



Feature:

Scarlet fever activity in Hong Kong remains high but has stabilized
 Scientific recommendations on influenza vaccination for 2011/12 season

LENS ON CHP



Above: CHP conducted an exercise code-named "Blue Moon" on June 30, 2011, to assess contingency operational plans of the Central Notification Office (CENO).

NEWS

CA-MRSA cases in June

In June 2011, CHP recorded 59 cases of community-associated methicillin resistant *Staphylococcus aureus* (CA-MRSA) infection, affecting 37 males and 22 females aged between 10 months and 73 years (median: 36 years). Among them were 33 Chinese, 11 Filipinos, 5 Caucasians, 2 Africans, 2 Indians, 2 Pakistani and 4 of unknown ethnicity. The isolates of all 59 cases exhibited Panton-Valentine Leucocidin (PVL) gene and were positive for SCCmec type IV (39) or V (20). There were two fatal cases. The first one was a 55-year-old man who presented with painful facial swelling. He was diagnosed to have right pre-auricular abscess which was complicated by sepsis, diabetic ketoacidosis, rhabdomyolysis and bleeding gastric ulcer. Culture of blood and wound swab grew CA-

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Scarlet fever activity in Hong Kong remains high but has stabilized

Reported by Respiratory Disease Office, Surveillance and Epidemiology Branch, and Microbiology Division of the Public Health Laboratory Services Branch, CHP.

Scarlet fever (SF) activity in Hong Kong remains high but the weekly number of newly reported SF cases has stabilized (Figure 1).

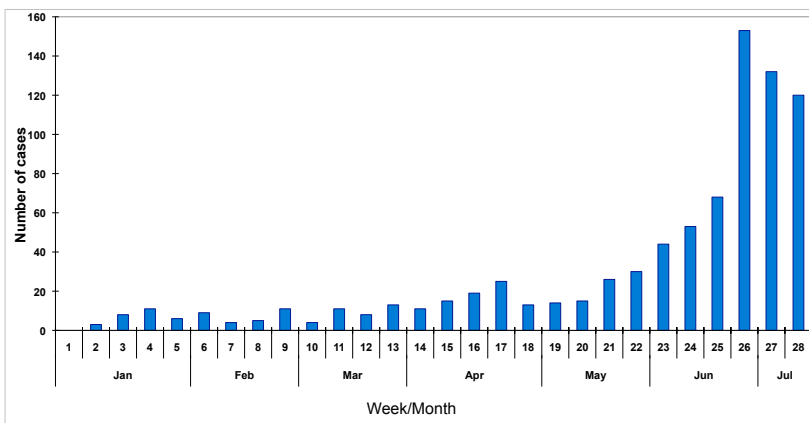


Figure 1 - Number of cases of scarlet fever by week, 2011 (up to July 9, 2011).

As of July 9, a total of 831 SF cases have been recorded so far this year, compared to 187 and 128 cases in the whole year of 2009 and 2010, respectively. The weekly number of newly reported cases seems to have peaked at week 26 (week ending June 25) and has decreased for 2 consecutive weeks since then. In the week ending July 9, 120 reports of new cases were received. There were no new fatal cases since the two deaths reported on May 30 and June 19, 2011, respectively. The case fatality rate stood at 0.2% to 0.3%, which is comparable with literature findings.

Majority (91%) of the cases were children under 10 years old, with highest numbers among 4-7 years of age. The male to female ratio was around 1.5: 1. 57% of the cases required hospitalization. Only a small fraction (8%) of all SF cases was associated with school clusters. Up to July 9, 2011, 24 schools clusters have been recorded (18 kindergartens/child care centres, 5 primary schools, 1 special residential child care centre). The number of persons affected in each cluster varied from 2 to 7.

In addition to testing Group A streptococcus (GAS) isolates obtained from outpatient samples (reported in CD Watch Volume 8, Number 13, June 12 - 25, 2011), the Microbiology Division of the Public Health Laboratory Services Branch (PHLSB), CHP has conducted typing tests on GAS isolates from 53 patients among notified SF cases. The bacterial strains comprised the following *emm* types (number of patients): type 12 (44), type 1 (7), type 3 (1) and type 22 (1). Among all *emm* type 12 strains isolated in 2011 subjected to pulsed-field gel electrophoresis so far, at least

