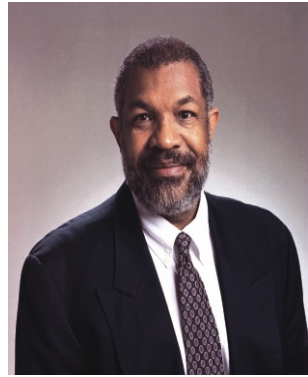


TROPICAL MEDICINE RESEARCH INSTITUTE (TMRI)

**Professor Terrence Forrester, MBBS, DM, MSc, PhD *UWI*,
MRCP *Lond*, FRCPEd – Director**

The Tropical Medicine Research Institute

The Tropical Medicine Research Institute is a University of the West Indies, Caribbean wide health research institution. It was formed in 1999 at the request of the then Vice Chancellor, Sir Alister McIntyre on the basis of a proposal to the UWI Grants Committee by its Founding Director, Professor Terrence Forrester. The Institute was constituted, using as its base, 2 existing research units, the Tropical Metabolism Research Unit and the Sickle Cell Unit, both of them legacy UK



MRC Units, on the UWI Mona Campus in Jamaica. It was fleshed out by creating, at the outset, an Epidemiology Research Unit from the staff members in the TMRU who worked in that discipline. A year later, the Institute expanded by funding the Chronic Disease Research Centre, another epidemiology unit at UWI Cave Hill in Barbados. Ten years later, the Institute is trying to raise funds to construct a new health intervention unit. Funding difficulties have caused lengthy delays in implementing this project. In its earlier incarnations, this unit was called the TMRI Health Intervention Research Unit. Recent alignment with UWI Mona campus initiatives and the grant funding climate has made for a name change. This new unit is presented as an Energy Metabolism Research Unit at Mona which will use research findings to develop novel interventions for obesity and co-morbidities. The TMRI has also responded to requests from the Dean, UWI St. Augustine in Trinidad to replicate this new Unit on that Campus within a three year period. The Dean has very recently (June 2010) successfully negotiated access to space in a new University (St. Augustine Campus) complex sufficient to house an energy lab and the associated

academic and support staff offices and facilities. These strategic developments have been spearheaded by the TMRI Director.

The Mission of the Tropical Medicine Research Institute

The TMRI exists to conceive and deliver high quality research that addresses regional and global health priorities in order to improve health, enhance wellbeing, and create wealth through this investment in human capital.

Overall Objectives

Overall objectives in pursuit of this mission are:

- Increased focus of the research programmes on regional and global priorities so designed as to facilitate uptake by policy makers and programme designers
- Increased training of the next generation of research scientists, with a particular focus on Academic Clinicians
- Through research and training, derive income to better resource the operational and capital budgets of the Institute

Specific Objectives

The specific objectives that the Institute will pursue in order to meet its mission will continue to include those aiming:

TMRI Research Programme

The TMRI is composed of four research units; each unit expresses specific areas of research activity. Programmes are therefore rooted in, and driven by individual Units. However, continuing efforts to stimulate cross Unit collaboration has allowed for emergence of programmatic themes that indeed span units. Despite the resource constraints, the Institute, through its specialist Units, has focused on research and training programmes that fall within its current capacity. **The Institute is active in the following**

programmatic themes which are anchored in specific Units though enriched by cross Unit collaboration.

- **Child Development** – Child Development Research Group, Epidemiology Research Unit
- **Human Nutrition and Metabolism** – Tropical Metabolism Research Unit
- **Developmental Origins of Health and Disease** – Tropical Metabolism Research Unit
- **Genetic underpinnings of disease susceptibility and severity** – Tropical Metabolism Research Unit
- **Sickle Cell Disease** – Sickle Cell Unit
- **Chronic Non-Communicable Diseases** – Chronic Disease Research Centre and Epidemiology Research Unit
- **Inflammation** – Chronic Disease Research Centre and Sickle Cell Unit

CLINICAL SERVICES

Sickle Cell Unit

Sickle Cell Clinic

The Sickle Cell Unit is the only comprehensive type clinical facility for the care of persons with sickle cell disease in Jamaica. Sickle Cell Clinics are held Mondays to Fridays at the SCU building located at Ring Road, University of the West Indies, Mona as well as on the last Tuesdays and Wednesdays of each month at St. Elizabeth (Black River hospital) and St. James (Cornwall Regional Hospital) respectively.

