

**Explanatory notes on statistics  
Statistics for reportable diseases (MADO) and  
other infectious diseases under surveillance  
Period 13, Year 2013  
(weeks 49 to 52, 1 to 28 December)**

## **Influenza**

Flu activity in Québec is high and increasing. Transmission is escalating throughout Canada, at about the same rate in all regions. To date (14 January), there have been 23 outbreaks of influenza-like illness or influenza in 20 Montréal health care institutions; none has caused admissions to be suspended. Four outbreaks were due to influenza A, two to influenza B, and two others to respiratory syncytial virus.

Conditions for promoting influenza vaccination haven't been this favourable since the 2009 pandemic. Overall, the strains that are circulating are well matched to those included in the vaccine. The current season began about four weeks later than the previous one, extending the pre-peak period during which vaccination provides the most benefits. Most cases in Montréal, Québec and the rest of Canada are due to the H1N1 pandemic strain; this strain, included in the 2013-2014 vaccine, has already caused a dozen deaths in Alberta. Moreover, the death of a young Alberta woman from H5N1 infection acquired in China has focused media attention on influenza, even though no instances of secondary transmission have occurred.

Information about Québec's free influenza vaccination program is available at <http://sante.gouv.qc.ca/programmes-et-mesures-daide/programme-de-vaccination-contre-la-grippe/>.

*We wish to thank Renée Paré for the information provided.*

*Sources: Flash Grippe, MSSS; Flu Watch, Public Health Agency of Canada.*

## **Invasive group A streptococcal infections**

For this year's flu season, Québec stands out from the rest of the country by the higher percentage of positive influenza B test results (15% of all A and B tests). An association between influenza—especially type B—and invasive group A streptococcal infections has been demonstrated.\* The latter have been increasing in Montréal since the end of 2013, although we do not know if the cases had contracted influenza prior to developing invasive infections. In addition, there have been four cases in a small ethnic community in the city recently, three of whom were in children with social connections (family, school), which is uncommon. It should be noted that two other cases were reported too late for the Direction de santé publique to offer effective chemoprophylaxis to their close contacts.

*We wish to thank Andrew Gray for the information provided.*

*Sources: Flash Grippe, MSSS; Flu Watch, Public Health Agency of Canada.*

\* Allard R, Couillard M, Pilon PA, Kafka M, Bédard L. Invasive bacterial infections following influenza: a time-series analysis in Montréal, Canada, 1996 to 2008. *Influenza Other Respi Viruses* 2012;6(4):268-75.

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**Explanatory notes on statistics  
Statistics for reportable diseases (MADO) and  
other infectious diseases under surveillance  
Period 12, Year 2013  
(weeks 45 to 48, 3 to 29 November)**

**Extensively drug-resistant tuberculosis: A first in Québec**

In 2013, the Direction de santé publique de l'ASSS de Montréal received a report of a case of pulmonary tuberculosis caused by an extensively drug-resistant (XDR) strain of *M. tuberculosis*. XDR strains are resistant to isoniazid, rifampin—as are multidrug-resistant (MDR) strains—but also to fluoroquinolones and at least one injectable medication, such as amikacin. The reported case presented primary resistance and everything indicates that the patient was infected in his country of origin, where resistant TB is a problem. Treatment is based on five anti-TB drugs (amoxicillin-clavulanic acid, para-aminosalicylic acid, azithromycin, linezolid and cycloserine). Some of these drugs are very expensive, and most are much less effective than the usual drug combination; moreover, there is a greater risk of adverse effects with all of them.

A preventive intervention, which required an especially close collaboration between the clinical and public health teams, identified close contacts within and outside the case's household. Linezolid and close medical monitoring for a two-year period were offered to exposed individuals who could have been infected.

To date in 2013, 103 cases of active tuberculosis have been reported among Montréal residents, an incidence of 5.7 cases per 100,000 inhabitants. This case of XDR-TB was the 7th known case in Canada and the first in Québec.

Given the high associated mortality and the difficulty preventing TB in exposed individuals, early diagnosis of MDR and XDR tuberculosis is particularly important. Early diagnosis hinges on a high index of suspicion in symptomatic individuals who have either been treated for tuberculosis in the past, exposed to someone with MDR or XDR TB, or who come from a high-incidence country. A new nucleic acid amplification test, Xpert MTB/RIF, can greatly accelerate time to diagnosis and detect, in under 2 hours, RMP resistance, a significant marker of multiresistance, with minimal technical handling.

Sources: Fichier MADO and <http://www.respiratoryguidelines.ca/tb-standards-2013>

We thank Paul Rivest for his assistance.