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14 distinguishable patterns were exhibited. PCR testing on toxin genes (including *speA*, *speB*, *ssa*, etc.) also showed a multiclonal picture. Upsurge of infections by strains of a multiclonal nature is possibly a result of mobile genetic elements. Further analysis was performed on GAS strains obtained this year as well as during 2008-2010 with respect to an insertion sequence discovered by the Department of Microbiology of the University of Hong Kong (HKU)¹. Preliminary results showed that among 172 GAS strains of different *emm* types isolated this year, 109 (63%) harbored the insert, while the remainder did not. In addition, the insert was found in 63% (26/41) of GAS strains of different *emm* types isolated in 2008 to 2010, suggesting that gene transfer events had taken place before 2011. The discovery of the insertion sequence is a significant event and its contribution to the upsurge of GAS infections this year will be further investigated. CHP will continue to monitor the situation and more tests on historical isolates are being carried out.

Continued vigilance against SF is vital because even though the daily number of newly reported cases seems to have stabilized, it remains almost ten times above the normal baseline.

To prevent infection, members of the public are advised to maintain good personal and environmental hygiene; keep hands clean and wash hands properly, especially after being dirtied by respiratory secretions; cover the nose and mouth while sneezing or coughing, dispose of nasal and mouth discharge properly, and maintain good ventilation.

¹HKU Press release on June 20, 2011, "HKU Finds Genetic Mutation in *Streptococcus Pyogenes* Possible Cause for the Recent Community Outbreak of Scarlet Fever", http://www.hku.hk/press/news_detail_6505.html (Accessed on July 12, 2011)

Scientific recommendations on influenza vaccination for 2011/12 Season

Reported by DR PW CHIM, Medical Officer, Vaccine Preventable Disease Office, Surveillance and Epidemiology Branch, CHP.

The Scientific Committee on Vaccine Preventable Diseases (SCVPD) under the Centre for Health Protection (CHP) has recently reviewed and updated the recommendations on the use of seasonal influenza vaccine for the coming influenza season (2011/12).

Given influenza vaccines are safe and effective and that serious influenza infection occurs even in healthy individuals, seasonal influenza vaccination is suitable for personal protection against clinical influenza for all persons except those with known contraindications. Members of the public can also consult their family doctors to receive seasonal influenza vaccination for personal protection.

The SCVPD recommends the following target groups with higher priority for seasonal influenza vaccination:

- Elderly persons living in residential care homes
- Long-stay residents of institutions for the disabled
- Persons aged 50 years or above
- Persons with chronic medical problems
- Health care workers
- Children 6 months to 5 years
- Pregnant women
- Poultry workers
- Pig farmers and pig-slaughtering industry personnel

These target groups have been determined based on a range of scientific considerations taking into account the latest local disease epidemiology and international experience. Apart from the target groups recommended in the 2010/11 season, people aged 50-64 and obese individuals with Body Mass Index (BMI) ≥ 30 are recommended as priority target groups for influenza vaccination in the 2011/12 season, based on updated data obtained during the 2010/2011 influenza season.

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MRSA. His condition deteriorated and he finally succumbed. The second case was a 73-year-old woman who presented with headache and loss of consciousness followed by respiratory distress. She was diagnosed to have stroke and pneumonia. Sputum culture grew CA-MRSA. Her condition also deteriorated and she finally passed away. One 71-year-old man presented with shortness of breath, abdominal and back pain. He was diagnosed to have pneumonia and septicaemia. Blood, sputum and urine specimens grew 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, a 37-year-old woman was the mother of a case confirmed in May 2011.

A local case of listeriosis

On June 27, 2011, CHP recorded a sporadic local case of listeriosis. An 80-year-old man with history of illness was affected. He presented with fever since June 23 and was admitted to a public hospital on the following day. Blood culture yielded *Listeria monocytogenes*. He has already been discharged in stable condition. He had no history of travelling outside Hong Kong during the incubation period. His household contact was asymptomatic.

A case of acute Q fever

On June 21, 2011, CHP recorded a case of acute Q fever affecting a 47-year-old woman. She had fever, chills and headache since March 30 and was admitted to a public hospital on April 6. She was found to have mild deranged liver function. Her symptoms improved on a course of antibiotics and she was discharged on April 19. Sera taken on April 14 (Day 16 of symptoms onset) and June 10 (Day 73 of symptoms onset) both showed raised antibody titre (1600) for Phase 2 *Coxiella burnetii* by polyvalent immunofluorescence assay, confirming the diagnosis of acute Q fever infection. Her co-workers and family members were asymptomatic. She did not recall recent contact with animals before onset.

