

**Feature:**

Vancomycin resistant enterococcus (VRE) in Hong Kong
Hepatitis C in Hong Kong, 2008 to 2011

**LENS ON CHP**

Above: Renowned overseas and local speakers shared their experience in the workshop on prevention and control of Legionnaires' Disease in healthcare settings.

NEWS

Workshop on Control and Prevention of Legionnaires' Disease in healthcare settings, December 6, 2011

A workshop on prevention and control of Legionnaires' Disease (LD) in healthcare settings was jointly held by Infection Control Branch, Centre for Health Protection (CHP), Infectious Disease Control Training Centre, Hospital Authority and Chief Infection Control Officer's Office, Hospital Authority on December 6, 2011. International faculties from Singapore, United Kingdom and United States and local experts shared their valuable experience on a wide range of subjects related to LD, which comprised epidemiological investigation, environmental sampling and monitoring of cooling towers and water systems, laboratory diagnosis and clinical management, as well as policy development on control and prevention of LD. There were a total of 125 participants from different sectors and the workshop was well received.

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Vancomycin resistant enterococcus (VRE) in Hong Kong

Reported by DR KW CHOI, Associate Consultant, DR HONG CHEN, Associate Consultant, and DR TY WONG, Head, Infection Control Branch, CHP.

Enterococcus is widespread in nature and forms part of the normal flora of gastrointestinal tract of human and animals. It may occasionally cause infections in humans and manifest as urinary tract infection, wound infection, catheter associated bacteraemia and endocarditis. Vancomycin is the antibiotic commonly used to treat *Enterococcus* that is resistant to first line antibiotics. Indiscriminate use of antibiotics in animal husbandry and humans may provide the selective pressure for vancomycin resistant *Enterococcus* (VRE) to emerge. In the healthcare setting, it is mainly spread by contact of VRE as a result of faecal contamination.

VRE (especially vancomycin resistant *E. faecium*) is endemic among hospitals in the United States and many European countries. Based on currently available evidence, VRE in Hong Kong manifests as small/medium sized clusters occurring in a few hospitals. More VRE isolations were detected over the past three years. The VRE strains were detected mostly in asymptomatic hospital in-patients as a result of active screening for intestinal carriage among close contacts of index cases. Most of the strains belonged to clonal cluster 17 by multi-locus sequence typing (MLST), which is recognized globally to be the hospital-associated clonal cluster.

Key strategies to control VRE in Hong Kong should focus on prompt recognition of cases coupled with targeted infection control measures in hospitals to prevent spread. To this end, the Hospital Authority has put in place a comprehensive infection control programme in respect of VRE, namely isolation and contact precautions for all cases of VRE, enhanced infection control measures, timely reporting and alert by electronic tagging, and contact screening. For hospitals with clustering of VRE, additional control measures have been attempted, which included admission and regular screening of patients for VRE at targeted clinical areas, enhancement on infection control measures for practices and procedures associated with risk of transmission of VRE (e.g. handling of faecal material), strengthening of environmental disinfection and exploration on use of new disinfection technologies (e.g. hydrogen peroxide vapour, UV light).

Residential Care Homes for the Elderly (RCHE) have a special place in view of frequent admissions and discharges of patients between hospitals and RCHE. Due to a prolonged carrier state, indefinite isolation of VRE carriers in hospitals is not a practical option, especially when their numbers become appreciable. Prolonged hospital isolation on these otherwise medically fit for discharge patients is not without

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undesirable consequences to the patients themselves. Overseas experience has shown that with adequate infection control practice, the chance of VRE transmission between residents in long term care facilities like RCHE can be minimized. For example, in the 'Guidelines for the Management of Patients with VRE colonization/Infection' by Government of South Australia and Society of Health Epidemiology of America (SHEA) Position Paper on 'Antimicrobial Resistance in Long-Term-Care Facilities (LTCF)', both suggest that admission to Residential Care Facility should not be denied on the basis of VRE status alone. Standard precautions will be applied for all residents. VRE carriers with higher risk of transmission (e.g. uncontrolled faecal incontinence, diarrhoea or discharging wounds that cannot be contained) can be managed with modified contact precautions.

