

Austria

General

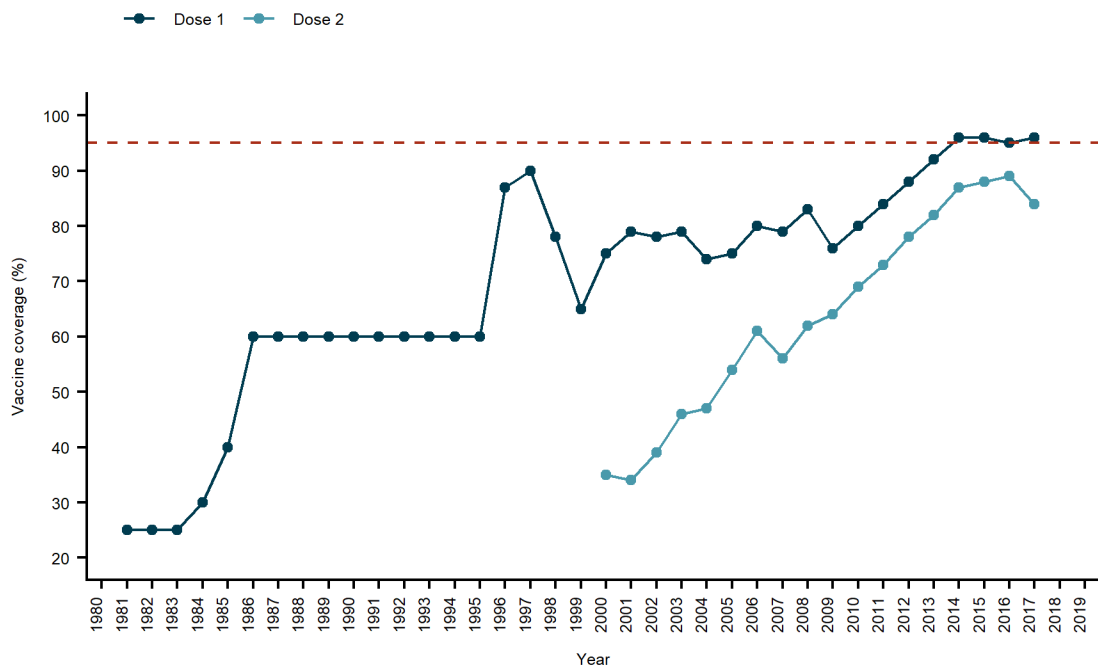
Population	8,822,267
Measles elimination status (2017 data)	Interrupted 24 months
MMR vaccine schedule	9-11 months 12-14 months

1 Jan 2016 to 31 Mar 2019

Cases (of which confirmed; %)	258 (231; 90%)
Average annual notification rate per million population	Crude: 9. Age-standardised: 9.1 (95% CI: 8 - 10.3)
Number of deaths (CFR)	0 (0%)
Median age (IQR) of cases in years	22 (6 - 32)
Number of exportations to other EU/EEA countries	15

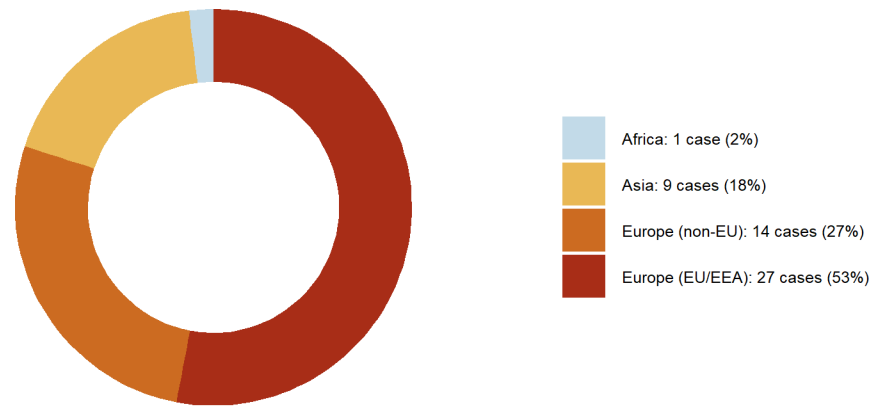
National level measles-containing vaccine coverage, 1981 to 2017

WHO/UNICEF Estimates of National Immunization Coverage



Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

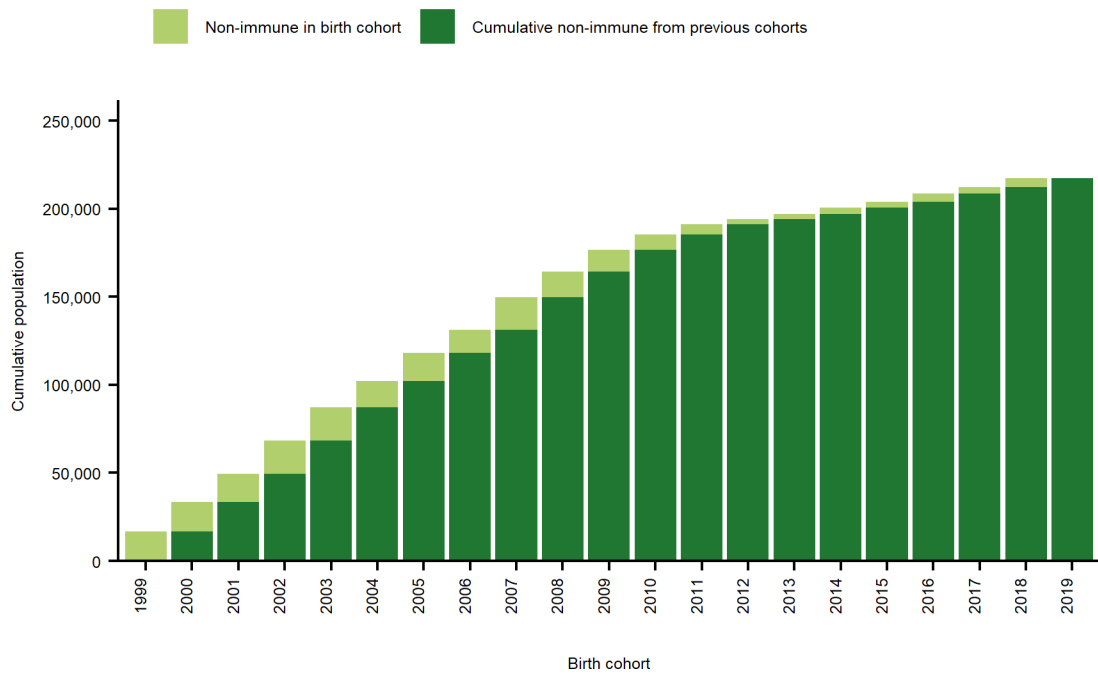
Based on 51 of 258 cases (19.8%) submitted as case-based data that were reported as imported with known probable country of infection. An additional 2 imported cases had unknown probable country of infection.



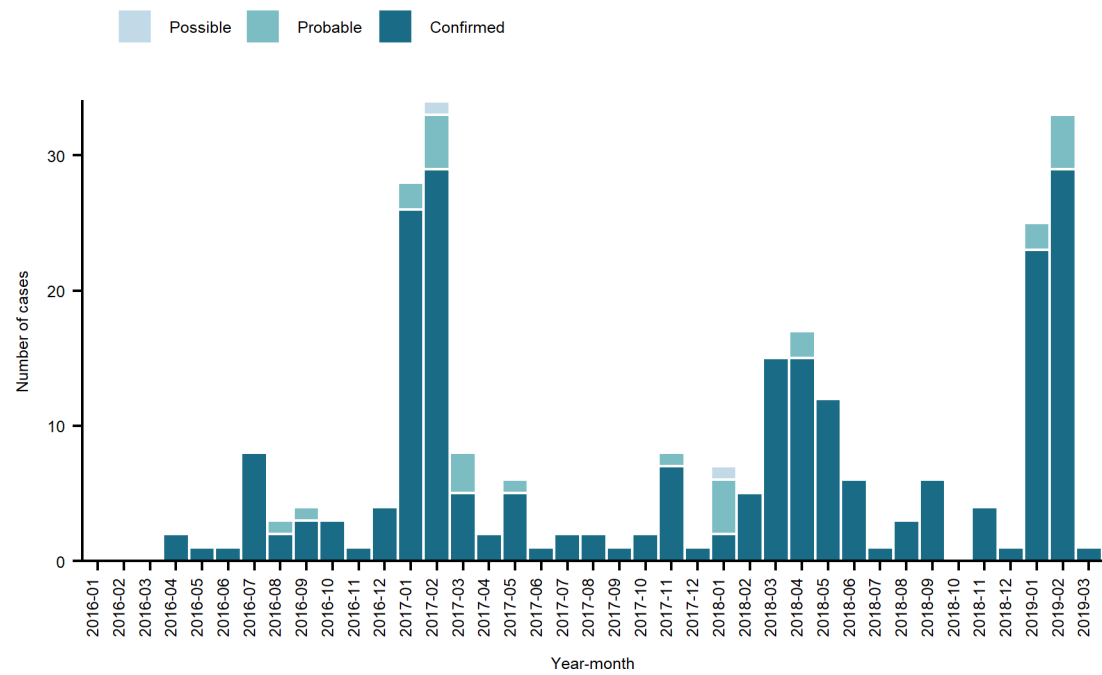
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 217,427 (13.6%) of the children born in the above period were non-immune by 2019

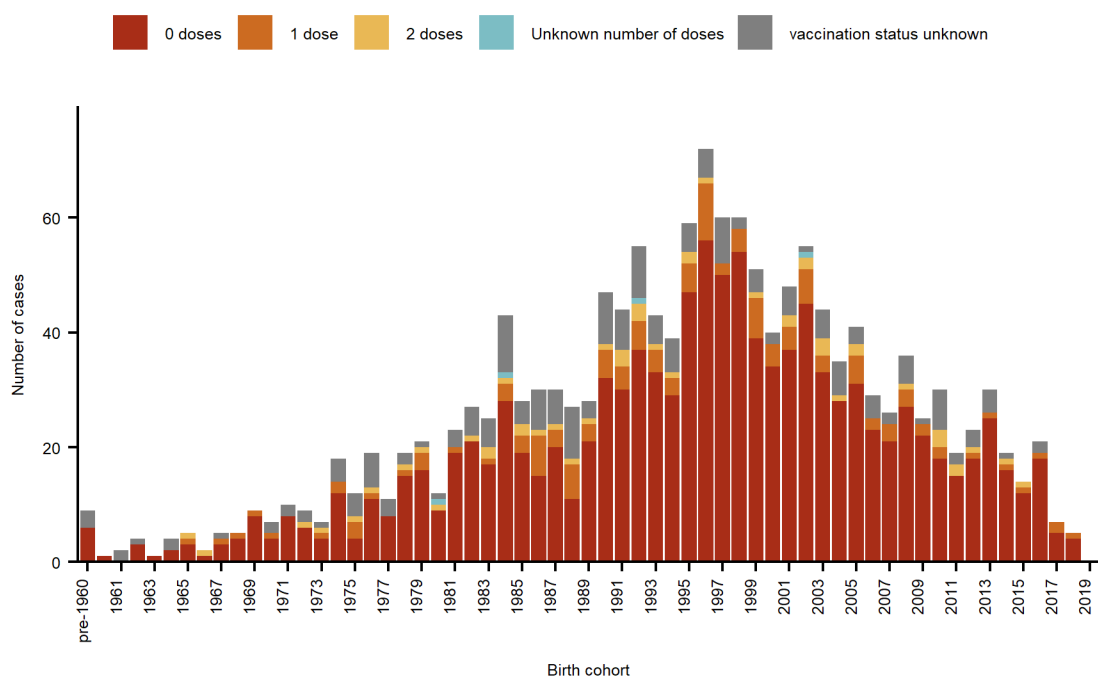
Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 Jan 2003 to 31 Mar 2019. Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%



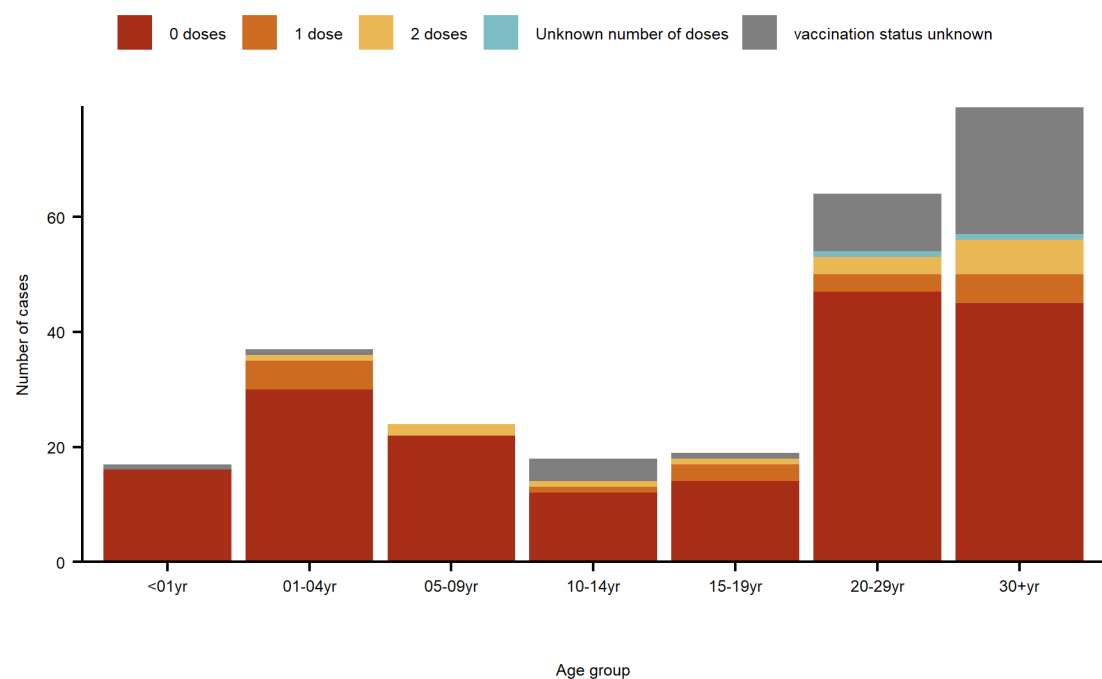
Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 258)



Measles cases by birth cohort and vaccination status, reported to TESSy 1 Jan 2003 to 31 Mar 2019 (n = 1,530)



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 258)



Belgium

General

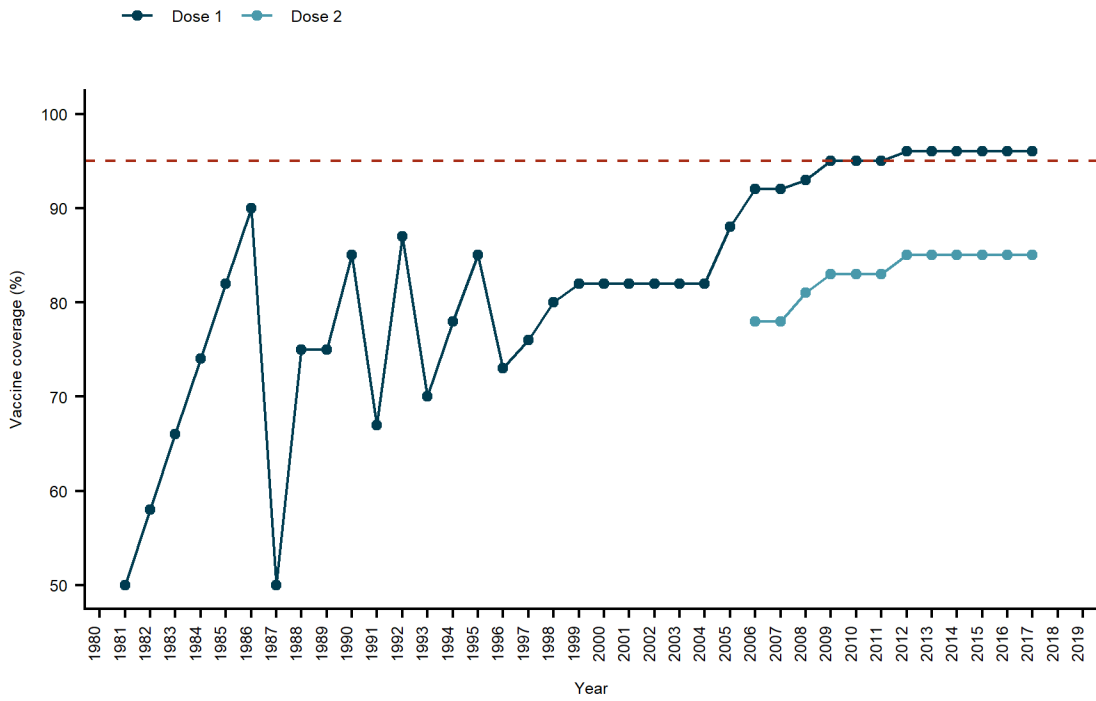
Population	11,398,589
Measles elimination status (2017 data)	Endemic
MMR vaccine schedule	12 months 10-13 years

1 Jan 2016 to 31 Mar 2019

Cases (of which confirmed; %)	734 (541; 74%)
Average annual notification rate per million population	Crude: 19.8. Age-standardised: 19.2 (95% CI: 17.8 - 20.6)
Number of deaths (CFR)	0 (0%)
Median age (IQR) of cases in years	12 (1 - 23)
Number of exportations to other EU/EEA countries	13

National level measles-containing vaccine coverage, 1981 to 2017

WHO/UNICEF Estimates of National Immunization Coverage. Graph shows national weighted values estimated from regional surveys. Regional differences in vaccination coverage exist, particularly for MMR2 (lower coverage in Wallonia and Brussels than Flanders). Programmes with free MMR vaccines started in 1986 for 1 year olds. MMR2 was added in 1996 for 10-12 year olds



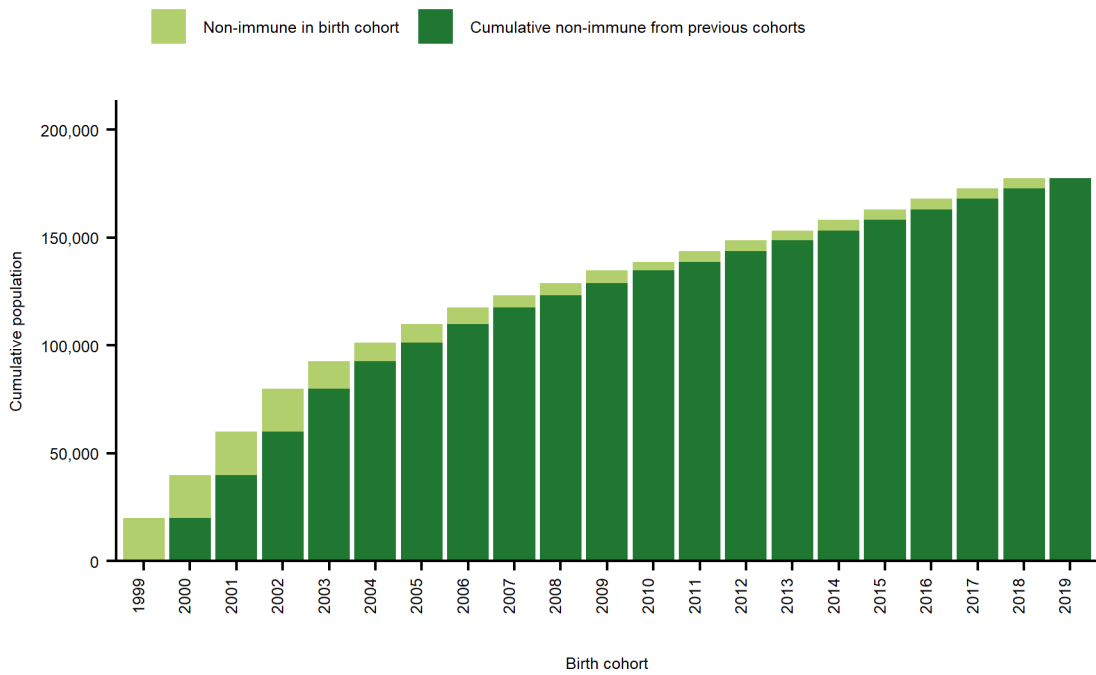
Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

Note: no figure has been included as importation status is not provided in the data that have been reported in aggregate format since May 2016

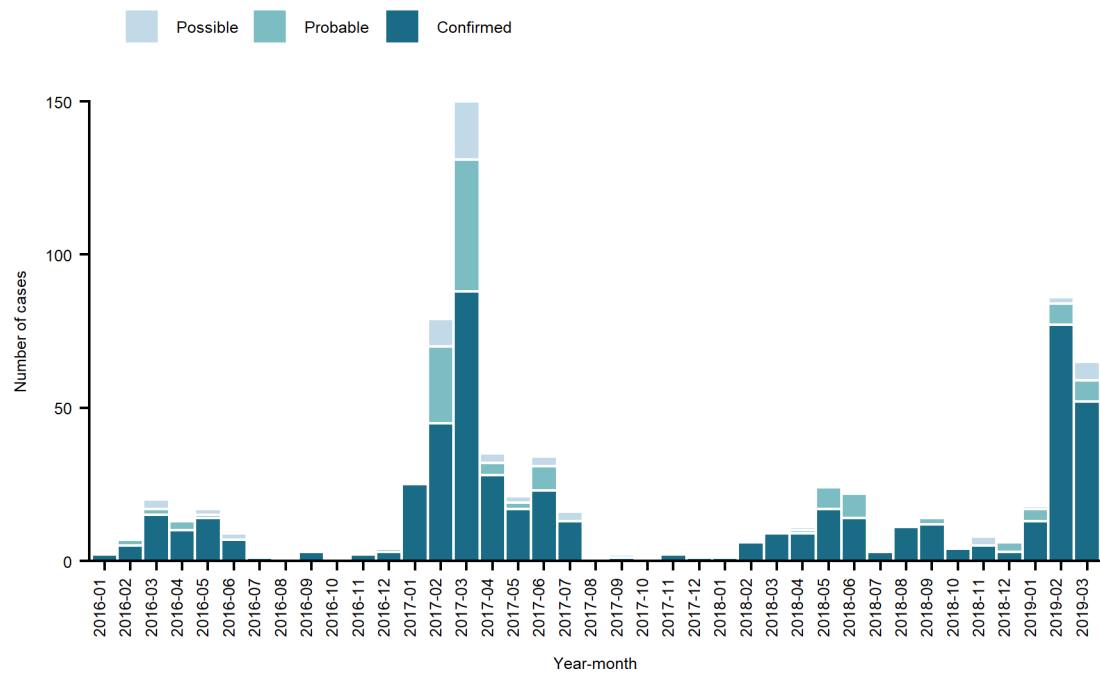
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 177,630 (7.3%) of the children born in the above period were non-immune by 2019

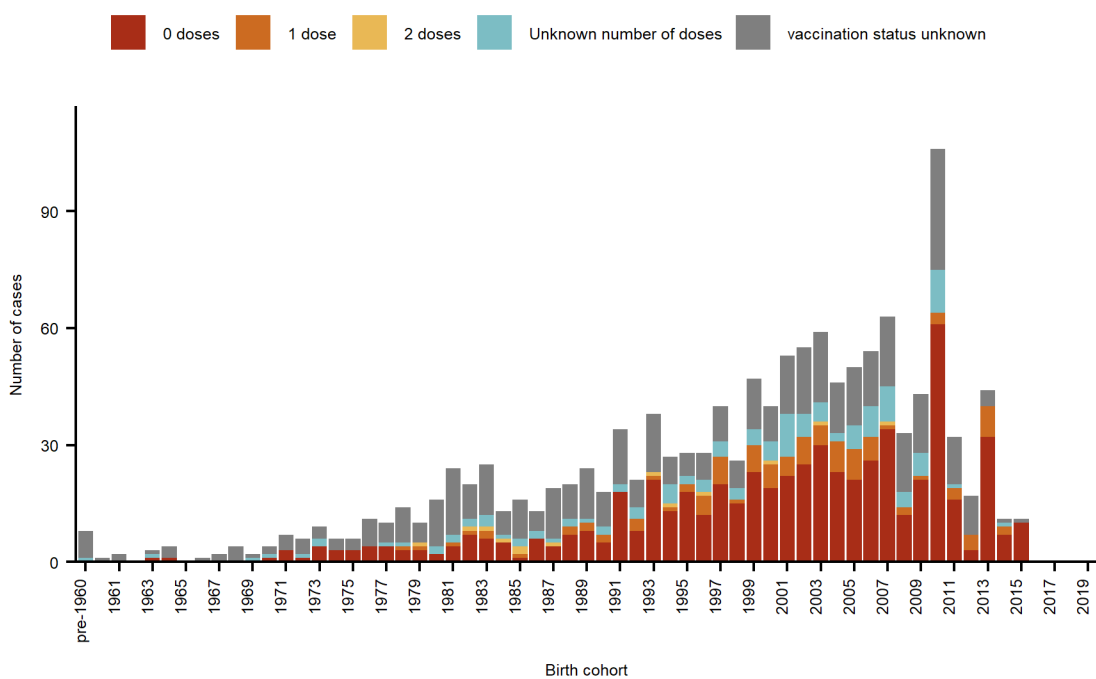
Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 Jan 2003 to 30 Apr 2016
No adjustment has been made for 692 cases reported in aggregate format since they cannot be assigned to a birth cohort
Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%



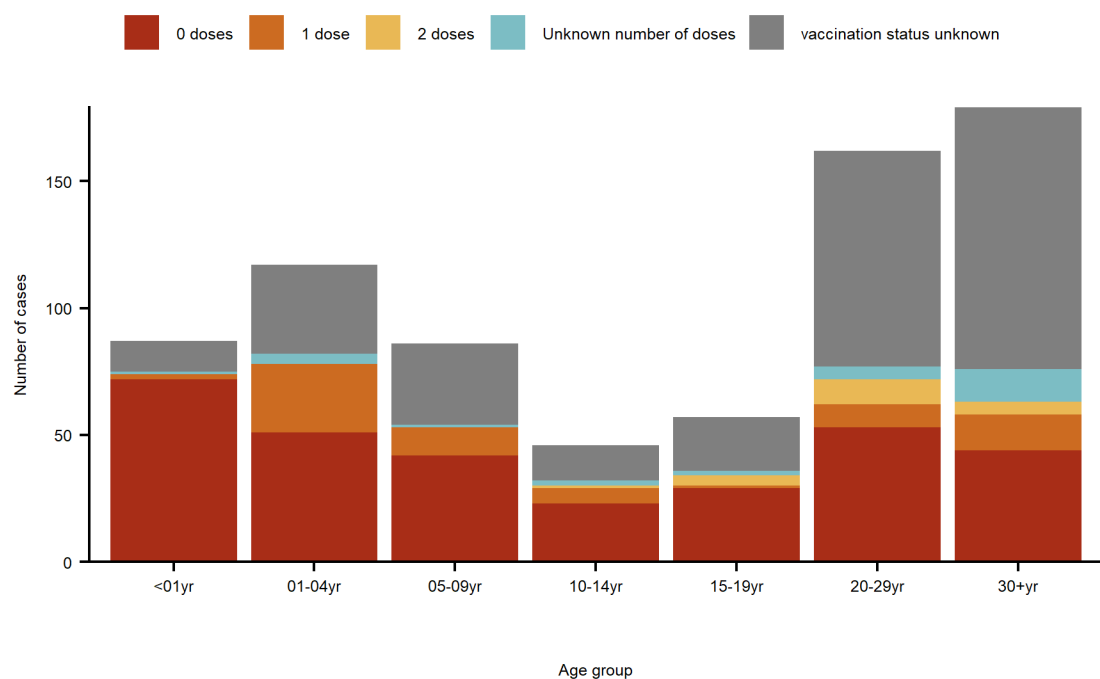
Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 734)



Measles cases by birth cohort and vaccination status, reported to TESSy 1 Jan 2003 to 30 Apr 2016 (n = 1,324)



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 734)



Bulgaria

General

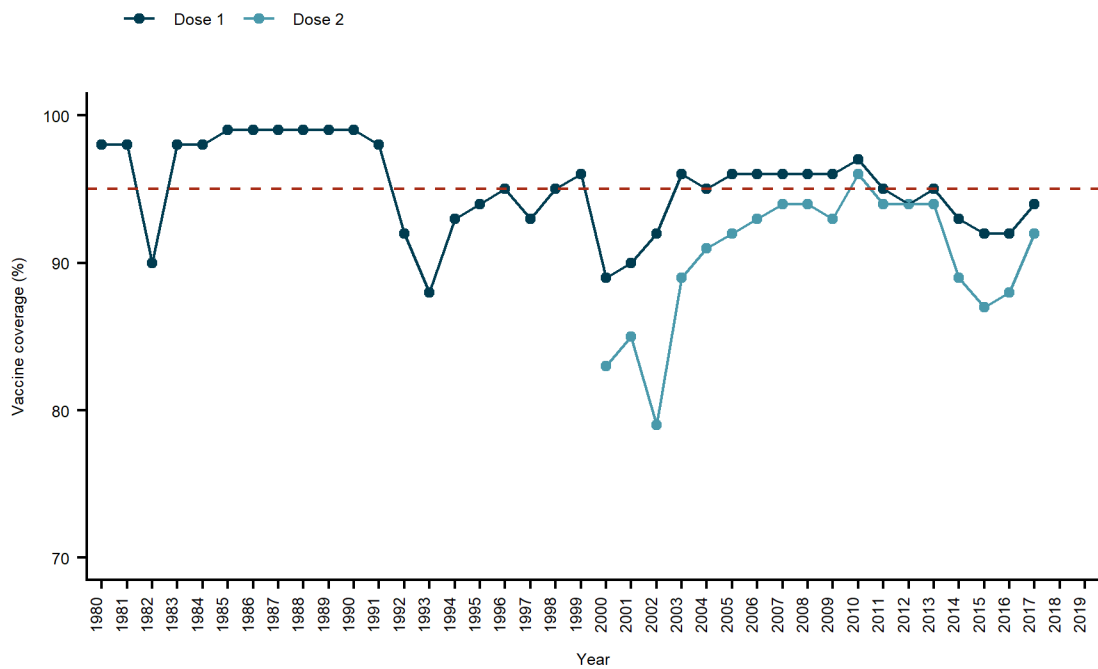
Population	7,050,034
Measles elimination status (2017 data)	Eliminated
MMR vaccine schedule	13 months
	12 years

1 Jan 2016 to 31 Mar 2019

Cases (of which confirmed; %)	415 (345; 83%)
Average annual notification rate per million population	Crude: 18.1. Age-standardised: 19.7 (95% CI: 17.9 - 21.7)
Number of deaths (CFR)	1 (0.24%)
Median age (IQR) of cases in years	4 (1 - 14)
Number of exportations to other EU/EEA countries	5

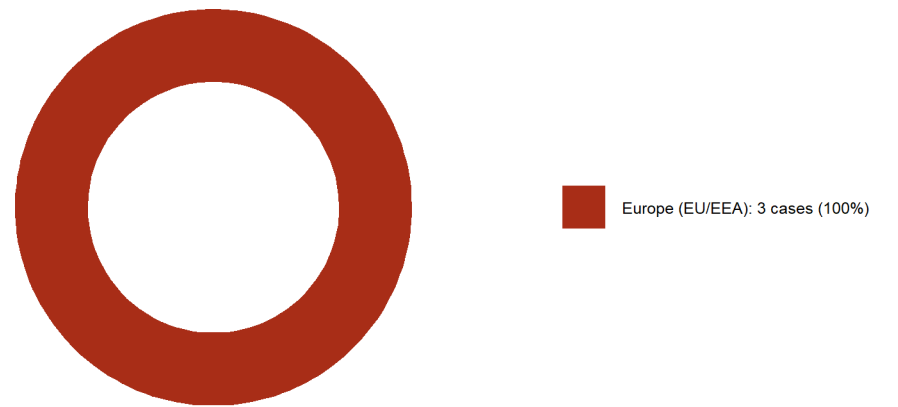
National level measles-containing vaccine coverage, 1980 to 2017

WHO/UNICEF Estimates of National Immunization Coverage



Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

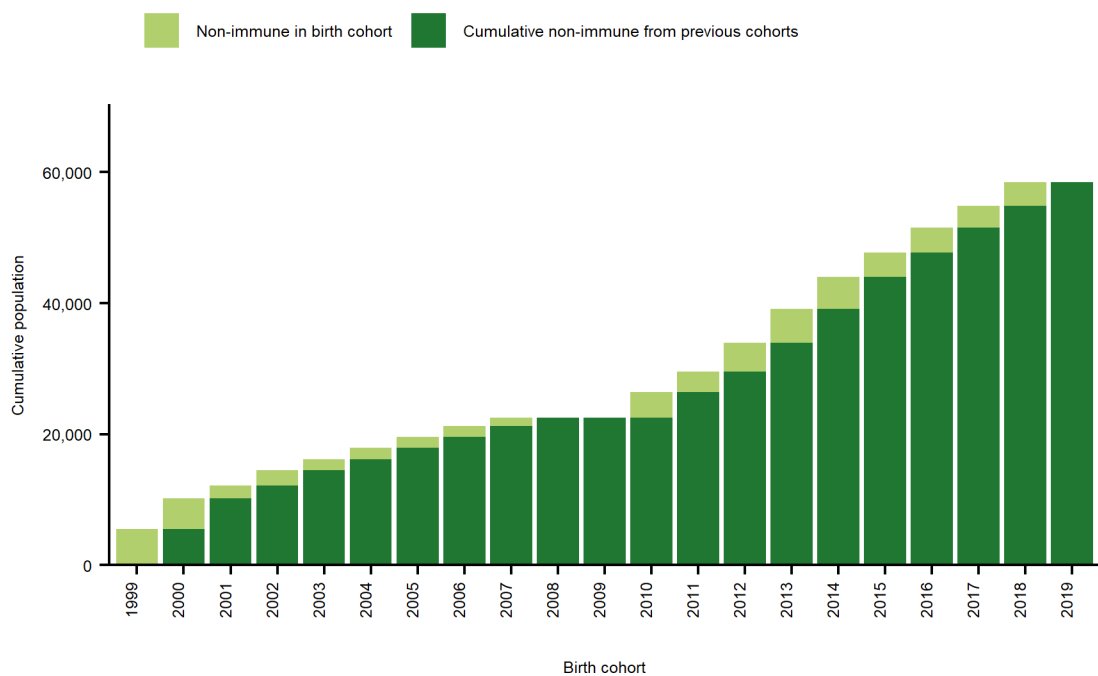
Based on 3 of 415 cases (0.7%) submitted as case-based data that were reported as imported with known probable country of infection. An additional 6 imported cases had unknown probable country of infection.



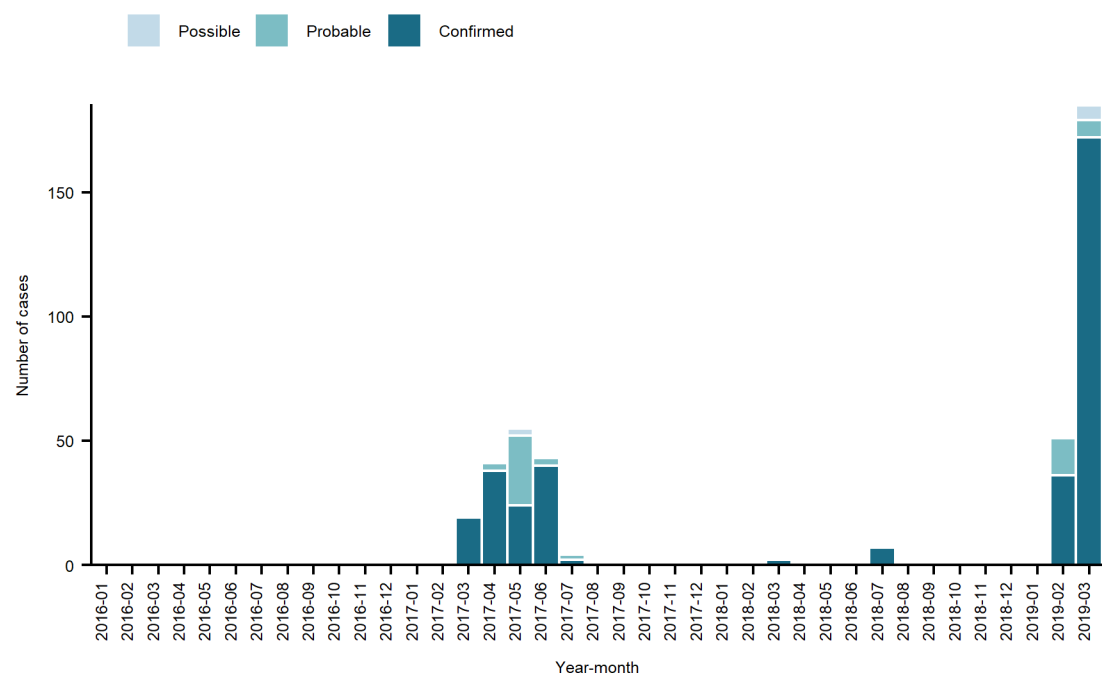
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 58,515 (4.3%) of the children born in the above period were non-immune by 2019

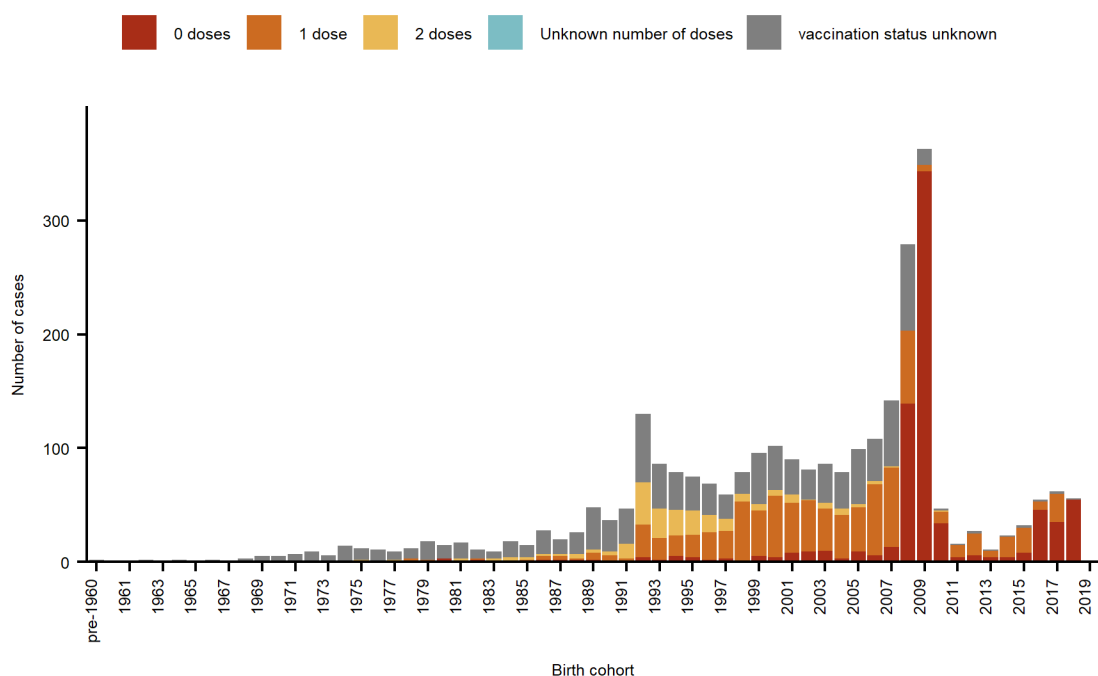
Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 Apr 2005 to 31 Mar 2019. No adjustment has been made for 22,005 cases reported in aggregate format since they cannot be assigned to a birth cohort. Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%. No data were available to take into account large SIAs implemented in response to outbreaks in 2009-2011 and since February 2019.



