



THE UNIVERSITY
OF THE
WEST INDIES

CHRONIC DISEASE RESEARCH CENTRE

The University of the West Indies,
Barbados



*25th Anniversary Prospectus:
Building a legacy in
population healthcare*



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The vision

The building

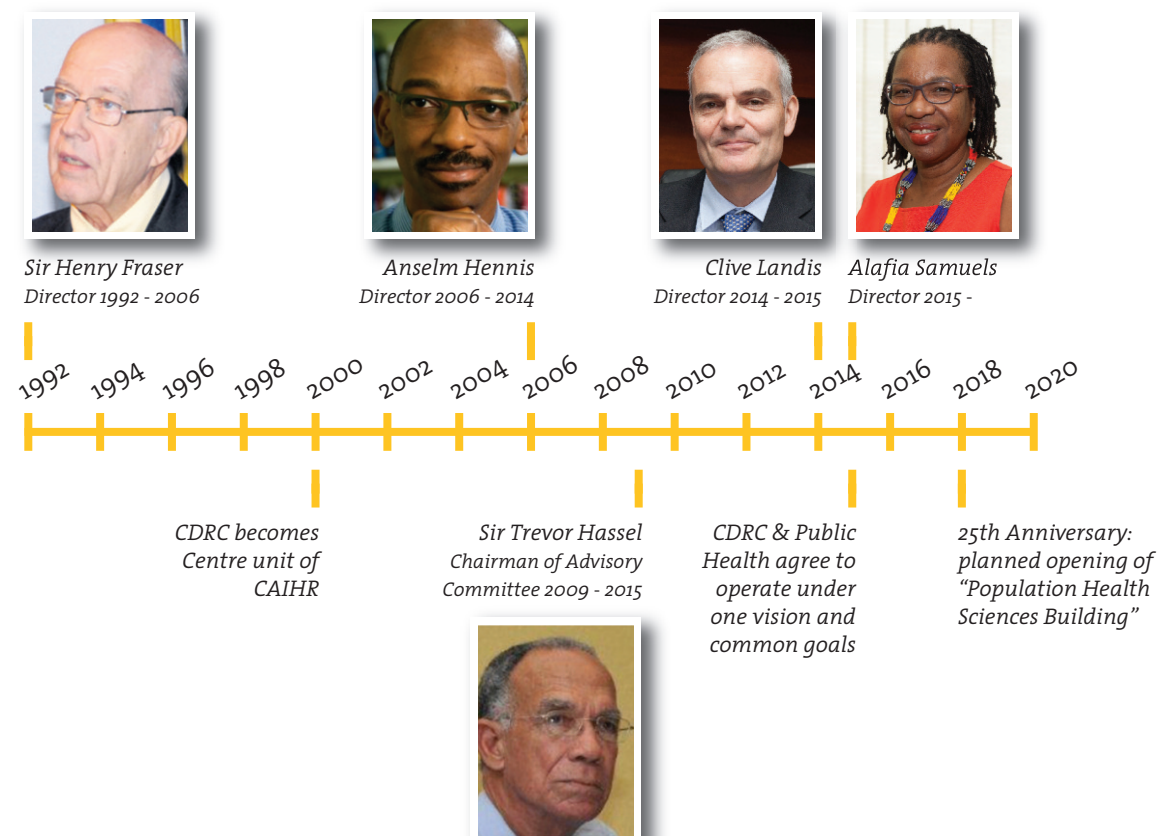
To construct a purpose-built facility, coinciding with the 25th Anniversary of the CDRC, to support cutting edge chronic disease research and population health interventions on behalf of Barbadian and Caribbean populations.

The stakeholders

The CDRC and the Public Health Group of the Faculty of Medical Sciences will combine their expertise under one roof, creating a Caribbean research centre capable of translating surveillance and epidemiology research into informed public health policy and practice, and its evaluation in terms of impact and cost-effectiveness.

The urban context

Redevelopment of the CDRC site is taking place within the context of a wider urban redevelopment of UWI’s “medical campus” in the Jemmotts Lane / Bridgetown area, adjacent to Queen Elizabeth Hospital.



The University vision

Pro Vice-Chancellor and Principal of the Cave Hill Campus: Professor Eudine Barriteau

The Cave Hill Campus is delighted to announce the redevelopment plans for a new Population Health Sciences building at the CDRC site on Jemmotts Lane. The merger between the CDRC and the PHG, two of the strongest research groups in the University, is both exciting and necessary. The Campus is proud of the international reputation forged by these departments in the fields of chronic disease research and public health, but it is only by bringing these groups together in a purpose built facility designed for population health studies that the full synergies of the merger can be realized. The initiative is also timely, since the debilitating chronic disease epidemic risks have been eroding the health and economic development gains of the Caribbean region since the independence movement. The UWI is confident that this named building represents an “investment grade” opportunity for a donor to build a lasting legacy for the improved health of the Caribbean region, guaranteed by a quarter century unbroken stream of research outputs and international grant raising. The Population Health Sciences building forms part of a wider redevelopment plan to create a UWI “medical campus” in the Jemmotts Lane / Bridgetown area, adjacent to the Queen Elizabeth Hospital. This will allow the University to interact with and serve the health needs of patient populations more effectively, while contributing to the broader development of an underserved region of Bridgetown.



Director, Caribbean Institute for Health Research (CAIHR): Professor Susan Walker

The CDRC is a unit of the Caribbean Institute for Health Research (CAIHR). The CAIHR with headquarters on the Jamaica Campus, has a broad remit to conduct research relevant to the Caribbean region and globally. With the Caribbean population experiencing the epidemiological transition, whereby, the health priorities have shifted to lifestyle related diseases such as obesity and cardiovascular diseases as the major economic and public health burdens, it is imperative that as the regional institution charged with addressing these concerns, that we take a fresh and enlightened look at our response. Clearly, one such

response is to improve our capacity in Population Health which would lead to a more rapid translation of research findings into policy and practice. But why is this necessary? It is well accepted that better use of research and evidence in policy and practice, can, at the individual level help save lives, reduce poverty and improve quality of life while at the macro level, be cost-effective and improve the developmental trajectory of communities and countries. It is within this context, that this pioneering partnership of CDRC and Public Health must be viewed and supported and recommended to other UWI territories as a strategy to address the health needs of our people as well as globally.



From evidence to outcome

CDRC Director's message: Dr Alafia Samuels

The CDRC has a strong track record in undertaking population-based epidemiological research, focusing on surveillance of chronic non-communicable disease (NCD) incidence, prevalence and risk factors, documenting the NCD epidemic in the Caribbean: the worst in the region of the Americas. Despite our excellent publication output, the Centre has not sufficiently translated its research into improving the health status of the people of the Caribbean. To do so, the CDRC needs to gain the necessary expertise to translate research results into policy and practice.