The SCU operates an ambulatory clinic and a day-care ward where complications such as acute painful crises, acute febrile illness and acute anaemia are managed. Over 90% of patients with acute painful crises are managed as outpatients and this model of aggressive acute day-care has acted as a model for SCD Centres elsewhere. There has been a continual

increase in the number of patients attending the clinic (patient load) and the number of visits per patient (clinic load). The clinic load has increased ~10-fold, from 3668 visits in 1973-75 to 55,686 visits in 2005-2010.

Severe Childhood Malnutrition

The TMRI provides in-hospital care for children with severe malnutrition at the TMRU ward. Through the TMRU, the Institute also provides a **Clinical Nutrition Service to the University Hospital**, offering nutritional support to the critically ill, including enteral and parenteral nutrition. In addition to the clinical care offered on site, TMRI also provides an outreach programme for social work and social welfare.

Undergraduate and Postgraduate Teaching

The Tropical Medicine Research Institute provides teaching at undergraduate and postgraduate levels as above. The TMRI faculty teaches both undergraduate and graduate medical students in the areas of Biostatistics, Epidemiology, Family Medicine, Paediatrics, Clinical Nutrition and Haematology.

MSc degree programmes in Nutrition and Epidemiology are offered.

Post Doctoral Fellowships

The Institute operates a structured Post Doctoral programme which aims to develop independent Academic Researchers. There are three Faculty of Medical Sciences Fellowships tenable on the Mona Campus and three TMRI institutional Fellowships.

Student Achievement – MSc Epidemiology

Douladel Willie: “Projected Impact of the WHO 2006 Child Growth Standards on Prevalence and Incidence estimate and the diagnosis of Protein Energy Under nutrition and Childhood Obesity” Awarded 2008, Graduation 2009

Supervisor: Jan Van den Broeck

Iyanna Wellington: “Adolescent Overweight and Socioeconomic Status: the Jamaican Situation” – Awarded 2009

Supervisor: Rainford Wilks

Denese McFarlane: “Prevalence and Correlates of Anaemia in Jamaican Adolescents” – Awarded 2009

Supervisor: Rainford Wilks

Shelly Ann Hunte “Validity and Reliability of Interviewer Assessed Built Environment” – Awarded 2009

Supervisors: Marshall Tulloch-Reid, Novie Younger

Chisa Cumberbatch “Hours of Sleep and Sleep Quality on Diabetes Prevalence and Control in Jamaica” – Awarded 2009

Supervisors: Marshall Tulloch-Reid, Novie Younger

Sabrina Simpson “Educational attainment and physical activity in Jamaican Adults” – Awarded 2009

Supervisors: Trevor Ferguson, Novie Younger

Supervisor S. Walker:

Candace Simpson, Diet and prostate cancer in Jamaican men. Diet and prostate cancer. PhD awarded 2009

Programmes based in the Child Development Research Group

PUBLICATIONS

Peer Reviewed

- * Baker-Henningham H, **Hamadani J**, Huda S, Grantham-McGregor S. (2009) Undernourished children have different temperaments than better nourished children in rural Bangladesh. *Journal of Nutrition* 139, 1765-1771.
- * Baker-Henningham H, Walker S, Powell C, Meeks Gardner J. (2009) A pilot study of the Incredible Years Teacher Training programme and a curriculum unit on social and emotional skills

