Latin American and Caribbean HSG Pre-Conferences on Health Systems Research

Advancing health systems for all in the Sustainable Development Goals (SDG) era

St. Augustine, Trinidad and Tobago
January 22nd, 2018
University of West Indies

Co-sponsors

Health Systems Global
http://healthsystemsglobal.org/

Organización Panamericana de Salud
http://www.paho.org

University of Guyana
http://www.uog.edu.gy/

The Universitiy of West Indies, St. Augustine Campus
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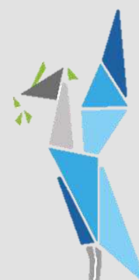


Background

The Alma Ata vision of 'Health for All' remains as compelling today as it was in 1978, as reflected in goal 3 of the Sustainable Development Goals (SDGs). But the world has changed in forty years. Despite improved health outcomes, **there remain extraordinary challenges for health equity and social inclusion,** such as demographic and disease transitions, conflicts and their subsequent migrations, pluralistic health systems and markets, and climate change. Political systems still marginalize those most in need. Yet there are new opportunities for health systems to achieve universal coverage.

The Fifth Global Symposium will advance conversations and collaborations on new ways of financing health; delivering services; and engaging the health workforce, new social and political alliances, and new applications of technologies to promote health for all.

The organization of a cycle of Pre-Congresses in the Americas is motivated by the need to have a Latin American and Caribbean perspective on the analysis and the implementation of health systems and services, providing a perspective of its own, and transmitting to the world the experiences of research and management in the region.

The purpose of these events is twofold: on the one hand, **to generate a space for local exchange** on the most relevant experiences and transformative visions, which will fuel a necessary debate on health systems. Secondly, we will try to support the selected papers for this pre-conference in the presentation of their summaries at the Fifth Symposium of the Global Health System to be held in Liverpool.

With the purpose of **bringing together researchers and policymakers in health of Latin America and the Caribbean** working on issues related to health systems in the region, the proposal for this pre-conference implies:

- To promote the **exchange of experiences** in a meeting of researchers and policymakers around **interdisciplinary discussion tables**.
- **To stimulate the presentation of works** by Latin American and Caribbean authors in the Open Call of the Global Symposium in March 2018.
- To strengthen the Latin American and Caribbean presence of studies on health systems and policies in the symposium.

Also, those summaries that are selected in the call of Liverpool and have participated in one of the regional pre-conference conferences, will have the possibility to be eligible for one of the ten complete grants offered by the Pan-American organization of Health to attend the symposium in the United Kingdom.

Organization committee

Health Systems Global Referent

Daniel Maceira

Daniel Maceira es argentino, Ph.D. en Economía Boston University, especializado en economía de la salud y organización industrial. Es Investigador Titular del Centro de Estudios de Estado y Sociedad (CEDES), Investigador Independiente CONICET y Profesor Titular de la Universidad de Buenos Aires, y colaborador en programas de posgrado en FLACSO, UTDT, entre otros. Ha colaborado con IDRC de Canadá; UNICEF; la Gates Foundation; la Organización Mundial de la Salud (OMS); la Organización Panamericana de la Salud (OPS); el Banco Interamericano de Desarrollo (BID); el Banco Mundial; el Programa de las Naciones Unidas para el Desarrollo (PNUD); la Fundación Interamericana (IAF); el Global Development Network; el Fondo Global ; y el Global Alliance for Vaccines and Immunization (GAVI Alliance), entre otras. Desde 2016 es Miembro del Comité Ejecutivo de Health Systems Global, la sociedad internacional en sistemas y servicios de salud.

Co-sponsor Referent

Prof. Donald T. Simeon

Prof. Donald Simeon is Professor of Biostatistics and Research at the Faculty of Medical Sciences, University of the West Indies, Trinidad & Tobago. Prior to this, he was Director of Research, Training and Policy Development at the Caribbean Public Health Agency (2013-2015) and Director of the Caribbean Health Research Council (2002-2012). He is a Chartered Statistician and Fellow with the Royal Statistical Society, UK as well as a Registered Public Health Nutritionist. He has extensive research experience as evidenced by the publication of over 80 scientific papers in peer-reviewed international journals, in addition to chapters in books/encyclopedia and other reports

Dr. Chris Oura

Chris is currently a Professor in Veterinary Virology at the School of Veterinary Medicine, UWI. Chris is a qualified veterinary surgeon, has a PhD in Viral Immunology and has many years research experience working predominantly on vector-borne viral and protozoal diseases. Chris has worked in many countries around the world including Mexico, Uganda, and Zimbabwe. He took up his post at the University of the West Indies in Trinidad and Tobago in early 2012 and currently is project leader on a large 1.5 million Euro EU funded grant promoting One Health across the Caribbean region.

Prof . Terence Seemungal

Prof. Donald Simeon is Professor of Biostatistics and Research at the Faculty of Medical Sciences, University of the West Indies, Trinidad & Tobago. Prior to this, he was Director of Research, Training and Policy Development at the Caribbean Public Health Agency (2013-2015) and Director of the Caribbean Health Research Council (2002-2012). He is a Chartered Statistician and Fellow with the Royal Statistical Society, UK as well as a Registered Public Health Nutritionist. He has extensive research experience as evidenced by the publication of over 80 scientific papers in peer-reviewed international journals, in addition to chapters in books/encyclopedia and other reports

Ms. Nikisha Headley

Nikisha currently works as Assistant to the Professor of Research and Biostatistics, Faculty of Medical Sciences, Prof. Donald Simeon. She also works as an independent Research Assistant for Clinical Studies conducted by Clinical Surgical Sciences Lecturers, UWI. She recently completed her training at the UWI, St. Augustine and holds a Master's of Science in Geoinformatics and Bachelors of Science in Biology and Environmental and Natural Resource Management. Current interest include management of coastal and marine resources and furthering her MSc Research on sea level rise in Small Island Developing States to the Doctors of Philosophy level.

Noelia Cabrera

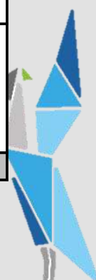
Licenciada en sociología (Universidad Nacional de La Plata), maestranda en Sociología Económica (Instituto de altos estudios sociales. UNSAM). Investigadora asistente del Centro de Estudios de Estado y Sociedad, Area Salud, Economía y Sociedad.

