, promote collaboration, and bridge theory and practice among diverse public health staff for E&R.

O-05
Setting appropriate syndromic surveillance alert thresholds for mass gathering events in Small Island Developing States (SIDS) in the Caribbean

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Objective: To determine the key parameters for consideration when establishing syndromic surveillance alert thresholds in Caribbean SIDS.
Methods: CARPHA implemented a novel Mass Gathering Surveillance System (MGSS) during the 2024 ICC Men's T20 Cricket World Cup (CWC) across six Caribbean countries. Adapted from the Tourism and Health Information System (THiS), the MGSS integrated syndromic surveillance, visitor health reports, laboratory data, and environmental inputs to provide real-time situational awareness. Predefined symptoms were grouped into six reportable syndromes, and early-warning thresholds were applied to trigger automated alerts. Thresholds ranged from one case (e.g., undifferentiated fever, fever with rash, neurologic or haemorrhagic symptoms) to two or more cases within 24 hours (e.g., gastroenteritis, fever with respiratory symptoms). When thresholds were met, the system generated immediate alerts to health facilities and national authorities, enabling rapid investigation and response, with recommended cross-country information sharing to enhance regional awareness.
Results: The 5 key parameters for determining suitable syndromic thresholds for the 2024 T20 CWC include the utilization of Global Evidence, consideration of the Caribbean Context which includes the environmental, economic and social structure of the specific Caribbean country, the Type of Mass Gathering Event as the crowds and behaviours vary between different events, the Local Disease Profile as this will provide an understanding of the current disease burden in the specific country and Locally available syndromic data.
Conclusion: This research focused on mass gathering events, the algorithm used and being proposed is applicable to other settings utilizing syndromic surveillance methodology to manage infectious diseases; including tourism establishments, health centers and shelter surveillance in times of emergency. The work done for the T20 Cricket World Cup in the Caribbean now provides baseline data for future mass gathering events in the Caribbean and provides greater impetus for continued and wider surveillance activity to strengthen the existing system.

O-06
Innovative Expansion of CARPHA's Regional one health foodborne and zoonotic diseases program

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Objective: To describe the innovative advancements in the Caribbean Public Health Agency (CARPHA)'s Regional One Health (OH) Foodborne (FBD) and Zoonotic Diseases Program, including digital surveillance modernization, strengthened governance, and multisectoral integration across human, animal, food, and environmental sectors.
Methods: A mixed-methods approach was employed to evaluate the implementation of the enhancements to the existing FBD Programme. Data sources included CARPHA Member States (CMS) National Action Plans (NAPs), interactive polling, structured multisectoral discussions, outputs from newly developed OH digital surveillance systems, and applied assessment through a Caribbean-tailored outbreak simulation. Findings were triangulated to assess programme uptake, operationalization of innovations, and early system-level impacts.
Results: CARPHA expanded its foodborne diseases (FBD) program into a regional One Health (OH) FBD and Zoonoses Program. This included a coordinated OH digital ecosystem, a Regional Integrated Early Warning Surveillance System (RIEWSS), a secure collaboration platform, and enhanced governance through a new Multisectoral Steering Committee. Fourteen CMS and 20 regional/international agencies participated in implementation, with CMS updating their National Action Plans to meet new digital and multisectoral standards. CMS with higher engagement showed greater OH adoption, reflecting diffusion patterns. The Caribbean-tailored OH Tingua simulation improved cross-sectoral coordination and operational gains.
Conclusion: CARPHA's expanded, innovative Regional OH Foodborne and Zoonotic Diseases Program has introduced the Caribbean's first fully coordinated, multisectoral

OH digital surveillance architecture. Digital modernization, strengthened governance, and aligned national planning have collectively advanced regional preparedness and accelerated OH adoption across CMS. These innovations position the Caribbean as a leading regional contributor to global OH implementation models, enhancing timely multisectoral information sharing and coordination for addressing FBD and zoonotic threats.

O-07

Expanding laboratory capacity in the Caribbean: innovative hub-and-network model for One Health diagnostics, AMR surveillance, and optimised sample transport

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Objective: The Caribbean's archipelagic geography and heterogeneous laboratory capacity have historically constrained timely diagnostics and surveillance. CARPHA has adopted an innovative hub-and-network model across CMML (Trinidad & Tobago), EHSD (Saint Lucia), and MQCSD (Jamaica) to expand laboratory capacity, strengthen One Health testing and AMR surveillance, and optimise specimen logistics.
Methods: CARPHA's laboratory expansion programme combines technical upgrades (MALDI TOF, phenotypic AST including MIC, and phased WGS) with process innovations (unified referral form, planned digitalisation of forms/reports) and logistics enhancements (use of the Regional Security System and airline collaborations under IATA standards). Governance alignment is achieved through the Caribbean Public Health Laboratory Network (CariPHLN); in parallel, the Integrated AMR Programme, co-developed with PAHO and UKHSA under the Pandemic Fund and UK Fleming Fund, supports AMR-specific capacity strenghtening, data integration, and stewardship.
Results: Across the three hubs, more than 45,000 tests were completed in 2023–2024, with marked increases from geographically distant Member States following hub designation. Enhanced specimen transport was demonstrated by the movement of over 60,000 specimens via the Regional Security System since 2020, complemented by newly established, structured IATA compliant airline routes for routine shipments, improving timeliness and predictability of delivery. The unified referral form was piloted region wide; digitalisation scheduled for 2026. Expanded test menus and hub-aligned routing schemas reduced diagnostic delays and improved equity of access.
Conclusion: CARPHA's expansion of laboratory capacity-anchored in reginal hubs, enhanced specimen transport, and digital transformation-has demonstrably improved turnaround time, goegraphic coverage, and AMR readiness, and provides a scalable model for small island regions aligned with IHR (2005) and GHSA expectations.

O-08

Establishing regional antimicrobial resistance (AMR) surveillance in the Caribbean supported by Caribbean Antimicrobial Resistance Alliance (CARA)

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Objective: To develop a coordinated regional antimicrobial resistance (AMR) surveillance framework for the Caribbean, addressing gaps in laboratory capacity and fragmented reporting that limit timely detection of resistance patterns and evidence-based antimicrobial stewardship.
Methods: The Caribbean Antimicrobial Resistance Alliance (CARA), a partnership coordinated by the Caribbean Public Health Agency (CARPHA) with technical support from the UK Health Security Agency (UKHSA), was established in October 2024. Building on prior CARPHA investments in reference laboratory capacity and workforce development, the current phase used evidence-informed design and structured engagement with pilot Member States to specify a regional AMR surveillance framework. Activities included defining surveillance scope, selecting a surveillance model, establishing a minimum dataset, and developing supporting operational guidance.
Results: The alliance produced a regional surveillance framework comprising a defined scope, surveillance model, minimum dataset, and operational guidance. CARA strengthened existing AMR surveillance efforts in the Caribbean by providing a standardised, coordinated framework to enhance national systems and improve regional comparability. This framework is currently being piloted and refined with participating Member States.
Conclusion: The defined minimum dataset and operational guidance, developed with direct Member State input, offer a regionally tailored and scalable foundation to build on current initiatives and support sustainable AMR monitoring.

O-09

Improving HIV surveillance accuracy through national data cleaning and cohort validation: results of the 2025 HIV treatment e-register review in Guyana

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Objective: This study aimed to conduct the first national HIV data-cleaning and verification exercise to establish a validated treatment cohort, to verify and clean historical HIV treatment records; quantify duplicate, deceased, migrated, and defaulter cases; distinguish long- vs short-term defaulters; and assess the impact on UNAIDS cascade indicators.

Methods: A national retrospective review of 12,824 records included deduplication, outcome verification, and cohort classification. Outcome verification was conducted through systematic review of clinical records, facility reports, and defaulter tracing documentation to confirm mortality and migration, after which records were classified as active in care, long-term defaulters (>7 years), or short-term defaulters (30 days–6 years) using standardised national definitions.

Results: A total of 401 duplicates (3.1%) were identified; 1,308 deaths (10.2%), and 454 migrations (3.5%), producing a validated eligible cohort of 10,661 PLHIV, thereby correcting 13.7% denominator inflation. Of eligible clients, 7,268 (68.2%) were active, 2,071 (19.4%) long-term defaulters, and 1,322 (12.4%) short-term defaulters. Distribution differed significantly from expectation ($\chi^2 < 0.001$). Re-engagement modelling showed improvements of +2.7 percentage points at 25% return, and +6.4 percentage points at 60%, indicating strong potential for accelerating the third UNAIDS 95 Target.

Conclusion: National data validation substantially improved surveillance precision and clarified programmatic gaps. Re-engagement of short-term defaulters represents a high-impact route to increasing viral suppression. Guyana's 2025 exercise provides a replicable model for regional HIV monitoring improvement and progress toward epidemic control.

O-10

Primary care patients'awareness and perceptions of medicinal cannabis in Barbados

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Objective: To assess primary care patients' awareness, perceptions and experiences regarding medicinal cannabis following the Medicinal Cannabis Act (2019) in Barbados

Methods: A cross-sectional survey of 404 adult primary care patients (M 162, F 242; response rate 79.2%) was conducted from January to February 2025 across nine government polyclinics in Barbados Polyclinics were stratified by patient volume with proportional allocation; within each, every third eligible patient was systematically recruited. A validated questionnaire assessed awareness, perceptions (Cronbach's α=0.857), prior use, and healthcare provider communication (Cronbach's α=0.707). Chi-square tests, t-tests and ANOVA examined demographic associations.

Results: Only 16.8% (n=68) were aware of any legal medicinal cannabis product available in Barbados.. Familiarity with medical uses declined significantly with age: ($\chi^2(12)=38.01$, $p<0.001$): 45.1% of those aged 25–34 reported familiarity compared with 16.4% of those aged ≥55. Despite low awareness, 80.2% (n=324) supported easier access and 64.1% (n=259) believed medicinal cannabis improved health conditions. Mean perception scores differed significantly by age ($F(4,399)=6.605$, $p<0.001$); adults aged 25–44 years held more positive perceptions (mean 3.75–3.79) than those ≥55 (mean 3.41; Tukey HSD $p<0.001$). Awareness did not differ by gender (p=0.842) or religion (p=0.341). Only 8.9% (n=36) reported prior use; among users 43% cited pain relief. The leading barrier was insufficient information (28.8%), followed by addiction concerns (25%) and safety concerns (25%); stigma accounted for less than 5%. Despite 68.1% (n=275) trusting physician-provided information and 66.8% expressing willingness to try if prescribed, only 3.5% (n=14) had ever discussed medicinal cannabis with a healthcare provider.

Conclusion: Five years post-legalization, primary care patients in Barbados remain largely unaware of medicinal cannabis yet demonstrate openness to physician-guideduse. The most frequently reported barrier was lack of information, not stigma Findings underscore the need for targeted public education, structured clinician training, and evidence-based practice guidelines. . Results provide baseline data for Caribbean nations implementing similar reforms.

O-11

An emerging threat; microbiological profiles and antimicrobial susceptibility patterns of carbapenem-resistant enterobacterales identified at Georgetown Public Hospital Corporation, 2023–2025

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Objective: Carbapenem-Resistant Enterobacterales (CRE) have emerged as a major global public health threat due to their high levels of antimicrobial resistance and association with adverse clinical outcomes. The objectives of this study were to describe demographic profiles, to characterize the antimicrobial susceptibility profiles of CRE isolates, and to identify the carbapenem resistance mechanisms present among CRE isolates at Georgetown Public Hospital Corporation between 2023 and 2025.

Methods: A retrospective cross-sectional study was conducted using microbiology laboratory records from January 2023 to December 2025. All non-duplicate Enterobacterales isolates demonstrating resistance to at least one carbapenem (imipenem or meropenem) based on CLSI criteria were included. Data collected included patient demographics, hospital ward, specimen source, bacterial species, antimicrobial susceptibility results, and carbapenemase mechanisms detected using the Rosco Diagnostica rapid diagnostic kit. Descriptive statistics were used for analysis. A total of 83 samples were analyzed.
Results: A total of 83 CRE isolates were identified. Most patients were aged ≥50 years (48.2%), and males predominated (73.5%). The highest number of isolates originated from medical wards and intensive care units. Urine was the most common specimen source (28.9%), followed by wound and blood samples. *Acinetobacter baumannii* (42%) and *Klebsiella pneumoniae* (30%) were the most frequently isolated organisms. All isolates demonstrated non-susceptibility to carbapenems, with high resistance rates to third-generation cephalosporins and fluoroquinolones. Fosfomycin retained the greatest activity, with 36% of isolates remaining susceptible. Molecular testing revealed exclusive New Delhi metallo-β-lactamase (NDM)-mediated resistance in all isolates, with no detection of KPC, VIM, or OXA-48-like enzymes.
Conclusion: CRE at GPHC exhibit extensive antimicrobial resistance driven by exclusive NDM-mediated carbapenemase production, leaving very limited treatment options. Inclusion of aztreonam and ceftazidime/avibactam in the formulary is recommended alongside strengthened infection prevention and control, routine CRE surveillance, and robust antimicrobial stewardship.

O-12

Knowledge and attitudes of registered nurses towards artificial intelligence at a national hospital in Antigua

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Objective: Artificial intelligence (AI) is transforming healthcare, however, limited evidence exists regarding nurses' knowledge, and attitudes towards AI in Antigua. This study assessed the knowledge, attitudes, and perceived AI competency requirements among registered nurses.
Methods: A cross-sectional survey was conducted among registered nurses at a public hospital in Antigua using a structured questionnaire comprising Likert-scale items. A convenience sample of 179 eligible nurses was invited to participate. Ordinal logistic regression was used to identify predictors of selected attitudes. Differences in perceived AI competency needs between student, practicing and academic nurses were examined using Cochran's Q and McNemar tests.
Results: Eighty-six nurses responded (response rate 48.1%) mean age 37.6 years. Only (34.9%) nurses reported awareness of AI applications in nursing practice. Television/radio (81.4%) and social media (80.2%) were more common sources of information, on speech to text applications, when compared to educational institutions (27.9%) or the workplace (16.3%). Only 13.9% believed that AI would replace human nurses. Nurses with diploma/associate's degrees were less likely than those with bachelor's/master's degree to perceive automated identification of care interventions as a useful application of AI (OR = 0.27, 95% CI 0.11, 0.64). Nurses with <5 years' experience were less likely than those with >21 years' experience to believe AI will replace members of the interprofessional healthcare team (OR = 0.28, 95% CI 0.09, 0.82), and nurses with 11–15 years' experience were more likely to agree that AI will replace them compared to nurses with >21 years' experience (OR 4.66, 95% CI 1.08, 19.90). Practicing and academic nurses were perceived to require greater AI competencies than student nurses ($p<0.05$).
Conclusion: Surveyed nurses in Antigua demonstrated limited awareness of AI in nursing practice but generally supported its integration and expressed low concern about workforce replacement. Targeted AI education and competency development is needed.

O-13

Trends in diabetic ketoacidosis in Guyana: a two-year review of clinical profiles and outcomes at Georgetown Public Hospital Corporation (2023–2024)

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Objective: The study described the demographic characteristics and clinical presentation of adults admitted with diabetic ketoacidosis (DKA), the key biochemical abnormalities, major precipitating factors including infection, insulin non-adherence, new-onset diabetes, length of hospital stay and in-hospital mortality.
Methods: A retrospective cross-sectional review was conducted. Adults aged ≥18 years with documented type 1 or type 2 diabetes and confirmed DKA were included; gestational and other diabetes types were excluded. The study sample comprised 151 patients. Demographic, clinical, biochemical, precipitating, and outcome data were abstracted using anonymized identifiers and analyzed descriptively.

Group comparisons used chi-square tests and time to anion gap closure was assessed using Kaplan–Meier analysis.
Results: Of 151 DKA cases, 20 (13.2%) had type 1 diabetes and 131 (86.8%) type 2. Type 1 patients were significantly younger, with 55 % aged <29 years compared with 10 % of type 2 patients (P<0.001). Sex and ethnicity distributions were not different. Vomiting was the most common presenting complaint in type 1 patients, whereas type 2 patients more frequently reported generalized weakness, shortness of breath, and vomiting. Medication nonadherence was the leading precipitant in both groups (type 1: n=16; type 2: n=65), followed by newly diagnosed diabetes and infection. Biochemical severity at presentation was not different, although type 1 patients showed a trend toward a higher anion gap (25.7±7.3 vs 22.3±7.1 mmol/L; P=0.055). Median length of stay was 5 days in both groups (P=0.402). Mortality was low and comparable (10.0% vs 6.9%, P=0.641). Time to anion gap closure did not differ by diabetes type (log-rank P=0.59).
Conclusion: This study demonstrates a high burden of adult DKA at GPHC, predominantly affecting patients with Type 2 diabetes, who were older and commonly presented with modifiable precipitating factors. These findings highlight prevention-focused strategies as the greatest opportunity to reduce DKA burden.

O-14
Prevalence of overweight, obesity and associated risk factors in Barbadian primary school children

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Objective: To estimate prevalence of overweight and obesity among Barbadian primary school children and to examine associated family-level risk factors.
Methods: We conducted a cross-sectional study among Barbadian children 6 to 11 years attending public and private primary school and their parents. Anthropometric measurements were collected from children using standardized protocols. Body mass index–for–age z-scores were calculated using World Health Organization growth reference. Overweight and obesity were defined according to WHO criteria. Waist-to-Height ratio (WHtR) was calculated using a ≥0.5 cut off to indicate abdominal obesity. Information on dietary habits, physical activity, sedentary behaviour, parental knowledge, attitudes and practices, and school food and physical activity environments was obtained via structured questionnaires. Descriptive analyses were performed by age-group and sex.
Results: A total of 667 children were included in the analysis, evenly distributed by sex, with higher proportion of children in the older age group (10–11 years) compared with those aged 6-9 years. Based on BMI-for-age z-scores, an estimated 38.1% (95% CI 32.2, 44.3) of young children and 46.3% (CI 41.4, 51.2) of older children were overweight. Prevalence of obesity was 22.7% (95% CI 17.9, 28.3) and 21.5% (95% CI 17.7, 25.8) in young and older children, respectively. Using a cut-off of ≥0.5, 21.4% (95% CI 16.7, 27.0) of young children and 29.0% (95% CI 24.7, 33.8) of older children met criteria for abdominal obesity. Fewer than 50% of older children achieved recommended levels of physical activity.
Conclusion: Unweighted prevalence rates of overweight and obesity in this sample were high, with substantial abdominal obesity among those classified as overweight. Findings should be interpreted cautiously, given the low response rate and potential for selection bias. We recommend strengthened surveillance and coordinated action to inform, implement and monitor childhood obesity prevention strategies.

O-15
Patient confidentiality practices in Grenada: evidence to inform health system innovation

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Objective: Patient confidentiality is a cornerstone of ethical healthcare practice and a critical component of effective health systems. In small island developing states such as Grenada, close-knit communities and infrastructural constraints present unique risks for breaches of confidentiality. This study aimed to assess patient confidentiality practices among healthcare workers in Grenada and to generate evidence to inform health system innovation and policy strengthening.
Methods: A cross-sectional survey was conducted among 110 healthcare workers from public and private health facilities across Grenada. A 21-item self-administered questionnaire assessed knowledge, attitudes, and practices related to patient confidentiality. Descriptive statistics summarized practice patterns, while logistic and linear regression analyses explored associations between composite practice scores and selected demographic and professional variables.
Results: Overall adherence to confidentiality standards was high. Most participants reported never discussing patient information outside the workplace (80.9%) or allowing non-medical staff to be present during patient care (79.1%). However, informal discussions occurring outside examination rooms were reported "sometimes" by 31.8% of participants. Physical record security emerged as a key vulner-

ability, with only 40% of filing cabinets reported to have functional locks. No significant associations were found between confidentiality practice scores and years of experience or professional role.
Conclusion: Healthcare workers in Grenada demonstrate strong ethical awareness and generally sound confidentiality practices. Nevertheless, identified gaps in communication behaviors and record security highlight opportunities for health system innovation. Strengthening institutional protocols, integrating continuous ethics training, and advancing secure health information systems could enhance patient trust and support ongoing health system development in small island settings.

O-16

Implementing a capacity-based mental health law in Bermuda: International lessons and Caribbean implications

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Objective: To examine how a capacity-based mental health law could be implemented in Bermuda and to draw implications for Caribbean small island states.
Methods: This comparative policy analysis used document review and synthesis of international experience. We analysed the Bermuda Mental Health Act 1968, its 2019 amendments and the 2021 Mental Health Code of Practice to describe the current legal framework. Regional legislative developments in Barbados, The Bahamas, Guyana and the Cayman Islands were reviewed using publicly available documents. We then synthesised studies from Norway and Queensland, Australia, where capacity-based mental health laws have been introduced, to identify key implementation challenges, system preconditions and governance arrangements.
Results: Bermuda's current legislation remains diagnosis- and risk-based, with capacity principles operating through a Code of Practice rather than primary law. International evidence shows that capacity-based reforms can enhance patient autonomy and shared decision-making but may not reduce coercion when introduced alongside reduced inpatient capacity, limited voluntary services and inadequate training in decision-making capacity. Five priority domains for implementation in Bermuda were identified: embedding capacity principles in statute; systematic training in capacity and risk assessment for a broad health workforce; expansion of community-based and after-hours services; stronger roles, safeguards and supports for families, next-of-kin and independent advocates; and coordinated macro-meso-micro governance to align law, policy and frontline practice.
Conclusion: Introducing a capacity-based mental health law in Bermuda appears feasible and could modernise mental health governance in line with human rights obligations, but its benefits will depend on investment in community services, workforce development and regional learning to avoid unintended increases in family burden and involuntary care.

O-17

Methodologies for assessing water sanitation and hygiene resilience in climate-vulnerable primary care facilities: a critical review for Guyana

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Objective: This study reports on a critical review of global methodologies for assessing the climate resilience of Water, Sanitation, and Hygiene services in primary health care settings. It specifically evaluates the WHO's WASH FIT v2.0 and PAHO's Smart Hospitals Toolkit against the unique hydrological realities of Guyana, proposing an integrated framework for the local context.
Methods: The research employed a desk review and comparative analysis of international frameworks (WHO/UNICEF JMP, GLAAS), Guyana's Low Carbon Development Strategy (LCDS) 2030, and post-implementation evaluations of the "Smart Health Care Facilities" project. A dual-lens approach assessed tool applicability for both flood-prone coastal zones (Regions 2–6) and drought-susceptible hinterland communities (Regions 1, 7–9).
Results: The PAHO Smart Hospitals Toolkit offers superior engineering metrics for structural hardening (e.g., wind/flood resistance), evidenced by retrofits at Diamond Diagnostic Centre. However, its high technical resource requirements limit scalability for Level 1 and 2 facilities. Conversely, WHO WASH FIT v2.0 excels in operational management and behavioral change but historically lacks the rigorous hydraulic indicators necessary for Guyana's catastrophic flood events. Evaluations indicate that structural retrofitting without soft-systems management remains a critical failure point.
Conclusion: Neither framework in isolation is sufficient for Guyana's multi-hazard profile. A hybrid "Guyana Smart-FIT Framework" is proposed, embedding the structural rigor of the Smart Toolkit into the iterative management cycle of WASH FIT. Supported by LCDS 2030 carbon financing, this approach offers a sustainable pathway for securing continuity of care.

O-18

Climate change, health impacts and adaptation: perspectives of Guyanese healthcare and agricultural professionals (2025)

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Objective: To identify the observed health impacts, current adaptation strategies and practices being implemented to manage climate-related risks in Guyana.
Methods: A mixed-methods approach was utilized in the conduct of this research. An Explanatory Sequential Mixed-Methods design was implemented. The data were obtained from both primary and secondary sources. Primary data were collected through digitally structured questionnaires from two data sources (healthcare and agriculture professionals). Secondary qualitative data were collected, interpreted and analyzed from existing literature and open ended-responses to substantiate and explain the findings that emanated from the quantitative phase through data triangulation.
Results: A total of 120 participants formed the sample of the study. Participants (99%) indicated that there is a link between climate change and health. Direct impacts of climate change on health results in dehydration (80%), heat exhaustion (70%) and heat stroke (65%). Indirect impacts of climate change on health, results in dengue (60%), mental health and stress-related disorders (55%) and malaria (35%). The categories of people most at risk of having health related issues as a result of the impact of climate change are people with pre-existing medical conditions (40%), older adults (35%) and children (25%). Derived themes include: Increased Health Risks, Eco-system Imbalance, Reduced Immunity, Co-morbidities, Chronic Illnesses and Large-Scale Impacts. Existing adaptation measures in Guyana include: national climate change policies and frameworks - Guyana's Low Carbon Development Strategy (LCDS) 2030, strengthening coastal and flood management systems, climate-resilient agriculture initiatives, health system preparedness and surveillance Guyana, renewable energy and low-carbon development, community-based adaptation and disaster risk reduction and international partnerships and funding.
Conclusion: Climate change in Guyana poses severe risks to Health and Agriculture. Addressing these challenges requires a consistent, multi-sectoral approach that integrates healthcare and agriculture strategies, supported by adaptation measures to strengthen resilience and safeguard sustainable development within the country.