- in community preschools in Jamaica. *Child: Care Health and Development* 35, 624-31.
- * Baker-Henningham H, Meeks Gardner J, Chang S, Walker S. (2009) Experiences of violence and deficits in academic achievement among primary school aged children in Jamaica. *Child Abuse and Neglect* 33, 296-306.
 - * **Jackson M**, Walker S, Simpson C, McFarlane-Anderson N, Bennett F. (2009) Are food patterns associated with prostate cancer in Jamaican men: a preliminary report. *Infect Agent Cancer* 4 (Suppl 1) S5.
 - * **Tulloch-Reid MK**, Walker SP. (2009) Quality of life in Caribbean youth with diabetes. *West Indian Medical Journal* 58, 250-6.
 - * Baker-Henningham H, Walker S (2009) A qualitative study of teachers' perceptions of an intervention to prevent conduct problems in Jamaica preschools. *Child: Care, Health and Development* 35, 632-42
 - * Walker SP (2010) Early stimulation and child development (invited commentary) *International Journal of Epidemiology* 39, 294-6.
 - * Walker SP, Chang SM, Grantham-McGregor S. (2010) Effects of Term Low Birth Weight and Stimulation on Cognition and Behaviour at 6 Years in a cohort of Jamaican infants. *Developmental Medicine and Child Neurology*. Epub.
 - * **Jackson M**, Walker S, Simpson CM, McFarlane-Anderson N, Bennett FI, Coard KCM, Aiken WD, Tulloch T, Paul TJ, Wan RL. (2010) Body size and risk of prostate cancer in Jamaican men. *Cancer Causes & Control*.
 - * Chang SM, Walker SP, Grantham-McGregor S, Powell C. Early childhood stunting and later fine motor abilities. *Developmental Medicine and Child Neurology* Epub.

External Funding and collaborations (collaborators affiliations indicated)

2009-2011: The Inter-American Development Bank. Intergenerational impacts of early childhood experiences.

Investigators: S Walker, S Chang, S. Grantham-McGregor (Institute of Child Health, UK), C Osmond (MRC Epidemiology Resource Center, Southampton, UK), 2009 J\$2,502,187, 2010 (US\$71,000)

2009-2010 Environmental Foundation of Jamaica. Planning for the sustainability of an intervention to prevent child conduct problems and to promote children's social and emotional skills.

Investigators: H Baker-Henningham, S Walker, J\$2,006,000

2007-10 The Wellcome Trust Research Training Fellowship for Dr H Baker-Henningham. Promoting young children's social and emotional competence and preventing conduct problems.

Investigators: H Baker-Henningham, S Walker, S Scott (Institute of Psychiatry, UK) £297,190

Programmes based in the Tropical Metabolism

Research Unit

Research: Three programmes have their intellectual centre of gravity rooted in TMRU; they are the Human Nutrition and Metabolism, Developmental Origins of Health and Disease and Genetics Programmes. The respective Programme Leaders are Terrence Forrester, Michael Boyne and Colin McKenzie. These programmes have discovery research as their organising principle; within this context, opportunities are sought to add translation research to the more indirect effects such more clinical and basic research exert on policy, programme and practice. Thus, the studies on disordered intermediary metabolism in severe childhood malnutrition have made their way into the WHO Manual for clinical care of severe malnutrition; and ongoing research includes laboratory based proof of principle studies that could inform formal trials. The strategy for both DOHAD and Genetics is the more indirect route of defining mechanism and in the process, identifying potential translation targets.

Clinical Service: The Unit operates a full time paediatric ward with 13 beds as a tertiary referral centre for children with severe childhood malnutrition. Clinical Care is coordinated by the Head of TMRI Clinical Services and there are two professional staffers; one Paediatrician and a Clinical Nutritionist. An Adult Physician will be appointed in 2010 using UHWI resources. All the Clinicians of TMRU contribute to clinical coverage. The Staff engaged in this clinical practice form the Clinical Nutrition Team which responds to requests for consultant input into the care of critically ill patients in the University Hospital of the West Indies who have special nutrition needs.

Tropical Metabolism Research Unit (Consolidated Human Nutrition & Metabolism, DOHAD and Genetics Programmes)

PUBLICATIONS

Peer reviewed

- * Bennett NR, Boyne MS, Cooper RS, Royal-Thomas TY, Bennett FI, Luke A, Wilks RJ, Forrester TE. Impact of adiponectin and ghrelin on incident glucose intolerance and on weight change. *Clin Endocrinol (Oxf)*, 2009 Mar; 70(3): 408-414.
- * Boyne MS, Thame M, Osmond C, Fraser RA, Gabay L, Reid M, Forrester TE. Growth, Body Composition, and the Onset of Puberty: Longitudinal Observations in Afro-Caribbean Children. *J Clin Endocrinol Metab*. 2010 Apr 28.
- * Boyne MS, Wollard A, Phillips DI, Taylor-Bryan C, Bennett FI, Osmond C, Thomas TY, Wilks RJ, Forrester TE. The association of hypothalamic-pituitary-adrenal axis activity and blood pressure in an Afro-Caribbean population. *Psychoneuroendocrinology* 2009 Jun; 34(5) :736-742.
- * Chiang CW, Gajdos ZK, Korn JM, Kuruvilla FG, Butler JL, Hackett R, Guiducci C, Nguyen TT, Wilks R, Forrester T, Haiman CA, Henderson KD, Le Marchand L, Henderson BE, Palmert MR, McKenzie CA, Lyon HN, Cooper RS, Zhu X, **Hirschhorn JN**. Rapid assessment of genetic ancestry in