Preconference Program

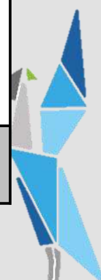
Health Systems Global
Caribbean Preconference

University of West Indies - St. Augustine,Trinidad
January 22nd, 2018
Program

	Title	Authors	Institution	Country
9:00 - 9:45	**Host Institutional Welcome**	Donald Simeon	The University of West Indies	**Trinidad & Tobago**
	Health Systems Global Institutional Welcome	Daniel Maceira	Center for the Study of State and Society, Argentina & Health Systems Global Board	**HSG**
	Panel I: Universal Access to Health in the Caribbean			
9:45 - 11:15	**Moderator:**			
	Designing a patient-centered responsive web application, making a case for universal screening for hyperglycemia in pregnancy	F Lutchmansingh; H Chow; S Chamely; Balkaran R; K Mallalieu; S Ramsewak; S Teelucksingh	The Bhagwansingh Diabetes Educ.Res.& Prev.Institute / The T&T Medical Association / School of Dentistry, Univ.West Indies, T&T/ Dep. Electr.& Computer Engineering, Univ.West Indies, T&T	Trinidad & Tobago
	More than $700 million on health expenditure for less than 70,000 people; impetus to reform the Bermuda health system	Brathwaite, Ricky & Carlington, Tiara	Bermuda Health Council	Bermuda
	Demographic and Socioeconomic Characteristics and Career Choices of Medical, Dental and Nursing Students in the University of Guyana	Cummings E, Aaron R , Ali S, et al.	University of Guyana	Guyana
	Caribbean Resilience and Prosperity through One Health	Christopher A.L Oura	The University of the West Indies. AT ST. Augustine, Trinidad and Tobago	Trinidad & Tobago
11:15 - 11:45	**Coffee Break**			
	Panel II: Chronic Diseases and Health Systems Response			
11:45 - 13:15	**Moderator:**			
	Promoting voluntary non-remunerated blood donation in Trinidad and Tobago	Charles, K.; Lall, D.; Friday, M.; Persad, R.; Earle, A.; Harricharan, K.; DeFour, M.; Guy, K.	Department of Paraclinical Sciences, Faculty of Medical Sciences, The University of the West Indies, St. Augustine	Trinidad & Tobago
	Trisomy 21 and Diabetes: Assessing the Risk of Diabetes in Persons with Down's Syndrome < 20 Years in Special Schools in Guyana	Boston C, Cummings E, Guyana McKenzie M, Aaron R, Singh J, and Adeghate	University of Guyana	Guyana
	Diabetes Mellitus: A laboratory comparative analysis between pharmaceutical drugs and herbal medicines among type 2 diabetic patients in Guyana.	Boston C, Ganga T, Chandradatt K, Wong N, Kurup R.	University of Guyana	Guyana
	The prevalence of uncorrected refractive errors and selected ocular diseases in licensed drivers who visits the outpatient department at Georgetown and New Amsterdam Public Hospitals	Cummings E., Aaron R., Butchey L., Douglas R., Ridley K., Tilackram T., Samuels C.	University of Guyana	Guyana
13:15 - 14:15	**Lunch**			



	Panel III: Life Cycle and Health Systems Organization in Trinidad &Tobago			
14:15 - 15:45	**Moderator:**			
	A Review of Maternal Deaths in a Low-Resourced Country	B. Bassaw, T. Seemungal, A. Sirjusingh, D. Simeon	Faculty of Medical Sciences, Univ.West Indies, St. Augustine Campus Trinidad / Ministry of Health, Trinidad and Tobago	Trinidad & Tobago
	Health care status and implications for service needs in the middle old with dementia in Trinidad: Findings from a nationally representative survey	Davis G., Baboolal, N., McRae A., Tripathi V., and Stewart R.	The University of the West Indies, EWMSC, Champs Fleurs Trinidad West Indies	Trinidad & Tobago
	The Socio-economic Determinants of Multimorbidity among the Elderly Population in Trinidad	Baboolal, N.; LaFoucade, A.; Davis, G.; McRae, A.; Bethelmie D.; Ali-Sisbane, H.; Stewart, R.; Theodore, K.; Laptiste, C.	Dep.Clinical Medical Sciences, University of the West Indies, Champs Fleurs,Trinidad, West Indies	Trinidad & Tobago
	Socio-demographic and clinical determinants of dementia in the Oldest old: National Survey of Ageing and Cognition in Trinidad	N. Baboolal; G. Davis; V. Tripathi; R. Stewart; A. McRae	Univ.West Indies, St Augustine, Trinidad and Tobago / King's College London (Institute of Psychiatry, Psychology and Neuroscience) / Maudsley NHS Foundation Trust, London, UK	Trinidad & Tobago
15:45 - 16:15	**Coffee Break**			
	Panel IV: Strenghtening Health Systems Response			
16:16 - 17:45	**Moderator:**			
	The Jamaica Health and Lifestyle Study III: Study protocol for an explanatory sequential mixed methods study to strengthen the public health system response to non-communicable diseases (NCDs) in Jamaica	Govia, I.; Wilks, R.; Webster-Kerr, K.; Bennett, N.; Cunningham-Myrie, C.; Davidson, T.; Ferguson, T.; et al.	Jamaica Health and Lifestyle Study III	Jamaica
	Strengthening health systems in the tropical rainforest interior of Suriname through integrated health systems planning	G.K. Baldewsingh; E.D. van Eer; M.S. Mac Donald-Ottevanger; M.Y. Lichtveld; L. Shi; C.W.R. Zijlmans	Medical Mission Primary Health Care, Suriname / Sci.Res.Center Suriname -Academic Hospital Paramaribo / Tulane University Sch.Public Health & Tropical Med., USA	Surinam
	A contextual framework for sustainability for a government-funded, private sector delivered Health Management System- A study of CDAP in Trinidad and Tobago	Sandeep B. Maharaj & Gour Saha	School of Pharmacy, Univ.West Indies, St. Augustine Campus / The Arthur Lok Jack Graduate School of Business, Mount Hope Champs Fleurs	Trinidad & Tobago
	Strengthening the Health System by Mobile Health Technology- enabled Community Health Workers in Nickerie, Suriname	Ramjatan, R.; Graafsma, T.; van Sauers, A.; Hawkins, W.; Lichtveld, M.	Regional Health Services / Institute for Graduate Studies and Research / Min.Agriculture and Livestock / Master of Public Health Program, Vanderbilt University, USA / Tulane Univ. Sch.Public Health, USA	Surinam
17:45 - 18:00	**Health Systems Global Institutional Welcome**	Daniel Maceira	Center for the Study of State and Society, Argentina & Health Systems Global Board	**HSG**



Abstracts presented

Designing a patient-centered responsive web application, making a case for universal screening for hyperglycemia in pregnancy.

