World Health Organization
REGIONAL OFFICE FOR Europe

Situation report # 1
July 2019

MEASLES
IN THE WHO EUROPEAN REGION

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KEY FIGURES

80 345	2019 reported cases (January – May)
84 411	2018 reported cases
25 863	2017 reported cases
5273	2016 reported cases
31	2019 reported deaths (January – May)
74	2018 reported deaths
42	2017 reported deaths
13	2016 reported deaths
49 of 53	Countries affected (in 2018-2019)
91%	Regional Immunization coverage (2nd dose measles-containing vaccine) (2018)

SOURCES

WHO EpiData, No. 6/2019 (data for 2019)

WHO EpiData, No. 6/2019 (data for 2018)

WHO EpiData, No. 1/2019 (data for 2017)

WHO EpiData, No. 1/2018 (data for 2016)

WHO/UNICEF immunization coverage estimates

REGIONAL OVERVIEW

In total, 49 of the 53 countries in the Region together reported over 160 000 measles cases and over 100 measles-related deaths for the period of 1 January 2018 to 30 May 2019. This is a dramatic resurgence of measles compared to previous years.

The Region achieved 91% estimated coverage for the second dose of measles vaccination in 2018. While this level of coverage is an improvement from previous years, it is not uniform across the Region nor high enough to ensure herd immunity and stop the spread of the virus.

High national-level coverage can mask pockets of low coverage at the local level, resulting in an accumulation of susceptible individuals that often goes unrecognized until outbreaks occur.

An enhanced response is needed to protect all populations in the Region from this dangerous disease. On 6 May 2019, WHO activated a Grade 2 emergency response to measles circulation in the European Region. This allows WHO to mobilize the needed human and financial resources to support the affected countries.

(Data as of 4 July 2019)

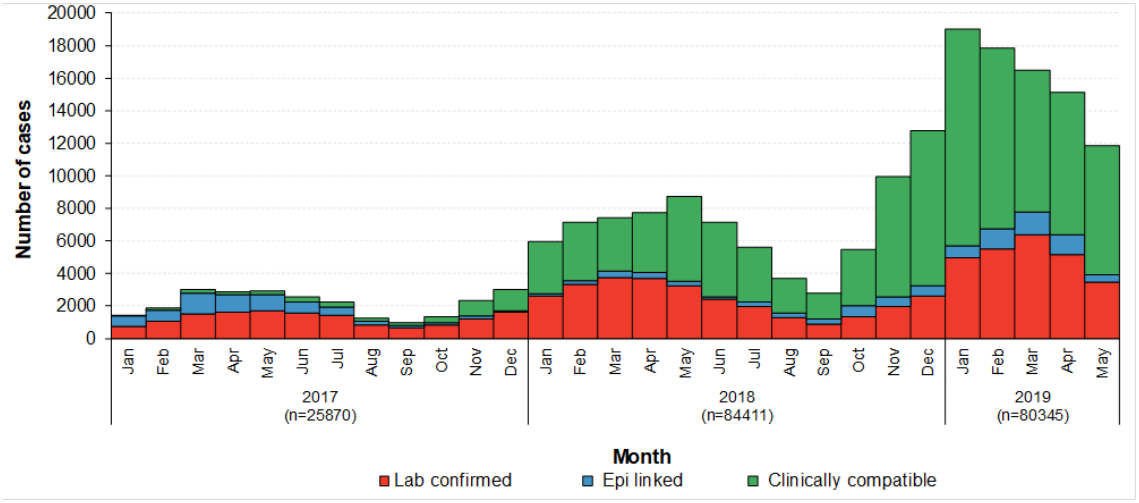

Figure 1. Reported measles cases in the WHO European Region, January 2017–May 2019.
Source: Monthly aggregated case-based data reported by Member States to WHO/Europe, directly or via ECDC/TESSy, data as of 4 July 2019.

Risk assessment and emergency grading

The assessment of the measles situation in the Region considered:

- the high number of children and adults affected by and dying from the disease;
- the persistent pockets of un- or under-immunized individuals in many countries that are fuelling the continuing spread of the disease; and
- the fact that more support is needed from WHO to accelerate action to stop measles circulation and prevent future outbreaks.

Outbreaks lead to a higher number of complications, hospitalizations and deaths, and an increased burden on society and health systems. Under-vaccinated groups exist even in countries where national routine immunization coverage with both doses of measles-containing vaccine approaches or exceeds 95%. They include those too young to be immunized, adults born before vaccine introduction, and sometimes specific subgroups that are not immunized for various reasons. These subgroups may not be recognized as susceptible and may be underserved by or have difficulty accessing immunization services.