**Lymphogranuloma venereum (LGV): New outbreak**

A first LGV outbreak occurred in Montréal in 2005-2006. Between 2010 and 2012, only 8 cases were reported annually on average; but in 2013, 30 cases had been reported as of 30 November (29 confirmed and 1 probable). All 2013 cases were in men who have sex with men (MSM), 27% of whom were under 30 years old and 93% are known to be HIV+. The cases all had "secondary LGV causing anorectal symptoms", as defined in the *Canadian Guidelines on Sexually Transmitted Infections*. Among these MSM, 20% reported having had 6 partners or more within the 2 months preceding infection; 30% had linked up with partners through websites and 33% in bathhouses; 56% had taken "hard" drugs.

Last August, a call for vigilance was sent out to health professionals in Montréal. Information was also distributed to community groups and in venues for MSM. The call for vigilance is available at [http://www.dsp.santemontreal.qc.ca/espace\\_du\\_directeur/rubriques/nouveautes/article/appel\\_a\\_la\\_vigilance\\_eclosion\\_de\\_lymphogranulomatose\\_venerienne.html?L=kcwzulxfgxozc&cHash=ccd3ced25e940dca0d69882cc71319bd](http://www.dsp.santemontreal.qc.ca/espace_du_directeur/rubriques/nouveautes/article/appel_a_la_vigilance_eclosion_de_lymphogranulomatose_venerienne.html?L=kcwzulxfgxozc&cHash=ccd3ced25e940dca0d69882cc71319bd)

We thank Anna Urbanek and Gilles Lambert for their assistance.

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**Highlights**  
**Statistics for reportable diseases (MADO) and**  
**other infectious diseases under surveillance**  
**Period 11, Year 2013**  
**(weeks 41 to 44, 6 October to 2 November)**

**Influenza: Preparing for the flu season**

There has been sporadic flu activity since mid-October in Québec. Therefore, now is the ideal time to offer vaccination to persons for whom it is indicated, especially health care workers. New this year: FluMist™, an intranasal vaccine that can be given to all children aged 2 to 17, not only if they are at risk for complications from influenza but also if they come into contact with persons at risk. For indications regarding the free vaccine go to

[http://www.dsp.santemontreal.qc.ca/fileadmin/documents/dossiers\\_thematiques/Infections\\_et\\_intoxications/Vaccination\\_influenza\\_pneumocoque/2012-2013/Gratuit.pdf](http://www.dsp.santemontreal.qc.ca/fileadmin/documents/dossiers_thematiques/Infections_et_intoxications/Vaccination_influenza_pneumocoque/2012-2013/Gratuit.pdf).

*We wish to thank Renée Paré for the information provided.*

**Lyme disease: Active season**

The Lyme disease season which is coming to an end has been the most active one to date in Montréal and in the province. As of 2 November, 24 cases had been reported in Montréal, compared with 9 at the same date in 2011 and 2012. Four of these cases were acquired in Québec (Lanaudière, Estrie and Montérégie), whereas between 2004 and 2012, there had been only 2. This significant increase in number of reports probably reflects a greater awareness among doctors and the public, combined with the emergence of ticks carrying *Borrelia burgdorferi* bacteria in southern Québec. Most of the cases are reported in August and September, but physicians can see new ones presenting all year round since the disease can manifest itself after a long delay. A data sheet and the Lyme disease warning issued on 19 August 2013 provide more information on the disease and its treatment.

[http://www.dsp.santemontreal.qc.ca/fileadmin/documents/dossiers\\_thematiques/Infections\\_et\\_intoxications/Maladie\\_de\\_Lyme/Fiche\\_tech\\_-\\_Mal\\_Lyme.pdf](http://www.dsp.santemontreal.qc.ca/fileadmin/documents/dossiers_thematiques/Infections_et_intoxications/Maladie_de_Lyme/Fiche_tech_-_Mal_Lyme.pdf)

[http://www.dsp.santemontreal.qc.ca/fileadmin/documents/1\\_Espace\\_du\\_directeur/0\\_Voix\\_du\\_directeur/Appels\\_vigilance/2013/A-v\\_Mal\\_Lyme\\_photo\\_19082013.pdf](http://www.dsp.santemontreal.qc.ca/fileadmin/documents/1_Espace_du_directeur/0_Voix_du_directeur/Appels_vigilance/2013/A-v_Mal_Lyme_photo_19082013.pdf)

*We wish to thank Doris Deshaies for the information provided.*

**Carbapenemase-producing Enterobacteriaceae (CPE): Growing resistance**

There is concern over the recent emergence of CPE in Québec and in Montréal: CPE can result in serious illnesses for which therapeutic options are very limited; it can also cause outbreaks and pass on its resistance mechanisms to other bacteria. Since December 2012, general and specialized hospital centres (CHSGS) in Montréal have been reporting their cases to the *Direction de santé publique de l'Agence de la santé et des services sociaux de Montréal*: 43 cases have been reported in 10 CHSGS, including 6 cases linked to two outbreaks in two different CHSGS. Four patients had died at the time of the *DSP de l'Agence de Montréal*'s investigation. Eight of the cases probably acquired CPE outside the country, while 17 likely contracted it in their local CHSGS. The other cases were of unknown origin. The *DSP de l'Agence de Montréal* is monitoring the situation closely. Steps are being taken at different levels in the network (INSPQ, MSSS and *DSP de l'Agence de Montréal*) to prevent the transmission of these infections.