The CDRC has therefore formed a functional merger with the Public Health Group of the Faculty of Medical Sciences in order to strengthen our capacity for translation. The new building proposal will support the merger of expertise between CDRC and the Public Health Group to create a centre for Population Health Sciences. This will allow us to be co-resident, and enhance our collaboration. It will also strengthen our ability to support translational research in the non-campus territories, especially the seven small island developing countries of the Organisation of Eastern Caribbean States. The MPH programme has trained a wide network of graduates from these countries, which will allow for collaboration in research and policy.

CDRC is one of four units of the Caribbean Institute for Health Research (CAIHR), formerly TMRI, which is based in the UWI Vice Chancellery. Our vision, mission and goals are fully aligned with those of CAIHR, which speak to executing innovative cross-institute research themes and programmes addressing regional and global health priorities and translating evidence based research on priority issues to develop and strengthen programmes that improve lives in the Caribbean and beyond.



Alafia Samuels and Clive Landis discuss their joint vision for the CDRC and the Public Health group

Dean, Faculty of Medical Science's message: Dr Peter Adams

The long-standing UWI clinical training programme in Barbados was transformed by the development of a full Faculty of Medical Sciences in 2008. In addition to undergraduate training, a taught Masters in Public Health was simultaneously established with dedicated Public Health faculty thus setting the stage for expanding and cementing a long established relationship between the Faculty and the CDRC in Barbados. The Public Health Group (PHG) underwent a functional merger with the CDRC in 2015, working towards a common vision and goals. The merged departments have already combined on important joint research projects such as the Health of the Nation study (2015) and the Barbados Diabetes Reversal Study (2016).

The Faculty of Medical Sciences therefore fully embraces the plans to combine the expertise of the CDRC and PHG under one roof, thereby creating a unique centre of excellence for the region with the credibility to take on the daunting health challenges of the region.

The CDRC: a research powerhouse

The essence of a university's contribution to the national good is to provide a competitive edge in research and teaching relative to other countries. There are multiple agencies that rank the 20,000 or so universities across the globe. According to the Web Ranking of Universities (www.webometrics.info) The University of the West Indies ranks in the top 5% of Universities globally (rank 895 out of 19,403). This ranking is propelled in part through the published output of the CDRC, the highest of any department on Campus, with Professors Landis and Hambleton occupying the top two places on Campus according to ResearchGate (www.researchgate.net).

The research output of the CDRC is growing stronger through each quinquennial review cycle, with the quantum and quality of papers both rising. As a Centre reporting to the Vice Chancellor of The UWI, the CDRC is subject to five yearly external reviews by external agencies such as the Medical Research Council of the UK. Of note, five of the last ten research outputs by the CDRC have been collaborations with the PHG and the two groups collaborated on the Cardiovascular Disease Chapter (Unwin, Samuels, Rose, and Hennis) in the latest edition of Manson's Tropical Diseases.

Time period	Peer reviewed publications in scientific journals	Publications per year	Journal impact factor
Foundation years: 1992 - 2000	23	2.6 / year	3.2
CAIHR Centre Unit 1st Quinquennium: 2001 - 2005	58	11.6 / year	4.3
CAIHR Centre Unit 2nd Quinquennium: 2006 - 2010	80	16.0 / year	5.5
CAIHR Centre Unit Past 4.4 years: 2011 -	74	16.8 / year	5.8



“Much of the research being carried out, particularly that being delivered by the Chronic Disease Research Centre, is of world class standard and brings international credit to UWI.”

Accreditation Report on the UWI Faculty of Medical Sciences by the Caribbean Accreditation Authority for Education and Medicine and other Health Professions (CAAM-HP), February 2016