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Table 1 - Age-specific cumulative incidences of ICU or fatal cases with laboratory confirmed influenza (per 100,000 population in the age group) by chronic disease status in the 2010-2011 winter influenza season (January 24 – March 31, 2011).

Age group (years)	2011 ICU or fatal cases		
	With chronic disease (cumulative incidence per 100,000 population)	Previously healthy (cumulative incidence per 100,000 population)	Total (cumulative incidence per 100,000 population)
0-5	6 (121.5)	2 (0.7)	8 (2.8)
6-11	4 (40.0)	1 (0.3)	5 (1.5)
12-18	7 (39.0)	1 (0.2)	8 (1.4)
19-34	4 (8.8)	7 (0.4)	11 (0.7)
35-49	14 (8.4)	6 (0.4)	20 (1.1)
50-64	31 (7.6)	19 (1.8)	50 (3.3)
65 or above	19 (3.2)	2 (0.6)	21 (2.3)
Total	85 (7.2)	38 (0.6)	123 (1.7)

ICU: Intensive Care Unit

In the 2010/2011 influenza season predominated by pandemic influenza A (H1N1) 2009 (pH1N1), also known as Human Swine Influenza, a significant proportion of Intensive Care Unit (ICU) or fatal influenza cases (41%) affected persons aged 50-64 years, exceeding that of elders aged 65 years or above (17%). 41% influenza-related deaths affected persons aged 50-64 years. In contrast, during previous influenza seasons (except summer 2009 which was also predominated by pH1N1), about 85% of fatal cases occurred in the elderly. The incidence of ICU or fatal influenza cases in healthy individuals aged 50-64 years was 1.8 per 100,000 population which was higher than the corresponding incidences in other age groups (Table 1). It is important to note that persons with pre-existing chronic diseases had much higher rates of ICU or fatal outcome across all ages.

Besides, individual with BMI ≥ 30 is now regarded as a medical condition recommended for influenza vaccination. Current evidence suggested that obesity is an independent risk factor for severe pH1N1 infection. During the period of 2009 pH1N1 pandemic, out of the 102 severe cases in Hong Kong who did not have pre-existing chronic disease, eight (7.8%) had BMI ≥ 30 . Out of the 23 fatal cases who did not have pre-existing chronic disease, three (13%) had BMI ≥ 30 . Statistical tests showed the percentage of previously healthy severe and fatal cases with BMI ≥ 30 were significantly higher than the general population. The findings were consistent with studies from France, Spain, the United Kingdom and the United States which showed that obesity, after adjustment of underlying chronic illnesses, was associated with severe pH1N1 infection such as ICU utilization or death.

The 2011/12 seasonal influenza vaccine (Northern Hemisphere winter) comprises an A/California/7/2009 (H1N1)-like virus; an A/Perth/16/2009 (H3N2)-like virus; and a B/Brisbane/60/2008-like virus as recommended by the World Health Organization. The compositions are the same as those used in 2010/11 seasonal influenza vaccine (Northern Hemisphere winter) and those in 2010 and 2011 seasonal influenza vaccine (Southern Hemisphere winter). The same H1N1 component was also used in the 2009 human swine influenza vaccine.

In Hong Kong, there are two kinds of seasonal influenza vaccines, namely the inactivated trivalent influenza vaccine (TIV) and the live attenuated influenza vaccine (LAIV). Most TIV are given via intramuscular injection and are registered for use in individuals 6 months of age or above (depending on the product). LAIV is registered for use among healthy non-pregnant people 2-49 years of age and should not be given to people with underlying medical problems that may predispose them to complications following influenza infection. Both TIV and LAIV are effective and safe.

For TIV, a single intramuscular or intradermal dose is the standard regime in persons 9 years or above (depending on the product). Children below 9 years who have received one or more doses of TIV or LAIV in or before 2010/11 season are recommended to receive one TIV dose. For vaccine-naïve children aged below 9 years, two doses with an interval of 4 weeks are recommended. Half the adult dose is recommended for children below 3 years. For LAIV, one dose should be administered by the intranasal route to children aged below 9 years with previous LAIV or TIV dose and persons 9 through 49 years of age. Vaccine-naïve children aged below 9 years should receive two LAIV doses administered with an interval of 4 weeks. Healthy, non-pregnant persons aged 2-49 years can choose to receive either TIV or LAIV if the person has no contraindication to the vaccine. For children requiring 2 seasonal influenza vaccine doses, the first and second doses do not have to match; TIV or LAIV can be used for either dose.

