

DEPARTMENT OF PATHOLOGY



Dr. Gilian Wharfe
Head of Department

WORK OF THE DEPARTMENT

The Department of Pathology continues to be highly involved in teaching, research and service. The work of the department is diverse and is carried out by three subdepartments which are further divided into sections/units headed by different members of the academic staff with expertise in the relevant areas. The subdepartments are Chemical Pathology, Anatomical Pathology comprising Histology, Cytology, Autopsy Service, Immunohistochemistry, Cytogenetics and the Jamaica Cancer Registry and Haematology comprising Routine Haematology, Blood Banking and Flow Cytometry.

Laboratories and Autopsy Service

The service work though sometimes hampered by a shortage of reagents and supplies due to financial constraints continued to provide laboratory

and autopsy service to the UHWI and other medical facilities in Jamaica and the region.

The Histopathology Laboratory accessioned and processed 8,880 surgical cases which generated 42,880 tests (including routine histology and immunohistochemical requests). The Cytology Laboratory processed 2,834 pap smears and 664 non-gynaecological cases. A total of 183 autopsies were performed, including 36 perinatal autopsies, and 7 private autopsies. The Chemical Pathology Laboratory performed a total of 594,987 tests while Routine Haematology Laboratory received and processed 101,525 specimens. The Blood Bank processed 3,516 blood donors and performed 15,433 tests.

Laboratory Information System

Laboratory Information System (LIS) is fully in operation with three labs (Blood Bank, Haematology and Chemical Pathology) utilizing the system while the other two (Histology and Cytology) are working on improving access to the system.

ACCREDITATION

During the year all documents relating to accreditation such as the Quality Manual, Safety Manual and Standard Operating Procedures for all the laboratories in the Department were updated according to ISO 15189:2012. The scope of tests that are involved in an external quality assurance programme was submitted to the Jamaica National Agency for Accreditation (JANAAC) and the cost of the programme was received. The application form that will be submitted to JANAAC is being prepared for submission.

TEACHING & LEARNING

Undergraduate Programmes

The Department is heavily involved in the teaching of all aspects and sub-specialties of Pathology in both Stages I and II of the MBBS

programme. Every ten weeks 50–70 students rotate and sit the Pathology/Microbiology Stage II examination.

Graduate Programmes

The DM programmes in the department continue, with offerings in Anatomical Pathology, Haematology/Oncology and Chemical Pathology. Applications to the DM Anatomical Pathology and Haematology/Oncology have continued to increase, necessitating an objective selection process, including interviews and an active cap on enrollment. Currently there are fourteen residents enrolled in Anatomical Pathology, fourteen in Haematology/Oncology and one in Chemical Pathology. Four residents were successful in the DM (Pathology) exit examination held in November/December 2015. One candidate sat the DM (Haematology/Oncology) exit examination and was successful.

RESEARCH & INNOVATION

Jamaica Cancer Registry

Work of the Unit

Case Registration

The registration of cancers continues. The process was hampered for most of the year because one of the registry's posts was vacant for the entire year, except for the last two months. The post was filled in June 2016.

International Agency for Research on Cancer (IARC) commitments

The registry completed its submissions of data regarding cancers registered in the years 2008–2012, to The International Agency for Research on Cancer (IARC). This data, if accepted, will be published in the eleventh volume of "Cancer Incidence in Five Continents," which will cover the 5-year period 2008–2012.

Personnel

A new registrar, Mrs. Tessanne Solomon, was employed to fill the vacant registrar post.

Research

The Jamaica Cancer Registry continues to support the Elective programme in the undergraduate

M.B.B.S. curriculum, accommodating medical students, who participate in supervised research projects. In February/March 2016, UWI, Mona medical student Krystal Mills undertook research on oesophageal cancer. She is currently preparing a manuscript for publication.

In keeping with tradition, the Registry continued to provide information on cancers to members of the medical community and the Ministry of Health, and to assist in various research projects.

