

Epidemiological Alert

Measles outbreak in Europe: implications for the Americas

4 May 2017

Considering the increase in reported cases of measles in the European region, the Pan American Health Organization / World Health Organization (PAHO / WHO) recommends Member States to strengthen surveillance activities and implement appropriate measures to protect their populations against measles and rubella, and keep the region free of both diseases.

Summary of the situation in the Americas and other regions

During 2016, 93 confirmed cases of measles were reported in three countries of the Region of the Americas, reaching the lowest incidence rate in the history of the Americas (0.093 / 1,000,000 population). However, in that same year, there was a significant decrease in the reporting rate of suspected cases, reaching its lowest point with 1.9 per 100,000 population. Maintaining high reporting rates for suspected cases of measles and rubella will allow timely detection of imported cases.

Between epidemiological weeks (EW) 1 and 17 of 2017, 84 confirmed cases were reported in three countries of the Americas: Argentina (2 cases), Canada (39 cases), and the United States (43 cases). All confirmed cases in 2016 and 2017 were imported cases from other regions of the world, imported-related, or with unknown sources of infection. The following are the main characteristics of the confirmed cases reported in the Americas during 2017, according to available information:

- 47% (37 cases) were vaccinated, 40% (31 cases) were unvaccinated, and 12% (10 cases) had an unknown vaccination status. In 6 cases, there was no information on vaccination history.
- 49% (37 cases) were among adolescents and young adults aged between 15 and 39 years, out of the 76 cases with information about age.
- 59% (43 cases) were male, out of the 73 cases with information available on sex.
- 57% (26 cases) came from India, out of the 46 cases with information available on probable place of infection;
- The genotypes identified are D8 in Argentina, B3 and D8 in Canada, and D8, B3, and H1 in the United States.

From early January 2016 to 1 May 2017, a total of **7,847 measles cases** were reported by **37 European countries**; 34% of these cases were reported in 2017. The majority of cases were reported by Romania (3,181 cases) and Italy (1,549 cases) (**Table 1**) (1). The following are the main characteristics of outbreaks reported in Europe in 2016-2017, according to available information:

- 87% were non-vaccinated, out of the 4,646 cases with available information on vaccination history.
- 31% of the cases were among children aged 1-4 years, followed by adults older than 20 years (27%), out of the 5,101 cases with available information about age groups.
- The genotypes identified according to available data were D8 (identified in 669 cases), B3 (323 cases), H1 (28 cases), and D4 (2 cases) (2).

In addition, among the total number of reported cases during the same period, 25 deaths were reported in four European countries: one in Portugal, 22 in Romania, one in Switzerland and one in the United Kingdom (1, 2).

Countries in other continents (China, Ethiopia, India, Indonesia, Laos, Mongolia, Philippines, Nigeria, Sri Lanka, Sudan, Thailand, Vietnam, among others) also reported measles outbreaks between 2016 and 2017.

Since the Americas was the first Region declared by an International Expert Committee (IEC) (3,4) to be free of rubella and measles in 2015 and 2016 respectively, it is key to continue with the efforts to sustain these elimination achievements. The main measure to prevent the introduction and spread of these viruses is the vaccination of susceptible population, together with a high quality surveillance system that is sensitive enough to timely detect any suspected measles or rubella cases.

Considering that measles and rubella viruses continue to circulate in other continents; that the arrival of international travelers to the Americas increased by 4% in 2016, mainly in South America (7%) and Central America (6%)¹ (5); and that the holiday season is approaching for countries in the northern hemisphere, the occurrence of cases among unvaccinated travelers is expected. Therefore, a set of recommendations are provided below to health authorities regarding prevention and response to an imported case of measles.

¹ Preliminary data reported between January and September 2016 by the World Tourism Organization.

Table 1. Distribution of measles cases by country and year. European Region, 2016-2017.*

Countries	2017	2016
Armenia	0	2
Austria	69	28
Belarus	1	29
Belgium	0	119
Bosnia and Herzegovina	11	45
Bulgaria	0	1
Croatia	7	4
Czech Republic	29	7
Denmark	1	3
Estonia	0	2
Finland	0	5
France	134	79
Georgia	0	14
Germany	409	328
Hungary	15	0
Iceland	0	1
Ireland	3	43
Israel	0	10
Italy	685	864
Kyrgyzstan	1	0
Lithuania	0	22
Luxembourg	3	0
Netherlands	0	6
Poland	11	138
Portugal	12	0
Romania	749	2,432
Russia	0	178
Serbia	6	14
Slovenia	6	1
Spain	58	38
Sweden	18	3
Switzerland	54	66
Tajikistan	262	52
Turkey	0	9
Ukraine	82	90
United Kingdom	16	571
Uzbekistan	0	1
Total	2,642	5,205

Source: WHO Regional Office for Europe - *Data as of 1 May 2017

Advice to national authorities

1. Travelers

Prior to departure

The Pan American Health Organization / World Health Organization (PAHO/WHO) recommends that all travelers over the age of six months who are unable to show proof of vaccination or immunity, **to be fully vaccinated against measles and rubella**, preferably with the MMR (measles, mumps, and rubella) vaccine, **at least two weeks before traveling to areas with documented measles virus circulation.**

- Infants who receive the MMR vaccine before their first birthday must be revaccinated according to their country's vaccination schedule. Infants under the age of six months should not be vaccinated.
- Travelers who are not up to date on their vaccinations are at higher risk of contracting either disease when in close contact with travelers from countries where the viruses still circulate.
- Exceptions to this recommendation include persons with medical contraindications to the measles and rubella vaccine.
- Persons considered immune to measles and rubella, are those who can present:
 - Laboratory confirmation of rubella and measles immunity (a positive serological test for the measles and rubella-specific IgG antibodies).
 - Written documentation of having received a measles and rubella vaccination.