O-19

Assessment of the impact of a climate and health weekly column in the Trinidad and Tobago Guardian newspaper

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Objective: To assess the EarthMedic and EarthNurse (EMEN) public health communication campaign of weekly climate and health columns in the Trinidad Guardian newspaper
Methods: Fifty-four (29 digital) EMEN climate and health columns were published September 09, 2024, to December 1, 2025. An assessment was conducted using Perplexity AI real-time web search which cites the source used in responding. The prompt was, "EarthMedic and EarthNurse published weekly articles from September 2024–December 2025 in the Trinidad Guardian. Here is their website https://earthmedic.com/. How would you assess the impact of these articles?" The AI output cited 70+ references. The output was curated and further edited by the author.
Results: The newspaper's daily circulation is 42,300 copies plus 5,000 digital readers and is the leading online paper with 1.3 million visits monthly from diverse ages (most 45+ years) and socioeconomic groups. Beyond print and digital media, EMEN social media generates additional engagement and commentary; syndication of selected articles adapted for the Jamaica Gleaner; and professional networks shared articles in their networks. Articles covered various climate-health intersections relevant to the Caribbean. Weekly publication over 15+ months addresses the challenge that single-intervention campaigns show. Faith-based articles (Christianity, Islam, Hinduism) increased cultural relevance in Trinidad and Tobago's multi-religious society. Articles by local healthcare providers, university faculty, and community advocates address research findings that trusted messengers improve health communication effectiveness. Articles explicitly linked climate change to non-communicable diseases, mental health, food security, and economic impacts, which are major priorities in Caribbean health policy.
Conclusion: EMEN's media series represents a sustained, comprehensive, and evidence-based public health communication campaign, well-aligned with national, regional and international frameworks. Limitations of the assessment indicate the need for further research and surveys of readers and health professionals.

O-20

Hidden threats beneath the surface: antibiotic resistance in pig farm runoff water

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Objective: Antimicrobial resistance (AMR) is a growing global health threat driven by antibiotic misuse in human medicine and livestock production. Intensive pig farming contributes to environmental AMR through the release of antibiotic-resistant bacteria (ARB) and antibiotic resistance genes (ARGs) into surrounding ecosystems. Within a One Health framework, pig farm wastewater represents a key interface linking agricultural, environmental, and human reservoirs of resistance. This pilot study aimed to detect and characterize selected ARGs-*bla-SHV, bla-OXA-20, sul1, mcr-1, and intI1* in pig farm runoff water in Grenada to establish baseline data for regional surveillance.
Methods: Wastewater runoff samples (2 L each) were collected from eight pig farms across multiple parishes in Grenada in November 2025. Samples were processed for DNA extraction using the PowerSoil® DNA Isolation Kit, and ARGs were detected via polymerase chain reaction (PCR) amplification using gene-specific primers. Amplicons were visualized through agarose gel electrophoresis and compared with molecular weight standards to confirm gene presence. Results: All samples were positive for bacterial 16S rRNA genes, confirming DNA quality. The detection frequencies for ARGs were as follows: *intI1* (100%), *sul1* (100%), *bla-SHV* (62.5%), *bla-OXA-20* (12.5%), and *mcr-1* (12.5%). The co-occurrence of *intI1* and *sul1* suggests sustained selective pressure from agricultural antibiotic use.
Conclusion: The widespread detection of clinically relevant ARGs underscores pig farm runoff water as an important environmental reservoir of AMR in Grenada. The presence of *bla-SHV* and *mcr-1* genes associated with human pathogens and last-resort antibiotics, raises significant public health concerns. Continuous monitoring and improved wastewater management are crucial to mitigate environmental dissemination and prevent cross-domain transmission of resistance within the One Health spectrum.

O-21

Establishing the CARPHA integrated antimicrobial resistance (AMR) programme: a regional partnership and One Health approach

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Objective: Antimicrobial resistance (AMR) is an escalating global health and health security threat, associated with substantial mortality, economic loss, and increased vulnerability to pandemics. Small island developing states (SIDS), including those of the Caribbean, face disproportionate challenges due to constrained laboratory capacity, fragmented surveillance, porous borders and limited access to advanced diagnostics. This report describes the design, funding, and implementation of the Caribbean Public Health Agency (CARPHA) Integrated AMR Programme.
Methods: The programme is jointly funded and strategically driven by projects supported through the Fleming Fund and the Pandemic Fund and was accelerated through structured technical collaboration with the United Kingdom Health Security Agency (UKHSA). Development followed a phased methodology comprising funding mobilisation, expert secondments through the establishment of the Caribbean AMR Alliance (CARA), joint laboratory capacity assessments, wide technical consultation, and workforce strengthening across human, animal, and environmental health sectors.
Results: Programme achievements include the expansion of the CARPHA Medical Microbiology Laboratory (CMML) as the regional AMR reference laboratory in Trinidad and Tobago in August 2025; the establishment and full equipping of two additional regional AMR reference laboratories in Jamaica and St Lucia during to be fully operational by February 2026; the delivery of coordinated regional and targeted antimicrobial resistance (AMR) and whole genome sequencing (WGS) training in May, August, and November 2025; and the operationalisation of the Caribbean AMR Alliance (CARA) as a regional accelerator for AMR development following its formal launch in April 2025.
Conclusion: The CARPHA Integrated AMR Programme demonstrates how aligned global financing, strategic technical partnerships, and One Health principles can be translated into sustainable regional AMR surveillance and response systems. The experience provides a replicable model for other regions seeking to leverage global AMR momentum into durable public health capacity.

O-22

From bite to insight: clinical, demographic and laboratory predictors of severe outcomes in adult dengue fever patients

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Objective: To identify demographic, clinical, and laboratory predictors of severe dengue outcomes among adults presenting to the Georgetown Public Hospital Corporation (GPHC).
Methods: This retrospective observational study included 289 adults (≥18 years) with laboratory-confirmed dengue presenting to the Accident and Emergency Department, GPHC between July 2023 and January 2025. Outcomes were classified as mild/moderate versus severe/death (including dengue hemorrhagic fever, dengue shock syndrome, ICU admission, or mortality). Data were analyzed using SPSS version 27. Univariate analyses were performed, and variables with $p<0.25$ were considered, to avoid excluding potentially important predictors, for multivariable logistic regression. Model performance was assessed using the omnibus test, Nagelkerke R^2, classification accuracy, and the Hosmer-Lemeshow goodness-of-fit test.
Results: The mean age was 39.0±17.6 years. Severe dengue was more frequent in females (25.0%, p=0.039) than males (15.2%) and increased with age, from 15.3% in patients aged 18–40 years (p=0.035) to 32.1% among those aged ≥66 years. Severe clinical manifestations (abdominal pain, vomiting, mucosal bleeding, p=0.021) and symptom duration >8 days (35.9%; p=0.038) were associated with poor outcomes. Vital signs and comorbidities were not significant predictors. Platelet count was the only laboratory parameter associated with severity (p=0.002), with thrombocytopenia (≤150 × 10^9/L) accounting for 27.3% of severe cases. The multivariate model was significant ($\chi^2(16) = 60.45$, $p < 0.001$), explained 30.7% of variance (Nagelkerke R^2=0.307), achieved 82.0% accuracy, and showed good fit (Hosmer-Lemeshow p=0.063). Lower platelet count was the strongest independent predictor (AOR = 0.993; 95% CI: 0.989–0.997; p<0.001).
Conclusion: Older age, prolonged symptom duration, severe clinical features, and thrombocytopenia independently predict severe dengue at GPHC. Platelet count is a practical marker for early risk stratification and triage optimization in Guyana.

O-23

Innovative mobile medical consultations: a scalable public health solution for communities affected by sargassum seaweed

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Objective: To assess the public health relevance, feasibility, and clinical impact of a community-based mobile medical consultation (MMC) model developed to improve access to care for populations chronically exposed to toxic gases emitted by decomposing sargassum seaweed in the Caribbean.
Methods: A retrospective analysis was conducted among patients managed through specialized sargassum toxicological consultations in Martinique between January 2021 and July 2025. Two care delivery models were compared: hospital-based outpatient consultations and mobile, community-based consultations deployed directly within affected coastal communities. Sociodemographic characteristics, exposure profiles, clinical findings, respiratory function tests (spirometry), markers of bronchial inflammation (fractional exhaled nitric oxide, FeNO), referral pathways, and follow-up care were analyzed to evaluate health system performance and clinical effectiveness.
Results: During the study period, among the 478 patients chronically exposed to sargassum decomposition fumes, mobile consultations accounted for the majority of care delivery (55.0%). Mobile teams were preferentially deployed during active sargassum stranding episodes (58.6% vs 11.2% for hospital-based consultations; p<0.001) and in the most heavily impacted and underserved coastal areas. Patients managed through mobile consultations were older, more socially vulnerable, and had longer exposure durations. They also presented with more severe respiratory involvement, including higher rates of airway obstruction (20.4% vs 10.1%; p=0.007) and elevated FeNO levels (26.5 ± 16.7 vs 6.7 ± 19.9 ppb; p<0.001). Mobile consultations facilitated timely clinical assessment, therapeutic education, follow-up, and referral to specialized care.
Conclusion: Mobile medical consultations constitute a scalable public health innovation that strengthens access to environmental health care for populations chronically exposed to sargassum-related pollution. By shifting care delivery from hospital settings to communities, this model improves equity, responsiveness during environmental crises, and integration within a One Health framework. It serves as a transferable strategy for Caribbean health systems facing recurrent climate-induced environmental challenges such as sargassum seaweed.

O-24

Innovating access: evaluating the impact of Telemedicine on healthcare delivery in hinterland regions of Guyana

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Objective: To evaluate the impact of telemedicine as a sustainable healthcare solution for improving access, quality, and continuity of care in Guyana (2024–2025), and to assess the clinical and access related impact of telemedicine using an impact matrix framework; evaluate the cost effectiveness of telemedicine relative to traditional medical evacuation models and examine patient and provider satisfaction and perceived effectiveness of telemedicine services.
Methods: A mixed-methods study was conducted across all telemedicine sites in Guyana. Data were extracted from the site platform and MoH facility records, capturing service utilization, demographics, diagnostic categories, referral patterns, device usage, and consultation timeliness. Cost analysis compared national medical evacuation trends (2020–2025) with telemedicine implementation costs. Surveys were administered to patients and Health Workers
Results: By 2025, 81 telemedicine sites were installed nationwide (74% basic, 26% advanced). Between 2024 and 2025, 14,451 patient visits were recorded, with higher utilization in 2024 (59%). Pediatric care was the leading consultation category. The cumulative telemedicine investment (2022–2025) was USD 1.61 million. National medical evacuations declined by approximately 26% following programme scale up. Between 2023 and 2025, an estimated 406 medical evacuations were avoided, yielding USD 1.13 million in gross savings (70%) cost recovery. Platform level analysis showed that 834 potential evacuations were managed on site in 2024 and 2025, corresponding to over USD 2.3 million in avoided costs, with a 12:1 ratio of avoided evacuations. A total of 94 participants completed the survey, over 90% of respondents agreed that telemedicine improved patient care and clinical decision making, while 85% reported reduced referrals. However, 56% experienced connectivity or technical challenges, reflecting in lower scores for system usability.
Conclusion: Telemedicine serves as a transformative solution for Guyana's rural healthcare. Despite limitations in 2025 data completeness and potential self-reporting bias, the study's 81-site coverage provides a high-confidence national baseline.

O-25

Conceptualisation of a framework that facilitates the pathway from academia to industry

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Objective: In response to difficulty in sourcing and delivering a commercially available low-calorie shake during COVID-19, investigators of the Barbados Diabetes Remission Study-2 in collaboration with industry partners, embarked on the process of producing and distributing a home-grown alternative. The aim of this paper was to consolidate the knowledge and experiences gained during this process into a framework that guides university-industry collaboration.
Methods: Stakeholder engagement meetings were held with entrepreneurs, university leaders and Pinehill - our industry partners - to identify factors that hindered or facilitated the process and identify needs to be filled to improve future collaborations. A review of local policies and attitudes was used to assess the context in which the collaboration occurred.
Results: Constructs identified were organised into the 'inner setting' which described the barriers, facilitators and needs of the stakeholders during the collaborative process; and the 'outer setting' which referred to the context in which the process occurred. Barriers in academia identified were limited knowledge of the commercialisation process by the innovators, competing work roles of members of the entrepreneurship team and lack of finances earmarked for commercialisation. The facilitators were: well-defined university policies on intellectual property, supportive leadership, relevant expertise and ready industry partners. Industry listed their barriers as limited research capacity, technical constraints and regulatory barriers while the facilitators included pre-existing partnership and brand strength. In the outer setting, the barriers were prolonged wait times and risks associated with importation of raw materials whereas the supportive climate and policies facilitated the process. The needs listed were structured, ongoing exchange between academia, industry and regulatory bodies, tangible government support and education in innovation for academics.
Conclusion: The Innovation to Industry (I2I) framework represents a model for exploring academic-industry partnerships. It provides scientific rigor for mapping barriers, facilitators and needs while allowing adaptation across various settings.

O-26

Multimodal AI for early Alzheimer's detection: accuracy and optimal combinations

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Objective: To evaluate multimodal AI's accuracy for early Alzheimer's detection (MCI stage), identify optimal modality combinations, and assess cost-efficient approaches.
Methods: A systematic review of 30 studies published (2015–2025) from PubMed, Scopus, and ResearchGate was conducted, using PRISMA guidelines. This indicated the use of artificial intelligence (AI) for the early detection of Alzheimer's disease, especially the mild cognitive impairment (MCI) stage. The assessed modalities (MRI, PET, retinal, and clinical biomarkers) facilitated insights into Alzheimer's progression, and AI models (CNNs, fusion networks, and deep learning systems) were assessed for their ability to process complex datasets and enhance predictive modeling. Outcomes (AUC, sensitivity) were reviewed to ensure consistency for diagnostic accuracy. Merits included improved sensitivity, multimodal integration, and non-invasive potential, while limitations involved dataset variability, generalizability, and computational demands. Findings highlight both the promise and challenges of AI-driven strategies in advancing early Alzheimer's detection.
Results: Multistage MRI-based convolutional neural networks (CNNs) demonstrated the highest diagnostic performance, achieving 98.24% accuracy in dementia detection and 99.70% accuracy in Alzheimer's disease stage subclassification (Ali et al., 2024). PET-based artificial intelligence (AI) systems demonstrated diagnostic accuracies ranging from 85% to 93%, with the notable advantage of identifying pathological changes up to six years before clinical diagnosis (Saad et al., 2024; Athanasopoulos et al., 2025). Multimodal AI systems integrating MRI and PET, with or without retinal imaging, consistently outperformed single-modality approaches by 10-15%, achieving area under the curve (AUC) values greater than 0.95 and classification accuracies exceeding 98% (Zhang et al., 2023; Shao et al., 2024). In contrast, lower-cost AI models based on EEG signals and routine clinical data demonstrated moderate diagnostic accuracy (80–88%), supporting their potential role as scalable screening tools, particularly in healthcare settings with limited access to advanced neuroimaging technologies (Al-Saegh et al., 2024; Giunta et al., 2024).
Conclusion: Multimodal AI (MRI+PET+retinal biomarkers) achieves over 98% accuracy in the early detection of Alzheimer's disease (MCI stage), demonstrating cost-effectiveness. Lower-cost EEGs, screening approaches, and biomarkers would be more cost-effective but offer moderate accuracy comparatively.

O-27

Digital health innovation for cancer prevention and support: insights from the Caribbean Cancer Portal

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Objective: The Caribbean Cancer Portal (CCP) program represents a pioneering, digitally-driven initiative for cancer education, prevention, and survivorship support across the Caribbean. Developed in collaboration with ministries of health in the Organization of Eastern Caribbean States (OECS), the CCP addresses critical gaps in cancer control by promoting accessible, evidence-based learning and patient-centered resources.
Methods: Our goal was to document methods and to understand the contributions to key successes of the CCP, including active continuous collaboration with the ministries of health and non-governmental organizations; demonstrated high interest of Caribbean and international populations in the CCP; and leadership and facilitation by regional multidisciplinary experts, including occupational health experts and scientists, social scientists, public health experts, information technology experts, medical practitioners, and health project managers. A systematization process was used with steering committee members to document experiences, interfacing with the approach and delivery format of the CCP. Responses were captured to guide discussions around the ongoing development of the CCP program. Emerging themes were organized and described by the program administration for reporting on the CCP in different fora.
Results: Five core lessons emerged: (1) the necessity of diverse, inclusive partnerships extending beyond local levels; (2) leveraging government and non-government resources for efficiency and reach; (3) designing need-driven, contextually relevant interventions; (4) applying scientific frameworks, such as the socioecological model, in program design; and (5) integrating stakeholder feedback to inform scale-up and sustainability. These lessons underscore how regional collaboration and digital health innovation can strengthen cancer control programs in resource-limited settings.

Conclusion: The CCP model demonstrates that virtual platforms can foster community engagement, enhance health literacy, and improve the sustainability of cancer education and support systems in small island nations. Future expansion will focus on continuous systematization and sustained regional cooperation to ensure equitable access to cancer information and care across the Caribbean.

O-28
Artificial Intelligence in healthcare: ethical integration and impact on clinical practice

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Objective: To evaluate the clinical, educational, and ethical impacts of artificial intelligence (AI) in healthcare, assess perceptions of its reliability and examine its role in advancing equitable care in low-resource settings
Methods: A mixed-methods descriptive study was conducted, integrating narrative literature review and a multicountry cross-sectional survey. PubMed and Scopus were searched for English language articles (2018–2024) using selected keywords as artificial intelligence in clinical decision support, artificial intelligence in education and artificial intelligence ethics. Articles were included based on relevance to clinical and ethical applications of artificial intelligence. Key findings from selected studies were reviewed, paraphrased, noted, and were used to support the manuscript. A structured, independent questionnaire was developed by the authors based on academic understanding of artificial intelligence in healthcare, without any predefined framework or existing validated questionnaire. The survey was administered via Google Forms among healthcare professionals and medical students across Guyana, India, Russia, and the Middle East. Informed consent was obtained. Descriptive statistical analysis was performed using frequencies and percentages.
Results: The literature consistently demonstrated that AI enhances diagnostic accuracy, improves workflow efficiency, and expands healthcare access. Among 200 respondents, 68% reported favorable perceptions and 65% reported active use of AI tools. While 70% followed AI-generated recommendations, only 44% expressed high trust, highlighting a critical gap between utilization and confidence. Concerns regarding clinician replacement were limited (26%), while moderate comfort (52%) and perceived similarity to human reasoning (63%) indicated cautious acceptance. Ethical concerns including data privacy, bias, and lack of transparency were more pronounced in low-resource settings.
Conclusion: AI demonstrates measurable benefits in clinical efficiency and accessibility; however, the gap between adoption and trust underscores the need for targeted clinician training, transparent algorithms, and robust ethical oversight. Addressing these challenges is essential for responsible and equitable AI integration, particularly in low-resource settings.

O-29
Suffering in silence: endometriosis and the Caribbean research gap

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Objective: To assess the current evidence on endometriosis-related mental health outcomes, stigma, and quality of life among Caribbean populations through a scoping review.
Methods: A scoping review was conducted to identify literature published between 2015 and 2025 exploring endometriosis, mental health, stigma, and quality of life in Caribbean populations. Google Scholar was searched using the terms "endometriosis," "Caribbean," "Latin America," "quality of life," "mental health," "pain," and "stigma." Seventy-three records were screened, 16 underwent full-text reviews, and 4 primary studies (three cross-sectional surveys and one crosscountry analysis) met inclusion criteria.
Results: Most studies combined Caribbean participants with larger Latin American cohorts, limiting regional inference. Across studies, the most commonly reported symptoms were chronic pelvic pain, dysmenorrhea, dyspareunia, and fatigue. Depression was substantially more prevalent among individuals with chronic pain (up to 86%) compared to those without pain 38%. Endometriosis-related stigma was independently associated with poorer quality of life and lower self-esteem, and was linked to worse psychological outcomes among individuals experiencing pain. Longer diagnostic delays, unemployment,, and poorer self-rated health were consistently associated withreduced emotional and social well-being. Aggregated data also highlighted a substantial burden of endometriosis on fertility and chronic pain, with persistent disparities across socioeconomic contexts. However, the reliance on cross-sectional designs, self-reported data, and aggregated regional data limited the ability to draw Caribbean-specific conclusions.
Conclusion: Endometriosis contributes significant morbidity through chronic pain, infertility, and psychological distress, often independent of pain severity. In the Caribbean, menstrual stigma and delayed care exacerbate distress and hinder illness acceptance. Given endometriosis' global classification as a leading cause of disability, multidisciplinary, culturally responsive care models, integrating gynecologic management, mental health screening, and anti-stigma initiatives, are urgently needed. Expanded

regional research is essential to reduce diagnostic delays, improve quality of life, and address inequities in endometriosis recognition and care.

O-30

A cross-sectional survey of stigma, anxiety, and depression in women with endometriosis and/or uterine fibroids in Barbados

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Objective: This study was designed to assess the relationship between stigma and the adverse mental health outcomes of severe depression and severe anxiety in women with endometriosis and/or uterine fibroids, residing in the Anglophone Caribbean country of Barbados.
Methods: An online cross-sectional population-based study was conducted in Barbados from March to May 2025. Barbadian women, self-reporting a diagnosis of endometriosis and/or uterine fibroids by a qualified healthcare professional were included. Data were analyzed: mean anticipated stigma and mean internalized stigma scores were calculated. Logistic regression assessed the relationship between mean stigma scores and severe depression (Patient Health Questionnaire-9 (PHQ9): ≥20) as well as mean stigma scores and severe anxiety (Generalized Anxiety Disorder-7 (GAD7): ≥15). This study received ethical approval from The University of the West Indies (IRB #: CREC-CH.00305/05/2024) and George Mason University (IRB #:2206605-1).
Results: Three hundred and fifty three (n=353) Barbadian women self-reporting a diagnosis of endometriosis and/or uterine fibroids were included. Most had uterine fibroids only (n=217; 61.5%), followed by a dual diagnosis of endometriosis and uterine fibroids (n=71;20.1%) and then those with endometriosis only (n=65; 18.4%). Mean stigma scores were 1.77 (anticipated) and 2.10 (internalized) on a 5-point scale (1 being the lowest and 5 being the highest). Severe depression was reported by 7.9% and 15.6% reported severe anxiety. In adjusted models, stigma was associated with an increased likelihood of severe depression (anticipated (aOR=2.57; 95% CI:1.67-4.06); internalized (aOR =6.74; 95% CI: 3.53–14.35)) and severe anxiety (anticipated (aOR=1.87; 95% CI: 1.29–2.54); internalized (aOR=1.69; 95% CI: 1.14–2.52)).
Conclusion: Barbadian women with endometriosis and/or uterine fibroids experience anticipated and internalized stigma which are significantly associated with severe depression and severe anxiety. Culturally appropriate multicomponent stigma reducing interventions are warranted to improve mental health outcomes for this population.

O-31

Investigating the association of drug exposure during pregnancy with birth outcomes, among mothers with medicaid

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Objective: To assess the association between exposure to marijuana during pregnancy and infant low birth weight.
Methods: This study used 2018–2020 maternal and birth outcome data from the Florida Bureau of Vital Statistics for newborns of women who used marijuana or other substances during pregnancy. Descriptive and inferential analyses were conducted to examine the relationship between infant low birth weight for mothers who used marijuana during pregnancy compared to their counterparts who used other substances, controlling for sociodemographic characteristics, prenatal care utilization, and tobacco uset.
Results: Maternal marijuana use was not significantly associated with infant low birth weight in this population (OR=0.918; 95% CI: 0.509, 1.654; p=0.7757) compared to maternal use of substances other than marijuana. Using multi-variable logistic regression, statistically significant associations with low birth weight were observed for maternal age (OR=0.954; 95% CI: 0.922, 0.987; p=0.069), race (Black compared to White) (OR=0.518; 95% CI: 0.351, 0.763; p=0.0009), marital status (unmarried compared to married) (OR=0.528; 95% CI: 0.284–0.981; p=0.0433), total prenatal care visits (OR=0.993; 95% CI: 0.987, 0.998; p=0.0085), and tobacco use (any compared to none) (OR=0.479; 95% CI: 0.316, 0.725; p=0.0005).
Conclusion: These findings suggest that compared to mothers who used substances other than marijuana during pregnancy, marijuana use during pregnancy was not independently associated with infant low birth weight; however, prenatal care visits, maternal age, White race, and unmarried marital status were associated with low birth weight. This study demonstrates the value of using vital statistics data to examine maternal risk factors for low birth weight. The analytic approach offers a scalable model for strengthening maternal health surveillance and informing targeted interventions in under-resourced settings.