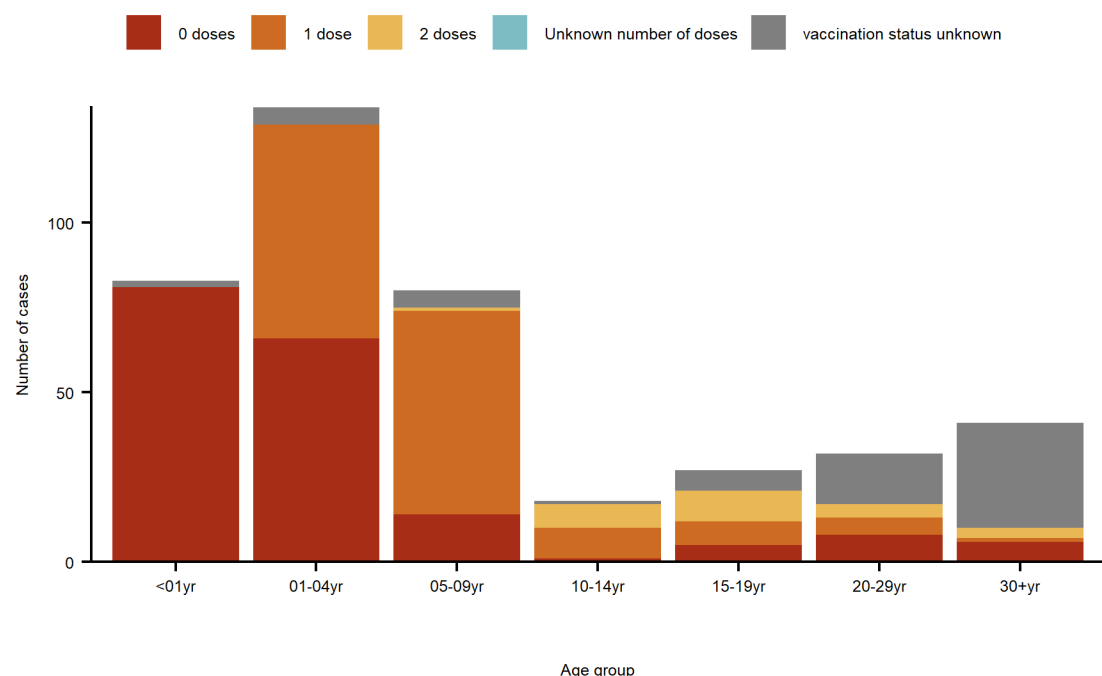
Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 415)



Measles cases by birth cohort and vaccination status, reported to TESSy 1 Apr 2005 to 31 Mar 2019 (n = 2,841)



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 415)



Croatia

General

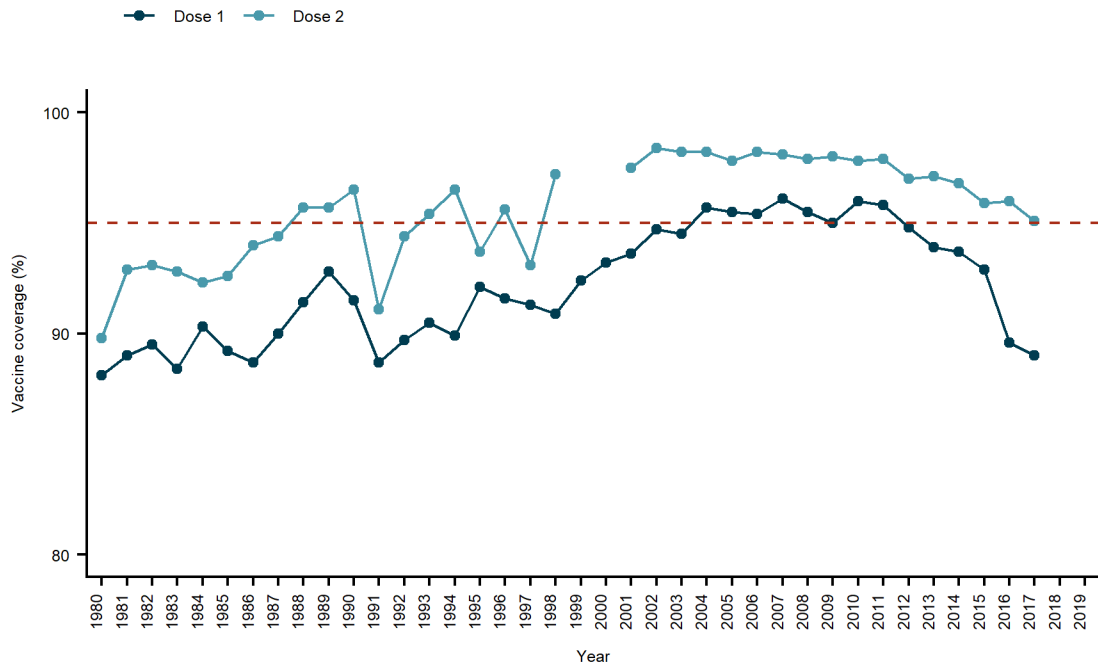
Population	4,105,493
Measles elimination status (2017 data)	Eliminated
MMR vaccine schedule	12 months 5-7 years

1 Jan 2016 to 31 Mar 2019

Cases (of which confirmed; %)	35 (35; 100%)
Average annual notification rate per million population	Crude: 2.8. Age-standardised: 2.8 (95% CI: 1.9 - 3.9)
Number of deaths (CFR)	0 (0%)
Median age (IQR) of cases in years	35 (20 - 42)
Number of exportations to other EU/EEA countries	14

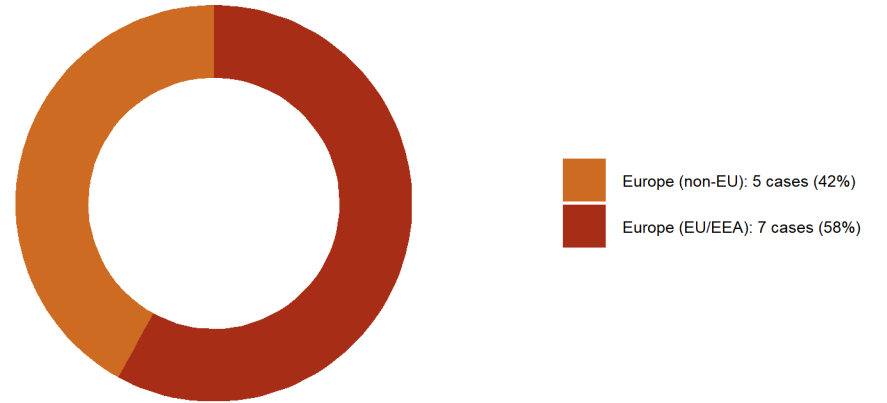
National level measles-containing vaccine coverage, 1980 to 2017

WHO/UNICEF Estimates of National Immunization Coverage and additional data from the member state for pre-1992 (MCV1) and pre-2001 (MCV2)



Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

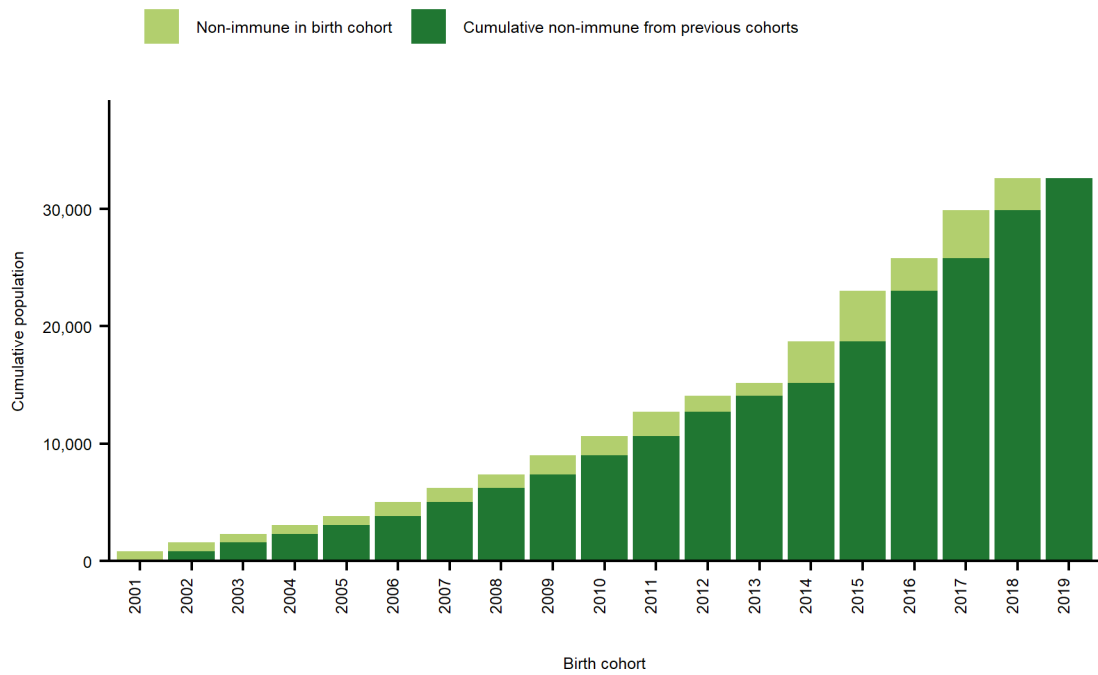
Based on 12 of 35 cases (34.3%) submitted as case-based data, reported as imported with a valid probable country of infection. An additional 1 imported case had unknown probable country of infection.



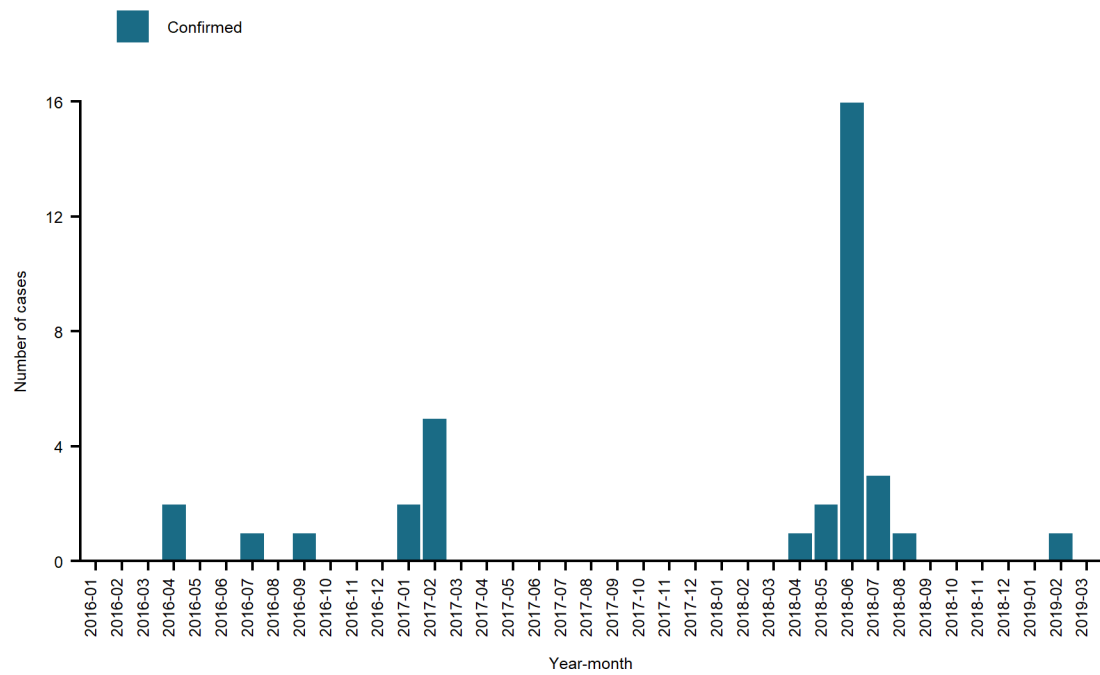
Estimated cumulative population non-immune to measles born between 2001 and 2019

An estimated 32,640 (4.4%) children born in the above period were non-immune by 2019

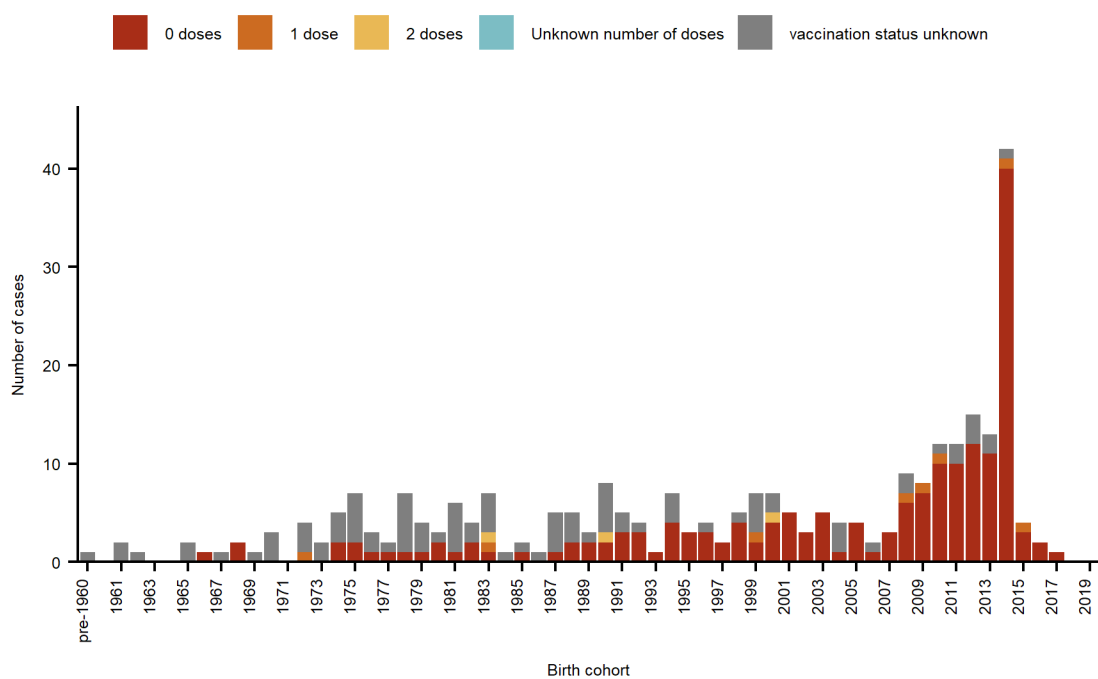
Based on MCV2 coverage at age 6 (school entry) for birth cohorts 2001-13, MCV1 coverage at age 2 for birth cohorts 2014-19 and cases per birth cohort reported to TESSy from 1 Jan 2011 to 28 Feb 2019. Not accounted for: SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%



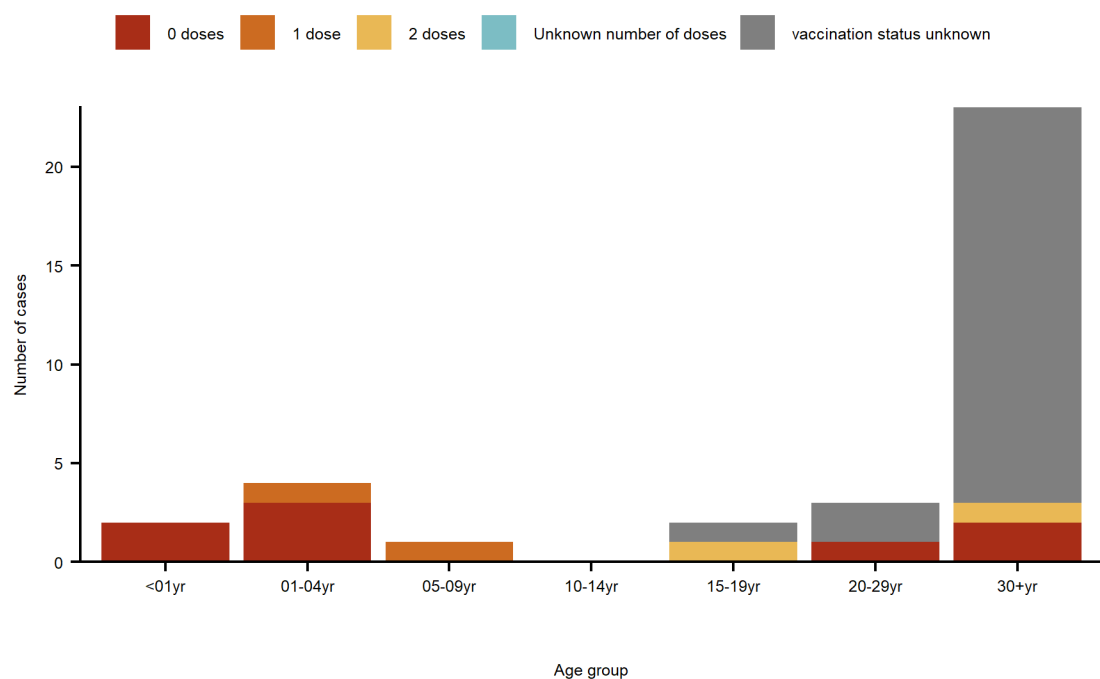
Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 35)



Measles cases by birth cohort and vaccination status, reported to TESSy 1 Jan 2011 to 28 Feb 2019 (n = 282)



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 35)



Cyprus

General

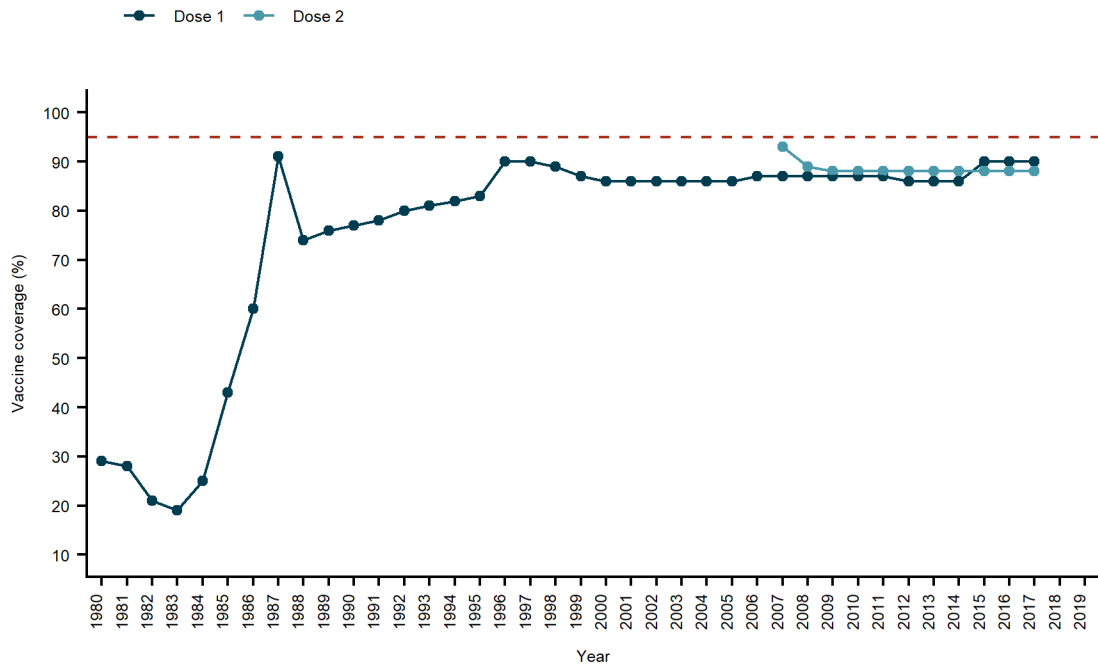
Population	864,236
Measles elimination status (2017 data)	Eliminated
MMR vaccine schedule	13-15 months 4-6 years

1 Jan 2016 to 31 Mar 2019

Cases (of which confirmed; %)	19 (19; 100%)
Average annual notification rate per million population	Crude: 7.1. Age-standardised: 6.4 (95% CI: 3.8 - 10)
Number of deaths (CFR)	0 (0%)
Median age (IQR) of cases in years	6 (2 - 21)
Number of exportations to other EU/EEA countries	2

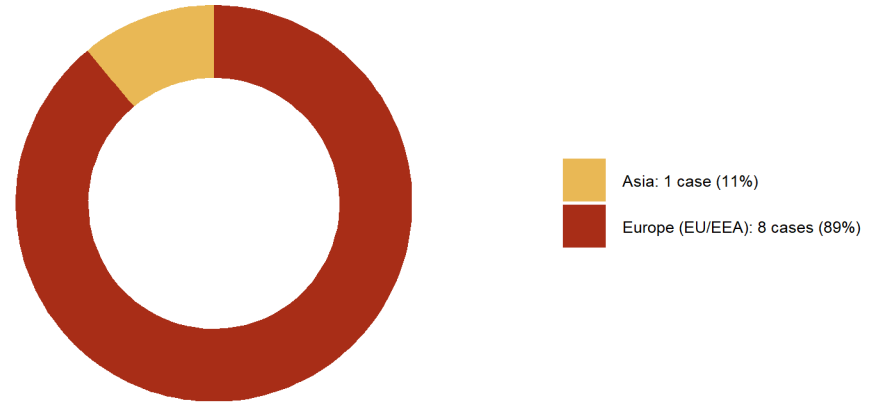
National level measles-containing vaccine coverage, 1980 to 2017

WHO/UNICEF Estimates of National Immunization Coverage



Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

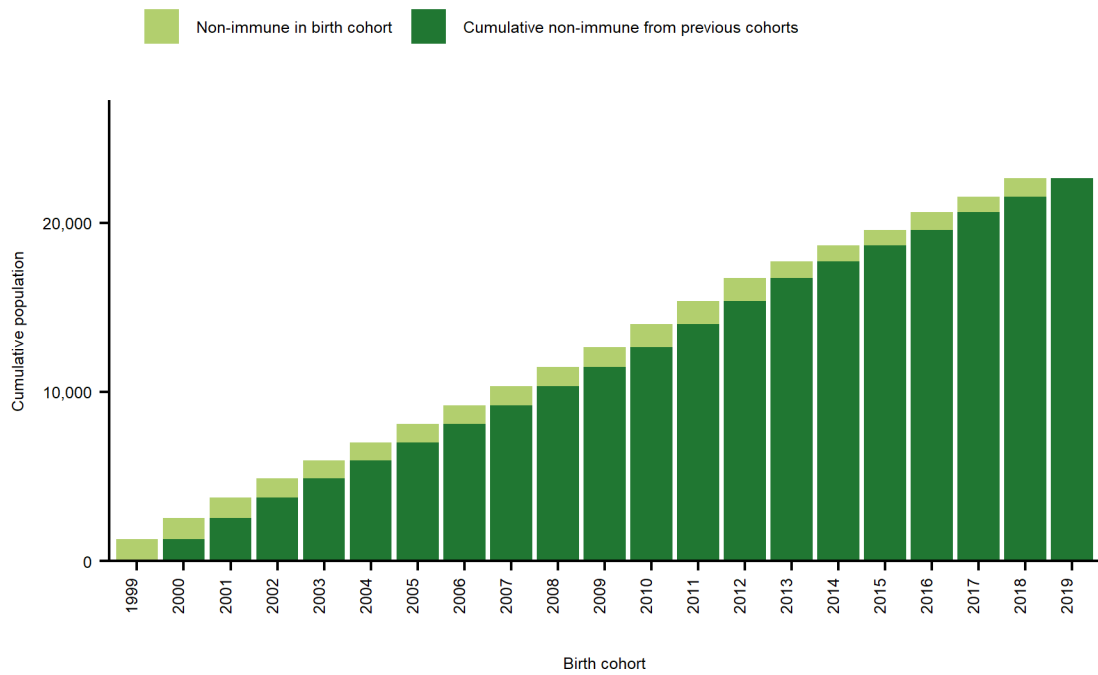
Based on 9 of 19 cases (47.4%) submitted as case-based data that were reported as imported with known probable country of infection



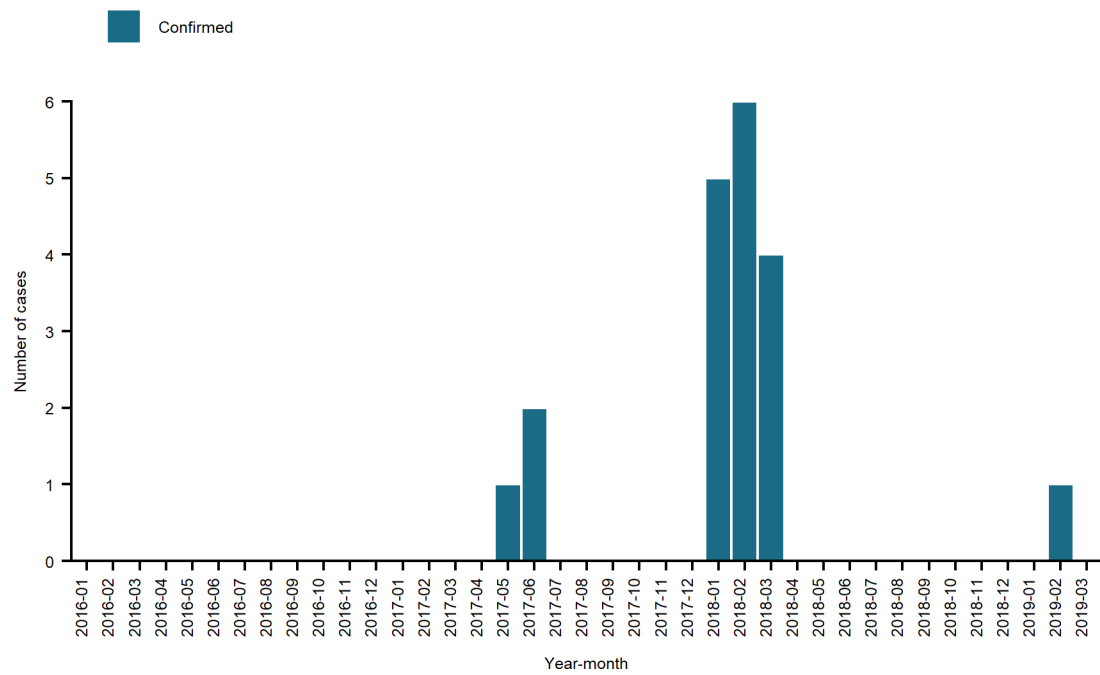
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 22,651 (12.4%) of the children born in the above period were non-immune by 2019

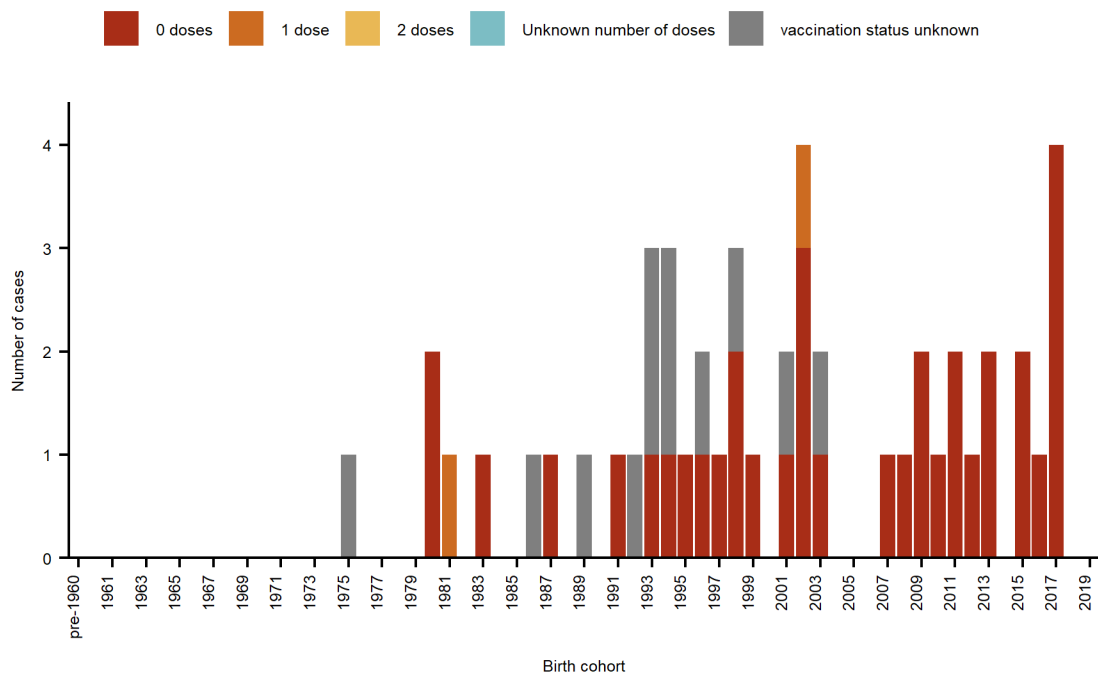
Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 Jun 2005 to 28 Feb 2019
Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%



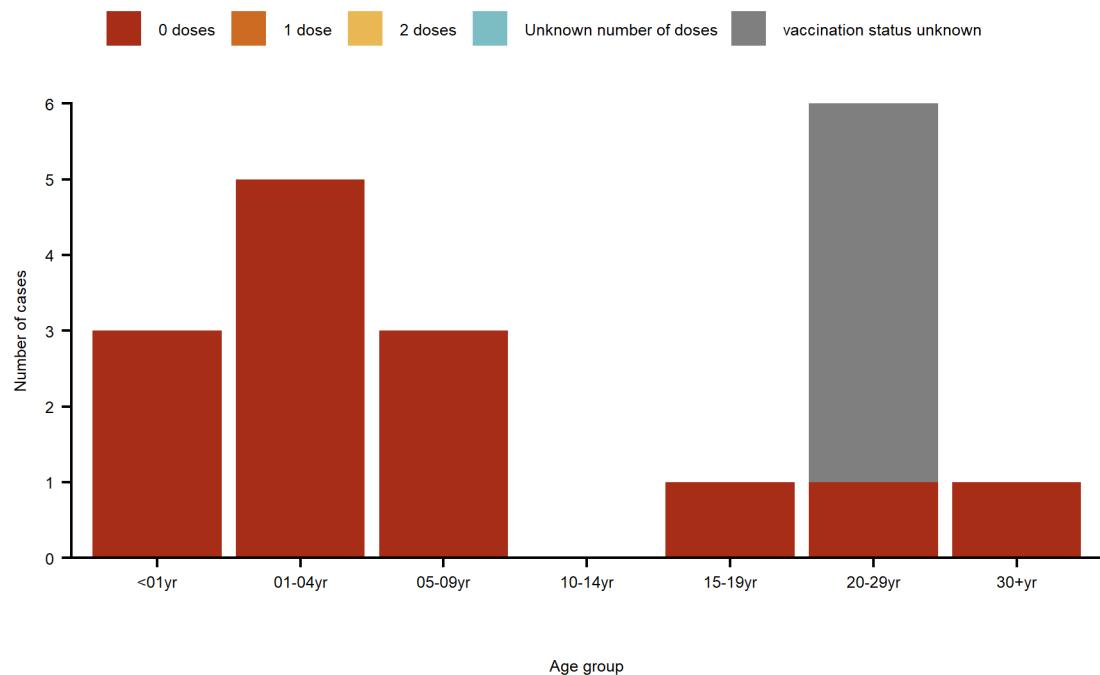
Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 19)



Measles cases by birth cohort and vaccination status, reported to TESSy 1 Jun 2005 to 28 Feb 2019 (n = 49)



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 19)



Czech Republic

General

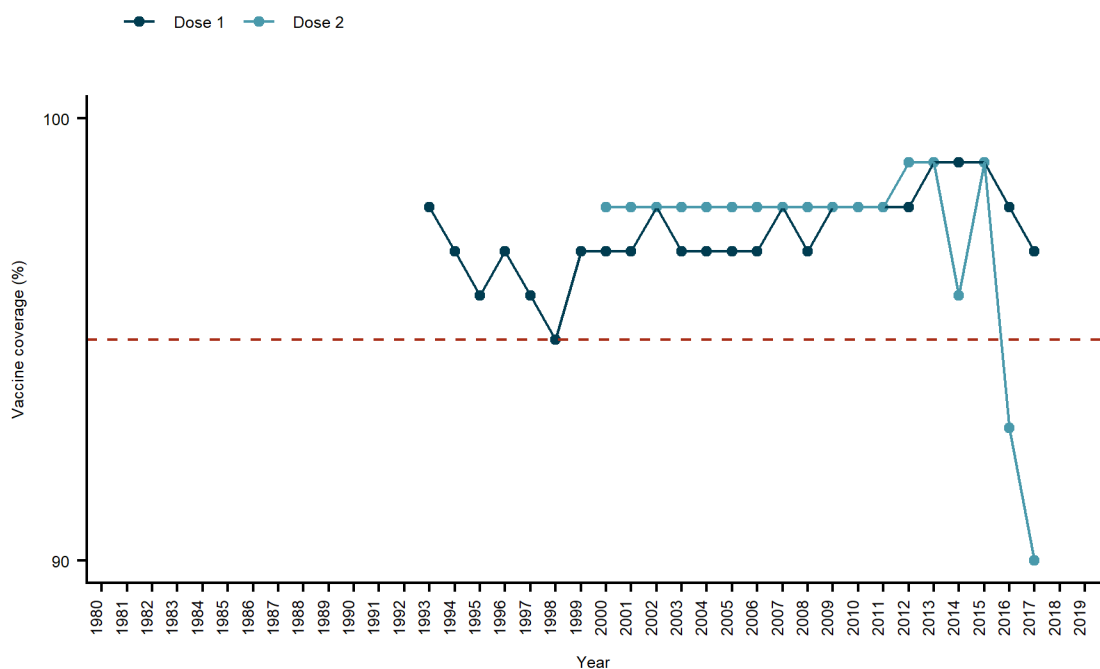
Population	10,610,055
Measles elimination status (2017 data)	Eliminated
MMR vaccine schedule	13-18 months 5-6 years

1 Jan 2016 to 20 Mar 2019

Cases (of which confirmed; %)	583 (485; 83%)
Average annual notification rate per million population	Crude: 16.9. Age-standardised: 17 (95% CI: 15.6 - 18.4)
Number of deaths (CFR)	0 (0%)
Median age (IQR) of cases in years	31 (14 - 41)
Number of exportations to other EU/EEA countries	8

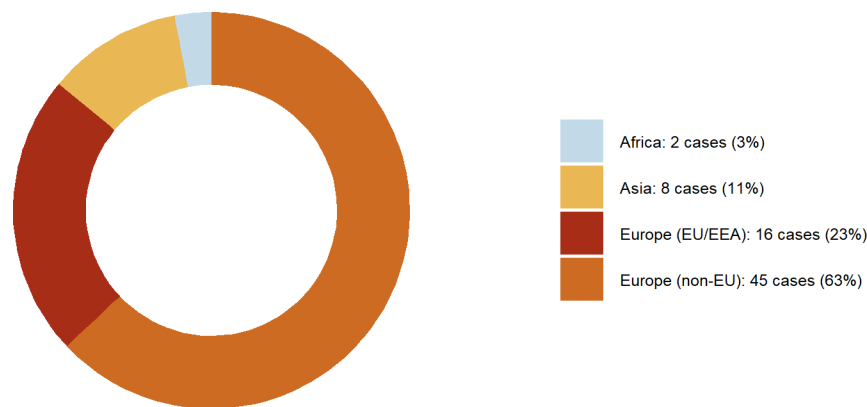
National level measles-containing vaccine coverage, 1993 to 2017

WHO/UNICEF Estimates of National Immunization Coverage



Probable continent of infection of imported cases, 1 Jan 2016 to 20 Mar 2019

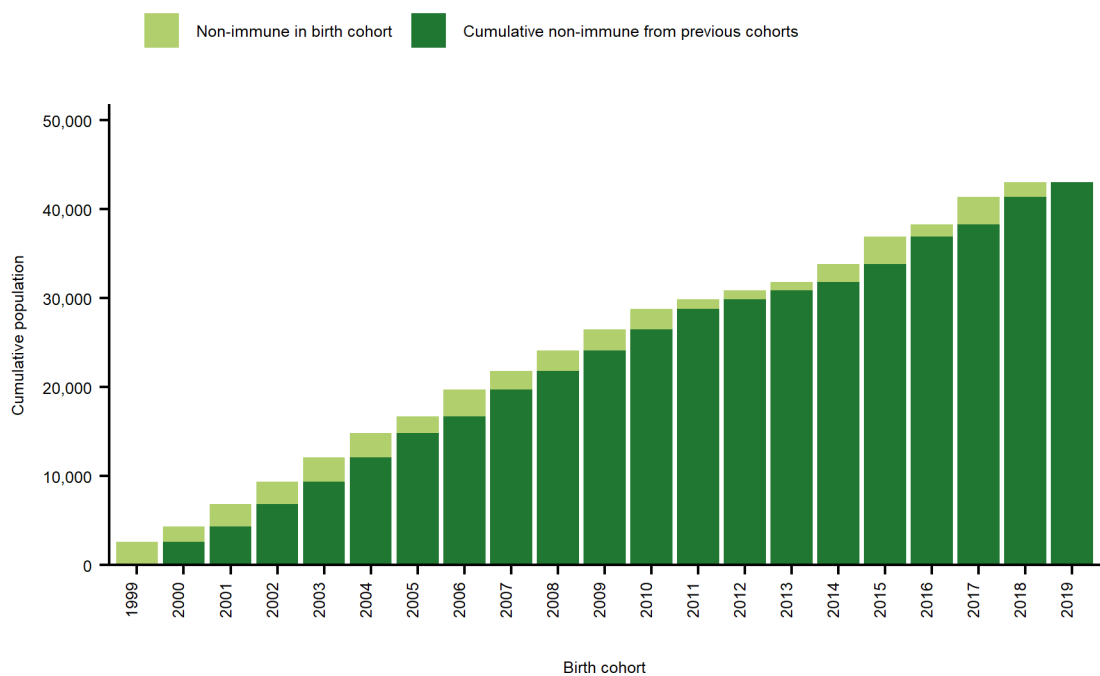
Based on 71 of 583 cases (12.2%) submitted as case-based data that were reported as imported with known probable country of infection