Besides receiving vaccination, other measures to prevent influenza are also important:

- Wear a mask if having symptoms of respiratory infection
- Maintain good personal and environmental hygiene including washing hands frequently, particularly after sneezing or coughing
- Build up good body immunity by having a balanced diet, regular exercise and adequate rest, and avoiding smoking
- Maintain good indoor ventilation

More information on SCVPD's 2011/12 seasonal influenza vaccination recommendations can be found on the CHP website (<http://www.chp.gov.hk/>).

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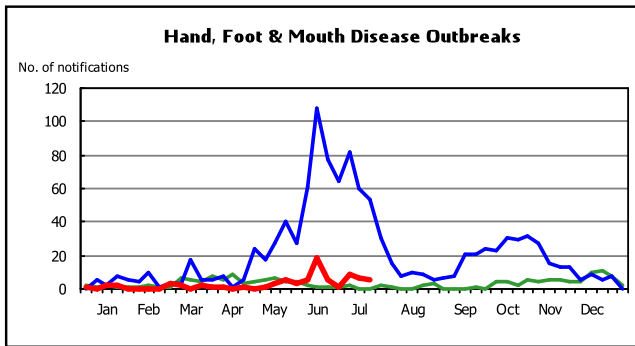
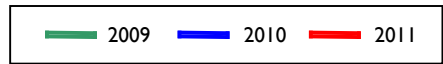
Two sporadic local cases of *Streptococcus suis* infection

On June 29 and July 5, 2011, CHP recorded two sporadic local cases of *Streptococcus suis* infection. The first case involved an 81-year-old woman with known hypertension and diabetes mellitus. She had sudden onset of fever, chills, vomiting and diarrhoea on June 19 and was admitted to a public hospital on the same day. Her symptoms improved after antibiotic treatment. She was discharged on June 21. *Streptococcus suis* was isolated from the blood specimen taken on June 19. She visited wet markets prior to onset of symptoms but she did not handle any raw pork or pork product.

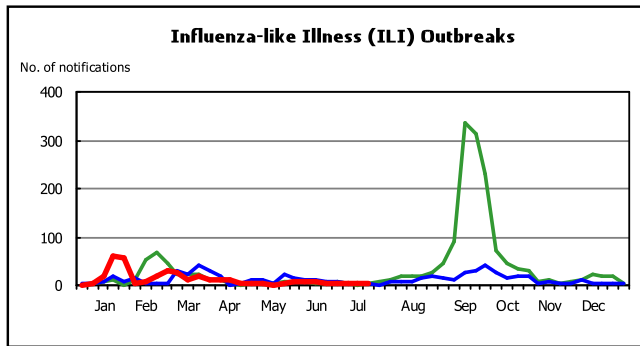
The second case involved a 70-year-old woman. She had fever, chills and confusion on June 27 and was admitted to a public hospital on the same day. Her symptoms subsided after intravenous antibiotic was given. She remained in stable condition and was discharged on July 4. Blood culture taken on June 27 grew *Streptococcus suis*. She visited wet market and handled raw pork and pig offal before symptoms onset. She had no open wound or abrasion.

Both patients had no recent history of travel and their home contacts were asymptomatic.

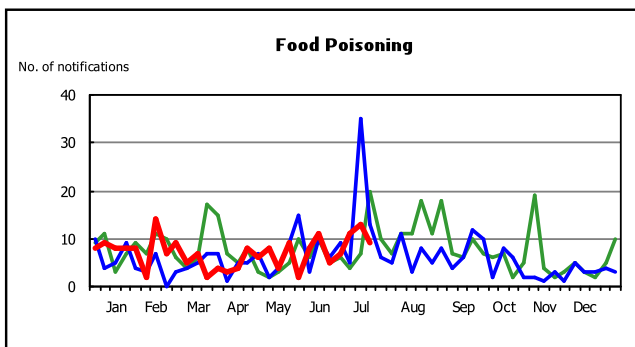
SUMMARY OF SELECTED NOTIFIABLE DISEASES AND OUTBREAK NOTIFICATIONS (WEEK 27 - WEEK 28)