O-32

A review of hypertensive disorders of pregnancy between January 2023 and December 2023 at the Queen Elizabeth Hospital, Barbados

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Objective: To estimate the prevalence of hypertensive disorders in pregnancy (HDP)and the associated risk factors among women in Barbados between January 2023 and December 2023
Methods: A retrospective cross-sectional study was conducted by systematically sampling every sixth patient records from the labour and delivery admissions book at the Queen Elizabeth Hospital in Barbados between January 2023 to December 2023. Sociodemographic and maternal characteristics were analyzed using descriptive and inferential statistics.
Results: Most women were Black (90%) with a mean maternal age of 27 years (SD 6.2; 95% CI 25.9–28.2) and mean maternal BMI of 28.8 (SD 7.0; 95% CI 27.3–30.2). The prevalence of HDPs was 14.8% among 115 mothers included in the study with intrapartum preeclampsia (IP) accounting for 76.5% of HDPs with a mean onset at 35.5 weeks of pregnancy (SD 3.4; 95% CI 33.5–37.6). Significant associations were found between nulliparity (chi2 p-value 0.039, fisher's p-value 0.054), and chronic hypertension (chi2 p-value 0.001, fisher's p-value 0.012). Risk factors with increased odds of HDP were: anaemia (OR 2.37; p=0.334; 95% CI .411–13.7), women aged 15–19 (OR 1.67; p=0.753; 95% CI .0734-36.9), obesity (OR 2.1; p=0.417; 95% CI .357–11.9), nulliparity (OR 2.94; p=0.478; 95% .1485- 58.4), primigravida (OR 5.76; p=0.253; 95% CI .2860–116.1), post-secondary education (OR 1.53 p=0.045, 95% CI: 1.0–2.3).
Conclusion: The prevalence of HDP among pregnant women at the QEH between January 2023 and December 2023 is high compared to high-income countries.

O-33

Increased emotional resilience and mental well-being in Virgin Islands (UK) Youths through early therapeutic intervention

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Objective: To evaluate the effectiveness of a school-based psychosocial skills intervention on students' mental health across the Virgin Islands (UK), to improve emotional regulation, coping skills, and behavioural functioning among primary and secondary students.
Methods: A quasi-experimental pre-post design was conducted with 116 students aged 7–17 years identified through school personnel, parents, and COMHSAS clinicians. The intervention consisted of twice-monthly sessions from October 2024 to June 2025, utilising dialectical behavior therapy (DBT) skills for secondary students and a coping-skills curriculum for primary students. Anxiety and depressive symptoms were assessed using the Beck Anxiety Inventory (BAI), Centre for Epidemiological Studies Depression Scale for Children (CES-DC), and Patient Health Questionnaire-Adolescent Version (PHQ-A). Pre-post analyses were performed using SPSS.
Results: Baseline BAI scores were moderate (15–25). Anxiety reduction was observed across islands. Virgin Gorda's mean BAI declined from 26.8 to 19.9, while Anegada showed a slight reduction. CES-DC scores increased slightly, with rises in Tortola (16.2–21.5), Anegada (20.6–22.5), and Jost Van Dyke (15.0–18.1), while Virgin Gorda remained stable (25.3–27.6). PHQ-A scores decreased in Virgin Gorda (13–8) and Anegada (11–10). Qualitative findings indicated improved emotion regulation and coping skills, with consistent attendance was associated with better outcomes.
Conclusion: The program demonstrated effectiveness in improving emotional functioning among school-aged children in the Virgin Islands (UK). Participants gained therapeutic tools with potential longer-term benefits. Variability in outcomes highlights the need for improved implementation and follow-up. Continued interventions are recommended to support early identification and improvement of psychosocial distress.

O-34

Relational, cultural and collective pathways to indigenous adolescent well-being: process evaluation of the IMPACT (IMPlementation of a Multisectoral Programme To Improve Indigenous AdolesCent MenTal Health) programme in Brazil

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Objective: Indigenous adolescents face disproportionate mental health inequities, yet evidence on culturally grounded programmes remains limited. IMPACT addresses this gap through a culturally adapted, multi-sectoral approach centred on Indigenous worldviews, relational systems, and co-creation of knowledge. We present process evaluation of the mental health promotion component of IMPACT in Brazil.

Methods: A qualitative study in which 600 Indigenous adolescents from Aldeia Guarita participated in sessions guided by vignettes, using interactive and culturally grounded methods. The sessions addressed mental health, violence prevention, nutrition, and intergenerational relationships. The adolescents, supported by teachers, elders, Indigenous leaders, and health professionals, were the protagonists of the initiative. Data were collected through ethnographic observation, video documentation, talking circles, photovoice, in situ interviews, and reflective journals. The analysis examined how the program activities were implemented and adapted to the Indigenous worldview, which is based on harmony among human beings, nature, spirituality, and ancestry.
Results: Findings demonstrate a high degree of cultural responsiveness, with mental health promotion enacted as a collective, relational, and culturally embedded process. Kaingang worldviews shaped content and delivery, positioning well-being as inseparable from culture, territory, ancestry, and everyday practices. Co-created vignettes functioned as central mechanisms of change, enabling culturally safe dialogue and supporting youth protagonism and intergenerational exchange. Storytelling, rituals, crafts, and shared meals created embodied spaces for reflection, where silence, humour, resistance, and emotion were recognised as meaningful participation. These practices strengthened cultural identity and reframed mental health as collective care connecting adolescents, elders, families, schools, and health services, promoting trust, collaboration, and shared responsibility. Knowledge was co-created through doing, being, and reflexivity, highlighting limitations of conventional evaluation models.
Conclusion: Culturally grounded, relational approaches can meaningfully support Indigenous adolescent well-being and mental health. The study highlights the need to rethink evaluation frameworks to better reflect Indigenous reflexivity, leadership, and collective ways of knowing

O-35

Grounding youth mental health indigenous knowledge systems and adolescent mental health: Photovoice Findings from the IMPACT Programme in Brazil

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Objective: This study aimed to explore Indigenous adolescents' perceptions of wellbeing and distress through Indigenous knowledge systems and to generate grounded evidence to inform the IMPACT programme, to strengthen Indigenous adolescent mental health promotion.
Methods: A qualitative exploratory study using Photovoice was conducted with 28 Indigenous adolescents from the Guarita Indigenous Land, southern Brazil. Participants produced photographs representing aspects of their daily lives that made them feel happy or sad, accompanied by captions. The process included guided photography, group discussions, caption development, and collective reflection sessions conducted between June-September, 2025. Data analysis followed a participatory and iterative approach, combining photo dialogue, open coding of images and captions, and thematic analysis. An interpretive framework informed by psychology and symbolic analysis was applied to deepen understanding of emotional and contextual meanings.
Results: Eighty photographs were analysed, of which 43 depicted positive influences on mental health, 35 depicted negative influences, and 2 reflected both. Nine (9) thematic categories emerged: Nature, Sports, Future Perspectives, Ancestry, Food, Important Places, Community Challenges, Abandonment, and Emotions. Protective factors were associated with connection to land, cultural practices, sports, food, and communal spaces, while vulnerabilities were linked to environmental degradation, substance use, neglect of shared spaces, and limited emotional support. The theme of Abandonment was most prevalent, expressing neglect, sadness, and weakened belonging.
Conclusion: Photovoice enabled Indigenous adolescents to articulate complex, relational understandings of mental health grounded in Indigenous knowledge systems. The findings highlight both sources of resilience and areas of vulnerability, offering actionable insights for culturally responsive mental health promotion. Integrated within the IMPACT programme, this approach supports the co-development of community- and school-based interventions that strengthen wellbeing, cultural continuity, and adolescent agency.

O-36

Strengthening primary mental health care in Small Island Developing States: Lessons from the GGZ-Carib Participatory Action Research Project in Curaçao and Bonaire

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Objective: To evaluate the structure, accessibility, and utilisation of primary and specialist mental health services in Curaçao and Bonaire, and to identify practical strategies for

strengthening primary mental health care (PMHC) in Small Island Developing States (SIDS).

Methods: A participatory action research (PAR) approach grounded in Appreciative Inquiry was applied. Quantitative data include: (1) Mental Health Insurance administrative claims data for outpatient mental health care in Curaçao (2018–2022), (2) General Practitioner (GP)/ Mental Health Practitioner Assistant pilot data from two Curaçao GP practices, (3) Mental Health Caribbean (MHC) service-use data on Bonaire, and (4) routine Mental Health Practice Assistant data from two Bonaire GP practices. Qualitative data consist of 44 semi-structured interviews with 48 participants and six stakeholder design and validation sessions. Quantitative data were analysed descriptively, and qualitative data were analysed thematically.

Results: In Curaçao, administrative claims data recorded 75,292 to 84,874 reimbursed outpatient mental health service contacts annually across four provider groups serving 7–8% of SVB-insured population. Independent psychologists saw the most clients (4,296–5,089 yearly), with youth making up 29-36% of their caseload. On Bonaire, MHC data showed a 192% increase in clients, from 350 in 2018 to 1,021 in 2023, about 4% of the population. GP Mental Health Practitioner Assistants (GPMHPA) services aided early intervention: in Curaçao (n=86), 74% of clients were discharged without specialist referral, and 54% improved; Bonaire's GPMHPAs handled 329–336 new referrals annually. Both islands' GPMHPAs provided accessible, culturally sensitive support, resolving many mild-to-moderate cases in primary care. Barriers included access issues, waiting times, fragmentation (Curaçao), workforce limits (Bonaire), stigma, language, and limited youth services.

Conclusion: Strengthening primary mental health care, especially by boosting GP Mental Health Practitioner Assistant capacity, enhancing triage and system navigation, and improving interorganizational collaboration, offers practical, scalable opportunities to improve mental health system performance in SIDS.

O-37

Evaluating management strategies for late pregnancy loss: a randomized clinical trial at Georgetown Public Hospital Corporation (GPHC)

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Objective: The combination of mifepristone and misoprostol has been shown to shorten induction-to-delivery times compared to misoprostol alone; however, limited data are available in our settings. This study aimed to compare the efficacy, safety, and tolerance of a mifepristone-misoprostol regimen versus misoprostol alone for inducing labor in third-trimester intra-uterine foetal death (IUFD) cases at the GPHC.

Methods: This Randomized controlled trial included women with confirmed third-trimester IUFD admitted to the Department of Obstetrics and Gynecology at GPHC between January 1 and December 31, 2023. Participants were randomly assigned to receive either oral mifepristone 200mg followed 24hours later by vaginal misoprostol, or vaginal misoprostol alone. Statistical analysis was performed using SPSS Version 29.0.1.1, and the results were expressed in percentages.

Results: The induction-to-delivery time was significantly shorter using the combination group compared to the misoprostol-only group (p=<0.0001). Secondary outcomes included need for additional doses, maternal complications, and patient satisfaction showed no significant difference. Safety, tolerance, analgesia requirements, and oxytocin use were comparable between groups. The combination regimen demonstrated better overall efficiency without increasing adverse events.

Conclusion: The combination of mifepristone and misoprostol is a more effective regimen for managing third-trimester IUFD, reducing induction time without compromising safety.

O-38

The effectiveness of the HPV Quadrivalent vaccine in Guyanese women

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Objective: Assess the effectiveness of the Quadrivalent HPV vaccine in preventing infection against HPV strains 16 and 18 among women screened under the HPV Voucher Programme in 2024.

Methods: A retrospective cross-sectional study was conducted, utilising secondary data collected from HPV tests performed on Guyanese women under the HPV voucher programme in 2024. The variables analysed were the vaccination status of women who underwent HPV testing, the proportion of vaccinated women with a positive HPV test, and the prevalence of HPV 16 and 18. Descriptive statistics were used to describe vaccination coverage, doses received, and the distribution of HPV strains 16 and 18.

Results: Of the 12,226 women tested for HPV, 1,437 (12.1%) were vaccinated before testing. Among vaccinated women, 4% received 3 doses, 46% received 2 doses,

and 47% received 1 dose. Of the vaccinated HPV positive women, 14 strains were discovered, with HPV 16 accounting for 4.8% and HPV 18, 6.1%, respectively. Of the total vaccinated population tested for HPV, 1.9% (29) tested positive for HPV-16, and 2.7% (39) tested positive for HPV-18.
Conclusion: HPV breakthrough infections were observed among women who reported previous vaccination with the HPV Quadrivalent vaccine. The vaccination history taken demonstrated low uptake of the three recommended doses. The findings suggest that the quadrivalent vaccine was effective in preventing infection with HPV strains 16 and 18 in 98% and 97% of vaccinated women, respectively.

O-39

Improving protection against and our understanding of Human Papillomavirus infection in the Cayman Islands using a multi-faceted approach

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Objective: This paper aims to outline the improvements made to i) the national HPV vaccine programme, ii) HPV surveillance and iii) the HPV immunization coverage for the 2023–2024 and 2024–2025 Year 7 students.
Methods: The Cayman Islands introduced an adolescent school-based HPV immunization programme in 2012, offering Gardasil 4 for females in two high schools. In 2023, the HPV immunization programme was evaluated and recommendations made to improve accessibility and uptake. Improvements were implemented over two years to provide universal vaccination to males and females, transition to the nonavalent from the quadrivalent vaccine, enhance communications and use electronic consent forms. Descriptive analysis of the immunization coverage, was conducted for the Year 7 students in 2023–2024 and 2024–2025, by school and by sex. Analysis was focused only on the target population of year 7 students and older students who were administered the vaccine as catch-up efforts were excluded from analysis. High risk HPV surveillance was implemented through PCR testing, and samples were analyzed between January and November 2025.
Results: The results found vaccination accessibility was improved by expanding the programme to all schools, and including both males and females. Overall vaccine uptake increased to 32% in 2023–24 year 7 students, and declined to 17% in 2024–25 year 7 students. Uptake was similar in both females and males indicating the change to universal programme was well received. The hrHPV positivity rate was 16.8% overall (N=1,503 individuals), and highest for genotypes 31/39/56 at 5.5%.
Conclusion: This analysis demonstrates the implementation of surveillance, improved availability and equality to HPV immunization, and improved protection for the population from the nonavalent vaccine. Further analysis is needed to assess uptake for those under 15 years for a more comprehensive vaccine coverage indicator.

O-40

Self-Rated health as a predictor of short to long- term survival in older Afro-Caribbeans hospitalised via the emergency department

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Objective: To determine whether self-rated health (SRH) is an independent predictor for Survival at different timepoints in older Afro-Caribbean patients hospitalised for an acute condition.
Methods: A prospective cohort of patients were recruited from the University Hospitals of Martinique Acute Care for Elders Unit. Patients aged 75 years or older and hospitalised for an acute condition were eligible. The outcome was time to death within the 3-year follow-up. SRH was the explanatory variable of interest. Cox's Proportional Hazards model was used to estimate the relationship between SRH and Survival.
Results: The 223 patients included in the study were aged 85.1 ± 5.5 years. In total, 123 patients reported "very good to good" health, and 100 "medium to very poor" health. Crude survival rates at 6 weeks, 6 months, 1, 2 and 3 years were 14.8%, 30.5%, 34.8%, 48.4%, and 57.0%, respectively. By multivariate analysis, SRH reached significant relationship for all survival timepoints. The adjusted hazard ratios for subjects who perceived their health as medium, poor or very poor was 1.6 to 2.7 times greater than that of subjects who reported good or very good health.
Conclusion: Although some uncertainty remains regarding the exact components that influence SRH, our study suggests that SRH is an independent prognostic factor for survival in a population of older Afro-Caribbean patients admitted to acute care. SRH is easy to record at admission, and a SRH of fair to very poor SRH should alert clinicians to the need to orient the patient towards geriatric care to undergo multidimensional geriatric assessment.

O-41

Factors associated with quality of life among elderly Bahamians attending selected primary care clinics in New Providence, Bahamas: a cross-sectional study

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Objective: To assess the QoL and the factors associated with QoL among elderly Bahamians attending selected primary care clinics in New Providence, Bahamas.
Methods: A cross-sectional study was conducted of patients aged 65 years and older. A face-to-face, interviewer-administered, 25-item survey was utilized, including socio-demographic information and the Older People's Quality of Life (OPQOL) – brief questionnaire. Data was analyzed using Stata version 16. Descriptive and inferential statistics were calculated using a 95% confidence interval, and bivariate and multilinear regression models were used to determine associations of interest and predictors of QoL.
Results: Among 367 participants (mean age 74.0 ± 6.5 years), 95% reported fair or better QoL (mean QoL score 56.0 ± 5.82). Significant associations with QOL included: marital status (married), education level (tertiary), crowded living conditions, dementia, depression, CKD, CVD, and daily alcohol use. Multilinear regression identified four positive predictors: marital status (married), living with family, and secondary/tertiary education. Five negative predictors were identified: crowded living conditions, depression, CKD, family as main income source, and daily alcohol use (adjusted R^2=0.20, $p<0.001$).
Conclusion: Mental health, chronic noncommunicable diseases, and socioeconomic factors have a strong impact on QoL. A concentrated effort at all levels of society must be made to concentrate on these crucial areas if QoL is to be preserved or improved with increasing age.

O-42

Integrating muscle damage, immune function and electrolyte balance biomarkers for early detection of training stress in collegiate athletes during pre-season in Jamaica

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Objective: This study investigated the distributional characteristics, interrelationships, and multi-system predictors of specific biomarkers such as creatine kinase, lactate dehydrogenase, white blood cell count, sodium, creatinine, urea, bicarbonate, chloride, magnesium, potassium, neutrophil and lymphocytes for early detection of training stress.
Methods: A correlational study was conducted among 59 collegiate athletes (31 males, 28 females; 20.6 ± 1.85 years) representing seven sports. Blood samples were analyzed during pre-season using the Cell-Dyne Ruby, cobas Pro analyzers and XN-1000 haematology analyzer. Statistical analyses were performed using SPSS v25, with significance set at $p<0.05$.
Results: Creatine kinase (CK) was elevated in most athletes (males 96.8%, females 71.4%), with parallel elevations in lactate dehydrogenase (LDH) (males 87.1%, females 60.7%), indicating substantial pre-season muscle stress. CK demonstrated a robust positive association with LDH (ρ=0.521), supporting their coupled response as core muscle damage indicators within a training stress monitoring framework. CK was further positively correlated with white blood cell count (ρ=0.311), sodium (ρ=0.384), and creatinine (ρ=0.583), and inversely correlated with lymphocyte percentage (ρ=−0.261), reflecting integrated muscular, immune, and metabolic responses. Regression analysis identified LDH (positive), lymphocyte percentage (negative), magnesium (positive), potassium (negative), and creatinine (positive) as independent predictors of CK, reinforcing the value of a multi-biomarker biological passport approach for early detection of training-induced physiological stress.
Conclusion: Pre-season training is associated with elevated muscle damage markers in collegiate athletes, supporting the use of routine, multi-system biomarkers for early detection and monitoring of training stress. This approach enables timely training adjustments and promotes safer athlete health management.

O-43

Racism, immigration background, and adolescent mental health: an intersectional analysis of the London based DASH multi-ethnic cohort

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Objective: Adolescent mental health inequalities are shaped by intersecting social positions. Quantitative evidence rarely examines how immigration background, racism, socioeconomic disadvantage, and gender jointly influence mental

health. This study investigated intersectional patterns in adolescent mental health in the United Kingdom.

Methods: We analysed data from the Determinants of Adolescent Social Well-being and Health (DASH) longitudinal study, including 3,527 adolescents aged 11–16 years (7,054 pooled observations) from 51 secondary schools in London. Mental health outcomes were assessed using the Strengths and Difficulties Questionnaire (emotional symptoms, peer relationship problems, conduct problems, and hyperactivity/inattention). Intersectional strata were defined by gender, immigration background (UK-born vs. foreign-born), experiences of racism, and family socioeconomic circumstances. Multilevel Analysis of Individual Heterogeneity and Discriminatory Accuracy (MAIHDA) models were fitted, adjusting for age and ethnicity, to estimate regression coefficients, variance partitioning, and predicted outcomes.

Results: Experiences of racism were consistently associated with worse mental health across all outcomes, including higher peer relationship problems (β=0.32, 95% CI 0.22–0.42), emotional symptoms (β=0.59, 95% CI 0.46–0.71), conduct problems (β=0.45, 95% CI 0.32–0.59), and hyperactivity/inattention (β=0.50, 95% CI 0.36–0.63). Foreign-born adolescents reported higher peer relationship problems (β=0.33, 95% CI 0.21–0.44), but lower conduct (β=−0.15, 95% CI−0.30 to −0.00) and hyperactivity/inattention symptoms s (β=−0.29, 95% CI −0.46 to −0.13). Female adolescents had substantially higher emotional symptom scores (β=1.24, 95% CI 1.12–1.36) and lower conduct problems (β=−0.25, 95% CI −0.38 to −0.11). Intersectional analyses showed residual between-stratum variance, particularly for externalising symptoms, indicating nonadditive effects of intersecting social positions.

Conclusion: Adolescent mental health inequalities in the UK are fundamentally intersectional, with racism exerting a strong and pervasive effect across internalising and externalising outcomes. These findings highlight the limitations of single-axis analyses. Policies and interventions should address structural racism and socioeconomic disadvantage across intersecting social identities.

O-44

An analysis of the prevalence of depression among medical staff at Georgetown Public Hospital Corporation (GPHC): a cross-sectional study

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Objective: The objectives of this study were to estimate the prevalence of depressive symptoms among medical staff at GPHC; describe demographic and occupational characteristics of medical staff and examine their relationship with depressive symptoms. Additionally, the study evaluated the impact of depressive symptoms on work performance and patient care; explored coping mechanisms used by medical staff; and assessed awareness of available institutional mental health support systems.

Methods: A descriptive cross-sectional study was conducted among medical staff at GPHC between August and October 2025. Using stratified random sampling, 323 participants were recruited from various professional categories. Data were collected through a structured, anonymous questionnaire that included demographic and occupational information, workplace stressors, coping strategies, and depressive symptoms measured using the Patient Health Questionnaire-9 (PHQ-9). Clinically significant depressive symptoms was defined as a PHQ-9 score ≥10. Data were analyzed using SPSS version 26.

Results: The prevalence of clinically significant depressive symptions among participants was 33.4%. Mild depressive symptoms were reported by 39.6% of participants, while 33.5% experienced moderate to severe depressive symptoms. The highest prevalence was observed among residents (43.1%), followed by medical interns (36.7%), and nurses (30.8%). Significant associations were identified between depressive symptoms and workplace factors such as uncompensated on-call duties (p=0.002), heavy workload, and burnout. Participants experiencing depressive symptoms were significantly more likely to report impaired work performance and strained professional relationships (p<0.001). Additionally, over 60% of respondents were unaware of available mental health support services within the institution.

Conclusion: Depressive symptoms affects a substantial proportion of medical staff at GPHC, particularly residents, interns, and nurses. Workplace stressors, including uncompensated on-call duties, contribute to this burden and negatively impact professional functioning. Improved awareness and accessibility of institutional mental health support services along with system-level interventions are urgently needed to promote healthcare workers' wellbeing and maintain quality patient care

O-45

Mental health and adaptation to chronic sargassum exposure in the French Overseas Territories in the Americas

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Objective: To examine chronic sargassum exposure through a population and social science lens by documenting community knowledge, risk perception, lived physical and mental health impacts, and adaptation strategies, and to assess how these insights can inform public health prevention, mental health integration, risk communication, and policy design in the Caribbean.
Methods: A qualitative socio-anthropological study (SARGACARE project) was conducted between September and November 2023 among 60 residents and workers living in coastal areas of Martinique with varying levels of sargassum exposure. Individual interviews and focus groups were carried out using a standardized interview guide. Thematic content analysis explored knowledge gaps, perceptions of environmental and health risks, physical and mental health impacts, adaptation strategies, and the influence of social and territorial inequalities.
Results: Sargassum strandings were widely perceived as a chronic environmental health threat rather than an episodic event. Knowledge regarding sargassum origin and toxicity was heterogeneous and largely shaped by lived experience, revealing persistent knowledge gaps. Participants consistently reported cumulative health impacts, including respiratory symptoms, headaches, sleep disturbances, and psychological stress. Mental health effects—such as anxiety related to odors and gas emissions, emotional distress, uncertainty, and anticipatory stress during recurrent sargassum seasons—were prominent and closely intertwined with physical symptoms. Adaptation strategies ranged from behavioral and housing adjustments to reliance on informal support networks, while social and territorial inequalities strongly influenced vulnerability and capacity to adapt.
Conclusion: Community knowledge and perceptions, including lived mental health experiences, constitute a critical yet underused resource for addressing chronic environmental health threats such as sargassum strandings. Integrating social science evidence into public health responses represents an innovation in health by improving risk communication, prevention strategies, mental health integration, and equitable policy design. This approach supports more resilient and community-centered Caribbean health systems facing climate-driven environmental change.