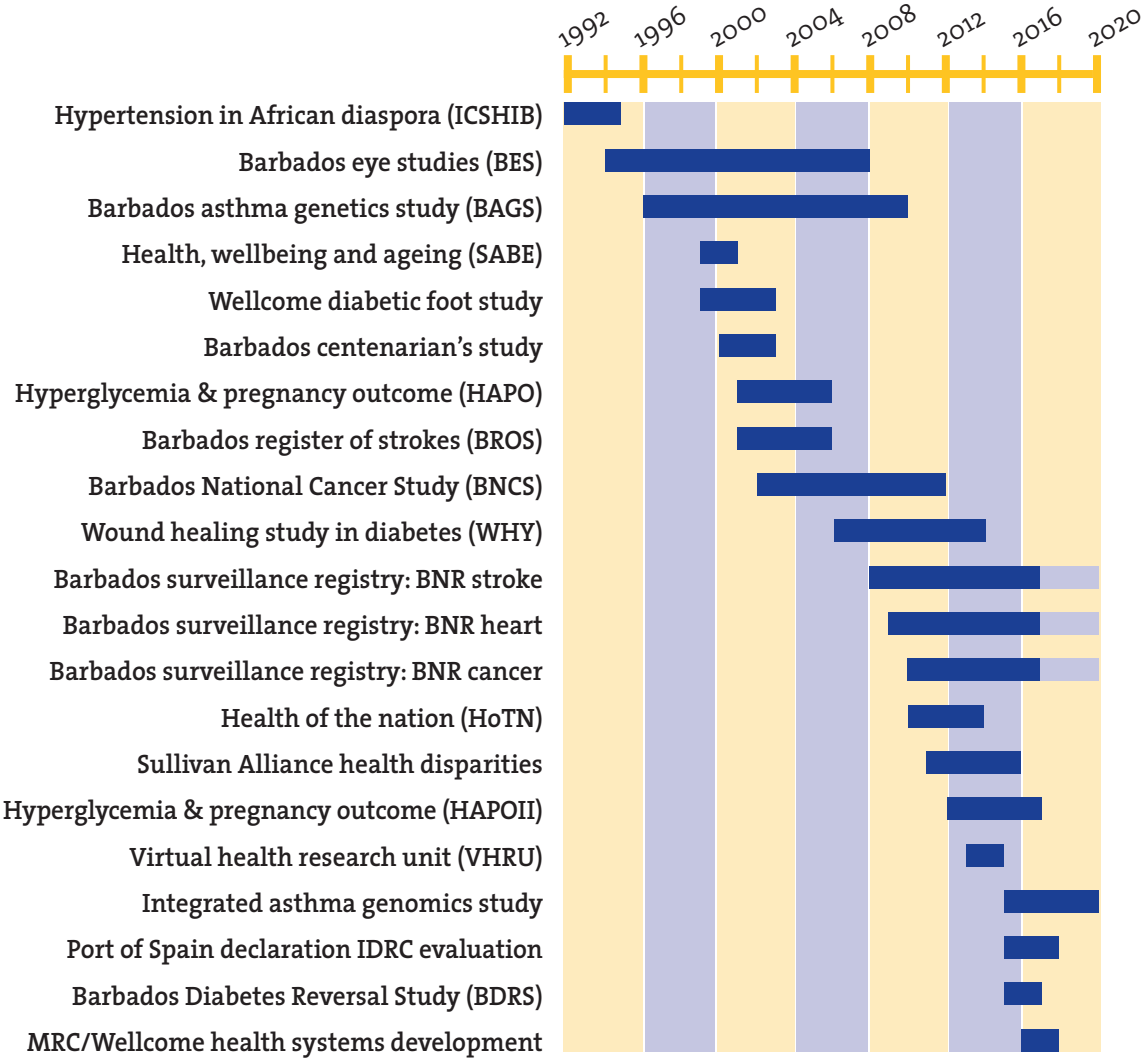
A record of extramural grant funding

The CDRC is internationally competitive in raising grants and holds three current grant awards from the National Institute of Health (NIH), USA. The total amount of grant money raised and remitted in Barbados on CDRC research projects is US\$ 20M, or approximately US\$ 1M per year. The majority of the CDRC's operational budget is in fact derived from external grants, providing a continuous stream of training and employment opportunities for Barbadians in cutting edge research disciplines.

The CDRC has participated in a number of groundbreaking national, regional and international research studies, such as the cross-sectional Health of the Nation study, the NIH funded studies on Eye Disease, Cancer and Hyperglycemia in Pregnancy in the black Barbados population, further NIH funded studies on Hypertension, Diabetes, and Health Disparities among the African diaspora, a Pan American Health study on wellbeing and aging across Latin America and the Caribbean, Wellcome funded studies on Diabetic Foot and Stroke, and cutting edge molecular pathogenetic studies on Asthma, Wound Healing, Sickle Cell and Inflammatory Diseases.

The three most recent grants awarded have been joint applications of the CDRC and PHG, providing further evidence of the powerful relationship evolving between the two entities.

Extramural grant funded projects



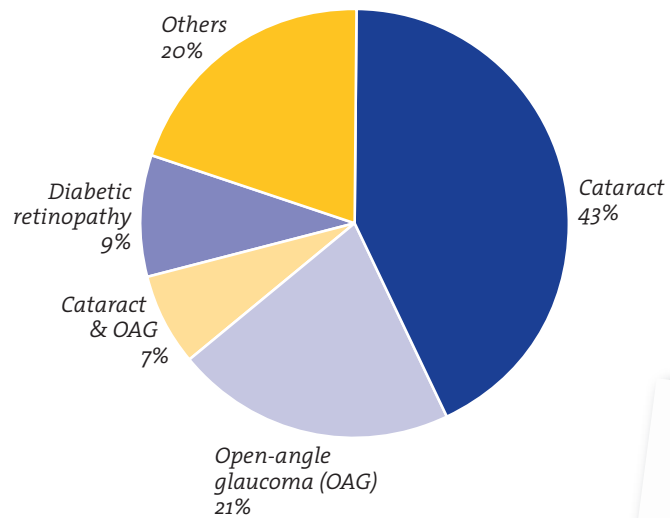
Research spotlight: The Barbados Eye Studies

The flagship programme of the CDRC during its foundation period was The Barbados Eye Studies (BES), a collaboration with the Ministry of Health, State University of New York, Stony Brook, and Johns Hopkins. The BES set out to learn more about major eye diseases in westernised African-descent populations, with the aim of reducing or preventing visual loss.

They were sustained by 15 years of continuous NIH funding (1988-2003) and yielded over 70 peer-reviewed scientific publications. The BES confirmed the highest population-based prevalence and incidence rates of glaucoma to date, and identified related risk factors in the Barbados population. High rates of visual loss were attributable to untreated cataract and advanced glaucoma, while advanced age-related macular degeneration, the primary cause of blindness in white populations, was rare.

Findings from the BES have been utilised in the USA where they have informed eye care policy for African Americans. A novel gene for glaucoma was identified in the Barbadian population which will likely impact approaches to glaucoma detection and treatment in African descent populations.

Primary causes of incident bilateral blindness (visual acuity <6/120) in Barbados Eye Studies; 9-year follow-up (n = 56 eyes) 1992-2003



“The Barbados Eye Studies have provided the most comprehensive information on the major eye diseases in African origin populations to date.”

Dawn Grosvenor
Consultant Ophthalmologist,
Queen Elizabeth Hospital, Barbados

“The wealth of information provided [by the Barbados Eye Studies] has been reported in more than 140 published papers and abstracts and has assisted in developing population estimates for visual impairment and its causes (eg, among African-Americans).”

Christina Leske
Director, Department of Preventive Medicine & Ophthalmology, Stony Brook University, New York

Research spotlight: Wellcome diabetic foot study of amputation

Barbados is in the grip of a diabetes epidemic, with 20% of adults and 50% of the over 65s suffering from diabetes (diagnosed and undiagnosed). The most visible manifestation of diabetes is diabetic foot, requiring patients to attend wound clinics up to three times a week, sometimes for months on end, and often culminating in an amputation. The Wellcome diabetic foot study, led by Prof Hennis, measured the burden of diabetic foot amputation in Barbados, with five year mortality follow-up led by Professor Ian Hambleton.

The findings were stark: our amputation rate in women was second only to the Navajo Indians in Arizona and five year survival was the worst in the recorded medical literature, with 55% mortality five years post-amputation. However, the “recorded medical literature” covers developed countries, like the USA, Germany and the UK, so the comparison is somewhat unfair and Barbados is actually serving as the sentinel for other developing nations, in the Caribbean as well as across the African diaspora, that are likely to be experiencing a similar wave of mortality due to diabetic foot.

The most important message to come out of the Wellcome diabetic foot study, however, has been largely overlooked: the study identified protective steps that persons with diabetes could take to avoid a limb amputation.

Step 1: perform a daily foot exam. This sounds mundane but is important since diabetes is accompanied by loss of nerve sensation to the feet, so even a penetrating injury, such as a nail puncture, might go unnoticed.

Step 2: avoid high risk footwear. No footwear or the notorious rubber slipper were both categorized as high risk. Yet the highest risk footwear (in women) was the wearing of high heeled shoes once a week (ie for church).

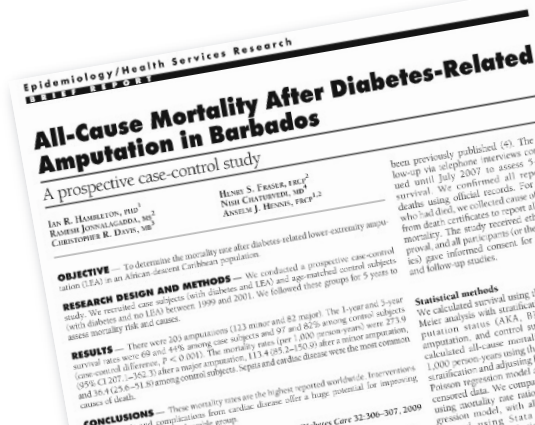
The Wellcome diabetic foot study should therefore be remembered not for giving rise to the false assertion that Barbados is the “amputation capital of the world” but that diabetic amputation is avoidable in patients who examine their feet daily and avoid high risk footwear. With a literal warning especially to women not to become “a victim of fashion.”