F Lutchmansingh[a], H Chow[a], S Chamely[b] Balkaran R[c], K Mallalieu[d], S Ramsewak[a], S Teelucksingh[a]

[a] The Helen Bhagwansingh Diabetes Education Research and Prevention Institute (DERPi)

[b] The Trinidad and Tobago Medical Association (T&TMA)

[c] School of Dentistry, The University of The West Indies, Trinidad and Tobago

[d] Department of Electrical and Computer Engineering, The University of The West Indies, Trinidad and Tobago

Motivation: Selective screening of high-risk pregnancies for hyperglycaemia in pregnancy (HIP) is insensitive and misses up to 50% of cases. Early detection and timely intervention of HIP mitigate short and possibly long-term adverse consequences. Retrieval of lab results limits timely intervention. This project tested the development of a responsive web-application to deliver results of oral glucose tolerance test (OGTT) real time from laboratories to practitioners and patients and collected the evidence to address the need for a policy for universal screening.

Objective: To design and pilot test a responsive web-application to facilitate universal screening for HIP.

Methods:

The Health in Pregnancy (HIPTT) app provided automatic alerts for OGTT tests to patient and doctors to facilitate timely intervention and self-management of HIP. The project recruited n = 517 pregnant women ≥ 18 years at first visit from 1 public and 1 private hospital, together with 7 lab technicians and 24 doctors. All pregnant women registered on the web-application were screened using 75g 2-hour OGTT after overnight fasting and assessed using the thresholds of the International Association of the Diabetes and Pregnancy Study Groups (IADPSG), 2008.

The decision-analysis tool GeDiForCE™ was used to assess cost-effectiveness.

Results:

Proof of concept was achieved. The HiPTT app facilitated a system of data capture, storage and retrieval. It proved to be stable and delivered real-time SMS text messages and e-mail alerts to participants within 2 minutes of registration. All results were securely encrypted and retrieved only by registered users.

Analysis of OGTT results showed that n = 51 (10.1%) of participants had an abnormal fasting blood glucose and n = 78 (14.1%) had at least one abnormal reading according to the IADPSG diagnostic criteria. Cost-utility studies of universal screening for GDM have shown it to be cost-effective.

Policy Implications: HIP prevalence at pilot sites was high and variability in screening demonstrates the need for national standardized protocol in Trinidad and Tobago. Using ICT innovations to advance health management and delivery operational in various settings addresses the challenge of delayed lab results, allows for timely appropriate treatment and can support evidence-based decision making to identify and manage HIP earlier.

Abstracts presented

More than $700 million on health expenditure for less than 70,000 people; impetus to reform the Bermuda health system

Brathwaite, Ricky and Carlington, Tiara. Bermuda Health Council

Motivation: Universal health coverage in Bermuda

Objective: Affordability and access to care present barriers to universal coverage in Bermuda. As Bermuda seeks to improve population health and bridge gaps within the local health system, the use of evidence-based interventions and complex data play a key role in determining progressive policy making.

Methodology: Development of the 2017 National Health Accounts (NHA) report was an opportunity to obtain health system behaviour trends in the form of financial flows from health service providers, insurers, charities and the Government of Bermuda. Data was collected in structured spreadsheets detailing health spend on local and overseas care categories, discussions with local system experts, review of international OECD country metrics, and review of financial statements.

Results: The 2017 NHA revealed that Bermuda had a total health system expenditure of $701.6 million, per capita health expenditure of $11,371, 11.5% of gross domestic product occupied by health, high use of acute care services, growing use of diagnostic imaging, critical levels of non-communicable disease, and an estimated life expectancy of 82 years. These figures represented a 1.9% increase in health expenditure from the previous fiscal year, and also demonstrate a lagging behind much of the developed world in health outcomes compared to dollars spent.

Policy Implications: As Bermuda's population ages and the burden of disease relating to complex, chronic, and high cost health conditions pervades, NHA are being used to prioritize policies for health system reform and increase exposure to the agenda of universal healthcare. Many countries, especially those with populations less than 100,000, are unable to gain access to such detailed health data. Despite limited resources, Bermuda has found efficient mechanisms to complete these reports and effect change through their findings. Thus through a formalized and refined process of data collection and analysis, Bermuda has found NHA reports to have a positive return on investment. The economic implications of reduced affordability of insurance premiums found in these reports have resulted in public forums and surveys discussing mandatory insurance benefit re-design, adoption of tighter regulation, introduction of a unique patient identifier, expansion of home medical services, and development of a national drug formulary. Targets now must be made to expend less money per person, yet achieve even more progressive results.

Demographic and Socioeconomic Characteristics and Career Choices of Medical, Dental and Nursing Students in the University of Guyana

Cummings E, Aaron R , Ali S, Marshall A, Holder N, Hutson S, Harlequin, Ramcharan N, Roberts-Martin, R Harris L and Samaroo

Motivation:

Recently there have been major initiatives designed to increase the demographic diversity among medical and allied health students. The rationale for this initiative is that it provides a more culturally sensitive healthcare to our increasingly heterogeneous populations in achieving social justice among diverse groups in a country such as Guyana. Many studies have suggested ,that students who train in demographically diverse medical schools and have educational and professional advantage, that is, they gain a greater understanding of the experiences of others and their sociocultural backgrounds, which increases their ability to provide healthcare to people with backgrounds different from their own..