Cytogenetics Laboratory

During the year the clinical services of the Cytogenetics laboratory were expanded. This involved:

- (1) The addition of three new sample types: bone marrow, amniotic fluid and solid tissue.
- (2) The addition of molecular cytogenetic testing (Fluorescence in situ hybridization – FISH)

The laboratory's expansion goal was achieved through three main mechanisms:

- (1) The pathologist in charge of the laboratory, Dr. Tracey Gibson, spent two weeks (in September 2015) receiving training in the interpretation and reporting of FISH tests at the Cytogenetics Laboratory at The Hospital for Sick Children in Toronto, Canada.
- (2) An expert cytogeneticist from The Royal Marsden Hospital in the United Kingdom – Dr. Toon Min – was invited to spend the month

of November 2015 in our laboratory. The primary objectives of his visit, which were successfully met, were:

- (a) To establish a fluorescence in situ hybridization (FISH) service in our laboratory
- (b) To train the laboratory staff in analysis of karyotypes for haematological malignancies and solid tumours.
- (3) A laboratory Technician, Miss Sashena Prendergast, was employed in order to assist with the projected increased workload.

In addition, at the request of the laboratory, Dr. Min performed an evaluation of the laboratory's operations and made recommendations for improvement, chief among which was the upgrade of the laboratory's karyotyping workstation and the acquisition of items of equipment which would enable more consistent and reliable results from FISH tests.

Three of these crucial pieces of equipment: triple band pass filter, dual band pass filter and cytobrite programmable hybridization hotplate were purchased for the laboratory by the SickKids-Caribbean Initiative – an ongoing capacity-building collaboration between The Hospital for Sick Children in Toronto, Canada, and six Caribbean countries. Two other items (a digital water bath and a ceramic hotplate) are in the process of being purchased by the laboratory.

External funding is currently being sought for further laboratory development, including the required karyotyping workstation upgrade.

Initiatives/Activities

HTLV-1 Project

HTLV-1 continued collaboration with NIH to recruit patients for enrolment of patients with ATLL and to follow up those on treatment.

Haemophilia Research

At the World Federation of Haemophilia (WFH) meeting in July 24–28, 2016, Dr. Warfe was able to establish the following:

- (1) Meet with NNHF grant funders to discuss obtaining a new grant

- (2) Meet with WFH to establish the provision of clotting factor concentrates to persons with haemophilia in Jamaica. Since then clotting factor concentrates have been provided.
- (3) Meet with WFH to discuss being part of a pilot programme for establishing a registry for persons with haemophilia.

Sick Kids – Caribbean Collaboration

The hospital for Sick Children in Toronto continues its capacity building in the region with a total of 6 other countries. This work includes case consultation, funding of paediatric flow cytometry, case rounds, preparation of documents to achieve uniform management of different conditions (febrile neutropenia, tumor lysis, neuro-oncology management) amongst others. The registry continues to register cases of Paediatric Oncology and examine outcome data for these cases.

This initiative also provided funding that augmented the previous Novo Nordisk Haemophilia Foundation (NNHF) grant provided to investigate persons with Haemophilia in Jamaica. It also allowed training and continues to be a resource for guidance and training in different aspects of the disease including identification of inhibitors and physiotherapy.

RESEARCH FELLOWSHIP

Forensic Pathology Fellowship

The year 2015 saw the realization of funding for Forensic Pathology Fellowships at the University of Toronto through the efforts of Dr. Michael Pollanen of the Centre for Forensic Science & Medicine. The G Raymond Chang Forensic Pathology Fellowship was inaugurated with Dr. Althea Neblett, 2014 graduate of the DM programme as its first recipient.