[http://www.inspq.qc.ca/pdf/publications/1168\\_PreventionTransmissionEnterobactCarbapenemases.pdf](http://www.inspq.qc.ca/pdf/publications/1168_PreventionTransmissionEnterobactCarbapenemases.pdf).

*We wish to thank Bakary Camara for the information provided.*

*We wish to thank Noémie Savard for writing this text.*

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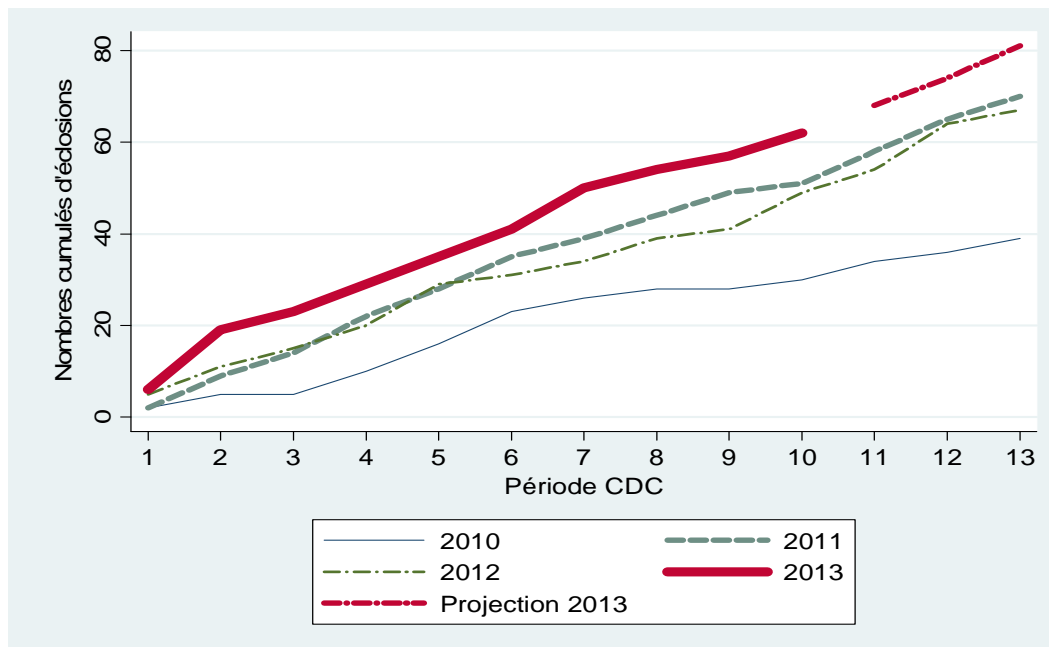
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**Highlights**  
**Statistics for reportable diseases (MADO) and**  
**other infectious diseases under surveillance**  
**Period 10, Year 2013**  
**(weeks 37 to 40, 8 September to 5 October)**

**Vancomycin-resistant enterococcus (VRE): Reported hospital outbreaks**

The figure shows how cumulative surveillance results have evolved over the past few years:



We can see that the number of outbreaks reported has risen since last year. This could be due to a real deterioration of the situation. However, the document *Mesures de prévention et contrôle de l'entérocoque résistant à la vancomycine dans les milieux de soins aigus du Québec* was made public at the end of 2012 and could have changed prevention, control and reporting practices. Indeed, the number of reported cases increased less between the two years than did the number of outbreaks. It could be that the increase in outbreaks is due, in whole or in part, to better control of outbreaks, which then remain small, and/or to improved reporting of smaller outbreaks. We will explore the situation.

*We wish to thank nosocomial infection team at DSP de l'ASSS for the information provided.*

**Verotoxigenic *E. coli* infection: Modes of acquisition**

The two cases in period 10 were in one-year-old children with no known link between them. One lives in a family that often eats "well-done" barbecued ground beef. The child eats some occasionally, but since no one else in the family was sick, it seems more likely that he was infected through cross-contamination from uncooked beef. No food source was identified for the other child, who was hospitalized for two days. However, shortly before symptoms appeared the family went to a zoo where the child swallowed water while swimming in an outdoor pond.