Professor Ian Hambleton

“I do not recognize the label that Barbados is the amputation capital of the world.”

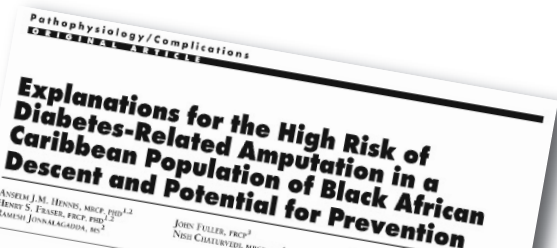
William Jeffcoate
Director of the Nottingham University Diabetic Foot Unit, UK.
Interview on Good Morning Barbados, March 2014.



The diabetic foot syndrome, including lower-extremity amputation, is a major contributor to morbidity and mortality from diabetes in developed countries (1). There are limited data from the developing world (2). High incidence rates of diabetes in the Caribbean (3) and Barbados (4) suggest the highest rates in the world (5).

RESEARCH DESIGN AND METHODS The Barbados studies of amputation among people with diabetes proceeded in three stages. An initial population-based survey (1988-1992) identified all subjects with diabetes in the island. A second survey (1992-1997) identified all subjects with diabetes in the island. A third survey (1997-2003) identified all subjects with diabetes in the island.

RESULTS There were 123 (60%) subjects who had a lower-extremity amputation. The median age at amputation was 68 years (range 45-94). The majority (78%) were women. The majority (78%) were women. The majority (78%) were women.



OBJECTIVE Diabetes-related lower-extremity amputation (LEA) rates are elevated in populations with high rates of diabetes, but the reasons for this are unclear. We conducted a case-control study of one population (individuals with diabetes living in the Caribbean, West Indies) to identify risk factors for LEA.

RESEARCH DESIGN AND METHODS We conducted a case-control study of one population (individuals with diabetes living in the Caribbean, West Indies) to identify risk factors for LEA.

RESULTS The overall 1-year incidence of LEA was 1.2% (95% CI 1.1-1.3). The incidence of LEA was significantly higher in individuals with diabetes living in the Caribbean, West Indies (1.2%) compared with individuals without diabetes living in the Caribbean, West Indies (0.6%) (OR 2.0, 95% CI 1.1-3.5).

Building health systems: Cancer, Cardiovascular Disease, HIV

In addition to its research projects, the CDRC has contributed to the development of research infrastructure and capacity building in the healthcare setting, particularly through the creation of the Barbados National Registry of Chronic Non-communicable Diseases (BNR).

The BNR is a Ministry funded active surveillance registry for stroke, heart attack, and cancer. Established in 2008, the BNR was highlighted in 2011 during Prime Minister The Hon Freundel Stuart's address to the UN High Level Meeting on Non-communicable Diseases.

The BNR provides the Ministry with prospective incidence and mortality rates for the leading causes of death in Barbados: from heart attacks, strokes, and retrospective estimates for cancer. The BNR report for 2013 recorded almost two strokes and one heart attack per day. These surveillance data helped inform planning for the Acute Stroke Care and Cardiac Units recently constructed at the Queen Elizabeth Hospital. The performance of these Units will also be monitored and evaluated by the BNR based on 28 day survival data.

The BNR has already revealed gaps in the healthcare system, such as in death certification and an unexpected 50% mortality from heart attacks before the stage of hospital admission. These have yielded invaluable insights to help strengthen the Barbados healthcare system.

The first year of cancer registration yielded fairly typical rates and patterns of cancer, with one exception: lung cancer was considerably lower than international norms and this provides important backing for policymakers to support and maintain the successes of past anti-smoking campaigns that have enabled Barbados to be designated a 'low smoking' jurisdiction by the WHO. However, higher rates of colorectal cancer than expected point towards dietary risk factors for cancer that exist in Barbados.

Other capacity building work has contributed to laboratory strengthening for HIV and other viral diagnostics in the Caribbean and the establishment of a Caribbean Cochrane Review Centre. The Cochrane systematic review work, led by Professor Hambleton, will help evaluate the impact and cost-effectiveness of medical technologies and interventions in the Caribbean setting.



The Hon Freundel Stuart, Prime Minister of Barbados, addressing the UN on Non-communicable Diseases



The BNR team

A training powerhouse

Combined trainees enrolled in graduate programs and research projects at the CDRC and PHG number between 30-40 at any given time.

The PHG delivers training programs to meet the urgent demand in the Caribbean to build capacity in public health and epidemiology, and the need for public health leadership.

The aim of the training is to:

- Promote population health and wellness, prevent illness, disability, and injury, and manage those living with disease
- Contribute to the development, implementation and evaluation of efficient, effective and equitable health care systems through education, research, and service
- Promote healthy public policy

The Masters in Public Health (MPH) is internationally recognized, meeting the curriculum requirements of the Association of Schools of Public Health (US based) and the UK Faculty of Public Health. Started in 2008, the programme encompasses core public health areas of epidemiology, biostatistics, environmental health science, healthy policy and management, social and behavioral sciences and research methodology, and includes interdisciplinary/cross cutting competencies in systems thinking, communication and informatics, leadership and professionalism.

The Doctorate in Public Health (DrPH), started by UWI in 2010, provides advanced professional training for developing health leaders. It is helping to equip public health professionals in the Caribbean with the skills they need for practice and research. The PHG and CDRC currently support five DrPH candidates with their research projects.



Some of our graduates

The CDRC and Public Health: a merger of excellence

The CDRC and Public Health Group formally agreed to work under a common vision and goals from March 2015, ahead of eventual cohabitation in a new “Population Health Sciences” Building. In essence, the Public Health Group will pick up where the CDRC leaves off, so that the combined entity will be able to drive research, policy and public health interventions ...completing the journey from evidence to outcome.