Presently in Hong Kong, newly discovered VRE carriers in hospitals who come from RCHE will undergo testing and they can be discharged from hospital after clearance of VRE carriage. For prolonged carriers of VRE medically fit for discharge back to RCHE, a joint assessment by Infection Control Branch (ICB), CHP; the Hospital Infection Control Team (HICT) and Chief Infection Control Officer's Office (CICO), Hospital Authority will be made based on the status of the patient and the settings of RCHE to determine a whether the RCHE has the requisite infection control measures in place to care for the patient. If the RCHE is assessed to be capable, the VRE carrier may be discharged back to the RCHE where he/she comes from. Continuous support will be provided by a team of medical and nursing staff at ICB, CHP in association with Community Geriatric Assessment Team (CGAT) to RCHEs concerned.

Hepatitis C in Hong Kong, 2008 to 2011

Reported by DR ADA LIN, Senior Medical and Health Officer, Special Preventive Programme, Public Health Services Branch, and DR YH TAM, Medical Officer, Surveillance and Epidemiology Branch, CHP.

Acute hepatitis C is one of the viral hepatitis which is statutorily notifiable in Hong Kong and the main route of transmission is parenteral. From January 2008 to October 2011, a total of 22 laboratory confirmed cases of acute hepatitis C were recorded by Department of Health (DH), with 3 to 11 cases annually. They were 17 males and 5 females aged between 16 and 79 years (median = 47.5 years). Majority of them (86%) were ethnic Chinese. Most (86%) were locally acquired infection (Figure 1). Thirteen (59%) of them required hospitalisation for the infection for 1 to 37 days (median = 5 days) and no fatal case was reported. Among the 22 cases, five (23%) reported history of injecting drug use. No particular risk factor or underlying illness could be identified for the other 17 cases. All cases were sporadic cases with no epidemiological linkage identified.

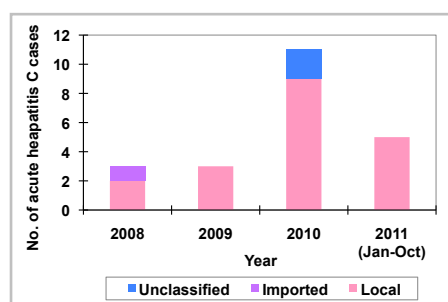


Figure 1 - Annual number of acute hepatitis C cases by importation status, January 2008 to October 2011.

As most hepatitis C virus (HCV) infection presents as asymptomatic acute or chronic infection, notification of acute hepatitis C could only represent a part of its local epidemiology. Hong Kong Red Cross Blood Transfusion Service (HKRCBTS) introduced testing for antibody to HCV (anti-HCV) for all donated blood since 1991. The prevalence of anti-HCV which

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Childhood Immunisation Programme – new 13-valent pneumococcal conjugate vaccine

From December 5, 2011, a new 13-valent pneumococcal conjugate vaccine (PCV13) has been provided free of charge to eligible children at the Department of Health's Maternal and Child Health Centres under the Government's Childhood Immunization Programme (CIP), replacing the 10-valent vaccine (PCV10). PCV13 contains capsular antigens of 3 more serotypes of pneumococci (3, 6A and 19A) in addition to the 10 serotypes contained in PCV10. After considering the immunogenicity and safety profile of PCV13, overseas experience and recent trends in local surveillance data, the Scientific Committee on Vaccine Preventable Diseases opines that PCV13 is preferable over PCV7 and PCV10 for use in CIP. Children who have been receiving PCV10 can switch directly to PCV13. The immunisation schedule remains unchanged, i.e. three primary doses at two, four and six months of age followed by one booster dose at 12 to 15 months.

To prevent invasive pneumococcal diseases in young children, pneumococcal conjugate vaccine (PCV 7) had been incorporated into the CIP since September 2009 and was replaced by PCV 10 since October 2010. As no pneumococcal vaccine covers all known serotypes of pneumococci, members of public are advised to maintain personal and environmental hygiene to prevent infection.