*We wish to thank Julie Dwyer and Lydia Gosselin for the information provided.*

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**Highlights**  
**Statistics for reportable diseases (MADO) and**  
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**Period 9, Year 2013**  
**(weeks 33 to 36, 11 August to 7 September)**

**Mumps: Incidence remains low**

Two cases of mumps were reported during Period 9—in an adolescent and a young adult. Both had received the two doses of MMR. The investigation indicated that there had been no contact between them or with another known case. Mumps incidence is low in Montréal, with rates of 0.2 and 0.1 cases per 100,000 in 2011 and 2012, respectively. In Canada, the second dose of MMR was introduced in 1996-1997 and incidence has been decreasing since then, reaching a rate of 0.82 cases per 100,000 in 2011. The latest outbreak of paramyxovirus in Montréal goes back to 2010 and affected communities where over half of cases had not been adequately vaccinated. Since the normal epidemic cycle of mumps is 3 to 5 years, we could see an increase in the number of cases.

Sources: <http://www.phac-aspc.gc.ca/im/vpd-mev/mumps-eng.php> and  
[http://www.dsp.santemontreal.qc.ca/espace\\_du\\_directeur/rubriques/nouveautes/article/appel\\_a\\_la\\_vigilance\\_eclosion\\_doreillons.html](http://www.dsp.santemontreal.qc.ca/espace_du_directeur/rubriques/nouveautes/article/appel_a_la_vigilance_eclosion_doreillons.html)

*We wish to thank Geneviève Boily for the information provided.*

**Lyme disease : Season established**

Seven cases of Lyme disease were reported during the period, mainly in men over 40 years of age. All reported having spent some time in American states and one had also travelled to Germany. In most cases, no tick bite had been noted. The most common clinical presentation of Lyme disease is the appearance of a rash, sometimes accompanied by systemic symptoms. However, in one case, the only sign of infection was atrio-ventricular block (a known complication of *Borrelia* infection), for which the patient may need a pacemaker. Québec has seen the number of cases rise over the past years: 10 to 15 cases a year from 2004 to 2010, 32 in 2011, and 42 in 2012. The DSP de la Montérégie has produced a publication on preventive measures and on procedures to follow if Lyme disease is suspected. It is available on the following Website: <http://extranet.santemonteregie.qc.ca/depot/document/3315/Sentinelle-vol18-no7.pdf>

Source: <http://www.msss.gouv.qc.ca/professionnels/maladie-lyme.php>

**Malaria: An ongoing problem**

Eleven cases of malaria were confirmed in Montréal during Period 9. Their ages range from 10 to 59 and most are in men. All but one were infected with *P. falciparum*. At least five cases had to be hospitalized, one of them twice and another required 5 transfusions. Most of the cases (7/11) had travelled to Africa. Several are of African origin and had returned to visit family. Since travellers do not always consult a physician before they leave, it could be useful to discuss malaria prevention measures with patients from endemic countries whenever appropriate during clinical encounters and not only when they consult travel clinics. For recommendations for patients planning trips to countries at risk, go to the following Website: [http://www.phac-aspc.gc.ca/media/advisories\\_avis/mal\\_faq-eng.php](http://www.phac-aspc.gc.ca/media/advisories_avis/mal_faq-eng.php)

*We wish to thank Julie Dwyer and Lydia Gosselin for the information provided.*

*We wish to thank Caroline Marcoux-Huard for helping write this text.*

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**Highlights**  
**Statistics for reportable diseases (MADO) and**  
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**Period 8, Year 2013**  
**(weeks 29 to 32, 14 July to 10 August)**

**Verotoxigenic *E. coli* infection**

The five reported in Period 8 are all among children aged between 1 and 9; one child was hospitalized for rehydration. Two cases are linked to travel (Caribbean and Africa) and one of these children had eaten undercooked ground beef while travelling. Two other cases occurred in children attending daycare; none of the other children in the day care centres was sick and no source was identified. The fifth case will probably be invalidated since the sample was PCR-positive and culture-negative. These observations confirm that children appear to be especially vulnerable to this infection.

*We wish to thank Lucie Dufault for the information provided.*

**West Nile Virus (WNV) season begins**

There have been no cases reported in Montrealers this year, but this is the time of year when the risk of acquiring the infection is usually highest. One WNV-positive blood donor was reported from the eastern part of the province, and nine batches of mosquitoes tested positive in Montréal during Period 8, the first ones of 2013. An "appel à la vigilance" was issued recently and focused particularly on recommendations for laboratory investigation:

[http://www.dsp.santemontreal.qc.ca/fileadmin/documents/1\\_Espace\\_du\\_directeur/0\\_Voix\\_du\\_dir ecteur/Appels\\_vigilance/2013/Appel\\_vigilance\\_VNO\\_20130807.pdf](http://www.dsp.santemontreal.qc.ca/fileadmin/documents/1_Espace_du_directeur/0_Voix_du_dir ecteur/Appels_vigilance/2013/Appel_vigilance_VNO_20130807.pdf)