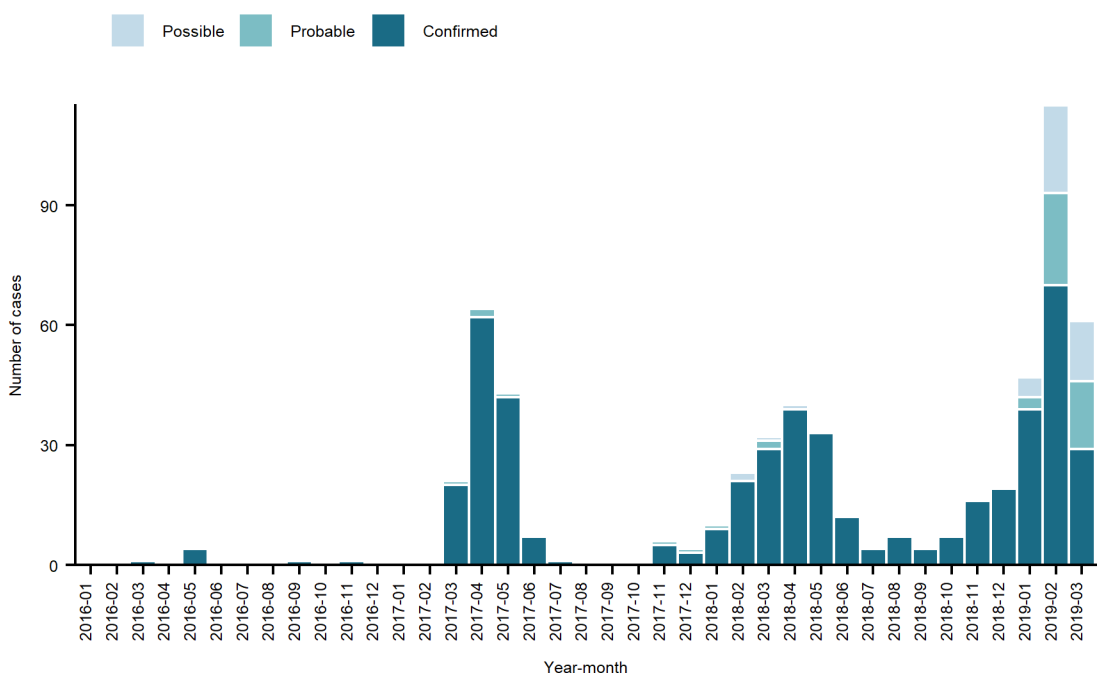
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 43,052 (2%) of the children born in the above period were non-immune by 2019

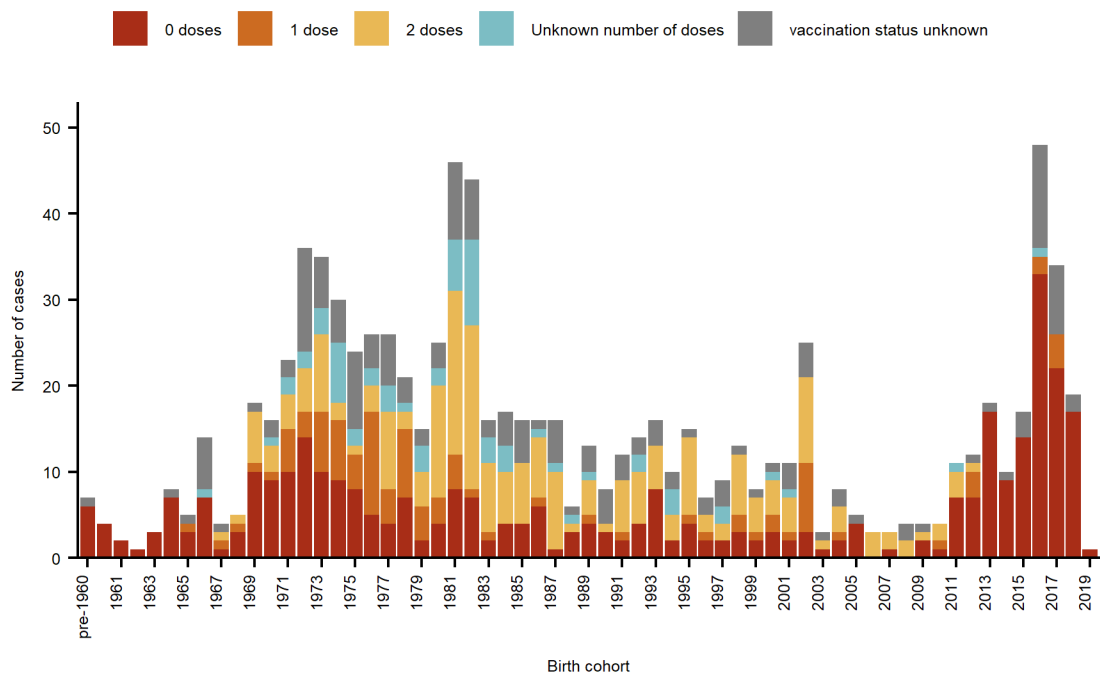
Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 Jan 2004 to 31 Mar 2019
Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%



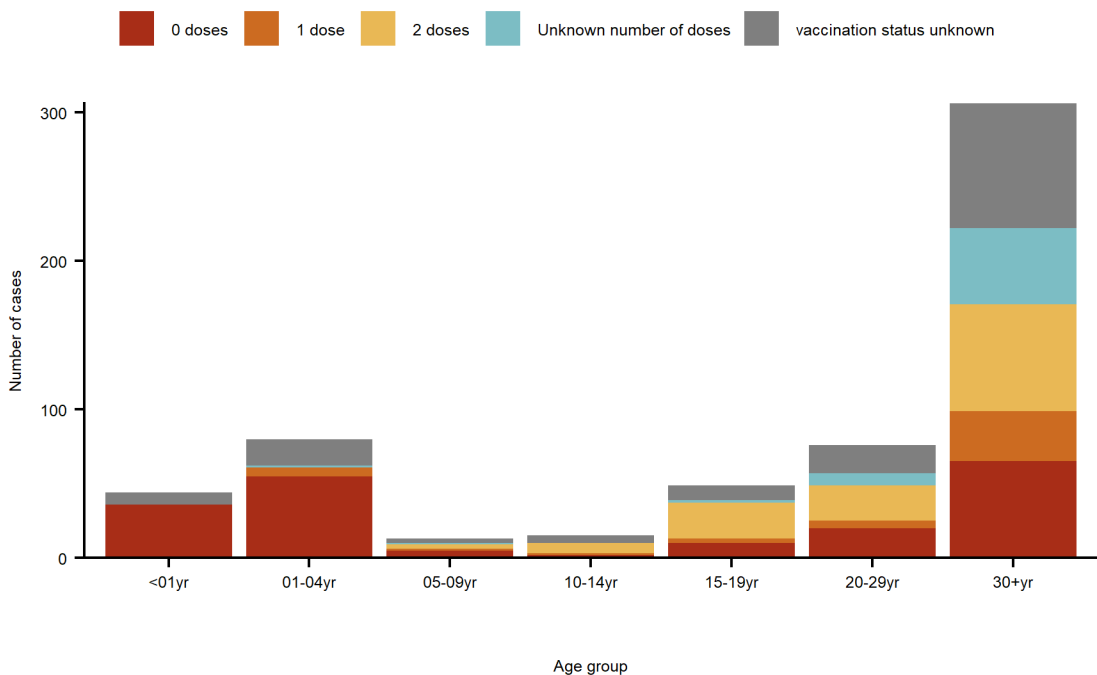
Measles by case classification, 1 Jan 2016 to 20 Mar 2019 (n = 583)



Measles cases by birth cohort and vaccination status, reported to TESSy 1 Jan 2004 to 20 Mar 2019 (n = 901)



Measles cases by age and vaccination status, 1 Jan 2016 to 20 Mar 2019 (n = 583)

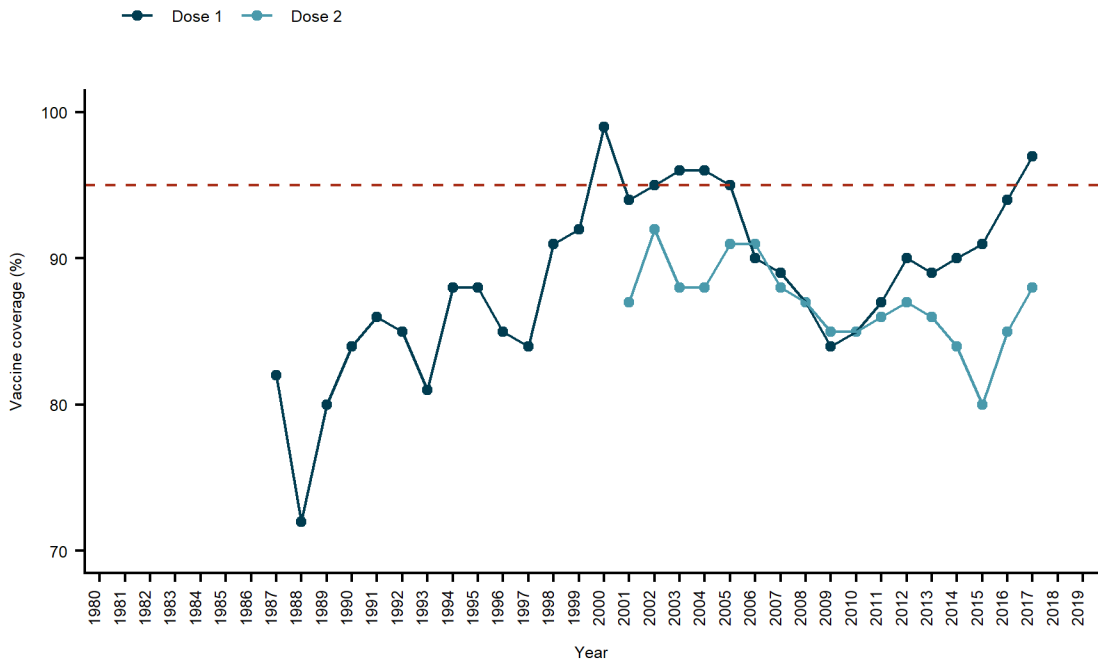


Denmark

General		1 Jan 2016 to 31 Mar 2019	
Population	5,781,190	Cases (of which confirmed; %)	26 (26; 100%)
Measles elimination status (2017 data)	Eliminated	Average annual notification rate per million population	Crude: 1.4. Age-standardised: 1.3 (95% CI: 0.9 - 1.9)
MMR vaccine schedule	15 months	Number of deaths (CFR)	0 (0%)
	4 years	Median age (IQR) of cases in years	17 (5 - 27)
		Number of exportations to other EU/EEA countries	1

National level measles-containing vaccine coverage, 1987 to 2017

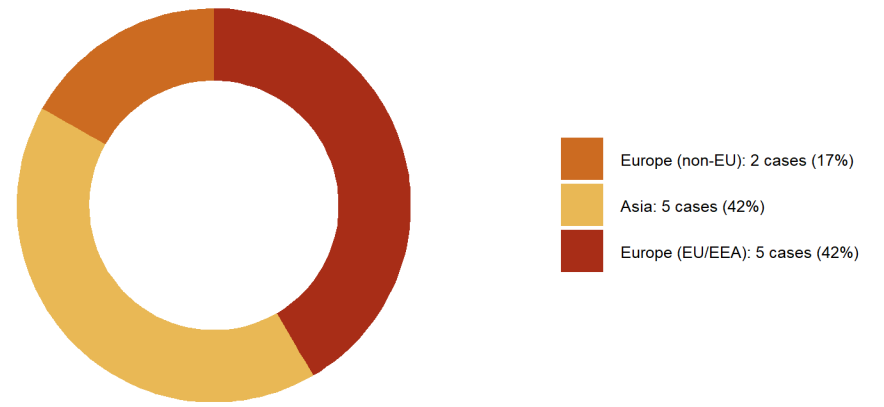
WHO/UNICEF Estimates of National Immunization Coverage.
 A permanent offer of free adult MMR immunisation was introduced in April 2018, primarily targeting persons born after 1974 as they are less likely to have had the disease in childhood. In 2018, 3,614 adults were vaccinated against measles, 1,435 of whom were born in or before 1974*



*https://www.ssi.dk/-/media/arkiv/dk/aktuelt/nyhedsbreve/epi-nyt/2019/rsrapport-for-bnevaccinationsprogrammet-2018_opdaterede-illustrationer.pdf?la=da

Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

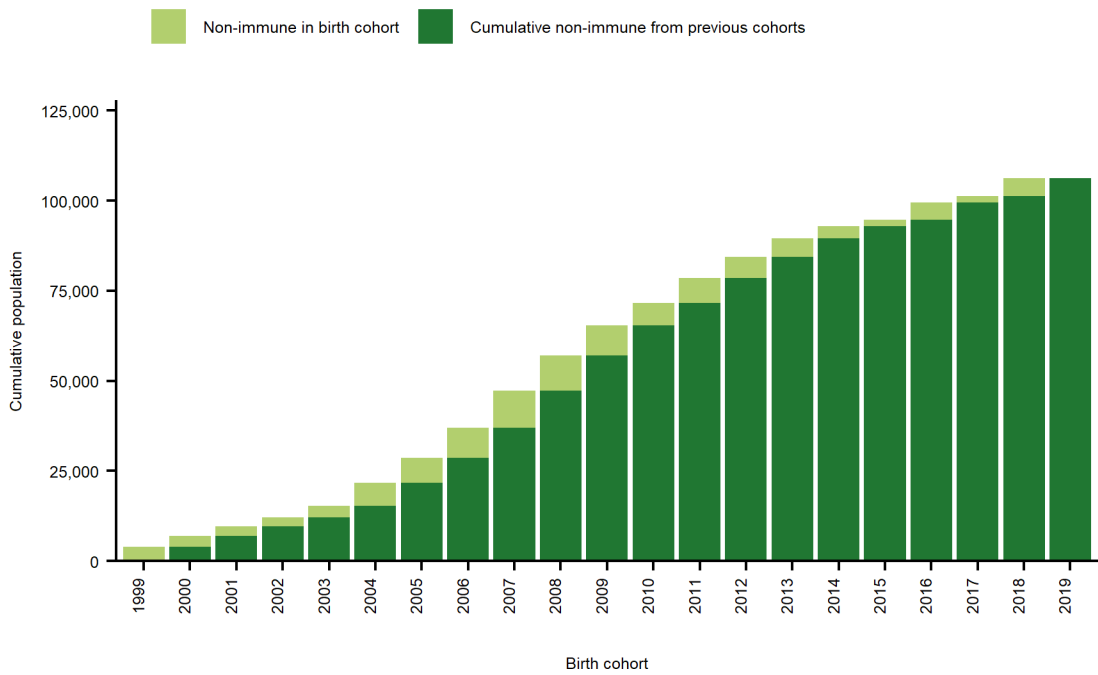
Based on 12 of 26 cases (46.2%) submitted as case-based data that were reported as imported with known probable country of infection



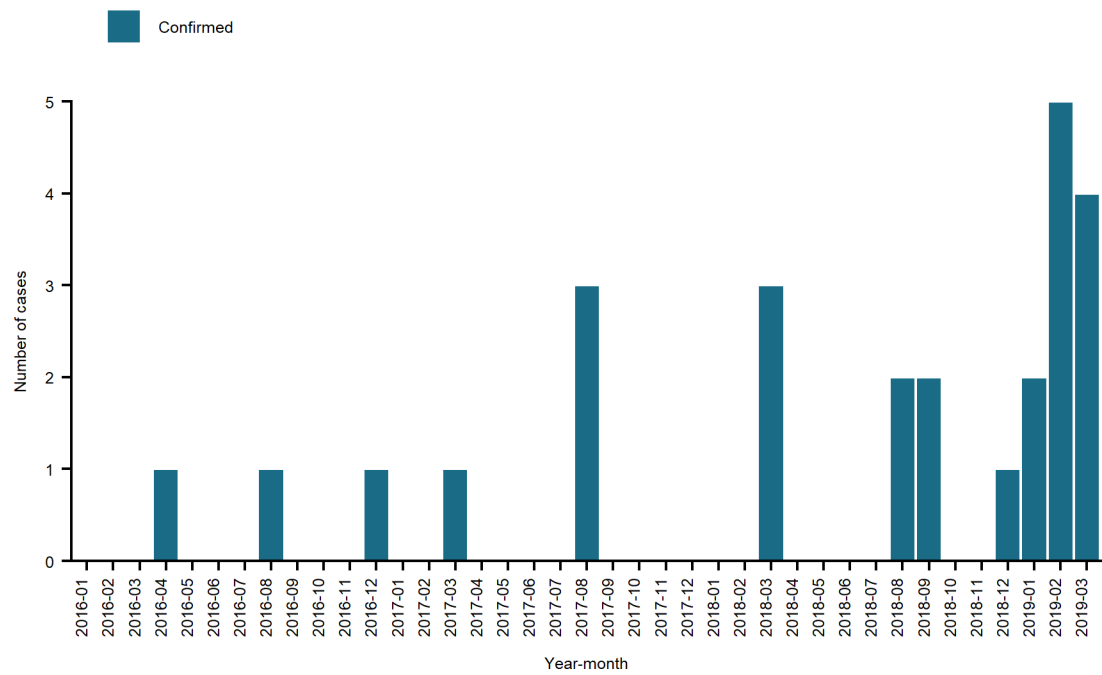
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 106,284 (8.3%) of the children born in the above period were non-immune by 2019

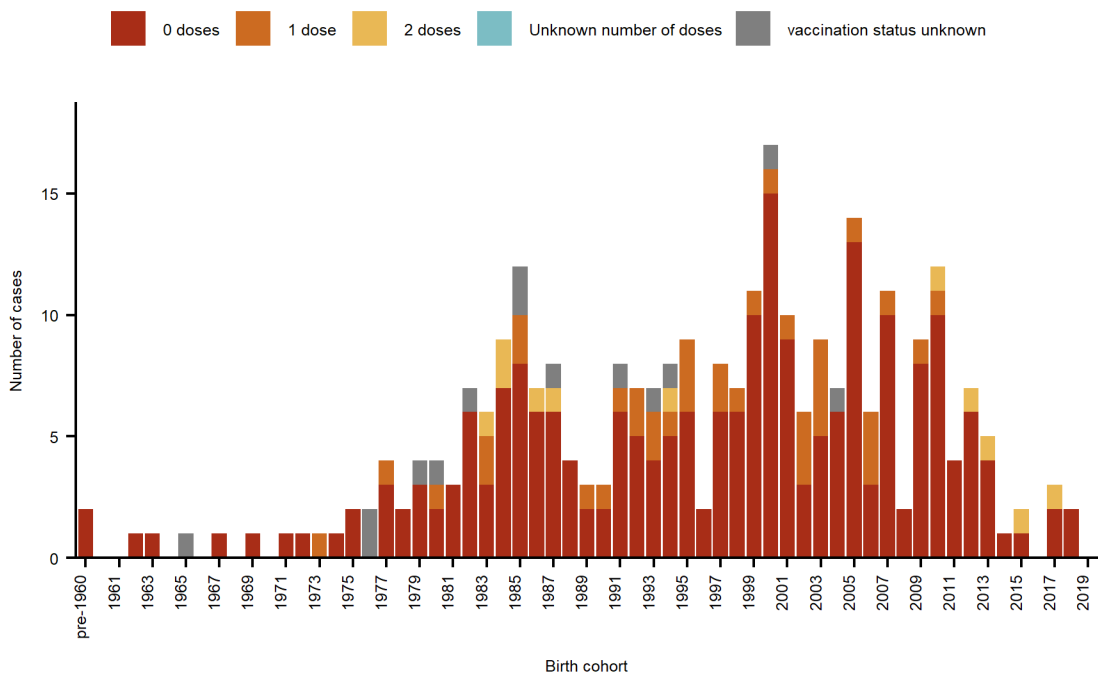
Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 Jan 1999 to 31 Mar 2019
 Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%



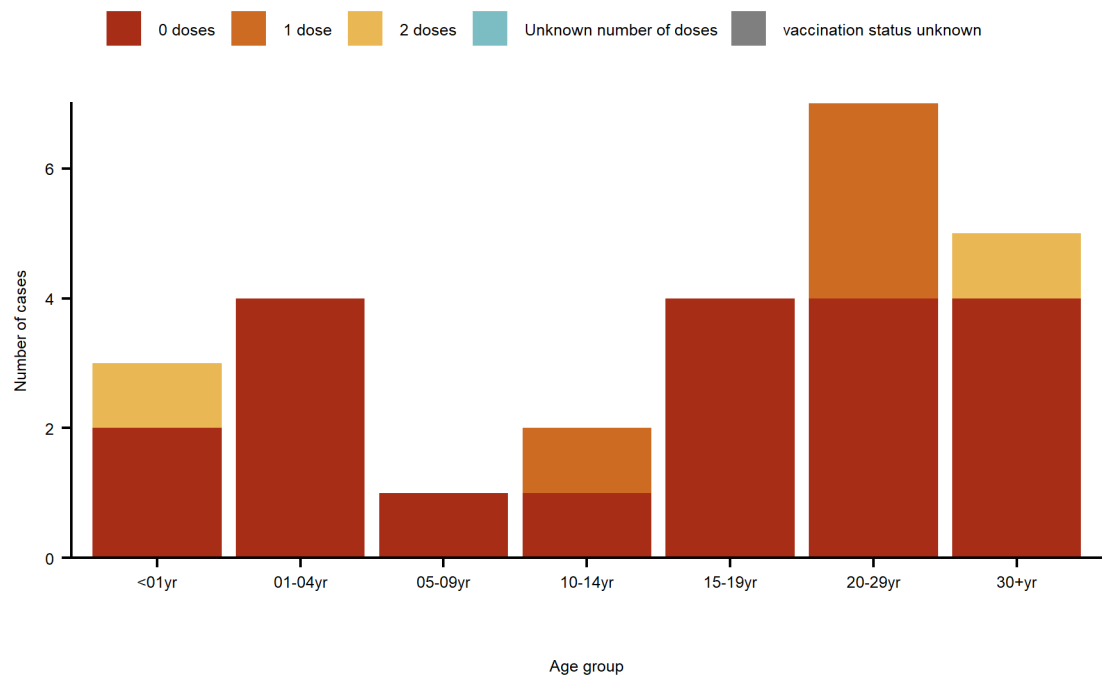
Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 26)



Measles cases by birth cohort and vaccination status, reported to TESSy 1 Jan 1999 to 31 Mar 2019 (n = 285)



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 26)

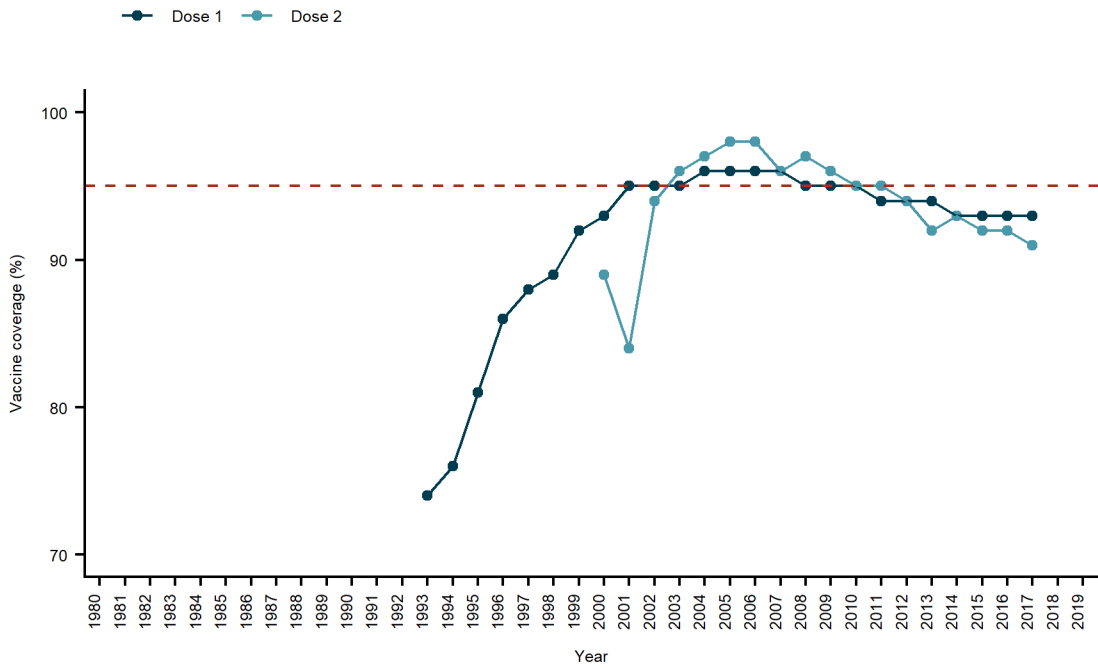


Estonia

General		1 Jan 2016 to 31 Mar 2019	
Population	1,319,133	Cases (of which confirmed; %)	24 (24; 100%)
Measles elimination status (2017 data)	Eliminated	Average annual notification rate per million population	Crude: 6. Age-standardised: 6.1 (95% CI: 3.9 - 9.1)
MMR vaccine schedule	12 months	Number of deaths (CFR)	0 (0%)
	13 years	Median age (IQR) of cases in years	37 (22 - 43)
		Number of exportations to other EU/EEA countries	3

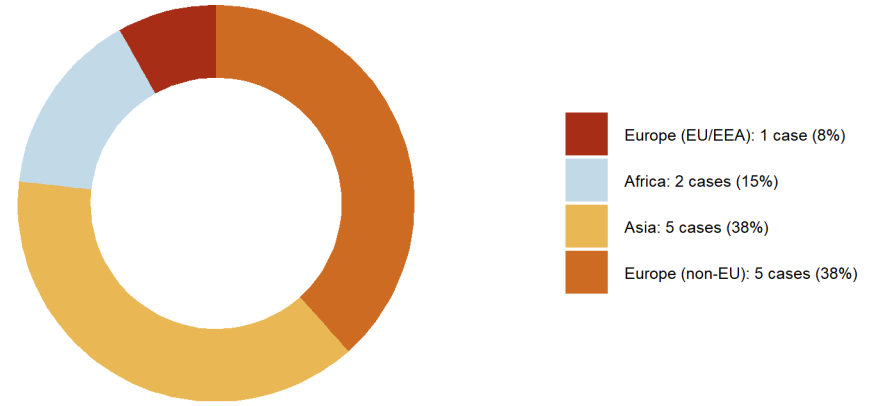
National level measles-containing vaccine coverage, 1993 to 2017

WHO/UNICEF Estimates of National Immunization Coverage



Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

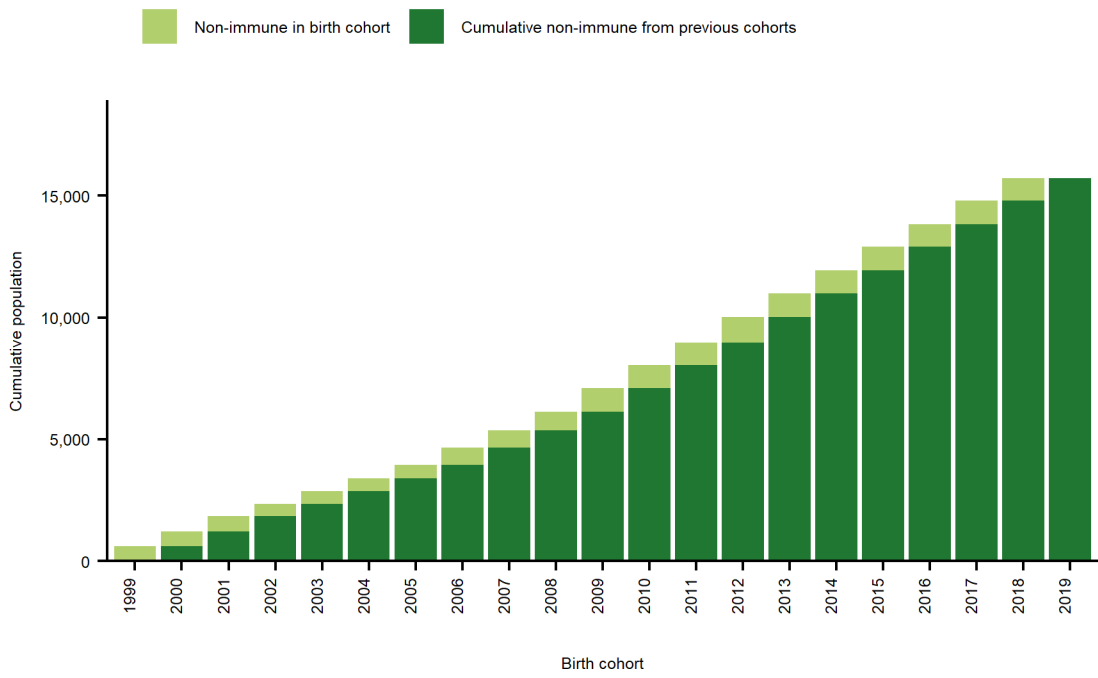
Based on 13 of 24 cases (54.2%) submitted as case-based data that were reported as imported with known probable country of infection



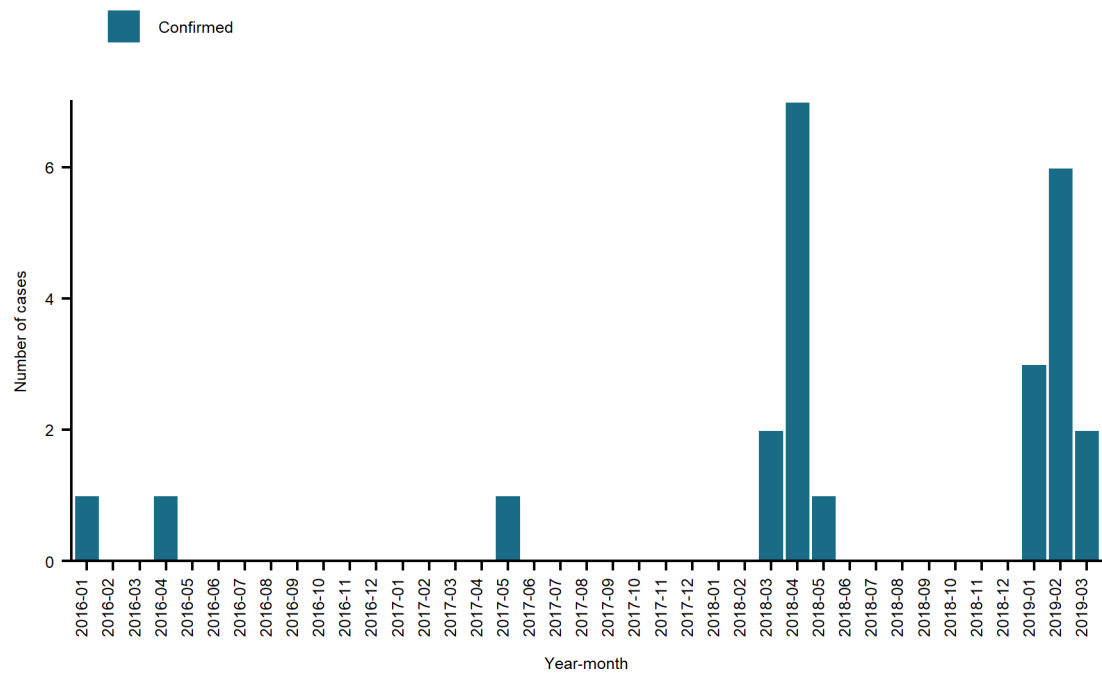
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 15,730 (5.5%) of the children born in the above period were non-immune by 2019

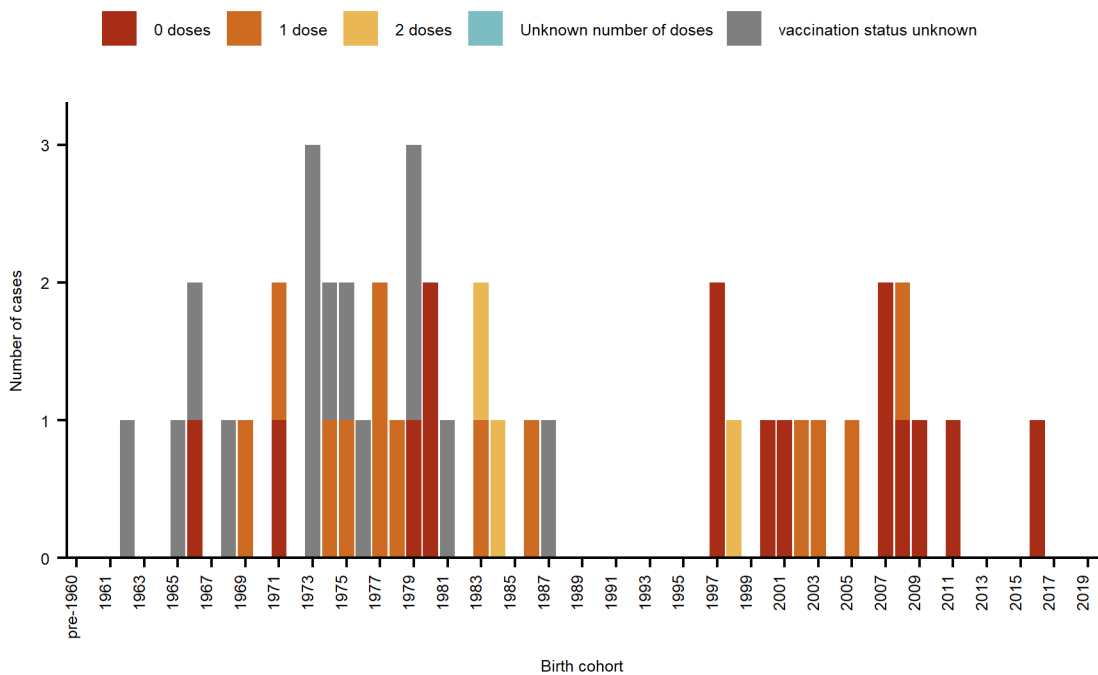
Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 Apr 2005 to 31 Mar 2019
Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%



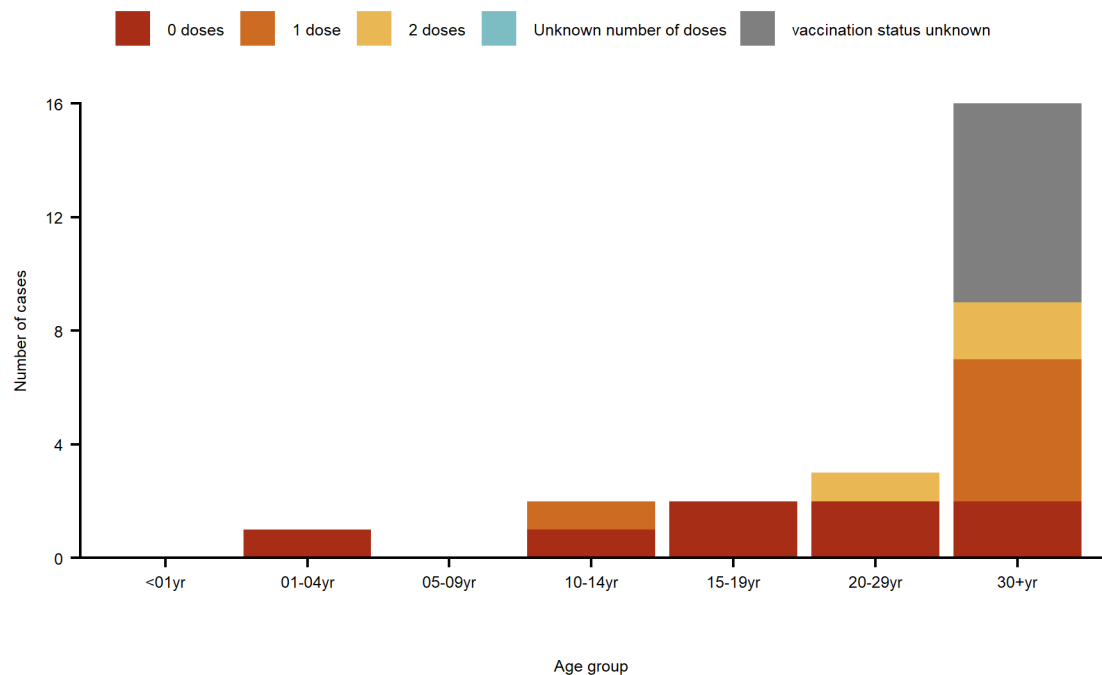
Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 24)



Measles cases by birth cohort and vaccination status, reported to TESSy 1 Apr 2005 to 31 Mar 2019 (n = 45)



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 24)



Finland

General

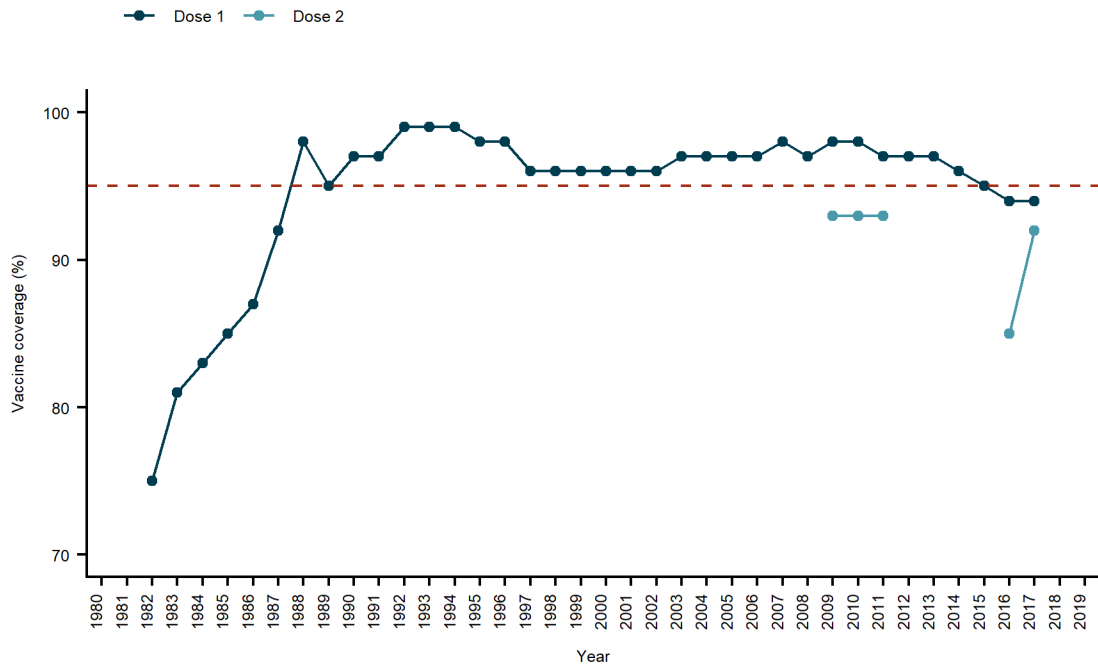
Population	5,513,130
Measles elimination status (2017 data)	Eliminated
MMR vaccine schedule	12-18 months
	6 years

1 Jan 2016 to 31 Mar 2019

Cases (of which confirmed; %)	35 (35; 100%)
Average annual notification rate per million population	Crude: 2. Age-standardised: 2 (95% CI: 1.4 - 2.8)
Number of deaths (CFR)	0 (0%)
Median age (IQR) of cases in years	26 (18 - 38)
Number of exportations to other EU/EEA countries	2