VISION: To see the Caribbean leading the world in wellness

MISSION: To improve the health of the population through scientific endeavour

The CDRC and Public Health Group will be working towards the following common goals:

To conduct research in support of national and regional disease prevention and control policies and programmes

- Surveillance of health outcomes and their determinants
- Monitoring health systems and the quality of care
- Developing and evaluating interventions
- Informing evidence-based policy and translation including health economics studies

To contribute towards education and capacity-building to strengthen disease prevention and control

- Developing regional observatories for surveillance and monitoring
- Delivery of undergraduate and graduate education in Public Health
- Training in research and laboratory skills

To investigate systems and pathways related to chronic disease

- Linking behavioural exposures and intermediate biological endpoints in the chronic disease pathway
- Identifying biological pathways and risk markers to create novel hypotheses
- Understanding environmental and social determinants of behaviours in order to guide interventions

To identify and contribute to the reduction in disparities in health outcomes

- Describing and monitoring health disparities between and within populations
- Investigating underlying determinants of health disparities to guide healthy public policies

First fruit: “Health of the Nation”

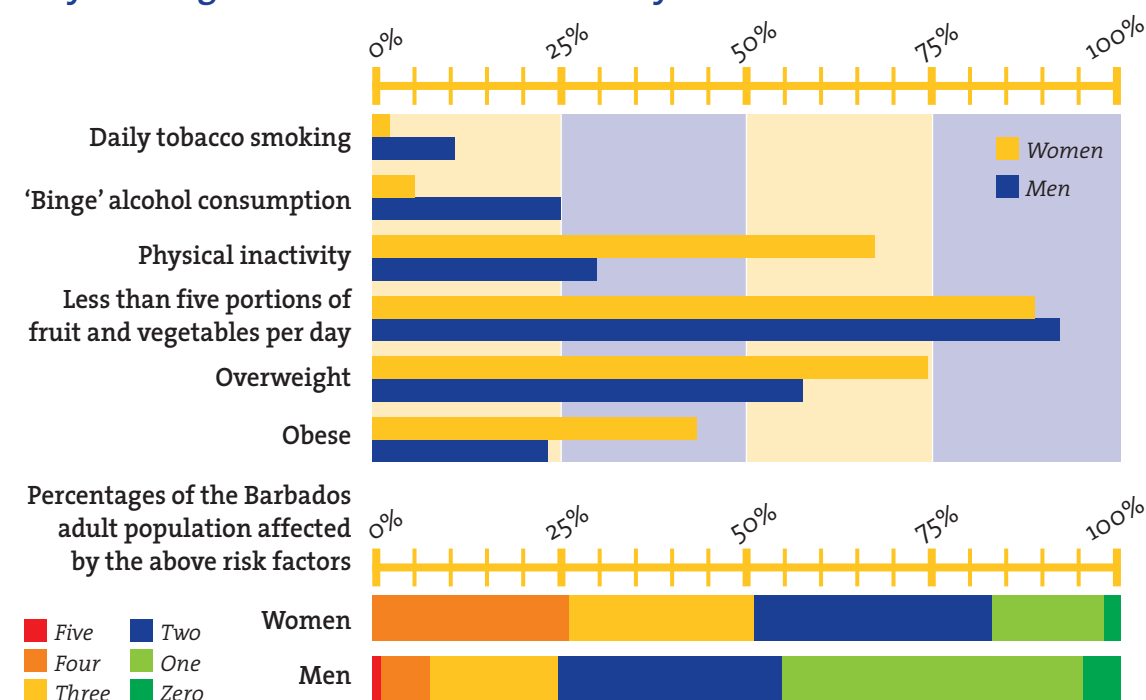
The first fruit of the collaboration between the CDRC and the Public Health Group is the Health of the Nation (HoTN) study. This important national survey, a collaboration with the Ministry of Health and the Statistical Service, was coordinated by Christina Howitt under the supervision of Nigel Unwin, Professor of Public Health, and Angela Rose, Director of Surveillance at the CDRC.

HoTN was a cross sectional survey carried out between 2012-2013 designed to identify risk factors and chronic disease burden in the adult population of Barbados. It revealed a mixed picture on risk factors, with a genuine positive from lack of smoking offset by high levels of obesity and poor practices in diet and physical activity. This means that almost every Barbadian adult is carrying one or more risk factors for chronic disease. The burden of diabetes and hypertension was high, affecting one fifth and two fifths respectively of the adult population, and half of the over 65s.

The policy implications concluded that action was needed:

- To involve all of government, civil society and the private sector to reduce risk throughout the population
- To improve the identification of people with diabetes and hypertension and the delivery of care to control blood pressure, cholesterol, and glucose.

Key findings on behaviours and obesity



“The HotN results will provide vital information to assist governmental agencies, civil society and the private sector in the creation of a robust policy and programme environment for the prevention and control of NCDs in Barbados.”

Kenneth S George Senior Medical Officer for Health, Non-communicable Disease, Ministry of Health, Barbados

Second fruit: Shaping Caribbean public health policy

Dr Alafia Samuels Principal Investigator



Evaluation of the political declaration by CARICOM Heads of Government at the Port-of-Spain Summit on NCDs was conducted by a team led by UWI, on behalf of PAHO and CARICOM, and included all campuses of the University, and four external partners. The objective was to evaluate the implementation of the 2007 CARICOM Heads of Government NCD Summit Political Declaration in the 20 CARICOM member states in order to learn lessons to accelerate its further implementation. Over the next five to 10 years it is expected that the findings should result in a substantial impact on policy and practice within the Caribbean, contributing to mitigation of the NCD epidemic; in addition to contributing to the understanding of the determinants for successful policy development and implementation within a middle income region.

The evaluation shows that NCD mortality in the Caribbean is the highest in the Americas. 40% of NCD deaths occur prematurely (ie. under the age of 70) many of which are preventable. Heart attacks, stroke, diabetes and cancers are the leading causes of premature death. Hypertension is the leading risk factor for death, and diabetes prevalence is double the global rates. In many Caribbean countries there are high rates of undiagnosed NCDs. 10% to 25% of adults have diabetes; and 20% to over 50% suffer from high blood pressure. More than 85% of adults in CARICOM member states are not achieving recommended levels of consumption of fruits and vegetables.

Women are 60% more likely to have diabetes, twice as likely to be obese, with higher rates of physical inactivity compared to men. However, one in five men report binge drinking and 10% - 20% of men are recorded as current tobacco smokers, higher than women. Childhood obesity exceeds 10% in seven of 11 countries

where data was collected. Less than a third of school children aged 13-15 years get the recommended level of physical activity.

The lowest levels of implementation for the political declaration were in the areas of diet, schools interventions and communications. Indicators with clear guidance for action and supported by regional or international organisations had the highest levels of implementation.

There is a robust POS NCD Evaluation website at www.onecaribbeanhealth.org The results of the evaluation are available at www.onecaribbeanhealth.org/more-facts-figures-and-implementation-ideas The site includes a summary of findings, the full report, as well as Fact Sheets and Action Guides aimed at particular stakeholders and constituencies to assist them in accelerating action on NCD prevention and control.

