Measles elimination status

2015 endemic
2016 endemic

Source:European Regional Verification Commission for Measles and Rubella Elimination (RVC) meeting report: www.euro.who.int/6thRVC

National plan of action

```
Does the country have a
national plan of action?
ND
Is it updated? ND
```



Source: Measles and rubella elimination Annual Status Update report, 2016

Measles and rubella immunization schedule, 2016

|  | Vaccine | Schedule | Year of introduction |  |
| :---: | :---: | :---: | :---: | :---: |
| MCV1 | MMR | 1 year | MCV2 | 1997 |
| MCV2 | MMR | 5 years | RCV | 2004 |
| Measles vaccination in school |  |  |  | No |

Source: Immunization schedule, WHO, Data and Statistics, Immunization Monitoring and Surveillance (http://muw.who.int/immunization/monitoring_surveillance/data/en/)
MMR = measles-mumps-rubella-containing vaccine; MCV1 = first dose measles-containing vacccine; MCV2 = second dose measles-containing vaccine; RCV = rubella-containing vaccine

Definition used for an outbreak

At least two measles or rubella cases including cases with epidemiological links

Source: Measles and rubella elimination Annual Status Update report, 2016

Rubella elimination status

## 2015 endemic <br> 2016 endemic

Source:European Regional Verification Commission for Measles and Rubella Elimination (RVC) meeting report: www.euro.who.int/6thRVC

Demographic information, 2016

| Total population | 3979781 |
| :---: | :---: |
| < 1 year old | 53379 |
| < 5 years old | 274062 |

Source: World Population Prospects: The 2015 Revision, New York, United Nations

Measles and rubella cases and immunization coverage, 2007-2016


Source: Disease incidence and immunization coverage, WHO, Data and Statistics, Immunization Monitoring and Surveilance
(http://www.who.int/immunization/monitoring_surveillance/data/en/)
MCV1 = first dose of measles-containing vaccine
MCV2= second dose of measles-containing vaccine

Confirmed measles cases by month of onset, 2012-2016


[^0]Measles cases by first subnational level, 2016


Source: Measles and rubella elimination Annual Status Update report, 2016

Measles genotypes by first subnational level, 2016


Source: MeaNS 2016

Note: The dots in the maps are placed randomly within the administrative regions
Map disclaimer: The boundaries and names shown and the designations used on the maps do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country. territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Measles cases by age group and vaccination status, 2016


Source: Measles and rubella elimination Annual Status Update report, 2016

Information on CRS, 2016


Source: Measles and rubella elimination Annual Status Update report, 2016
CRS = congenital rubella syndrome

Sources of infection, 2016

|  | Measles | Rubella |
| :---: | :---: | :---: |
| Imported | 0 | 0 |
| Import-related | 0 | 0 |
| Unknown/ Not <br> reported | 0 | 0 |
| Endemic | 14 | 12 |

Source: Measles and rubella elimination Annual Status Update report, 2016

Supplementary immunization activities

| Year | Target age | Vaccine used | \% Coverage |
| :---: | :---: | :---: | :---: |
| 2015 | $2-30$ years | MMR | $13 \%$ |
| 2016 | $6-30$ years | MMR | $23 \%$ |
| NA |  |  |  |

Source: Supplementary immunization activities, WHO, Data and Statistics, Immunization Monitoring and Surveillance (http://wmw.who.int/immunization/monitoring_surveillance/data/en/) NA= Not applicable; MMR = measles-mumps-rubella vaccine

Measles incidence, epidemiologic and virologic characteristics, 2012-2016

|  | Suspected measles cases | Confirmed measles cases |  |  |  | Discarded <br> as <br> non- <br> measles | Measles incidence | Genotypes detected |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Laboratory | Epilinked | Clincally | Total |  |  |  |
| 2012 | ND | 1 | 0 | 30 | 31 | ND | 7 | D8 |
| 2013 | 8044 | 787 | 304 | 6783 | 7874 | 170 | 1756 | D8 |
| 2014 | 3242 | 391 | 132 | 2668 | 3191 | 50 | 854.8 | B3, D8 |
| 2015 | 498 | 42 | 30 | 359 | 431 | 68 | 115.5 | D8 |
| 2016 | 55 | 5 | 0 | 9 | 14 | 44 | 3.8 | D8 |

Source: Measles and rubella elimination Annual Status Update report, 2012-2016
Incidence calculated per 1 million population