A case of tetanus

CHP recorded a case of tetanus affecting an 89-year-old man on November 29, 2011. He slipped and fell in November while he was in Guangdong Province and injured his left calf. He developed swelling in the left leg followed by trismus and neck stiffness around November 21. He sought medical advice in Mainland China on November 27. He was managed as tetanus and tetanus immunoglobulin and tetanus toxoid were given on November 28. The patient was then transferred to a public hospital in Hong Kong on

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November 29, where debridement was performed. His vaccination history was unknown. His condition deteriorated and he finally succumbed on December 7.

CA-MRSA cases in November

In November 2011, CHP recorded 73 cases of community-associated methicillin resistant *Staphylococcus aureus* (CA-MRSA) infection, affecting 45 males and 28 females aged between 4 days and 93 years (median 35 years). Among them were 44 Chinese, 10 Filipinos, 3 English, 2 Pakistanis, 2 Indians, 1 American, 1 Nepalese, 1 Japanese, 1 Filipino-Chinese, 1 French and 7 of unknown ethnicity. The isolates of all 73 cases exhibited Panton-Valentine Leucocidin (PVL) gene and were positive for SCCmec type IV (47) or V (26). Among the cases, one 8-year-old boy presented with fever and cough and was diagnosed to have pneumonia. His sputum was positive for CA-MRSA. He was treated with antibiotics and has recovered. Another 65-year-old man presented with abscess over the lower lip and fever followed by pneumonia. His wound swab and blood culture were both positive for CA-MRSA. He was treated with antibiotics and was in stable condition. All other cases presented with skin or soft tissue infections and were in stable condition. Among the cases, two were father and son, two were mother and son and one was the husband of a case confirmed in October 2011.

may indicate current or past infection in new asymptomatic blood donors was low (<0.1%) over the past ten years. Males aged 50 years or above were more commonly affected.

Since 2003, laboratory surveillance for HCV in Hong Kong was enhanced to monitor the trend of anti-HCV among selected population groups in the local community, including blood donors from HKRCBTS and selected in-patients from the Princess Margaret Hospital (PMH) and Prince of Wales Hospital (PWH, joined since 2005). Unlike chronic hepatitis B virus (HBV) infection which is more prevalent across the whole local community, HCV infection appears to be prevailing in isolated populations with higher risk of percutaneous exposure to blood. Among the selected in-patients tested in PMH and PWH between 2008 and 2010, injecting drug users had the highest overall anti-HCV prevalence rate (57.9%), comparing with other high risk groups such as post-renal transplant patients (3.6%), patients on haemodialysis or peritoneal dialysis (1.8%), and haematology patients requiring chemotherapy (1.5%) (Figure 2).

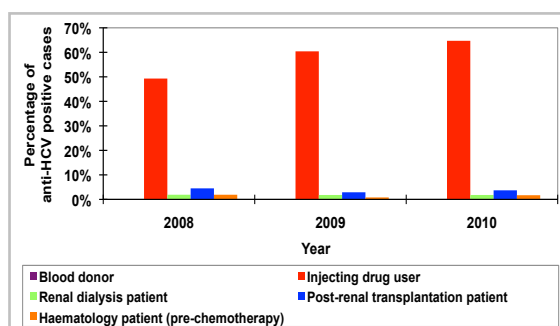


Figure 2 - Proportion of selected groups tested positive for anti-HCV from the laboratory surveillance from 2008 to 2010 (including HKRCBTS and the Departments of Microbiology of PMH and PWH).

Among HIV/AIDS patients receiving medical care in DH, the prevalence of anti-HCV ranged from 7% to 24% in the past decade, among which the prevalence of anti-HCV was highest (99%) in those contracted HIV via injecting drug use. A local seroprevalence study performed in 2006 also showed that up to 85% of 567 injecting drug users attending methadone clinics were positive for anti-HCV¹.

While there has been recent overseas data supporting sexual transmission of HCV among HIV-infected men who have sex with men², the anti-HCV prevalence of subjects who contracted HIV via homosexual or bisexual contact in the DH HIV/AIDS patient cohort remained below 2% from screening since 2005. Local genotypic studies identified that most HCV-infected cases in Hong Kong were infected with genotypes 1b or 6a and the latter genotype was most commonly found in intravenous drug users³.