Professor Nigel Unwin



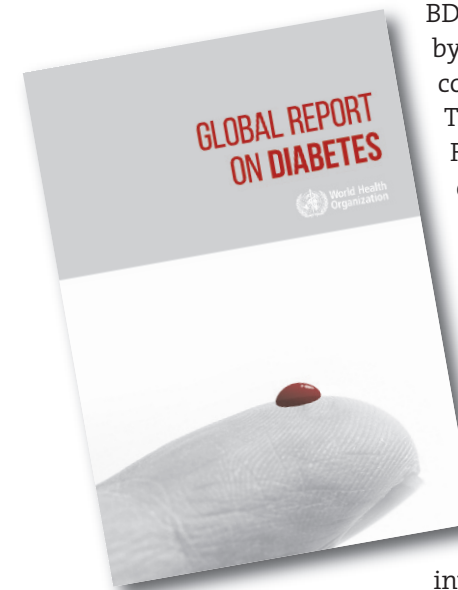
Healthy systems to support healthy lifestyles



UWI Vice-Chancellor Sir Hilary Beckles presenting the Report on the Port of Spain Evaluation to Dr Carissa Etienne, Director of the Pan-American Health

Third fruit: Diabetes reversal study

An exciting current intervention led by the PHG is the Barbados Diabetes Reversal Study (BDRS). Type 2 diabetes is highly prevalent in Barbados and responsible for a high burden of complications and premature mortality. BDRS hinges on the demonstration by researchers in the UK that a short (8 week) very low calorie diet, followed by weight maintenance, is able to reverse type 2 diabetes and restore normal normal glucose metabolism. The mechanism underpinning diabetes reversal is through loss of pancreatic fat, causing a reawakening of the pancreas and restoration of insulin production provided the intervention is undertaken within six years of diabetes diagnosis.



BDRS is funded by Virgin Unite, and was launched by Sir Richard Branson in December 2014 at a press conference at the Diabetes Association of Barbados. The Diabetes Association and the Barbados Diabetes Foundation are key partners in this study. The consulting diabetologist was Charles Taylor of the FMS, with qualitative evaluation led by Maddy Murphy from PHG and the study coordinator was Karen Bynoe.

The pilot study examined the acceptability and transferability of a very low calorie diet plus structured long-term support to the setting of Barbados. This research was published as a special highlight in the WHO's Global Report on Diabetes published on 6th April 2016. The ultimate aim, in parallel with the UK study, is to validate the intervention through cohort studies and expansion

into primary care ...handing back hope and initiative to patients that diabetes is not necessarily for life and can be reversed.



Charles Taylor



Maddy Murphy



Karen Bynoe



Cutting edge technology: the ratio of muscle mass to fat mass is determined using the so-called 'Bod Pod'

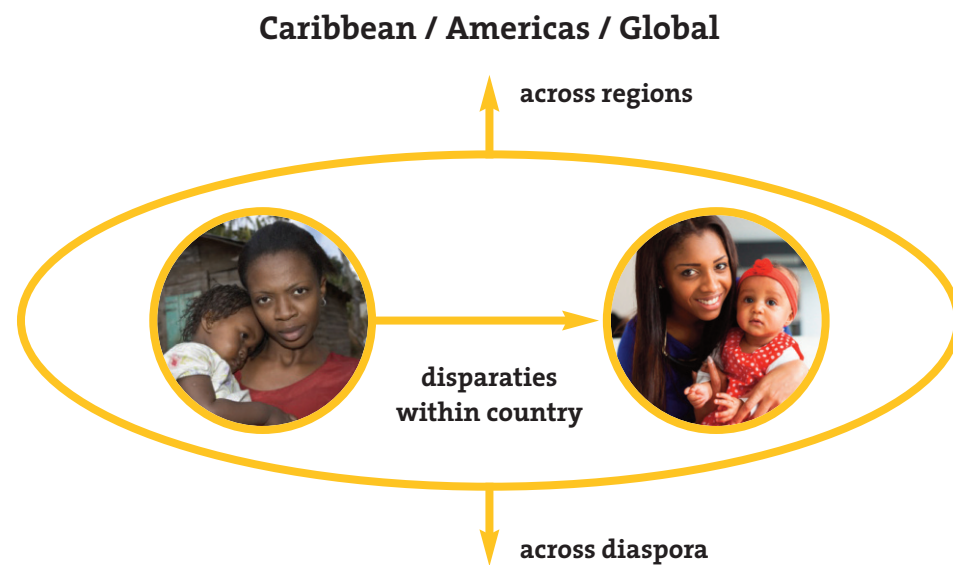
“The Barbados Diabetes Reversal Study is designed to test the feasibility of an 8-week, low-calorie diet, with follow-up support for six months on diet and physical activity, to reverse type 2 diabetes. All glucose-lowering medication ceased at the start of the study. Three months after finishing the 8-week diet, 17 participants [out of 25] had fasting plasma glucose (FPG) below the diagnostic threshold for diabetes.”

World Health Organization Global Report on Diabetes, page 52, 2016

Fourth fruit: health disparities affecting Caribbean populations

Academic staff from the CDRC and Public Health Group are co-investigators on an important grant awarded by The Institute on Minority Health and Health Disparities, part of the NIH, examining health inequalities affecting African-ancestry populations in the Caribbean and America. A succession of research publications from this work in 2015 has revealed a serious and widening health disparity between the Caribbean and neighboring countries in Central and South America, and across the African-American diaspora.

In short, whereas the Caribbean enjoyed a higher life expectancy and fewer health inequalities compared to Central and South America 50 years ago, we now suffer from a lower life expectancy and greater health inequality. Across the diaspora, Caribbean black populations have slipped from a position of relative good health 20 years ago compared to African American populations, to a position where we are now experiencing comparative excess mortality from chronic diseases, especially diabetes and stroke. The new Centre on Population Health Sciences will therefore be ideally positioned to take a leading role nationally and regionally to fight these health disparities.



eg. Caribbean vs African Americans



Leaders in health

The combined forces of the CDRC and Public Health Group bring together a formidable array of recognized leaders in public health and science. And more will be expected to arise from the fertile training ground created by a combination of cutting edge research and the MPH and Public Health certificate programs that will be housed in the new building.

The departments have received widespread recognition and provide leaders in public health posts regionally and internationally. In addition to **Sir Henry Fraser's** elevation to Knight of St Andrew, **Professor Anselm Hennis**, the second CDRC Director, currently holds the post as Director of Chronic Disease and Mental Health, at The Pan-American Health Organization (PAHO), Washington DC. **Sir Trevor Hassel**, Chairman of the CDRC Advisory Committee, was awarded the Knight of St Andrew and is the current Director of the National Non-communicable Disease Commission, Barbados, as well as the Chairman of the Healthy Caribbean Coalition. The immediate past Director, **Professor Clive Landis**, now Deputy Principal of the UWI Cave Hill Campus, is internationally recognized as a leader on the systemic inflammatory response and is currently leading efforts to overhaul the definition of this syndrome. He was recently appointed to lead the UWI Task Force on Zika.

