

### Situation Summary

From early January 2016 to late July 2017, countries of the European Region reported 14,591 confirmed measles cases; 64% (n=9,386) of these cases were reported in 2017 alone.

In the six month period between 1 January and 30 June 2017, the majority of the cases were reported by Italy (n=3,660), Romania (n=1,844), and Ukraine (n=943). The diagnosis of measles was confirmed by laboratory testing (serology, virus detection or isolation) in 57% of these cases and by epidemiological link in 24% of the cases. The remaining 1,181 cases (19%) were classified as clinically compatible. The identified genotype were D8 (n=405), B3 (n=547), H1 (n=22), and D9 (n=1).

Among the cases with known age group (n=9,384), 3,972 (42%) were 20 years and older, while 2,024 (22%) were 1 to 4 years of age.

With regard to vaccination status, among the cases with known vaccination history (n=7,840), 84% were unvaccinated, while 17% were reportedly vaccinated with at least one measles-containing vaccine dose.

Suboptimal vaccination coverage in many of these countries has favored the spread of measles.

Countries in other continents (China, Ethiopia, India, Indonesia, Lao People's Democratic Republic, Mongolia, Nigeria, the Philippines, Sri Lanka, Sudan, Thailand, and Vietnam, among others) have also reported measles outbreaks between 2016 and 2017.

### Region of the Americas

Between epidemiological week (EW) 1 and EW 37 of 2017, a total of 167 confirmed measles cases were reported in three countries of the Region of the Americas: Argentina (3 cases), Canada (45 cases<sup>1</sup>), and the United States of America (119 cases<sup>2</sup>). All confirmed cases were imported from other continents, related to importation, or had unknown source of infection. Of the confirmed cases, 36% are children between 1 and 4 years of age, followed by adults aged 20 to 49 years (32%). Approximately 52% of the cases are female; and 60% were unvaccinated. The genotypes identified in these outbreaks are D8 in Argentina, and B3 and D8 in Canada and the United States.

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<sup>1</sup> Provisional data.

<sup>2</sup> Provisional data.

In addition, between EW 26 and EW 35 of 2017, a total of 84 suspected measles cases were reported in 10 parishes in the municipality of Caroni, Bolivar state, Venezuela. Of the total, 34 cases were confirmed by laboratory testing, 42 are under investigation, and 8 were discarded. About 79% (n=27) of the confirmed cases are aged  $\leq 9$  years.

Sample cases are being sent to a WHO Collaborating Center for genetic characterization to determine the origin of the virus. The investigation is ongoing.

The actions implemented by the public health authorities include:

- Identification and investigation of all suspected cases.
- Activation of the situation room at regional and national levels.
- Intensification of epidemiological surveillance and search of contacts in order to determine an effective epidemiological barrier.
- Collection of serum and nasopharyngeal swab samples from suspected cases.
- Mass indiscriminate vaccination with measles, mumps and rubella (MMR) of those aged 6 months to 10 years and selective vaccination of contacts aged 11-39 years (depending on the age group of the affected population).

The Pan American Health Organization / World Health Organization (PAHO / WHO) is supporting national authorities in implementing these actions. In addition, it is assisting with the training of institutional and community health personnel for the detection and investigation of suspected cases; and, facilitating the purchase of supplies, reagents, and vaccines to respond to the outbreak.

The Region of the Americas was the first to be declared by the International Expert Committee (IEC) free of rubella in 2015 and measles in 2016 (1,2). The main measure to prevent the introduction and dissemination of the measles virus is the vaccination of the susceptible population, together with the implementation of a surveillance system of high quality and sensitive enough to detect in a timely manner any suspected cases of measles or rubella.

Given that measles and rubella viruses are still circulating in other continents, and that the arrival of international travelers to the Americas increased by 4% in 2016,<sup>3</sup> (3), the occurrence of cases in unvaccinated travelers is expected.

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<sup>3</sup> 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\*

<b>Countries</b>	<b>2017</b>	<b>2016</b>
Armenia	0	2
Austria	78	28
Azerbaijan	2	0
Belarus	1	29
Belgium	297	119
Bosnia and Herzegovina	16	45
Bulgaria	161	1
Croatia	7	4
Cyprus	3	0
Czech Republic	131	7
Denmark	1	3
Estonia	1	2
Finland	1	5
France	352	79
Georgia	3	14
Germany	796	328
Greece	4	0
Hungary	15	0
Iceland	2	1
Ireland	7	43
Israel	6	10
Italy	3,660	864
Kazakhstan	2	106
Kyrgyzstan	1	0
Lithuania	1	22
Luxembourg	3	0
Netherlands	6	6
Poland	21	138
Portugal	34	0
Romania	1,844	2,432
Russia	79	178
Serbia	7	14
Slovakia	2	0
Slovenia	6	1
Spain	141	38
Sweden	24	3
Switzerland	67	66
Tajikistan	550	52
Turkey	19	9
Ukraine	943	90
United Kingdom	92	571
Uzbekistan	0	1
<b>Total</b>	<b>9,386</b>	<b>5,205</b>

\*Data as of 1 August 2017

**Source:** WHO Regional Office for Europe

## Advice to national authorities

This is an update to the [Epidemiological Alert published on 4 May 2017](#).

A series of guidelines that health authorities may provide to international travelers are presented below. In addition, included are a series of considerations regarding health personnel, individuals, and institutions that are in contact with travelers before and after the trip.

### 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

1. Immunization Newsletter [online]. Washington, DC: Pan American Health Organization. Vol. XXXVII, n. 2, June 2015. [Accessed on 1 May 2017]. Available at: [http://www.paho.org/bulletins/index.php?option=com\\_jnews&act=mailing&task=edit&mailingid=1203&listid=20&listype=1&Itemid=999&lang=en](http://www.paho.org/bulletins/index.php?option=com_jnews&act=mailing&task=edit&mailingid=1203&listid=20&listype=1&Itemid=999&lang=en)
2. Immunization Newsletter [online]. Washington, DC: Pan American Health Organization. Vol. XXXVIII, n. 3, September 2016 [Accessed on 22 September 2017]. Available at: [http://www.paho.org/hq/index.php?option=com\\_docman&task=doc\\_download&Itemid=270&qid=34543&lang=en](http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&Itemid=270&qid=34543&lang=en)
3. World Tourism Organization (UNWTO). Press Release: Close to one billion international tourists in the first nine months of 2016. [Accessed on 22 September 2017]. Available at: <http://media.unwto.org/press-release/2016-11-07/close-one-billion-international-tourists-first-nine-months-2016>
4. World Health Organization. WHO EpiBrief. No. 02/2017. [online]. [Accessed on 22 September 2017]. Available at: [http://www.euro.who.int/\\_data/assets/pdf\\_file/0006/349062/EpiBrief\\_2\\_2017\\_EN-2.pdf](http://www.euro.who.int/_data/assets/pdf_file/0006/349062/EpiBrief_2_2017_EN-2.pdf)

## Related links:

- PAHO/WHO. Vaccine-Preventable Diseases: [http://www.paho.org/hq/index.php?option=com\\_content&view=article&id=1865&Itemid=1899&lang=en](http://www.paho.org/hq/index.php?option=com_content&view=article&id=1865&Itemid=1899&lang=en)