PAPERS PRESENTED AT CONFERENCES AND SEMINARS

Poster Presentations

Wharfe G, Lowe D, Buchner-Daley, L. “Establishing a registry and improving diagnostic capabilities and Treatment: Outcomes for persons with Haemophilia in Jamaica” World Federation of Haemophilia, Orlando, Florida, July 24–28, 2016

Presentations

- **Gibson TN.** “Epidemiology of cancer in Jamaica”. UWI Faculty of Medical Sciences 24th annual Research Conference, Kingston, Jamaica, November 2015.
- **Williams NP.** “The road toward the Establishment of Fellowship Training in Forensic Pathology in the Caribbean”. Inaugural conference Caribbean Association of Forensic Sciences, Kingston Jamaica, July 20–22, 2016.
- **Thompson R.** “Enterobius vermicularis infestation of Vermiform appendix”. Ontario Gut Club< Mount Sinai Hospital, Ontario, Canada, November 2015
- **Thompson R.** “Necrotizing granulomata in liver with Takayasu Arteritis”. Ontario Gut Club, Mount Sinai Hospital, Ontario, Canada, April 2016.
- **Thompson R.** “Gastropathy, gastritis, foveolar hyperplasia and metaplasia: What does this Mean?” Association of West Indian Gastroenterologists, Trelawny, Jamaica, April 2016
- Facey A, Irving R, **Dilworth L.** “The proposed use of basal lactate as a biochemical marker for type-2 Diabetes development”. Ministry of Health 6th Annual National Health Research Conference, Jamaica Conference Centre, Kingston Jamaica, November 26–27, 2015
- Gardner N, Luke G, Wheatley A, De La Haye W, Lowe H, Bahadosingh P, **Dilworth L**, Salako-Akande A, Morrison E, Asemota H. “Nutritional supplements as a possible safe and cost-effective means of treating neurotransmitter imbalances associated with chronic

cocaine dependence”. Ministry of Health 6th Annual National Health Research Conference Centre, Kingston, Jamaica, November 26–27, 2015.

- **Chin S.** “Cancer a growing public health priority in the Caribbean”. FMS Annual Research Conference, University of the West Indies, Mona, Kingston Jamaica, November 2015
- **Chin S.** “Jamaica’s Health System”. Canadian Global Health Talk, Ochio Rios, March 2016
- **Chin S.** “Improving outcomes in Breast Cancer-Screening & Prevention”. Jamaica Medical Students Association Standing Committee on Public Health (SCOPH), February 5, 2016.
- **Chin S.** “Common chemotherapy regimens” Roche Oncology Nurses Training Workshop, Kingston, Jamaica, December 2, 2015.
- **Chin S.** “Bisphosphonates & adjuvant breast cancer” Denk Pharma Meeting, Kingston, Jamaica, November 17, 2015
- **Chin S.** “Cancer as an Infectious disease” Association of General Practitioners of Jamaica Annual Symposium, University of the West Indies, Mona, Jamaica, September 13, 2015
- **Chin S.** “Preventable Causes of Cancer”. Association of General Practitioners of Jamaica Symposium, Kingston Jamaica, November 8, 2015
- **Brady-West D.** “The Ethics of Gender Assignment”. Paediatric Association of Jamaica Ethics Conference, September 2015
- **Brady-West D.** “When the Doctor Becomes the Patient”. Jamaica Medical Doctors Association Medical Ethics Conference, February 2016
- **Lowe D.** “Management of Oncologic Emergencies – What to do?” Annual Radiology Symposium, Knutsford Court Hotel, Kingston, September 20, 2015.
- **Lowe D.** “The Role of Breast Receptors in the Management of Breast Cancer”, Annual Breast Cancer Symposium (Jamaica Cancer Society), Knutsford Court Hotel, Kingston, Jamaica, October 25, 2015

- **Bishop K.** “Perinatal Pathology Report January–December 2015”. 15th Annual Perinatal Conference: Departments of Obstetrics & Gynaecology and Child Health, Faculty of Medical Sciences, UWI, Mona, February 27–28, 2016