Dr Alafia Samuels, the current Director, has led NCD programming in the region, having authored both the PAHO/CARICOM Strategic Plan of Action for the Prevention and control of Non-Communicable Diseases for countries of the Caribbean Community 2011-2015 and the Barbados Strategic Plan for the Prevention and Control of Chronic Non-Communicable Diseases 2015-2019. She is co-chair of the PAHO Foundation Technical Advisory Group, Member of the PAHO/WHO Caribbean NCD Technical Advisory Group, and Member of the IDF (International Diabetes Federation) Committee for Epidemiology and Public Health. **Professor Ian Hambleton** is the foremost biostatistician in the region and is an Editor of the prestigious Cochrane collaboration for systematic reviews. In this capacity he led formation of the Caribbean Cochrane collaboration, to guide evidence based health interventions in Caribbean populations. **Professor Nigel Unwin** is a global Public Health leader in diabetes, with over 150 peer reviewed research articles and advisor to the International Diabetes Federation and to the Diabetes Group of the World Health Organization. Professor Unwin took up a post in April 2016 with Cambridge University but remains visiting Professor at the CDRC. He is a member of the organizing committee of the World Diabetes Congress and member of the advisory group producing guidance on the prevention of diabetes for the National Institute of Health and Clinical Excellence. He also led the groundbreaking Barbados Diabetes Reversal Study cited in the WHO Global Report on Diabetes.



The CDRC team

The next generation

The CDRC and PHG serve as a regional training hub for the next generation of leaders in medical research and public health. Current enrolment is seven PhD students, five Doctorate in Public Health (DRPH) students, 11 Masters in Public Health (MPH) students, and 21 project staff hired on research studies. Our gallery of doctoral students – and next generation of health leaders – shown below.



Angela Rose
Cost burden of cardiovascular disease in Barbados



Christina Howitt
Physical activity in the Barbadian population



Arthur Phillips
Active transport to increase physical activity in the Caribbean



Songee Branch
Evolution of the HIV epidemic in Barbados



Natasha Sobers-Grannum
Policy model to explain patterns of CHD



Rachel Harris
Dietary salt analysis in the Barbados population



Carmeta Douglin
Non-communicable diseases risk in HIV infected patients



André Greenidge
Wound healing (WHY study) in diabetes



Ronald Georges
Diabetes reversal in the British Virgin Islands



Kim Quimby
Hemoglobin scavenging pathways in hemolytic conditions



Leslie Rollock
Influence of socio-economic position on utilization of health care for persons with diabetes



Heather Harewood
Prevalence, determinants and policy implications of unplanned pregnancies in Barbados

Edmund Cohen Laboratory for Vascular Research

The Edmund Cohen Laboratory for Vascular Research is an integral component of the vision to create the new “Centre for Population Health Sciences.” The laboratory was opened as an annexe to the Chronic Disease Research Centre on March 31st 2004 by Edmund Cohen Esq, philanthropist and past chairman of Courts furniture retailer.

The laboratory, under the leadership of Professor Clive Landis, has rapidly established itself as the leading vascular research centre in the Caribbean with over 50 peer reviewed papers during the past ten years. The laboratory's main research interest is into the role of inflammation in wound healing, such as diabetic foot, and recovery from surgery.

The laboratory also serves as an Immunology training hub, delivering the Immunology undergraduate medical and PhD programmes for The University of the West Indies, publishing HIV research in collaboration with the National AIDS Program in Barbados, and acting as the regional coordinating unit tasked with running accredited HIV/AIDS training workshops across the Caribbean.

Since the passing of Edmund Cohen in July 2013, the laboratory's operations have been maintained with the assistance of the Peter Cohen Charitable Trust.



Clive Landis, Peter Cohen, Kim Quimby, André Greenidge

“The body of published work and the HIV training programs coordinated out of the Edmund Cohen Laboratory have made a significant impact on our understanding of the risk factors for HIV transmission and the effectiveness of treatment programs to curtail this sexually transmitted disease in the Caribbean.”

Raj Patel FRCP

President, British Association for Sexual Health & HIV;
Past President, International Union against STI (IUSTI)

“The Edmund Cohen Laboratory for Vascular Research deserves great credit for the impact that it has had on the field of cardiac surgery. There are few basic science labs that are interested in the practical applications of basic research findings towards improving patient care in the short term. This laboratory has produced research that has improved the surgeon's understanding of inflammation and hemostasis. As a result, their work has impacted patient care in ways that will continue to be felt many years to come.”

Robert Poston, MD

Michael Drummund Distinguished Professor of Surgery;
Director, Cardiac Surgery; Surgical Director, Transcatheter Aortic Valve program (TAVI), University of Arizona Medical Center