Rubella incidence, epidemiologic and virologic characteristics, 2012-2016

|  | Suspected rubella cases | Confirmed measles cases |  |  |  | $\begin{gathered} \text { Discarded } \\ \text { as } \\ \text { non- } \\ \text { rubella } \end{gathered}$ | Rubella incidence | Genotypes detected |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Laboratory | Epi- linked | Clincally | Total |  |  |  |
| 2012 | ND | 2 | 0 | 73 | 75 | ND | 17 | ND |
| 2013 | 260 | 6 | 1 | 217 | 224 | 31 | 50 | ND |
| 2014 | 177 | 2 | 0 | 147 | 149 | 26 | 39.9 | ND |
| 2015 | 138 | 0 | 0 | 100 | 100 | 37 | 26.8 | ND |
| 2016 | 106 | 1 | 0 | 11 | 12 | 91 | 3.2 | ND |

Source: Measles and rubella elimination Annual Status Update report, 2012-2016
Incidence calculated per 1 million population
ND = Data not available; NA= Not applicable

Measles surveillance and laboratory performance indicators, 2012-2016

|  | Discarded <br> non- <br> measles <br> rate | \% 1st sub- <br> national <br> unit with <br> $\geqslant 2$ <br> discarded <br> cases | \% cases <br> with <br> adequate <br> laboratory <br> investiga- <br> tion | \% origin of <br> infection <br> known | $\#$ <br> specimen <br> tested for <br> measles | \% positive <br> for <br> measles | Rate of <br> viral <br> detection | \% WHO <br> and <br> proficient <br> labs |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2012 | 2.0 | ND | $100 \%$ | ND | ND | ND | ND | ND |
| 2013 | 3.6 | $25 \%$ | $100 \%$ | $99.8 \%$ | ND | ND | ND | ND |
| 2014 | 1.5 | $25 \%$ | $14.4 \%$ | $99.6 \%$ | ND | ND | $100 \%$ | ND |
| 2015 | 1.8 | $33.3 \%$ | $21.7 \%$ | $99.8 \%$ | 99 | $43.4 \%$ | $55.5 \%$ | ND |
| 2016 | 1.2 | $8.3 \%$ | $100 \%$ | $100 \%$ | 120 | $7.5 \%$ | $100 \%$ | $100 \%$ |

Source: ASU 2012-2016, MeaNS 2012-2016 and laboratory accreditation results 2012-2016
ND = Data not available; NA = Not applicable
A proficient laboratory is WHO accredited and/or has an established quality assurance programme with oversight
by a WHO accredited laboratory
Rubella surveillance and laboratory performance indicators, 2012-2016

|  | Discarded <br> non- <br> rubella <br> rate | \% 1st sub- <br> national <br> unit with <br> $\geqslant 2$ <br> discarded <br> cases | \% cases <br> with <br> adequate <br> laboratory <br> investiga- <br> tion | \% origin of <br> iffection <br> known | $\#$ <br> specimen <br> tested for <br> rubella | \% positive <br> for rubella | Rate of <br> viral <br> detection | \% WHO <br> and <br> porficient <br> labs |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2012 | ND | ND | $100 \%$ | ND | ND | ND | ND | ND |
| 2013 | 2.7 | $0 \%$ | $100 \%$ | $99.6 \%$ | ND | ND | ND | ND |
| 2014 | 1.8 | $0 \%$ | $40.9 \%$ | $100 \%$ | ND | ND | ND | ND |
| 2015 | 1 | $8.3 \%$ | $20 \%$ | $100 \%$ | 25 | $0 \%$ | 0 | ND |
| 2016 | 2.4 | $33.3 \%$ | $97.5 \%$ | $100 \%$ | 129 | $1.6 \%$ | 0 | $100 \%$ |

Source: ASU 2012-2016, RubeNS 2012-2016 and laboratory accreditation results 2012-2016
$N D=$ Data not available; $N A=$ Not applicable
A proficient laboratory is WHO accredited and/or has an established quality assurance programme with oversight by a WHO accredited laboratory

## RVC comments, based on 2016 reporting

The Regional Verification Commission for Measles and Rubella Elimination (RVC) recognizes the efforts that have been made towards measles and rubella elimination. At the same time, the RVC urges further efforts to achieve and maintain high vaccination coverage with both MRCV doses at all administrative levels through routine and supplemental immunization activities.

The RVC also urges efforts to increase the rate of viral detection for rubella cases.

Source: Regional Verification Commission for Measles and Rubella Elimination (RVC) meeting report (www.euro.who.int/6thRVC)

## Surveillance performance indicators and targets

a. Rate of discarded cases: at least 2 discarded measles or rubella cases per 100000 population
b. \% cases with adequate laboratory investigation: $\geqslant 80 \%$
c. \% origin of infection known: $\geqslant 80 \%$
d. Rate of viral detection: $\geqslant 80 \%$


[^0]:    Source: CISID2 2016