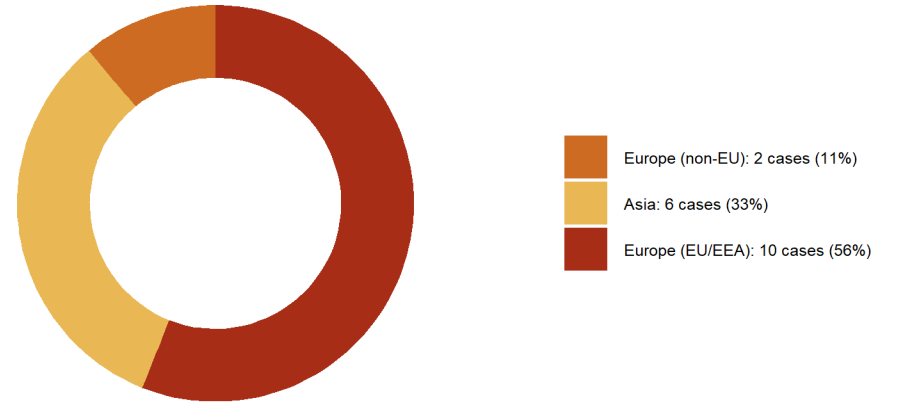
National level measles-containing vaccine coverage, 1982 to 2017

WHO/UNICEF Estimates of National Immunization Coverage and additional data from the member state for 2009-11 (MCV2)



Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

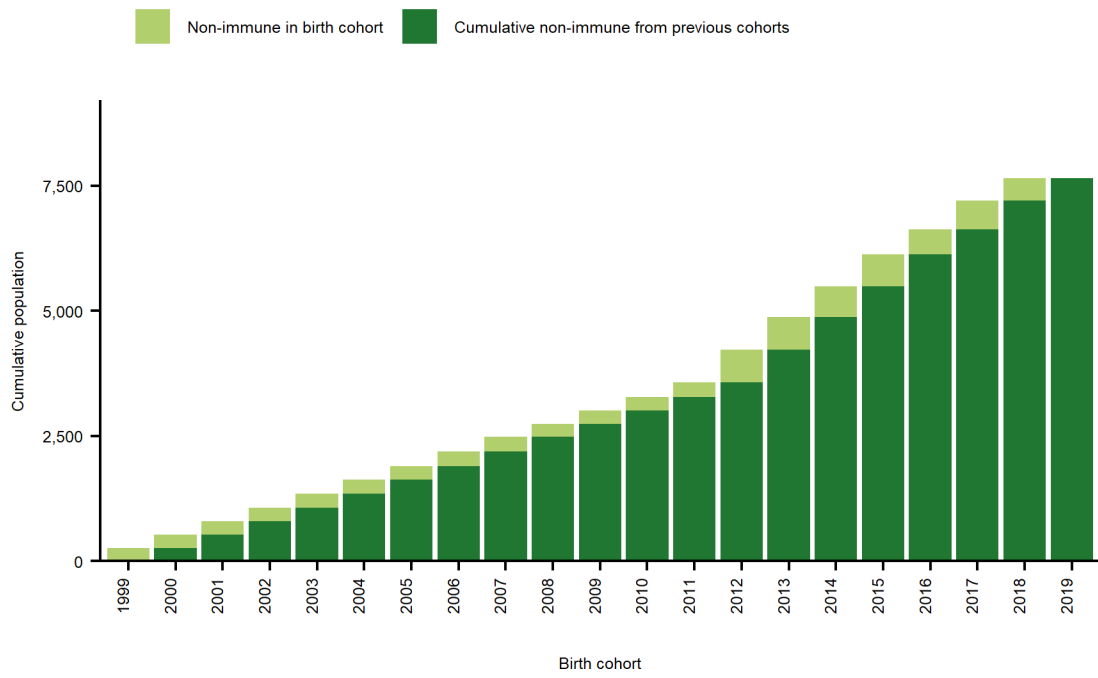
Based on 18 of 35 cases (51.4%) submitted as case-based data, reported as imported with a valid probable country of infection



Estimated cumulative population non-immune to measles born between 1999 and 2019

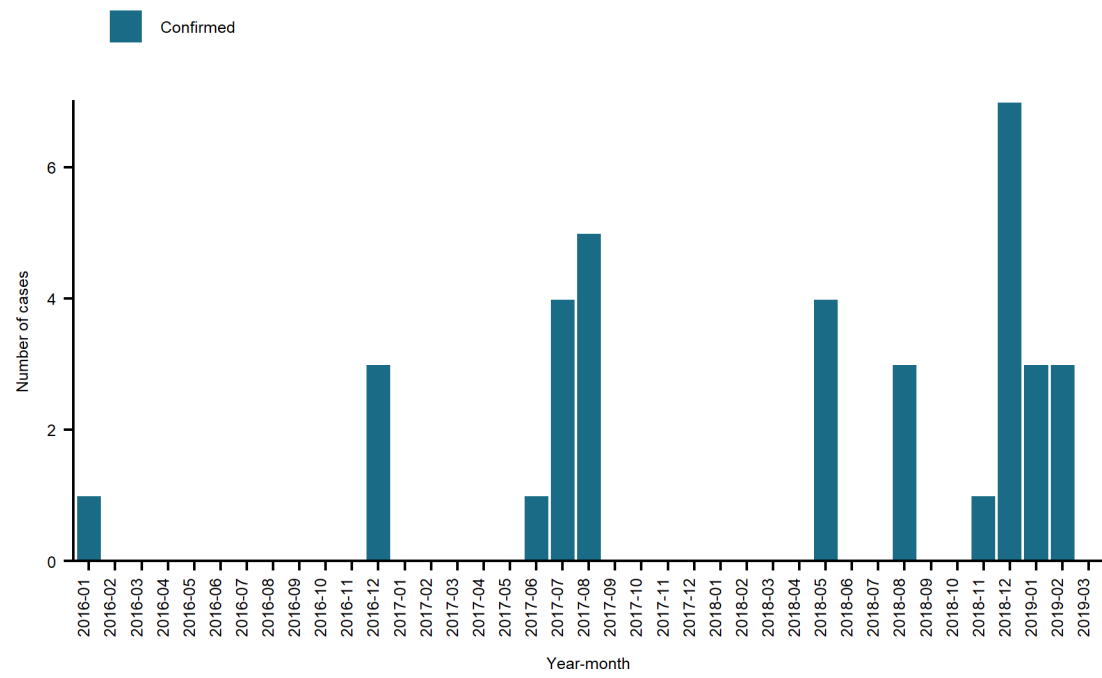
An estimated 7,657 (0.7%) of the children born in the above period were non-immune by 2019

Based on national data showing 1.1% of children in birth cohorts 2012-15 were unvaccinated at 3 years of age and 0.5% of those in birth cohort 2010 were unvaccinated at 8 years of age*
These estimates were extrapolated to birth cohorts 1999-2011 and 2012-2016, respectively, based on the advice of the member state that they should be stable over time.



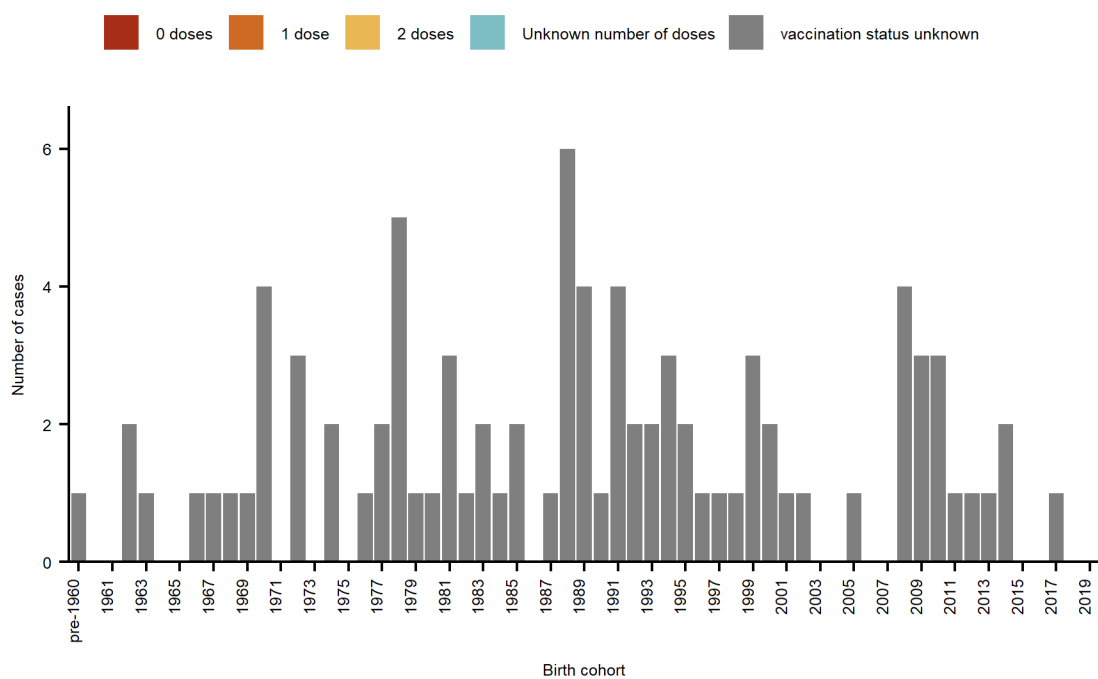
*<https://thl.fi/roko/rokotusrekisteri/atlas/atlas.html?show=nonvacc>

Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 35)

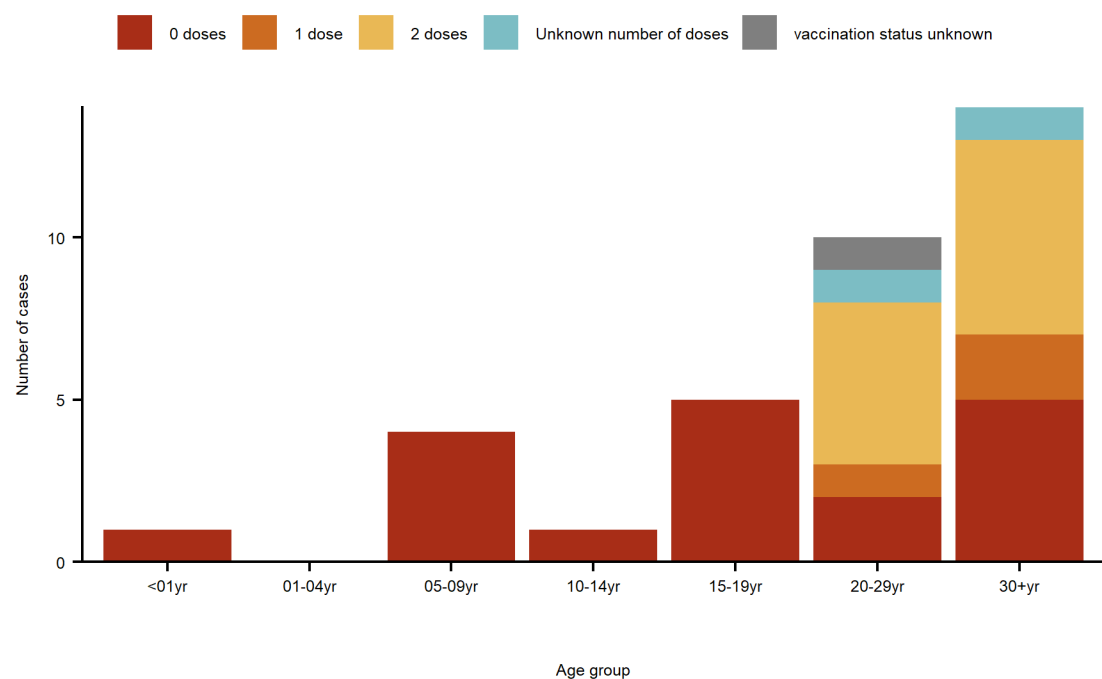


Measles cases by birth cohort and vaccination status, reported to TESSy 1 Jun 2000 to 28 Feb 2019 (n = 88)

All cases in TESSy recorded as unknown vaccination status.
Vaccination status was provided in aggregate format for the plot by age group to the right



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 35)



France

General

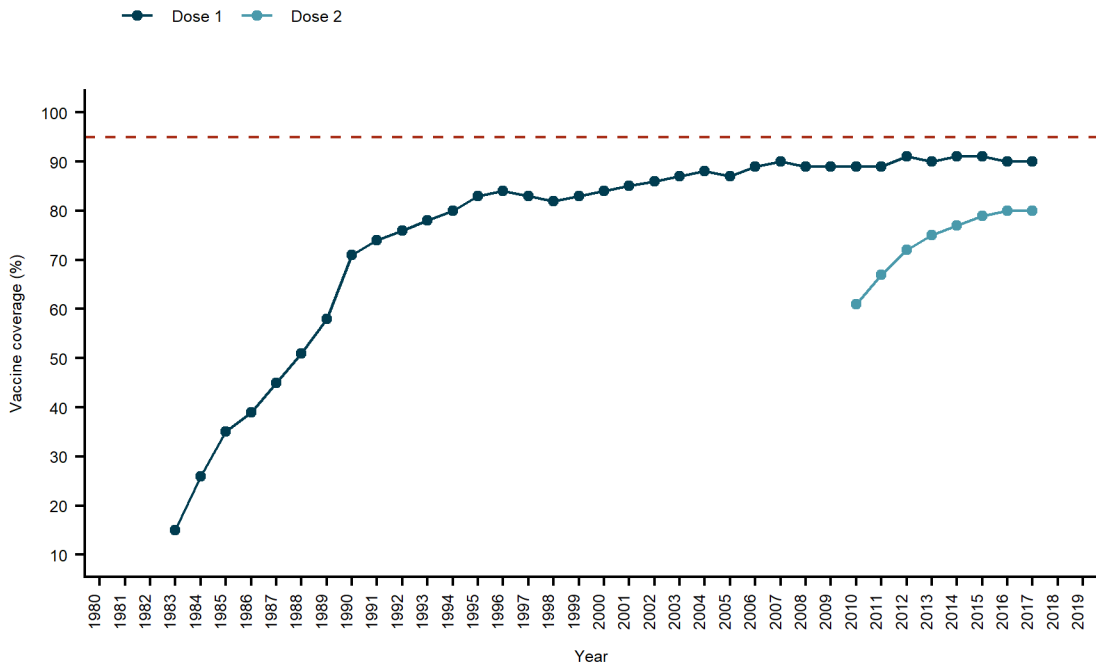
Population	66,926,166
Measles elimination status (2017 data)	Endemic
MMR vaccine schedule	12 months 16-18 months

1 Jan 2016 to 31 Mar 2019

Cases (of which confirmed; %)	4,138 (2,202; 53%)
Average annual notification rate per million population	Crude: 19. Age-standardised: 18 (95% CI: 17.4 - 18.5)
Number of deaths (CFR)	4 (0.1%)
Median age (IQR) of cases in years	13 (2 - 26)
Number of exportations to other EU/EEA countries	33

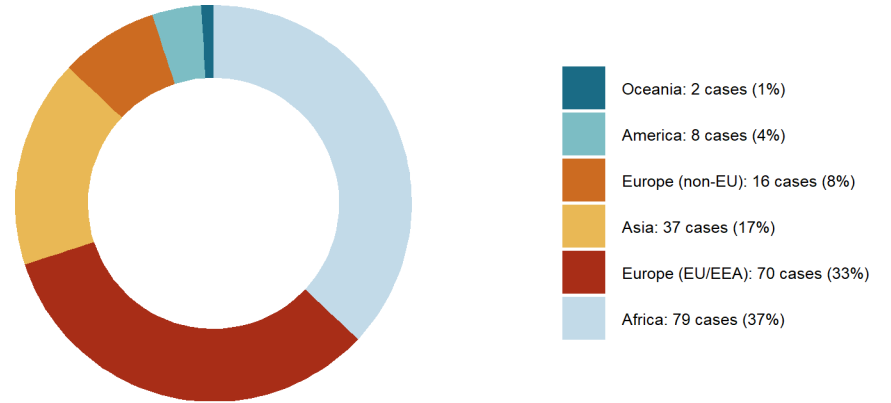
National level measles-containing vaccine coverage, 1983 to 2017

WHO/UNICEF Estimates of National Immunization Coverage



Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

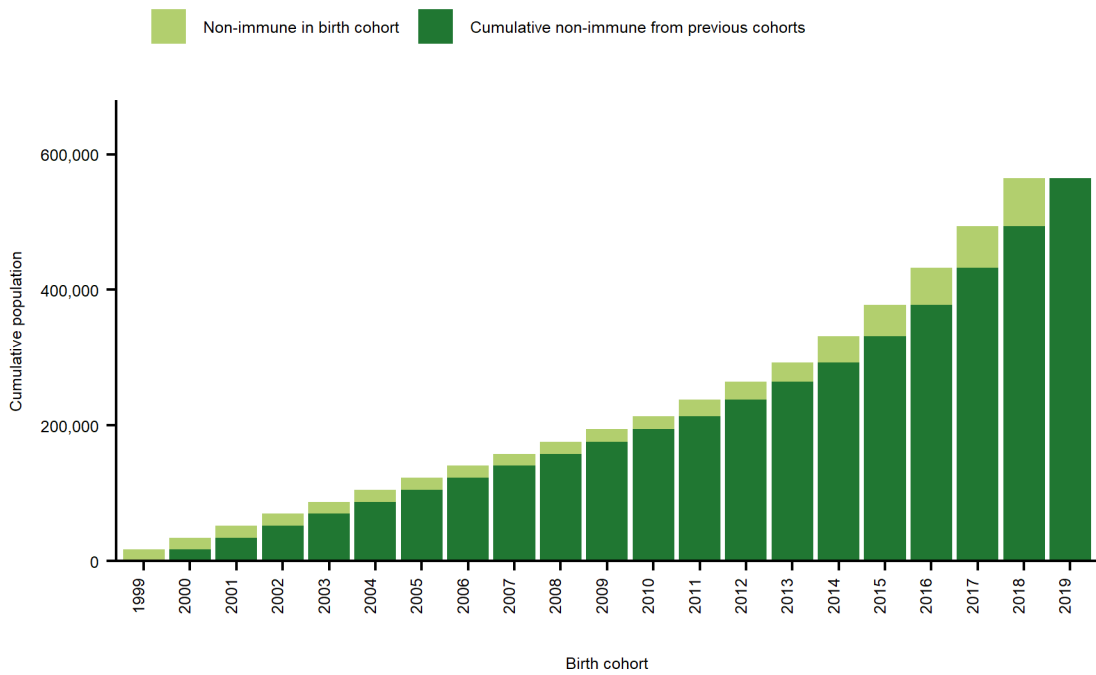
Based on 212 of 4,138 cases (5.1%) submitted as case-based data that were reported as imported with known probable country of infection. An additional 3 imported cases had unknown probable country of infection.



Estimated cumulative population non-immune to measles born between 1999 and 2019

By 2019 an estimated 564,937 (3.5%) children born in the above period were non-immune

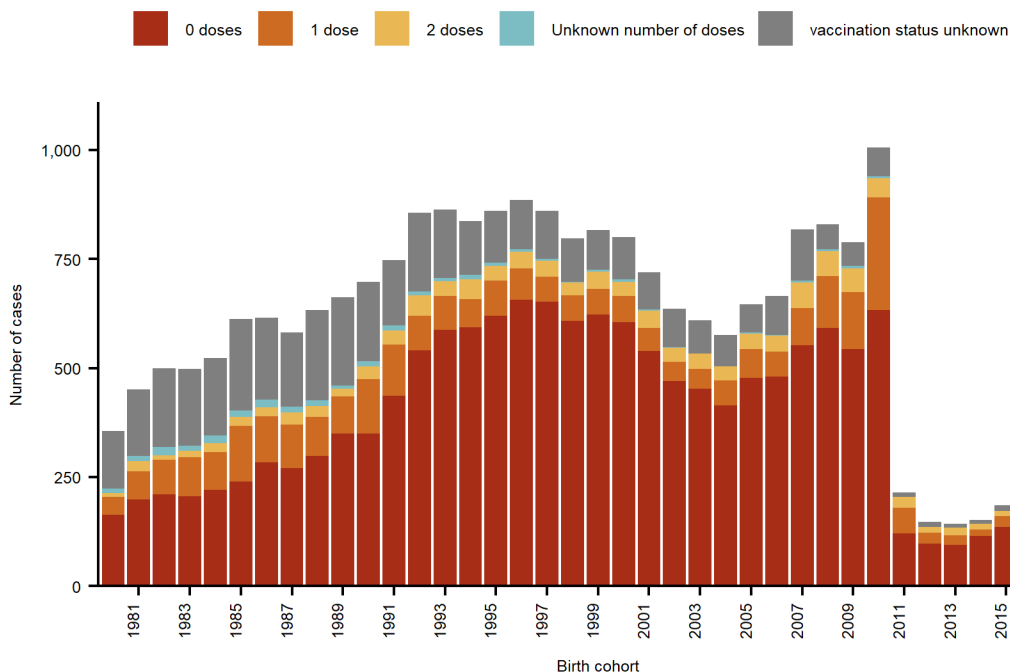
Based on alternative data provided by the member state which take into account the impact of supplementary immunisation activities* and subtracting cases per birth cohort reported to TESSy Jan 2006 to Mar 2019.
Assumptions: vaccine effectiveness 100%, case ascertainment 45%



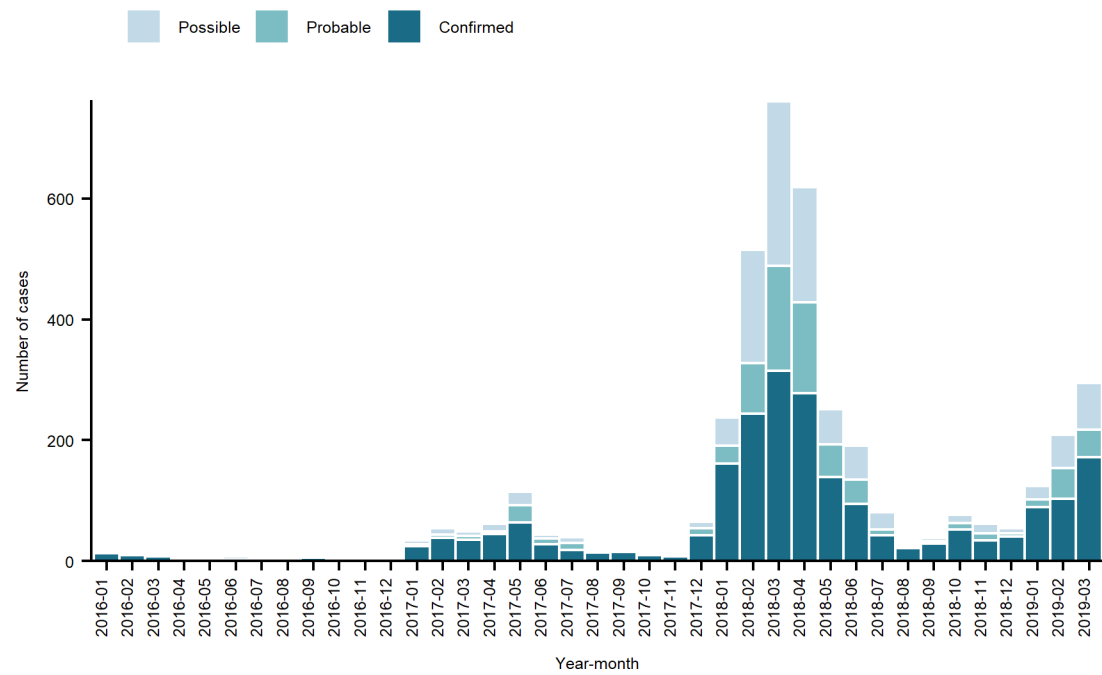
<http://invs.santepubliquefrance.fr/Dossiers-thematiques/Maladies-infectieuses/Maladies-a-prevention-vaccinale/Couverture-vaccinale/Donnees/Rougeole-rubeole-oreillons>

Measles cases aged 1 year and above and born later than 1980 by birth cohort and vaccination status, reported to TESSy 1 Jan 2006 to 31 Mar 2019 (n = 23,174)

This figure excludes cases reported in the above period that were born before 1980 (n = 2,729) or aged under 1 year (n = 2,125) so as to reflect the population targeted by the national vaccination programme (aged 1 year and above and born since 1980)

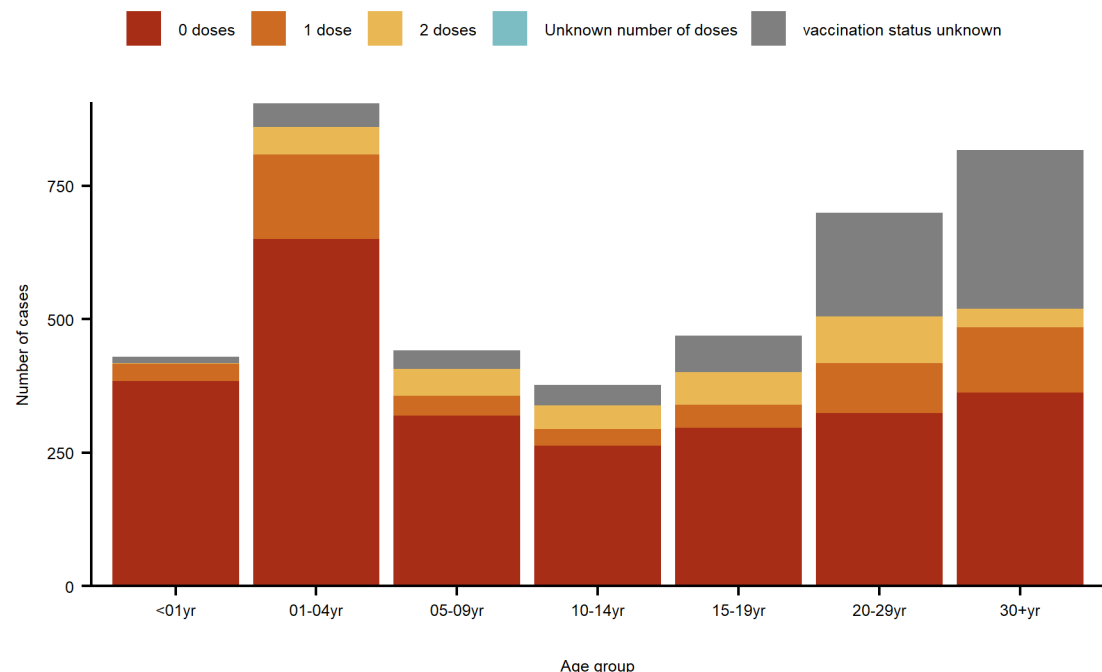


Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 4,138)



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 4,136)

2 cases with unknown age excluded.



Germany

General

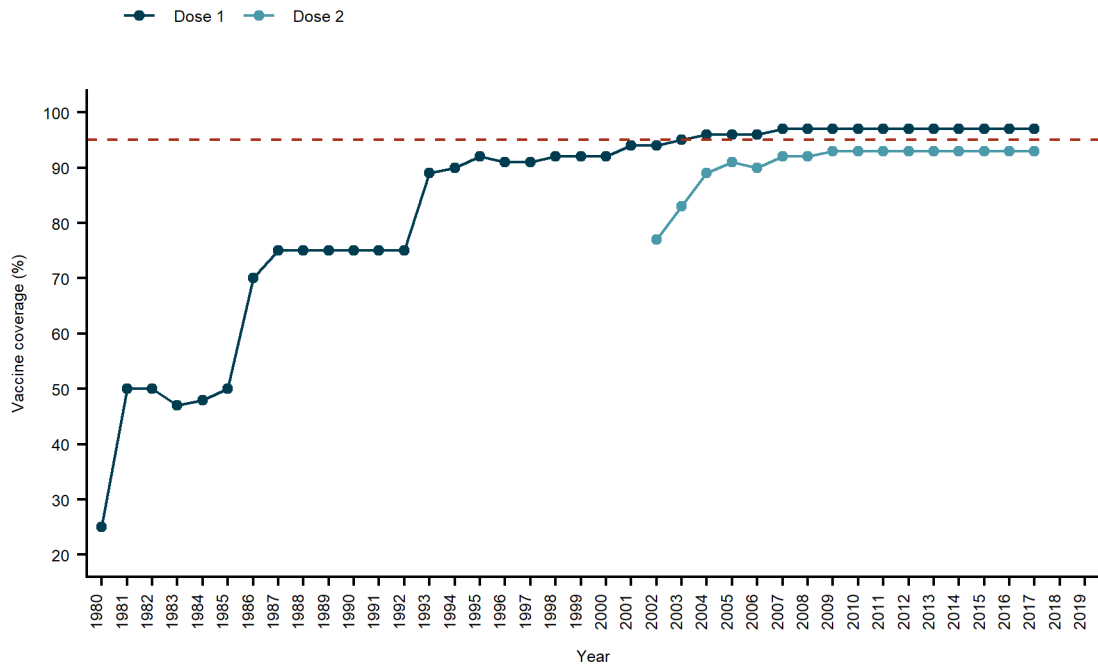
Population	82,792,351
Measles elimination status (2017 data)	Endemic
MMR vaccine schedule	11-14 months 15-23 months

1 Jan 2016 to 31 Mar 2019

Cases (of which confirmed; %)	2,093 (1,594; 76%)
Average annual notification rate per million population	Crude: 7.8. Age-standardised: 8.3 (95% CI: 8 - 8.7)
Number of deaths (CFR)	1 (0.05%)
Median age (IQR) of cases in years	16 (3 - 27)
Number of exportations to other EU/EEA countries	36

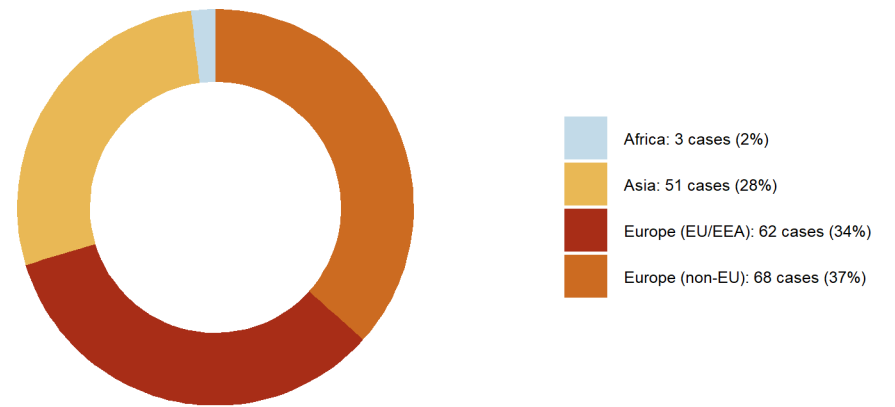
National level measles-containing vaccine coverage, 1980 to 2017

WHO/UNICEF Estimates of National Immunization Coverage.
Figures do not reflect officially reported vaccination coverage, especially for MCV2, which is an overestimation



Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

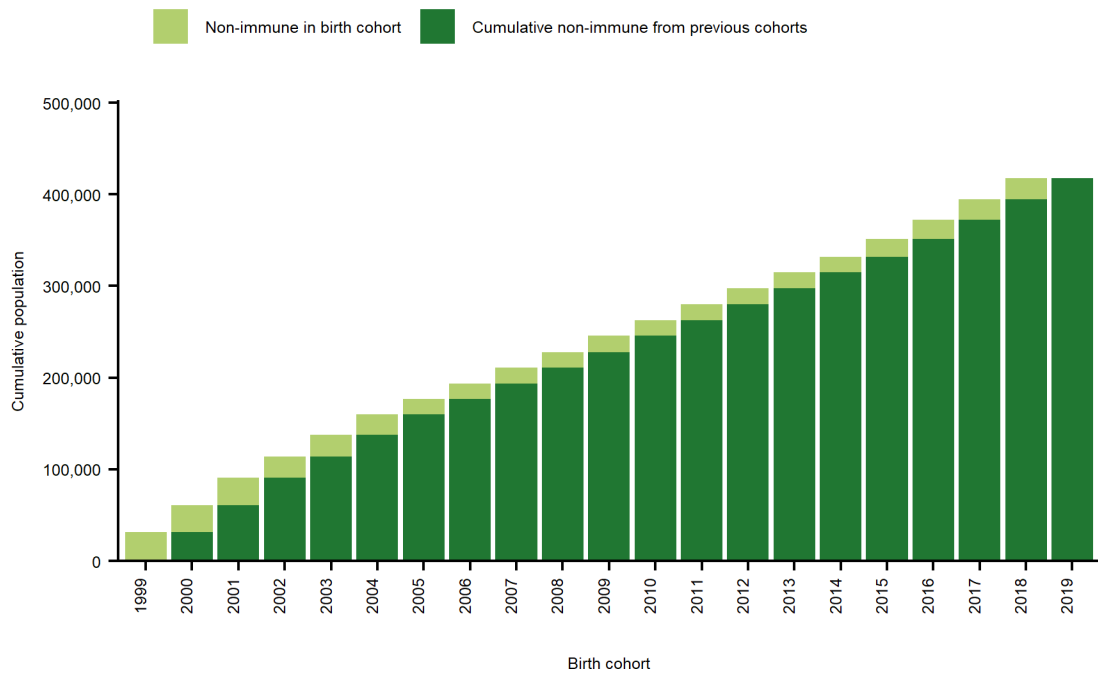
Based on 184 of 2,093 cases (8.8%) submitted as case-based data that were reported as imported with known probable country of infection. An additional 32 imported cases had unknown probable country of infection.