O-47

Mental wellbeing and psychological distress among first- and second or higher-generation English-speaking Caribbean Immigrants in New York City (NYC)

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Objective: To identify social and demographic factors associated with psychological distress and mental wellbeing for first- and second-generation Caribbean immigrants in NYC.
Methods: Data were analyzed from the 2023 NYC Neighborhood Wellness Survey, a population-based, cross-sectional survey of NYC adults. Caribbean ancestry was identified from coded open-text responses and restricted to English-speaking Caribbean countries and CARICOM states. Psychological distress and mental wellbeing were measured using the Kessler-6 and Short Warwick–Edinburgh Mental Wellbeing Scale, respectively. Demographic and psychosocial characteristics were self-reported. Multinomial logistic regressions were estimated for the full sample and stratified by immigrant generation status.
Results: The sample was predominantly aged 45–64 years, Black, and female; 39% met criteria for moderate/severe psychological distress (MSPD) and 37% reported low/moderate mental wellbeing (LMMW). Younger age, being Asian or another race (vs. Black), and having a high school or lower education, history of mental health diagnoses, past 12 months binge drinking, low health literacy, higher social isolation, higher financial strain, and higher racial discrimination increased the odds of MSPD among Caribbean immigrants. Younger age, history of mental health diagnoses, low health literacy, higher social isolation, higher financial strain, and higher racial discrimination also increased the odds of LMMW among Caribbean immigrants. For both MSPD and LMMW, some of the significant demographic and social associations differed for first generation immigrants and second or higher-generation Caribbean immigrants.
Conclusion: Psychological distress and mental wellbeing among Caribbean immigrants in NYC were associated with modifiable social factors. Interventions through trusted immigrant-serving organizations may improve wellbeing.

O-48

Strengthening indigenous community mental health capacity in Dominica: an mhGAP-Informed training in the implementation of a multisectoral programme to improve Indigenous AdolesCenT mental health (IMPACT) study

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Objective: To strengthen community-based mental health capacity in the Kalinago Territory through culturally adapted mhGAP-informed training for caregivers and adolescents within the IMPACT research programme.
Methods: Training was developed through participatory World Café consultations with community stakeholders in October 2024. Caregivers (n=21), including nurses, teachers, community health workers, and parents, received 21 hours of training focused on mental health identification, referral pathways, risk recognition, and advocacy. Adolescents (n=12, ages 10–18) received 10 hours of age-appropriate training emphasising mental health literacy, peer support, and help-seeking behaviours. Training was delivered in-person by a multidisciplinary team comprising Dominica's Chief Psychiatrist and a senior social worker. Evaluation employed qualitative thematic synthesis of participant feedback, trainer observations, and verbatim discussions.
Results: Participants demonstrated enhanced knowledge of priority mental health conditions and a clearer understanding of community-based identification, referral, and support roles. Facilitators included strong community cohesion, experiential knowledge, and meaningful youth engagement. Barriers included persistent stigma, culturally embedded spiritual explanatory models of mental illness, and significant systemic gaps in social work and child protection capacity.
Conclusion: mhGAP-informed training is feasible and valuable for strengthening mental health capacity in Indigenous Caribbean communities when culturally adapted. However, effectiveness requires integrated investment in policy frameworks and social services.

O-49

Sustained HIV protection with Cabotegravir LA among Black and Latine Individuals: data from the Midway cohort

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Objective: To evaluate persistence on long-acting injectable cabotegravir (CAB-LA) for pre-exposure prophylaxis (PrEP) at 3, 6, 12, and 24 months; assess adherence to on-time injections; and determine HIV incidence among patients receiving CAB-LA PrEP at Midway Specialty Care in Florida. Additionally, to highlight how the Midway cohort, comprising predominantly Black and Latine individuals, reflects populations with shared demographic and epidemiologic characteristics seen in Caribbean communities, supporting the broader applicability of these findings.
Methods: This retrospective cohort study examined persistence on CAB LA PrEP from January 2021 to December 2024 across 16 infectious disease clinics in Florida. The primary outcome was PrEP persistence. Secondary outcomes included adherence to on-time injections and the incidence of HIV among individuals on CAB LA PrEP. The sample population was 159.
Results: Among Latine participants, 85% persisted on CAB LA for at least three months and 64% for at least 12 months, while among Black participants, 84% persisted for at least three months and 54% to 12 months. No incident HIV infections were reported in this population. 97% of CAB LA PrEP injections were administered on time.
Conclusion: This cohort of Black and Latine persons on CAB LA PrEP achieved high on-time adherence and strong persistence with no observed HIV seroconversions. This evidence supports the role of long-acting injectable PrEP as an effective method to prevent HIV. Long-acting injectable PrEP, such as CAB LA, is an exciting option for Caribbean countries but requires support and successful implementation. A regional strategy to address educational and structural barriers to PrEP can improve PrEP uptake in priority populations.

O-50

Predicting virological failure in pediatric and adolescent human immunodeficiency virus (HIV) patients in Haiti: a crisis-adjusted machine learning approach

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Objective: Haiti's ongoing security crisis has widened the disparity in HIV viral suppression between adults (–80%) and pediatric patients (–59%). Since standard adherence monitoring fails to capture the disruptions caused by violence and displacement, we aimed to develop and validate a machine learning model to predict virologic failure among children and adolescents (ages 0–19), identifying high-risk patients for proactive triage before virological rebound occurs.
Methods: We conducted a retrospective study using Electronic Medical Records from the iSanté system. To account for irregular clinic attendance, we utilized a patient-centric sliding window approach, anchoring behavioral features to the most recent viral load test. We engineered crisis-specific features, including status change frequency, and proportion of time on treatment. Three tree-based models (XGBoost, LightGBM, CatBoost) were trained using 5-fold cross-validation and hyperparameter tuning, optimized for Recall (F2-Score) to minimize false negatives in a high-risk setting.

Results: The cohort included 4,674 pediatric and adolescent patients with a virologic failure prevalence of 20.6%. The CatBoost algorithm achieved the best performance (AUC: 0.74; Recall: 75.1% at a 0.45 threshold), identifying nearly four times more failing patients than random selection. SHAP analysis revealed that historical failure and prior viral load results were the strongest predictors. Crucially, the average length of treatment interruptions outperformed demographics, confirming that the intensity of care gaps is a better predictor than simple missed visits. Clinic type and marital status also demonstrated strong predictive associations. Age-stratified analysis confirmed optimal performance among adolescents (15–19 yrs), with predictive drivers varying across age groups.
Conclusion: Conventional adherence metrics are insufficient in humanitarian crisis settings. A crisis-adjusted machine learning model successfully identified 75% of pediatric viral failures. By integrating metrics of instability into routine surveillance, programs can effectively allocate limited resources to the most vulnerable children, potentially closing the gap between pediatric and adult outcomes despite prevailing instability.

O-51
Countdown to control: viral suppression in older adults with HIV from the Midway cohort

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Objective: To evaluate real-world time to viral suppression among treatment-naive people with HIV (PWH) aged ≥50 in the current antiretroviral therapy (ART) era, and to determine whether suppression timelines differ significantly between older adults and those aged ≤45.
Methods: This retrospective cohort study analyzed treatment-naive PWH who initiated ART between January 2021 and December 2024 across 16 infectious disease clinics in Florida. The primary outcome was time to viral suppression, defined as days from ART initiation to first HIV-1 RNA <200 copies/mL. Comparative analysis was conducted between individuals aged ≤45 (n=164) and ≥50 (n=48), using the Mann-Whitney U Test.
Results: Among older adults (≥50 years), the mean age was 60 (range: 50-81), with 27% aged ≥65. Most were cisgender male (71%), and 42% identified as Black. Baseline HIV-1 RNA averaged 166,831 copies/mL; 50% had >100,000 copies/mL. ART initiation occurred >30 days post-diagnosis in 44%, and 83% received INSTI-based regimens. Median time to viral suppression was 60 days (range: 11-546); those ≥65 years had a median of 64.5 days. Individuals with baseline HIV-1 RNA >500,000 copies/mL required a median of 77 days. No significant difference in suppression time was found between age groups (U=3883.00, p=.938).
Conclusion: In this multi-site cohort of treatment-naive PWH, older adults achieved rapid and effective viral suppression comparable to younger individuals, supporting contemporary ART effectiveness across age groups. Given the demographic overlap, particularly the high representation of Black individuals, and populations disproportionately affected by HIV in Caribbean countries, these findings are relevant to the region. In Caribbean healthcare systems, where resource limitations, stigma, and geographic barriers impact ART access, timely initiation of well-tolerated regimens can achieve rapid viral suppression, even among older adults. Expanding access to integrase inhibitor–based therapies and diversifying care beyond centralized clinics may reduce disparities and strengthen patient-centered HIV outcomes across Caribbean populations.

O-52
Feasibility and impact of rapid diagnostic screening for opportunistic infections among people with advanced HIV disease in Guyana: a prospective multicentre study

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Objective: This study evaluated the feasibility, diagnostic yield, and early clinical outcomes of rapid diagnostic testing (RDT) for key opportunistic infections (OIs) among adults with advanced HIV disease (AHD) in Guyana.
Methods: A prospective multicentre cohort study was conducted from February 2024 to March 2025 across seven HIV treatment facilities. Adults ≥18 years with AHD (CD4 <200 cells/mm³ or WHO stage 3/4 illness) underwent point-of-care screening using urinary TB-LAM, serum cryptococcal antigen (CrAg), and urinary Histoplasma antigen RDTs. Participants were followed for 90 days for mortality and loss-to-follow-up. Logistic regression identified predictors of adverse outcomes.
Results: Among 112 participants (median age 38 years; 45% female), 21.4% (24/112) were diagnosed with at least one OI: TB 15.2%, cryptococcosis 6.3%, histoplasmosis 2.7%. One-third of infections occurred in asymptomatic patients. Ninety-nine (88.4%) completed all RDTs, demonstrating operational feasibility. At 90 days, 16.9% experienced an adverse outcome (5.4% deaths, 11.6% lost-to-follow-up). Independent predictors of poor outcome were failure to initiate ART (aOR 18.18, 95% CI 4.04–81.82), hospitalization (aOR 12.79, 95% CI 1.61–101.72), and low haemoglobin (aOR 0.73 per g/dL, 95% CI 0.60–0.89).

Conclusion: Routine rapid screening for OIs among individuals with AHD is feasible and clinically impactful in Guyana. Integrating RDTs into standard HIV care can strengthen early diagnosis, improve ART outcomes, and reduce preventable HIV-related deaths, supporting Guyana's progress toward HIV Vision 2030.

O-53

Factors influencing adherence to anti-retroviral therapy and engagement in HIV care at the National Care and Treatment Centre in Guyana: a retrospective chart review

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Objective: Although antiretroviral therapy (ART) is widely available in Guyana, viral suppression remains below targets. Understanding adherence and engagement in care is essential. This study assessed ART and appointment adherence among adults at the National Care and Treatment Centre (NCTC), Guyana's largest treatment site.
Methods: A retrospective chart review included 335 randomly selected adults enrolled at NCTC on or before June 30, 2018, with follow-up through 2023. Adherence was assessed using routine clinic data recorded at each visit, including clinician-recorded self-reported missed ART doses over the preceding 30 days and appointment timelines based on scheduled visit dates. Participant-level cumulative scores were calculated by averaging visit measures across six years and dichotomized as "good" versus "not good." Multivariable logistic regression identified factors associated with adherence.
Results: Analysis included 180 men and 155 women, with mean age 51.5 years (SD=10.8). Good self-reported adherence was observed in 64.7% cumulatively over six years, and 85.5%–91.5% when assessed annually. Consistently on-time appointment adherence was lower (12.2% cumulatively; 44.0%–58.7% annually). In crosstabulations, self-reported adherence was associated with age, ART initiation timing, CD4 count, viral suppression, mental health conditions, and receipt of home visits and counselling ($p<0.05$). Appointment adherence was associated with viral suppression and fewer regimen changes ($p<0.05$). In multivariable models, viral suppression showed the strongest association with self-reported adherence. Participants with undetectable viral load (aOR 22.26, 95% CI 3.75–132.25) or low-level viremia (aOR 20.68, 95% CI 3.33–128.31) had higher odds of adherence. Each additional year from diagnosis to ART initiation reduced adherence (aOR 0.89, 95% CI 0.81–0.98), while home visits improved it (aOR 4.27, 95% CI 1.08–16.88). Each regimen change reduced appointment adherence (aOR 0.42, 95% CI 0.21–0.84).
Conclusion: Self-reported treatment adherence was generally high, but sustained appointment adherence remained suboptimal. Strengthening early ART initiation, treatment stability, and supportive services is critical for sustained engagement in care and virological suppression.

O-54

Loss to follow-up in HIV care: a retrospective analysis in Belize City, 2019–2024

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Objectives: 1. To quantify the burden of Loss to Follow-Up (LTFU) among people living with HIV (PLHIV) who initiated ART in Belize City between 2019 and 2024, using the standard definition of LTFU (90 days after ART is expected to run out) and assess the frequency of multiple LTFU episodes to capture patterns of recur-rent disengagement; 2. Identify age and gender groups most affected by LTFU; 3. Determine which health facilities had the highest and lowest proportions of LTFU; 4. Determine the duration from ART initiation to the first documented episode of LTFU among patients in the cohort; 5. Provide evidence-based recommendations for strengthening patient retention, through en-hanced monitoring, clinic-level support strategies, and surveillance system improvements.
Methods: A descriptive analysis was conducted using data from the Belize Health Information System. The study included persons initiating antiretroviral therapy (ART) in Belize City from January 2019 to December 2024. LTFU was defined as failure to return within 90 days of the expected medication pickup date. Demographic characteristics, treatment timelines, and time to first disengagement were assessed. Facility-level performance was evaluated using disengagement episodes per 100 ART dispensations.
Results: Among 244 persons initiating treatment, 85 (35%) were LTFU. Most disengagement occurred early, with 57 (67%) LTFU within the first 12 months, including peaks at months four and five. Females aged 20-29 accounted for the largest affected subgroup. Cleopatra White Health Centre and the national referral hospital recorded the highest absolute numbers of disengagement episodes, while facilities outside Belize City had the highest rate, at four episodes per 100 dispensations. Nearly one quarter of individuals experienced recurrent disengagement.
Conclusion: High and early LTFU cases in Belize City reflects a critical weakness in the HIV treatment cascade, limiting progress toward national and global targets. The concentration of disengagement among young women raises concerns about sustained community transmission and pre-

ventable infant infections. Targeted, timely interventions such as strengthened adherence counselling, peer-support models, systematic re-engagement protocols, and routine surveillance alerts are essential to mitigate early disengagement and improve long-term retention in care.

O-55

Innovation through listening: redesigning mental health services in Guyana based on community identified needs

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Objective: This study aimed to identify prevalent mental health challenges and preferred service delivery modalities among adults in Guyana to inform prevention oriented, culturally responsive innovative mental health services.
Methods: A cross-sectional community needs assessment was conducted using an anonymous online survey. Adults aged 18 years and older residing in Guyana were recruited using purposive sampling followed by snowball sampling. The survey assessed mental health challenges, barriers to care, prior service utilisation, preferred intervention formats, and willingness to engage in free or low-cost services. Descriptive statistics were used for analysis.
Results: A total of 100 participants completed the survey (72% female, 26% male, 2% other). The most frequently reported challenges were stress (55%), anxiety (54%), financial stress (41%), depression (37%), and burnout (36%); only 5% reported no mental-health challenges. Despite this burden, most participants had never accessed mental-health services. Lack of services (45%), time constraints (37%), stigma (23%), cost (23%), and fear (23%) were the primary barriers. Preference was highest for one on one counseling (58%) and self-care activities (53%), with high willingness to engage in free or low cost services across gender.
Conclusion: This needs assessment reconfirms substantial mental health need along with a persistent utilisation gap in Guyana. Innovation in this context involves redesigning mental health services around confidentiality, accessibility, and prevention oriented care aligned with community preferences, that are relevant for Guyana and similar Caribbean settings.

O-56

A preliminary assessment of counterfeit acetaminophen-containing painkillers in Kingston, Jamaica using high performance liquid chromatography

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Objective: To determine if counterfeit drugs (painkillers) are sold across the downtown metropolitan area by determination of Acetaminophen levels
Methods: A cross sectional analytical study was conducted on acetaminophen containing painkillers purchased from licensed pharmacies, informal vendors, and street markets across selected areas of Kingston. Samples were categorized by brand, source, and labeling characteristics. Quantitative analysis of acetaminophen content was performed using a validated reverse-phase HPLC method with UV detection. Method validation included assessment of linearity, accuracy, precision, limit of detection, and limit of quantification. Measured acetaminophen concentrations were compared against labeled claims and pharmacopeial specifications.
Results: A total of 50 acetaminophen tablet samples representing three brands (Panadol, Cetamol, and Pharma Cold and Flu) were collected from wholesalers in the downtown metropolitan area. Panadol accounted for 50% of samples, Cetamol 36%, and Pharma Cold and Flu 6%, with Panadol Ultra being the most frequently purchased formulation. HPLC analysis revealed that 20 of the 50 samples (40%) fell outside acceptable pharmaceutical limits. Of the Panadol samples, 41.4% were outside specification, while 33.3% of Cetamol and 67.7% of Pharma Cold and Flu samples were below acceptable limits. The HPLC method demonstrated excellent precision, supporting confidence that the deviations observed were attributable to sample quality rather than analytical variability.
Conclusion: A substantial proportion of acetaminophen containing painkillers circulating in Kingston appears to be counterfeit or substandard, posing significant public health risks. The findings highlight the urgent need for strengthened drug quality surveillance, regulatory enforcement, and public awareness initiatives. HPLC remains a robust analytical tool for detecting counterfeit pharmaceuticals in resource limited settings.

O-57

Lived experiences of artisanal and small-scale gold mining in northern Nigeria: a photovoice study with global public health implications

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Objective: To explore the lived experiences of artisanal and small-scale gold miners in Niger State, Northern Nigeria, and to contextualise these findings using evidence from South America and West Africa within the wider global Artisanal and small-scale gold mining (ASGM) literature, to inform public health policy.
Methods: A mixed-method photovoice study was conducted in Niger State, which lies along the schist belt. The level of mining operations categorised the state as a highly active ASGM state, stemming from high poverty, mineral wealth, and unstable traditional income sources. From the 46 mining sites in the state, Kwamapi, Maitumbi, Shakwata, and Tutungo were pragmatically identified. Participants were selected using purposive sampling based on their work schedules. Thirty-six miners voluntarily participated in the study, comprising 28 males and 8 females. An exploratory, participatory methodology employing an adapted Photovoice approach, where miners generated photographs of their working and living environments, with short captions for each image, was used. This method captured perspectives and experiences related to the adverse health and well-being impacts of ASGM and explored specific contexts, cultural values, and interpretations of situations relevant to their daily lives. The process took place across the sites at pre-determined intervals. Data were collected over five facilitated sessions (January–March 2025). Group dialogues were conducted using the SHOWeD process. Photographs, captions, and transcripts were analysed using an inductive, participatory thematic approach, supported by a theme-by-image matrix to enable within- and cross-site comparisons.
Results: From 108 photographs, 13 themes emerged, highlighting occupational hazards, mercury exposure, and environmental degradation, revealing precarious, poorly regulated conditions. Many themes closely mirrored those reported in South American ASGM contexts, while reflecting distinct locally embedded exposure pathways in Nigeria.
Conclusion: The study highlighted shared and context-specific structural drivers of ASGM-related harms, underscoring the need for participatory, context-sensitive public health policies and interventions across diverse global mining settings.

O-58

Building healthy communities with the tripartite goal of chronic disease prevention, environmental sustainability, and engaging youth as agents of change: lessons learned and next steps

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Objective: This research project sought to develop and evaluate an intervention program using experience-based co-design and the engagement of diverse partners, including a committee of youth citizen scientists, to enhance knowledge and tools for promoting sustainable practices and healthy active living.
Methods: Through a Community-Based Participatory Action (CBPA) study with diverse partners across Hamilton (Ontario, Canada), Calgary (Alberta, Canada), and St. Andrew (Maryland, Gordon Town, and Irish Town, Jamaica), we sought to increase 1) opportunities for environmental stewardship (including active transport); and 2) consumption of local fruits and vegetables while reducing ultra-processed food intake. Community-engaged activities included community contextual mapping and implementation of community workshops and key informant interviews. All data was integrated to refine and evaluate the proposed intervention.
Results: Across all sites, we have completed community engagement workshops (n=6), key informant interviews (n=7), community assessments (n=11), and initiated co-design workshops (n=2). The thematic analysis demonstrates opportunities to strengthen existing community resources by tailoring interventions that center the contextualities of each neighbourhood.
Conclusion: Our community engagement and co-design workshops taught us that there are ample and diverse opportunities available at the community level for the engagement of youth and other community members in developing sustainable, healthy and active living, embedded within and led directly by communities. CBPR methods are building reciprocal awareness and understanding in participating communities. The lessons learned to-date highlight the need for tailored interventions for each community, as well as the methodological approaches to implement and evaluate interventions that simultaneously promote environmentally sustainable practices and healthy active living.

O-59

Toxic Beauty: carcinogenic substances in beauty products and the ethical responsibility of Caribbean market regulation

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Objective: This paper explores the presence of proven and suspected carcinogens and endocrine-disrupting chemicals (EDCs) in the Caribbean market. It aims to define the ethical and public health necessity for a precautionary, region-wide regulatory intervention to protect citizens.
Methods: A literature-based investigation was conducted to analyse the prevalence of Formaldehyde-releasers, Phthalates, Heavy Metals, and Acrylates within a robustly defined range of "beauty products." This scope includes topical agents (relaxers, skin lighteners), synthetic hair fibres (Kanekalon, PVC-based extensions), and nail industry materials (acrylics, polishes).
Results: Findings highlight that many products imported into the Caribbean contain substances strictly regulated or banned in more robust jurisdictions. The analysis posits that this regulatory vacuum constitutes a failure of public health beneficence and justice, particularly affecting women who face disproportionate exposure. The lack of standardized testing and ingredient labelling across CARICOM states exacerbates this risk.
Conclusion: There is an urgent ethical and state imperative to implement a harmonized, precautionary regulatory framework across the Caribbean. The paper proposes concrete policy improvements to align regional market standards with international best practices, ensuring that the fundamental duty to protect public health and well-being is fulfilled through multisectoral cooperation.

O-60

Profile of voluntary blood donors in Jamaica

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Objective: To identify demographic characteristics associated with voluntary blood donation among repeat donors in Jamaica, in order to guide strategies that support the transition toward a sustainable Voluntary Non Remunerated Donor (VNRD) system.
Methods: A cross-sectional analysis was conducted among 245 repeat blood donors interviewed across two major collection sites. Demographic variables including age, sex, education level, and geographic proximity to blood banks were assessed. VNRDs were defined as individuals who donated without request or obligation to a specific patient.
Results: Only 20% (n=52) of repeat donors were voluntary. VNRDs were predominantly male (65%), though the proportion of voluntary donors was higher among females than males (31% vs. 17.6%). Female voluntary donors had a higher mean age (42 years) compared with males (38 years). A significant proportion of voluntary donors attained higher level education: 71.1% tertiary, 21.2% secondary, and 7.7% vocational. Notably, 30% of voluntary donors lived more than 30 miles from the nearest blood bank.
Conclusion: Voluntary donors in Jamaica are more likely to be tertiary-educated adults who may also reside far from collection sites. These findings highlight two actionable points for strengthening Jamaica's blood supply: (1) focused engagement of tertiary-educated individuals through workplace and university-based drives and (2) improved access for donors in remote areas. Focused recruitment and outreach to these populations could accelerate Jamaica's transition from family replacement to a sustainable voluntary donation system, which would better align with World Health Organization (WHO) standards and improve blood security in Jamaica.