*Source: INSPQ*

*We wish to thank Sandra Palmieri and Doris Deshaies for the information provided.*

**Lyme disease**

Although three reports were received during Period 8, none of these cases has been confirmed; lab results are either unknown or equivocal. Last year's experience shows that confirming a case can take a long time, or may be impossible if a sample was not sent to the LSPQ. The DSP de l'Agence de Montréal has just issued an "appel à la vigilance" on clinical and laboratory diagnoses:

[http://www.dsp.santemontreal.qc.ca/fileadmin/documents/1\\_Espace\\_du\\_directeur/0\\_Voix\\_du\\_dir ecteur/Appels\\_vigilance/2013/A-v\\_Mal\\_Lyme\\_photo\\_19082013.pdf](http://www.dsp.santemontreal.qc.ca/fileadmin/documents/1_Espace_du_directeur/0_Voix_du_dir ecteur/Appels_vigilance/2013/A-v_Mal_Lyme_photo_19082013.pdf)

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**Highlights**  
**Statistics for reportable diseases (MADO) and**  
**other infectious diseases under surveillance**  
**Period 7, Year 2013**  
**(weeks 25 to 28, 16 June to 13 July)**

**Legionellosis: First cases of the year**

Seven cases have been reported since the beginning of Period 7, the first ones since November 2012. This represents a statistically significant excess, not because of the number of cases but because they have occurred earlier in the summer than usual. Legionnaires' season has also started early elsewhere in Canada. In Montréal, the reported cases are 50 to 85 years old, and all had one or several risk factors (smoking, alcoholism, COPD, drug use, diabetes, leukaemia). All but one were hospitalized, most in intensive care with intubation; however all have recovered. Their places of residence and of work are scattered across the island, and no common environmental source that would explain these cases has been identified. In addition to the urinary antigen test, it is important that clinicians obtain cultures from all cases and forward them to the LSPQ, or send respiratory samples (endotracheal secretions or sputum) directly to the LSPQ for PCR analysis. Genotyping of environmental and human strains may help confirm links between suspected sources and cases.

*We wish to thank Pierre Pilon for the information provided.*

**Lymphogranuloma venereum (LGV): Upsurge**

Eight cases were reported during Period 7, and two others since then. These figures represent a statistically significant excess and the largest cluster of LGV over time observed in Montréal since 2006. The cases are in MSM aged 25 to 65 years; all had presented multiple STIs in the past (mostly syphilis, chlamydia, gonorrhoea and parasitic infections) and all are HIV positive. Among the cases reported in 2013 for whom investigations have been completed, the main risk factors noted are use of illicit drugs and meeting partners in bathhouses or through the Internet, but rarely travel to foreign countries. The infection is mostly in the anal and/or rectal area. This indicates that unprotected anal sexual relations by HIV+ persons remain a public health concern. A reminder to be vigilant will soon be sent out to gastroenterologists, microbiologists and infectious disease specialists, and to physicians working in UHRESS, STI clinics or emergency departments.

*We wish to thank Anna Urbanek for the information provided.*

**Lyme disease: True and false positives**

Several reports were received during Period 7, but the only case confirmed to date is in a man in his sixties who spends much time in New York State. He has not noticed any ticks on his body but has suffered several insect bites followed by erythema migrans under one arm. One of the unconfirmed cases could be a false positive due to secondary syphilis reported in early June in a patient who is asymptomatic for Lyme disease. Information on this infection, which is often difficult to diagnose, is available at <http://extranet.santemonteregie.qc.ca/userfiles/file/sante-publique/maladies-infectieuses/ZOO-Conduite-maladie-Lyme-suspectee.pdf>

*We wish to thank Doris Deshaies for the information provided.*

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**Highlights**  
**Statistics for reportable diseases (MADO) and**  
**other infectious diseases under surveillance**  
**Period 6, 2013**  
**(weeks 21 to 24, 19 May to 15 June)**

**Influenza season is over**

Based on the number of positive test results reported up to week 23 by the LSPQ, influenza transmission has now reached summer levels in Québec. The season lasted 32 weeks. There were two peaks of activity: one of influenza A followed by one of influenza B. In 2011-2012, the season had started much later and ended a week earlier; that season lasted 24 weeks and showed only one peak. However, despite the association between influenza and invasive group A streptococcal infections, there were fewer of the latter in Montréal during the 2012-2013 season (61) than during the same period in 2011-2012 (71).  
*Source: LSPQ (Québec Public Health Laboratory).*

**Severe acute respiratory infections (SARI) watch**

The DSP is maintaining vigilance for SARI, especially for the new Middle East Respiratory Syndrome Coronavirus (MERS-CoV). Information about the global epidemiological situation is available at