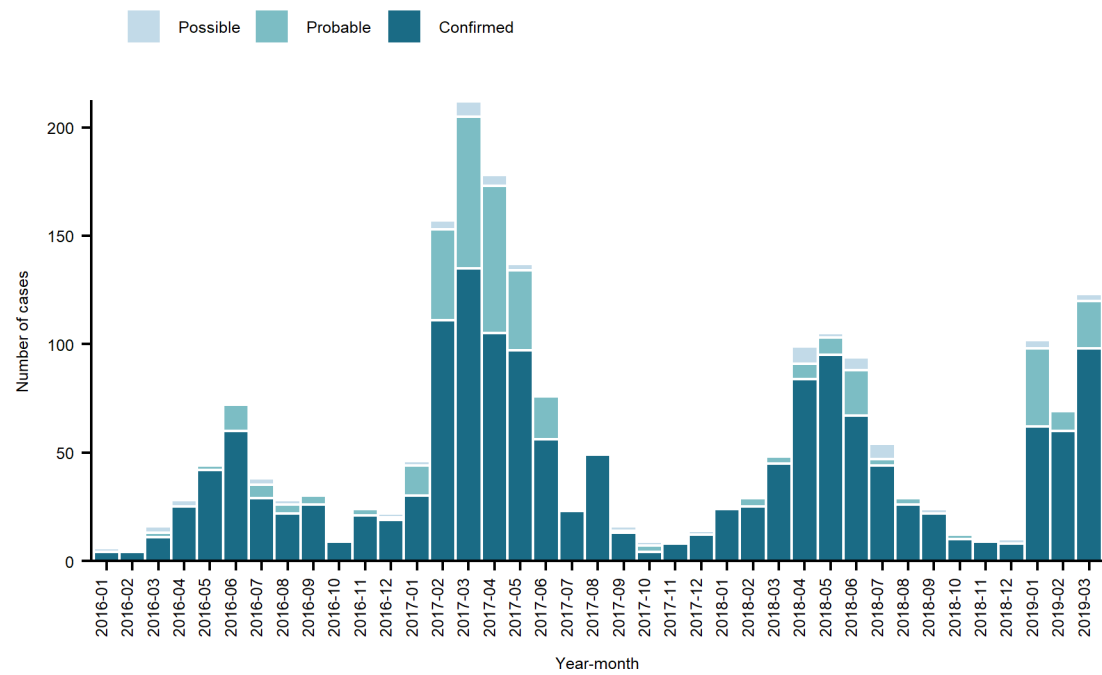
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 417,915 (2.9%) of the children born in the above period were non-immune by 2019

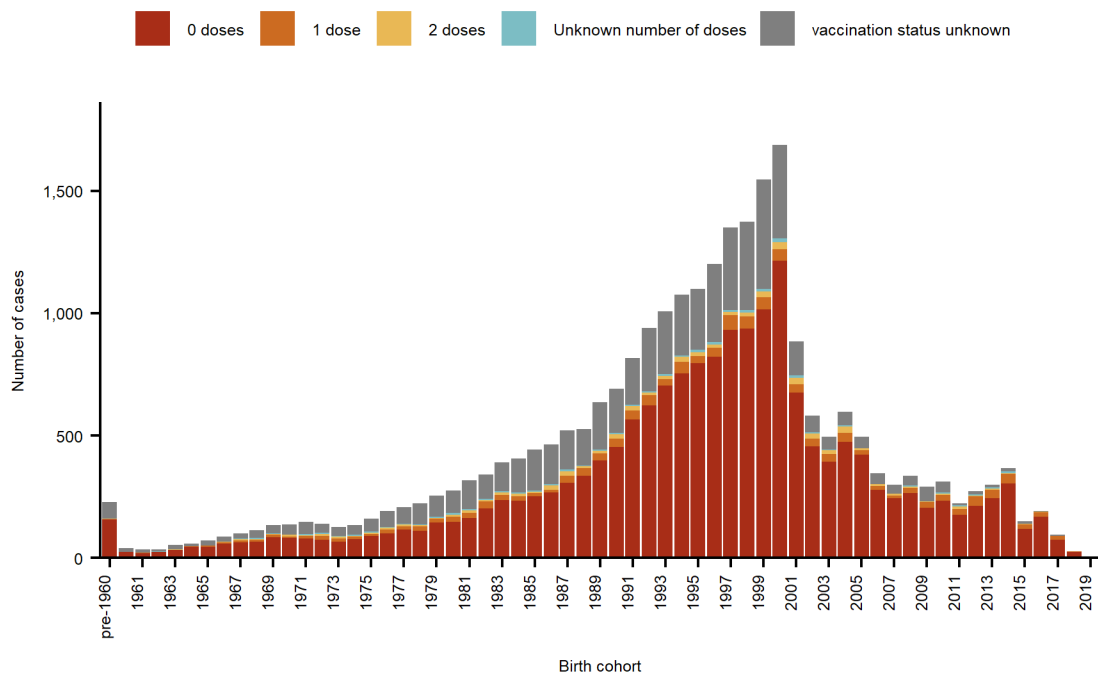
Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 Jan 2001 to 31 Mar 2019
Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%



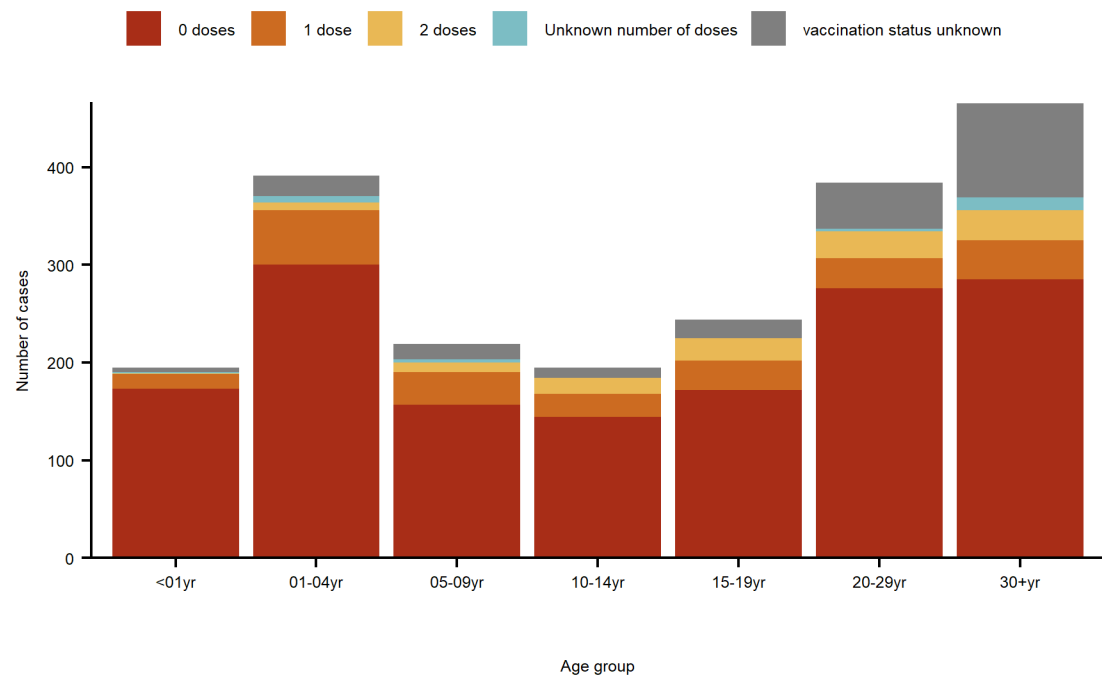
Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 2,093)



Measles cases by birth cohort and vaccination status, reported to TESSy 1 Jan 2001 to 31 Mar 2019 (n = 26,034)



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 2,093)

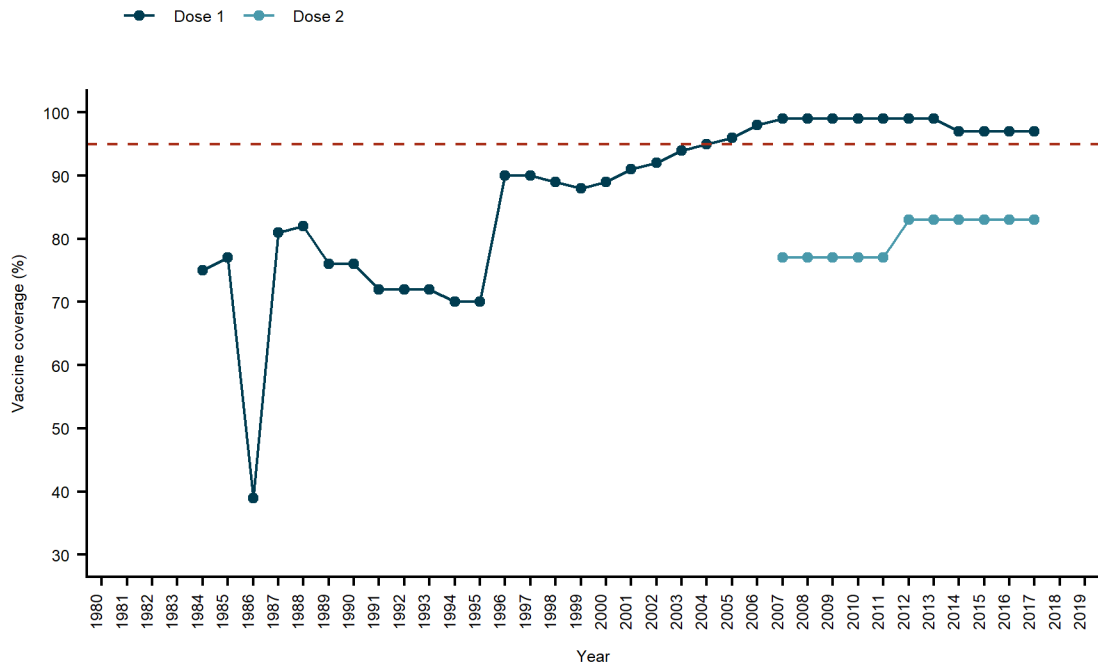


Greece

General		1 Jan 2016 to 31 Mar 2019	
Population	10,741,165	Cases (of which confirmed; %)	3,270 (1,876; 57%)
Measles elimination status (2017 data)	Eliminated	Average annual notification rate per million population	Crude: 93.7. Age-standardised: 101.8 (95% CI: 98.3 - 105.4)
MMR vaccine schedule	12-15 months 4-5 years	Number of deaths (CFR)	4 (0.12%)
		Median age (IQR) of cases in years	8 (2 - 26)
		Number of exportations to other EU/EEA countries	9

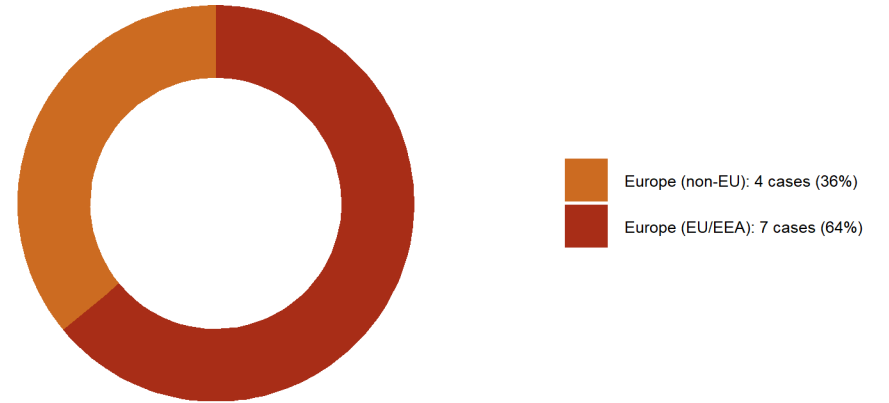
National level measles-containing vaccine coverage, 1984 to 2017

WHO/UNICEF Estimates of National Immunization Coverage



Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

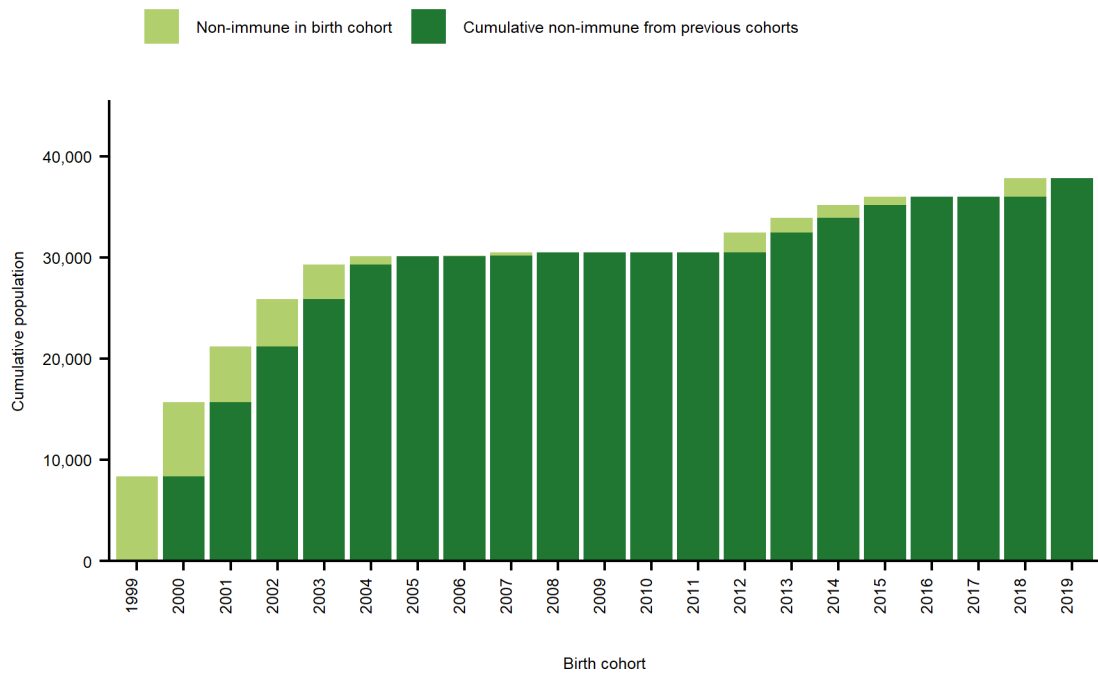
Based on 11 of 3,270 cases (0.3%) submitted as case-based data that were reported as imported with known probable country of infection. An additional 1 imported case had unknown probable country of infection.



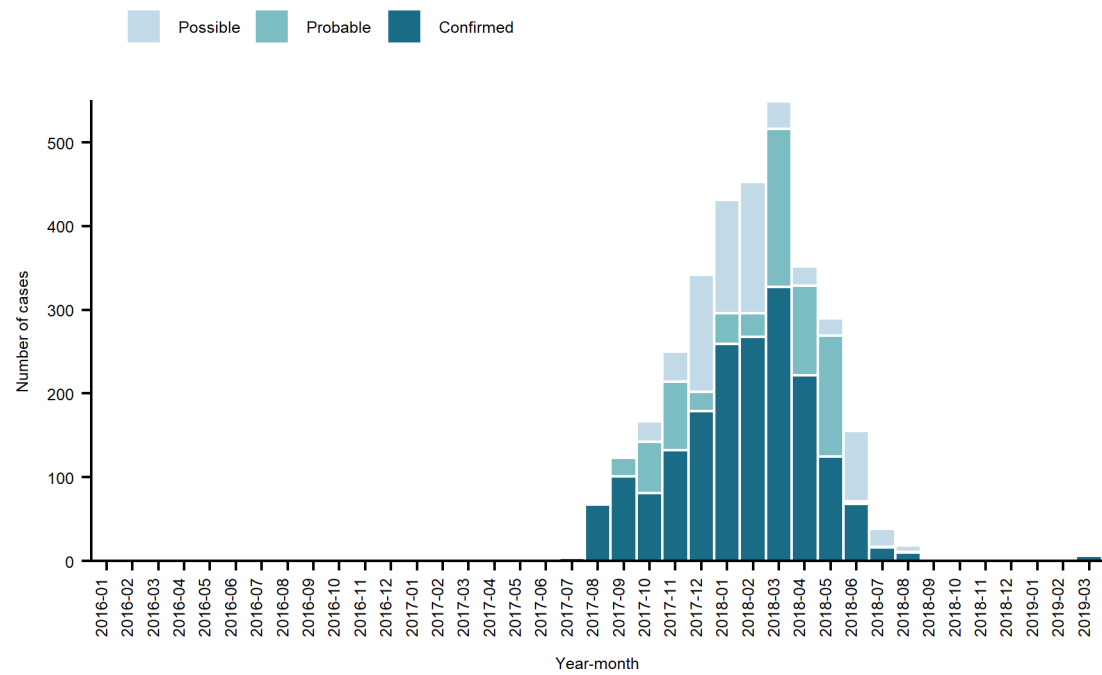
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 37,854 (1.8%) of the children born in the above period were non-immune by 2019

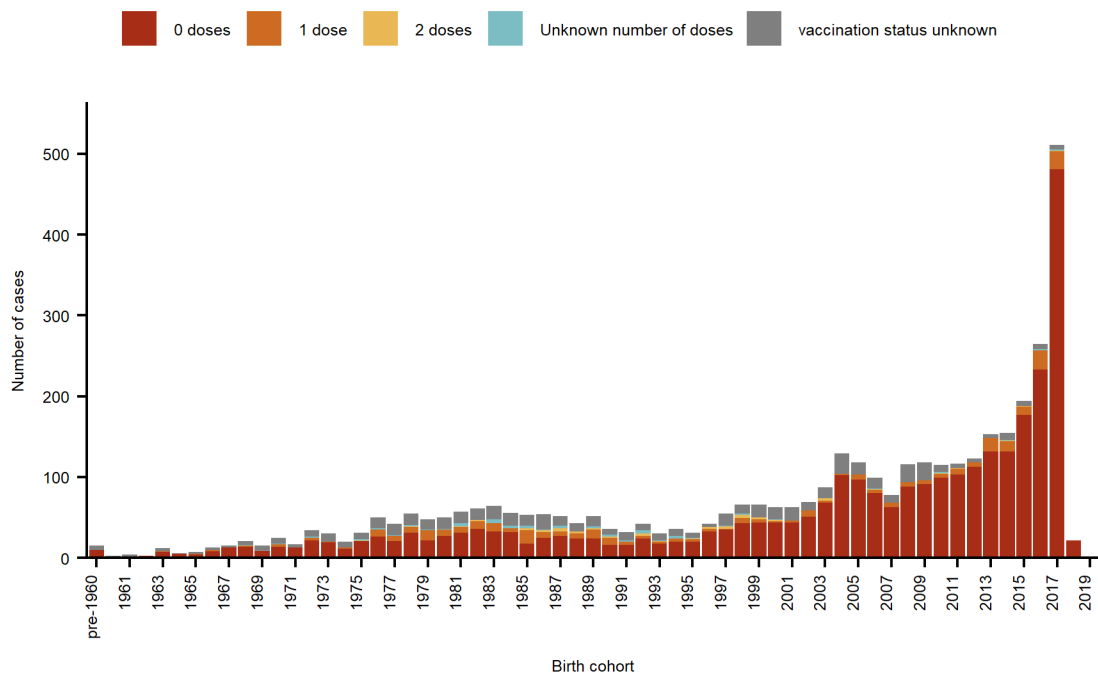
Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 Feb 2001 to 31 Mar 2019
Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%



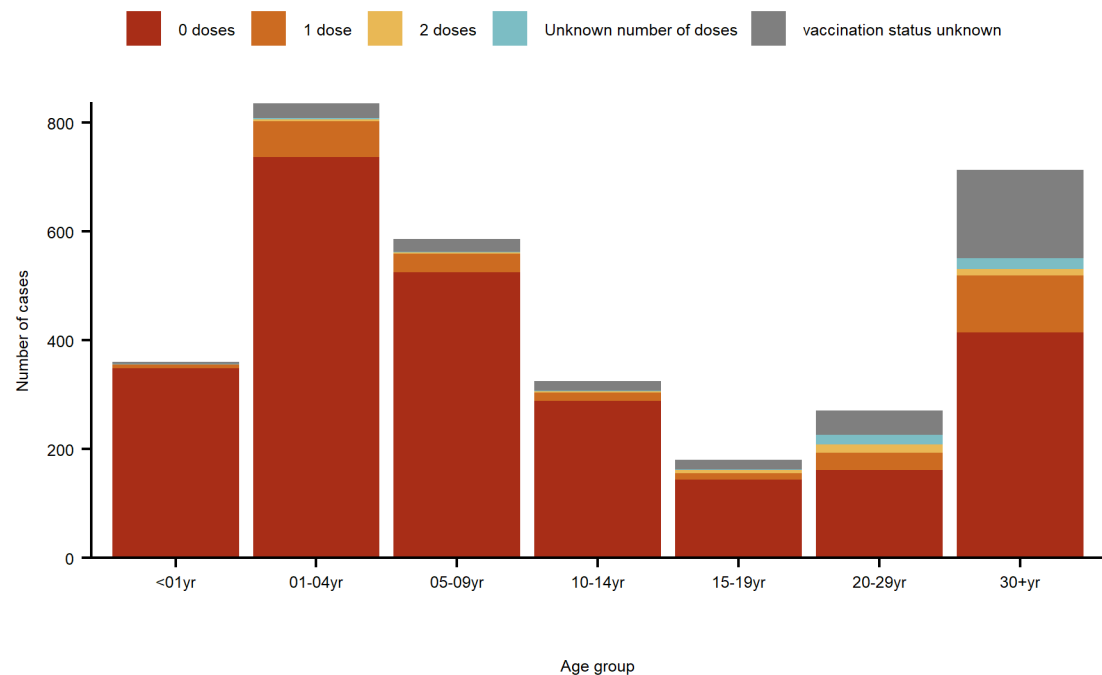
Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 3,270)



Measles cases by birth cohort and vaccination status, reported to TESSy 1 Feb 2001 to 31 Mar 2019 (n = 4,039)



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 3,270)



Hungary

General

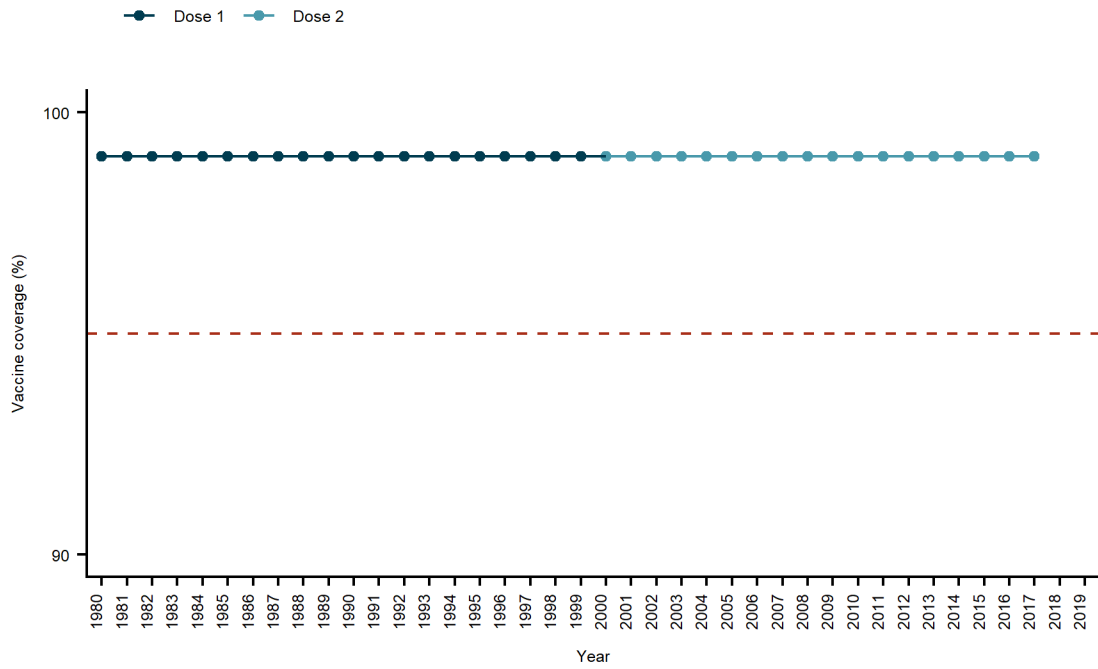
Population	9,778,371
Measles elimination status (2017 data)	Eliminated
MMR vaccine schedule	15 months
	11-12 years

1 Jan 2016 to 31 Mar 2019

Cases (of which confirmed; %)	61 (61; 100%)
Average annual notification rate per million population	Crude: 2. Age-standardised: 2 (95% CI: 1.6 - 2.6)
Number of deaths (CFR)	0 (0%)
Median age (IQR) of cases in years	29 (3 - 40)
Number of exportations to other EU/EEA countries	5

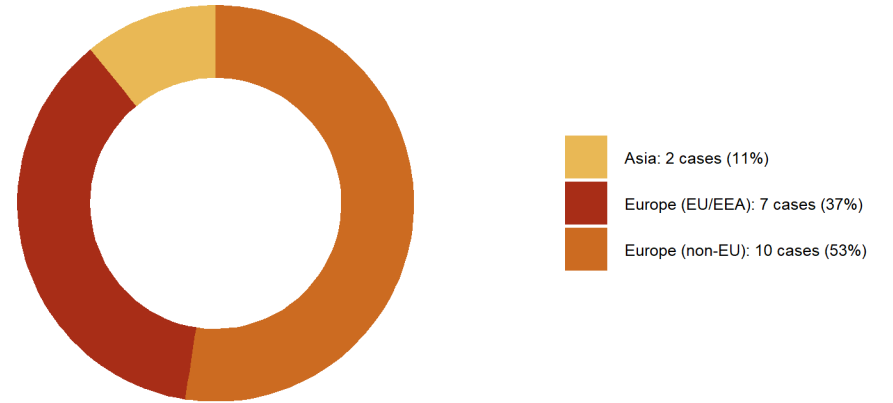
National level measles-containing vaccine coverage, 1980 to 2017

WHO/UNICEF Estimates of National Immunization Coverage



Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

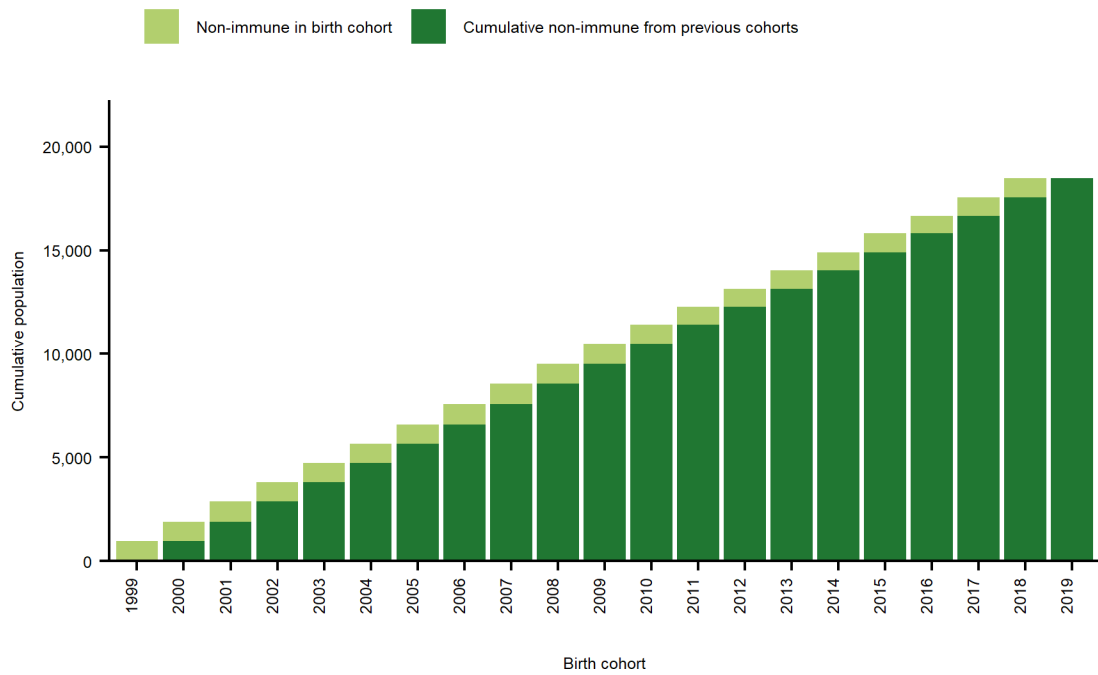
Based on 19 of 61 cases (31.1%) submitted as case-based data that were reported as imported with known probable country of infection



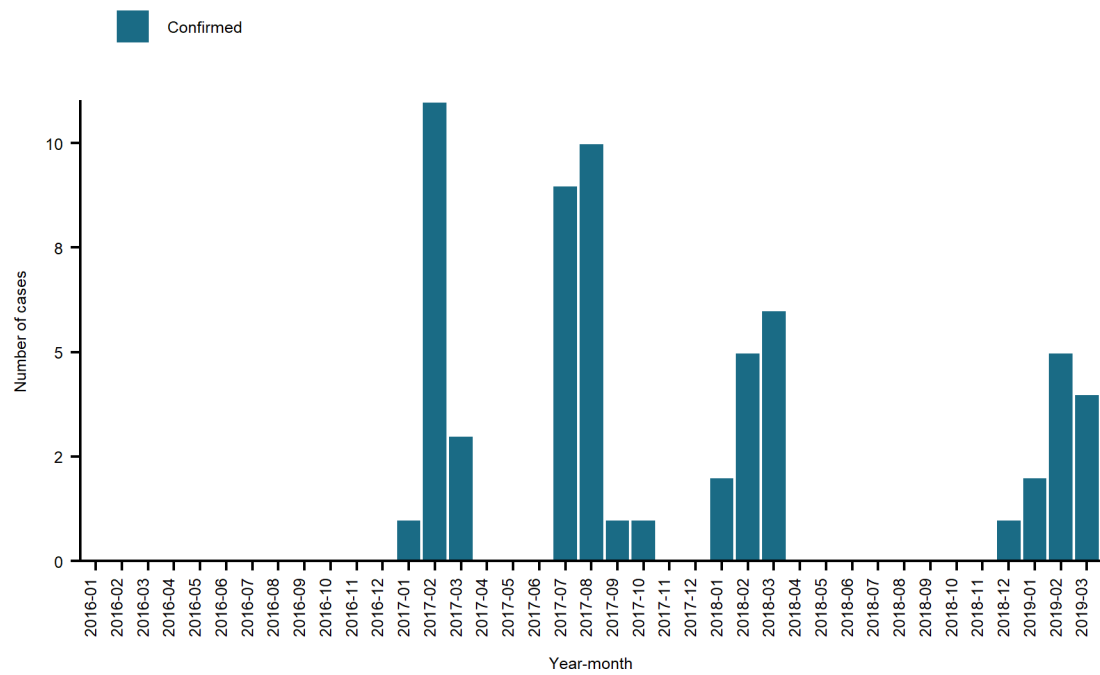
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 18,492 (1%) of the children born in the above period were non-immune by 2019

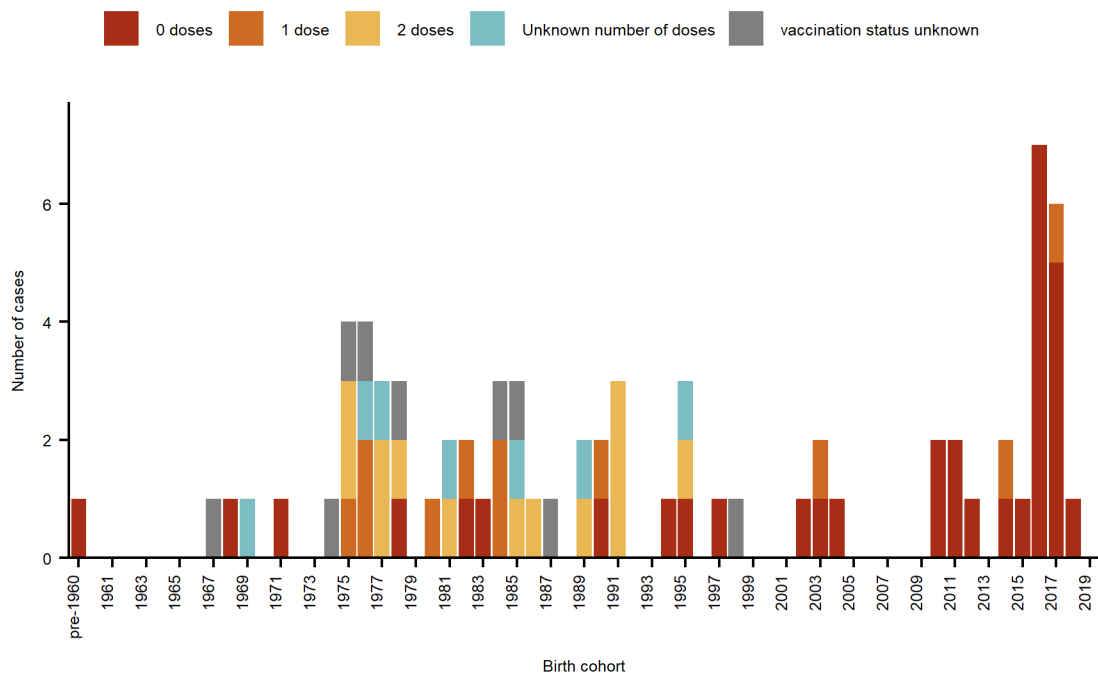
Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 Jan 2005 to 31 Mar 2019
Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%



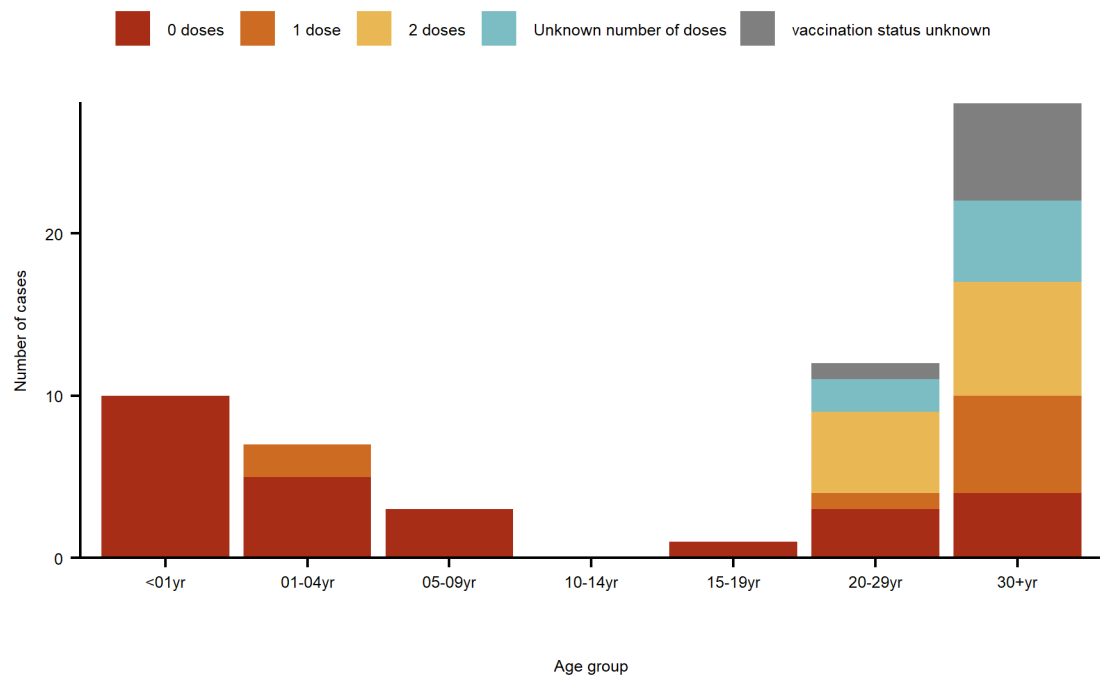
Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 61)



Measles cases by birth cohort and vaccination status, reported to TESSy 1 Jan 2005 to 31 Mar 2019 (n = 73)



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 61)



Iceland

General

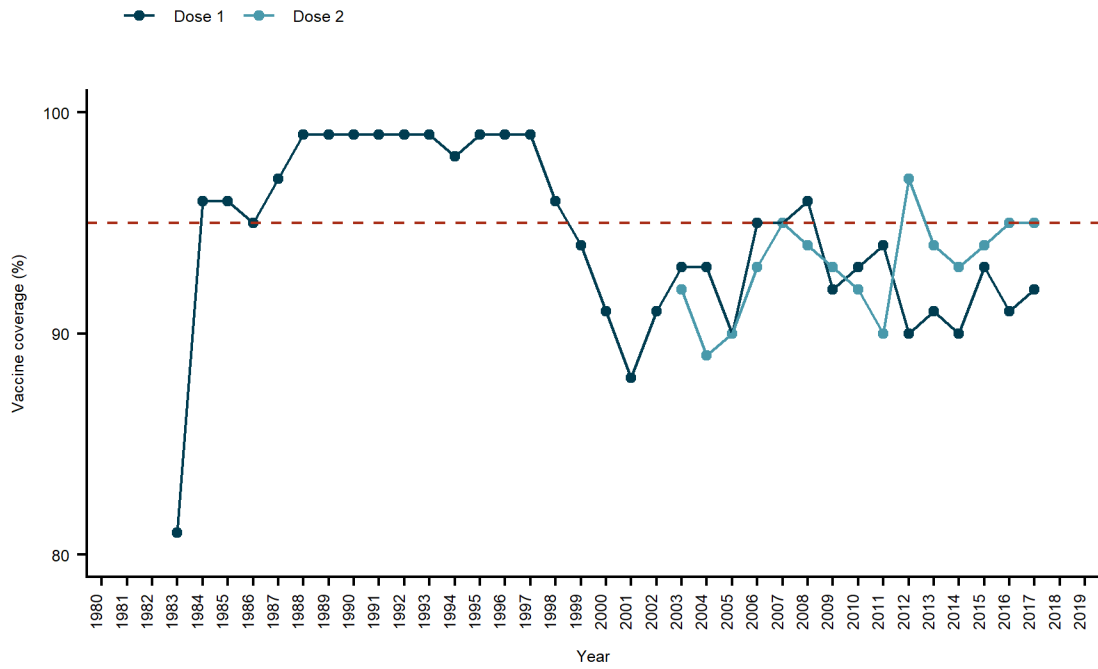
Population	348,450
Measles elimination status (2017 data)	Eliminated
MMR vaccine schedule	18 months 12 years

1 Jan 2016 to 31 Mar 2019

Cases (of which confirmed; %)	11 (11; 100%)
Average annual notification rate per million population	Crude: 12.1. Age-standardised: 11.2 (95% CI: 5.5 - 20.4)
Number of deaths (CFR)	0 (0%)
Median age (IQR) of cases in years	27 (0 - 40)
Number of exportations to other EU/EEA countries	2

National level measles-containing vaccine coverage, 1983 to 2017

WHO/UNICEF Estimates of National Immunization Coverage



Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

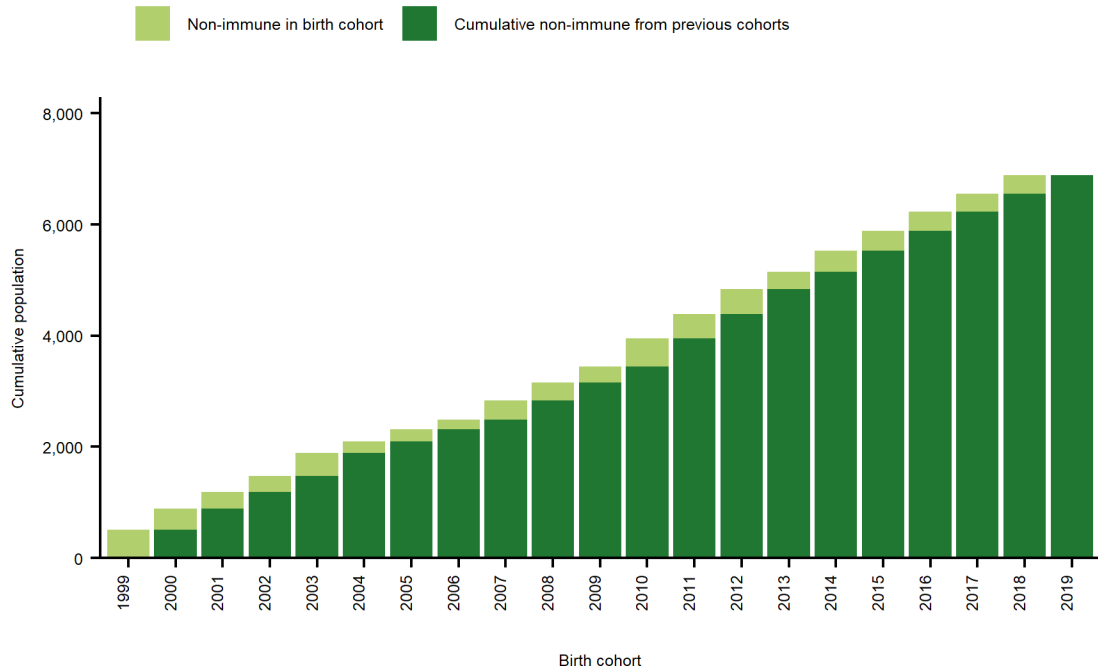
Based on 3 of 11 cases (27.3%) submitted as case-based data that were reported as imported with known probable country of infection. An additional 1 imported case had unknown probable country of infection.