Methodology

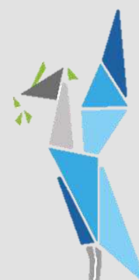
A pre-tested self-administrated questionnaire was used to obtain demographic and socioeconomic information from current medical and allied health students

Results

A total of 323 students participated in the study. The results showed that a significant majority of the Medical and Dental students originated from the town or city, had a family member in health care, there were no students from the hinterland regions (1, 7, 8 and 9). These 4 regions represents 15 % of the country population for the Nursing students there were greater representation across the country. A significant majority of all the students indicated that their home town or a city as their preference for practice and a mere 2 % indicated showed a preference to practice in a hinterland region, even though approximately 1/3 were undecided, even though more that 70 % of the study population were either on scholarships or had access the government student loan. A significant majority of the medical and dental students were undecided of their career path an those who responded were more interceded in the being a neurosurgeon or a cardiologist with very few a mere 2% indicated there interest in family medicine or public health

Policy

The findings of this study will have implications the Country’s Health Vision 2020 that emphases equity in the distribution of health education, opportunity and services and the sustaining of the MDGs



Abstracts presented

Caribbean Resilience and Prosperity through One Health

Christopher A.L Oura, The University of the West Indies. AT ST. Augustine, Trinidad and Tobago

The world is experiencing unprecedented rates of social and environmental changes due to climate change, global movement of people and products, rapid urbanisation and transformations in how we produce our food. The Caribbean is at the forefront of many of these changes. The social and economic stability of the Caribbean depends on secure and thriving relationships between our people and our environment. The Caribbean region has among the highest rate of non-communicable diseases (NCDs) in the Americas, including diabetes, heart disease and hypertension. Obesity among young children and adolescents is growing at an alarming rate. Poor diet and lack of physical activity are major factors behind these grim statistics. Clearly the availability of safe affordable foods depend on healthy animals and ecosystems. Nature also provides us opportunities for recreational and social interactions that reduce stress and provide opportunities for exercise.

The need for an integrated trans-disciplinary approach in the Caribbean is demonstrated by the challenges that the region faces from more frequent and more severe tropical storms and hurricanes, water shortages, rises in sea levels, losses of fisheries, increases in mosquito-borne diseases and chronic non-communicable diseases linked to poor nutrition, poverty and environmental pollution. A 'One Health' approach aims to find sustainable solutions to interconnected health problems involving people, animals and the environment through partnerships and cooperation across sectors. One Health is therefore at the root of solutions to many of the challenges set out in the Sustainable Development Goals.

Progress towards improving health systems and health policy requires new ways of working across disease programmes and across sectors – essentially a One Health approach is needed. Through a recent European Union (EU) funded project, *One Health One Caribbean One Love*, we set out to change the way the Caribbean approaches priority health issues, through promoting a trans-disciplinary One Health approach. Through the training of a cadre of One Health leaders from the human, agricultural and environmental health sectors across 12 Caribbean countries and the development of regional and national One Health networks, we have set up this platform for change. This presentation will showcase the activities of the project and will demonstrate how following a One Health approach can help overcome major health challenges in the Caribbean. With a regional One Health policy now fully endorsed and in place, the Caribbean is poised and ready to take on the One Health approach, which will play a major role in helping the region to meet many of the Sustainable Development Goals, as well as informing and improving health systems and health policy into the future.

Abstracts presented

Promoting voluntary non-remunerated blood donation in Trinidad and Tobago

Speaker: Dr. Kenneth S. Charles, Mr. Deepak Lall, Dr. Melissa Friday, Dr. Ryan Persad, Mr. Andre Earle, Miss Kasturi Harricharan, Miss Melina DeFour, Miss Kendra Guy

Department of Paraclinical Sciences, Faculty of Medical Sciences, The University of the West Indies, St. Augustine.

Background: Trinidad and Tobago is a high –income, developing, English-speaking Caribbean country in the Pan American Health Organization/World Health Organization Region of the Americas whose blood transfusion service relies almost exclusively on family/replacement (F/R) donors. International organizations recommend voluntary non-remunerated blood donation for safety, adequacy and equality. Studies show a need for more public information and improved efficiency at donation centres. The University of the West Indies Blood Donor Foundation (UWIBDF) was established in the Faculty of Medical Sciences on the St. Augustine campus of The UWI to promote research, education and voluntary non-remunerated blood donation. Using social media to share information and coordinate blood donor appointments, it initiated a programme of three-monthly blood drives in 2015.

Methods: A prospective, observational study of UWIBDF blood drives was conducted between March 2015 and November 2017. Data were collected prospectively from a donor database and by retrospective review of donor cards from the donation centre. Donors were classified according to age, gender, previous donation history, deferral status and results of initial screening tests for transfusion transmissible infections. SPSS Version 20 statistical software was used for descriptive and inferential data analysis. A p value < 0.05 was used to assign clinical significance. Ethical approval was not required since the study was purely observational and no individuals are identified.

Results: A total of 660 units of blood were collected at nine (9) events over a three year period. Donations increased by 140% in the second year and by a further 25% in the third year. The majority (337 or 51%) came from repeat and 322 (49%) from first time donors. Interestingly, most of donations were made by females (346 or 52%) and persons below the age of 25 (340 or 52%). Both the deferral rate and prevalence of transfusion transmissible infections (TTI) were lower than those reported for donors in the national blood system (7% *vs* 43.6%, $p< 0.0001$ and 0.6% *vs* 2.2%, $p < 0.05$ respectively).

Conclusion: A safer and sustainable voluntary non-remunerated blood donation programme has been established in a predominantly F/R based system. Applying this model to the community and existing blood donors could aid transitioning to universal voluntary non-remunerated blood donation in TRT. The UWI could be a useful agent for its application across campus territories.

Abstracts presented

Trisomy 21 and Diabetes: Assessing the Risk of Diabetes in Persons with Down's Syndrome < 20 Years in Special Schools in Guyana

Boston C, Cummings E, McKenzie M, Aaron R, Singh J, and Adeghate E. University of Guyana

Motivation: There is correlation between Down syndrome and Type 1 Diabetes (T1DM). Many researchers have fueled this concept by chromosomal analysis, anatomical and physiological analysis and has provided support by assessing the prevalence of diabetes mellitus (DM) in persons with Down Syndrome.

Objective: The objective of this study was to provide information of the risk of DM in persons under the age of 20 years with Down Syndrome and the awareness of caregivers (parents/guardians and teachers) of Down syndrome children on the potential development of T1DM in those children.

Methods: The study was conducted with the use of two groups involving children with Down Syndrome and their caregivers. Questionnaires were distributed to the caregivers and a random blood glucose analysis was performed on the children using the glucose oxidase method.

Results: The results show that 38% of Down syndrome children were at risk of becoming diabetes as their blood glucose levels were above 140mg/dl. The mean blood glucose in this study was 141.2mg/dl. Children 6-10 years had the highest mean blood glucose levels (143 mg/dl). Males had greater proportion (14%) of very high blood glucose as compared to females (4%). Children whose parents/guardians answered yes to monitoring their diet had a high blood glucose level mirroring those that were not monitored. Caregivers were also not aware of the predisposition to diabetes.