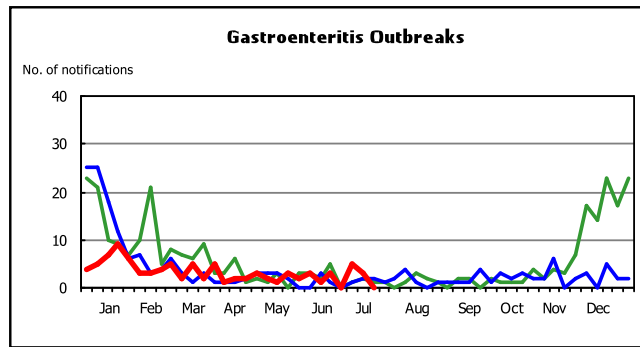
Week 25: 1 Week 27: 7
Week 26: 9 Week 28: 5



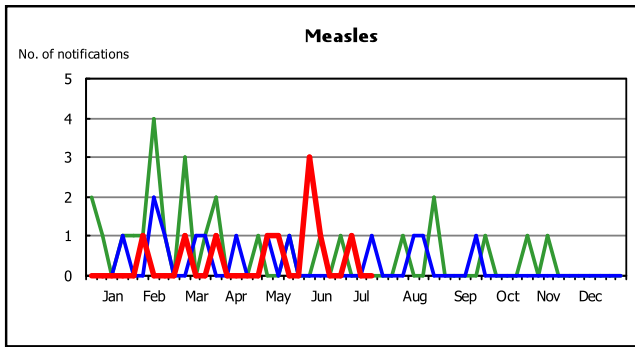
Week 25: 4 Week 27: 4
Week 26: 5 Week 28: 2



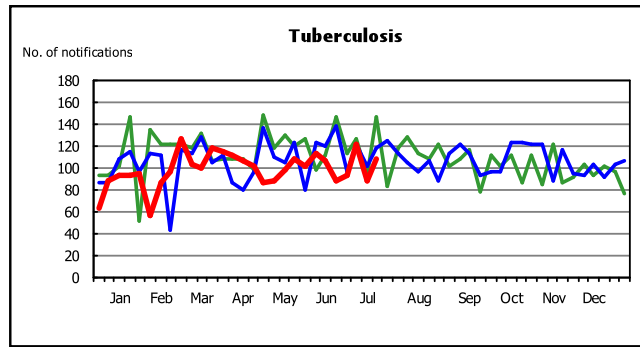
Week 25: 7 Week 27: 13
Week 26: 11 Week 28: 9



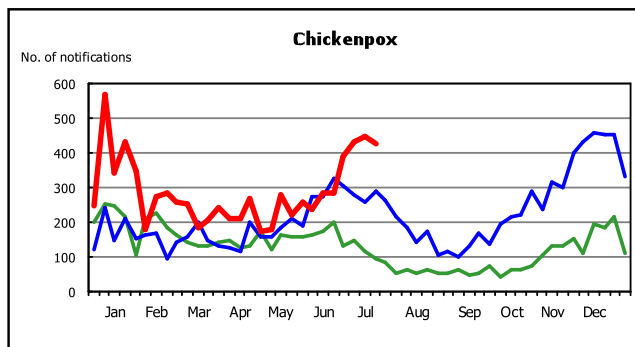
Week 25: 0 Week 27: 3
Week 26: 5 Week 28: 0



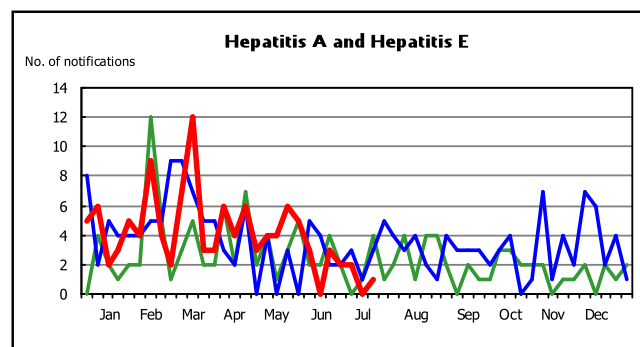
Week 25: 0 Week 27: 0
Week 26: 1 Week 28: 0



Week 25: 94 Week 27: 89
Week 26: 121 Week 28: 109



Week 25: 390 Week 27: 445
Week 26: 433 Week 28: 426



Week 25: 2 Week 27: 0
Week 26: 2 Week 28: 1

Data contained within this bulletin is based on information recorded by the Central Notification Office (CENO) and Public Health Information System (PHIS) up until July 9, 2011. This information may be updated over time and should therefore be regarded as provisional only.