It is recommended that health authorities inform travelers prior to their departure of measles signs and symptoms, including:

- Fever,
- Rash,
- Cough, coryza (runny nose), or conjunctivitis (red eyes),
- Joint pain,
- Lymphadenopathy (swollen glands).

During the trip

1. Travelers should be recommended that if they suspect to have measles or rubella, they should:
 - Seek immediately professional health care.
 - Avoid close contact with other people for seven days following onset of rash.
 - Remain at the site of their current residence (e.g. hotel or home, etc.) except to seek professional health care, or as advised by a health professional.
 - Avoid travel and visit to public places.

Upon returning

1. If travelers suspect they have measles or rubella, they should seek immediately professional health care.
2. If travelers develop any of the above mentioned symptoms, they should inform their physician of their travel history.

2. Clinicians and health care providers

PAHO/WHO recommends to:

1. Promote the practice of requesting proof of immunity to measles and rubella in the health care sector (medical, administrative and security personnel).
2. Since international travelers may seek medical attention at private health care facilities, sensitize private sector health workers on the need for immediate notification of any measles or rubella cases in order to ensure a timely response by national public health authorities.
3. Continue to remind health care workers to always ask patients for their travel history.

3. Persons and institutions in contact with travelers, before and/or after their trip

1. Advise personnel in the tourism and transportation sectors (i.e., hotels, airport, taxis, and other) to be fully immunized against measles and rubella, and make the necessary regulatory and operational arrangements to promote vaccination.
2. Conduct public awareness campaigns on the symptoms of measles and rubella, so that all travelers can recognize the symptoms and seek immediate medical care if need be. Information should be distributed at airports, ports, bus stations, travel agencies, airlines, etc.

4. Contact tracing of confirmed measles cases

1. Conduct contact tracing activities according to national guidelines for contacts identified and present in the **national territory**;
2. Consider the **international** implications that **contact tracing** may present and consider the following scenarios and operational aspects while conducting these activities:
 - *A case is identified by national authorities in a third party* and national authorities are requested to locate contacts whose residence is most likely within their country. National authorities are urged to use all available coordination mechanisms to locate these persons. The information available for this action could be limited and efforts should be rational and based on existing resources. Health services should be alerted of the possible or actual presence of contacts in order to detect suspected cases.
 - *A case is identified locally*, and, depending on the timing of the natural history of the diseases at detection:

- *Current case*: national authorities should obtain information about the possible location of contacts abroad and inform the relevant national authorities accordingly.
 - *Retrospectively identified case*: According to the travel history of the case, national authorities should inform relevant national authorities as this occurrence might constitute the first signal of measles virus circulation, or of an outbreak, in the other country or countries concerned.
3. Conduct active institutional and community searches to quickly identify cases among those contacts that have not been identified during the outbreak investigation, following the route of the case(s).

Operational remarks

- If no international conveyances are involved (e.g. aircrafts, cruise ships, trains) as a possible setting for exposure to a case(s), national authorities should contact their counterpart(s) of other countries through the IHR National Focal Point (NFP) network or other bilateral or multilateral programmatic mechanisms, with copy to the WHO IHR Contact Point for the Americas (ihr@paho.org). The assistance of the WHO IHR Contact Point for the Americas can be requested to facilitate international contact tracing related communications.
- If international conveyances are involved (e.g. aircrafts, cruise ships, trains) as a possible setting for exposure to a case(s), national port authorities or whoever may be acting for the latter should activate existing mechanisms to obtain relevant information from carriers (e.g. airlines) to locate travelers, or establish such mechanisms if absent. For subsequent communication between national authorities see the preceding paragraph.

Channels to disseminate these recommendations

PAHO/WHO recommends that national authorities consider disseminating these recommendations outlined in this document through:

- Public awareness campaigns to promote and enhance travelers' health seeking behavior on the benefits of vaccination for measles, signs and symptoms of measles, and to promote and enhance travelers' health seeking behavior prior to travel and upon return. In addition to travel medicine services or clinics, airports, ports, bus and train stations, airlines operating in the country, should be utilized.
- Travel agencies and other tourism related agencies, and diplomatic corps, so that travelers can take necessary actions prior to travel.
- Reiteration of the content of existing national guidelines to clinicians and health care providers and timely dissemination of any newly developed procedure in relation to travelers as/if applicable.

References

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4. Immunization Newsletter [online]. Washington, DC: Pan American Health Organization. Vol. XXXVIII, n.º 3, September 2016 [Accessed on 1 May 2017]. Available at: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&Itemid=270&gid=34543&lang=en
5. World Tourism Organization (UNWTO). Press Release: Close to one billion international tourists in the first nine months of 2016. [Accessed on 1 May 2017]. Available at: <http://media.unwto.org/press-release/2016-11-07/close-one-billion-international-tourists-first-nine-months-2016>

Related links:

- PAHO/WHO Immunizations website: http://www.paho.org/hq/index.php?option=com_content&view=category&layout=blog&id=956&Itemid=358&lang=en