



Professor Susan Walker

PROFESSOR AND DIRECTOR, CARIBBEAN INSTITUTE FOR HEALTH RESEARCH

The Caribbean Institute for Health Research (CAIHR) comprises the Epidemiology Research Unit (ERU), Sickle Cell Unit (SCU) and Tropical Metabolism Research Unit (TMRU) on the Mona Campus, and the George Alleyne Chronic Disease Research Centre (GA-CDRC) at the Cave Hill Campus. The primary goal of the Institute is to conduct globally relevant research that addresses health priorities of the Caribbean region. CAIHR contributed substantially to the 2012-2017 Strategic Objectives of The UWI. This report focuses on *Income source diversification, Employee engagement, Research and Innovation and Outreach*.

FINANCIAL

Income source diversification

Income generation at CAIHR is primarily from grant income. Over the reporting period, grant income totalled US\$13,126,367. Details are provided in the Appendix.

The TMRU staff also provided nutritional consultative service to hospitalised patients across Jamaica. Clinical services now also earn some income through specialist assessments.

EMPLOYEE ENGAGEMENT AND DEVELOPMENT

Rebranding

The Institute's name, was formally changed to the Caribbean Institute for Health Research (from the Tropical Medicine Research Institute) on August 1, 2016. As part of the rebranding process, staff retreats were held to develop new vision and mission statements and strategic plan. The CAIHR vision is: *Transforming lives globally through innovative research and effective health interventions*, and its mission: *To enhance the health and well-being of Caribbean and global populations through innovative research, training and strategic partnerships, providing timely knowledge dissemination and translation for sustainable development*. During 2016/2017, several activities were undertaken to sensitise staff, internal and external stakeholders about the rebranded institute.

Staff Training in NIH Grant Administration

The CAIHR strategic plan calls for diversification in funding agencies and increase in grant awards. Within this context, there is a need to strengthen capacity in grant management. Two administrative staff members, Ms Stephanie Swaby and Mrs Cassandra Wint-Rose were trained in grant administration at an NIH training workshop in May 2017.

RESEARCH AND INNOVATION

Research highlights

Systems science for Caribbean Health: Development of a Diabetes Policy Model. CAIHR Investigators: Nigel Unwin, Ian Hambleton, T. Alafia Samuels, Leonor Guariguata, Catherine Brown

Diabetes is a serious and growing health concern in the Caribbean region. The Caribbean Community (CARICOM) agreed on a broad range of policy objectives in 2007 aimed at curbing the impact of diabetes and other non-communicable diseases. The World Health Organisation's Global Action Plan on NCDs (2013-2020) incorporates voluntary targets and indicators to be met by 2025, and

lists policy measures to help achieve them. However, the feasibility and effectiveness of many policy measures are unclear, and even if the measures were implemented it is uncertain that the targets would be met. The aim of this study was to develop and evaluate system dynamics modelling to engage with and assist policy makers in the Caribbean in setting priorities for diabetes prevention and control. The utility of the modeling process was evaluated from the perspectives of the policy makers. The lessons learnt will be used to refine the process of using systems modeling to help guide policy decision-making and goal setting.

Gene Transfer for Patients with Sickle Cell Disease Using a Gamma Globin Lentivirus Vector: An Open Label Phase I/II Pilot Study. Principal Investigator: P. Malik, Cincinnati Children's Hospital Medical Centre. CAIHR Investigators: M. Asnani, J. Knight Madden

The goal of gene transfer is to offer a patient with sickle cell disease a one-time ex vivo correction of sickle haematopoietic stem cells and their autologous transplant and circumvent the immunological consequences such as graft rejection associated with allogeneic transplant. The current study proposes that gene transfer of gamma-globin lentivirus vector into human bone marrow or mobilised peripheral blood CD34+ cells of subjects with sickle cell disease (SCD) followed by autologous transplant following reduced intensity chemotherapy conditioning will be safe, feasible and show potential efficacy. A Phase I/II pilot gene transfer trial is being conducted to test the safety, feasibility and efficacy of a) obtaining sufficient

CD34+ cells via a bone marrow harvest or mobilised peripheral blood in patients with SCD b) ex-vivo gene transfer of the γ -globin lentivirus vector into the sickle CD34+ cells followed by c) reduced intensity chemotherapy conditioning and d) engraftment and efficacy of autologous gene modified CD34+ cells, when transplanted back into subjects with SCD.

Microelements in Life Expectancy and Ageing (MILEAGE).