Policy implication: The results have indicated that the situation requires attention from parents, the schools and the Ministry of Public Health and Ministry of Education in Guyana and in turn they have to address this problem as soon as a child is born and diagnosed with Down syndrome so as to combat the potential situation from the inception.

Diabetes Mellitus: A laboratory comparative analysis between pharmaceutical drugs and herbal medicines among type 2 diabetic patients in Guyana.

Boston C, Ganga T, Chandradatt K, Wong N, Kurup R. University of Guyana

Motivation: Diabetes Mellitus (DM) is characterized by persistent hyperglycemia and falls under the category of metabolic disorders (Mahler & Adler, 1999). In 2013 the World Health Organization estimated the number of persons suffering from diabetes by 2030 to be 438 million (WHO, 2013) with a prevalance of 4.4% (WHO, 2002; Wild, 2004) if effective and efficient control and management strategies are not put in place soon. Regional studies indicate that the prevalence of type 2 DM ranges from 12%-17.5% (Hennis, et al, 2002; Ramdath, et al, 2005; Sargeant, et al, 2002).

Objective: The main objective of the study was to compare, using laboratory data, the efficacy of herbal medicine against pharmaceutical drugs in treating and managing diabetes among type 2 DM patients.

Methods: Patients were included in the study from an Herbal Clinic (Wellness Clinic) and the Diabetic Clinic at the Georgetown Public Hospital after giving their consent and satisfying the inclusion criteria. Patients were placed into three groups: Group A: Pharmaceutical, Group B: Pharmaceutical and Herbal; Group C: Herbal and a control group designated Group D. Laboratory analysis were done on each group and analyzed using SPSS.

Results: Age, religion, ethnicity, education, marital status and income were all found to have significant associations with the use of herbs with income being highly significant. The results showed that persons using herbal medicine alone had normal HBA1C, FBS, and lipid profile. The most common herbs used were karela andneem which were used in combination or alone. Results showed a positive effect on coronary heart disease risk.

Policy Implication: Current policies do not address the use of herbal medication which is becoming increasingly popular and having such a policy would influence how diabetes is managed and treated in the future. It also brings into question how we protect our plant biodiversity.

Abstracts presented

The prevalence of uncorrected refractive errors and selected ocular diseases in licensed drivers who visits the outpatient department at Georgetown and New Amsterdam Public Hospitals.

Cummings E, Aaron R, Butchey L, Douglas R, Ridley K , Tilackram T and Samuels C . University of Guyana

Motivation: Motor vehicular accidents has been over the years a significant contributor to morbidity, mortality and disability in the local population and may not be due primarily alcohol use or speeding but also may be due to poor vision as a result of ocular diseases and or refraction errors. The main purpose of this study was to evaluate the relationship between poor vision as a consequence of these aliments and accidents in licence drivers. Previous studies have reported a of prevalence 1 to 8 % of visual impairment in licence drivers. The findings of this study can indeed influence the reinforcement of the law which stipulates that vision acuity testing must be a requirement before the issuance of a drivers licence.

Methodology: A pretested questionnaire and a visual acuity test was administered to 241 licensed drivers that attended the outpatients department ta two of the country major hospitals over a 2 weeks period.

Results: The study population consisted of 214 license drivers with a minimum of 18 months experience between the ages of 21 1nd 65 of which 60% were male and 40% were females, a significant majority (91.7 %) had at least secondary education and 83% of the study population never had a vision examination before they were issued with a drivers. Among the most common ocular diseases that were present in the study population were cataract (56%) and glaucoma (14%) In relation to refraction errors 18% of the participants were emmetropes, 19% were myopic while 11% were hyperopes and 7% were astigmatic. 68 % of the drivers were involved in accidents with 43 % of these accidents occurring during the day.

Policy: This findings of this study can provide the framework for the reinforcement law with regards subjecting all applicants for a driver's license to acuity test before the issuance of a driver's license and hence this may be a major contributing factor in the reduction of motor vehicular accidents.

A Review of Maternal Deaths in a Low-Resourced Country

B. Bassaw a, T. Seemungal a, A. Sirjusinghb, D. Simeona
a Faculty of Medical Sciences, The University of the West Indies, St. Augustine Campus Trinidad
b Ministry of Health, Trinidad and Tobago

Despite substantial improvements in the standard of maternal health care in the developed world, pregnancy remains an important contributor of death among women of reproductive age, especially in low-resourced countries. In devising a strategy to lower the rate of maternal mortality, it is important to enquire into the circumstances and train of events surrounding each death in order to determine what are the possible avoidable antecedent risk factors.
The current investigation was performed over a 31-year period at the Mt. Hope Women's Hospital, a tertiary-level teaching institution affiliated to The University of the West Indies. Information was extracted from the case-notes of all women who succumbed in their pregnancy and/or within 42 days of the termination of the pregnancy. All data of the maternal deaths obtained from the Medical Records Department at the hospital were double-checked with the Registrar General Office, Ministry of Legal Affairs for completeness.
There were 49 maternal deaths among 158,236 births. The maternal mortality rate (MMR) was 30.3 per 100,000 maternities. In the first half of the study, MMR was 36.9, and this figure fell to 21.7 per 100,000 maternities for the second half. Hypertensive disorders of pregnancy accounted for 29 deaths, and there was a 50% decline from this cause in the second half of the analysis. Significant fall in deaths was also evident from anaesthetic-anoxia and Caesarean section related causes.
These decreases with hypertensive disorders were due to improvement in health management system, which led to earlier recognition of pre-eclampsia, and prompt referral of patients from general practitioners and primary and secondary institutions. Other possible explanations include the use of guidelines and protocols as well as drills were implemented in the latter period. Earlier recourse to treating hypertension especially systolic blood pressure more aggressively and the use of magnesium sulphate to prevent eclamptic convulsions would have also contributed.
For anaesthetic-related deaths, in the second half we had a major change in health policy when it became mandatory that a senior skilled anaesthetist be present in the operating theatre for all Caesarean sections including emergency cases, as well as a more reliable epidural/spinal anaesthesia service was available for most abdominal deliveries.
Other reasons for the decline in deaths were the better and more efficient and supportive blood banking services, stabilization of women with serious medical disorders prior to Caesarean section, and greater hands-on involvement of Consultants Obstetricians and Anaesthetists, and Internists.
Further decline in maternal deaths may occur with improved recommendations, guidelines, audit, training of staff, communication, teamwork and research in the social and public health determinants of maternal health. A critical area for improvement is having a more informed population who would seek antenatal care early and regularly.