All Member States expressed their political commitment to measles elimination through endorsement of the European Vaccine Action Plan 2015–2020. However, this commitment has not yet been fully translated into action in some Member States. This is evidenced by gaps in allocation of resources, vaccination coverage, surveillance quality, and preparedness for or response to outbreaks.

Measles could also be the herald of other vaccine-preventable disease outbreaks, such as pertussis, diphtheria and rubella. Additionally, in today's highly globalized world with increased ease of international travel, measles has been demonstrated to pose a risk for cross-border spread throughout the world.

Based on this risk assessment and according to the WHO Emergency Response Framework, on 6 May 2019 WHO activated a Grade 2 emergency response to measles circulation in the Region. This grading enables WHO to respond more efficiently,

determine the need for surge resources, raise funds for response, and convey to countries and partners the need for coordinated and urgent action. In addition, continuing long-term assistance will strengthen European health systems to avoid future outbreaks.

Grading the measles emergency triggered the activation of WHO's Incident Management System (IMS), which provides a standardized yet flexible approach to managing WHO's response to the emergency. WHO applies the IMS regardless of the underlying hazard, or the scale or operational context of the emergency.

The IMS approach is internationally recognized as best practice for emergency management. As this is a regional-level emergency, the IMS for measles in Europe is based at WHO/Europe. WHO experts were allocated to the following primary IMS functions: leadership, partner coordination, information and planning, health operations and technical expertise, operations support and logistics, and finance and administration.

Immunization gaps

The European Region achieved 91% estimated coverage for the second dose of measles vaccination in 2018. This means that in 2018 more children in the Region received the full 2-dose series according to their countries' immunization schedules than in any year since WHO started collecting data on the second dose in 2000.

However, as measles is exceptionally contagious, at least 95% routine immunization coverage with 2 doses of measles-containing vaccine is needed every year in every community to achieve protection for all and prevent outbreaks. Progress towards this goal at the regional level is not yet sufficient to prevent outbreaks. High national-level coverage can mask pockets of low coverage at the local level, resulting in an accumulation of susceptible individuals that often goes unrecognized until outbreaks occur.

Measles resurgence

Since 1 January 2018, 49 of the 53 countries in the Region have together reported over 160 000 measles cases and over 100 measles-related deaths. This is a dramatic resurgence of cases compared to previous years, which reveals persistent gaps in immunization coverage in the Region and demands an enhanced response.

Regional data:

- WHO–UNICEF immunization coverage estimates, per country
- WHO European Region immunization profile
- WHO EpiData – monthly measles surveillance data reported to WHO by Member States
- Progress toward measles elimination – European Region, 2009–2018. Zimmerman LA, Muscat M, Singh S, Ben Mamou M, Jankovic D, Datta S et al. MMWR Morb Mortal Wkly Rep. 2019;68(17):396–401. doi:10.15585/mmwr.mm6817a4.

Action tailored to country needs

WHO has been supporting all countries in the Region to strengthen their immunization systems, identify barriers to vaccination, close immunization gaps, increase the quality of disease surveillance and respond to disease outbreaks. However, as measles continues to spread across the Region, more needs to be done to stop transmission and end the ongoing cycle of outbreaks.

WHO/Europe has enhanced its measles outbreak response efforts in support of Member States by utilizing the WHO Health Emergency operational platform, which involves both technical and emergency teams. The platform is meant to facilitate accelerated technical support as well as human and financial resources to respond to the current outbreaks and support long-term improvements in population immunity.

Since the Grade 2 response activation, WHO has reviewed the situation in all 53 Member States. It prioritized 4 countries for intervention (Israel, Romania, Serbia and Ukraine) based on the number of children and adults affected by and dying from measles during ongoing or recent outbreaks in 2018–2019; the persistent pockets of un- and under-immunized individuals; and the opportunity to incorporate achievements of outbreak response to accelerate progress towards achieving measles and rubella elimination.

Selection of countries is subject to periodic revision based on the developing epidemiological situation. WHO/Europe continuously provides support to all affected countries as per their needs and requests.

Israel

Measles vaccination coverage at the national level in Israel remains high, with reported routine coverage for both doses of measles-containing vaccine at ≥95% since 2013. However, periodic outbreaks continue to be fuelled by pockets of un- and under-vaccinated individuals. The current outbreak, which started in early 2018, has exceeded 4000 cases (as of 4 July 2019). Israel reported the third-highest number of measles cases in the Region in 2018.

In response to the measles outbreak, a nationwide campaign has been undertaken to identify an estimated 70 000 susceptible individuals and offer them vaccination according to the national recommendations. Catch-up campaigns including mobile vaccination services specifically target children 1–9 years old in subdistricts where cases have occurred. So-called ring vaccination of contacts around identified cases has been carried out as an additional strategy to stop transmission.