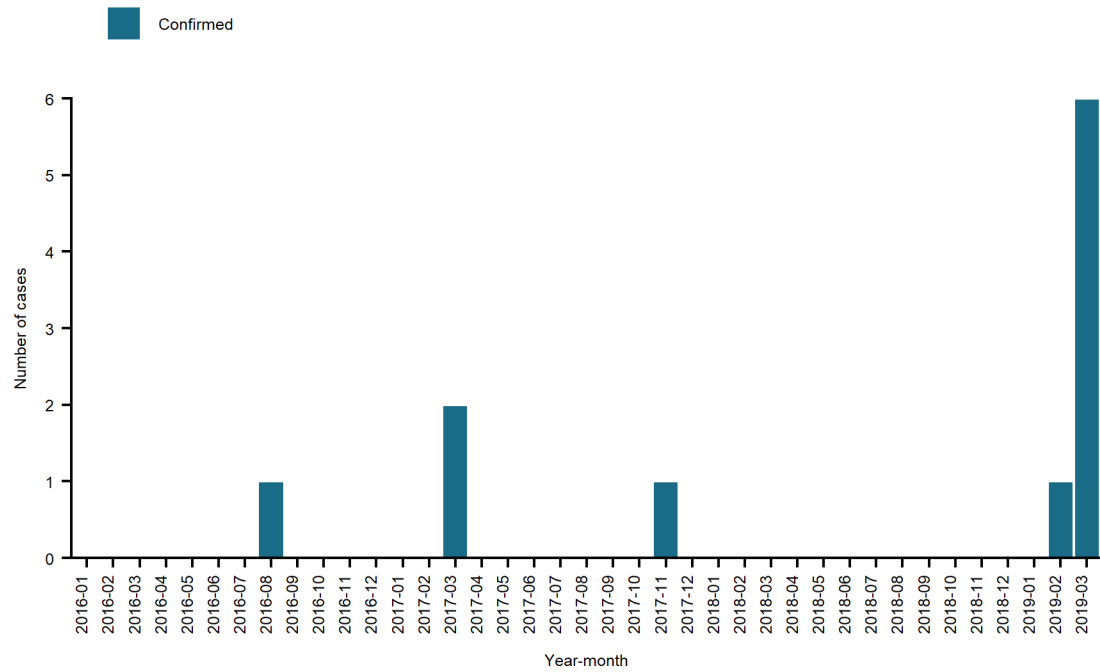
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 6,892 (7.8%) of the children born in the above period were non-immune by 2019

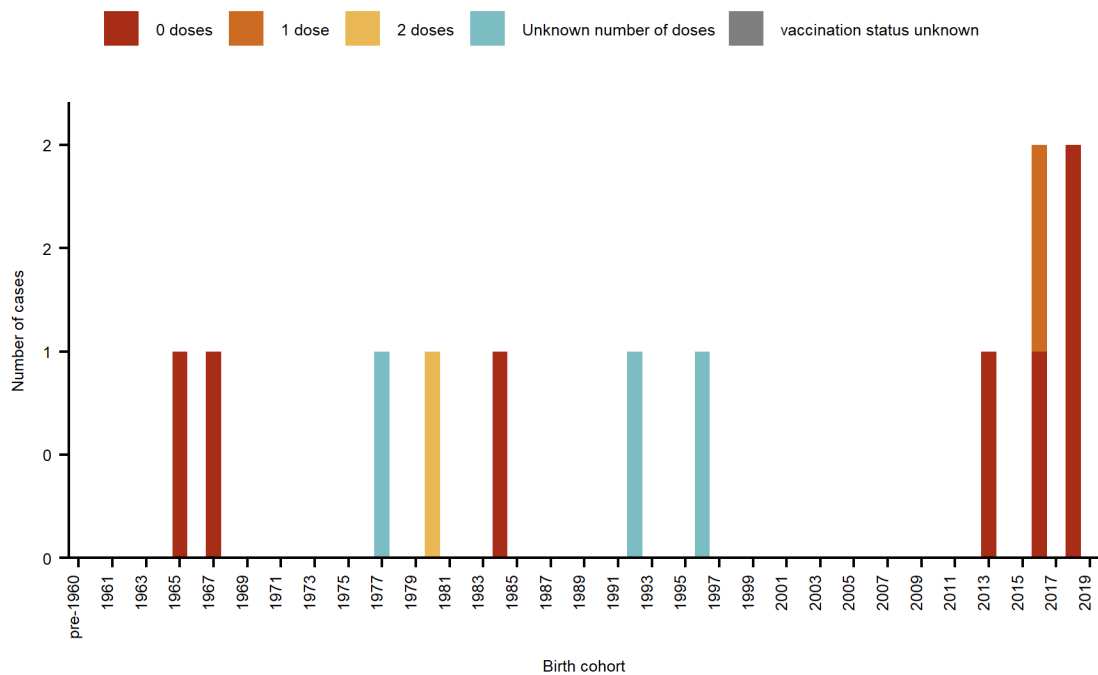
Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 Mar 2014 to 31 Mar 2019. Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%



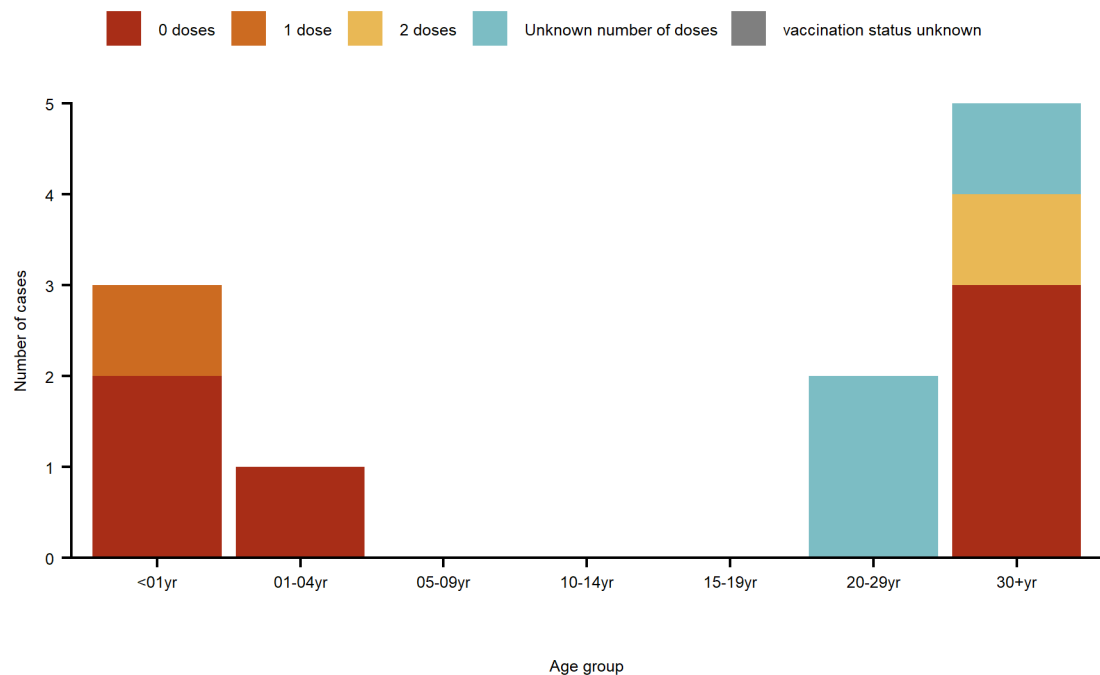
Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 11)



Measles cases by birth cohort and vaccination status, reported to TESSy 1 Mar 2014 to 31 Mar 2019 (n = 12)



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 11)

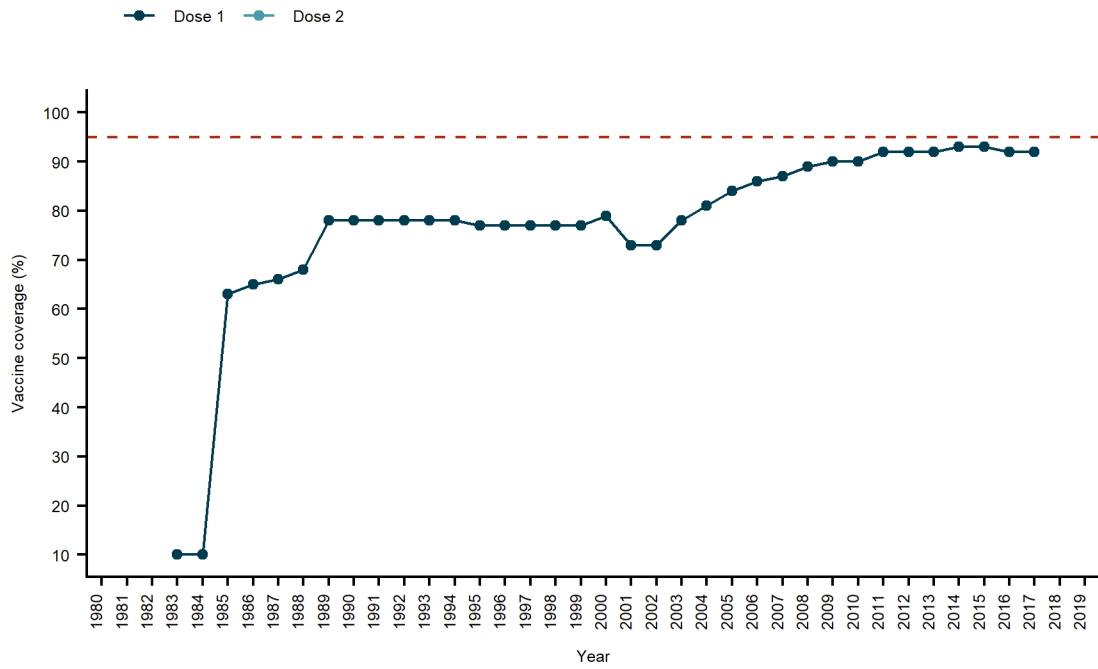


Ireland

General		1 Jan 2016 to 31 Mar 2019	
Population	4,830,392	Cases (of which confirmed; %)	188 (163; 87%)
Measles elimination status (2017 data)	Eliminated	Average annual notification rate per million population	Crude: 12. Age-standardised: 10.6 (95% CI: 9.1 - 12.2)
MMR vaccine schedule	12 months	Number of deaths (CFR)	0 (0%)
	4-5 years	Median age (IQR) of cases in years	14 (3 - 26)
		Number of exportations to other EU/EEA countries	4

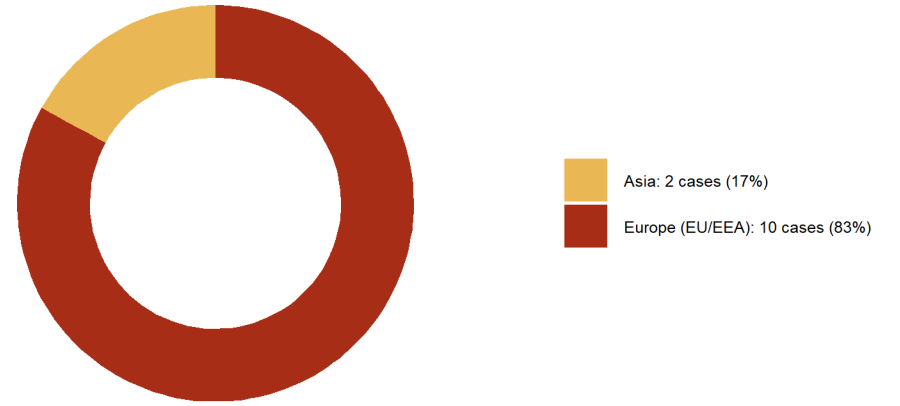
National level measles-containing vaccine coverage, 1983 to 2017

WHO/UNICEF Estimates of National Immunization Coverage



Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

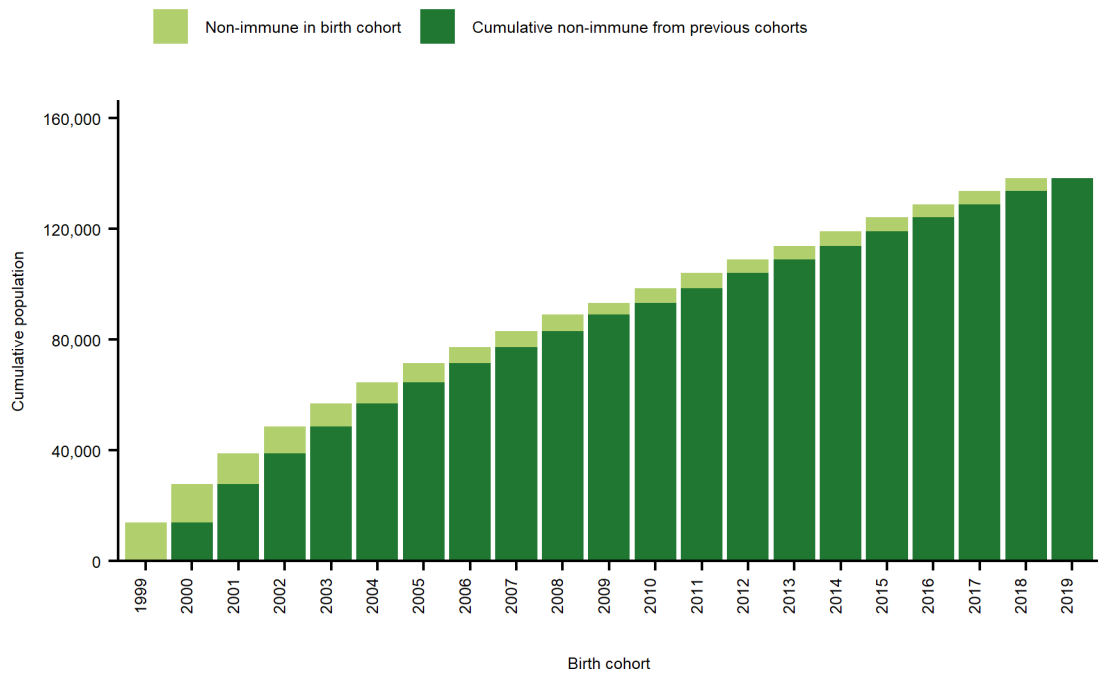
Based on 12 of 188 cases (6.4%) submitted as case-based data that were reported as imported with known probable country of infection



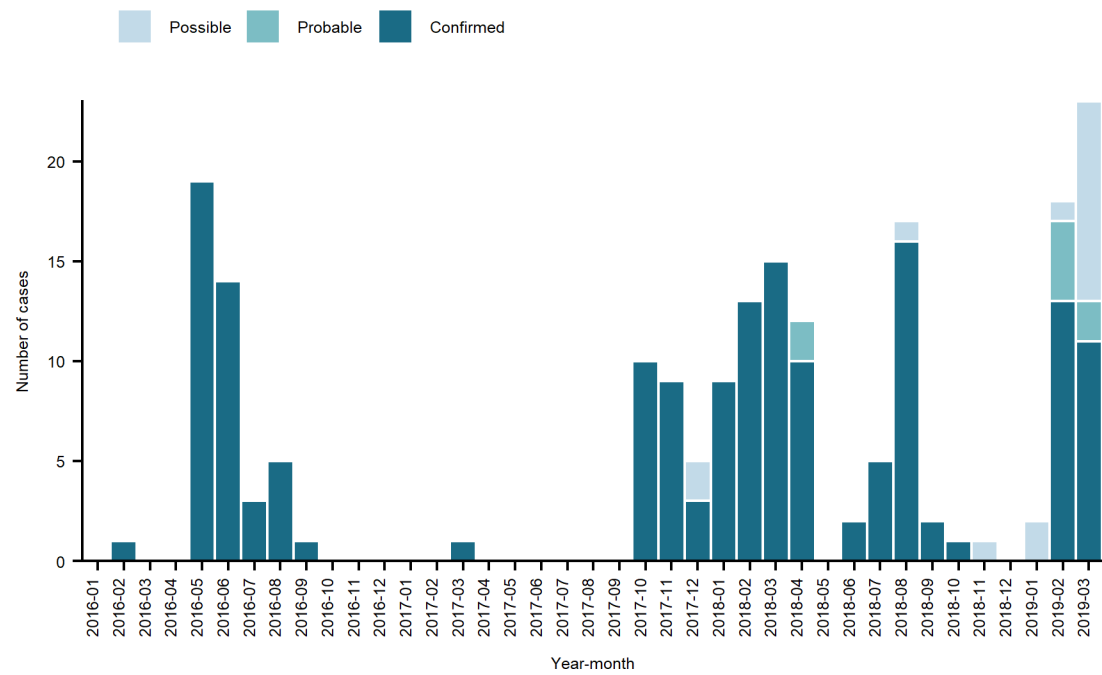
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 138,388 (10.7%) of the children born in the above period were non-immune by 2019

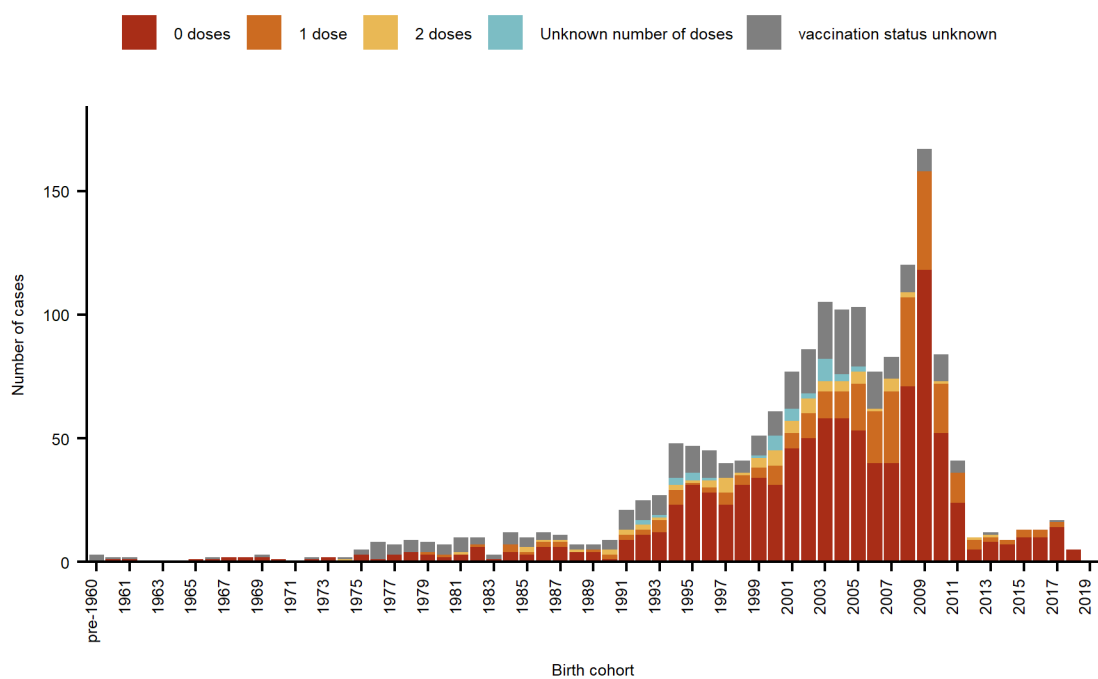
Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 Nov 2002 to 31 Mar 2019
Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%



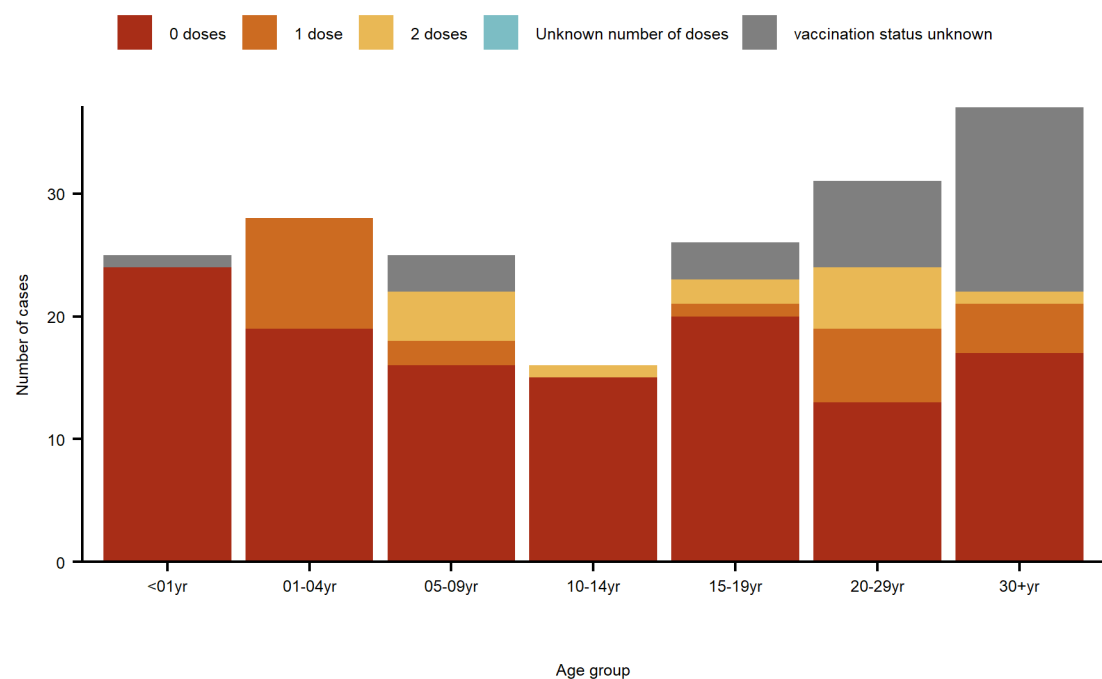
Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 188)



Measles cases by birth cohort and vaccination status, reported to TESSy 1 Nov 2002 to 31 Mar 2019 (n = 1,689)



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 188)



Italy

General

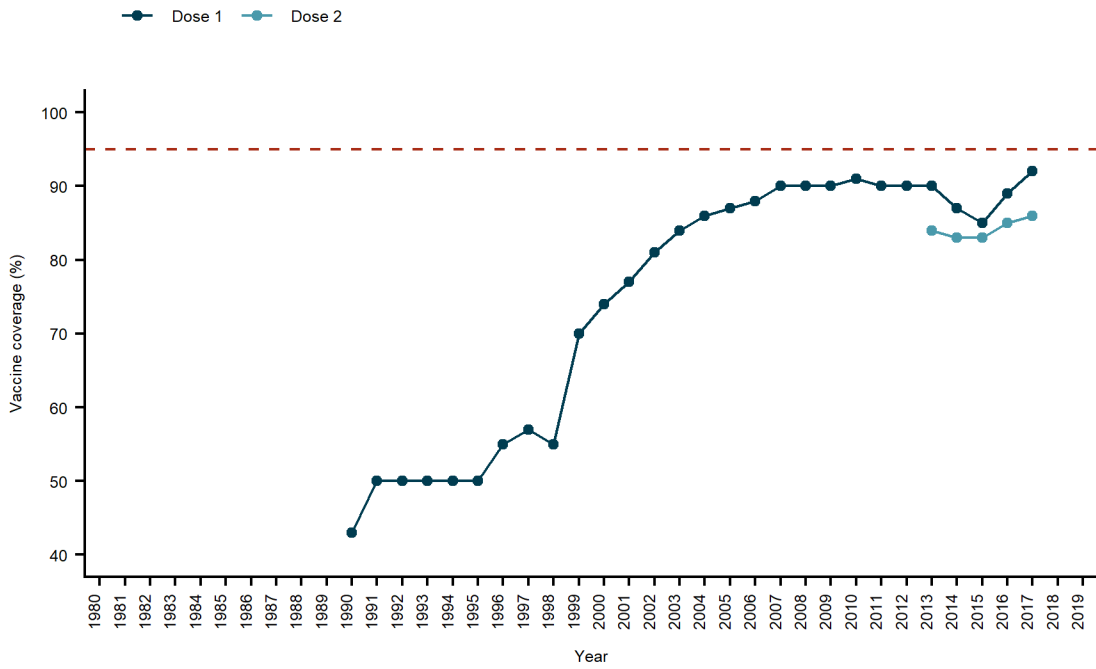
Population	60,483,973
Measles elimination status (2017 data)	Endemic
MMR vaccine schedule	12-15 months
	5 years

1 Jan 2016 to 28 Feb 2019

Cases (of which confirmed; %)	9,277 (7,355; 79%)
Average annual notification rate per million population	Crude: 47.2. Age-standardised: 51.5 (95% CI: 50.4 - 52.6)
Number of deaths (CFR)	13 (0.14%)
Median age (IQR) of cases in years	26 (11 - 35)
Number of exportations to other EU/EEA countries	81

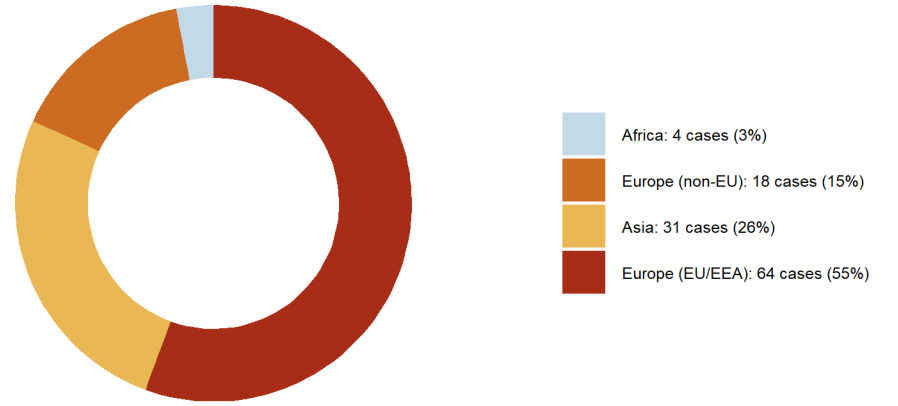
National level measles-containing vaccine coverage, 1990 to 2017

WHO/UNICEF Estimates of National Immunization Coverage



Probable continent of infection of imported cases, 1 Jan 2016 to 28 Feb 2019

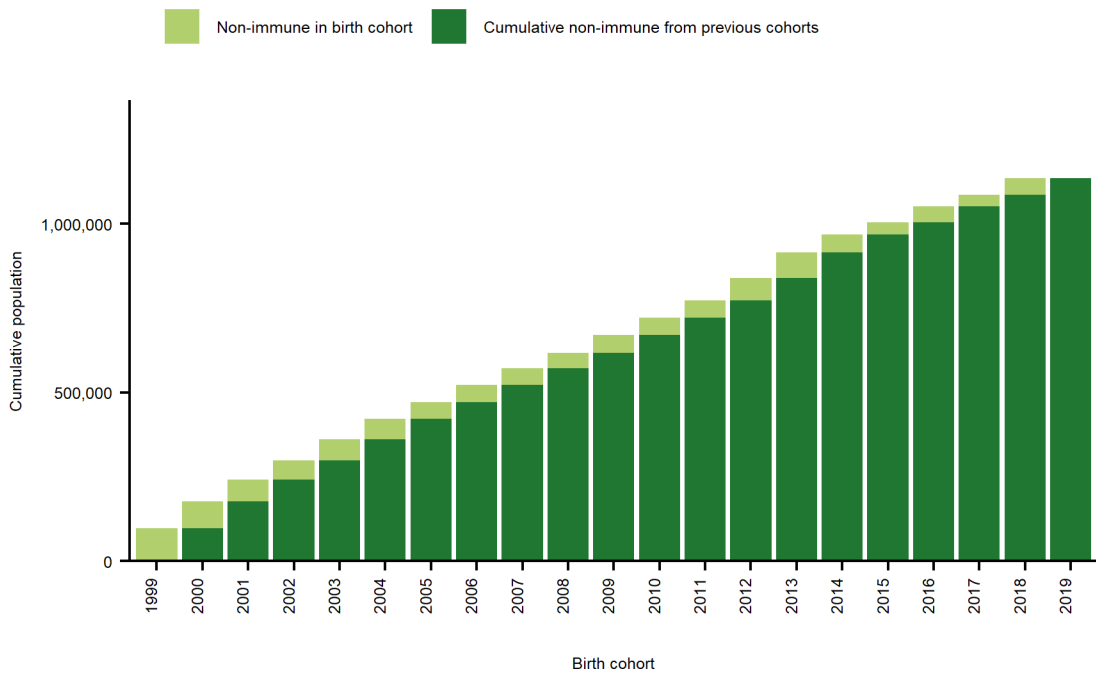
Based on 117 of 9,277 cases (1.3%) submitted as case-based data that were reported as imported with known probable country of infection. An additional 47 imported cases had unknown probable country of infection.



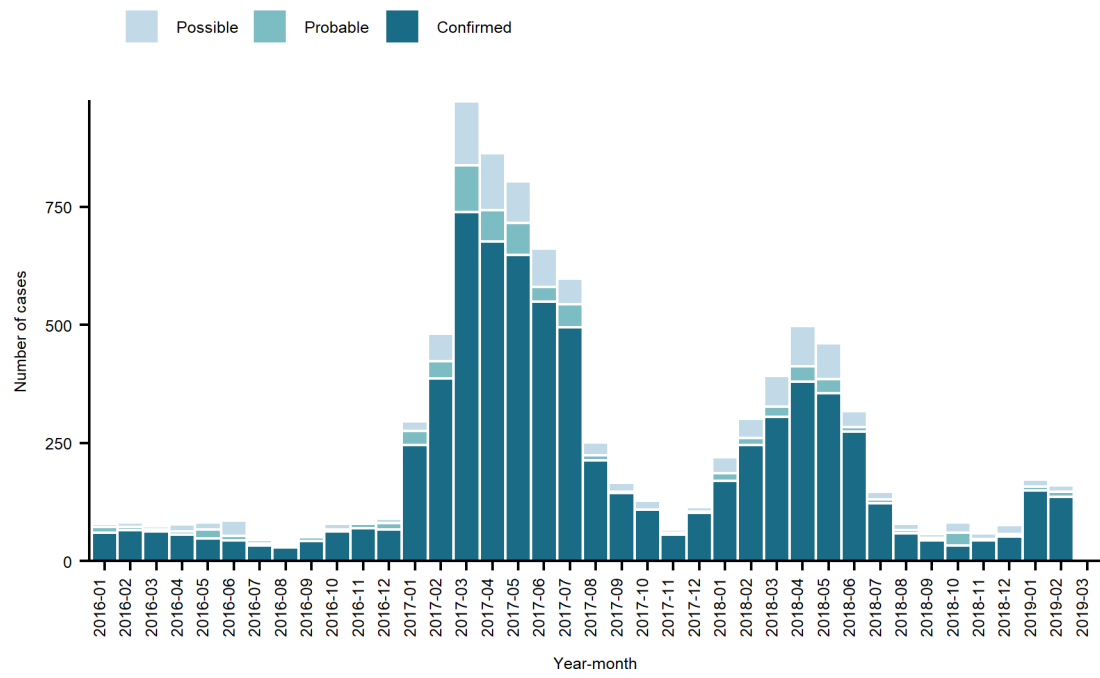
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 1,135,694 (10.6%) of the children born in the above period were non-immune by 2019

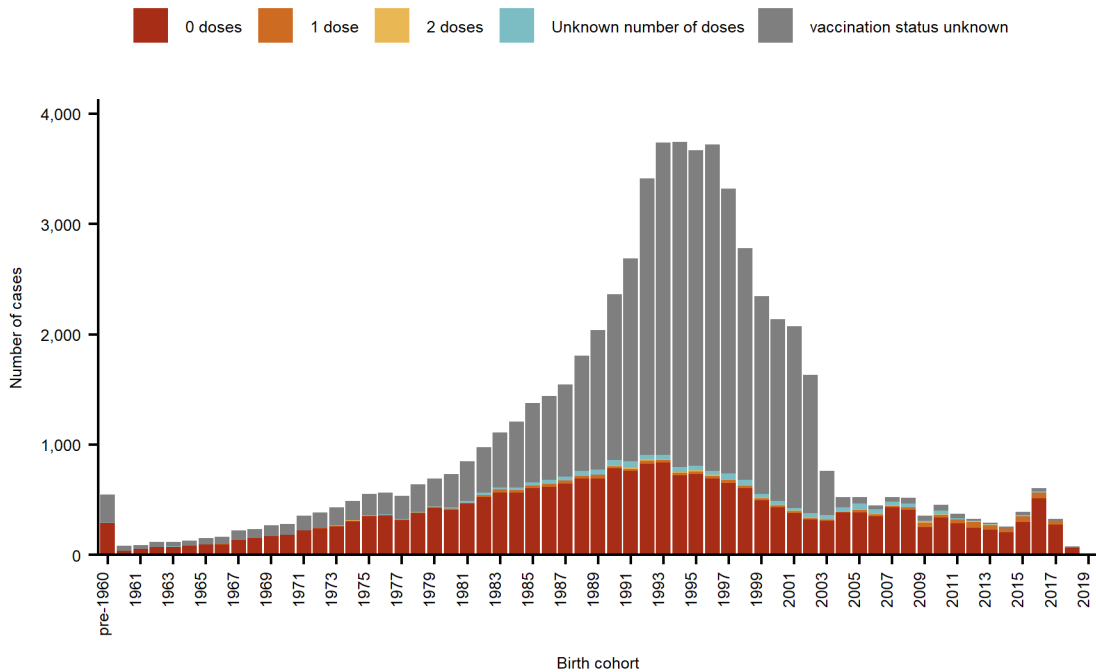
Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 Jan 1999 to 28 Feb 2019. Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%



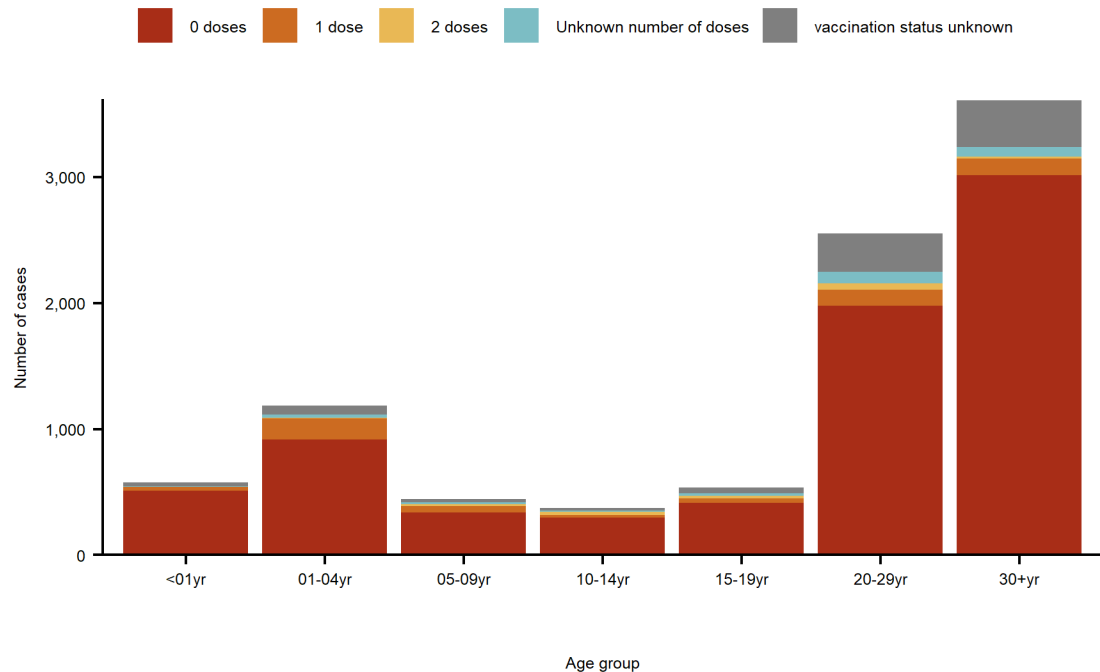
Measles by case classification, 1 Jan 2016 to 28 Feb 2019 (n = 9,277)



Measles cases by birth cohort and vaccination status, reported to TESSy 1 Jan 1999 to 28 Feb 2019 (n = 64,502)



Measles cases by age and vaccination status, 1 Jan 2016 to 28 Feb 2019 (n = 9,277)



Latvia

General

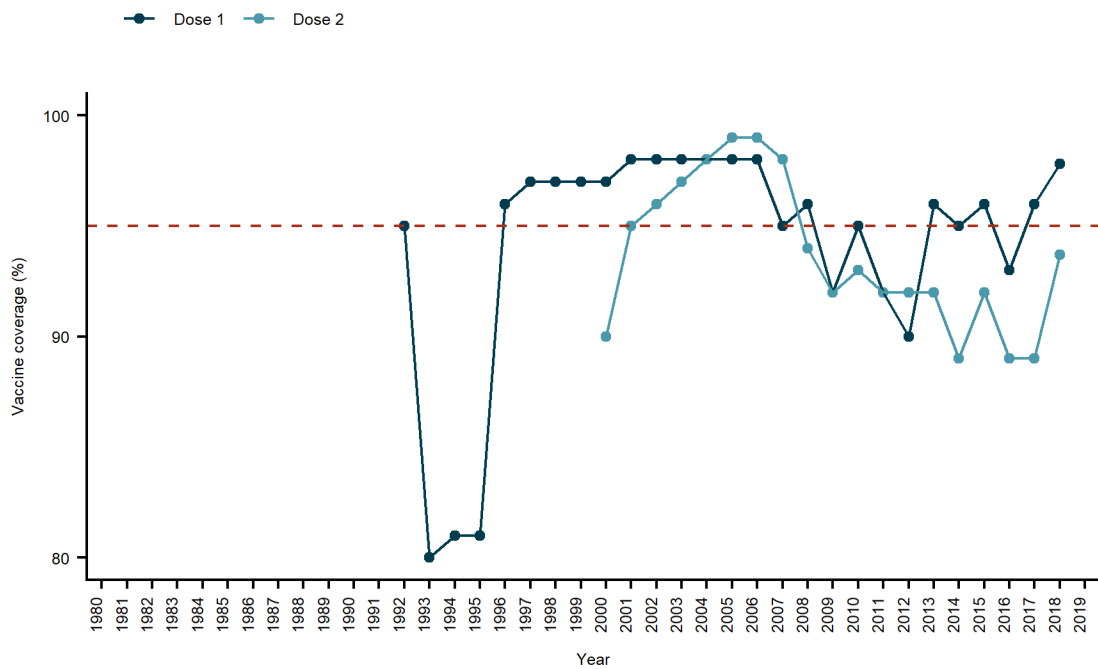
Population	1,934,379
Measles elimination status (2017 data)	Eliminated
MMR vaccine schedule	12-15 months 7 years

1 Jan 2016 to 31 Mar 2019

Cases (of which confirmed; %)	25 (25; 100%)
Average annual notification rate per million population	Crude: 4.4. Age-standardised: 4.4 (95% CI: 2.8 - 6.5)
Number of deaths (CFR)	0 (0%)
Median age (IQR) of cases in years	26 (6 - 34)
Number of exportations to other EU/EEA countries	1

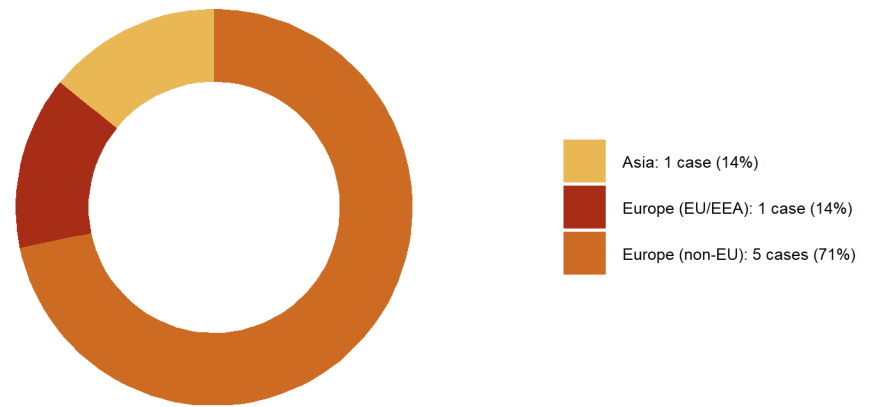
National level measles-containing vaccine coverage, 1992 to 2018

WHO/UNICEF Estimates of National Immunization Coverage and additional data from the member state for 2018 (MCV1 and MCV2)



Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

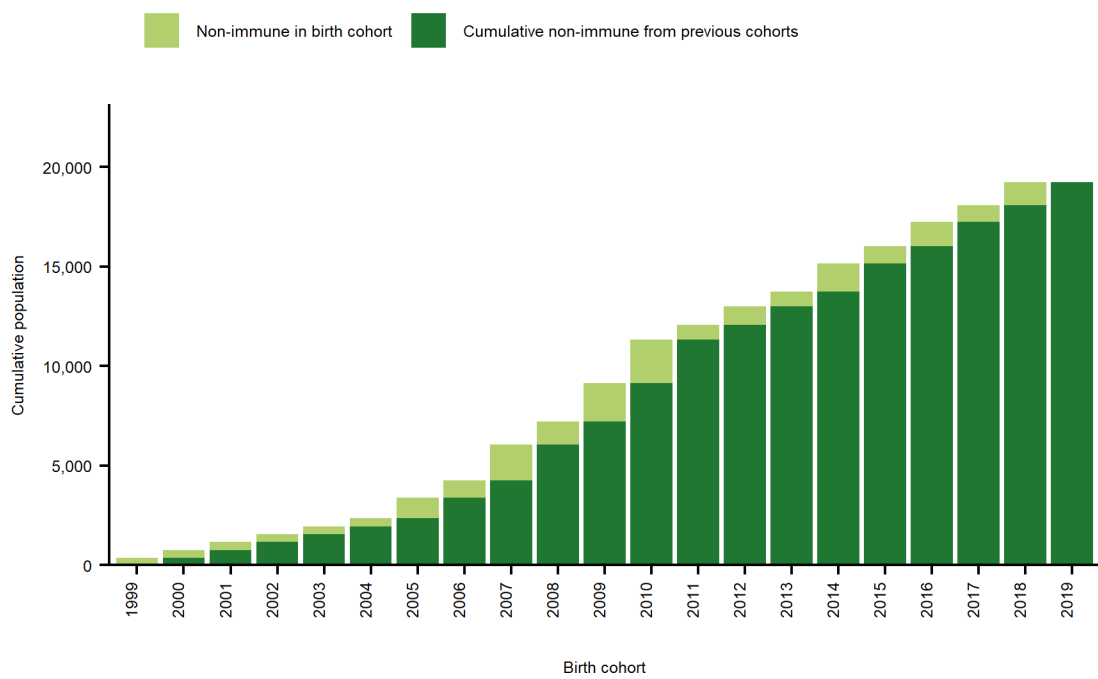
Based on 7 of 25 cases (28%) submitted as case-based data that were reported as imported with known probable country of infection. An additional 2 imported cases had unknown probable country of infection.