Lead CAIHR investigators: Marvin Reid, Asha Badaloo

MILEAGE is a EU-funded project that combines the strength of several laboratories and research groups (Université de Picardie Jules Vernes, The Rowett Institute, University of Aberdeen, Instituto de Nutrición y Tecnología de los Alimentos, Universidad de Chile, Caribbean Institute for Health Research, The University of the West Indies) to address gaps in the understanding of trace mineral nutrition and metabolism in ageing. Its aim is to show how the processes of ageing affects zinc and copper homeostasis at a cellular level, from the gut mucosal cells to the pancreatic and liver cells, which are key homeostatic gatekeepers controlling body metal absorption and excretion. The gut microbiota may also have an impact on metal bioavailability and, conversely, metal availability in the gut may impact microbial biodiversity in ageing. Chemical drugs targeted at these key homeostatic points may help to regulate their function and improve homeostatic control of these essential metals. Mathematical modelling will integrate and rationalise the cellular data into a unified hypothesis of the ageing process in body metal homeostasis.

RESEARCH AWARDS

Professor Jennifer Knight-Madden received the Vice-Chancellor's Award for Excellence in Research, October 2016.

Ms. Angela Rose was the recipient of the Principal's Award for Excellence (Cave Hill Campus) in December, 2016 for her outstanding contribution to Public Service, in national development and international emergency responses, specifically the recent Ebola and Zika epidemics.

In February 2017, Dr. Monika Asnani received the Principal's Award (Mona Campus) for Best Research Publication and Principal's Award for Most Outstanding Researcher, Faculty of Medical Sciences. The award for Search Project with the Greatest Business/Economic/Development Impact was received by Dr. Angela Rankine-Mullings and co-investigators. The Dean's Award for Best Oral Presentation at the Faculty of Medical Sciences Annual Research Conference, November 2017 and Student's Award, CARPHA Annual Conference, April 2017 were given to A. Blake, V. Asnani, and co-authors for their paper on ***Stigma and Illness Uncertainty: Adding to the burden of Sickle Cell Disease.***

OUTREACH

Launch of CAIHR Brand and Award

As part of rebranding and engagement with external stakeholders, a formal launch of the CAIHR name was held in November 2016. Inaugural CAIHR awards were also presented. The selection criteria for the company award included majority Caribbean ownership with headquarters in Jamaica or Barbados and main business activity not in the health industry. Island Grill was selected for the inaugural award as it demonstrated through its actions in 2016, that it shares the CAIHR vision of improvement in the health of Caribbean peoples by providing healthier options and caloric counts of its meals. It also implemented the use of more environmentally friendly meal packaging. The award was accepted by Island Grill CEO, Thalia Lyn. Staff Honour Awards were given to Sharon Howell of the TMRU, Dr. Christine Powell of the ERU and Professor Henry Fraser, first director of the CDRC.

Renaming of the Chronic Disease Research Centre

The Chronic Disease Research Centre was renamed in honour of Professor Emeritus Sir George Alleyne, the outgoing Chancellor of The University of the West Indies. The renaming ceremony on April 26, 2017, was attended by the Barbados Minister of Health, The Honourable John Boyce and Principal of the Cave Hill Campus, Professor V. Eudine Barribeau. The Centre is now called The George Alleyne Chronic Disease Research Centre, abbreviated as The GA-CDRC.



Director of the newly launched Caribbean Institute for Health Research (CAIHR) Professor Susan Walker (left), presents the inaugural CAIHR Award to Thalia Lyn (second right), CEO of Island Grill at the rebranding ceremony on Thursday, February 9, 2017 at the Jamaica Pegasus Hotel in New Kingston. Sharing the moment is Professor Marvin Reid (second left) acting director of CAIHR, and Captain David McRae, Island Grill business partner, who was presented earlier with the award's citation.

APPENDIX

NEW external grants (not UWI-funded) won for semester 1					
Funding Agency	Research Project	Grant Amount	Start Date	End Date	Principal Investigator
Cincinnati Children's Hospital Medical Center (CHMC)	Gene transfer for patients with Sickle Cell Disease using gamma globin lentivirus vector: An open label phase I/II pilot study	USD74,465.10	Nov-16	Nov-21	Punam Palik, Stella Davies, Karen Kalinyak (CHMC), Monika Asnani (UWI)
Medical Research Council (MRC)/ King's College London	Integrating places of worship (PoWs) into the primary care pathway to prevent and control non-communicable diseases (NCDs) in the Caribbean	GBP132,842	Apr-16	Mar-19	Seeromanie Harding (King's College London), Rainford Wilks, Shelly McFarlane, Thelma Samuels (UWI)
World Bank	30 year follow-up to the Jamaica supplementation and simulation study	USD269,991	Aug-16	Jun-18	Susan Walker