O-61

Smart traps and internet of things-based entomological surveillance integrated with artificial intelligence for real-time mosquito density mapping

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Objective: To map the integration of smart traps, Internet of Things (IoT) platforms, and artificial intelligence (AI) in mosquito surveillance for real-time density mapping.
Methods: Peer-reviewed studies, technical reports, and grey literature published between 2015 and 2025 were screened. Eligible studies assessed smart traps, IoT-enabled surveillance, or AI applications for detecting, identifying, or estimating medically important mosquito species (*Aedes*, *Anopheles*, *Culex*). Data were extracted based on technology type, AI methods, outcomes, and implementation context, with thematic synthesis identifying patterns, challenges, and public health implications.
Results: Eight studies described smart-trap and IoT technologies, including acoustic-based surveillance, computer-vision and image-processing systems, IoT-enabled environmental monitoring, and integrated platforms. Acoustic systems detected wing-beat frequencies with 65-80% species identification accuracy, while AI-based computer-vision models, including YOLO and convolutional neural networks, achieved 91–97% accuracy under controlled

conditions. IoT systems integrated environmental sensors for predictive modeling and geospatial mapping, enabling large-scale, near-real-time surveillance. In addition, six studies highlighted AI applications, with deep-learning architectures consistently achieving ≥90% accuracy for species identification and up to 100% for density estimation. Real-time applications included drone-based habitat mapping and automated traps.
Conclusion: AI- and IoT-enhanced surveillance enables automated, continuous data capture, high detection accuracy, and integration with environmental and spatial data, supporting targeted vector control. Challenges include field validation gaps, environmental variability, computational demands, and ethical considerations. These technologies offer a scalable, data-driven approach to modernizing mosquito surveillance and informing public health interventions.

O-62
Molecular surveillance of the invasive Aedes vittatus in Jamaica

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Objective: To apply molecular surveillance approaches to define the population structure of the invasive *Aedes vittatus* in Jamaica.
Methods: Adult and immature *Aedes vittatus* specimens were collected using convenient sampling approach from the parishes of Westmoreland, St. Elizabeth, St. Ann, Kingston and St. Andrew between 2023 and 2024, in the wet and dry seasons. DNA was extracted from adult specimens and the mitochondrial gene cytochrome c oxidase subunit I (COI) was amplified using the primers LCO1490 (5'-GGTCAACAAATCATAAAGATATTGG-3') and HCO2198 (5'-TAAACTTCAGGGTGACCAAAAAATCA-3') followed by Sanger sequencing. Consensus *Ae. vittatus* COI sequences were generated and aligned with *Ae. vittatus* COI sequences available on the GenBank database using the Molecular Evolutionary Genetics Analysis (MEGA) software v11. Using DnaSP v6, unique haplotypes were identified and inferred using a TCS statistical parsimony network implemented in PopART.
Results: Molecular analysis confirmed the presence of *Ae. vittatus* in four parishes, with distinct spatial clustering in peri-urban and rural settings. The alignment of a 494bp fragment of eleven COI sequences from the Jamaican *Ae. vittatus* specimens revealed nine unique haplotypes. This highlights the high genetic diversity present amongst the Jamaican samples. A wider genetic scope using the deposited COI fragment of *Ae. vittatus* specimens from GenBank revealed multiple introductions into the country from the Indian subcontinent. Analysis of the haplotype relationships highlights that the Jamaican sequences fell within three main clusters and were genetically similar to sequences from Cuba, Dominican Republic, Pakistan, India, Nepal and Sri Lanka. Furthermore, the West Road and St. Elizabeth specimens showed multiple single nucleotide polymorphisms.
Conclusion: This study highlights the value of molecular surveillance in enhancing vector awareness in Jamaica. Phylogeographic surveillance can help understand patterns of invasion or movement of vector populations. This knowledge shapes the foundation for which effective and targeted vector strategies can be implemented to strengthen preparedness and informed data-driven control measures in the Caribbean.

O-63
Predictive factors and early management of severe dengue fever in emergency and intensive care units in Martinique during the 2023–2024 epidemic

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Objective: Martinique, a French overseas department in the Caribbean, has experienced recurrent dengue epidemics over the past two decades. The most recent outbreak (July 2023–August 2024) resulted in more than 50,000 cases and 20 deaths across Martinique and Guadeloupe. This study aimed to identify predictive factors associated with the development of severe dengue among patients admitted to emergency departments and intensive care units in Martinique during this epidemic.
Methods: We conducted a retrospective, single-center observational study including all patients admitted between July 2023 and September 2024 with biologically confirmed dengue infection. Clinical, laboratory, and therapeutic data were collected. Severe dengue was defined by plasma leakage with hemodynamic failure, severe hemorrhagic mani-

festations, or organ dysfunction. Associations were assessed using bivariate analyses. The predictive performance of quantitative variables was evaluated using receiver operating characteristic (ROC) curves and area under the curve (AUC). Survival was analyzed using Kaplan-Meier curves and the log-rank test.

Results: A total of 611 patients were included (269 men, 342 women; median age 43 years [IQR 28–66]). Severe dengue occurred in 108 patients (17.7%), and 14 patients (2.2%) died. Serotype 2 was the sole circulating serotype. In addition to established risk factors, hematologic history, including but not limited to leukemias, lymphomas, myelomas, chronic anemias, and platelet disorders was significantly associated with severe dengue ($p<0.001$). Plasma leakage (1.8%) was strongly associated with mortality (log-rank $p < 0.001$). Predictive performance was low for qSOFA (AUC 0.57), shock index (AUC 0.53), and initial hematocrit (AUC 0.61). Hyperlactatemia (AUC 0.72) and hypoalbuminemia (AUC 0.71) showed moderate predictive value, while thrombocytopenia demonstrated strong discrimination (AUC 0.91).

Conclusion: Severe dengue remains a life-threatening condition, particularly when plasma leakage occurs. A history of blood disorders may increase vulnerability. Early recognition and rapid hemodynamic management are critical determinants of prognosis.

O-64

Innovations in dengue surveillance: serotype distribution, transmission dynamics, and implications for outbreak preparedness in Guyana, South America

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Objective: To determine the distribution of circulating dengue serotypes (DENV-1 to DENV-4) in Guyana and characterize their geographic (region) and demographic variations from June 2024 to September 2025, to inform outbreak preparedness.

Methods: A national, retrospective, cross-sectional study analyzed 1,289 PCR confirmed dengue positive samples collected through the National Public Health Reference Laboratory and the Vector Control Services, 189 of which were serotyped and analyzed Data were extracted and organized in Excel files by variable category and imported into SPSS for analysis using descriptive statistics: frequencies, percentages and central tendencies.

Results: Among n=7,458 febrile illness samples, n=1,289 (17.3%) were dengue positive; females accounted for 56%. N=224 samples submitted for serotyping, n=189 (84.3%) were processed, with DENV-2 (n=128) predominating and widely distributed across the coastal regions (Region 5 (n=63), 4 (n=26), 6 (n=26), 2 (n=8), 10 (n=4) and single case in hinterland region 8. DENV-3 (n=58) also showed coastal pattern with cases concentrated in regions 2 (n=17), 4 (n=13), 5 (n=20), 6 (n=7) and single case in hinterland region 7. Sporadic DENV-4 (n=2) and DENV2/3 (n=1) were observed exclusively in the coastal region 4 where the capital Georgetown can be found; representing a key transmission hotspot with the greatest serotype diversity.

Conclusion: The study demonstrates multi-serotype circulation in Guyana, with DENV-2 predominance and co-circulation of DENV-3 in coastal regions, increasing the risk of severe dengue through secondary infection. The exclusive detection of DENV-4 in Region 4 highlights geographical clustering of less common serotypes. Despite being limited by routine surveillance data, which may be affected by underreporting and partial serotype testing coverage, these findings underscore the importance of strengthened surveillance, targeted vector control in coastal hotspots, and expanded routine serotyping to inform future vaccination considerations and enhance national outbreak preparedness.

O-65

Evaluation of the acute and subacute toxicity of Myristica fragrans essential oil against Aedes aegypti mosquitoes

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Objective: To evaluate the adulticidal efficacy and sublethal effects of Jamaican *Myristica fragrans* (nutmeg) essential oil against *Aedes aegypti* mosquitoes.

Methods: The hydro-distilled essential oil of *M. fragrans* was evaluated against adult *Aedes aegypti* (Rockefeller) mosquitoes using blood-feeding and Centers for Disease Control and Prevention (CDC) bottle bioassays. Adult survival was assessed in both assays following exposure to varying concentrations of the oil. The sublethal effects of the oil were examined by exposing third instar (L3) larvae

to the LC10 (1.58 ppm) and LC50 (7.179 ppm) concentrations of the essential oil and subsequently monitoring larval survival, pupation, adult emergence and adult longevity. Mortality and survival outcomes were recorded at defined time points using modified standard protocols. Survival curves were compared using the log-rank (Mantel-Cox) test and bar charts analyzed by one-way ANOVA followed by Dunnett's test.

Results: *Myristica fragrans* essential oil reduced adult survival to 68.3% and 53.3% at 100 and 1000 ppm, respectively in the blood feeding assay. In the CDC bioassay, 100% knockdown of mosquitoes was achieved within 60 minutes at most of the tested concentrations. However, the 24-hour mortality only reached a maximum of 64.4% at the highest tested concentration of 1000 ppm, indicating an incomplete progression from knockdown to death. Sublethal exposure at the LC50 (7.179 ppm) concentration caused a significant decrease in larval survival at 24 hours but did not have any significant effect on pupation or adult emergence among surviving individuals. Notable, adult survival was significantly reduced to 58.8% in mosquitoes originating from LC50 treated L3 larvae ($p<0.0004$).

Conclusion: Jamaican *M. fragrans* essential oil possesses promising acute toxicity as well as subacute toxic effects against *Ae. aegypti* Rockefeller mosquitoes. However, further investigations using field *Ae. aegypti* and mechanistic studies are needed to determine the suitability of the oil as a potential control agent.

O-66

Distribution of mosquito species in select communities of regions one, four, six, seven and nine in Guyana in 2025

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Objective: To present a record of the distribution of mosquito species in select communities of Regions One, Four, Six, Seven and Nine in Guyana from May to September, 2025.

Methods: Secondary data were obtained from the Ministry of Health Vector Control Services Medical Entomology 2025 species database and relative abundance, species distribution, Shannon diversity index and species richness calculated. Mosquito species were classified into relative abundance classes and distribution status and mapped using Quantum Geographic Information System v3.22.12.

Results: During routine collections from May to September 2025, 1971 mosquitoes were identified consisting of 43 species belonging to 13 genera. Regarding medically relevant mosquitoes, the most dominant species observed was the *Culex portesi* (n=577), despite being confined to Region Four with a sporadic distribution. This was followed by *Culex quinquefasciatus* (n=477) and *Culex nigripalpus* (n=189) both with a constant distribution. Other species identified that were of public health concern included *Anopheles darlingi* (Regions One and Nine) primary vector for malaria, *Coquilletida venezuelensis* (Regions One, Four and Six) a secondary vector for Oropouche virus, *Haemagogus janthinomys* (Region Four) a primary vector for yellow fever, *Aedes albopictus* and *Aedes aegypti* (Regions One, Seven and Nine) primary vectors for arboviruses. Overall, the species richness was 43 and a Shannon diversity index of 2.34 was obtained indicating a high species diversity.

Conclusion: This study highlights the benefits and importance of mapping the distribution of mosquito species of public health significance throughout the different administrative regions in Guyana. The information gathered provides a clearer understanding of the ecological distribution and diversity of mosquito species within Guyana. Knowledge obtained from future studies will assist in better understanding of vector-borne disease transmission in Guyana, which can lead to data driven vector control policy development throughout the country.

O-67

High seroprevalence of anti-dengue virus IgG antibodies in the Sud Department of Haiti: a population-based cross-sectional study

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Objective: To estimate the seroprevalence of anti-dengue virus IgG antibodies in the Sud Department of Haiti and to describe its distribution by sociodemographic and geographic characteristics, in order to inform dengue surveillance and prevention strategies.

Methods: A population-based cross-sectional serological study was conducted in September 2025 in the Sud Department of Haiti. A stratified cluster sampling design was used to select households across arrondissements and communes. After informed consent, participants completed a standardized questionnaire. For children, the questionnaire was administered to a parent or guardian. Venous blood samples

were collected. Rapid diagnostic tests detecting dengue NS1 antigen and IgM/IgG antibodies were performed in the field. Anti-dengue IgG antibodies were detected using ELISA at the National Public Health Laboratory. Seroprevalence estimates were calculated with 95% confidence intervals, with stratified analyses by age, sex, and area of residence.
Results: A total of 1,397 individuals were enrolled (median age: 28 years), with females representing approximately 63% of participants. Among 1,171 participants tested using rapid diagnostics, no NS1-positive cases were detected, indicating the absence of acute dengue infection at the time of the survey. ELISA IgG testing was performed on 1,047 samples: 889 yielded definitive results, including 844 positive and 44 negative results. The overall IgG seroprevalence among participants with definitive ELISA results was 94.9% (95% CI ≈ 93–97). When conservatively accounting for missing or non-exploitable samples, the minimum estimated seroprevalence remained approximately 80.6%. Seropositivity increased with age, with substantial exposure already observed among young children.
Conclusion: Dengue virus transmission in the Sud Department of Haiti is intense and sustained, characterized by early-life exposure and near-universal IgG seroprevalence. These findings highlight the limitations of routine passive surveillance and support the use of serological surveys to better characterize dengue burden. Strengthening integrated dengue surveillance, community-level prevention, and outbreak preparedness should be public health priorities in this setting.

O-68

A pilot elimination strategy for Plasmodium falciparum malaria in mining-associated endemic settings: a case study from South Rupununi, Region 9, Guyana

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Objective: Malaria elimination in the Amazon region faces significant challenges from mobile mining populations and cross-border transmission. In late 2022, Aishalton (population ~1,000) in South Rupununi, Region 9, Guyana, experienced a malaria surge linked to gold mining in neighboring Marudi Mountain, exacerbated by Brazilian miners displaced from Yanomami territories. This case study evaluates a pilot elimination strategy targeting *Plasmodium falciparum* malaria in this mining-associated setting.
Methods: A two-phase strategy was implemented. During elimination phase (September 2023–September 2024): (1) mobile health teams were deployed to mining sites for on-site testing and treatment (September 2023, strengthened February 2024); and (2) real-time digital surveillance with geocoded case classification replaced paper-based reporting (January 2024). Following achievement of zero local transmission, a maintenance phase began with (3) reactive case detection protocol implementation (September 2025) involving household screening within 100-meter radii of future local cases, with two waves at 24-hours and 7 days post-detection.
Results: Between January 2023 and September 2025, 183 *Plasmodium falciparum* and mixed infection cases were reported (113 imported, 70 local), peaking in September–October 2023. Following intervention implementation, cases declined gradually from October 2023, with accelerated reduction after February 2024 team strengthening. Zero local transmission was achieved in October 2024 and sustained through September 2025 (12 months). Imported cases decreased to 6 total cases in the first 9 months of 2025, representing a 96% reduction from peak levels.
Conclusion: This integrated strategy successfully interrupted *P. falciparum* transmission in a mining-associated high-risk setting within 13 months through strategic positioning of health services at source populations and real-time surveillance enabling continuous monitoring. Sustained zero local transmission over 12 months demonstrates elimination feasibility in mobile, high-risk populations. Implementation of reactive case detection in September 2025 provides a surveillance maintenance framework for sustaining gains. This model offers a scalable approach for similar mining-affected regions across Guyana and the broader Amazon basin.

O-69

Changes in food literacy following an education intervention: findings from the BALANCE study

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Objective: Cardiovascular diseases (CVD) are the leading causes of death worldwide. Diets high in sugar, fats and sodium contribute to CVD risk. Food literacy education improves healthy eating patterns. The aim of this study was to develop, implement and evaluate a food literacy education program based on the Barbados dietary guidelines.

Methods: Three sites - 2 clinics and 1 community - were purposively sampled based on previous involvement in research. A convenience sample of adults participated in a two-part nutrition education session covering basic knowledge and practical application of the Barbados dietary guidelines, including (1) identifying food groups, (2) nutrition knowledge and beliefs, (3) recognising nutrients and (4) identifying and interpreting food labels. To evaluate the participants' food literacy scores, a four-part questionnaire adapted from the Food literacy and Newest Vital Signs Surveys was administered pre-, immediately post- and 6 weeks post- the intervention.
Results: Sixty-three participants (24 males, 39 females) completed the intervention and at least one post-education survey. There were approximately a third from each location. The median age range was 55–64 years. The scores for sections 1-3 of the survey, which assessed food literacy via prose (the ability to read and understand continuous text), were all greater than 50% in the pre-intervention period, increasing to >70% post-education. The scores for section 4 which used numeracy (the ability to work with numbers) and document literacy (the ability to read and understand non-continuous text e.g. charts), particularly the questions requiring calculations, all started with an average of <50% and remained below 50% post intervention.
Conclusion: Nutrition education can improve food literacy in a mixed group of participants, however, there is a deficit in numeracy and document literacy compared to prose literacy. This deficit can impact risk assessment, data interpretation and the decision-making process. Future research on food literacy should emphasize health numeracy.

O-70

Sociodemographic correlations of change in food literacy following an education intervention: findings from the BALANCE study

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Objective: Initial analyses from The Building Awareness, Literacy, and Nutrition Confidence through Education (BALANCE) intervention reported moderate food literacy in the pre-intervention period as conveyed by a score of 13.6 out 24 points. This increased to the high literacy bracket following the intervention. The aim of this study is to investigate the association of socio-demographic factors with baseline and changes in food literacy scores.
Methods: Participants were recruited from three sites in Barbados - Mount of Praise (MOP) Church, Heart and Stroke Foundation of Barbados (HFSB) and Maria Holder Diabetes Centre (MHDC). The two-part education session was delivered live by facilitators. Sociodemographic and food literacy data were collected pre-, immediately post- and 6 weeks post-education.
Results: Forty-two participants (17 males, 25 females) completed the surveys. Forty-eight percent were from MOP, 40% from HSFB and 12% from MHDC. The majority (66%) were in the 55–64 and 65–54 age groups. Forty-three percent had a history of type-2 diabetes. All had at least a high school education. Thirty-eight percent had a monthly household income of <BDS$2500, 38% earned between $2500 and $5500 and 24% earned ≥$5500. There was significant change in the food literacy score post intervention [mean(sd) (13.6(3.8) to 16.9 (3.7) to 19.2 (3.1); p<0.0001] with the MOP 'community group' having a significantly higher pre-education score than the combined HSFB / MHDC 'clinic group' [14.6 (3.3) vs 12.4 (4.0); p=0.04]. This difference was not evident at the post-education timepoint [16.3(3.9) vs 17.5(3.5); p=0.2]. There was no difference in scores when stratified by age, sex, diabetes status, income or education level. The correlation between perceived literacy and actual literacy increased post-education reaching significance at 6 weeks r=0.4, 95% CI 0.02 to 0.19, p=0.02.
Conclusion: Baseline scores were higher in the community group however BALANCE was effective at increasing food literacy scores across diverse participant groups.

O-71

The adaptation and implementation of an automated 24-hour dietary recall tool for Caribbean populations: St. Vincent and the Grenadines pilot study

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Objective: To adapt and implement the Intake24 automated 24-hour dietary recall tool for use in the Caribbean and to pilot test its feasibility for assessing energy and nutrient intake among adults and adolescents in St. Vincent and the Grenadines (SVG).
Methods: This was a pilot study conducted in SVG among participants aged ≥16 years enrolled in a backyard garden intervention. Intake24 was adapted by developing a Caribbean-specific food database, incorporating locally consumed foods and naming conventions, assigning appropriate portion-size estimation methods, and linking foods to nutrient composition codes. Trained interviewers administered one 24-hour dietary recall per participant per week for up to three consecutive weeks at baseline. Dietary intake data were summarized using descriptive statistics to esti-

mate mean daily energy, macronutrient, and micronutrient intakes.
Results: The adapted Intake24 database included 3,291 food and drink items, with 25 newly added Caribbean-specific foods and mixed dishes. After data cleaning, 57 participants were included in the analysis (mean age 48.5 ± 14.5 years; 70.2% female). Mean daily energy intake was 1,905.1 ± 842.3 kcal. Mean daily intakes of carbohydrates, protein, and fat were 249.9 ± 98.8 g, 94.8 ± 40.6 g, and 65.3 ± 42.4 g, respectively. Intakes of key micronutrients, including calcium, iron, and vitamin A, varied widely across participants.
Conclusion: The adapted Intake24 tool was implemented in a Caribbean setting and was able to capture individual-level dietary intake data in SVG. The findings indicate variability in energy and micronutrient intake and suggest potential nutrient deficiencies in this population. Intake24 shows promise as a scalable tool for dietary assessment and nutrition surveillance in the Caribbean.

O-72

Assessing the school nutrition and physical activity environment post implementation of Barbados' School Nutrition Policy

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Objective: To describe the extent to which the primary school environment aligns with the Barbados School Nutrition policy (BSNP) and to assess associations between students' weight status and their school environment.
Methods: We conducted a cross-sectional primary school-based study in Barbados. Senior teachers/principals completed a survey about the nutrition and physical activity environment which was based on five of the six components of the BSNP and included questions from the "School Record Form from the World Health Organization Childhood Obesity Surveillance Initiative". We invited children ages 6 to 11 to answer questions about eating habits adapted from the Global School-Based Health Survey. Weight and height were measured for each child. We performed descriptive analyses including proportions and 95% confidence intervals.
Results: Of the 97 primary schools in Barbados, 25 principals/senior teachers and 349 children participated. School curriculum: Physical education and nutrition were reportedly a part of the curriculum in 100% and 96% of schools respectively. Physical activity environment: All schools had outdoor facilities and equipment to facilitate students' involvement in physical activity while only 2 schools had indoor space/gym to facilitate play under poor weather conditions. Food services environment: Paradoxically 76% of school respondents indicated that there was a ban on sugar-sweetened beverages (SSBs), while 62% indicated that SSBs were available at school for sale. When students were asked to report their access to SSBs at school, 58 (24.0%) of older students and 42 (21.1%) of younger students stated that they access SSBs at school. We found no significant associations between weight status and school environment characteristics.
Conclusion: The reported execution of BSNP two years post implementation was strong in curriculum education and physical activity but weak in aligning with the nutrition recommendations of the policy. Systematic monitoring is needed to facilitate improvement in policy implementation.

O-73

A tale of two interventions: co-creation and implementation of context-driven interventions to support local food production and consumption in two Caribbean countries

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Objective: To: (a) co-create two community-driven interventions promoting local food production and consumption in St. Vincent and the Grenadines (SVG) and St. Lucia (SLU); (b) explore participants' early experiences and perceived outcomes; (c) identify barriers and facilitators to implementation.
Methods: This study used a participatory design, and living labs approach to co-create, implement, and evaluate two interventions with local partner organisations in each setting. Stakeholder interviews, group model building workshops, causal loop diagrams and Theories of Change helped co-create contextually-tailored interventions: backyard gardens in SVG and a nutrition education programme in SLU. This process hinged on continuous, open communication between researchers and partners, who combined complementary expertise to design feasible, culturally-relevant interventions aligned with community needs. Focus groups stakeholders interviews captured early perceived outcomes and experiences.
Results: Preliminary findings indicate increased local food production and consumption, improved agricultural and nutrition knowledge, strengthened community cohesion, emerging economic benefits, heightened public interest, and strong prospects for sustainability in both settings. Imple-

mentation challenges included funding constraints, unpredictable connectivity and technological limitations. Facilitators included strong pre-existing relationships between researchers and organisations, local reputations of organisations, close-knit community networks, and active engagement strategies to support participant retention.
Conclusion: This study demonstrates the early promise of co-created, community-driven interventions to strengthen local food production and consumption in Caribbean small island developing states. Though differing in focus and delivery, interventions shared core design principles grounded in local priorities and generated early qualitative evidence of positive behavioral, social, and economic change. Interventions align with regional efforts to reduce import dependence, build resilience to climate and market shocks, and simultaneously advance nutrition, livelihoods, and sustainability - key priorities for Caribbean food system transformation.