There is no available vaccine for hepatitis C. Prevention is targeted towards high risk group such as injecting drug users to reduce risky behaviours for the parenteral transmission of the infection. The HKRCBTS safeguards blood safety by its donor deferral and blood screening measures. Adherence to standard precautions in health care settings, as well as promotion of safer sex practice also serves as preventive measures for transmission of HCV in the community.

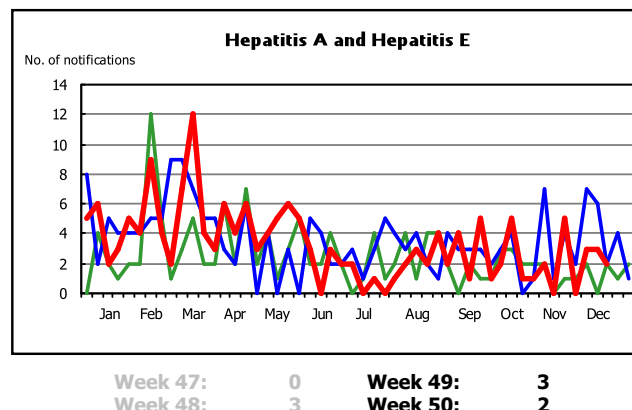
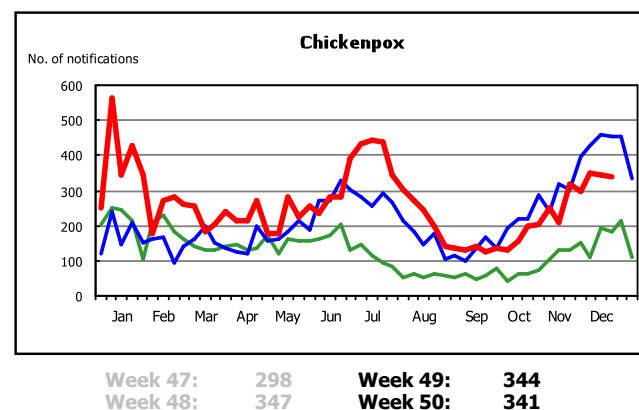
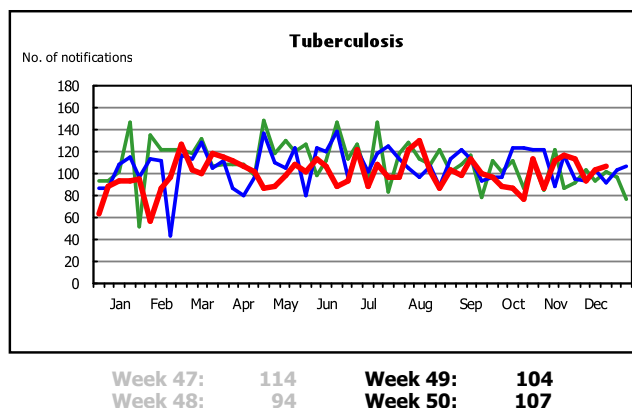
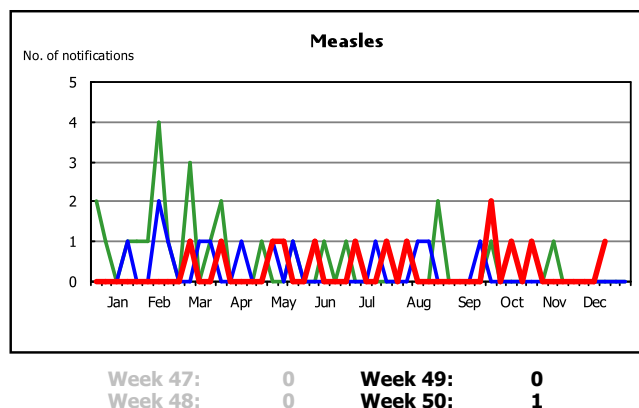
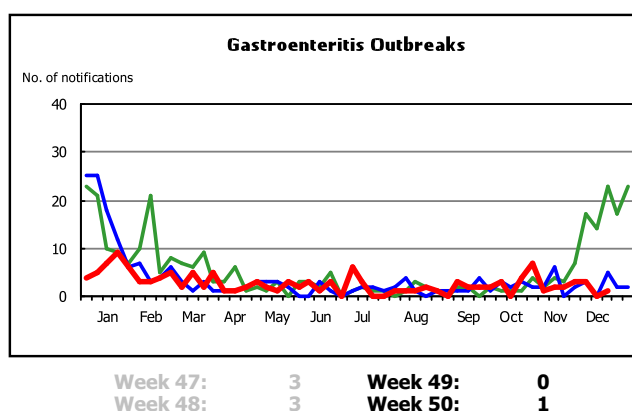
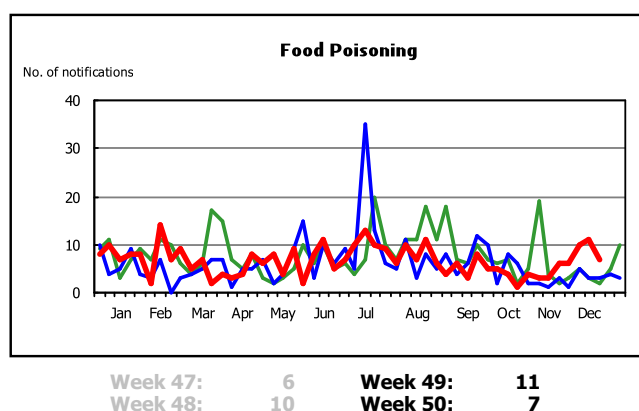
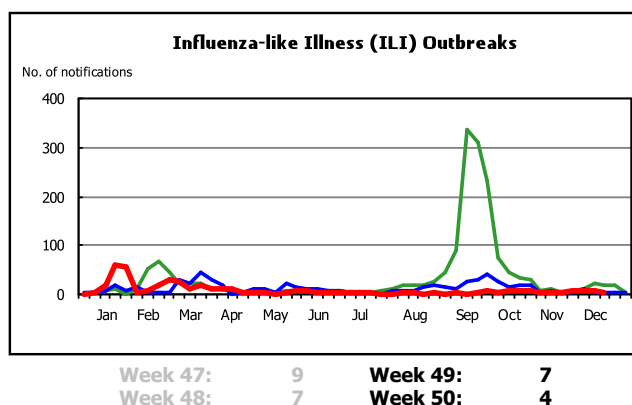
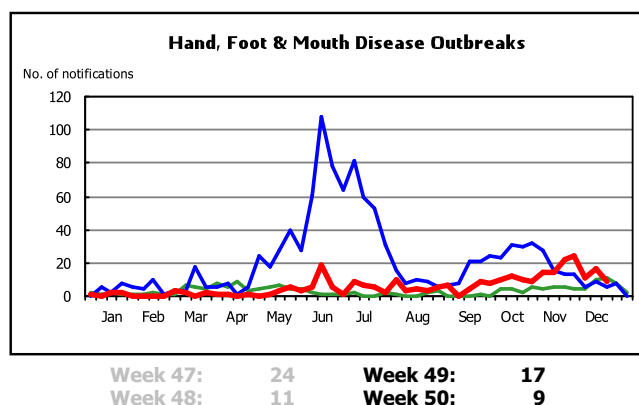
Discovered in 1989, hepatitis C virus (HCV) is a single-stranded RNA virus of the family *Flaviviridae* and is classified into six major genotypes (types 1 to 6) and more closely related subtypes. In acute HCV infection, less than 30% of the cases are symptomatic (i.e. acute hepatitis C) and about 80% will progress to chronic infection which may lead to cirrhosis or liver cancer. It was reported that chronic HCV infection accounted for 3-6% cases of liver cancer in Hong Kong, while chronic co-infection with HBV and HCV accounted for another 0.4-3% cases⁴.

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SUMMARY OF SELECTED NOTIFIABLE DISEASES AND OUTBREAK NOTIFICATIONS (WEEK 49 - WEEK 50)

2009 2010 2011



Data contained within this bulletin is based on information recorded by the Central Notification Office (CENO) and Public Health Information System (PHIS) up until December 10, 2011. This information may be updated over time and should therefore be regarded as provisional only.