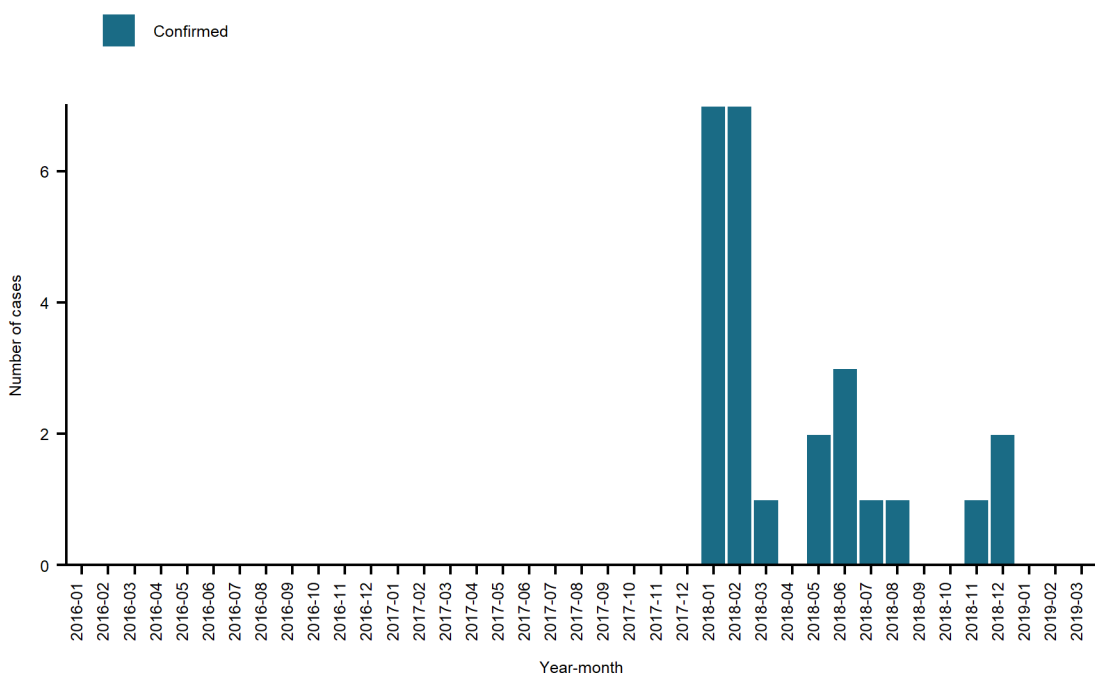
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 19,240 (4.6%) of the children born in the above period were non-immune by 2019

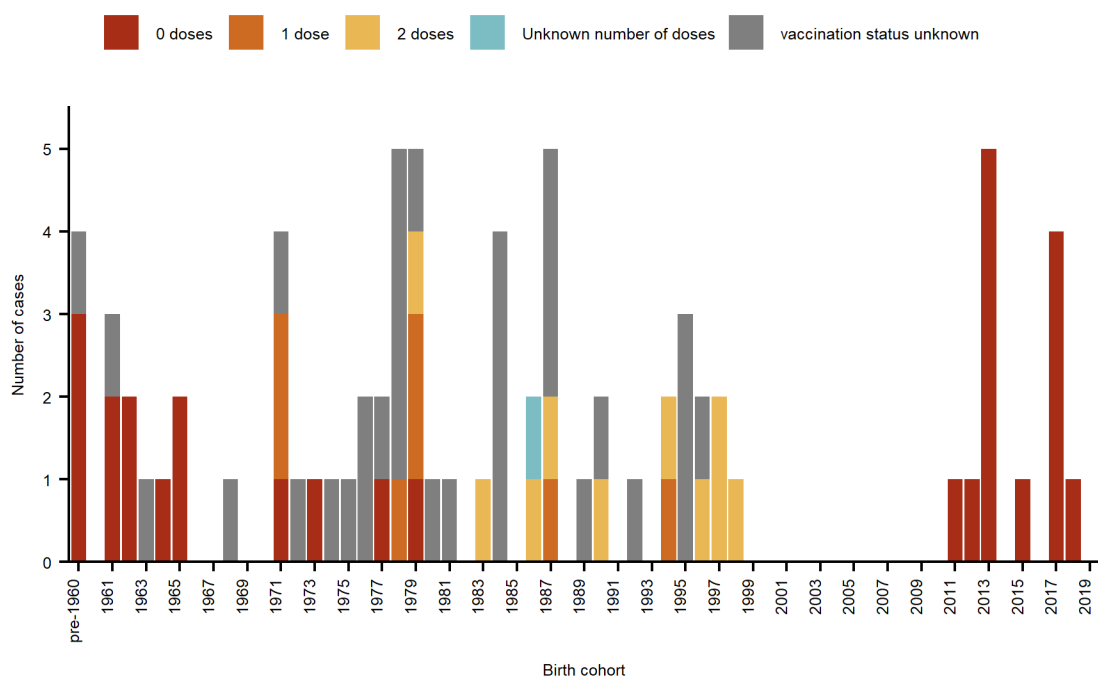
Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 Mar 2005 to 31 Dec 2018. Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%



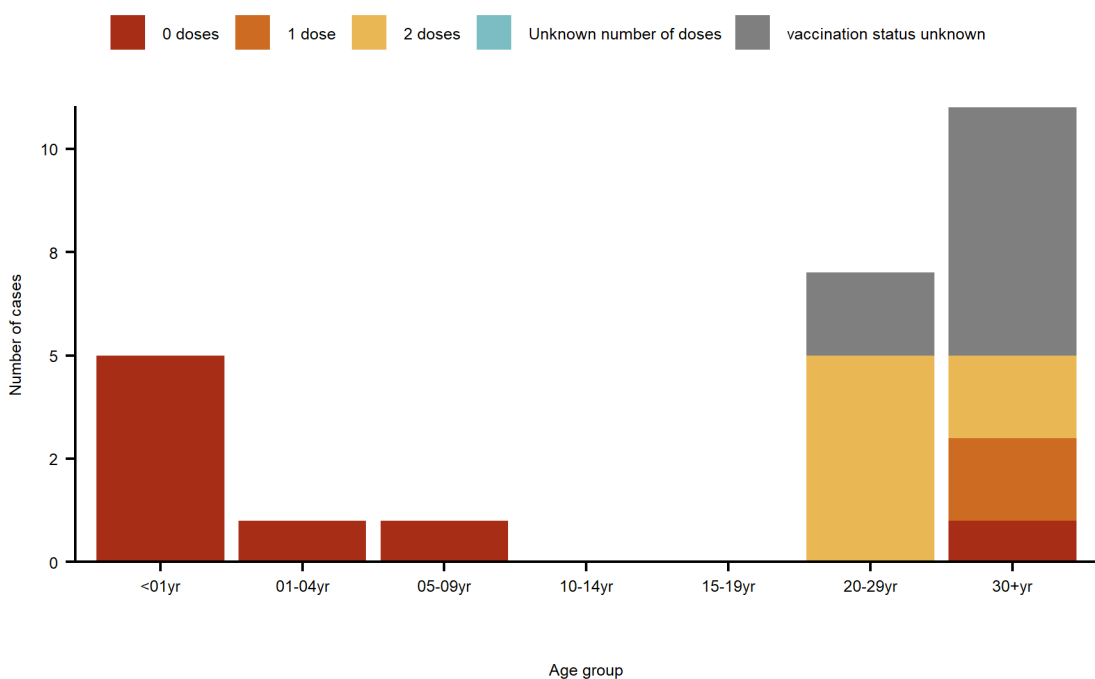
Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 25)



Measles cases by birth cohort and vaccination status, reported to TESSy 1 Mar 2005 to 31 Dec 2018 (n = 77)



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 25)



Lithuania

General

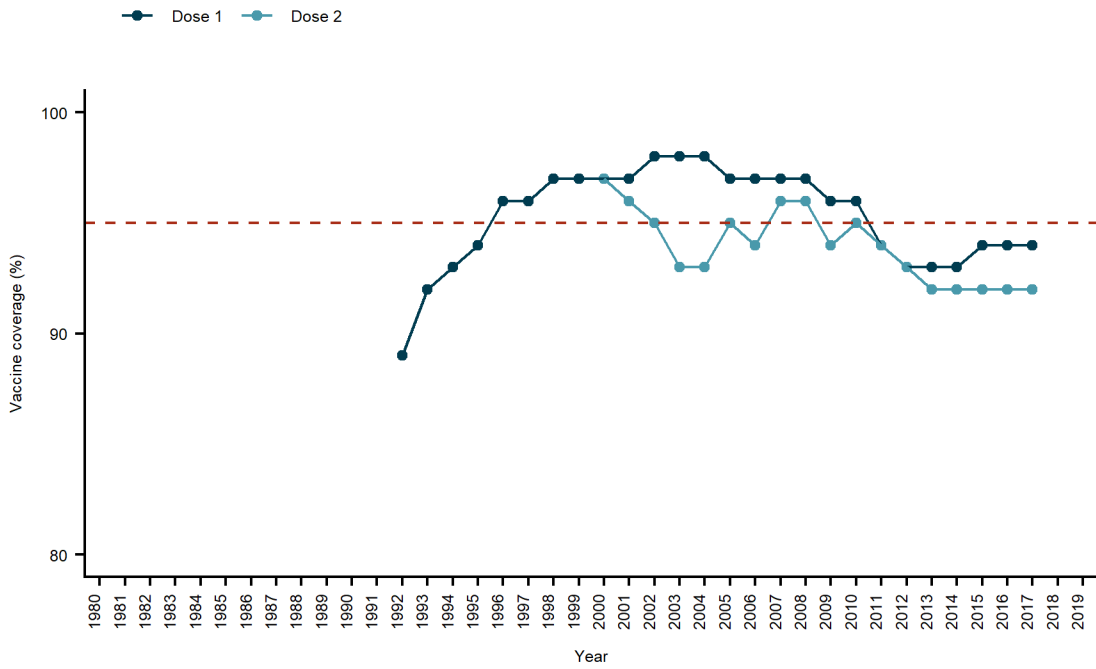
Population	2,808,901
Measles elimination status (2017 data)	Eliminated
MMR vaccine schedule	15-16 months 6-7 years

1 Jan 2016 to 31 Mar 2019

Cases (of which confirmed; %)	386 (386; 100%)
Average annual notification rate per million population	Crude: 42.3. Age-standardised: 41.8 (95% CI: 37.7 - 46.2)
Number of deaths (CFR)	0 (0%)
Median age (IQR) of cases in years	35 (21 - 41)
Number of exportations to other EU/EEA countries	3

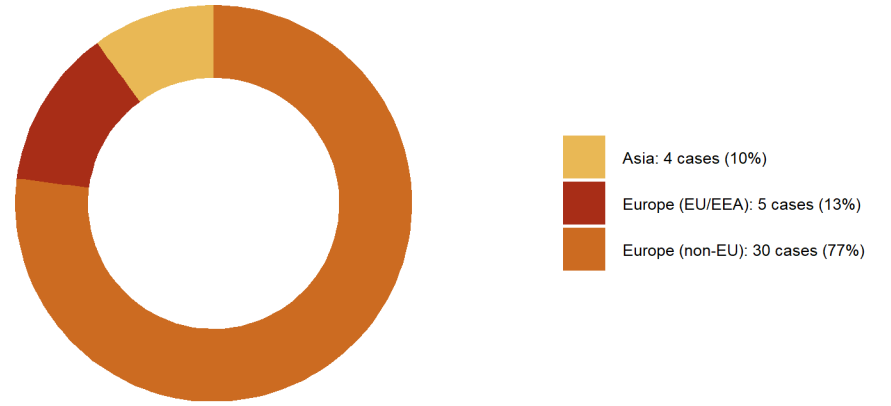
National level measles-containing vaccine coverage, 1992 to 2017

WHO/UNICEF Estimates of National Immunization Coverage



Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

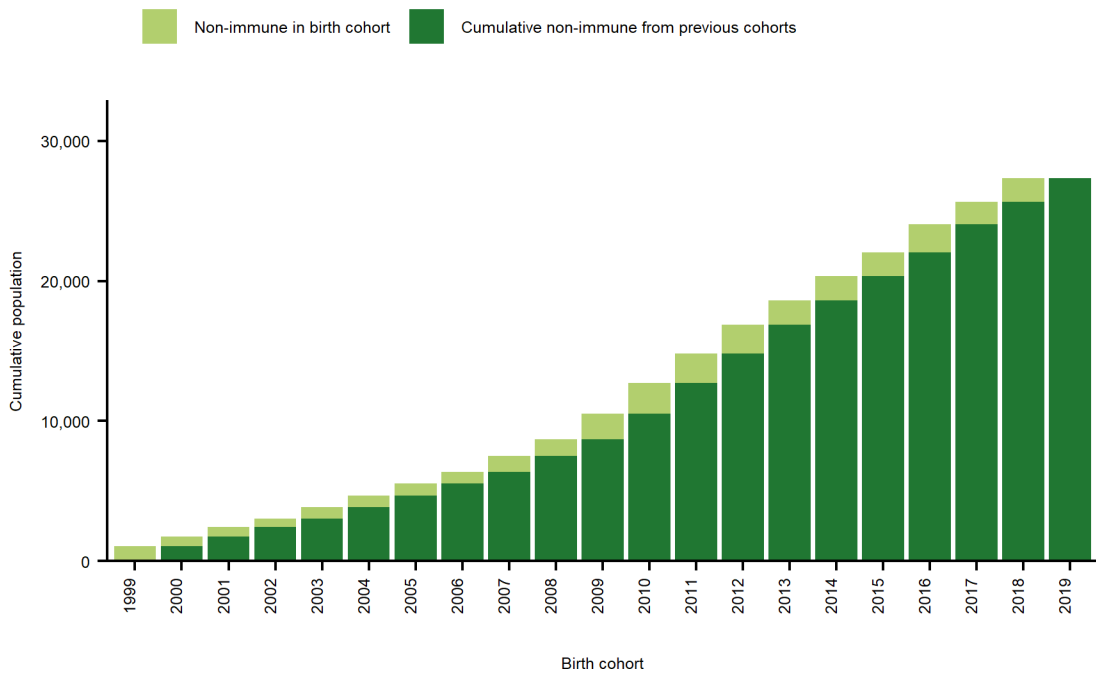
Based on 39 of 386 cases (10.1%) submitted as case-based data that were reported as imported with known probable country of infection



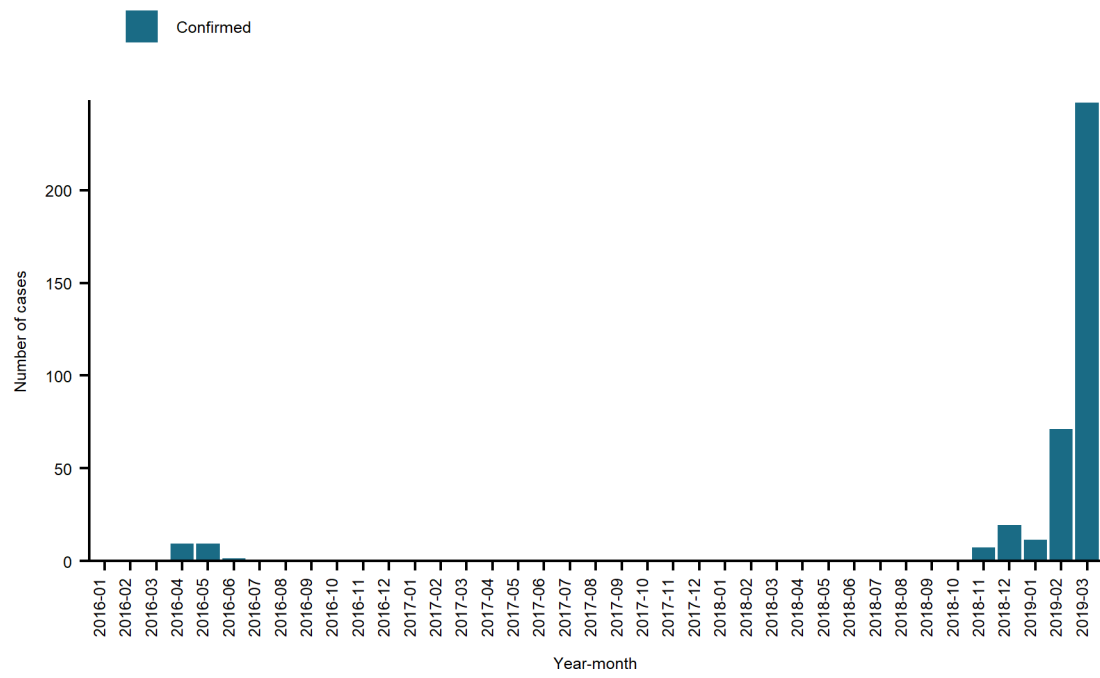
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 27,353 (4.4%) of the children born in the above period were non-immune by 2019

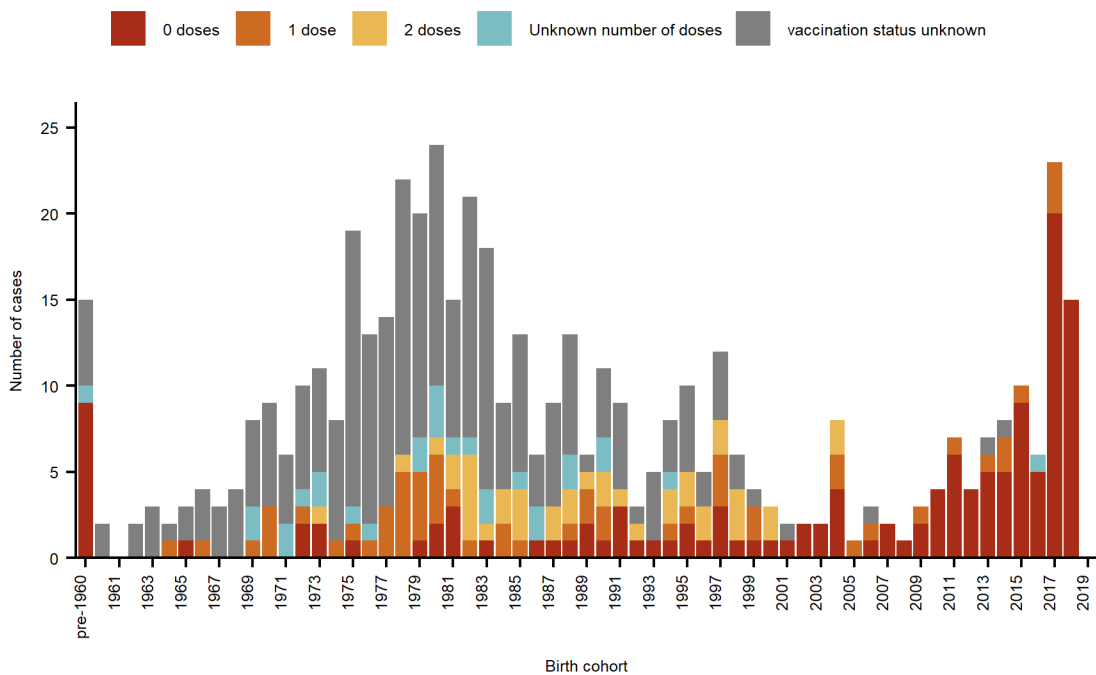
Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 Jun 2005 to 31 Mar 2019
Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%



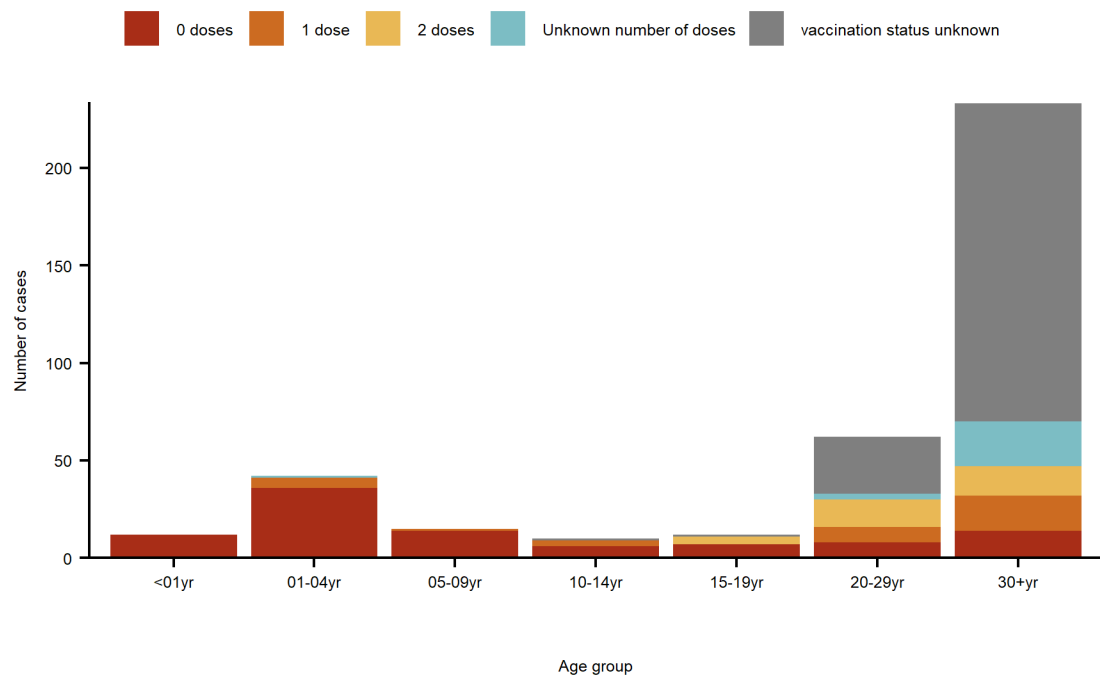
Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 386)



Measles cases by birth cohort and vaccination status, reported to TESSy 1 Jun 2005 to 31 Mar 2019 (n = 496)



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 386)



Luxembourg

General

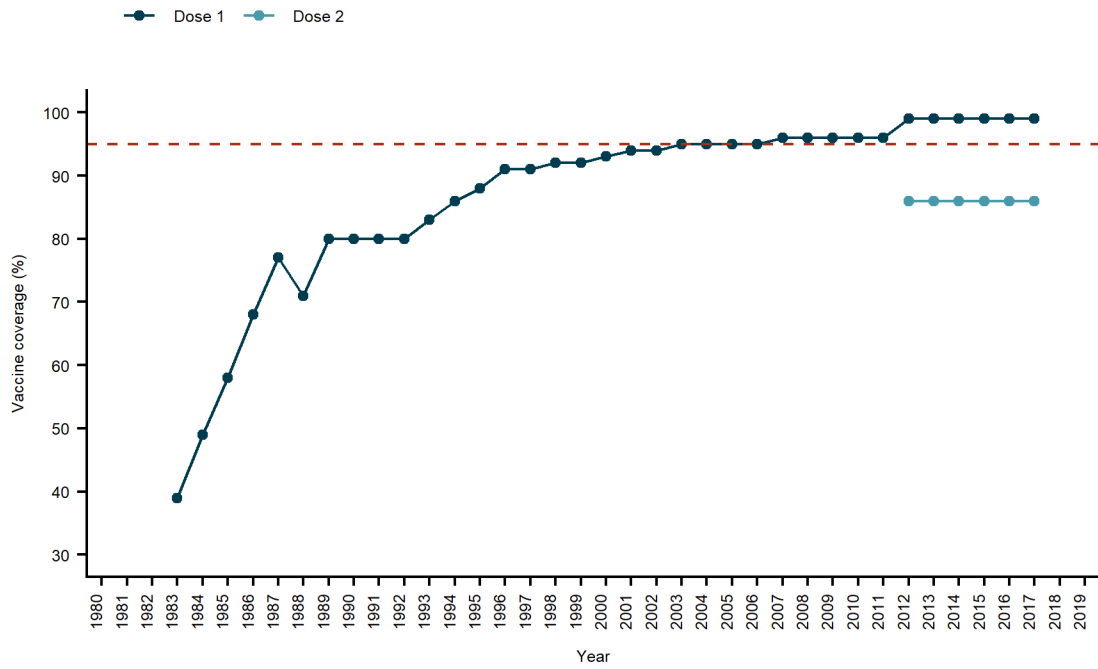
Population	602,005
Measles elimination status (2017 data)	Eliminated
MMR vaccine schedule	12 months 15-23 months

1 Jan 2016 to 31 Mar 2019

Cases (of which confirmed; %)	23 (23; 100%)
Average annual notification rate per million population	Crude: 12.3. Age-standardised: 12.1 (95% CI: 7.7 - 18.2)
Number of deaths (CFR)	0 (0%)
Median age (IQR) of cases in years	17 (14 - 27)
Number of exportations to other EU/EEA countries	1

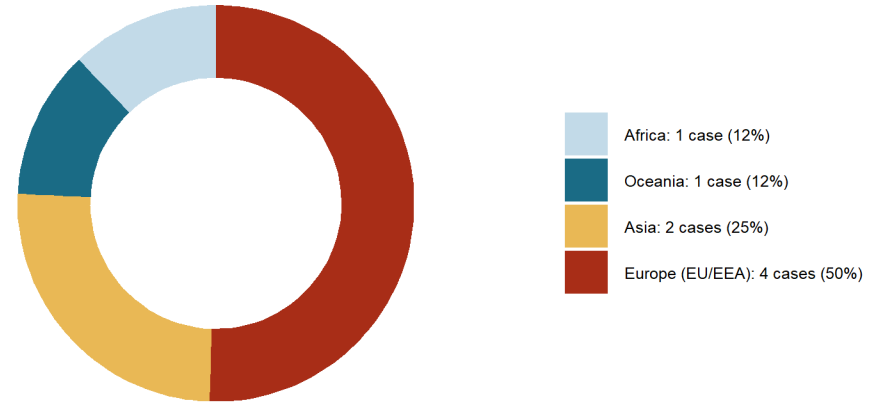
National level measles-containing vaccine coverage, 1983 to 2017

WHO/UNICEF Estimates of National Immunization Coverage



Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

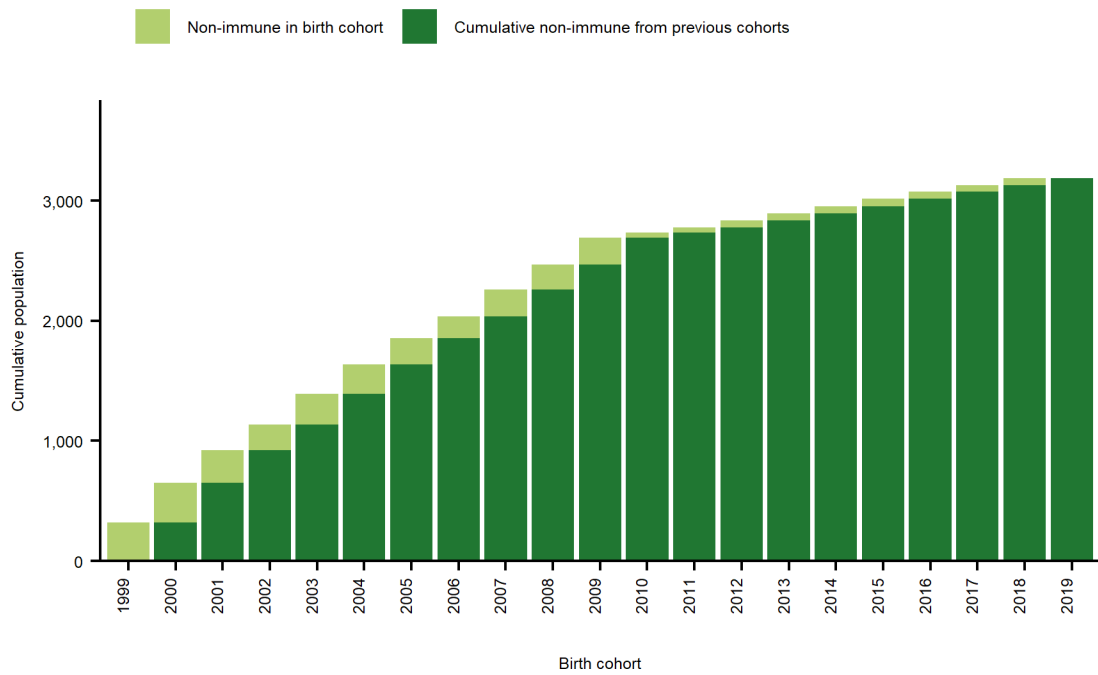
Based on 8 of 23 cases (34.8%) submitted as case-based data that were reported as imported with known probable country of infection



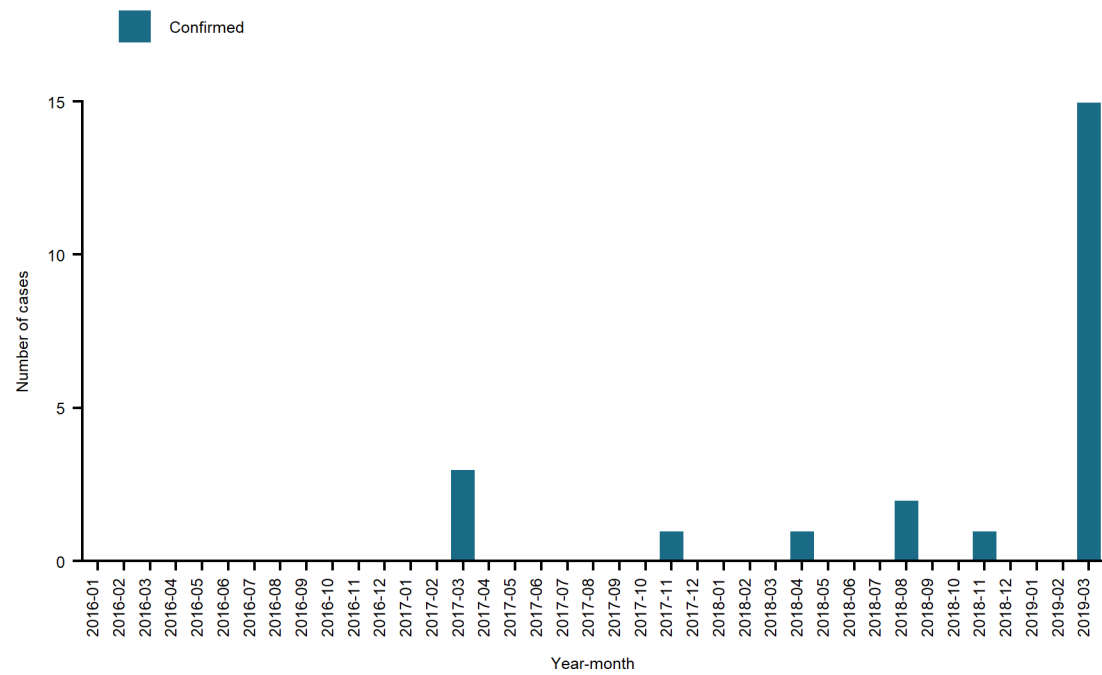
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 3,190 (2.8%) of the children born in the above period were non-immune by 2019

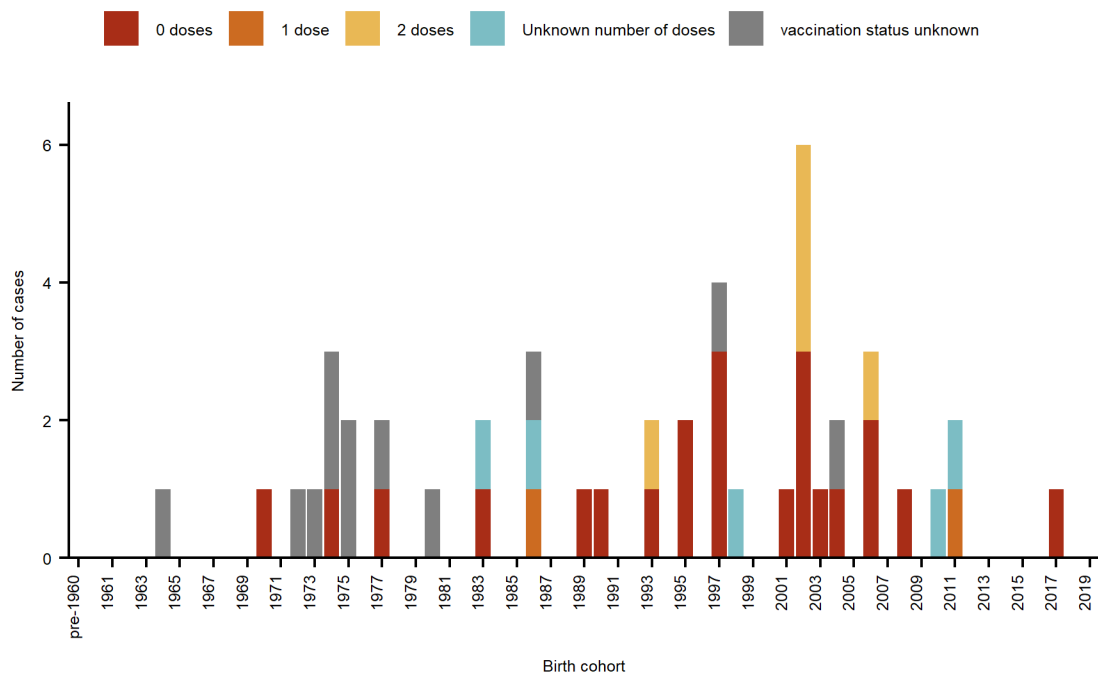
Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 Mar 2001 to 31 Mar 2019
No adjustment has been made for 1 cases reported in aggregate format since they cannot be assigned to a birth cohort
Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%



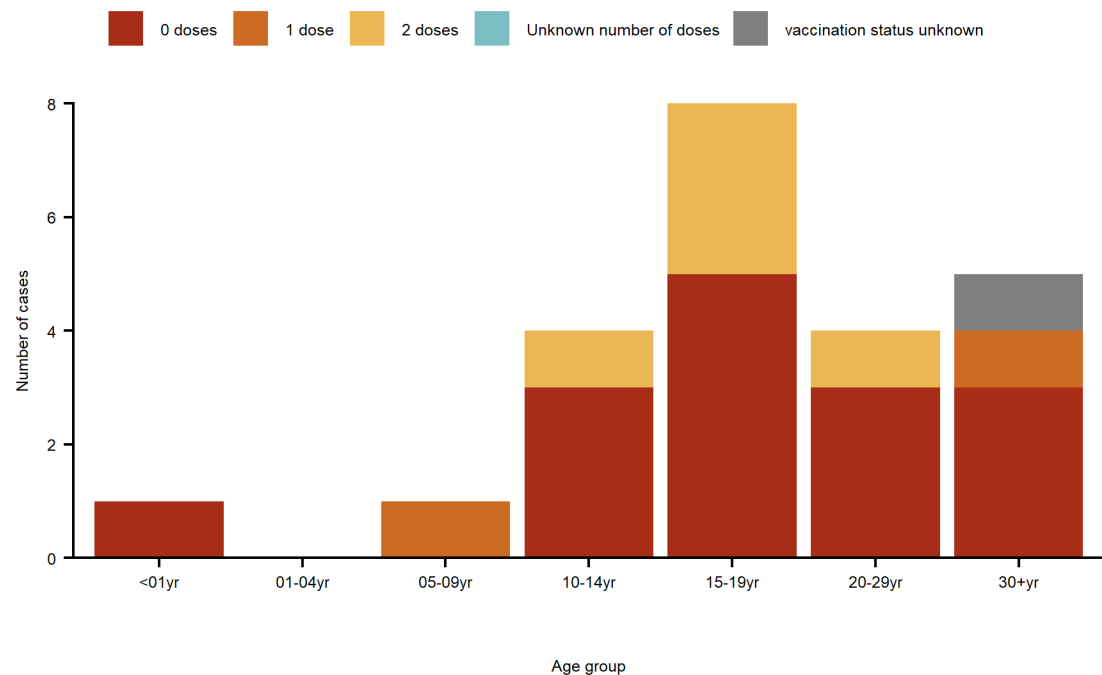
Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 23)



Measles cases by birth cohort and vaccination status, reported to TESSy 1 Mar 2001 to 31 Mar 2019 (n = 46)



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 23)

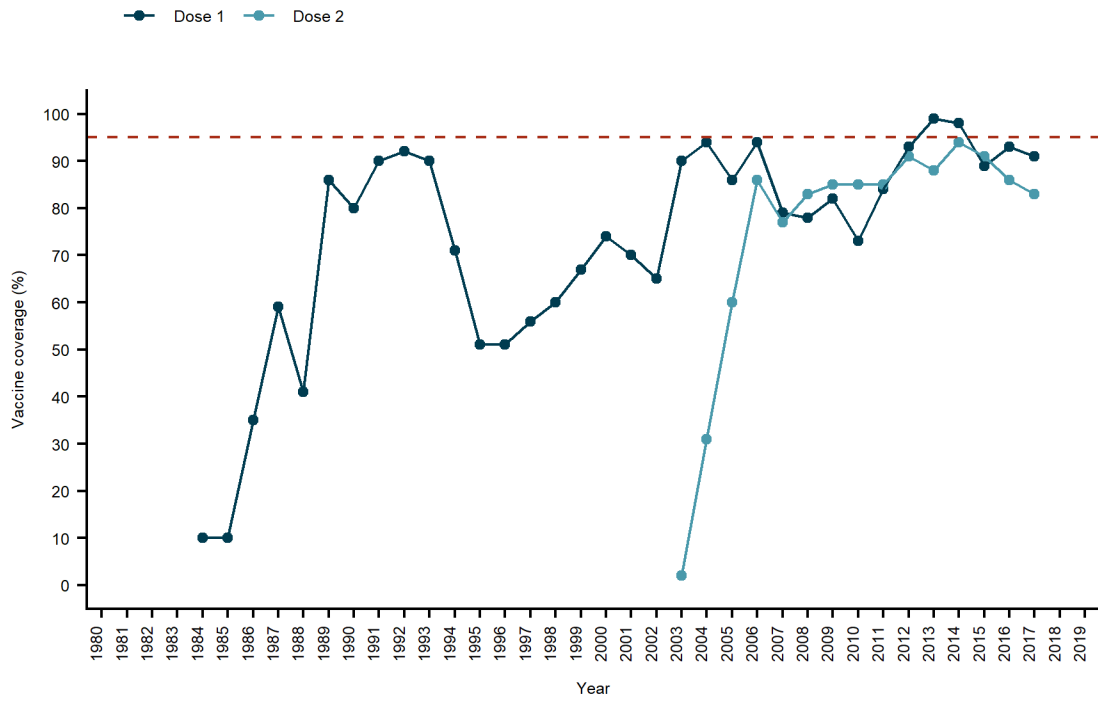


Malta

General		1 Jan 2016 to 31 Mar 2019	
Population	475,701	Cases (of which confirmed; %)	8 (8; 100%)
Measles elimination status (2017 data)	Eliminated	Average annual notification rate per million population	Crude: 5.7. Age-standardised: 5.9 (95% CI: 2.5 - 12.1)
MMR vaccine schedule	13 months	Number of deaths (CFR)	0 (0%)
	3-4 years	Median age (IQR) of cases in years	33 (24 - 39)
		Number of exportations to other EU/EEA countries	0

National level measles-containing vaccine coverage, 1984 to 2017

WHO/UNICEF Estimates of National Immunization Coverage



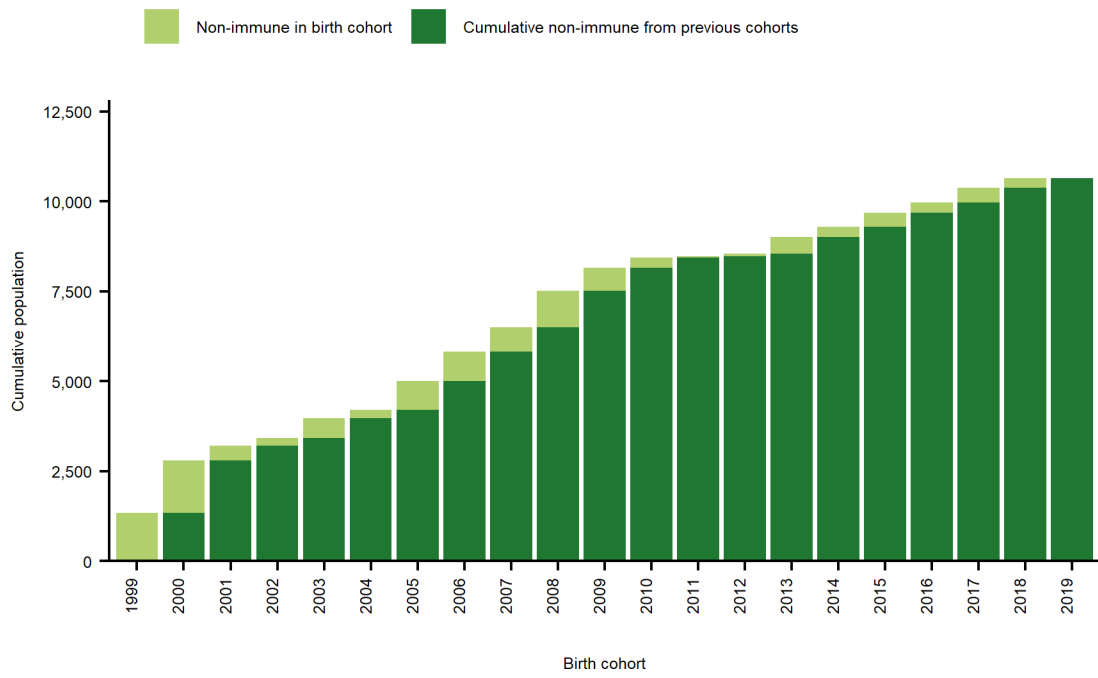
Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

Based on 0 of 8 cases (0%) submitted as case-based data that were reported as imported with known probable country of infection. An additional 4 imported cases had unknown probable country of infection.