O-74

Nutritional content and dietary inflammatory index of foods consumed by a Systemic Lupus Erythematosus sub-population in Barbados

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Objective: Lupus is an autoimmune disease characterised by a pervasive inflammatory response. Studies show that diet plays a role in regulating inflammation. The aim of this study was to examine the nutritional content, dietary diversity and dietary inflammatory potential of the diet of a subpopulation of lupus patients in Barbados.
Methods: This cross-sectional study was conducted following IRB approval in Barbados between September 2024 and February 2025. A convenience sample of forty-five adults with lupus provided written, informed consent. Dietary intake was assessed using a semi-quantitative 24-hour dietary recall. Individual Dietary Diversity Scores (IDDS) and energy adjusted-Dietary Inflammatory Indices (e-DII) were calculated and correlated using Pearson's correlation. The IDDS estimates nutrient adequacy based on nine food groups; a score of ≥5 indicates adequate diversity. e-DII scores of zero, positive and negative represent neutral, proinflammatory, and anti-inflammatory dietary potential, respectively. Sub-analysis of e-DII with and without diet supplementation was also performed using a paired t-test and confirmed with the Wilcoxon signed-rank test. All analyses were performed in Stata15.
Results: Of the 45 participants, 91% were female; the mean age was 48.8±13.2 years and lupus duration ranged from 1–33 years. Dietary intake was characterised by a predominance of low-fibre starchy staples (e.g., peeled Irish potato), moderate vitamin A-rich food consumption (e.g., carrots), limited protein diversity, and low intake of micronutrient-dense food groups. Fifty-three percent of participants had adequate nutrient diversity; the median IDDS was 5 (range 2–7). Mean ±SD e-DII score was 2.24±1.55 indicating an overall pro-inflammatory dietary contribution. There was no correlation between the IDDS and e-DII scores. Among supplement users, the mean e-DII decreased from 2.99±1.10 to 2.07±1.61 after accounting for supplementation (Wilcoxon: p=0.0002).
Conclusion: On average, participants consumed a pro-inflammatory diet dominated by low-fibre starches and inadequate high-fibre carbohydrates, whole fruits, and micronutrient-rich vegetables. Accounting for dietary supplementation significantly reduced the e-DII.

O-75

Exploring stakeholders' perceptions on the implementation of a school nutrition policy in a Small Island Developing State: the Barbados case study

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Objective: To explore the perceptions of key stakeholders regarding factors influencing the implementation of the Barbados School Nutrition Policy (BSNP) in secondary schools.
Methods: A qualitative study underpinned by an interpretivist approach was conducted among purposively selected stakeholders, including school staff, parents, canteen concessionaires, policy advocates, and policymakers. Ethical approval was obtained from the University of the West Indies IRB and the Ministry of Education. Semi-structured, in-depth interviews were conducted across public and private secondary schools in Barbados. Purposive sampling continued until thematic saturation was reached, defined as no new substantive issues emerging from successive interviews. Interviews were audio-recorded, transcribed, and analysed using reflexive thematic analysis with constant comparison supported by Atlast ti software.
Results: A total of 50 stakeholders participated in the study, including school staff (n=15), parents (n=18), canteen concessionaires (n=11), policy advocates (n=4), and policymakers (n=2). Four organizing themes emerged: (1) policy leadership, institutional support, and enforcement;

(2) stakeholder engagement and inclusivity; (3) economic and structural determinants of policy adoption; and (4) psychosocial influences on dietary behaviours. Strong school leadership facilitated compliance, while weak enforcement undermined consistency. Stakeholders reported limited consultation, financial constraints, infrastructural challenges, and widespread access to unhealthy foods outside school premises. Implementation conditions varied across schools and concessionaires, reflected in uneven support, variable resources, and pragmatic compliance. Cultural norms, taste preferences, and affordability strongly shaped acceptance of healthier options.

Conclusion: Implementation of the BSNP is shaped by interconnected leadership, economic, structural, and sociocultural factors. Strengthening enforcement mechanisms, enhancing stakeholder engagement, and addressing affordability and food access are critical for sustainable implementation. Findings highlight the need for context-sensitive, participatory approaches to school nutrition policy implementation in Small Island Developing States, such as Barbados.

O-76

Food consumption patterns of people living with diabetes in Trinidad

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Objective: To examine the food consumption of persons living with diabetes (PLWD) in Trinidad considering recent guidelines that promote plant-rich diets.

Methods: A survey was conducted among adult PLWD at public health centres in Trinidad. Data were collected using an interviewer-administered instrument that included a qualitative food-frequency questionnaire, demographics, and medical history. A plant-based diet index (PDI), healthful plant-based diet index (HPDI), and an unhealthful plant-based diet index (UPDI) were calculated using the frequency of consumption of individual foods from never (0) to daily (4). For PDI, all plant foods received positive scores, while the consumption scores of animal foods were reversed. HPDI, healthy plant foods received positive scores, while animal foods and unhealthy plant foods received reverse scores. UPDI, healthy plant foods received reversed scores, while animal foods and unhealthy plant foods received positive scores. Multiple logistic regression analyses were used to determine the predictors of the top quintile for each diet index.

Results: Sample n=567 patients, daily consumption included Unrefined Staples (57.8%), Refined Staples (23.3%), Vegetables (63.3%), Fruits (46.9%), Legumes (30.7%), Foods from Animals (52.4%), and Oils/Fats (73%). Predictors of PDI were ethnicity (South Asians were most likely to be in the top quintile, p=0.002), education (patients with post-secondary education had highest odds of being in the top quintile, p=0.001) and co-diagnosis of hypertension (HTN) (such persons were more likely to be in the highest quintile, p=0.028). Predictors of UPDI were sex ($p<0.001$) and age (p=0.002). Males and younger patients were more likely to be the top quintile of UPDI scores. No recorded predictors of HPDI.

Conclusion: Ethnicity, educational level and a co-diagnosis of HTN were found to be predictors of consumption of plant-based diets. These findings, however, should first be validated before being utilized for interventions aimed at promoting plant rich diets in PLWD. More research is needed to determine the value of these indices in Caribbean populations.

O-77

Implementation of the Caribbean regional field epidemiology and laboratory training programme, lessons learned 2014–2025

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Objective: To describe best practices and lessons learned in implementing the Caribbean Regional Field Epidemiology and Laboratory Training Programme (CR-FELTP) over 2014–2025.

Methods: This programme adopted a collaborative, multi-strategic approach engaging national and regional stakeholders in training curriculum design. Baseline assessments were conducted to determine the model of best fit for the Caribbean. Case studies and learning materials were developed focusing on priority health issues for the Region, while meeting core capacities as outlined under the International Health Regulations. Programme fellows are recruited based on nomination by Ministries of Health, and training is carried out by CARPHA and regional subject matter experts. Fellows are guided by mentors while undertaking the programme. Competencies are determined through assessment of theoretical knowledge, field work reports and post training monitoring and evaluation.

Results: The CR-FELTP has graduated 480 fellows over 11 years with a completion rate of 81.32% (n=590), meeting established training targets. Eighteen (18) CARPHA Member States have participated in the programme at both the basic and intermediate training tiers. Fellows come from a range of public health disciplines utilising a comprehensive, One Health network approach when addressing dis-

ease surveillance, outbreaks and natural disasters. The programme is well regarded in terms of training content, the quality of fellows produced and their ability to contribute to workplace activities. A noted barrier is long term retention of mentors.

Conclusion: FELTPs are holistic training programmes that build skills and competencies of public health workers. Their work contributes to national health systems strengthening and regional health security. After a decade-long implementation period, the CR-FELTP has demonstrated many successful outcomes, through the work of programme fellows and career progression. Sustainability always remains a challenge and CARPHA has adopted innovative measures to ensure the continued relevance of the training curriculum and ownership by Member States.

O-78

Knowledge, attitudes, practices and perceptions of the general population in Barbados regarding antimicrobial use in the food supply

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Objective: To assess the knowledge, attitudes, practices, and perceptions (KAPP) of adults in Barbados regarding antimicrobial use (AMU) and antimicrobial resistance (AMR) in the food supply, and to identify demographic determinants of KAPP outcomes.

Methods: A cross-sectional online survey was administered among adults residing in Barbados using a structured KAPP questionnaire. The instrument captured demographic characteristics and KAPP indicators related to AMU and AMR in food production. Composite scores were calculated for each KAPP domain and categorised as low, moderate, or high. Descriptive statistics summarised response patterns, while chi-square tests and regression analyses assessed associations between demographic characteristics and KAPP outcomes. All analyses were conducted using Stata version 15.

Results: There were 200 fully completed questionnaires included in the analysis. Respondents had a mean age of 45.7 years (SD 12.0). The overall KAPP total score could reach a maximum of 39, but in this sample, scores ranged from 3 to 21 (mean = 11.835, SD = 3.796). Awareness of antibiotics was universal, with 100% of respondents reporting having heard of antibiotics. Notable misconceptions persisted, with >30% of participants believing antibiotics could treat viral or fungal infections. Knowledge scores were significantly lower among younger respondents (p=0.002). Higher educational attainment was associated with higher knowledge scores (p=0.039). Although attitudes towards reducing AMU in food production were generally positive, these did not consistently translate into safer consumer practices. Educational attainment was the strongest predictor of higher KAPP scores ($p<0.05$) (OR=6.85; 95% CI: 1.98–23.74).

Conclusion: Despite high awareness of antibiotics and AMR, substantial gaps exist in the public's knowledge and translation of attitudes into safe practices regarding AMU in the Barbadian food supply. Targeted, education-focused interventions particularly for younger and less-educated groups are needed to strengthen AMR prevention and support informed consumer decision-making.

O-79

Investigation of the frequency and antimicrobial resistance patterns of gram-negative infections in Barbados: a cross-sectional study

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Objective: To evaluate the frequency and antimicrobial resistance patterns of Gram-negative infections (GNIs) in hospitalized and non-hospitalized patients in Barbados from 2022 to 2024.

Methods: We conducted a retrospective cross-sectional study at the Queen Elizabeth Hospital (QEH), Barbados, reviewing laboratory and patient records from January 2022 to December 2024. We included all patients with confirmed GNIs from blood, urine, and wound swabs. Patients were considered hospitalized if they were inpatients at QEH at the time of sample collection. Those who visited the QEH outpatient department or other polyclinics were considered non-hospitalized. We analyzed the data to determine the frequency of these infections, antimicrobial resistance patterns, and associated factors.

Results: Of 1,550 cases, 73.9% were hospitalized, and 26.1% were non-hospitalized. Older adults (>60 years) accounted for 61.2% of cases and were associated with hospitalization ($p<0.001$). *Eschericia coli* (38.1%) and *Klebsiella pneumoniae* (22.5%) were the most common, while *Burkholderia cepacia* and *Acinetobacter baumannii* were observed only in hospitalized patients ($p<0.001$). UTIs were most frequent (64.9%), particularly among non-hospitalized patients (90.5% vs. 48.4%, $p<0.001$), whereas sepsis (18.9%) and soft tissue infections (7.9%) were more common among hospitalized patients.. Highest sensitivities were observed with amikacin (97.3%), tigecycline (97.1%), and carbapenems (>95%), while ampicillin had the lowest (33.4%). Multidrug resistance (MDR) was present in 41.4% and was associated with non-hospitalized status (p=0.009). *K. pneumoniae* was associated with increased resistance (OR=1.48, 95% CI: 1.06–2.05, p=0.020), while *P. aerugi-*

nosa showed lower odds (OR=0.04, 95% CI: 0.01–0.18, p<0.001).
Conclusion: GNIs in Barbados were mainly caused by UTIs, with *E. coli* and *K. pneumoniae* as the predominant pathogens. MDR was higher in non-hospitalized patients, highlighting the need for continuous surveillance.

O-80
Microbial analysis of instant rice produced locally in Guyana

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Objective: To assess the microbial shelf-life stability of instant white and parboiled rice during a six-month storage period by monitoring the growth of aerobic bacteria, yeast and molds.
Methods: A six-month shelf-life study was conducted to evaluate the microbiological quality of locally produced instant rice and to compare instant parboiled rice with instant white rice. Samples of packaged instant rice consisting of a mixture of local varieties were collected at baseline and at monthly intervals. At each sampling point, total aerobic bacteria and yeasts/molds were enumerated. At six months the microbial quality of the samples were compared with that of imported instant rice. Data was analyzed in SPSS using the analysis of variance (ANOVA) to test for significant differences in microbial counts between rice types and storage time (P=0.05).
Results: Microbial analysis revealed differences in the storage stability of instant rice. For parboiled rice, aerobic bacterial counts increased over time but were not significantly different across storage duration (p=0.156). However, yeast/mold counts increased significantly after five and six months of storage (p=0.015). For instant white rice, aerobic bacteria increased significantly with storage time (p=0.001), reaching the highest level at six months, while yeast/mold counts showed no significant differences (p=0.301). Comparison with supermarket instant rice indicated that locally produced rice had similar microbial loads.
Conclusion: This study indicates that microbiological shelf-life of instant rice is influenced by storage time and rice type. While drying likely reduced initial contamination, it did not prevent microbial increases during the extended storage period. Although locally produced products were comparable to supermarket instant rice with respect to microbial load, the increase during storage supports implementing specific storage conditions, such as moisture control, continuous monitoring throughout the shelf-life, and stricter hygiene and handling practices to ensure safety and quality of locally produced instant rice in Guyana.

O-81
"Walking with the enemy": bacterial contamination of mobile phones among healthcare workers and mothers in a hospital neonatal care unit

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Objective: To evaluate mobile phone bacterial contamination and hygiene practices among mothers and healthcare workers (HCW) in a hospital neonatal care unit (NCU).
Methods: A convergent mixed-methods approach was employed, integrating laboratory-based microbiological analysis with a quantitative questionnaire survey. Mobile phones from 76 participants, comprising 38 HCW and 38 admitted mothers in the NCU at a tertiary hospital, were swabbed to assess bacterial contamination. Structured questionnaires were administered to collect data on hygiene and phone-handling practices. Swab samples were analysed using standard laboratory methods to determine bacterial load and to identify the presence of *Staphylococcus aureus*, coagulase-negative staphylococci (CoNS), *Escherichia coli*, and *Klebsiella* spp./*Enterobacter* spp.
Results: Bacterial contamination was detected on the majority of mobile phones sampled (94.7%). HCW's phones demonstrated a higher mean bacterial load (0.85 ± 1.27 CFU/cm²) compared with those of admitted mothers (0.39 ± 0.76 CFU/cm²); however, this difference was not statistically significant (p=0.120). Most phones (96.1%) were classified as having a low bacterial burden. *S. aureus* was the most frequently isolated organism (30.3%), followed by *Klebsiella* spp./*Enterobacter* spp. (14.5%) and CoNS (3.9%). *E. coli* was not detected in any of the samples. For hygiene practices, 22.4% of participants, predominantly admitted mothers, reported never cleaning their mobile phones, despite 96.1% indicating awareness that mobile phones can harbour microorganisms. Neonatal infections identified during the study period in the NICU were *Staphylococcus haemolyticus*, CoNS, ESBL-producing *Klebsiella pneumoniae*, Methicillin-resistant-CoNS, and *E. coli*.
Conclusion: Although bacterial contamination was highly prevalent on mobile phones in the NCU the overall bacterial load was low. However, the presence of clinically significant organisms, including *S. aureus*, CoNS, and *Klebsiella* spp./*Enterobacter* spp., highlights their potential role as fomites and emphasizes the importance of regular mobile phone hygiene and strict infection prevention practices in neonatal healthcare settings.

O-82

Epidemiology of human leptospirosis in Grenada, 2018-2025: a retrospective population-based study

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Objective: To analyze trends and demographics of laboratory-confirmed leptospirosis in Grenada from 2018 to 2025 to inform public health surveillance and prevention efforts.
Methods: A retrospective observational study analyzed laboratory-confirmed human leptospirosis cases reported to Grenada's Epidemiology and Health Information Unit between 2018 and 2025. Given that most leptospirosis cases in Grenada occur within farming communities, the cases were stratified by gender, age group, and year of testing. Annual incidence proportions were calculated per 10,000 population and stratified by demographic characteristics to assess temporal trends and epidemiologic patterns.
Results: A total of 118 confirmed cases and two deaths were recorded during the eight-year period, corresponding to annual counts of 9–21 cases and incidence rates between 0.86 and 1.81 per 10,000 population. Males accounted for 75.4% (89/118) of cases, exhibiting a markedly higher mean incidence (0.95 per 10,000) than females (0.31 per 10,000). Based on national age group categories, individuals aged 15–64 years accounted for 91.5% of all cases, with the highest frequency (40%) occurring among those 25–44 years. Case-fatality rates of 4.8% (2020) and 7.1% (2021) were observed, both below global estimates.
Conclusion: Leptospirosis remains endemic in Grenada, with recurrent annual activity and pronounced male predominance, reflecting occupational and environmental exposures. The findings emphasize persistent zoonotic transmission risks and the need to strengthen integrated One Health surveillance, particularly in anticipation of flood-related epidemics. Enhanced disaster preparedness, community education, and climate-informed early warning systems are critical to reduce future leptospirosis morbidity and mortality.

O-83

Evidence of human, rodent, and bat hantavirus infections in Grenada

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Objective: To better determine if hantaviruses are a cause of febrile illness in Grenada and determine basic small mammal reservoir ecology
Methods: We collected serum from people reporting fever from throughout Grenada between 2023–2025. Participants were recruited from health centers, private clinics and laboratories, and from community outreach and house visits. Additionally, rodents and bats were collected across Grenada. Serum was tested for anti-hantavirus IgG using commercial ELISAs, and pan-hantavirus RT-PCR
Results: We tested 400 randomly selected human febrile cases for anti-hantavirus antibodies, as well as 10 mice, 42 rats, and 65 bats. Minimal human sample size was determined to be 355 to detect a seroprevalence of 10%. An IACUC-approved sample size of 120 animals (excluding pregnant and lactating females) was calculated but implementation of a stepwise testing approach reduced the total number of samples needed. We determined a hantavirus seroprevalence of 3.5% (1.7–5.3%) among humans in Grenada. Interpretation of animal ELISAs was more difficult given lack of positive controls, but we did not detect any positive mice, and estimate the rat seroprevalence to be 19% and the bat seroprevalence to be 17%. RT-PCR testing is ongoing with potential positive detections in mice, rats, bats, and humans, pending sequencing for confirmation.
Conclusion: These results provide the first evidence of human hantavirus infection in Grenada. Additionally, we provide the first reported evidence of hantavirus infection in bats in the Caribbean region. Our results suggest ongoing low-level transmission of hantaviruses from small mammal reservoirs to humans as a previously unrecognized etiology of febrile illness in Grenada. Ongoing attempts to identify circulating hantavirus species will provide insights to Grenadian hantavirus ecology, inform public health measures, and guide future diagnostic testing.

O-84

Diagnosis and epidemiology of arbovirus infections in Grenada, 2023–2025

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Objective: To better understand the arboviral causes of acute febrile illness in Grenada, identify currently circulating viruses, and determine epidemiologic risk factors.
Methods: We collected serum and risk factor survey data from people reporting fever from across Grenada from 2023–2025. Participants were recruited from health centers, private clinics and labs, and from community outreach and house visits. Sera were tested via RT-PCR for dengue (DENV), Zika (ZIKV), and chikungunya (CHIKV) viruses. Statistical analysis was performed to determine relevant risk factors.
Results: From 2023–2025 we recruited 647 febrile participants to our study. Of these, 98 (15%) were positive via RT-PCR for dengue virus infection, 1 for chikungunya, and no Zika cases were detected. The majority of samples were collected during a known dengue epidemic in 2024, and all dengue infections were detected during the rainy season (June-October). Univariate analysis revealed St. George Parish, Non-Afro-Caribbean race, higher education, living in an apartment, living in concrete structures, having air conditioning/window screens, students, travel, and collection of samples from SGU clinic as potential risk factors. Adjusting for this potential risk factors in a multivariable logistic regression model, only non-Afro-Caribbean race, and living in an apartment remain significantly correlated to DENV infection, while higher education is associated with non-DENV acute febrile illness.
Conclusion: Grenada experienced DENV epidemic between August–October 2024. Among those presenting with acute febrile illness in Grenada, approximately 15% were diagnosed with DENV by RT-PCR and associated with non-Afro-Caribbean race and residing in apartments. CHIKV was detected in a single case in 2023 suggesting either low-level endemic transmission or sporadic importation. No ZIKV cases were detected during the study period.

O-85
Comorbidities and mortality during the SARSCoV- 2 outbreak in Grenada

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Objective: To examine gender differences in age at death, comorbidity burden, and specific comorbid conditions among confirmed COVID 19 deaths in Grenada, and to assess parish level variations in COVID 19 mortality rates.
Methods: A retrospective descriptive method was conducted with confirmed COVID-19 deaths from the Ministry of Health during the SARS-CoV-2 outbreak in Grenada from January 2021 to June 2022.
Results: A total of 288 confirmed COVID-19 deaths were included, of which 47.6% were female and 52.4% were male. The overall mean age at death was 74 years (SD=16.49), with females being older at death than males. Females also had a higher mean number of comorbidities compared with males. The most frequently documented comorbid conditions were hypertension, respiratory disease, and diabetes. Females had higher proportions of diabetes, hypertension, and respiratory disease than males. In age adjusted logistic regression models using males as the reference group, females had higher odds of hypertension (aOR=1.73; 95% CI: 1.07–2.79) and respiratory disease (aOR=1.71; 95% CI: 1.06–2.76), while the association with diabetes was borderline significant (aOR=1.64; 95% CI: 1.00–2.69). No significant gender differences were observed for heart disease, kidney disease, cancer, or other comorbidities. Parish level analyses showed heterogeneity in mortality rates, with higher rates in St. Patrick and St. John, and lower rates in St. George and Carriacou & Petite Martinique.
Conclusion: The mortality rate for COVID-19 individuals were 1.8 % from January 2021 to June 2022. More males died from COVID-19 than females. Pneumonia, hypertension & respiratory disease and diabetes, were the most common morbidity identified in patient deaths due to COVID-19 in Grenada. Most of the patients had two or more comorbities.

O-86
An educational strategy to reduce HPV vaccine hesitancy among parents of adolescents from selected schools in Georgetown, Guyana: an experimental study

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Objective: To evaluate the effectiveness of an educational strategy in reducing HPV vaccine hesitancy among parents of adolescents from selected secondary school in Georgetown, Guyana.
Methods: A quantitative experimental design with one control and one experimental group was utilized. Total of

58 eligible parents were randomly selected. A structured questionnaire consisting of Knowledge of HPV, perception, attitude and willingness to vaccinate was used in pre and post test. Ethical approval was obtained from IRB, Ministry of Health, Guyana. Statistical analyses included chi-square tests and odds ratio comparisons to evaluate effectiveness.
Results: The experimental post-intervention group showed 33% increase in awareness of HPV and its causal link to cancer and 70% overall level of knowledge regarding HPV transmission. Twenty-one per cent (21%) rise in parents choosing to vaccinate their child despite doubts. Fifty-four per cent (54%) reported that their primary reason for refusal or hesitancy in accepting the HPV vaccine was a lack of knowledge. Eighty-three per cent (83%) were confident in the vaccine's effectiveness after the intervention. The main perceived barrier is "child is not at risk" (60%). The odds ratio showed that parents in post experimental group were 2.3 times more willing to vaccinate their children, 3.9 times more confident in vaccine's benefits, and 5 times more likely to believe in HPV vaccine effectiveness. Statistically significant association was found between the gender of the parent and willingness to vaccinate. ($\chi^2 = 4.22$, df = 1, $p<0.05$).
Conclusion: Educational intervention is effective in improving knowledge and willingness to vaccinate. The study underscores the need for sustained engagement with communities, leveraging trusted sources like healthcare providers and schools, and tailoring messages to address specific hesitations.

O-87
Burden of acute gastroenteritis and foodborne pathogens in Trinidad and Tobago: evidence for policy and surveillance strengthening

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Objective: This study aimed to quantify the epidemiologic, etiologic, and economic burden of acute gastroenteritis (AGE) using integrated community, laboratory, and surveillance data.
Methods: A mixed-methods approach was employed. Retrospective population-based surveys (n=2,145), laboratory manager surveys across six major laboratories, and prospective enhanced pathogen testing were conducted. Culture-based testing targeted six pathogens during surveys, while PCR assays screened for 22 pathogens between 2018–2019. Secondary analyses of national syndromic surveillance data spanning 2006–2023 were performed. Statistical analyses included incidence and prevalence estimation, underreporting multipliers, χ^2 tests, ANOVA, multivariate modeling, and joinpoint regression.
Results: Approximately one in ten individuals experienced AGE annually, with monthly prevalence at 5.13% and annual incidence of 0.675 episodes per person-year. The underreporting multiplier was ≈6.17, indicating that over 83% of cases were unreported. Children under 15 years were disproportionately affected, with two-thirds reporting restricted activity (~3 days) and one-quarter requiring caregiving (~2.6 days). Only 16% sought medical care, though most received medication. Enhanced testing identified *Salmonella*, *Shigella*, norovirus, rotavirus, *Campylobacter*, and diarrhoeagenic *Escherichia coli* as leading pathogens, with rural hotspots. Temporal analysis revealed spikes during flooding, droughts, and Carnival, a decline during COVID-19 (2018–2021), and rebound thereafter. Direct outpatient costs per case rose from $996 TTD (2009) to $1,614 TTD (2021), with national totals increasing from $128M TTD to $204M TTD.
Conclusion: AGE represents a substantial but underrecognized burden in Trinidad and Tobago. Strengthening hygiene promotion, expanding rotavirus vaccination, enhancing pathogen monitoring, and integrating food safety education into schools are critical interventions. Regional collaboration through CARPHA frameworks can modernize surveillance, prioritize high-risk events, and advance SDG-aligned health outcomes.

