

DEPARTMENT OF MICROBIOLOGY



Professor John F. Lindo, BSc, PhD *UWI*
Head of Department

WORK OF THE DEPARTMENT

ISO accreditation

The Department applied for ISO accreditation through Jamaica National Agency for Accreditation (JANAAC) and awaits assessment. Professor Smikle, the Quality Manager received the document review report and addressed some non-conformances cited in the Management Requirements Documentation. The Technical Requirements were considered acceptable for the most part.

Pitfalls include financing of laboratory tests for which accreditation is being sought and the hiring of a Quality Manager which has been an outstanding request for many years.

National Influenza

The NIC Jamaica under the Directorship of Dr Sandra Jackson participated through the sponsorship of PAHO in the Severe Acute Respiratory Infection (SARI) Surveillance in the Americas (SARInet) meeting which was held in Mexico, April 2015. This meeting was attended by the countries of the Latin America and the Caribbean. The NIC Jamaica presented findings in collaboration with the Jamaica Ministry of Health (MOH) on influenza activity in Jamaica for the year 2014. The fact that the NIC Jamaica and the MOH represented Jamaica as one of the first Caribbean countries to participate in the launch of the new FluID real time reporting platform PAHO was highlighted. The NIC Jamaica participated successfully with 184 laboratories from 144 countries in six WHO regions in the 14th WHO External Quality Assessment Programme for the Detection of Influenza Virus Type A by PCR in June 2015. In keeping with sustainability and capacity building of the NIC, training of Microbiology Medical Technologists and a Laboratory Assistant was successfully completed at the Caribbean Public Health Agency, with the support of the PAHO. The NIC continues to collaborate with the PAHO on weekly publication on Influenza and Other Respiratory Viruses, with the MOH Jamaica on the Weekly Surveillance Bulletin, the CDC and the WHO.

Antibiotic Guidelines

A multidisciplinary team (UWI/UHWI/MOH) under the leadership of Dr Alison Nicholson and which included Dr Camille-Ann Thoms-Rodriguez worked on development of antibiotic guidelines for the University Hospital of the West Indies. This will form the template for similar guidelines to be used in hospitals across Jamaica. The project is supported by a grant from the National Health Fund.

Infection control training video

The Infection Control Committee of the University Hospital of the West Indies which is chaired by Dr Alison Nicholson developed a

training video for the control of healthcare associated infections in Jamaican hospital settings.

World Sepsis Day (WSD) Planning Committee (Jamaica)

September is sepsis awareness month and World Sepsis Day is celebrated on September 13 every year since 2012. Dr Niranjana Kissoon, Vice-Chairman, Global Sepsis Alliance (GSA) and Professor at the University of British Columbia (Canada) invited the wider UWI community in January 2015 to join in the global fight against sepsis. The Department of Microbiology led by Dr Ivan Vickers became the focal point for the World Sepsis Day Planning Committee (Jamaica) – an interdepartmental and multidisciplinary team. The mandate of the local WSD Planning Committee is to STOP SEPSIS and SAVE LIVES by raising public awareness, advocating political support and educating healthcare professionals on early recognition and early resuscitation. Sepsis awareness documents were disseminated to the Ministry of Health, Medical Association of Jamaica, Nurses Association of Jamaica and Pan American Health Organization, among others. A webinar entitled “Sepsis: A Neglected Global Killer” was held on June 4.

SURVEILLANCE REPORTS

The Department of Microbiology continued to submit the following monthly reports to the Ministry of Health.

1. General Virology Report
2. Bacteriology Report
3. Dengue Report
4. Chikungunya Report
5. HIV Report

RESEARCH**International Network of SUE Caribe – University of the West Indies Caribbean Researchers**

Ms Nicole Christian and Dr Camille-Ann Thoms-Rodriguez along with six researchers from the Faculty of Medicine at the University of Cartagena (Dr. Doris Gomez, Dr. Claudio Gomez, Dr. Margarita Ochoa Diaz, Dr. Ronald Maestre, Dr. Jose Pomares, Dr. Javier Bahema, Dr. Angelo Alario Dr. Enrique Mazenett) continued the collaborative work on genetic basis of antibiotic resistance in selected bacteria.

Dr Thoms-Rodriguez gave the keynote address Carbapenem Resistance in *Pseudomonas aeruginosa* and the Emergence of Novel Mechanisms of Carbapenem Resistance at the Third International Symposium on Tropical Medicine and the second meeting of the International Network of Caribbean Researchers (Sue Caribe) held in Cartagena, Colombia, September 1–5, 2014.

- **Collaboration with University College, London and Medical University, Vienna**

The department continued our collaboration with University College London's Centre for Clinical Microbiology with the visit of Mr Simon Westby who continued on the project of molecular epidemiology of zoonotic parasites in dogs and humans. This supplemented the work of Dr John Lindo whose continued collaborative research with the Medical University of Vienna has started to bear fruit although progress was hampered due to lack of access to DNA sequencing at UWI.