PUBLICATIONS

Books & Monographs

REFEREED JOURNAL ARTICLES

- Facey A, **Dilworth L**, Irving R, “The Impact of Serum lipid on muscle size in Male Jamaica Tract and Field Athletes”. *American Journal of Sports Medicine*, 4(1), (2016), 20-25. DOI: 10.12691/ajssm-4-1-40
- Stennett, D, Wheatley A, **Dilworth L**, Asemota H. “Optimal dosage determination of a hypocholesterolemic bitter yam proprietary preparation in diet induced hypercholesterolemic mice”. *Journal of Basic Applied Research*, 2(3): (2016), 281–290
- **Gibson TN, Shirley SE, Williams EW, Rhudd A, French S, Hibbert R.** “Discrepancies between clinical and autopsy diagnoses in the Emergency Department of the University Hospital of the West Indies”. *West Indian Medical Journal* (2015). E-pub ahead of print. DOI:7727/wimj.2015.192
- Felix O, Goodluck R, Morant R, **Williams NP**, McFarlane MEC, Plummer JM, Leake PA. “Colonic Diaphragm in a patient with rheumatoid arthritis – A case report from the Caribbean” *West Indian Medical Journal* DOI: 10.7727/wimj.2015.488
- Forde R, **Williams N.** “Squamous cell carcinoma in a thyroglossal duct cyst: A Caribbean case report” *West Indian Medical Journal* DOI:1-.7727/10.7727/wimj.2015.049
- Forde R, **Williams N**, Leake P, Ferron-Boothe D, Meeks-Aitken N, Mitchell DI, McFarlane ME, East J. “Surgical quality in colorectal cancer” *Annals of Medicine and Surgery* (2016) 5:52–56

- Thomas P, Gossell-Williams M, McKenzie K, McGrowder D, Martin J, Abel W. "Cannabis potentiates transient elevations of aspartate aminotransferase in schizophrenia patients prescribed risperidone". *West Indian Medical Journal* 64 (2015), Suppl. 4: 29
- Badal SA, Aiken WD, Chin SN. "Molecular targets and angiogenesis in renal cell carcinoma, a multi-target approach: mini review" *Curr Drug Targets* 2016 May 2 PMID: 27138755 [impact factor 3.02]
- Chin SN, Walters CA, Williams E. "Breast Cancer Receptor Profiles in Jamaica: A 6-year Analysis" *West Indian Medical Journal* 2016, DOI: 110.7727/wimj.2016.067 [impact factor 0.33]
- Chin SN, Green C, Gordon-Strachan G, Wharfe G. "An Audit of Haematology/Oncology Clinic Services at an Urban Academic Hospital in Jamaica". *West Indian Medical Journal* 2016, DOI: 10.7727/wimj.2013.329 [impact factor 0.33]
- Brady-West D, West W. "Comparison of Computed Tomography Pulmonary Angiograms at the University Hospital of the West Indies, Jamaica with Reported Cases in Literature" *West Indian Medical Journal*, DOI: 10.7727/wimj.2016.049
- Johnson P, Jaggon JR, Campbell J, Bruce C, Ferron-Boothe D, James K, Crandon I, Eldemire-Shearer D. "Profile of Malignant Brain Tumour in Jamaica: An eight-year review – 2005–2012". *West Indian Medical Journal*, 2025, 64(4):372-375
- Adler E, Alexis C, Ali Z, Allen U, Bartels U, Bick C, Bird-Compton J, Bodkyn C, Boyle B, DeYoung S, Fleming-Carroll B, Gupta S, Ingram-Martin P, Irwin M, Kirby-Allen M, McLean-Salmon S, Mihelcic P, Richards-Dawson M, Reece-Mills M, Shaikh F, Sinquee-Brown C, Thanme M, Weitzman S, Wharfe G, Blanchette V. (2015) "Bridging the Distance in the Caribbean: Telemedicine as a means to build capacity for care in paediatric cancer and blood disorders" *Studies in Health Technology and Informatics* 209
- Rawlings J, McGrowder D, Kampradi L, Ali A, Austin T, Beckles A, Dass R, Diarum M, Jahorie P, Mohammed M, Dialsingh I, "Attitudes towards Alzheimer's disease among Medical and Non-Medical Students of University of the West Indies, Trinidad & Tobago".