Abstracts presented

Health care status and implications for service needs in the middle old with dementia in Trinidad: Findings from a nationally represntative survey

Gershwin Davis, Neeleen Baboolal, Amanda McRae, Vrijesh Tripathi, Robert Stewart.
University of the West Indies, EWMSC, Champs Fleurs
Trinidad West Indies

Motivation: Trinidad and Tobago has an ageing population with a high prevalence of diseases which are risk factors for dementia. Knowing the needs of this group would allow for targeting services to improve quality of life.

Objective: To investigate the prevalence of dementia and self-reported health status in the middle old (75-84 years).

Methods: This study used the validated 10/66 door- to-door interview protocols. All individuals (836 persons) 75-84 years old were approached. The modified 10/66 dementia algorithm produced output in 811 (97%). Dementia diagnosis was made according to 10/66 criteria. Diagnosis of dementia was derived from: (1) cognitive tests, the Community Screening Instrument for Dementia (CSI'D), (2) the EURO-D (3) informant interview. Demographic data included information on accommodation, social network, level of impairment and instrumental activities of daily living. Data were analysed using Multilevel logistic regression models.

Results: Of the 811 participants, 55% were females. The mean age was 78.9±6.3 years and dementia was present in 198 (24.4%). There were statistically significant differences with respect to religion, employment, living status, and number of co-morbidities between individuals with dementia and those without. High level of education, current employment and having no co-morbidities were significant protective factors. Of the self-reported disease conditions, those with asthma were 3 times (OR=2.8; 95%CI: 1.31, 6.09) more likely to have dementia than those without, and those with diabetes were 2.5 times (OR=2.4; 95% CI: 1.67-3.31) more likely to have dementia than those without. Dementia was 2 times (OR= 1.8; 95% CI: 1.31- 2.49) higher among those taking oral medication for diabetes and 3 times (OR=3.1; 95% CI 1.08-8.76) higher in those taking insulin. Impairment in climbing stairs walking and sight was more common in the dementia group than the non-demented. Individuals with dementia were more likely to be unable to perform all seven instrumental activities of daily living (IADL) compared with their non-demented counterparts.

Policy Implications: In the middle old population, increasing levels of dementia and diabetes, accompanied by deteriorating living conditions and inability of individuals with dementia to perform IADL, should be used as a metric for implementing social/medical services needed for this risk group.

Abstracts presented

Socio-demographic and clinical determinants of dementia in the Oldest old: National Survey of Ageing and Cognition in Trinidad

N Baboolal[1], G Davis[1], V Tripathi [2], R Stewart[3], A McRae[1]

[1]Faculty of Medical Sciences, The University of the West Indies, St Augustine, Trinidad and Tobago.

[2]Faculty of Science and Technology, The University of the West Indies, St Augustine, Trinidad and Tobago

[3] King's College London (Institute of Psychiatry, Psychology and Neuroscience), London, UK South London and MaudsleyNHS Foundation Trust, London, UK

Motivation: Dementia is one of the most costly conditions for national health and social care systems. With rapid demographic ageing occurring in both high and low income nation settings and a high prevalence of dementia in Trinidad determined by a recent National Survey on Aging and Cognition, it is vital to explore the associated determinants of dementia locally for policymaking, planning, and allocation of health and welfare resources.

Objective: To determine social and clinical factors associated with dementia in the oldest old (≥85 years).

Methods: A survey in a nationally representative sample of people aged 85 years and older using household enumeration was undertaken. Dementia status was ascertained using standardized interviews and algorithms from the 10/66 schedule.In addition to dementia status, information was obtained on demographic factors: age, gender, level of education, ethnicity and previous occupation.Self-reportson the presence of angina, heart disease, stroke, diabetes, high cholesterol, and hypertension were elicited and corroborated. Social and clinical determinants were analyzed usingmultivariatelogistic regression models to assess the association of various health indicators on dementia adjusting for age and gender.

Results: Of the 288 participants, 61.5% were females. The mean age was 89±3.5 years and dementia was present in47.2%.Among the 85-89 year group, dementia was present in 41.3%, in the 90-94 year group, dementia was present in 56.1%, and in the ≥ 95 year group, dementia was present in 63.6% of the population. Dementia was significantly associated with Hindu religion (OR=2.10; 95%CI: 1.23-3.58), history of working in the agricultural sector (OR=3.20; 95%CI: 1.59-6.48) and being a housewife (OR=2.93; 95%CI: 1.22-7.02), and 4-5 times higher among those living with spouse, with children alone and with others compared to living alone. Higher Level of education (OR=0.14; 95%CI: 0.04-0.45) and taking vitamins (OR=0.61; 95%CI: 0.37-0.97) were protective factors.

Of the self-reported disease conditions, those with greater than 3 medical co-morbidities were 2 times (OR=2.21; 95%CI: 0.48-9.94) more likely to have dementia than those withno medical co-morbidities. Dementia was significantly more likely among those taking medication for diabetes (OR= 1.49; 95% CI: 1.20-1.84) in this group of persons 85 years and over.

Policy implications: Our study, the first of its kind in Trinidad, seeks to support more tailored policy and better planning of services for a rapidly expanding older population. The methodology employed can be utilized in gathering information in the Caribbean region and the results can be utilized in designing policy for the rapidly growing elderly population.

Abstracts presented

The Jamaica Health and Lifestyle Study III: Study protocol for an explanatory sequential mixed methods study to strengthen the public health system response to non-communicable diseases (NCDs) in Jamaica

Dr. Ishtar Govia, Prof. Rainford Wilks, Dr. Karen Webster-Kerr, Dr. Nadia Bennett, Dr. Colette Cunningham-Myrie, Dr. Tamu Davidson, Dr. Trevor Ferguson, Mr. Damian Francis, Dr. Andriene Grant, Dr. Shelly McFarlane, Dr. Marshall Tulloch-Reid, Dr. Novie Younger-Coleman. Jamaica Health and Lifestyle Study III