- **Collaboration with Case Western Reserve University**

Dr Alison Nicholson and Dr Altreisha Foster-Bentho (UWI/Case Western Reserve University) continued their collaborative research on pneumococcal vaccine coverage in paediatric and adult populations in the Caribbean. The project successfully completed sampling in Jamaica and in Trinidad and samples were being serotyped at the time of writing.

- **Multicentre research collaboration on HIV pathogenesis**

Dr Joshua Anzinger established collaborative studies on HIV pathogenesis with Rush University (Chicago), Albert Einstein College of Medicine and the Brunet Institute. As part of the research collaboration Professor Alan Landay visited the department in order to establish the programme of research which underpins the collaboration.

- **Collaboration with SUNY, Buffalo and Ministry of Health Jamaica**

Following on the signing of a collaborative agreement between the Vice Chancellor UWI and the President of the State University of New York (SUNY) an infectious diseases research and training grant application was drafted by Professor Gene Morse (SUNY at Buffalo) and Professor Lindo as co-PIs for submission to Fogarty, NIH. This would allow mobility of research students between UWI and Buffalo. Further, the Minister of Health, Jamaica and Professor Lindo visited Buffalo where the commitment was given for a tripartite collaboration (UWI/MOH/SUNY) to set up the Jamaica Center for Infectious Diseases Research (JCIDR).

POSTGRADUATE TRAINING

The department has the following postgraduate students on register:

MSc – 12

MPhil – 3

PhD – 2

DM – 5

INCOME GENERATION/GRANTS

Efforts to generate income from the laboratories continue to fail as the services are underfinanced and cannot be offered on a consistent basis.

Grants

PetroCaribe Energy efficiency and Conservation project (Investigators JF Lindo, JJ Anzinger, N Christian) USD247, 600.00.

PUBLIC SERVICE

Professor John Lindo

- Member, Rotary Club of New Kingston

Dr Sandra Jackson

- Member of the Ministry of Health's IHR Technical Advisory Group of Experts
- Member ,Pandemic Preparedness Committee
- Member, American Biological Safety Association

Professor Monica Smikle

- Member of Lions Club of Mona

PAPERS PRESENTED

- R Goffe, K Nelson, L Benjamin-Johnson, AM Nicholson, C Thoms-Rodriguez. Microbe alert! Old foes or new pathogens? *W Indian Med J* 2014; 63 (Suppl. 4) page 40 at the 23rd Annual Faculty of Medical Sciences (FMS) Research Conference and Workshop on Evidence-based Practice – Bridging the Gap between the Bench, Bed and Beyond; November 2014)
- C Thoms-Rodriguez, J Edwards, AM Nicholson. Microbiology sample rejection rates in the pre-analytical stage at the University Hospital of the West Indies for 2014. *W Indian Med J* 2014; 63 (Suppl. 4) page 46. (POSTER PRESENTATION at the 23rd Annual Faculty of Medical Sciences (FMS) Research Conference and Workshop on Evidence-based Practice – Bridging the Gap between the Bench, Bed and Beyond; November 2014)

- P. Ward, AM Nicholson, C Thoms Rodriguez. The prevalence and trends of methicillin-resistant *Staphylococcus aureus* at the University Hospital of the West Indies from January to December 2013. *W Indian Med J* 2014; 63 (Suppl. 4) page 50. (POSTER PRESENTATION at the 23rd Annual Faculty of Medical Sciences (FMS) Research Conference and Workshop on Evidence-based Practice – Bridging the Gap between the Bench, Bed and Beyond; November 2014)
- Goffe R, Nelson K, Benjamin-Johnson L, Roye-Green K. *Morganella morganii* and *Providencia* spp-potential threats in the future. 23 Annual Research Conference and Workshop, Faculty of Medical Sciences, 2014, Mona, Jamaica.
- Thoms-Rodriguez C, Mah-Lee R A, Roye-Green K, Nicholson AM. Epidemiological and bacteriological trends in diabetic foot infections over a ten-year period at the University Hospital of the West Indies. 23 Annual Research Conference and Workshop, Faculty of Medical Sciences, 2014, Mona, Jamaica.
- Christian N A, Reynolds G, Hardie R, Cooke J, Hoilett T, Nicholson A, Roye-Green, Charalambous B, McHugh T. Monitoring and surveillance of Gram-negative pathogens and their antibiograms at the University Hospital of the West Indies during 2011. 23 Annual Research Conference and Workshop, Faculty of Medical Sciences, 2014, Mona, Jamaica.
- Bruce-Mowatt A. Smikle M, Roye-Green K. Prevalence of high – level aminoglycoside resistance in *Enterococci* recovered from clinical specimen at the University Hospital of the West Indies. 23 Annual Research Conference and Workshop, Faculty of Medical Sciences, 2014, Mona, Jamaica.
- IE Vickers, A Robins, K Robinson, M Smikle, DAA Al'deen. The induction of pro-inflammatory cytokine by *Stenotrophomonas maltophilia*. *W Indian Med J* 2014; 63 (Suppl 4): page 32. (ORAL PRESENTATION at the 23rd Annual Faculty of Medical Sciences (FMS) Research Conference and Workshop on Evidence-based Practice – Bridging the Gap between the Bench, Bed and Beyond, Kingston, Jamaica, November 2014)