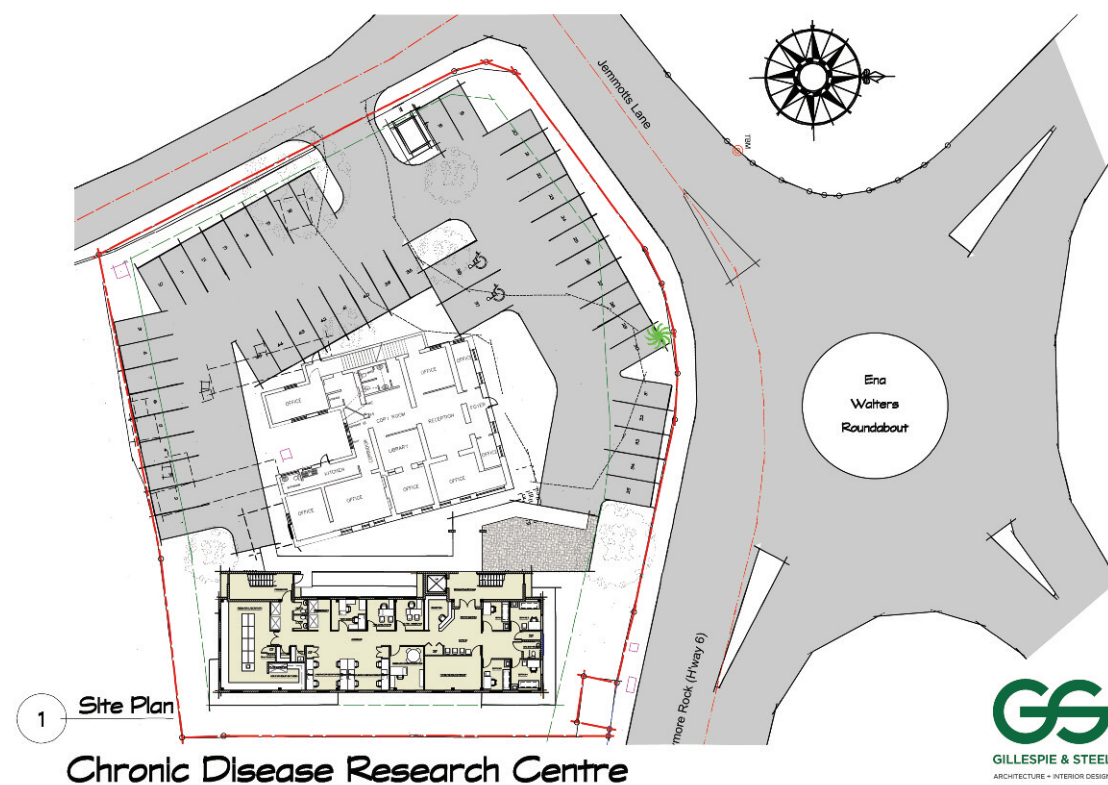


Site plan for the Population Health Sciences Building

Plans for the new "Population Health Sciences Building" have been prepared by Bruce Jardine, architect at Gillespie & Steel Associates Ltd, Prior Park, St James. Bruce has experience working with the University, including as lead architect for the Faculty of Medical Sciences Teaching Complex on the campus. Importantly, that building included design and construction of a cutting edge research laboratory, a requirement for the new building. Conditional planning approval was granted by the Town & Country Development Planning Office in September 2016.

The Site Plan shows the new building positioned to the East of the historic CDRC building, which will not be demolished. Plans have been drawn up with the approval of the National Trust. The two buildings will be connected through a first floor bridge, entering through the 1970s wing of the existing CDRC building; hence, no rubble stone walls or roof to the existing CDRC building will be affected.

Site plan



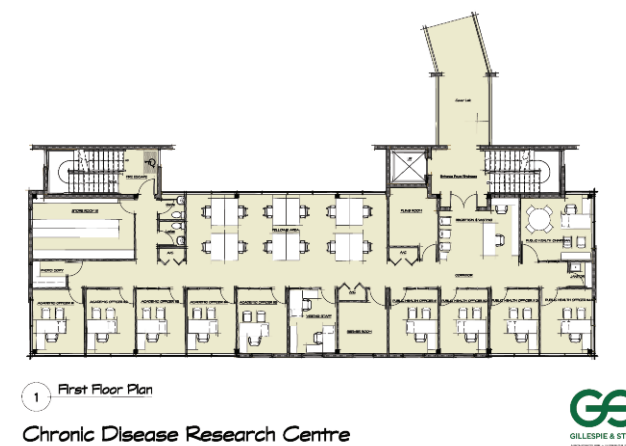
Floor plans

Ground floor



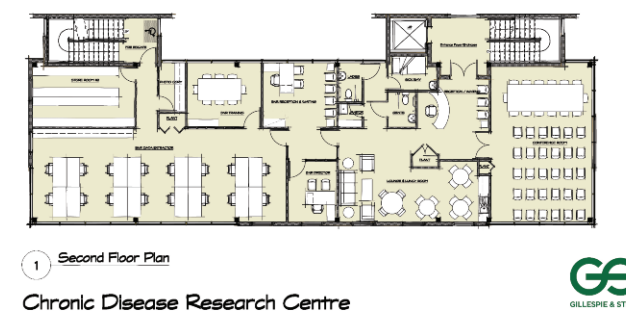
The ground floor will house patient examination and education facilities, the reception area, laboratory, and administrative hub of the building, including the offices for CDRC director, administrative assistant, project manager, and public relations officer.

First floor



The First Floor will house the heart of the collaboration, featuring offices for seven CDRC academic staff and six Public Health staff (including the Public Health chair and administrative assistant) arranged around a central open plan area serving as the project hub. MPH students will be accommodated across the bridge on the first floor of the existing CDRC building.

Second floor



The Second Floor will house the BNR, which provides routine surveillance and monitoring for cancer and chronic diseases, seminar room, kitchen and coffee area. The roof will accommodate a 20kW solar electricity array.

A naming opportunity

The new building presents a naming opportunity for a philanthropic donor interested in building a legacy for population health in Barbados and the Caribbean, and with global reach. The legacy of “The [donor or company name] Population Health Sciences Building” is assured through the track record of the CDRC and Public Health departments, demonstrated through decades of high impact research output, grant awards, training, policy implementation support and public health programming.

The Planning Department at UWI Cave Hill has established an enviable reputation for managing the construction process and will work with approved contractors to oversee the building project to ensure its delivery on time and on budget. Plans have been approved by the Planning Department and the budget preparation was overseen by Cooper Kaufman chartered quantity surveyors, Brittons Cross Road, St Michael, Barbados.

In addition to the construction costs for the building, the donor is asked to fund one permanent post for a full-time Public Relations Officer. For all the academic achievements of our scientific staff, this is not matched by public perception and public relations remains an important resource gap. The impact of “The [donor or company name] Population Health Sciences Building” can only be secured with the service of a full-time professional PRO. The PRO will be needed to translate the research output of the centre into the language of policymakers and the public through clear and effective communication in sensitive areas, such as government policy and behaviour change for healthy lifestyles.

Table of costs

ITEM	COST (BD\$)
Demolition	15,000.00
Buildings	5,169,500.00
External works	440,000.00
Landscaping and irrigation	25,000.00
SUBTOTAL	BD\$5,649,500.00
Preliminaries and insurances	575,000.00
Overheads and profit	580,000.00
Contingency sum	423,712.50
SUBTOTAL	BD\$7,228,212.50
Furniture allowance	700,000.00
Window treatment allowance	35,000.00
Signage allowance	20,000.00
SUBTOTAL	BD\$7,983,212.50
Professional fees	1,125,632.96
SUBTOTAL	BD\$9,108,845.46
VAT	BD\$1,594,047.96
TOTAL	BD\$10,702,893.42

A sustainable development

The new “Population Health Sciences Building” must be sustainable, both from a perspective of environmental impact and economic sustainability. The new building is underpinned by a philosophy of energy efficiency, clean technology and a commitment to recycling.

Environmental impact

The environmental impact of the building will be mitigated through adoption of the following green technologies:

- smart rooms, that will switch off lighting and air conditioning when not occupied
- centralized air conditioning, for improved efficiency and ease of service
- installation of a 20kW solar array, to mitigate carbon based energy usage and utility bills
- dual flush toilets, to minimize water consumption and utility bills
- appointment of a recycling officer
- mandatory recycling of paper, printer cartridges, bottles and plastics



Economic sustainability

The economic sustainability of the new building rests on two pillars:

- the proven ability of academic staff over the course of two and a half decades to raise extra-mural project grants to sustain high levels of research, employment and training activity
- cost recovery through leasing of the ground floor of the existing CDRC building on a commercial basis (eg as doctor’s offices or other paramedical services) consistent with the vision of the centre



THE UNIVERSITY
OF THE
WEST INDIES

*“to see the Caribbean leading
the world in wellness”*

The vision of the new centre for Population Health Sciences
must be pursued aggressively and without delay if the Caribbean
is not to hand back the economic and development gains
of the past half century

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