Use of genomics in public health

by

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The antimicrobial prescribing trends in Hong Kong public hospitals: a 16-year study

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Date: **16 November 2017 (Thursday)**
Time: **2:00 p.m. - 3:00 p.m.**
Venue: **Mrs Chen Yang Foo Oi Telemedicine Centre (MTC), 2/F, William M.W. Mong Block, 21 Sassoon Road, Pokfulam, Hong Kong**

These seminars are organized by the HKU School of Public Health with support from the HKU-USydney Strategic Partnership Fund.

ABSTRACTS

Use of genomics in public health

Genomics has progressed to the stage where many jurisdictions are using it as a routine diagnostic and public health tool. I will discuss the ways in which the use of genomics has progressed – from outbreak investigation to studying the evolution of antimicrobial resistance at a population level. Finally I will look at some of our more novel work, including the use of genomics for global surveillance at the Hajj pilgrimage to the use of functional genomics to identify potential future drug targets.

Dr Grant Hill-Cawthorne

Dr Grant Hill-Cawthorne is a medical microbiologist and the Senior Lecturer in Communicable Disease Epidemiology at the Marie Bashir Institute and School of Public Health, University of Sydney. After completing medicine and medical training at the University of Cambridge he went to Saudi Arabia where he set up a laboratory specialising in pathogen genomics. His PhD was in the use of genomics for public health microbiology and as part of this he led a large worldwide study on TB genomics as well as studies on total drug resistant TB in South Africa. His ongoing research is on the use of molecular epidemiology for public health policy, particularly focusing on emerging infections, drug resistance and the impact of mass gatherings. Grant is the unit coordinator for the communicable disease units within the Master of International Public Health and Master of Public Health. He has also co-developed a new degree: the Master of Health Security.

The antimicrobial prescribing trends in Hong Kong public hospitals: a 16-year study

Antimicrobial resistance (AMR) is a global health concern. One of the reasons for the emergence of resistance is inappropriate prescribing and improper use of antibiotics. If this crisis is not tackled, it is estimated that by year 2050, 10 million people would die each year due to AMR. Therefore, appropriate use of antimicrobials is encouraged in attempt to contain the rise of AMR. In addition, antimicrobial stewardship programmes are implemented to provide guidance on proper antimicrobial use. Understanding the prescribing patterns not only provides valuable data to study the relationship between antimicrobial use and resistance but also help evaluate adherence to guidelines and policies. We obtained data on in-hospital use of antimicrobials from year 2000 through 2015 from the Hong Kong Hospital Authority, which manages all public hospitals that covers 77% of all hospital admissions in Hong Kong. Among 37 million records in which antimicrobials were dispensed, the most frequently use antimicrobials in hospital admissions were augmentin, metronidazole and cefuroxime. Pneumonia was the most common diagnosis associated with antimicrobials use. Preliminary findings will be presented and discussed in this seminar.

Dr Celine Chui

Dr Celine Chui is currently a Post-doctoral Fellow in the School of Public Health at the University of Hong Kong. Dr Chui obtained her PhD degree from the Department of Pharmacology and Pharmacy at The University of Hong Kong in 2017. Her PhD work focused on the safety of oral fluoroquinolones using healthcare databases. She had led the design and analysis of several studies using databases from Hong Kong, Taiwan, and the United Kingdom. Her current research interest is on antimicrobial use and antimicrobial resistant bacterial carriage in the community.