Microbiology

INFECTION CONTROL IN THE 21ST CENTURY

Stephanie Dancer

Hairmyres Hospital, East Kilbride, Lanarkshire, Scotland

There are enormous challenges facing infection prevention and control in the 21st century. Countries across the world are confronted by ageing populations, restricted healthcare resources, demands for modern medicine and increasing antimicrobial resistance. Problem pathogens in the community are set to invade hospitals and those generated in hospitals are returned to the community. Continued consumption of antimicrobial agents is promoting and consolidating resistance to nearly all classes of drugs. Novel, known and resistant pathogens arising in one locality rapidly spread across the 'global village' courtesy of migration, conflict and international travel. We are facing unprecedented threats to the management of infection all over the world. This presentation will summarise the escalating challenges for infection control along with mention of current and future strategies for dealing with these. Despite the lack of evidence underpinning microbial transmission, basic hygiene practices remain the basis for protecting our patients. The science of infection prevention and control is set to become a key component in healthcare delivery. As we prepare for a world without antibiotics, research, education and policies on screening, isolation, cleaning and infection control have never been more important. Creative thinking, initiative and courage will be required for future management of infection in hospitals and communities everywhere.

CHARACTERISING A *RALSTONIA* OUTBREAK WITH A NOVEL SOURCE

Elizabeth Catchpoole¹, John Gerrard^{1,3}, Claire Heney^{1,3}, Hanna E. Sidjabat^{2,3}, Petra Derrington^{1,3}

¹Gold Coast University Hospital, and ²University of Queensland Centre for Clinical Research, Qld, Australia;
³Primary investigator

Ralstonia species causing hospital associated outbreaks in immunocompromised patients have been tracked to a tremendously diverse range of sources including ventilation devices, medications and cleaning products. The detection of 8 cases of *Ralstonia mannitolilytica* in a hospital in South-East Queensland over a 6 month period in 2014 lead to the identification of additional, potentially linked cases in other hospitals in Queensland and South Australia. The analysis of case reports initially suggested IV propofol as a potential source for this cluster. In depth environmental screening and rapid rep-PCR typing in the research setting by the investigators allowed to identification of true cluster members and lead to the identification of a potential novel source for *Ralstonia* sp. outbreaks in vulnerable patients.

MEASLES IN NSW, 2014: AN OUTBREAK IN THE ERA OF ELIMINATION

Meredith Wickens, Paula Spokes, Nathan Saul, Vicky Sheppard

Health Protection, NSW, Australia

At the third annual meeting of the Regional Verification Commission (RVC) for Measles Elimination in the Western Pacific Region (WPR) in March 2014, Australia was found to have supplied sufficient evidence to support the elimination of endemic measles virus.

Concurrently, the number of confirmed cases of measles in NSW was increasing. In the preceding months, a number of importations of measles virus had occurred, largely in travellers visiting to and from the Philippines, where a large outbreak was ongoing. In February and March of 2014, a cluster of 9 potentially locally acquired cases was identified on the NSW central coast. During the investigation, epidemiological evidence was used to link a total of 13 cases in this cluster, including 5 cases of secondary transmission across a number of jurisdictions, to a single importation from the Philippines. Measles virus genotyping was used to confirm this finding.

This presentation will provide insight into the epidemiology of measles in NSW prior to 2014, discuss the factors that led to this outbreak and the interplay between epidemiological and laboratory evidence in the outbreak investigation. In addition, it will examine how these factors contribute to the ongoing maintenance of measles elimination in NSW and Australia.

INFECTION CONTROL ISSUES OF BUILDING AND CONSTRUCTION IN HEALTH CARE FACILITIES

Glenys Harrington

Infection Control Consultancy (ICC), Australia

Improved medical technologies, supportive care for high risk patient groups, advances in transplant medicine and therapies and increased use of immunosuppressive therapies has resulted in an increasing proportion of severely immunocompromised patients being cared for in acute and non-acute care healthcare settings.

In Australia healthcare facilities are upgrading, consolidating and shifting a number of services to ambulatory and day care settings. These changes are resulting in an unprecedented level of construction and renovation.

In addition healthcare facilities are often situated on landlocked sites, on major inner city roads and can include multiple buildings of various ages hence much of the construction and renovation activity is occurring in close proximity to vulnerable patient groups or high risk areas (i.e., CSSD, laboratories, operating suite services).