- populations of unknown origin by genome-wide genotyping of pooled samples. *PLoS Genet* 2010; 6(3).
- * Creary LE, McKenzie CA, Menzel S, Hanchard NA, Taylor V, Hambleton I, Spector TD, Forrester TE, Thein SL. Ethnic differences in F cell levels in Jamaica: a potential tool for identifying new genetic loci controlling fetal haemoglobin. *Br J Haematol*, 2009 Mar; 144(6): 954-960.
 - * Creary LE, Ulug P, Menzel S, McKenzie CA, Hanchard NA, Taylor V, Farrall M, Forrester TE, Thein SL. Genetic variation on chromosome 6 influences F cell levels in healthy individuals of African descent and HbF levels in sickle cell patients. *PLoS One* 2009; 4(1)
 - * East-Innis AD, Thompson DS. Cutaneous drug reactions in patients admitted to the dermatology unit at the University Hospital of the West Indies, Kingston, Jamaica. *West Indian Med J*; 2009 Jun; 58(3): 227-230.
 - * **Gluckman PD**, Hanson MA, Bateson P, Beedle AS, Law CM, Bhutta ZA, Anokhin KV, Bougneres P, Chandak GR, Dasgupta P, Smith GD, Ellison PT, Forrester TE, Gilbert SF, Jablonka E, Kaplan H, Prentice AM, Simpson SJ, Uauy R, West-Eberhard MJ. Towards a new developmental synthesis: adaptive developmental plasticity and human disease. *Lancet*, 2009 May 9; 373(9675): 1654-1657.
 - * Hassanein MT, Lyon HN, Nguyen TT, Akyzbekova EL, Waters K, Lettre G, Tayo B, Forrester T, Sarpong DF, Stram DO, Butler JL, Wilks R, Liu J, Le Marchand L, Kolonel LN, Zhu X, Henderson B, Cooper R, McKenzie C, Taylor HA, Jr., Haiman CA, **Hirschhorn JN**. Fine mapping of the association with obesity at the FTO locus in African-derived populations. *Hum Mol Genet*, 2010 May 17.
 - * Kang SJ, Chiang CW, Palmer CD, Tayo BO, Lettre G, Butler JL, Hackett R, Adeyemo AA, Guiducci C, Berzins I, Nguyen TT, Feng T, Luke A, Shriner D, Ardlie K, Rotimi C, Wilks R,

Forrester T, McKenzie CA, Lyon HN, Cooper RS, Zhu X, **Hirschhorn JN**. Genome-wide association of anthropometric traits in African- and African-derived populations. *Hum Mol Genet*, 2010 May 6.

- * Less LA, Ragoobirsingh D, Morrison EY, Boyne M, Johnson PA. A preliminary report on an assessment of a community-based intervention for diabetes control in adults with type 2 diabetes. *Fam Pract*, 2010 Jun; 27 Suppl 1:i46-52.
- * McKenzie CA, Hanchard NA, Harding R, Hambleton I, Modell B. Rate of change of sickle allele frequency may be influenced by total fertility rate: a sesquicentenary reflection on human micro-evolution. *Br J Haematol*, 2009 Nov;147(4): 582-583.
- * Tulloch-Reid MK, Boyne MS, Smikle MF, Choo-Kang EG, Parkes RH, Wright-Pascoe RA, Barton EN, Wilks RJ, Williams DE. Cardiovascular risk profile in Caribbean youth with diabetes mellitus. *West Indian Med J*, 2009 Jun; 58(3):219-226.