<http://www.msss.gouv.qc.ca/professionnels/documents/veille-epidemiologique.pdf>

*We wish to thank Paul LeGuerrier for the information provided.*

**Verocytotoxigenic *E. coli* : Sometimes serious, but preventable**

Six of the seven cases in the statistics concern individuals; the other "case" is a daycare attended by some of these; it will be removed from the next issue of *Statistics for reportable diseases*. None of the cases appears to be related to the outbreak in Ontario and the Maritimes, caused by contaminated chopped lettuce. One case was in an adolescent with cancer; the five others were in children aged 5 and under. Two of these children were hospitalized for hemolytic uremic syndrome (HUS) and will appear as HUS cases in the next *Statistics*. Three children attended two daycares served by the same caterer; however, none of the 15 food samples taken from this catering service tested positive for the bacterium. The two other children were from different families and had eaten halal meat; one of these ate beef that might not have been sufficiently cooked, according to the child's mother. The parents of the two children have yet to tell us where the meat came from, which is delaying inspection by the MAPAQ (provincial Ministry of Agriculture) of the butcher shops involved. Therefore, it would be useful for the clinical team to try to obtain immediately the contact information of any unusual food source suspected of causing this sometimes serious infection.

*We wish to thank Lucie Dufault for the information provided.*

**MADO non-reporting**

During the summer, staff members often have to be replaced. To avoid omissions and delays, we would appreciate your ensuring that all individuals concerned are familiar with reporting procedures. The DSP will rapidly investigate all reports received that require it.

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**Highlights**  
**Statistics for reportable diseases (MADO) and**  
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**Period 5, Year 2013**  
**(weeks 17 to 20, 21 April to 18 May)**

**Amebiasis**

Two of the twenty cases reported during the period were investigated because they occurred in a brother and sister, both in the 10 to 19 age group. The investigation showed that they had emigrated from Haiti to Montréal at the end of 2012; therefore, the infection was probably not acquired locally. There is no indication that the other cases are linked (usual sex and age distributions, no geographical clustering).

**Influenza B: Ongoing transmission**

Transmission of influenza B (as reflected by the proportion of positive test results among the total number of tests requested) has decreased substantially but has not completely ceased. There were two peaks during the 2012-2013 season: one of influenza A in week 52, and one of influenza B in week 13; in 2011-2012, there was only a single peak, in week 11. During most flu seasons, there is a peak of influenza A followed by a lesser one of influenza B; however, in 2012-2013, both peaks were high and prolonged.

*Source: LSPQ*

**Legionellosis: Preparing for summer**

The most recent case of legionellosis in a Montrealer was reported in November 2012; this means that we are experiencing the longest period without legionellosis in Montréal in at least 5 years. However, since there hasn't been a legionellosis-free summer yet, we can expect cases to occur soon. The DSP has prepared an action plan to react quickly and appropriately, in collaboration with our partners, including the Régie du bâtiment du Québec. Therefore, it is very important to report cases rapidly.

*We wish to thank Pierre Pilon and Monique Beausoleil for the information provided.*

**Severe acute respiratory infections (SARI): Suspected cases must be reported to the DSP**

Recently, we received reports for two suspected cases of SARI in patients hospitalized in Montréal but who live outside the city. Specific laboratory analyses performed at the LSPQ have ruled out the first diagnosis, in a traveller from China (suspected case of avian influenza A/H7N9). The second case, in a Syrian refugee (suspected Middle East respiratory syndrome coronavirus, MERS-CoV) was also ruled out: in addition to negative laboratory tests, symptoms appeared more than two incubation periods after the person had left the Middle East. Updated tools on the current "SARI Watch" are available on the following Web site:

[http://www.dsp.santemontreal.qc.ca/dossiers\\_thematiques/infections\\_et\\_intoxications/thematiques/maladies\\_respiratoires\\_severes\\_emergentes\\_dorigine\\_infectieuse/documentation.html](http://www.dsp.santemontreal.qc.ca/dossiers_thematiques/infections_et_intoxications/thematiques/maladies_respiratoires_severes_emergentes_dorigine_infectieuse/documentation.html)

*We wish to thank Michèle Bier and Renée Paré for the information provided.*

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**Highlights**  
**Statistics for reportable diseases (MADO) and**  
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**Period 4, Year 2013**  
**(weeks 13 to 16, 24 March to 23 April 2013)**

**Reportable diseases acquired during travel**

Two cases of leptospirosis were reported in period 4, both in middle-aged men who were hospitalized. One of the men had travelled to Brazil prior to acquiring the infection. He was bitten by an unidentified animal in the jungle and he swam in fresh water. The other case had travelled to Jamaica, where he also swam in fresh water. Contact with water contaminated with the urine of infected animals is the most common mode of acquisition of this infection.