Romania

Romania reported the highest number of measles-related deaths in the Region in 2016 (12 deaths), 2017 (24 deaths), and 2018 (22 deaths). In the early 2000s, annual immunization coverage in Romania was estimated to be 95% or higher for both the first and second doses of measles-containing vaccine, but it has been waning since 2009 to a low of 75% for the second dose in 2017. Maintaining high vaccination coverage has been challenged by a transitioning health system, shortages of vaccine supplies and complexities in the outbreak response.

In response to the ongoing measles circulation, the Ministry of Health, in partnership with WHO and UNICEF, has initiated catch-up vaccination campaigns, supplementary immunization activities, risk communications, and door-to-door awareness raising about vaccination in vulnerable communities. WHO has also provided additional support in the form of immunization training for family doctors (training of trainers);

workshops for stakeholders involved in the vaccination process; and scientific studies on the causes of suboptimal vaccination uptake, worker-patient interactions, and measles mortality, among other topics.

Serbia

The number of measles cases has dropped in Serbia this year, with 14 cases reported in January to May 2019. However, national routine vaccination coverage has been below 95% (ranging from 82% to 93%) for the first dose of measles-containing vaccine since 2011. In 2018, Serbia reported the second-highest incidence rate (579.3 per 1 million population) and highest proportion of cases among adults aged 20 years and older (67%) in the Region. It was also one of the 4 countries reporting a high number of deaths attributed to measles (n=14).

WHO's support to Serbia focuses on reviewing lessons learned from the outbreak in order to increase preparedness and prevent future outbreaks. Challenges to preventing measles outbreaks in Serbia have included difficulty in sustaining high levels of routine immunization coverage; in maintaining sufficient vaccine supplies; and in reaching those adults with unknown vaccination status, including health workers.

Since the start of the outbreak, measles surveillance measures have been strengthened, vaccination with at least 1 dose of measles-containing vaccine has become mandatory for all employees in health-care institutions, and efforts have been made to vaccinate susceptible children aged 1–18 years. A project has been initiated to understand and address low vaccination uptake among some parents, and additional training is being developed for paediatricians and nurses.

Ukraine

Measles vaccination coverage at the national level in Ukraine was relatively consistent and above 95% from the mid-1980s until 2008, when immunization rates declined. By 2016, coverage had dropped to 42% and 31% for the first and second doses of measles-containing vaccine, respectively.

Low coverage over multiple years led to a large number of un- and under-vaccinated individuals. This resulted in a large outbreak of measles in Ukraine, with over 100 000 cases reported from 1 January 2017 to 30 May 2019. A high number of measles cases have been reported for the first 5 months of 2019 (95% of the total number of cases reported by Ukraine for all of 2018).

Several factors have contributed to low immunization coverage in Ukraine, including low vaccine confidence by health-care professionals; low demand from the public; and challenges with vaccine supply, storage and handling.

Government authorities in collaboration with WHO and other partners have initiated a series of measures to address the low vaccination coverage and stop the outbreak, including vaccine procurement through the United Nations Children's Fund (UNICEF) since 2016, country-wide supplementary immunization activities ongoing since September 2017, mobile vaccination clinics and outreach vaccination among schoolchildren.

Country-specific data:

- Global measles and rubella surveillance data – Country slides
- WHO EpiData, monthly surveillance tables and slides, WHO European Region
- Measles and rubella elimination country profile – Israel (2019)
- Measles and rubella elimination country profile – Romania (2019)
- Measles and rubella elimination country profile – Serbia (2019)
- Measles and rubella elimination country profile – Ukraine (2019)

Enhanced response by Member States, WHO and partners

The resurgence of measles in the European Region occurred because of a build-up over time of susceptible individuals in communities and countries with suboptimal immunization coverage. The consequences have placed a heavy and at times tragic burden on individuals, families, communities and health systems.

As measles is exceptionally contagious, the Region will continue to import and export the virus until the conditions for interrupting the disease and ending the ongoing cycle of outbreaks are met in every community in every country.

WHO considers the current measles outbreaks in the Region to be an acute problem caused by long-standing health system challenges. Interrupting circulation of the virus and preventing future outbreaks require both emergency response efforts and ongoing technical support.

WHO's work from the emergencies perspective will be to respond to immediate gaps and needs identified by countries to stop or attenuate the outbreaks. This work is done by leveraging unique linkages to emergency resources within WHO and partner organizations, many of which WHO is already working closely with, such as the European Centre for Disease Prevention and Control (ECDC); Gavi, The Vaccine Alliance; and UNICEF.

A necessary part of the long-term technical work with countries will be to identify and address shortcomings in vaccine supply and procurement systems, legislative frameworks, disease surveillance systems, and health workforce training. Working with WHO partners will also be essential to improving immunization programmes in the context of overall health system strengthening.

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