List of Grants held for, Human Nutrition and Metabolism, Developmental Origins of Health and Disease and Genetics Programmes anchored in TMRU

Funding Agency	Research Project	Total Grant Amount	UWI Grant Amount	Start Date	End Date	Principal Investigator
National Institutes of Health	Glutathione Homeostasis & Oxidant Damage in Kwashiorkor	US\$1,372,623	US\$335,121	Apr. 07	Mar. 12	Terrence Forrester/ Farook Jahoor Baylor
International Atomic Energy Agency	Programming of Body Fat Composition and Metabolic syndrome in African origin syndrome	£21,600	£21,600	Dec. 05	Dec. 10	Terrence Forrester
National Institutes of Health	Aromatic amino acid metabolism in the pathogenesis of kwashiorkor (NIH)	US\$645,000	US\$205,024	Sep. 06	Aug. 10	Terrence Forrester (UWI)/Farook Jahoor (Baylor College)
International Atomic Energy Agency	Non-exercise activity thermogenesis and weight gain in urban and rural adults in Jamaica, a low middle income country in epidemiologic transition	US\$232,000	US\$232,000	2007	2009	Terrence Forrester
Jamaica National Building Society	Impact of Jamaica National Micro-Credit Programme on Health and Development in Jamaica	J\$16,726,200	J\$16,726,000	Oct. 07	Dec. 09	Terrence Forrester
Health Research Council of New Zealand	Developmental adaptation to an obesogenic environment	US\$365,000	US\$365,000	Oct. 08	Sep. 10	Peter Gluckman (University of Auckland) CO-PI: Terrence Forrester

International Atomic Energy Agency	Management of Service Acute Malnutrition	£45,000	£15,000	Nov. 08	Sept. 10	Asha Badaloo
National Institute of Health	Modelling the epidemiologic transition: energy expenditure, obesity and diabetes (NIH)	US\$2,441,138	US\$172,800	Apr. 09	Mar. 13	Amy Luke, Co-Investigator; Terrence Forrester
The Broad Institute, Inc. / Doris Duke Charitable Foundation	Whole-exome re-sequencing in sickle cell disease patients with extremely mild clinical course	US\$486,000	US\$32,400	Nov. 09	Oct. 12	Guillaume Lettre (Montreal Heart Institute), Colin McKenzie
National Institute of Health	Genetic study of severe childhood malnutrition		US\$9,000	Jul. 10	Jun. 11	John Belmont (BCM), Colin McKenzie (collaborator)

Programmes Based in the Sickle Cell Unit

The Sickle Cell Unit (SCU) is the only comprehensive facility for the care of persons with Sickle Cell Disease (SCD) in the English speaking Caribbean. In fact, we are one of the largest of such facilities world-wide with over 5000 patients registered in our database. We are fully owned and managed by the University of the West Indies (UWI), through the Tropical Medicine Research Institute. In addition to recurrent costs (staff costs and utilities) which are funded by the UWI, our operational budget has to be supplemented by competitively acquired grants from external donor agencies to sustain our programmes.

The mission of the Sickle Cell Unit is to be a research institution which seeks to improve the lives of individuals with sickle haemoglobinopathies through rigorous Biomedical Research, Education and Clinical Care. The Unit has evolved from being a research clinic that catered to the needs of the Jamaica Sickle Cell Cohort recruits to being a full service primary care facility that is involved in research, clinical care and education.

2010 - Specific Objectives

For the strategic plan 2010 we will continue to build on our gains of the last quinquennium

Clinical Care Division

- a. Strengthen organizational factors to improve health care delivery to persons with sickle cell disease. This includes the hiring a social worker, clinical psychologist, and a public health nurse dedicated to persons on hydroxyurea, improving health care workers' skills, information systems and formal patient

self-management programmes. With regards to information systems we propose to complete improvements in our Patient Management Systems to a web based application that incorporates core management strategies of our Standard of Care guidelines.

- b. Work with Ministry of Health to decentralize health care delivery to persons with sickle cell disease.
- c. Work with Ministry of health to have Island-wide screening for Sickle Cell Disease.
- d. The establishment and equipping of a clinical diagnostic centre at the SCU to facilitate both service and research by identifying complications early so as to allow timely intervention. The resource requirements are:
 - i) Construction of new diagnostic laboratory 800 sq ft (~75m²) facility.
 - ii) Equipment required are an Oxygen saturation monitor, vital signs monitor, ultrasound machine, Transcranial Doppler Machine and dual head gamma counter.