Motivation/Objective: The Jamaica Health and Lifestyle Surveys (JHLS) facilitate determination of the prevalence of NCDs and risk factors. Previous surveys (1999-2000, 2007-2008) reported increased obesity and diabetes prevalence, low levels of disease awareness, and control for hypertension, diabetes and elevated cholesterol, low levels of adherence to pharmacological and non-pharmacological behavioural recommendations, and heterogeneity in these findings by gender. To move from knowing what the problem is to strengthening national responses to the NCD challenge, particularly to the health ministry and health regions' strengthening of the public health response, the JHLS III design and data collection extend the previous surveys'. JHLS III uses a mixed methods research design that draws on data collection innovations (e.g. geospatial, point of care, and wrist monitors for movement sensing data). The first (quantitative) aim is to estimate the prevalence of NCDs, communicable diseases, and intentional and unintentional injuries. The second (qualitative) aim is to explore the behavioural issues that may act as barriers to improved health habits, disease management and health-care utilization. The third (mixed methods) aim is to integrate the quantitative and qualitative findings to clarify possibilities for national and local programs and interventions for the prevention and control of NCDs.
Methods: This is a sequential explanatory mixed methods study, a mixed methods design that studies a problem by beginning with a quantitative component to data collection and analysis and follows that component with a qualitative data collection and analysis meant to help explain the quantitative results. This is then followed by integration of both the quantitative and qualitative findings. In the quantitative JHLS III phase, an interviewer-administered national survey of 3420 Jamaicans 15 and older was conducted in 2016-2017 using random, multistage, cluster sampling. Data for the second (qualitative) phase will be collected in 2018. Our connection of the quantitative with the qualitative occurs in our sample selection and in the data collection protocol development (as described below). Two different qualitative research designs will be used: 1) phenomenology – our research aim here is to understand the essence of ideal health among Jamaicans. Using purposeful sampling of 72 participants (36 resident in urban communities, 36 in rural) from a sampling frame of JHLS III quantitative survey participants who met criteria for ideal cardiovascular health (using American Heart Association criteria), we will conduct in depth interviews and observations; 2) multiple case study approach – our aim is to describe and compare NCD relevant beliefs and experiences in urban and rural dwelling Jamaican men and women. In addition to document reviews and qualitative geospatial analyses, we will conduct 8 gender specific (men only or women only) and age specific (<=39 years old, 40-59, >=60) focus groups in purposefully selected communities (one urban and one rural). Our integration of the quantitative and qualitative findings will occur in interpretation of the quantitative and qualitative results through tools such as theme by statistics joint displays and follow-up results joint displays. These will demonstrate how the qualitative data help explain results from the quantitative data.
Discussion/Policy Implications: Through the integration of quantitative and qualitative data, the Jamaica Health and Lifestyle Survey III explores the macro and micro level factors relevant to health promotion for the reduction of NCDs. The intention of the academic and health sector investigative team is to use this phase of work to design and adapt context relevant targeted and systems level intervention programs, and policies for the reduction of the NCD burden.

Keywords: Jamaica, JHLS, Caribbean, NCDs, mixed methods, sequential explanatory, national survey, phenomenology, multiple case study, study protocol

Abstracts presented

Strengthening health systems in the tropical rainforest interior of Suriname through integrated health systems planning

G.K. Baldewsingh[1], E.D. van Eer[1], M.S. Mac Donald-Ottevanger[2], M.Y. Lichtveld3, L. Shi[3], C.W.R. Zijlmans[2,3]
[1] Medical Mission Primary Health Care Suriname, Suriname
[2] Scientific Research Center Suriname / Academic Hospital Paramaribo, Paramaribo, Suriname
[3]Tulane University School of Public Health and Tropical Medicine, Global Environmental Sciences Department, New Orleans, USA

Motivation: The Medical Mission Primary Health Care Suriname (MM) provides healthcare for people living in Suriname's tropical rainforest interior, a middle income country in the north-east of South America. Providing quality healthcare in these remote areas is a continuous challenge with limited access and few resources available. This study aims to determine the accessibility of healthcare, and its impact on perinatal outcomes and surveillance following health service decentralization and proactive community engagement.

Method: MM retrospective data covering five health system time periods were analyzed using descriptive statistics for core health care accessibility indicators: clinic visits, perinatal outcomes: birth rate, maternal mortality rate (MMR), neonatal mortality rate (NMR), and vaccination coverage; and surveillance findings of priority public health threats: malaria, diarrhea and respiratory infections. The five integrated health systems time periods (IHSP) were: IHSP1: Primary Health Care (PHC) pioneer phase (1998-2000), IHSP2: tailored PHC (2001-2005), IHSP3: improving and owning PHC (2006-2008), IHSP4: PHC through community participation (2009-2011) and IHSP5: delivery of integrated PHC through collaboration and community participation (2012-2015).

Results: The average clinic visit rate during 1998-2015 ranged from 3.5 (IHSP1) to 1.7 (IHSP5). Perinatal outcomes: birth rates decreased from 28.4/1000 in IHSP1 to 24.6/1000 in IHSP5; MMR decreases: 156.3/100.000 in IHSP4 to 42.1/100.000 live births in IHSP5 and NMR decreased from 5.4/1000 in IHSP3 to 5.2/1000 live births in IHSP5. Vaccination coverage for 0-1-year olds increased from 68.0% (IHSP1) to 86.0% (IHSP5), and remained stable in 1-2 year 85.0% (IHSP1) to 87.0% (IHSP5). Surveillance of key public health threats showed the following: from IHSP1 to IHSP5 malaria cases decreased significantly from 8121/year to 33/year as did the reported cases on diarrhea and respiratory infections from 7789 to 5022 cases/year and from 23638 to 22908/year respectively.

Conclusion: Integrated health systems planning resulted in improved healthcare accessibility, positively influenced perinatal outcomes, and decreases in high priority infectious. A systems-driven approach towards targeting key public health threats is a sustainable resource investment in lower and middle-income countries. Community engagement is essential to improve integration of primary healthcare in remote areas. Future studies will quantify the contribution of community involvement to MM's health system.

Abstracts presented

A contextual framework for sustainability for a government-funded, private sector delivered Health Management System- A study of CDAP in Trinidad and Tobago.

Authors – Dr. Sandeep B. Maharaj1 &Professor Gour Saha 2

1. School of Pharmacy, The University of the West Indies, St. Augustine Campus.

2 . The Arthur Lok Jack Graduate School of Business, Mount Hope Champs Fleurs

Motivation: The sustainability of health services has been high on the agenda of public officials in developing countries. These countries' susceptibility to sustainability challenges stem from the limited resources, competing priorities and restricted competencies that constrain their ability to meet the health needs of the population.

Objective: This study sought to assess the impact of readiness and legitimacy on the sustainability of healthcare organizations in developing countries.