EXISTING external grants (not UWI-funded)

Funding Agency	Research Project	Grant Amount	Start Date	End Date	Principal Investigator
Barbados Ministry of Health	The Barbados National Registry for Chronic Non-communicable Disease, Round 2	BDS1,863,762	2014	2017	A. Rose, Anselm Hennis, Ian Hambleton
Bill & Melinda Gates Foundation	Grand Challenges - Healthy birth, growth and development: Population-based indicators of early child development	USD492,775	Feb-16	Jan-18	Susan Walker
Canadian International Development Research Centre	The CARICOM political declaration on non-communicable diseases, seven years on: An evaluation to accelerate further multi-sectoral implementation	CAD795,000	Apr-14	Mar-17	Nigel Unwin
Children's Hospital Medical Center (CHMC)	Expanding Treatment for Existing Neurological Disease (EXTEND) Clinical Trial	USD80,000 (Based on enrolment)	Dec-14	Nov-17	Marvin Reid, Jennifer Knight-Madden
Destiny Group of Companies, Cave Shepherd, Barbados Diabetes Foundation, Peter D. Cohen Charitable Trust, Mr. Edmund Cohen	Wound Healing in Diabetes (The WHY Study)	USD420,968	2007	2016	Clive Landis
Grand Challenges Canada	Saving Brains: Expanding access to a proven early stimulation program through a web-based package and technical support	CAD2.1million	Feb-14	Nov-16	Susan Walker, Christine Powell, Sally McGregor, Susan Chang, Helen Baker-Henningham, Marta Rubio-Codina & Jena Hamadani
Grand Challenges Canada	Saving Brains: Integrating a parenting intervention with routine care to improve early developmental outcomes in children with sickle cell disease	CAD179,601	Oct-14	Sep-16	Jennifer Knight-Madden, Susan Chang-Lopez, Monika Asnani, Lesley King, Susan Walker
Grand Challenges Canada	Global Mental Health: Developing, implementing and evaluating a teacher-training intervention to promote child mental health in the early grades of primary school in Jamaica	CAD272,922	Oct-14	Sep-16	Helen Baker-Henningham, Yakeisha Townsend

Caribbean Institute for Health Research

Funding Agency	Research Project	Grant Amount	Start Date	End Date	Principal Investigator
International Atomic Energy Agency (IAEA)	Bioavailability of proteins from the common bean or pigeon pea in Jamaican diets	EURO10,000	Nov-15	Oct-16	Asha Badaloo
Medical Research Council	The "IRIE Classrooms Toolbox": A cluster randomised trial of a universal violence prevention programme in Jamaican preschools	GBP1,197,664.65	Oct-14	Sep-18	Helen Baker-Henningham, Susan Walker
Medical Research Council/ Wellcome Trust/DfID	System dynamics project for testing and evaluating policy related to diabetes in 3 countries in the Caribbean	GBP104,000	2015	2017	
National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)	Hyperglycemia and Pregnancy Outcome (HAPO) Follow-up Study Grant Number: U01DK094830	USD 1,000,000	2013	2017	Anselm Hennis
Open Society Institute (OSI) Budapest Foundation	REACH-UP: A pilot early childhood stimulation programme for children 12-30 months in a rural district in Zimbabwe	USD131,062.50	Jul-15	Dec-17	Christine Powell
Selexys Pharmaceuticals	A Phase II, Multicenter, Randomised, Placebo-Controlled, Double-Blind, 12-Month Study to Assess Safety and Efficacy of SelG1 With or Without Hydroxyurea Therapy in Sickle Cell Disease Patients with Sickle Cell-Related Pain Crises (SUSTAIN)	USD 100,000 (estimated, depends on patient enrolment)	2013	2016	Jennifer Knight-Madden, Angela Rankine-Mullings
Sullivan Alliance	USA-Caribbean Alliance for Health Disparities Research (USCAHDR)	USD 4,799,063	2011	2016	Rainford Wilks
The Hospital for Sick Children (SickKids)	SickKids-Caribbean initiative (SCI): Enhancing Capacity for Care in Paediatric Cancer and Blood Disorders	CAD 41,000	2014	2019 (subject to approval)	Jennifer Knight-Madden
Wellcome Trust	Vascular growth factors and the emergence of arterial function and blood pressure in the 1986 Jamaica birth cohort	GBP 145,380	Sep-15	Feb-18	Nadia Bennett