Research Division

- a. Continue observational cohort studies refining phenotypic expressions with the aims of facilitating genetic research and providing data to inform public health and clinical interventions
- b. Clinical trials in the following phenotypes
 - i) Conditional TCD velocities
 - ii) Renal insufficiency
 - iii) Asthma and Acute Chest
 - iv) Leg Ulcers
- c. Mechanistic studies examining the role of genetic polymorphism, inflammation and nutrition in the expression of these phenotypes.

Peer reviewed publications – Sickle Cell Unit

- * A.S.Bowers, D.J.Pepple and H.L.Reid. Oxygen delivery index in homozygous sickle cell disease: steady and crisis states. *British journal of biomedical science*, 2009 66 (3)148-149
- * Knight-Madden J, Barton-Gooden A. Contraceptive usage among Jamaican women with sickle cell disease. *Contraception* 2009 Nov; 80(5): 474-8.

Grants supporting clinical trials and clinical epidemiology in Sickle Cell Disease

Title: HQP 2008-004

A Randomized, Blinded, Placebo-controlled, Dose Escalation Study of Evaluate the Safety, Tolerability and Pharmacokinetics of HQK 1001 in Subjects with Sickle Cell Disease

Principal Investigator: Prof. Reid / Dr. Cumming

Source of Funding: Hemaquest (J\$382,421 per patient)2009-2010

Title: Pneumococcal Serotype and Resistance Patterns in Children with Sickle Cell Disease: A comparative study between a developing country and a developed country.

Principal Investigator: Dr. Knight-Madden

Source of Funding: Wyeth (US\$19,100) (2008-2010)

Title: A longitudinal study of lung function in adults with Sickle Cell Disease

Principal Investigator: Dr. Knight-Madden / Prof Reid

Source of Funding: UWI & CHRC - J\$1,702,755.40 and US\$7,879.80 (2009-2010)

Title: Quality of life of patients with Sickle Cell Disease: Rural-urban differences

Principal Investigator: Dr. Asnani / Dr Anderson

Source of Funding: CHRC (US\$5,637) (2009-2010)

Title: Measuring Glomerular Filtration in Sickle Cell Disease:
99m-Tc DTPA scan vs. ⁵¹Cr-EDTA measurement.

Principal Investigator: Dr. Asnan / Prof Reid

Source of Funding: CHRC (US\$5,475) (2009-2010)

Title: Prevalence of Microalbuminuria in Jamaican Children with
Sickle Cell Disease

Principal Investigator: Dr. King / Prof Reid

Source of Funding: CHRC (US\$4,000) (2009-2010)

Title: Sparring Conversion to Abnormal TCD Elevation

Principal Investigator: Prof Reid / Dr. Ali / Prof Ware

Source of Funding: NIH (US\$3,731,339) (2010-2015)

Programmes Based in the Epidemiology Research Unit

Epidemiology is a basic science for clinical medicine and public health medicine and is an important tool and skill for persons pursuing a career in academic medicine. The skills and competences derived from training in epidemiology are applicable to all areas of the biomedical sciences.

The discipline of epidemiology can only develop and flourish on the basis of a viable research programme providing relevant information for science and policy and the opportunity for continuous training and retention of new epidemiologists which will sustain and expand the discipline as the needs increase.

The ERU has been accepted into the International Clinical Epidemiology Network (INCLEN), as a Clinical Epidemiology Unit (CEU), and we see this as an important stepping stone to achieve 'internationalization' while not losing sight of the regional imperative. We have benefited from this collaboration with one of our graduate students receiving the Canadian Emerging Leaders in the Americas Programme (ELAP) scholarship and the training of 9 members of the Unit in Effective Project Planning and Evaluation (EPPE) through the World Health Organization Special Programme for Research and Training in Tropical Diseases (TDR). At the same time the CNCD group is advancing collaborations on its CNCD

agenda with Morehouse School of Medicine (CNCDs in minorities and health disparities), the University of Michigan (chronic kidney disease and cardiovascular diseases), the University of Arizona (CNCDs and fracture risk) and University of Pittsburgh Graduate School of Public Health (Translation of Diabetes Prevention Programme to Caribbean). So far no major planned collaboration with another developing country is with the Public Health Institute of Mexico (obesity) (with Simon Barquera) and with Professor W.P.T. James of the International Association for the study of obesity (IASO) through his connection with Mexico.