Two hospitalized cases of typhoid fever were reported. One person is presumed to have acquired it while in Guatemala. The other is a child who had not travelled. The attending physician suspects that there is a chronic carrier in the child's family, which is from South Asia. The physician will seek to obtain stool samples from other family members.

*We wish to thank Julie Dwyer and Sereikith Chheng for the information provided.*

**Invasive group A streptococcal infections (IGASI) and influenza B**

One of the 13 cases of IGASI reported to the DSP during period 4 is in a six-year-old child with septic arthritis. Previously, the child's father had had pneumonia, probably due to GAS (only a sputum culture was obtained). A woman living in a long-term care facility also died from pneumonia which, according to her physician, was due to GAS. She had shared a room with a patient with a positive blood culture for GAS who has been admitted to intensive care. It is rare that IGASI cases can be linked in this way. We do not know if these patients had contracted influenza before their IGASI; however, the simultaneous occurrence of waves of IGASI and influenza B, noted in the Highlights for period 3, is ongoing.

*We wish to thank Sandra Palmieri for the information provided.*

**Invasive meningococcal infections in MSM**

Since 2010, there have been 21 cases of invasive group C meningococcal infections among MSM in New York City, 7 of whom have died. The *Protocole d'immunisation du Québec* recommends vaccination for individuals travelling to regions where invasive meningococcal infections are hyperendemic or epidemic. Therefore, meningococcal C immunization can be offered to MSM who are planning to go to New York City, if individual circumstances warrant it (e.g. length of stay, risk of exposure, HIV status). However, the vaccine is not covered by the free vaccination programme. Although no Montrealer has been linked to this outbreak, for cases diagnosed here it would be important to document whether the person had travelled to New York shortly before the onset of the illness.

*We wish to thank Doris Deshaies, Sandra Palmieri and Alexandra Kossowski for the information provided.*

*Sources: MSSS, Protocole d'immunisation du Québec and <https://a816-health29ssl.nyc.gov/sites/NYCHAN/Lists/AlertUpdateAdvisoryDocuments/2013-03%20HAN%20IMD%20in%20MSM.pdf>*

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**Highlights**  
**Statistics for reportable diseases (MADO) and**  
**other infectious diseases under surveillance**  
**Period 3, 2013**  
**(weeks 9 to 12, 24 February to 23 March 2013)**

**Genital chlamydia and gonorrhoea: Significant spike**

During period 3, the 453 cases of genital chlamydia reported in Montréal residents represented a rate of 302 per 100,000 inhabitants, a clear increase compared with the rates of 246 and 261 observed during the corresponding periods in 2012 and 2011, respectively. Just over half of reported cases were in individuals aged under 25 years. Women accounted for 56% of the total, and for 66% of cases aged less than 25 years. Rates have been increasing throughout the province since 1997, in both sexes and in all age groups. However, the rates by sex must be interpreted within the context of a greater underdiagnosis in men than in women.

The numbers of gonococcal infections also continue to rise: 99 cases sensitive to ciprofloxacin were reported during period 3, compared with 43 in 2012 and 68 in 2011. The rate of 61.1 cases per 100,000 inhabitants reported during the first 3 periods of the year compares with the rates for the corresponding periods in 2012 and 2011, that is, 35.6 and 40.7 respectively. Women accounted for a quarter of all reported cases and for half in persons aged under 25 years. In the province as a whole, the incidence rate in women quadrupled between 2005 and 2011, with women aged 25 to 29 being especially affected.

This continual increase in the numbers of reported cases of chlamydia and gonorrhoea began in 1997 and results from at least three factors: First, several recent studies have suggested an actual increase in incidence. In British Columbia, for instance, the percentage of positive tests rose from 2.6% to 3.7% between 1998 and 2009<sup>1</sup>. In a cohort of over 160,000 Americans, the rate of urethritis in men (who are not targeted by screening programs) almost quadrupled between 1997 and 2007<sup>2</sup>. Second, the introduction of nucleic acid amplification tests (NAAT), which are more sensitive and acceptable, is associated with a significant increase in number of tests performed<sup>1,3</sup>. Third, greater access to diagnosis, through implementation of integrated screening and prevention services (SIDEP) might also increase the number of tests performed and reach populations at higher risk of infection. Currently in Québec, we do not have quantitative data to confirm the contribution of these factors to changing incidence rates.

<sup>1</sup> Rekart ML et coll. *J Infect Dis* 2013, 207: 30-38; <sup>2</sup> Scholes D et al. *Sex Transm Dis* 2012, 39(2): 81-88; <sup>3</sup> Rekart ML, Burnham RC. *Sex Trans Infect* 2008, 84(2): 87-9. Sources for data from outside Montréal: MSSS.

