

TROPICAL MEDICINE RESEARCH INSTITUTE (TMRI)

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Background

The TMRI was established in 1999 with the following mission: 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.



The Institute comprises 3 units on the Mona campus: Epidemiology Research Unit, Sickle Cell Unit and Tropical Metabolism research Unit, and the Chronic Disease Research Centre at Cave Hill. The Mona units are the focus of this report, however we include highlights from the annual report of the Chronic Disease Research Centre. The full report for the centre is submitted through the Dean Faculty of Medical Sciences, to the Cave Hill Principal.

Key objectives of the Institute set at the time it was established are

1. To increase the output of research in major areas affecting the health of regional peoples
2. To increase the number of trained research scientists working in health
3. To facilitate the uptake of research information into policy, programmes and practice

The TMRI thus contributes substantially to two **strategic objectives of the UWI: Research and Innovation, and Graduate Studies**, the latter through Masters and doctoral programmes in Nutrition and Epidemiology. The Institute also provides significant outreach to

communities through clinical service primarily through the Sickle Cell Clinic, management of severely malnourished children and specialist clinical services to the UHWI.

Academic Programmes

The Institute continues to offer Masters and Doctoral programmes in Nutrition and in Epidemiology. The Masters in Epidemiology is a self financing programme. The PhD programme in Epidemiology began in 2009 and currently has 4 candidates enrolled. A key objective of the institute is to expand the regional cadre of well-trained health researchers. We have made significant contributions in this area but need to expand training at the doctoral and post-doctoral levels to provide the mentorship needed for persons to develop into independent researchers.

In collaboration with the Faculty of Medical Sciences, Mona and funded through the Dean's Office, a research training fellowship programme began in 2008 allowing two-year placement of faculty in the TMRI for training in research with the goal of conducting and publishing a research project during the fellowship. Three persons have completed fellowships and two faculty members are current fellows.

The CDRC has a research capacity-building programme led by Prof Ian Hambleton which aims to implement cost-effective systems and procedures to facilitate good research practice. This programme aims to enhance the quality of ongoing and future research at the CDRC, and the Mona units of TMRI and to promote good research practice among the wider researcher community in Barbados and regionally. It is expected that this research infrastructure will serve as a foundation for attracting more high calibre collaborators to both UWI and the region.

Research and Publications

The TMRI research programmes underwent external review in November 2010. An extensive annual report was submitted for the year 2009-10 leading up to the review. The feedback from the review has been used to ensure that our research programmes are internationally competitive while addressing regional needs. Some issues raised by the review were the need

to increase research on health interventions where TMRI could be a globally recognised centre for evaluation of interventions relevant to low and middle income countries, to expand collaborations both regionally and internationally and to increase staff capacity in obtaining grant funds

The current research programmes are:

Human Nutrition and Metabolism, Endocrinology, Genetic underpinnings of disease susceptibility and severity, Sickle Cell Disease, Child Development, Chronic Non-Communicable Diseases – Surveillance, Epidemiology and Interventions, Inflammation and Wound healing.

The TMRI expects to contribute substantially to the UWI's response to the growing problem of non-communicable chronic disease, the focus in September 2011 of only the second High level meeting of the UN General Assembly on health, and to be a globally recognised centre for evaluation of interventions relevant to low and middle income countries.

Staff of the institute have been successful in obtaining grant funds to support research from a variety of agencies. New grants were obtained during 2010-11 from the Canadian International Development Agency, Caribbean Medlabs Foundation Trinidad (CDRC), The European Union (CDRC), the Inter-American development Bank, Jamaica National Building Society, NIH (NHLBI) and The Wellcome Trust, among others. More needs to be achieved and will require more training and mentorship of staff in writing grant proposals and expansion of collaborative arrangements.

Clinical Service and outreach

The Sickle Cell Unit is the only comprehensive clinical facility for the care of persons with sickle cell disease in Jamaica. In addition to daily clinics at the Sickle Cell Unit, monthly clinics are held in St. Elizabeth (Black River hospital) and St. James (Cornwall Regional Hospital).

Neonatal Screening: Neonatal screening is conducted at the Victoria Jubilee Hospital, the University Hospital and the Spanish Town Hospital. Approximately 15,000 births are screened annually representing ~ 40% of

births in Jamaica. Neonatal screening is critical as it allows for early diagnosis and simple prophylactic measures such as infection prevention (penicillin prophylaxis), and parental education in early diagnosis of acute splenic sequestration thus decreasing childhood deaths in SCD.

A memorandum of understanding is being developed with the Ministry of Health, with technical support from the Government of Brazil, to provide the training and facilities necessary to implement a sustainable island-wide screening programme.

The TMRI provides in-hospital care for children with severe malnutrition at the TMRU ward. The Institute also provides Clinical Nutrition Service to the University Hospital, offering nutritional support to the critically ill, including enteral and parenteral nutrition. TMRI also provides outreach programmes providing parenting education for parents of severely malnourished children and social welfare for sickle cell patients.

PUBLIC SERVICE

Staff contribute to numerous professional organisations and provide technical advice to the Ministries of Health and Education, to regional institutions including the Caribbean Health Research Council and CARICOM and to international agencies such as the Pan American Health Organisation, World Health Organization, the Inter-American development Bank, the International Atomic Energy Agency, The UK Medical Research Council

The 8th Caribbean Cytometry & Analytical Society (CCAS) Caribbean International HIV/AIDS Workshop was held in 2011. CCAS is a not for profit HIV charity led by Prof Clive Landis (CDRC) with the aim of helping to raise antiretroviral drug treatment (ART) for HIV/AIDS patients and to help build laboratory infrastructure in the region for monitoring the patient's immune system and guiding ART therapy. The 2011 workshop was held in Jamaica and produced a Declaration on the establishment of a Caribbean Laboratory Network addressed to the Health Desk of CARICOM, endorsed by representatives attending the meeting from PANCAP, CDC, CMLF, HAPU, and CCAS.

Infrastructural Enhancements

Some refurbishment of facilities was conducted in 2010-11 through the support of the Office of Finance. The Norma Lewis diagnostic room was established at the Sickle Cell Unit through the SCATE project (Sparing Conversion to Abnormal TCD Elevation) which is a multicentre trial (Jamaica, Brazil, USA) funded by the National Heart Blood Lung Institute. The laboratory will allow the conduct of Transcranial Doppler (TCD) ultrasonography, a non-invasive, out-patient procedure which measures the speed of blood flow in the blood vessels of the brain, which can be used to assess stroke risk.

PUBLICATIONS

Peer Reviewed

WIMJ = West Indian Medical Journal

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