We are now exploring novel risk factors for cardiovascular disease and diabetes such as social indices, depression, quality of life, sleep and the built environment which are of international interest. These factors are important determinants of adherence and complications.

In response to the increasing burden of cardiovascular disease and diabetes we have started the process of developing intervention programmes to address this issue. A project to address obesity in 6-10 year old children in Jamaica (Pan American Health and Education Foundation [PAHEF]) is currently underway and two proposals – one for Type 2 diabetes prevention and the other for reducing foot complications are currently under development.

In the upcoming period the CNCD group anticipates growth and strengthening primarily from retaining the current core staff which continues to improve its skills and competences, but also from the further training of three members of staff in areas which are crucial to its long term objectives. These members of the team will be trained in social epidemiology (Colette Cunningham-Myrie) via a Hubert Humphrey Fellowship; in nutritional epidemiology (Damian Francis) via a Canadian ELAP Fellowship and completion of a PhD; and mental health epidemiology (Shelly McFarlane) via completion of a PhD. Additionally faculty and students are expected to benefit from INCLLEN collaborations in Latin America, Canada and the USA. These efforts will no doubt accelerate our publication rate and quality which are the important indicators that can be used to assess the work of the Unit.

The University of the West Indies (UWI) has declared its commitment to strengthen and promote research as part of its strategic plan and the establishment of UWI institutions like the Tropical Medicine Research Institute (TMRI) is evidence of its commitment. The ERU within the TMRI with its focus on the CNCD research and its commitment to training of skilled health researchers has an important role to play in this imperative.

Epidemiology Research Unit

PUBLICATIONS

Peer reviewed

WIMJ = *West Indian Medical Journal*

- * Bennett NR, **Boyne MS**, Cooper RS, Royal-Thomas TY, Bennett FI, Luke A, Wilks RJ, Forrester TE. Impact of adiponectin and ghrelin on incident glucose intolerance and on weight change. *Clin Endocrinol (Oxf)*. 2009 Mar;70(3):408-14. Epub 2008 Jul 7.
- * Hunte S, Tulloch-Reid MK. Weight Loss of Black, White, and Hispanic Men and Women in the Diabetes Prevention Program. *Clinical Trials Reports*, 2009 (3) 157-8.
- * Sumner AE, Luercio MF, Frempong BA, Ricks M, Sen S, Kushner H, Tulloch-Reid MK. Validity of the reduced-sample insulin modified frequently-sampled intravenous glucose tolerance test using the nonlinear regression approach. *Metabolism*. 2009 Feb; 58(2):220-5
- * Francis DK, Van den Broeck J, Younger N, McFarlane S, Rudder K, Gordon-Strachan G, Grant A, Johnson A, Tulloch-Reid M, Wilks R. Fast-food and sweetened beverage consumption: association with overweight and high waist circumference in adolescents. *Public Health Nutr*. 2009 Aug 12(8):1106-14.

- * Van den Broeck J, Willie D, Younger N. The World Health Organization child growth standards: expected implications for clinical and epidemiological Research. *Eur J Pediatr.* 2009 Feb; 168(2):247-51. Epub 2008 Aug 1.
- * **Pottinger AM**, Trotman- Edwards H, Younger N. Detecting depression during pregnancy and associated lifestyle practices and concerns among women in a hospital-based obstetric clinic in Jamaica. *Gen Hosp Psychiatry* 2009 (May-June); 31(3): 254 -61. *Epub* 2009 Mar 27.
- * **Ragin CC**, Watt A, Markovic N, Bunker CH, Edwards RP, Eckstein S, Fletcher H, Garwood D, Gollin SM, Jackson M, Patrick AL, Smikle M, Taioli E, Wheeler VW, Wilson JB, Younger N, McFarlane-Anderson N. Comparison of high-risk cervical HPV infections in Caribbean and US populations. *Infect Agent Cancer*, 2009, Feb 10;4 Suppl 1:S9
- * **Watt A** , Garwood D, Jackson M, Younger N, Ragin C, Smikle M, Fletcher H, Mc-Farlane- Anderson. High Risk and Multiple Human Papilloma Virus (HPV) infection in Cancer-free Jamaican Women. *Infect Agent Cancer*, 2009 Feb 10;4 Suppl 1: S11
- * Tulloch-Reid MK, Walker S. (2009) Quality of Life in Youth with Diabetes Mellitus. *WIMJ.* Jun; 58(3):250-6.
- * Tulloch-Reid MK, Boyne MS, Smikle MP, Choo-Kang EG, Parkes RH, Wright-Pascoe RA, Barton EN, Wilks RJ, Williams DE. Cardiovascular Risk Factors in Caribbean Youth with Diabetes Mellitus. *WIMJ.* 2009; 58(3):219-26.
- * **West WM**, Younger N, Brady-West D, Gilbert DT, Char G, Barton EN. Stroke subtypes on imaging in a Jamaican population: a hospital-based study. *WIMJ.* 2009 Jun; 58(3): 261-4.