Methods: A mixed-method case study of a healthcare intervention was used to investigate the strength of readiness of the implementing organization and the moderating effect of legitimacy on the relationship between the organization's readiness and sustainability.

Results: Readiness has a significant impact on sustainability but legitimacy configurations with low levels of socio-political legitimacy threaten the sustainability of healthcare organizations.

Conclusion: Readiness is important for sustainability but must be responsive to environmental conditions, from which organizations obtain legitimacy. Varying configurations of legitimacy impact the sustainability of the organization in different ways. Activities of the parent organization as well as general stakeholder expectations influence the legitimacy and sustainability of healthcare implementing organizations.

Policy Implications: The study provides guidance to leaders of healthcare intervention organizations to proactively improve the sustainability of their organizations by aligning the internal readiness with societal expectations.

Keywords: Sustainability, Healthcare, Readiness, Legitimacy

Abstracts presented

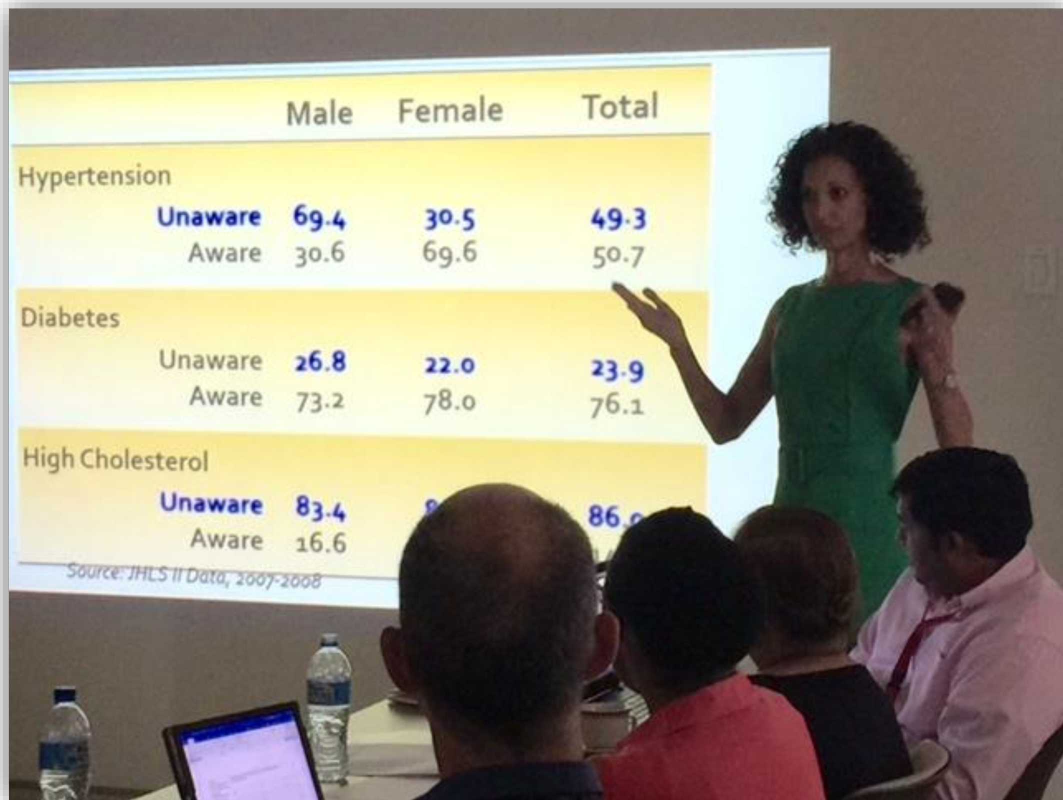
Strengthening the Health System by Mobile Health Technology- enabled Community Health Workers in Nickerie, Suriname

Ramjatan Radha[1], Graafsma Tobi[2], van Sauers Alies[3], Hawkins William[4], Lichtveld Maureen[5]

[1] Regional Health Services, Suriname,
[2] Institute for Graduate Studies and Research (IGSR), Paramaribo, Suriname
[3] Ministry of Agriculture and Livestock, Paramaribo, Suriname
[4] Master of Public Health Program, School of Medicine, Vanderbilt University, Nashville, Tennessee, USA
[5]Tulane University School of Public Health and Tropical Medicine, New Orleans, USA

Motivation: Injury, including suicide has persistently ranked in the top 10 causes of mortality in Suriname over the last 10 years. Pesticide-induced suicide is a priority health threat in Nickerie, Suriname.
Mobile Health Technology-enabled Community Health workers (CHWs) is a promising intervention to address this intransigent public health problem.
Objective: To strengthen frontline health services through trained mobile health technology–enabled CHWs.
Methods: Community Based Participatory Research (CBPR) in Nickerie, Suriname targeting pesticide-induced suicide was implemented in three phases. Phase I was a needs assessment to characterize community perceptions of pesticide use and its harmful effects through focus groups and questionnaires (N=72). Informed by the focus groups findings, an 80 hour-tailored public health curriculum was developed consisting of a module addressing core public health principles and augmented by specialty modules in, pesticides management, mental health, and mobile health technology. In Phase II CHWs were trained as pesticide interventionists using this curriculum. Phase III examined the effectiveness of mobile health technology in message development, including an assessment of content, literacy, and ability to solicit a recipient response.
Results: In phase I, more than halve (54.2%) of the participants reported using pesticides at work and the majority (86.1%) used pesticides at home, while 36.1% reported having someone in their family harmed by pesticides. In phase II a total of 25 CHWs were trained as pesticide interventionists. Phase III resulted in the development of 39 validated text messages on safe pesticide use. Efforts are ongoing to replicate this model targeting employees of local industries.
Policy Implications: Mobile health technology-enabled CHWs are an effective expansion of the health workforce to address specific adverse health conditions such as suicide. The CHW workforce is a valuable addition to frontline primary care and CBPR especially in Lower and Liddle Income Countries (LMIC) such as Suriname. However, health policies assuring integration of CHWs in health systems is lacking in many LMICs. Policies regulating not only pesticide import but also distribution, sale, handling, and disposal are lacking or not effectively enforced, but pivotal as a source reduction strategy.

Photos of the meeting


Male Female Total
Hypertension
Unaware 69.4 30.5 49.3
Aware 30.6 69.6 50.7
Diabetes
Unaware 26.8 22.0 23.9
Aware 73.2 78.0 76.1
High Cholesterol
Unaware 83.4
Aware 16.6
Source: JHLS II Data, 2007-2008