O-88
Early life social factors associated with mortality in Jamaicans with Sickle Cell Disease

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Objective: To assess the associations between early life social factors and mortality in Jamaicans with Sickle Cell Disease (SCD).
Methods: A medical chart review was conducted using census sampling of 535 SCD individuals enrolled in a birth cohort between 1973 and 1981. Early life exposures included parental occupation classified into skill levels 1 to 4 with lower levels representing more manual tasks with lower educational attainment using the International Stand-

ard Occupational Classification, union status, household structure (who the child lives with), and social amenities rating (SAR) score at birth where higher score meant access or possession of more amenities. These SAR scores were classified into tertiles for statistical analysis. Mortality was the outcome, with censored observations assigned to participants not known to have died at the end of data collection. Kaplan-Meier survival probabilities, median survival times and incidence rates per 1000 person-years(/1000PY) were estimated. Hazard ratios from Cox proportional hazards (PH) models quantified association with mortality.

Results: There were 277(51.8%) males, 302(56.5%) with haemoglobin sickle cell (HbSS) genotype, 247(61.6%) who lived with both parents and 279(59.49%) with a parent in occupation skill level 2 while 36.0% and 36.2% were classified at SARS Z-score tertiles 1 and tertile 2, respectively. The median follow up age was 28.6±15.6 years and 163 (30.5%) of participants died. Overall mortality rate was 10.7/1000PY – 16.7/1000PY and 4.0/1000PY for HbSS and HbSC genotypes, respectively. Median survival was not attained for the sample but was 42.3(95% CI: 37.2–46.6) years in those with HbSS genotype. Multivariable Cox PH model showed increased mortality associated with genotype (HbSS vs HbSC: (HR (95%CI) = 6.3(3.4–11.7), p<0.001), and household structure (Single(mother) vs both parents: (HR (95%CI) =1.6(1.1–2.2), p=0.019)).

Conclusion: Genotype remains the strongest clinical predictor of mortality, however early life factors inclusive of family structure has significant influence. Possible interventions should consider the role of early life social factors on long term outcomes.

O-89

The association between balance and falls and quality of life among the elderly with COPD: a case control study in Trinidad and Tobago

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Objective: This study aimed to assess balance, falls, and quality of life in elderly COPD patients in Trinidad and Tobago

Methods: Sixty participants (30 COPD, 30 age-matched healthy controls) aged ≥60 years were recruited. COPD diagnosis was confirmed by post-bronchodilator FEV_1/FVC <70%. Falls risk was evaluated using 12-month fall/trip history, the Six-Minute Walk Test (6MWT), and the Berg Balance Scale (BBS). Quality of life was assessed with the modified Medical Research Council Dyspnoea score (mMRC), Hospital Anxiety and Depression Score (HADS), COPD Assessment Test (CAT), and St Georges Respiratory Questionnaire (SGRQ).

Results: Participants had a mean age of 67.65 ± 6.31 years and BMI 26.06 ± 5.56 kg/m². COPD patients exhibited greater smoking exposure, comorbidities, and substance use. They demonstrated lower mean BBS score (49.4 vs. 54.5; p value <0.05) and reduced mean 6MWT (296.6 m vs. 348.9 m; p value 0.71), with higher frequency of trips (median 3 vs. 0.5; p value <0.05) and combined trips/falls (median 4.5 vs. 1; p value <0.05). Post-exercise SpO_2 was lower in COPD patients (96.1% vs. 98.5%; p value <0.05), while pretest SpO_2 and pulse were similar. Mean HADS-Depression score 7.5 vs. 3.0, mean HADS-Anxiety score 7.8 vs. 4.6, mean SGRQ total 48.8 vs. 1.2, and CAT 20.7 vs. 0 (p value <0.05 in all cases). Subgrouanalysis showed that COPD patients with ≥1 fall had markedly worse mean BBS score (40.9 vs. 52.6), walking distance (166.2 m vs. 344.1 m), post-test dyspnoea (5.0 vs. 3.1) and fatigue (4.1 vs. 2.1), higher HADS scores (D 9.8 vs. 6.7; A 10.6 vs. 6.8), and poorer mean quality of life scores.

Conclusion: COPD significantly impairs exercise capacity, balance, and increases trips/falls, compounded by greater dyspnoea, fatigue, and psychological distress. Chronic respiratory disease services for COPD should include balance assessment and ameliorative strategies for fall prevention in this vulnerable population.

O-90

Differences in body and muscle composition by diabetes status among Tobagonian men: 6-year follow-up

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Objective: Emerging studies have indicated bidirectional relationships between age-related changes in body composition and diabetes (T2D) status, signifying that changes in body composition may also be a consequence of T2D. This study aims to evaluate differences in 6-year changes in body and skeletal muscle composition among middle-aged Tobagonian men with and without T2D.

Methods: Men aged 40-54 participating in the Tobago Health Study (n=724) were followed prospectively for 6.2 years. Baseline T2D status was determined via fasting

blood glucose (FBG) and T2D medication use. Participants having an FBG ≥126 mg/dL or taking T2D medication were classified as having T2D while those with an FGB <126 mg/dL were classified as not having T2D. Dual-energy X-ray absorptiometry (DXA) was used to assess body composition, while calf skeletal muscle density and area were evaluated using peripheral quantitative computed tomography (pQCT). Linear regression models were used to determine whether longitudinal changes in total and regional body composition differed by diabetes status.

Results: T2D was prevalent among 12.4% of participants at baseline. DXA-derived total whole-body, trunk, arm, and leg adiposity increased significantly among men without T2D over the follow up period, but not among men with T2D. Men with T2D experienced a significantly greater decrease in calf skeletal muscle density (indicating increasing muscle adiposity) and muscle area compared to men without T2D. Additionally, those with T2D had a 2-fold decrease in DXA appendicular lean mass compared to men without T2D.

Conclusion: Our findings suggest living with T2D may impact muscle mass and composition among middle-aged Tobagonian men. To promote healthy aging, interventions should target T2D prevention among middle-aged men to maintain muscle health and prevent associated physical and metabolic dysfunctions. The incorporation of routine monitoring of body composition changes in middle-aged men with T2D could be an important component of T2D management.

O-91
The Tobago brain health study

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Objective: To assess the prevalence of chronic non-communicable disease in Tobago.

Methods: We collected data from a previous population health survey done in Tobago. 763 adults over the age of 60 years: 325 females and 438 males between 2023 and 2025. They were previously recalled from the Tobago Health Survey done in 2019. Parameters collected include age, ethnicity, sex, education level, alcohol and cigarette use and amount of times walked per week, sleep duration, BMI, waist circumference, presence of comorbidities such as Hypertension, Type 2 Diabetes Mellitus, Heart Disease, Lung disease, history of bone fractures, and Cancer as well as history of cigarette smoking and level of alcohol use. Blood pressure, grip strength, gait speed and perception of health were also recorded. Laboratory investigations include complete blood count, renal function, liver function, iron studies, lipid profile, inflammatory biomarkers such as hsCRP.

Results: 769 persons were assessed (433 men and 336 females) with their average age being 67 years. BMI over 25 was quite prevalent in mostly women. Half of the participants completed secondary level education and the self-reported hours of walking times were week was significantly under the World Health Organization (WHO) recommended 150 minutes per week. The overall percentage of participants with Hypertension (90%), Type 2 Diabetes Mellitus (>80%) and Dyslipidaemia (>30%) was significant. Grip strength and gait speed were significantly less for women. More than 90% of patients perceived themselves as well.

Conclusion: Primary prevention policies should be directed at mental and physical health and primary prevention. While many person perceived themselves as healthy, it was realized that there was high prevalence of Diabetes Mellitus, Hypertension, dyslipidaemia and being overweight.

O-92
The effects of metal mixtures on blood pressure and hypertension in adults from Tobago

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Objective: This study evaluated associations of urinary metal mixtures with blood pressure (BP) and hypertension (HTN) in middle-aged and older Tobagonian adults. We hypothesized that higher metal mixture concentrations would be associated with higher BP and greater odds of HTN.

Methods: We included a random sample from the Tobago Health Study, a population-based cohort of Tobagonian adults. Spot urine samples collected in 2014–2016 (men, n=487) and 2019–2020 (women, n=406) were analyzed for a panel of metal(loid)s including arsenic (As), barium (Ba), cadmium (Cd), cobalt (Co), cesium (Cs), copper (Cu), molybdenum (Mo), lead (Pb), tin (Sn), thallium (Tl),

uranium (U) and zinc (Zn). Linear, logistic and weighted quantile sum regression were applied to assess associations of individual metals and their mixtures with systolic (SBP) and diastolic blood pressure (DBP), pulse pressure (PP) and the odds of HTN. Models were stratified by sex due to differences in timing of urine sample collection. Covariates included age, education, BMI, smoking, alcohol use, type 2 diabetes, sedentary behavior, sleep duration, antihypertensive use (BP models only), and urine creatinine. Holm's method was used to adjust for multiple comparisons.

Results: In individual metal analyses among men, a one-quintile increase in Cu was associated with higher SBP (3.54 mmHg, 95% CI: 1.81–5.26), DBP (1.79 mmHg, 95% CI: 0.85–2.73), and PP (1.75 mmHg, 95% CI: 0.57–2.94). Among men, a one-quintile increase in metal mixture was associated with higher SBP (4.06 mmHg, 95% CI: 0.27–3.99) and DBP (2.12 mmHg, 95% CI: 0.27–3.99), primarily driven by Cu, with possible contributions by Co, Ba, and As. No individual metals or mixtures were significantly associated with HTN, nor any BP or HTN outcomes among women

Conclusion: Higher urinary Cu concentrations were associated with higher BP and PP among men. More research is needed to understand the observed sex differences.

O-93

Cardiovascular disease risk prediction and cardiovascular mortality in Barbados

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Objective: To examine determinants of long-term cardiovascular mortality in Barbadian men and women and to assess the relationship between baseline WHO cardiovascular (CVD) risk categories and CVD mortality after 12 years.

Methods: Combined Health of the Nation Barbados survey (2011–2013) data with national mortality records to December 2022, excluding non-CVD deaths. Logistic regression assessed associations between multiple baseline risk factors and CVD mortality after a >10-year follow-up. Calculated WHO 10-year CVD risks for ages 40–74 without prior CVD, categorising as low/medium/high; evaluated mortality associations by category comparison. Calibration was assessed by comparing predicted vs. observed cardiac death rates across risk strata.

Results: Among 1175 baseline participants, 69 died of CVD causes over 12 years (5.87% rate), comprising 40 women (58.0%) and 29 men (42.0%). Decedents were older and had higher baseline systolic blood pressure and HbA1c levels. Univariate analyses showed associations with hypertension [OR (95% CI): 5.02 (2.86, 8.79)], diabetes [5.42 (3.28–8.97)], age [65+ vs. 25–45: 136.33 (18.71, 993.49); 45-65 vs. 25–45: 13.68 (1.80, 103.97)], stroke [3.81 (1.52, 9.55)], and high cholesterol [3.94 (2.41, 6.46)]. Multivariable model: hypertension [2.08 (1.09, 4.00)], diabetes [2.11 (1.17, 3.80)], independent of age [1.12 (1.10, 1.15) per year] and male sex [1.66 (0.93, 2.96)]. Separate model with WHO categories: medium-risk [7.63 (0.81, 71.77)], high-risk [15.72 (1.15, 215.73)] vs. low-risk, independent of age [1.09 (1.02, 1.17) per year] and male sex [1.22 (0.52, 2.84)]. WHO predictions exhibited significant miscalibration [Hosmer-Lemeshow $\chi^2 = 29.53$, df=5, p=0.00002]; mean absolute calibration error (MACE) 10.8%, root mean squared deviation (RMSD) 14.0%, indicating moderate deviation but reasonable informativeness across risk deciles.

Conclusion: Hypertension and diabetes independently drive long-term CVD mortality; WHO risk categories predict outcomes despite miscalibration. Early interventions targeting non-communicable diseases like hypertension and diabetes are vital to curb premature CVD morbidity and mortality.

O-94

Barriers, facilitators, and perceived benefits for non-communicable diseases prevention, of church-based gardening with the Kalinago community: qualitative insights from a non-randomised implementation trial

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Objective: To examine how and why a church-based community gardening and health promotion intervention for non-communicable disease prevention was implemented and experienced in an Indigenous Caribbean setting.

Methods: Using the Medical Research Council process evaluation framework, we conducted semi-structured interviews with 26 participants at baseline and three months post-intervention. Reflexive thematic analysis examined implementation, mechanisms of impact, and perceived benefits.

Results: Three interrelated themes emerged. (i) Implementation challenges reflected legitimacy concerns regarding lay health advocates, resource and transportation constraints, environmental conditions, and COVID-19 disruptions. (ii) Enabling mechanisms operated at individual, organisational, and system levels; faith-based framing motivated participation, church authority facilitated trust and access,

culturally centred delivery enhanced acceptability, and partnerships between advocates, nurses, and churches supported adaptive delivery. (iii) Perceived benefits extended beyond individual behaviour change to community and system effects, including improved screening access, early detection, reduced clinic demand, increased vegetable consumption and physical activity, and community diffusion through spillover effects through produce sharing and household garden replication.
Conclusion: Culturally centred, church-based gardening interventions can enhance healthcare access, support healthier lifestyles, and generate community diffusion in resource-limited Indigenous settings. Successful implementation depends on legitimacy-building, adaptive partnerships, and alignment with local sociocultural contexts and equity goals.

O-95

Associations between neighbourhood socioeconomic status and cardiovascular diseases in adults forty years and older in urban Jamaica

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Objective: The aim of this study was to investigate associations between neighbourhood SES and CVD among adults 40 years and older in urban Jamaica.
Methods: We conducted secondary analysis of data from the Cardiovascular Health in Urban Communities (CHUC) study. Participants resided in urban communities in four south-eastern parishes. Neighbourhood SES was assessed using two variables (i) community-level property values and (ii) community-level poverty, both obtained from government agencies and then categorized into tertiles. CVD was defined as self-reported doctor-diagnosed heart disease, stroke or heart attack. Covariates assessed included diabetes, hypertension, hypercholesterolemia, and obesity. Pearson's chi-squared tests were used to assess bivariate associations and logistic regression used for multivariable models. Analyses were weighted for survey sampling design.
Results: Analyses included 480 participants (336 females; 144 males) with mean (SD) age 59.2 (12.0) years. Overall prevalence of CVD was 8.3% with no sex difference, but varied with age (p=0.013), with highest prevalence among persons 65–74 years (23.9%). In univariate models, CVD prevalence was lowest in those with mid-range community property values (OR 0.30, p=0.009) and highest in those in the worst poverty tertile (OR 2.57, p=0.011). In multivariable models, men in the worst poverty tertile had significantly higher odds of CVD (OR 6.95, (95% CI 1.48–32.68) after adjusting for age, sex interaction, hypertension, education and occupation. Associations with property value and CVD were not statistically significant in adjusted models. Hypertension was also associated with higher odds of CVD, while higher educational attainment was associated with lower odds of CVD.
Conclusion: Men living in poorer communities had higher odds of CVD, while hypertension increased and higher education lowered CVD odds. Further research should explore the drivers of community mediated Non-Communicable Disease (NCD) risks.

O-96

Health-Related quality of life after pacemaker implantation in Surinamese patients: a prospective cohort study

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Objective: The aim of this study was to evaluate the short- and long-term effect on Health-Related Quality of Life (HRQoL) after pacemaker (PM) implantation and to assess the association of these changes with sex, age and ethnicity.
Methods: This study was conducted at the cardiac outpatient clinic of the Academic Hospital Paramaribo. Patients who underwent a PM implantation participated after providing informed consent. Personal, clinical and two HRQoL questionnaires (the Medical Outcomes Study Short-Form (SF-36) and Assessment of Quality of Life And RELated events (AQUAREL)) were used to collect data. For statistical analysis the Student's t-test and the Pearson correlation were used.
Results: This study included 14 (male: N=7) participants. The median age of the participants was 68.5 [47–82] years. Positive health was measured at long-term for the following six SF-36 domains and all AQUAREL domains: physical functioning (p=0.017); role physical (p=0.035); mental health (p=0.032); general health (p=0.007); vitality (p=0.04); social functioning (p=0.035); dyspnea (p<0.001); chest discomfort (p=0.007) and arrhythmia (p<0.001). Moreover, no significant changes were found for two SF-36 domains: bodily pain (p=0.205) and role-emotional (p=0.752). Increased age was related to more chest discomfort (p=0.021; r=–0.609) at long-term. Females reported worse health compared to males for bodily pain (p=0.05; r=0.533), mental health (p=0.016; r=0.630), general health (p=0.008; r=0.677) and dyspnea (p=0.043; r=0.548) at long-term. Ethnicity was not related to HRQoL. These findings might have implications for PM implantation as well as its protocols using HRQoL as an outcome measure.
Conclusion: After PM intervention, increased age and female sex negatively influence HRQoL at long-term. Ethnicity was not related to HRQoL. These findings might have implications for PM implantation as well as its protocols using HRQoL as an outcome measure.

O-97

Trends in hypertension prevalence, awareness, treatment and control in Jamaica

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Objective: To a) provide estimates and examine trends of the prevalence, awareness, treatment and control of Hypertension (HTN) in Jamaica and b) identify whether select cardiovascular factors were associated with each outcome
Methods: Data were analyzed from the cross-sectional nationally representative Jamaica Health and Lifestyle Surveys (JHLSs) spanning 2001 to 2017 among individuals aged 15–74 years. The primary outcome variables were prevalence, awareness, treatment and control of HTN. Sample sizes for each survey were JHLS I – 1998, JHLS II - 2848 and JHLS III - 2807.
Results: HTN prevalence increased significantly from 22.1% (95% CI: 20.4, 23.8) in 2000 to 25.9% (95% CI: 24.0, 27.9) in 2008, to 35.3% (95% CI: 33.4, 37.2) in 2017 (Ptrend <0.001). Treatment proportions trends: 76.1% (95% CI: 69.6, 81.6) in 2000; 80.0% (95% CI: 75.4, 83.9) in 2008; 68.1 (95% CI: 63.6, 72.2) (Ptrend <0.01). HTN proportions control trends: 35.8% (95% CI: 29.7, 42.3) in 2000; 41.7% (95% CI: 36.3, 47.4) in 2008; to 29.6% (95% CI: 24.7, 35.0) (Ptrend <0.05). HTN prevalence increased among females, (Ptrend <0.001), persons with less than high school education, rural residents, normal Body Mass Index (BMI), engaged in low Physical Activity (PA) levels, and who did not use table salt (Ptrend 0.001); for those in the 15–24-year-old group the P for trend was <0.01. HTN control decreased significantly (Ptrend <0.05) among persons who engaged in moderate intensity PA and who never smoked. No statistically significant changes in HTN control were noted by sex, age group, education, area of residence or BMI groupings.
Conclusion: From 2000 to 2017, hypertension prevalence increased while its control proportions decreased. Further analysis of the data, as well as additional studies, will provide better insight as to the risk factors and provide actionable data for policymakers and programme planners.

O-100

Voices from the counselling room: understanding burnout among school counsellors in Guyanese schools

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Objective: The objective of this study was to explore how school counsellors in Guyana experience and cope with burnout in their everyday practice.
Methods: The study population comprised practising counsellors from public and private primary and secondary schools in selected regions, purposively sampled to vary in years of experience, school level, and urban–rural location. Data were generated through in-depth semi-structured interviews conducted at times and locations convenient for participants, audio-recorded, transcribed verbatim, and guided by an interview schedule on sources, manifestations, impacts, and coping with burnout; field notes captured additional contextual observations. Narrative transcripts were analyzed iteratively using thematic analysis to identify and refine core themes on emotional and organizational demands, exhaustion, and coping responses.
Results: Counsellors reported that burnout stemmed from intense emotional labour, large and complex caseloads, extensive non-counselling duties, and limited organisational support, resulting in profound exhaustion and reduced professional efficacy. Perceived support varied, with some urban counsellors reporting greater access to collegial networks and supervision than those in rural settings. Protective factors such as faith, collegial relationships, and personal coping routines were noted but were often informal, inconsistently available, and insufficient to counter systemic drivers of burnout.
Conclusion: This study revealed that school counsellors in Guyanese schools experience burnout as a cumulative, deeply personal strain arising from heavy emotional labour, role overload, and limited institutional support, underscoring the urgency of structured supervision, manageable workloads, and intentional wellbeing initiatives tailored to their realities.

O-101

Patient experiences with primary health care services in Grenada: a national cross-sectional study

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Objective: To assess patient experiences with primary health care (PHC) services in Grenada and examine how perceptions vary by gender, education level, and geographic district.
Methods: A national cross-sectional survey was conducted between May 2024 and April 2025 among adult users of public PHC facilities across Grenada. Guided by the Donabedian model, the survey measured structural fac-

tors (accessibility, physical environment), process factors (patient–provider interactions), and outcome indicators (satisfaction and barriers to utilization). Descriptive statistics and one-way ANOVA analyses were performed.
Results: A total of 1,023 respondents participated. Waiting time, emergency access, and opening hours were the lowest-rated aspects of care. Interpersonal communication with providers was rated more positively. Educational level and district were significant factors associated with patient perceptions across most domains, while gender differences were statistically significant but small. Waiting time, limited service availability, and opening hours were the most frequently reported barriers.
Conclusion: Although patients report positive interactions with PHC providers in Grenada, persistent structural and organizational constraints undermine equitable access and satisfaction. Addressing these gaps is essential for strengthening PHC performance and advancing universal health coverage.

O-102
Clinical presentation and laboratory findings of children with dengue in Guyana during the outbreak 2024–2025

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Objective: To identify the most common clinical and laboratory features of dengue in children, and to determine the acute clinical outcomes and acute complications
Methods: A retrospective, hospital-based study was conducted on children <14 years with confirmed acute dengue infection who were admitted to the Pediatric Medicinal Services at GPHC during a 12-month period (November 2024 and November 2025). We included children with laboratory-confirmed dengue (NS1+/IgM+). Medical charts were reviewed for demographics, clinical presentations, and outcomes. Descriptive analysis was done using SPSS version 27.
Results: The sample included 337 children, with majority being males (59.1%). The mean (SD) age was 7.4 (3.4) years; 60% (n=202) resided in Region 4 (centrally). However, the majority who required critical care management (76%, n=28), resided in Region 6. The most common clinical features were fever (100%), abdominal pain (83%), and vomiting (62.3%). Majority had thrombocytopenia (platelet <100,000 x 109/L, 71%) and increased hematocrit (HCT>49%, 60%) on admission. Approximately half (53.4%) had elevated liver enzymes (ALT & AST >50U/L, GGT >60 U/L, while 44.5% had increased Prothrombin time (>15 seconds) and partial thromboplastin time (>40 seconds). The mean hospital stay was 7(7) days. Eleven percent required critical care management, and 9 children (2.6%) died during admission. The most frequent complications were hepatitis (50.4%), acute kidney injury (32.6%), hypovolemic shock (25.8%), pneumonia (17.8%), bacterial tonsilitis (12.4%), encephalitis (7.7%), liver failure (1.7%), myositis (1.4%), and polyneuropathy (0.8%).
Conclusion: In Guyana, dengue infection is a significant cause of pediatric morbidity with multiple complications that are consistent with global reports.

O-103
Physician training at the University of Guyana School of Medicine (UGSM) and its contribution to the transformation of the country's health care sector

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Objective: The main objective of the study was to establish whether physician training at UGSM was contributing to the transformation of the Guyana health care sector
Methods: Data from the University's Registry in relation to the number of Physicians that graduated between the period 1985 to 2025 were analyzed in relation to their contribution to the transformation of the health care sector. Health indicators such as physician density, age adjusted mortality rates, maternal mortality and the quality of health care delivery were determined. Descriptive analyses were performed.
Results: Between 1985 and 2025 the UGSM graduated 824 physicians with 58 % being females, 70% of graduates originated from the Region. The introduction of a Regional quota system as part of the matriculation requirements, resulted in increasing numbers of Medical Students from all regions including those that are considered underserved and hinterland. During the corresponding period, the country's health sector experienced an increase in physician density from 0.2 to 1.4. The overall age-adjusted mortality rate decreased from 12.7 to 11.3 per 1000 population. There were also decreases in maternal mortality and a significant increase in deliveries being done at a Health care facility and attended by a Physician.
Conclusion: UGSM Physician training has positively impacted the healthcare systems in Guyana.