- IE Vickers, K Harvey, M Brown, K Nelson, M Bullock-DuCasse, JF Lindo. Evaluation of the Dengue DUO® rapid diagnostic kit in Jamaica. *W Indian Med J* 2014; 63 (Suppl 4): page32. (ORAL PRESENTATION at the 23rd Annual Faculty of Medical Sciences (FMS) Research Conference and Workshop on Evidence-based Practice – Bridging the Gap between the Bench, Bed and Beyond, Kingston, Jamaica, November 2014)
- B Josephs, D Taylor, J Carr, W Waugh, V Morris, G Mignott, IE Vickers. Rapid Diagnosis of enteric adenovirus using a commercial enzyme immunoassay at The University of The West Indies. *W Indian Med J* 2014; 63 (Suppl 4): page 26. (POSTER ORAL PRESENTATION at the 23rd Annual Faculty of Medical Sciences (FMS) Research Conference and Workshop on Evidence-based Practice – Bridging the Gap between the Bench, Bed and Beyond, Kingston, Jamaica, November 2014)

PUBLICATIONS

- Aiken WD, Anzinger JJ. Chikungunya Virus Infection and Acute Elevation of Serum Prostate-Specific Antigen. *Case Rep Urol.* 2015;2015:120535. doi: 10.1155/2015/120535. Epub 2015 Jun 17. PubMed PMID: 26167328; *PubMed Central PMCID*: PMC4488081.
- Palmer CS, Anzinger JJ, Zhou J, Gouillou M, Landay A, Jaworowski A, McCune JM, Crowe SM. Glucose transporter 1-expressing proinflammatory monocytes are elevated in combination antiretroviral therapy-treated and untreated HIV+ subjects. *J Immunol.* 2014 Dec 1;193(11):5595-603. doi: 10.4049/jimmunol.1303092
- Palmer CS, Ostrowski M, Balderson B, Christian N, Crowe SM. Glucose metabolism regulates T cell activation, differentiation, and functions. *Front Immunol.* 2015 Jan 22;6:1. doi: 10.3389/fimmu.2015.00001.
- Heslop, OD, De Ceulaer, K, Rainford, L., & Nicholson, A M. (2015). A case of Candida orthopsilosis associated septic arthritis in

a patient with Systemic Lupus Erythematosus (SLE). *Medical Mycology Case Reports*, 7, 1–3.

- Mowatt L, Jackson ST. Chikungunya in the Caribbean: An Epidemic in the Making. *Infect Dis Ther*. 2014 Sep 23
- Johnson N, Chatrani V, Taylor-Christmas AK, Choo-Kang E, Smikle M, Wright-Pascoe R, Phillips K, Reid M. Population Reference Values and Prevalence Rates following Universal Screening for Subclinical Hypothyroidism during Pregnancy of an Afro-Caribbean Cohort. *Eur Thyroid J*. 2014 Dec;3(4):234-9. doi: 10.1159/000367654.
- Reynolds-Campbell G, Nicholson A, Christian N, Hardie R, Cook J. Aminoglycoside Resistance in Clinical Isolates of Gram Negative Bacilli at the University Hospital of the West Indies, Jamaica: Comparison of Two Time Periods. *West Indian Med J*. 2015 Feb 12;64(2). doi: 10.7727/wimj.2014.040.
- Pinkney JA, Nagassar RP, Roye-Green KJ, Ferguson T. Abiotrophia defective endocarditis. *BMJ Case Rep*. 2014 Dec 17; 2014. pii: bcr2014207361. doi: 10.1136/bcr-2014-207361.
- Todd CD, Reyes-Batlle M, Martín-Navarro CM, Dorta-Gorrín A, López-Arencibia A, Martínez-Carretero E, Piñero JE, Valladares B, Lindo JF, Lorenzo-Morales J. Isolation and genotyping of *Acanthamoeba* strains from soil sources from Jamaica, West Indies. *J Eukaryot Microbiol*. 2015 May-Jun;62(3):416-21. doi: 10.1111/jeu.12197.
- Todd CD, Reyes-Batlle M, Piñero JE, Martínez-Carretero E, Valladares B, Lindo JF, Lorenzo-Morales J. Balamuthia mandrillaris therapeutic mud bath in Jamaica. *Epidemiol Infect*. 2015 Jul; 143(10):2245-8. doi: 10.1017/S0950268814002842.
- Vickers IE, Harvey KM, Brown MG, Nelson K, DuCasse MB, Lindo JF. The performance of the SD BIOLINE Dengue DUO® rapid immunochromatographic test kit for the detection of NS1 antigen, IgM and IgG antibodies during a dengue type 1 epidemic in Jamaica. *J Biomed Sci*. 2015 Jul 16;22:55. doi: 10.1186/s12929-015-0164-9.