**Influenza B: activity on the rise**

The percentage of positive influenza B tests performed in sentinel laboratories rose from 0.7% in week 5 to 14.3% in week 13. Thus, influenza activity remains high despite significantly lower influenza A activity. Since the beginning of period 3, three outbreaks of influenza B and 11 outbreaks of influenza-like illness, 4 of which were associated with respiratory syncytial virus, were reported in Montréal long-term care facilities. No outbreaks were reported in acute-care hospitals.

The literature has shown an association between influenza B and invasive group A streptococcus infections (IGAS), and an excess number of IGAS in Montréal residents has been noted recently. Influenza B activity could still persist for several weeks. Therefore, the DSP will be sending physicians a *Call to vigilance* on this association.

Sources: Laboratoire de santé publique du Québec and National Microbiology Laboratory.

We thank David Kaiser for helping with this text.

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**Highlights**  
**Statistics for reportable diseases (MADO) and**  
**other infectious diseases under surveillance**  
**Period 2, Year 2013**  
**(weeks 5 to 8, 27 January to 23 February 2013)**

**Influenza: Type B is increasing**

In Québec, while the number of influenza A isolates has declined, type B isolates continue to increase. According to Canadian data, the influenza B strain most frequently isolated is the one recommended for the 2012-2013 vaccine, followed by the one recommended for the 2011-2012 vaccine. About 68% of influenza B isolates (*vs.* 56% of influenza A isolates) are from persons aged 2 to 59 years; in Québec, influenza vaccination is recommended for this age group only when there is a high risk of influenza-related complications (in some of the other provinces and in the United States, it is recommended for everyone). This is also the age group in which the vaccine is most effective.

*Sources: Laboratoire de santé publique du Québec and National Microbiology Laboratory*

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**Highlights**  
**Statistics for reportable diseases (MADO) and**  
**other infectious diseases under surveillance**  
**Period 1, Year 2013**  
**(weeks 1 to 4, December 30, 2012 to January 26, 2013)**

**Influenza: Significant decrease in influenza activity**

Provincial surveillance data for Québec indicate that influenza transmission has decreased significantly since the end of 2012. In Montréal, the percentage of positive influenza A results in sentinel laboratories fell from 34% in the first week of January to 12% in the fourth week; there was no corresponding increase in positive influenza B results. Other indicators confirm this trend: daily numbers of visits to emergency rooms for influenza-like illness (ILI), admissions to hospital due to influenza or pneumonia diagnoses, and ILI outbreaks in care settings. Influenza activity appears to be decreasing on the East Coast (except in the Maritimes) but increasing slightly in Western Canada. The Montréal Public Health department remains vigilant for the possibility of a peak of influenza B activity, which is observed certain years. Vaccination continues to be recommended for people at increased risk.

*Sources: Laboratoire de santé publique du Québec and National Microbiology Laboratory*

**Infectious syphilis: Current situation among women**

A total of 342 cases of infectious syphilis were reported among Montréal residents during 2012, 7 of whom were women. In 2010-2011, an enhanced infectious syphilis surveillance program identified 51 cases in women, spread over half of the province's regions, including 19 cases among Montréal residents. Six women were pregnant at the time of diagnosis and 70% of the infected women were under 35 years old. Over a third of women reported no risk factors; however, half reported recently having sex partners who had risk factors for sexually transmitted infections. In March 2012, Montréal's DSP issued a call for vigilance, listing the measures to take to halt syphilis transmission among young adults; in particular, it focussed on the importance of recognizing the signs and symptoms in this population, of managing the sexual contacts of cases, and of offering early screening to persons at risk, especially pregnant women.

*Sources: Direction de la protection de la santé publique, MSSS*

**Active tuberculosis: An instructive case**

In 2012, 100 cases of active tuberculosis were reported among Montréal residents, an incidence of 5.1 cases per 100,000 inhabitants. Of the six cases reported in January 2013, one was a fifty-year-old woman from Eastern Europe who had pulmonary tuberculosis. Despite her having been seen five times in a walk-in clinic, and having had two chest x-rays and at least one antibiotic treatment since April 2012, tuberculosis was not diagnosed. Even in a context where incidence is low, tuberculosis must be considered when a patient presents persistent respiratory symptoms, especially when the epidemiological profile is compatible. Early diagnosis and treatment are essential to eliminating local TB transmission in Montréal.

You can access the DSP's call for vigilance at

[http://www.dsp.santemontreal.qc.ca/espace\\_du\\_directeur/rubriques/nouveautes/article/appel\\_a\\_la\\_vigilance\\_syphilis.html](http://www.dsp.santemontreal.qc.ca/espace_du_directeur/rubriques/nouveautes/article/appel_a_la_vigilance_syphilis.html)

The synthesis report on enhanced infectious syphilis surveillance among women is available at

<http://publications.msss.gouv.qc.ca/acrobat/f/documentation/2012/12-325-43a.pdf>

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