O-104
One-Stop-Shop imaging for cancer diagnosis in the Caribbean: an Integrated PET-CT and PET-MRI approach

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Objective: Cancer staging typically requires both local assessment by pelvic MRI and whole-body evaluation by PET-CT. In cancers of organs such as prostate and uterus, these complementary modalities are recommended but usually performed sequentially. At the Caribbean Institute of Nuclear Imaging (ICIN) in Martinique, both examinations are combined after single radiotracer injection—the "One-Stop-Shop" (OSS) protocol—pairing pelvic PET-MRI with whole-body PET-CT. This study aims to evaluate the indications and clinical benefits of this protocol across major oncologic indications, with a specific focus on prostate cancer and the diagnostic added value of PSMA PET-MRI over conventional MRI for local tumour assessment
Methods: A retrospective observational study was conducted using ICIN activity data from May 2024 to December 2025. An OSS examination was defined as the completion, on the same day, of a PET-with contrast CT and targeted PET-multiparametric MRI for the same patient and indication. These included prostate cancer using PSMA tracers, gynecologic pelvic malignancies, and breast cancer. For prostate cancer, clinical contexts included post-biopsy staging, biochemical recurrence, and post-radiotherapy evaluation.
Results: Since May 2024, 9,925 PET-CT examinations were performed and 1,300 patients benefited from an OSS pathway. Prostate cancer accounted for most OSS examinations (86.1%, n=1,119), followed by gynecologic pelvic cancers (13.4%, n=174) and breast cancer (<1%, n=7). In prostate cancer, OSS imaging was mainly performed for post-biopsy staging (46%) and recurrence assessment (42%), including patients evaluated after radiotherapy. The integrated PET-CT and PET-MRI approach provided comprehensive loco-regional and whole-body assessment within a single session.
Conclusion: The OSS imaging model simplifies diagnostic workflows by combining two complementary modalities in a single visit and after a single injection. This approach enables timely and comprehensive evaluation for initial staging, recurrence, and post-treatment assessment, and represents a particularly relevant strategy for oncologic imaging in island healthcare settings.

O-105
Ambient particulate matter ratio as an indicator of Saharan dust intrusion: a pilot study in Grenada

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Objective: To estimate the $PM_{2.5}/PM_{10}$ ratio from fixed-site monitors in Grenada and to use these ratios, along with meteorological correlates, to identify the principal particulate matter species and their sources.
Methods: Ambient $PM_{2.5}$ and PM_{10} data were collected from three fixed-site low-cost monitors in Grenada which continuously captured particulate matter mass using optical sensors. Meteorological correlates were obtained from the Grenada Meteorological Service. Summary statistics were calculated and a time series analysis of the daily $PM_{2.5}/PM_{10}$ ratio with locally estimated scatterplot smoothing (LOESS) smoothing was constructed. Daily $PM_{2.5}/PM_{10}$ ratios were modeled as a function of the meteorological correlates.
Results: The mean $PM_{2.5}$ (4.50 $\mu g\ m^{-3}$) and PM10 (6.55 $\mu g\ m^{-3}$) levels indicate that Grenada's baseline air quality generally meets the WHO recommendations of 5 $\mu g\ m^{-3}$ and 41 $\mu g\ m^{-3}$, respectively. However, there were periods during the year when concentrations exceeded the 24-hour thresholds set by the WHO, 15 $\mu g\ m^{-3}$ and 45 $\mu g\ m^{-3}$ respectively, highlighting a public health risk. The calculated $PM_{2.5}/PM_{10}$ ratio, with an annual mean of 0.68 and a range of 0.31 to 0.92, reflected the significant variability in particle size distribution throughout the year. Lower ratios, indicative of dust intrusions, and generally coinciding with dust advisories, were observed at the start and again at the end of the dry season.
Conclusion: The estimation of the $PM_{2.5}/PM_{10}$ ratio confirms that periods of poor air quality in Grenada is associated with Saharan dust events. The study highlights the practical value of low-cost monitors in generating crucial air quality data to improve public health messaging in resource-limited settings, such as Grenada and the Caribbean.

O-106
Enhancing Real-Life Data in Insular Territories

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Objective: To describe the design of SAVOIR, an INTERREG Caribbean VI funded project, aimed at laying the foundations of a shared space for large-scale health data in the Caribbean and enabling multidisciplinary analyses to support regional epidemiological preparedness.
Methods: This work presents the design of the SAVOIR project, structured as a regional cooperation initiative funded under the INTERREG Caribbean VI programme. SAVOIR is built on a partnership between the Martinique Clinical Data Warehouse, a Colombian hospital-based registry, and the IARC Caribbean Cancer Registry Hub. The project is designed as a continuum of coordinated activities combining capacity building, data structuring, and applied research. Its methodological framework relies on the mobilisation of multilingual, large-scale, and heterogeneous data sources, including clinical surveillance, epidemiological, environmental, and socio-demographic data, which are currently fragmented and under-exploited across the region. SAVOIR integrates a pool of training modules and reference materials for health and data professionals, aligned with European digital health strategies (2020-2030). Use cases will be adapted to Caribbean contexts to guide progressive development of interoperable data practices and analytical tools.
Results: SAVOIR promotes a pragmatic and progressive, data-driven strategy that articulates academic expertise with a systemic, regional approach. Through targeted training and collaborative projects developed with the IARC Caribbean Cancer Registry Hub, the project strengthens digital health skills and supports the emergence of structuring regional initiatives.
Conclusion: As a scientific cluster, SAVOIR contributes to the establishment of an ethical, regulatory, and governance framework for the use of large-scale health data in an insular context. By fostering stakeholder engagement and regional coordination, the project enhances system resilience and the capacity to respond to public health crises, while stimulating research activity and international collaboration across the Caribbean.

O-107

International organizations' influence on health and safety culture in Guyana's oil & gas industry

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Objective: This study examines how international standards, donor requirements, and global best practices intersect with Guyana's existing Occupational Safety and Health Act (OSH) (1997) and procurement frameworks to influence Health Safety and Environment (HSE) performance in the rapidly expanding oil and gas industry.
Methods: An explanatory sequential mixed-methods design was employed, integrating documentary analysis, comparative policy review, and synthesis of safety performance frameworks. Documents reviewed included national OSH legislation, procurement and bidding documents, donor requirements, and global standards such as ISO 45001, ISO 14001, International Labor Organization (ILO) guidelines, International Finance Corporation (IFC) Environmental Health and Safety (EHS) Guidelines, and International Association of Oil and Gas Producers (IOGP) Safety Performance Indicators (SPIs). A comparative matrix analyzed legal duties, management-system requirements, operational expectations, hazardous materials, incident reporting, worker participation, subcontractor controls, and key performance indicators (KPIs).
Results: The analysis identifies strengths in Guyana's statutory provisions such as employer duties, worker committees, hazardous materials management, and accident notification while highlighting gaps in management-system maturity, subcontractor oversight, KPIs, and independent verification mechanisms. Procurement documents partially translate legal requirements into operational expectations, yet they fall short of ISO 45001-aligned evidence of systematic planning, performance monitoring, and continual improvement. Findings demonstrate that international organizations exert influence through benchmarking, financing conditions, safety performance reporting, and the diffusion of management-system frameworks. These mechanisms elevate expectations for corporate safety culture and supply-chain accountability but require stronger national enforcement and institutional capacity to achieve sustained improvements.
Conclusion: This study contributes empirical insight into how international frameworks can complement national legislation in emerging petroleum economies. Guyana's expanding petroleum industry presents both risks and opportunities. International frameworks can significantly strengthen HSE culture, but only when integrated into national regulatory systems with sufficient enforcement and institutional capacity.

O-108

A study assessing the predictive utility of triglycerides and total cholesterol in identifying cardiovascular disease risk among adult patients attending Mahaicony District Hospital, Guyana

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Objective: To evaluate the prevalence of dyslipidemia and examine associations between triglyceride and total cholesterol levels with selected cardiovascular risk factors among adult patients at Mahaicony District Hospital in 2024.

Methods: This retrospective cross-sectional study analyzed laboratory and clinical records of adult patients (>18 years) who underwent lipid profile testing at Mahaicony District Hospital, Guyana, between January and December 2024. Using convenience sampling, 821 records with complete total cholesterol and triglyceride results were included. Data were extracted from paper-based records and included age, sex, lipid parameters, and documented comorbidities. Elevated triglycerides (≥150 mg/dL) and total cholesterol (≥200 mg/dL) were defined using standard clinical thresholds. Data were anonymized and analyzed using SPSS with descriptive and inferential statistical methods.
Results: Mean total cholesterol was 229.9 ± 42.4 mg/dL and mean triglyceride level was 158.4 ± 84.7 mg/dL. Elevated total cholesterol (≥200 mg/dL) was observed in 85.2% of patients, while 50.6% had elevated triglycerides (≥150 mg/dL). Triglyceride levels showed a strong positive correlation with VLDL ($r=0.97$, $p<0.001$). Age demonstrated a weak but statistically significant association with total cholesterol ($r=0.11$, $p=0.002$). No statistically significant differences in lipid levels were observed between males and females ($p>0.05$). Hypertension and diabetes mellitus frequently coexisted ($p<0.001$). Clinical diagnoses were documented in only 49.7% of patient records.
Conclusion: Dyslipidemia was highly prevalent among the sample, with elevated total cholesterol and triglyceride levels observed across age groups and both sexes. Triglycerides were strongly correlated with VLDL, while total cholesterol showed only a weak association with age and no significant sex-based differences. Lipid parameters demonstrated limited discriminatory value for individual cardiometabolic comorbidities, and substantial gaps in clinical documentation were identified. These findings highlight the need for routine lipid screening and improved medical record systems within rural primary healthcare settings.

O-109

A qualitative study on the role of psychosocial support in managing the needs of adolescents living with type 1 diabetes mellitus between 10 and 19 years old from the adolescent's perspective

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Objective: To examine adolescents' perspective on psychosocial support in managing their needs as people living with T1DM.
Methods: A phenomenological qualitative study was conducted using semi-structured interviews with purposively recruited heterogeneous sample of adolescents aged 10–19 years from a diabetes registry. Semi-structured interviews followed a piloted guide, after obtaining informed consent (adults) and assent plus parental consent (minors). Reflexivity and field notes minimised researcher bias. Audio recordings were transcribed verbatim and analysed using inductive thematic analysis with iterative co-coding and discussion, supported by Atlas.ti software.
Results: Guided by saturation, 11 interviews were conducted and nine included in the final analysis. Participants ranged from 10 to 18 years old (four males, five females). Analysis produced four organising themes (OTs): OT 1: Ecosystem of Support reflecting mixed perceptions of familial and peer involvement; OT 2: Approach to T1DM Management highlighting coping strategies including avoidance and selective disclosure; OT 3: Knowledge and Understanding of Living with T1DM shaped by healthcare providers, peers and social media; OT 4: Treatment Options for T1DM where advanced technology's perception was beneficial but limited by cost and accessibility. Collectively the OTs informed one global theme: "extrinsic and intrinsic factors shape adolescents' perceptions of psychosocial support in T1DM management."
Conclusion: Adolescents' experiences of T1DM management were shaped by social support, coping styles, disease acceptance and access to resources. Findings support the integration of psychosocial support into T1DM care through policy-level standardisation, providing a foundation for subsequent organisational and interpersonal interventions.

O-110

Innovating health promotion in the Caribbean: a multisectoral, whole-of-society approach to the Caribbean moves initiative

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Objective: To develop a multi-sectoral, 'whole of society,' socially inclusive and gender-responsive regional framework to implement the Caribbean Moves Initiative across CARICOM Member States.
Methods: A qualitative participatory approach was employed across four CARICOM Member States (Jamaica, Barbados, St. Lucia, Trinidad and Tobago) selected for population size, geographic location, ethnic composition, and technical roles. Data collection included desk reviews of existing national "Moves" programmes, SWOT and PESTLE analyses, focus group discussions with government ministries, civil society and community organisations (8–10 participants per group), and key informant interviews with NCD focal points, Ministers of Health, and Permanent

Secretaries. Thematic analysis with inductive and deductive inquiry was applied by two independent analysts.
Results: The consultative process informed development of the Caribbean Moves Model comprising five pillars: (1) Clinical Practice/Service Delivery, integrating the Socio-Ecological Model with the Expanded Chronic Care Model; (2) Behaviour Change Communication, applying COM-B, Transtheoretical Model, Social Learning Theory, and Diffusion of Innovation Theory; (3) Governance, featuring dual regional-national architecture with COHSOD oversight and CARPHA as Secretariat; (4) Monitoring and Evaluation, with indicators aligned to Port of Spain Declaration and Caribbean Cooperation in Health IV commitments; and (5) Financing and Resource Mobilisation with sustainability planning.
Conclusion: The Caribbean Moves Initiative provides a comprehensive, adaptable model combining multisectoral engagement, whole-of-society participation, and evidence-based behaviour change strategies. This framework addresses critical gaps in regional health promotion and can serve as a template for other low- and middle-income countries addressing the non-communicable disease epidemic.

O-112

Prevalence and symptomatology of attention-deficit/hyperactivity disorder among undergraduate students at the University of the West Indies, St. Augustine: a cross-sectional descriptive study

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Objective: To determine the proportion of undergraduates with a formal ADHD diagnosis and those screening positive for possible undiagnosed ADHD using the WHO Adult ADHD Self-Report Scale (ASRS-v1.1); to analyze ADHD symptomatology across faculties at the University of the West Indies, St. Augustine (UWI); and to assess ADHD medication use among students with and without diagnosis.
Methods: A cross-sectional descriptive study was conducted among 374 undergraduates representing all UWI faculties. Participants completed an anonymous online questionnaire capturing demographics, ADHD diagnosis status, medication use, and ASRS-v1.1 responses. Symptom domains—inattention (Questions 1–9) and hyperactivity/impulsivity (Questions 10–18)—were analyzed. Responses of "Often" or "Always" indicating symptom presence. Descriptive and inferential statistics assessed symptom burden and medication use patterns across faculties.
Results: Of 374 participants, 8.6% (n=32) reported a formal ADHD diagnosis, while 57.8% (n=216) screened positive for clinically significant symptoms. Social Sciences (FSS) had an average total symptom score (9.46) and the largest proportion meeting the clinical threshold (54.35%). Law (FOL) and Science and Technology (FST) showed symptom scores of 42.86% and 32.86%, respectively. Medical Sciences (FMS) recorded the lowest average total symptom score (5.45) and proportion of high-symptom students (18.85%). Inattention predominated in FSS and FST, while hyperactivity/impulsivity symptoms predominated in FOL and Food and Agriculture (FFA). ADHD medication use occurred among both diagnosed and undiagnosed students, with non-prescribed stimulant use most common among males and students in FST and Engineering (FOE).
Conclusion: This study reveals substantial burden of possible undiagnosed ADHD and non-prescribed stimulant use among UWI undergraduates. Variations in symptom expression across faculties highlight absolute need for faculty-specific screening and support strategies, underscoring the importance of expanding accessible ADHD identification and intervention services within Caribbean tertiary institutions to improve academic outcomes and student well-being.

O-113

Harnessing pre-existing data for public health research in the Caribbean: The CHLOECAPA Experience on prostate cancer and environmental exposure

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Objective: To describe the distribution of incident cases and deaths of prostate cancer according to d'Amico risk groups, combined with data on Chlordecone soil contamination.
Methods: We included socio-demographic data and clinical variables from all patients diagnosed with Prostate cancer (ICD10 : C61) between 2010 and 2019. The French guidelines recommend the use of the D'Amico risk group classification. Comparisons between incident cases or number of deaths according to Amico risk level and chlordecone soil contamination levels were made using parametric tests combined with chloropethe mapping.
Results: Between 2010 and 2019 a total of 5,868 new cases were diagnosed in Martinique. Most of the cases were

located in the low-exposure area (40.5%) and the moderate-exposure area (33.4%). Three main associations were found between incident cases and exposure zone: (1) low-risk cases increased significantly by 1.32 in the low-exposure area, (2) intermediate-risk cases decreased significantly by 15% in the high-exposure area and (3) regional/metastatic cases decreased significantly by 25% in the moderate exposure. Roughly half of all deaths (47.10%) were located in the non-exposed area and significantly reduced by 24% in highly contaminated areas compared with non-exposed areas.

Conclusion: Integrating the latest available data on soil contamination and cancer incidence will extend on-going knowledge of chlordecone exposure and Prostate cancer incidence, which remains a major environmental concern in Martinique. Pooling expertise and consolidating all pre-existing information on prostate cancer epidemiology at a single level is the solution for: (i) data visualization, (ii) the production of relevant indicators and (iii) risk modeling.

O-114

Safety and efficacy of using combined interferons alpha 2b and gamma for treatment of basal cell carcinoma at a Clinical Surgical Hospital Salvador Allende Havana, Cuba

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Objective: To evaluate the efficacy and safety of using combined interferon alpha 2b and gamma (HeberFERON) in patients with basal cell carcinomas.

Methods: A phase IV, open-label, non-randomized, single-group clinical trial on 20 patients with a clinical and histological diagnosis of basal cell carcinoma. 10.5 mIU of HeberFeron was administered perilesionally 3 times weekly for 3 weeks. Outcome measures evaluated were clinical and histological resolution of tumour along with the duration of tumour resolution.

Results: 70% of patients were males, and 85% of patients were Phototype III. Age ranged from 46 to 94 years, with mean age of 78.5 years. 90% of patients presented with a single lesion, 50% affecting the nose followed by almost 30% affecting the ear. 75% of patients had a clinical and histological diagnosis of a nodular subtype while 25% were ulcerative. After complete treatment of 27 doses of HeberFeron, there was complete clinical and histological resolution of tumor in 60% of patients 16 weeks after treatment and partial resolution in 40%. All patients (100%) reported good aesthetic results and the most common adverse effects were fever (50%), arthralgia (40%), chills (35%), general malaise (35%), oedema (25%) and perilesional erythema (25%), all reversible after 12 hours of initial doses of treatment.

Conclusion: Combined interferon (HeberFERON) is a safe and effective option for treatment of basal cell carcinoma and provides a favourable clinical and aesthetic alternative when surgery is contraindicated. .

O-115

Development of a Cancer dashboard for cancer registries in the English-speaking Caribbean region: an example of Barbados National Registry Cancer Dashboard

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Objective: Use of the Barbados National Cancer Registry (BNR-Cancer) data is stymied by a static, staff-dependent reporting system. The primary objective of this study was to describe the development and early implementation of an interactive web-based BNR-Cancer dashboard and to illustrate its functions for analysis and visualization of cancer data to support more responsive cancer-control planning in Barbados.

Methods: Dashboard development was guided by the Exploration, Preparation, Implementation, and Sustainment (EPIS) framework. Stakeholder meetings were held to understand the extent of the problem and brainstorm possible solutions. Once the dashboard was identified as the most feasible option, the team proceeded to the Preparation Phase, during which data were collated and the barriers and facilitators to dashboard development were discussed. Further stakeholder meetings were held to consider the need for balance between data access and data security during implementation. Plans for sustainability were instituted.

Results: The dashboard, which houses cancer incidence data for 2013–2022 and mortality data for 2008–2024, was successfully developed and deployed, featuring real-time analytics and user-driven filtering. Nine modules were created, providing summary statistics, incidence metrics, mortality, survival probabilities, point prevalence, and four data quality indicators monitored via statistical processing control (SPC) charts. Facilitators of this process included experienced staff and open-source tools; barriers like data harmonization were mitigated through iterative cycles. Pilot implementation enabled secure access for authorized users through individualized, password-protected authentication, supporting data monitoring and security.

Conclusion: Integrating population-based registry data with modern informatics via the EPIS framework is feasible in resource-constrained settings such as the Caribbean thereby enhancing timely cancer surveillance and decision-making.

This dashboard supports agile cancer-control planning in Barbados and offers a scalable model for other small-island developing nations in the Caribbean.

O-116

The 'Stage Shift' effect: evaluating the impact of decentralized PSA screening on downward stage migration of prostate cancer in Guyana (2024–2025)

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Objective: To evaluate the impact of Prostate Specific Antigen screening on the stage distribution of prostate cancer over the period 2024 to 2025.
Methods: Study design: retrospective program evaluation using aggregated screening and diagnostic data from the Guyana Men's Health Unit (MHU), over the years 2024-2025. Target population: Guyanese men aged 45-75 years, and high-risk men were screened at 40 years. Sampling: men who voluntarily participated and and were prescribed PSA in both private and public hospitals. Procedures and data sources: Registered private labs and government laboratories conducting PSA.
Results: PSA tests increased by 78.6 % in 2025 (n=24,665) compared to 2024 (n=13,800). Elevated PSAs in 2024 (n=2,600) vs 2025 (n=4,270), of which 646 (2025) biopied compared to 536 in 2024. In 2024, 38% of biopsies were positive; and the same in 2025, 38%. Sixty per cent (60%) of the positive cancer cases diagnosed in 2025 were in Stage 1 & 2, compared to 39% (2024). Afro Guyanese men were mainly affected. A ratio persists over the 2024–2025 period of 1:5 of prostate cancer to elevated PSA, with statistical significance, p-value 0.00017. This sample was years younger than the previous sample, while the pattern persisted.
Conclusion: The PSA screening initiative contributes to a significant "stage shift" toward earlier diagnoses in Guyana, directly improving patient prognosis and reducing mortality and morbidity. While the number of people being screened is good, follow-up is needed to ensure all men with high PSA levels receive timely, reviews. This successful downstaging offers valuable lessons for other Caribbean nations in designing and implementing effective, primary care-led programs for prostate cancer screening.

O-117

Perceptions and barriers to prostate cancer screening among Guyanese men

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Objective: To assess Guyanese men's knowledge and perceptions of prostate cancer screening and identify barriers influencing screening behaviour.
Methods: A cross-sectional survey was conducted among 400 men aged 40 years and older using a structured interviewer-administered questionnaire. Descriptive statistics were used to summarise responses. Chi-square tests examined associations between knowledge, education and screening history.
Results: Awareness of prostate cancer was high (89.5%), yet 42.7% of respondents could not identify any screening method, and 30.4% were unaware that screening services were available in Guyana. Self-rated knowledge was strongly associated with screening history ($p<0.0001$). Men with tertiary education were significantly more likely to have been screened (69.4%) than men with no formal education (31.6%). The most frequently reported barriers were lack of awareness of screening availability (24.5%), absence of healthcare provider recommendation (15.7%) and perception that screening was unnecessary (13.2%). Financial constraints (5.7%) and embarrassment or stigma (0.3%) were minor barriers.
Conclusion: Although general awareness of prostate cancer was high among Guyanese men, critical knowledge gaps and weak provider engagement limit screening uptake. Targeted public education and stronger healthcare provider involvement are essential to improving early detection and reducing mortality.

O-118

The prevalence of metabolic syndrome and iron-deficiency anaemia in patients with localized prostate cancer

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Objective: This study evaluated the prevalence of metabolic syndrome and examine the iron profile of Jamaican men newly diagnosed with localized prostate cancer (PCa).
Methods: This was a prospective study of 58 histologically confirmed PCa patients diagnosed at the University Hospital of the West Indies between January 2023 and August 2025. Each participant provided blood for serum total prostate specific antigen (tPSA) and other biochemical tests iron profile [serum total iron binding capacity (TIBC), ferritin and folate levels]. Metabolic syndrome was determined using the criteria set forth by the National Cholesterol Education Program (NCEP) Adult Treatment Panel III (ATP III) (2005). All data were analysed using the Statistical Package for Social Science version 22.0 and $p<0.05$ was deemed statistically significant.
Results: The urbanized regions of Jamaica (Kingston and St. Andrew) accounted for majority (64.5%) of PCa participants. The majority (93.2%) of participants had tPSA above 4.0 ng/mL equating to a mean of 38.9 ng/mL. Approximately 6.9% of participants demonstrated having three or more risk factors relating to the prevalence of metabolic syndrome. In examining the iron profile of all the PCa participants, over one-fifth (21.1%) showed decreased serum TIBC, 25.0% had increased serum ferritin levels and 16.7% presented withelevated serum folate levels.
Conclusion: The study showed a 6.9% prevalence in PCa patients with localized disease. The findings of elevated ferritin and folate, as well as decreased TIBC suggests that the dysregulation of iron metabolism, altered folate status and metabolic syndrome may be related to the progression of PCa. The iron profile could serve as complementary tests in monitoring treatment and prognosis of PCa.

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