- * Cunningham-Myrie C. et al. Validation of a Questionnaire Measuring Patient Satisfaction with Services at the Sickle Cell Unit in Jamaica. *WIMJ*, 2009; 58(4): 331-40
- * Abdulkadri AO, Cunningham-Myrie C and Forrester TE. Economic Burden of diabetes and hypertension in CARICOM States. *Social and Economic Studies*. 2009; 3 & 4: 175-197
- * **Campbell NRC**, Legowski B, Legetic B, Wilks R, De Almeida Vasconcellos ABP. A new initiative to prevent cardiovascular disease in the Americas by reducing dietary salt (Editorial). *Prevention and Control* 2010; 4:185-187
- * **Campbell NRC**, Legowski B, Legetic B, Wilks R, De Almeida Vasconcellos ABP. PAHO/WHO Regional Expert Group Policy Statement – Preventing cardiovascular disease in the Americas by reducing dietary salt intake population-wide. *CVD Prevention and Control*, 2010; 4:189-191
- * Ferguson T, Tulloch-Reid M. Cardiovascular Disease and Its Risk Factors in Blacks Living in the Caribbean. *Curr Cardio Risk Rep* (2010) 4:76-82
- * Kahwa EK, Younger NO, Wint YB, Waldron NK, Hewitt HH, Knight-Madden JM, Bailey KA, Edwards NC, Talabere LR, Lewis-Bell KN. The Jamaica asthma and allergies national prevalence survey: rationale and methods. *BMC Med Res Methodol*. 2010 Apr 3; 10(1):29.
- * **Walker SP**, Chang SM, Younger N, Grantham-McGregor SM. The effect of psychosocial stimulation on cognition and behaviour at 6 years in a cohort of term, low-birthweight Jamaican children. *Dev Med Child Neurol*. 2010 Feb 24.
- * **Delgoda R**, Younger N, Barrett C, Braithwaite J, Davis D. The prevalence of herbs use in conjunction with conventional medicines in Jamaica. *Complement Ther Med*. 2010 Feb;18(1):13-20.

Programmes based in the Chronic Disease Research Centre

The CDRC's Mission is to develop a world-class research centre focused on the surveillance, pathogenesis and prevention of chronic non-communicable diseases, with the capacity to influence health policy and practice in Barbados and the wider Caribbean.

Aims

- To establish robust systems for monitoring the burden of chronic non-communicable diseases.
- To develop evidence-based strategies for reducing the burden of these diseases.
- To estimate the economic and social costs associated with these diseases in order to guide cost-effective healthcare interventions.
- To evaluate the contribution of molecular mechanisms to disease aetiology
- To build capacity in healthcare research:
 - a. To utilise the skill sets of the CDRC in order to create a robust and secure research data management environment for use across the university and by external collaborators.
 - b. To provide postgraduate research training.
 - c. To strengthen and extend diagnostic laboratory capacity nationally and in the Eastern Caribbean.
- To collaborate intra-murally, with governments, non-governmental organisations, regional and international organisations in addressing the chronic disease epidemic.

Chronic Disease Research Centre (CDRC)

PUBLICATIONS

- * Hambleton IR, Jonnalagadda R, Davis CR, Fraser HS, Chaturvedi N, Hennis AJ. All-cause mortality after diabetes-related amputation in Barbados: a prospective

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PUBLIC SERVICE

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- Member, of team reviewing recommended daily allowances of energy and nutrients, Caribbean Food and Nutrition Institute.
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