Journal of Clinical and Diagnostic Research 9(9): (2015) LC19 – LC26

- King-Robinson, K, Lee MG, Whittle D, Mills M, Hanchard B, Shah S. “Non-Alcoholic Fatty Liver Disease in a Jamaican Patient Population”. *West Indian Medical Journal* (2015) pii:wimj.2015.349.doi:107727/wimj.2015.349.[Epub ahead of print]

REFEREED JOURNAL ABSTRACTS

- Foster S, Omoruyi F, Dilworth L, Bustamante J, Alexander-Lindo R. “The effect of inositol hexakisphosphate (IP6) and inositol combination on renal and hepatic function and antioxidant status in streptozotocin-induced type 2 diabetes mellitus Sprague-Dawley rats”. *West Indian Medical Journal* 65 (1):34
- Foster SR, Alexander-Lindo RL, Dilworth L, Bustamante J, Omoruyi O. “Anti-diabetic properties of combined inositol hexakisphosphate (IP6) and inositol in streptozotocin-induced type 2 diabetes mellitus Sprague-Dawley rats”. “AACC Annual meeting abstracts, B-003. Pp 28
- Facey A, Irving R, Dilworth L. “The proposed use of basal lactate as a biochemical marker for type-2 *Diabetes development*”. Book of abstracts pp25
- Gardner N, Luke G, Wheatley A, De La Haye W, Lowe H, Bahadosingh P, Dilworth L, Salako-Akande A, Morrison E, Asemota H. “Nutritional supplements as a possible safe and cost-effective means of treating neurotransmitter imbalances associated with chronic cocaine dependence”. Book of abstracts pp21
- Foster SR, Dilworth LL, Omoruyi O, Bustamante J, Alexander-Lindo RL. “Inositol Hexakisphosphate (IP6) and Inositol Combination Lowers Fluid and Food Intake in Type 2 Diabetes Mellitus Sprague-Dawley Rats”. *West Indian Medical Journal* Volume 64 (2015) suppl. 4:26
- Kosar, C, Thompson R, Somers G, de Silva N, Fitzgerald K, Steinberg K, Courtney-Martin G, Wales PW, Avitzur Y. “Persistence

of Hepatic Fibrosis in Pediatric Intestinal Failure Patients Treated with Intravenous Fish Oil Emulsion [Group for Improvement of Intestinal Function and Treatment GIFT]”; Division of Pathology; Division of General Surgery; Division of Gastroenterology, Hepathology and Nutrition, The Hospital for Sick Children, Toronto, Canada]

PUBLIC SERVICE

Dr. D. McGrowder

- Vice President, Laboratory Association of Jamaica.
- Member, Accreditation Evaluation Committee, Jamaica National Agency for Accreditation (JANAAC)

Professor B. Hanchard

- Member of Board of Directors, Jamaica Cancer Society
- Cytopathology Consultant, Jamaica Cancer Society

Professor C. Escoffery

- Cytopathology Consultant, Jamaica Cancer Society

Dr. K Bishop

- Cytopathology Consultant, Jamaica Cancer Society

Dr. S. Shirley

- Cytopathology Consultant, Jamaica Cancer Society

Dr. M Bromfield

- Cytopathology Consultant, Jamaica Cancer Society

Dr. T. Gibson

- Cytopathology Consultant, Jamaica Cancer Society

Dr. L Dilworth

- Board Member, North Eastern Health Regional Authority
- Board Member, University Council of Jamaica

Department of Pathology

- Board Member, The Council of Community Colleges of Jamaica

Dr. N. Williams

- Cytopathology Consultant, Jamaica Cancer Society

Dr. J. Jaggon

- Cytopathology Consultant, Jamaica Cancer Society

Dr. S. Chin

- Treasurer, Association of Consultant Physicians of Jamaica

DISTINGUISHED VISITORS TO THE DEPARTMENT

- Professor Robert Riddell, Department of Pathology, Mount Sinai Hospital, Toronto Canada
- Dr. Toon Min, Cytogeneticist, The Royal Marsden Hospital, United Kingdom

AWARDS

Student – Graduate

Aldeam Facey (PhD student) – Postgraduate award scholarship from Graduate Studies and Research, UWI, Mona, J\$800,000.

Students – Undergraduate

Eden Forbes - Pathology/Microbiology Medal (Best Overall Performance)
S.E.H. Brooks Book Prize (Best Overall Performance) Louis Grant
Microbiology Prize