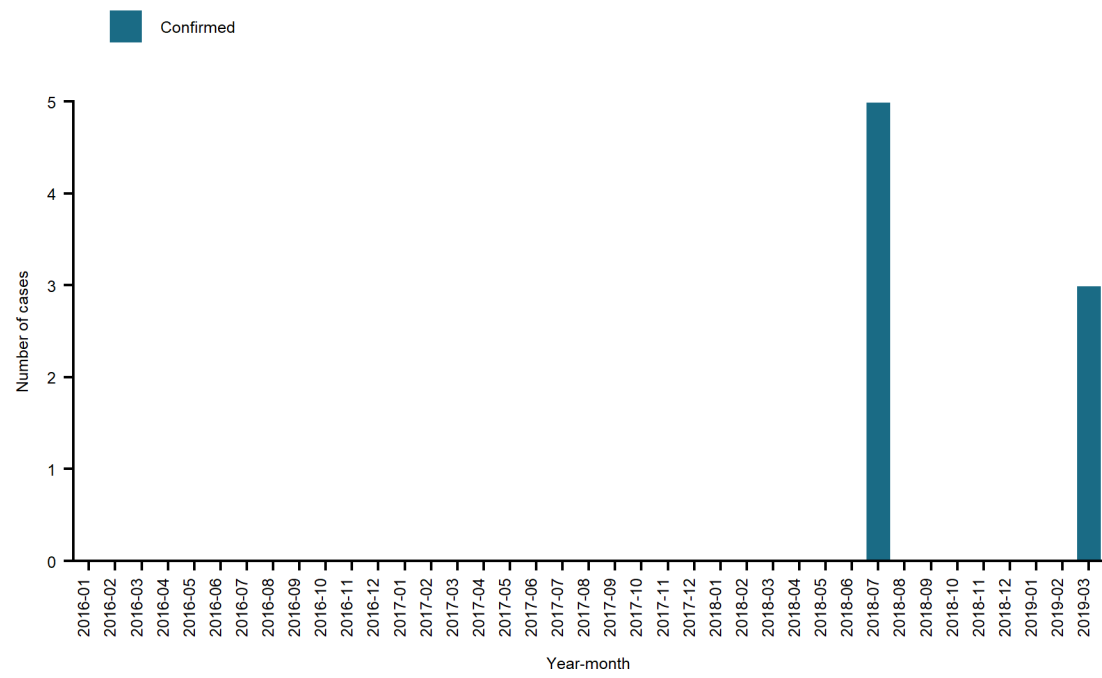
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 10,654 (12.8%) of the children born in the above period were non-immune by 2019

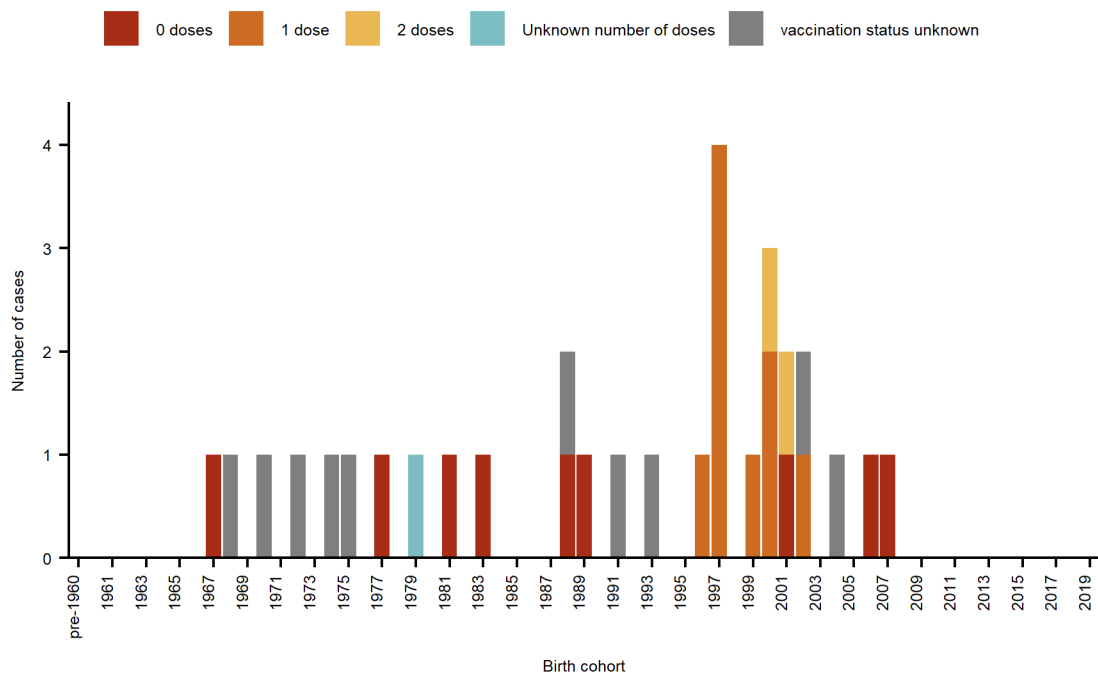
Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 Jan 2001 to 31 Mar 2019. Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%



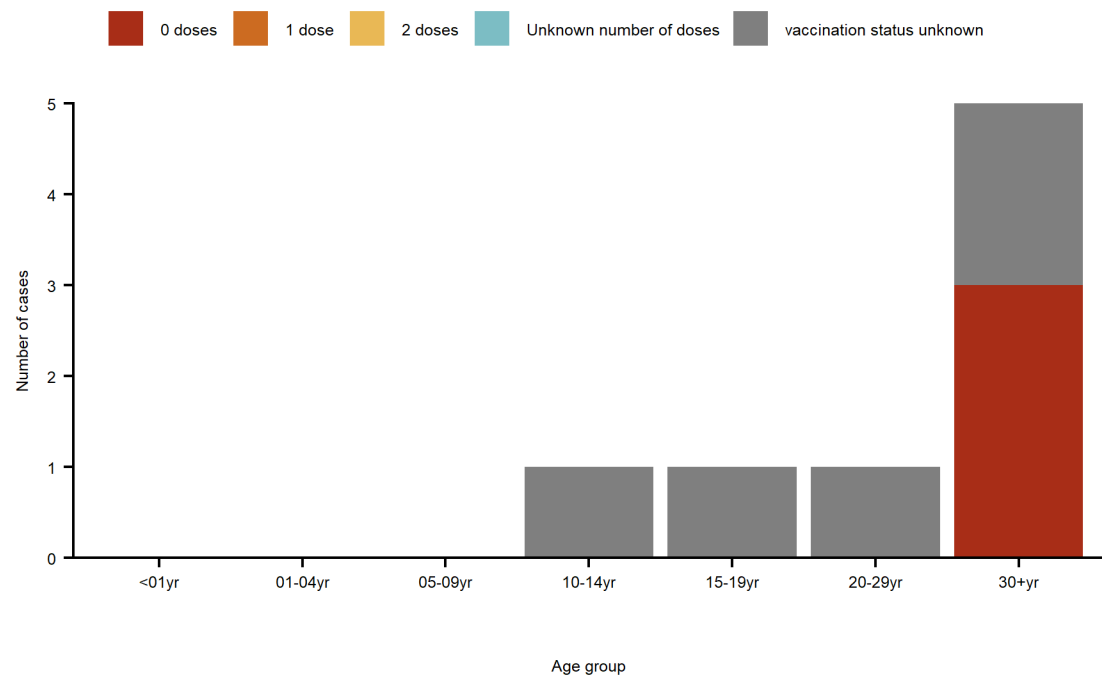
Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 8)



Measles cases by birth cohort and vaccination status, reported to TESSy 1 Jan 2001 to 31 Mar 2019 (n = 31)



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 8)

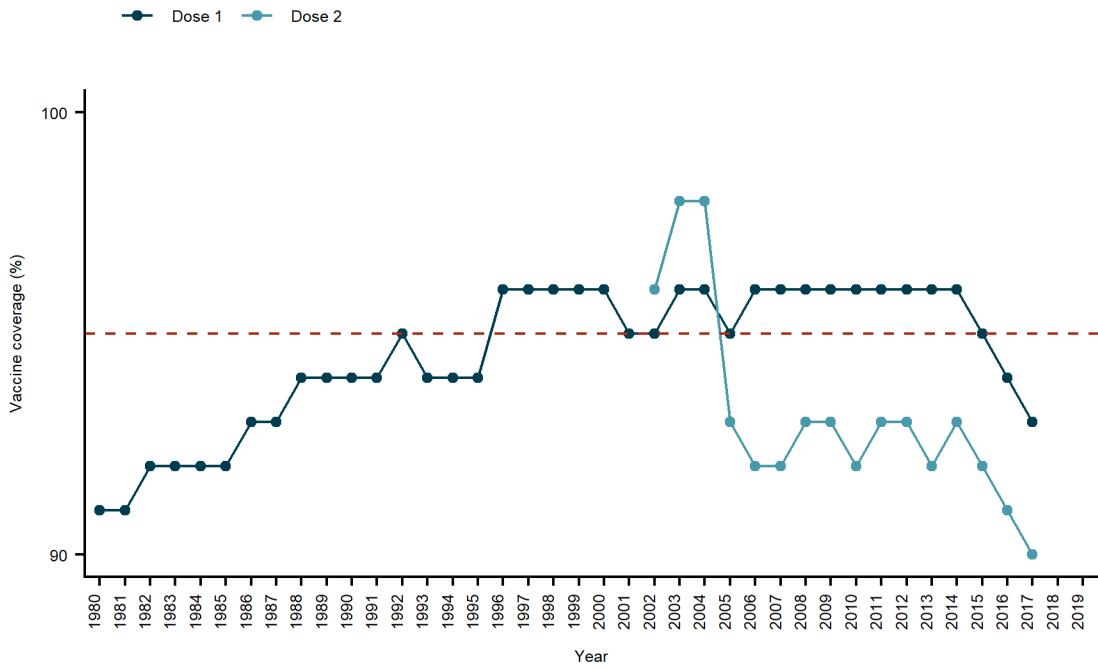


Netherlands

General		1 Jan 2016 to 31 Mar 2019	
Population	17,181,084	Cases (of which confirmed; %)	58 (55; 95%)
Measles elimination status (2017 data)	Eliminated	Average annual notification rate per million population	Crude: 1. Age-standardised: 1 (95% CI: 0.8 - 1.3)
MMR vaccine schedule	14 months	Number of deaths (CFR)	0 (0%)
	9 years	Median age (IQR) of cases in years	26 (18 - 39)
		Number of exportations to other EU/EEA countries	6

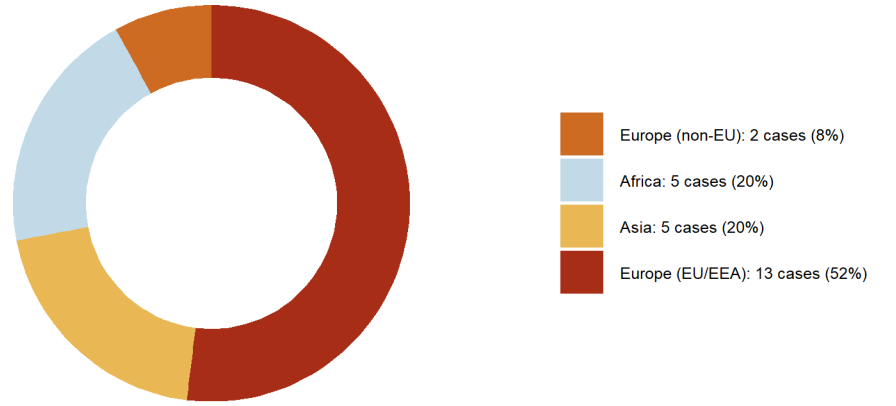
National level measles-containing vaccine coverage, 1980 to 2017

WHO/UNICEF Estimates of National Immunization Coverage.
 Before 2005 MCV2 was calculated as proportion having received at least one dose at the age of 10 years.
 After 2005 the definition changed to the proportion receiving 2 doses



Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

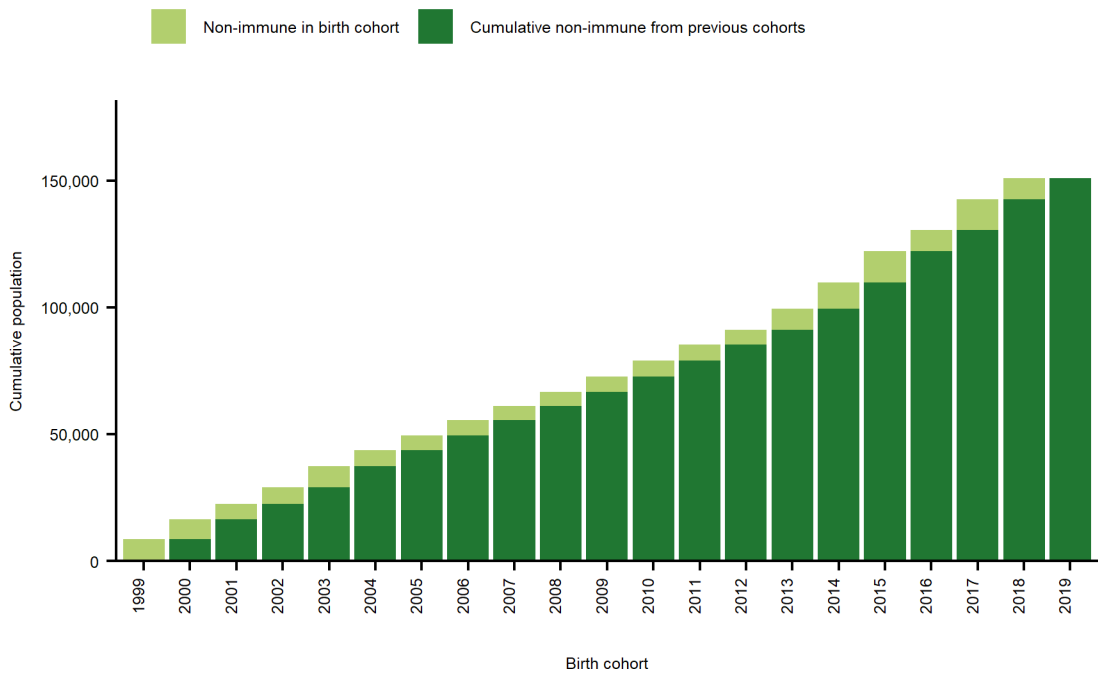
Based on 25 of 58 cases (43.1%) submitted as case-based data that were reported as imported with known probable country of infection



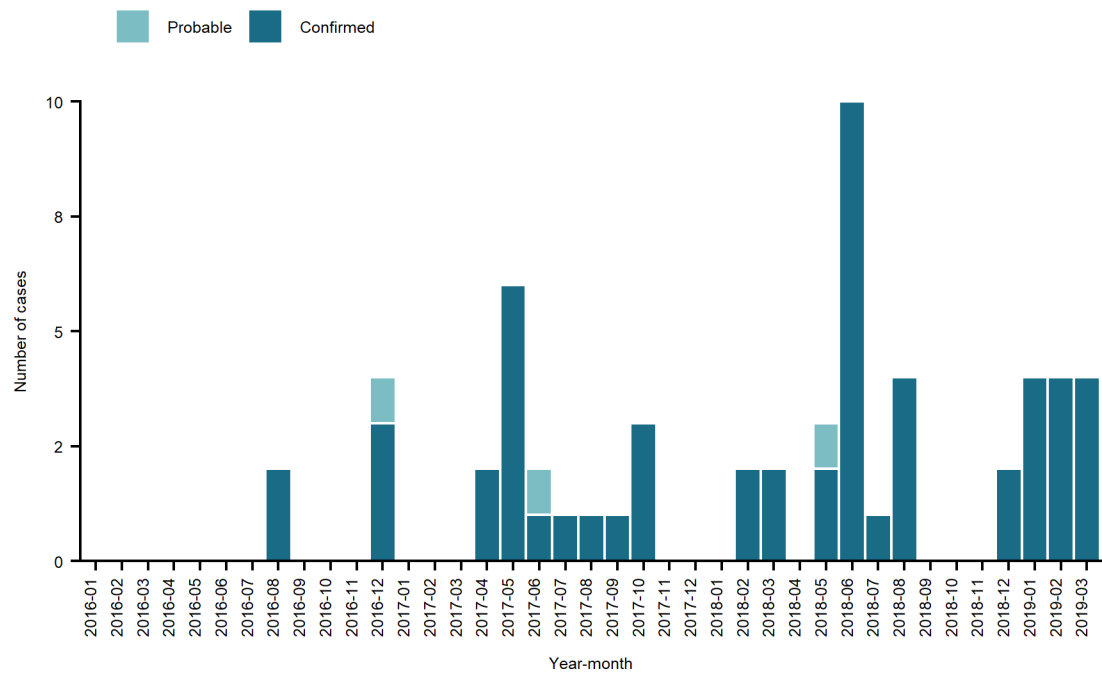
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 151,021 (4%) of the children born in the above period were non-immune by 2019

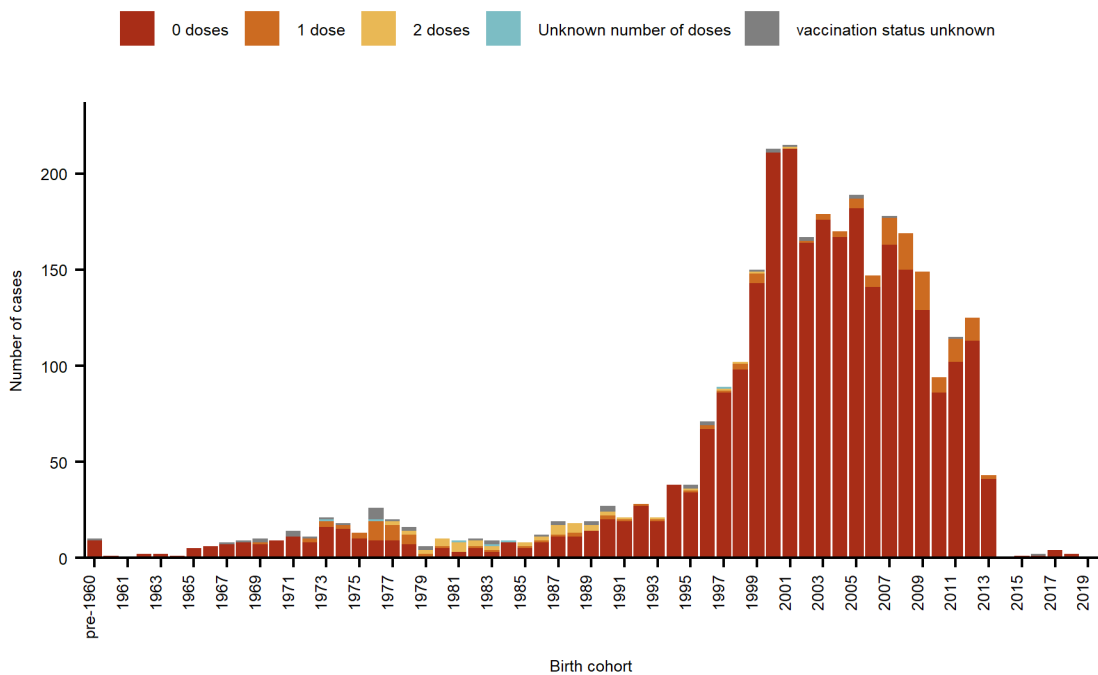
Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 May 2001 to 31 Mar 2019
 Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%



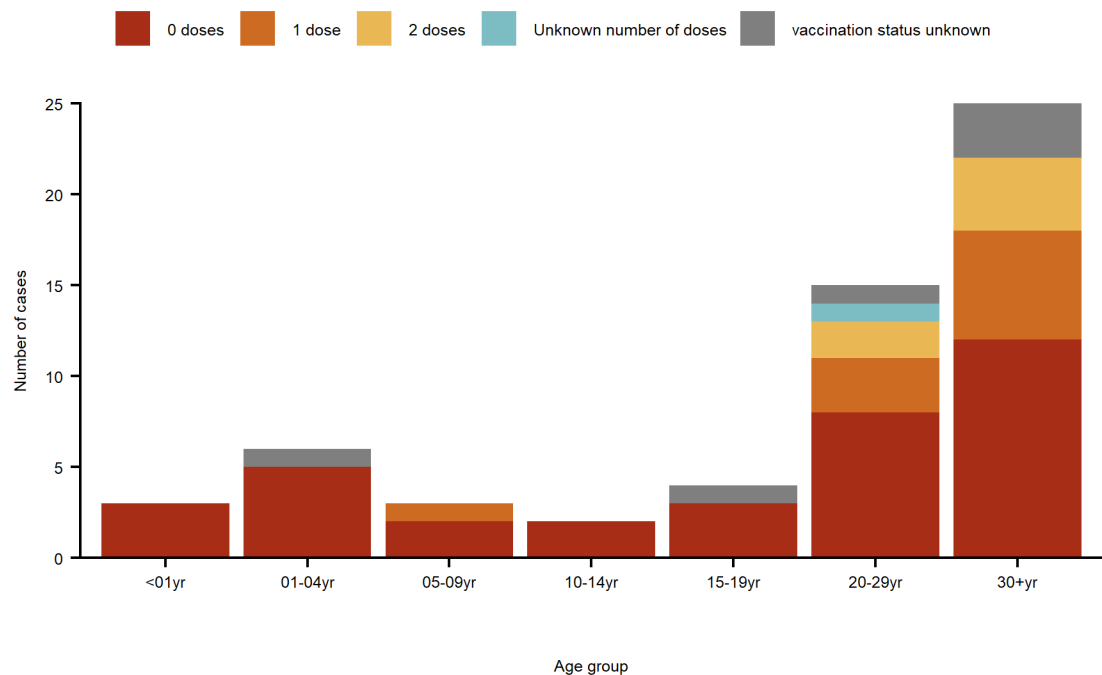
Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 58)



Measles cases by birth cohort and vaccination status, reported to TESSy 1 May 2001 to 31 Mar 2019 (n = 3,078)



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 58)



Norway

General

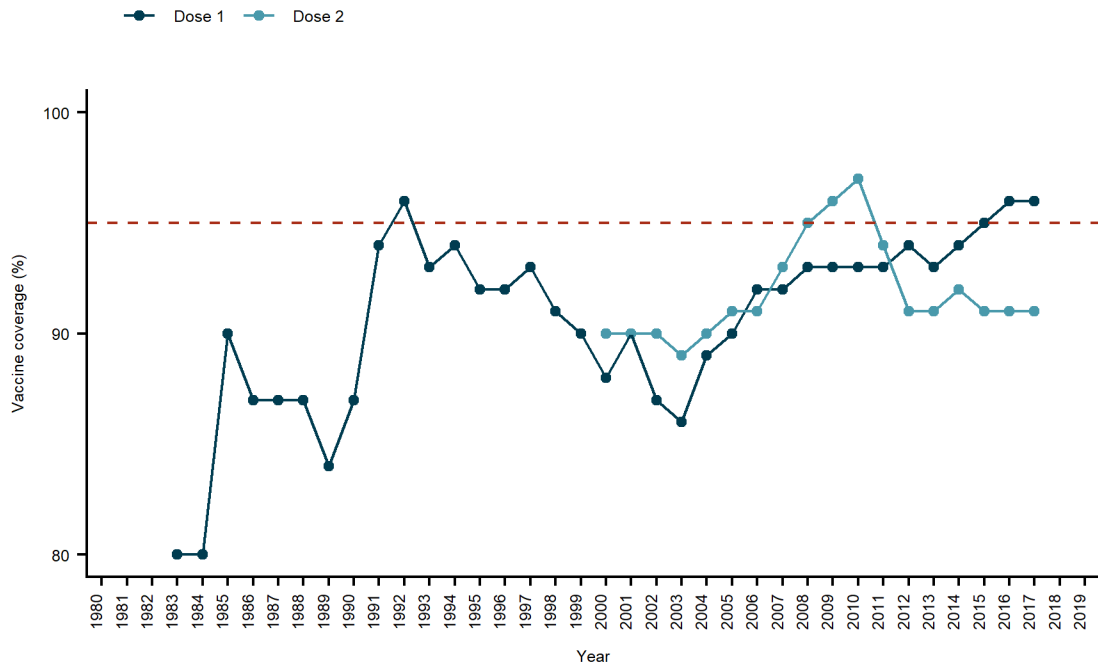
Population	5,295,619
Measles elimination status (2017 data)	Eliminated
MMR vaccine schedule	15 months
	11 years

1 Jan 2016 to 28 Feb 2019

Cases (of which confirmed; %)	14 (12; 86%)
Average annual notification rate per million population	Crude: 0.9. Age-standardised: 0.8 (95% CI: 0.4 - 1.4)
Number of deaths (CFR)	0 (0%)
Median age (IQR) of cases in years	16 (3 - 34)
Number of exportations to other EU/EEA countries	0

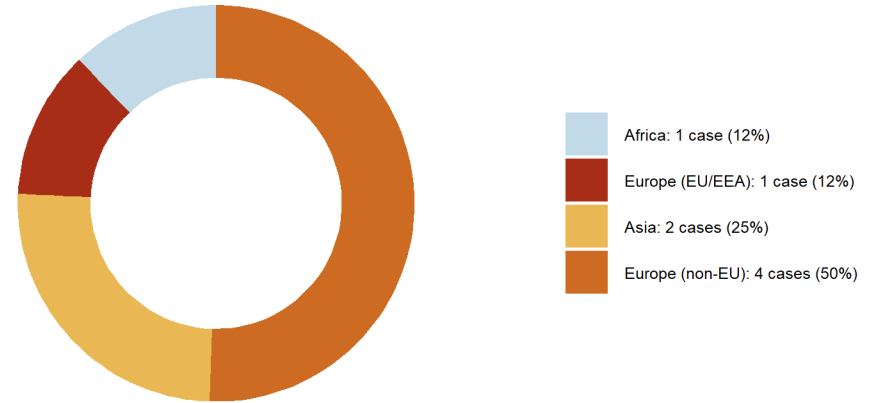
National level measles-containing vaccine coverage, 1983 to 2017

WHO/UNICEF Estimates of National Immunization Coverage



Probable continent of infection of imported cases, 1 Jan 2016 to 28 Feb 2019

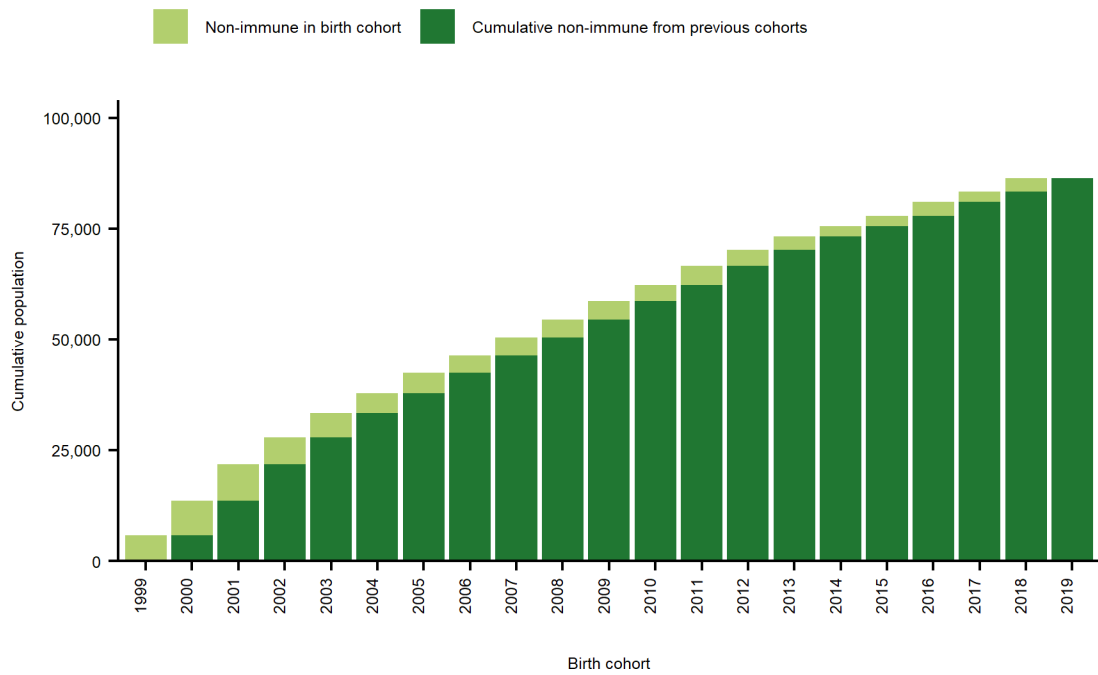
Based on 8 of 14 cases (57.1%) submitted as case-based data that were reported as imported with known probable country of infection



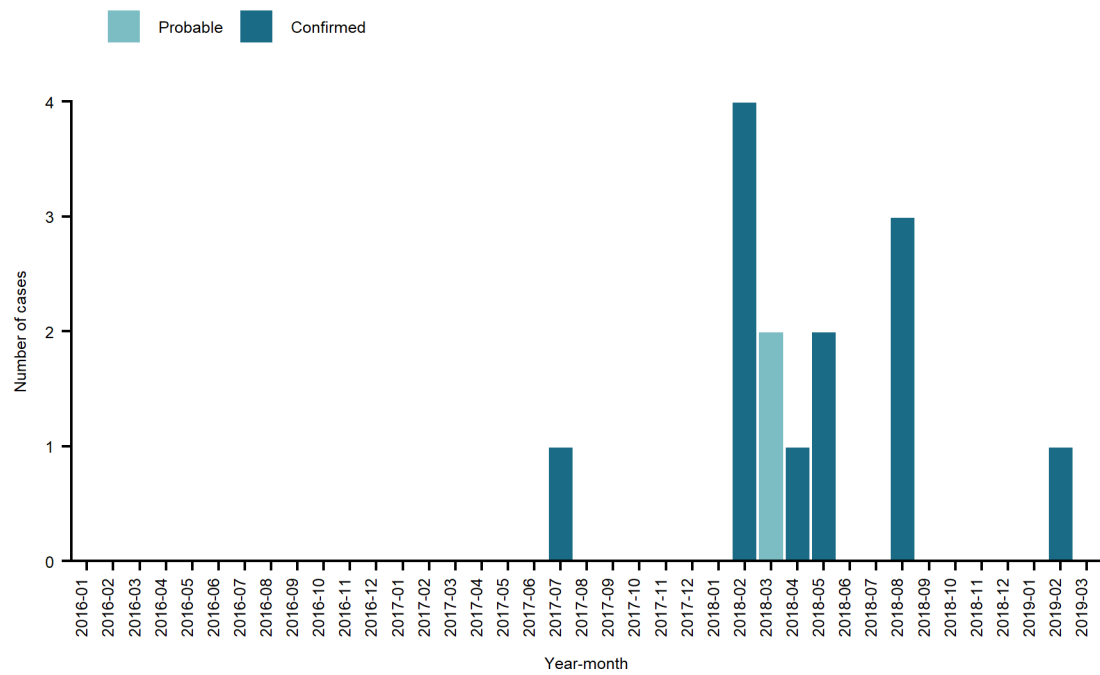
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 86,402 (7.3%) of the children born in the above period were non-immune by 2019

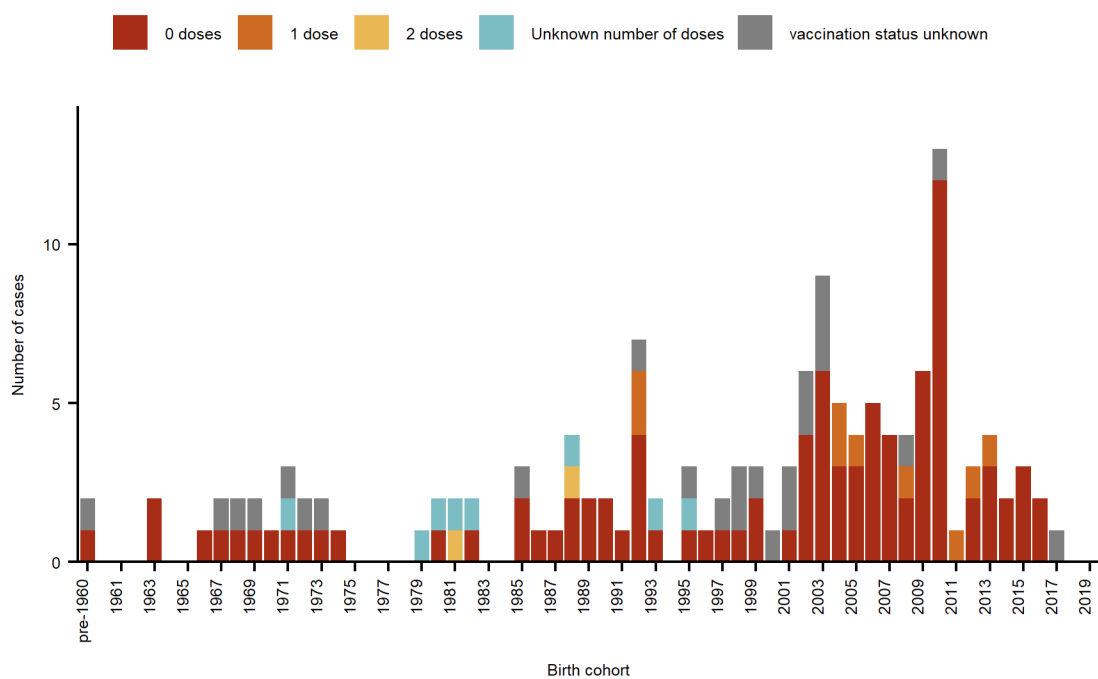
Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 Jul 1999 to 28 Feb 2019
Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%



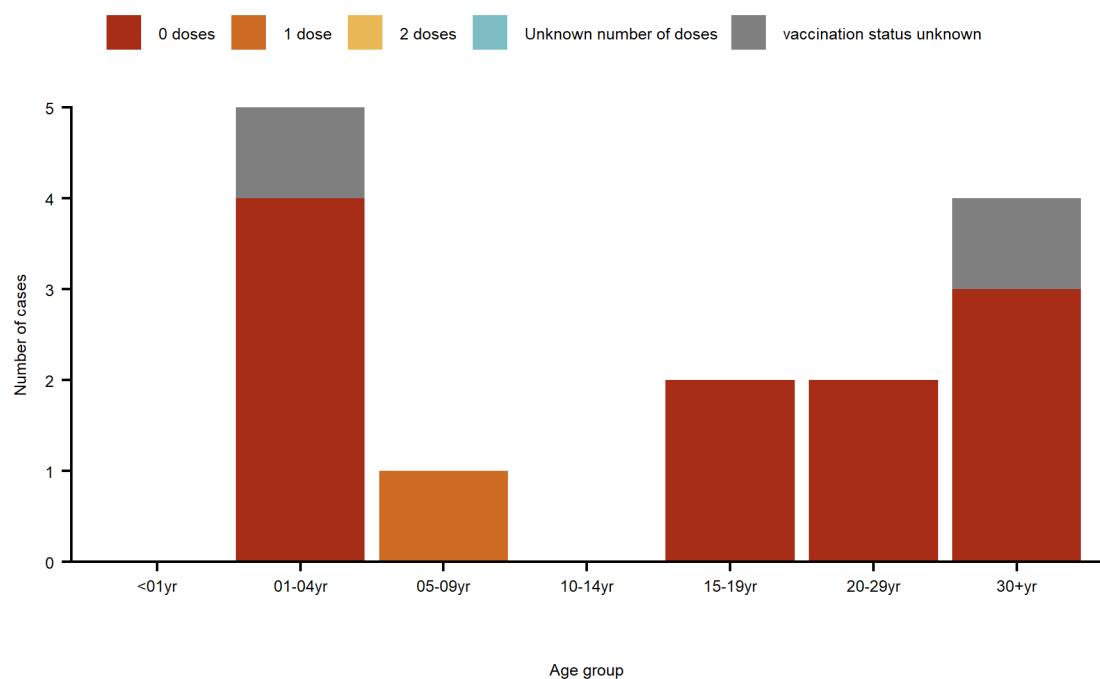
Measles by case classification, 1 Jan 2016 to 28 Feb 2019 (n = 14)



Measles cases by birth cohort and vaccination status, reported to TESSy 1 Jul 1999 to 28 Feb 2019 (n = 138)



Measles cases by age and vaccination status, 1 Jan 2016 to 28 Feb 2019 (n = 14)



Poland

General

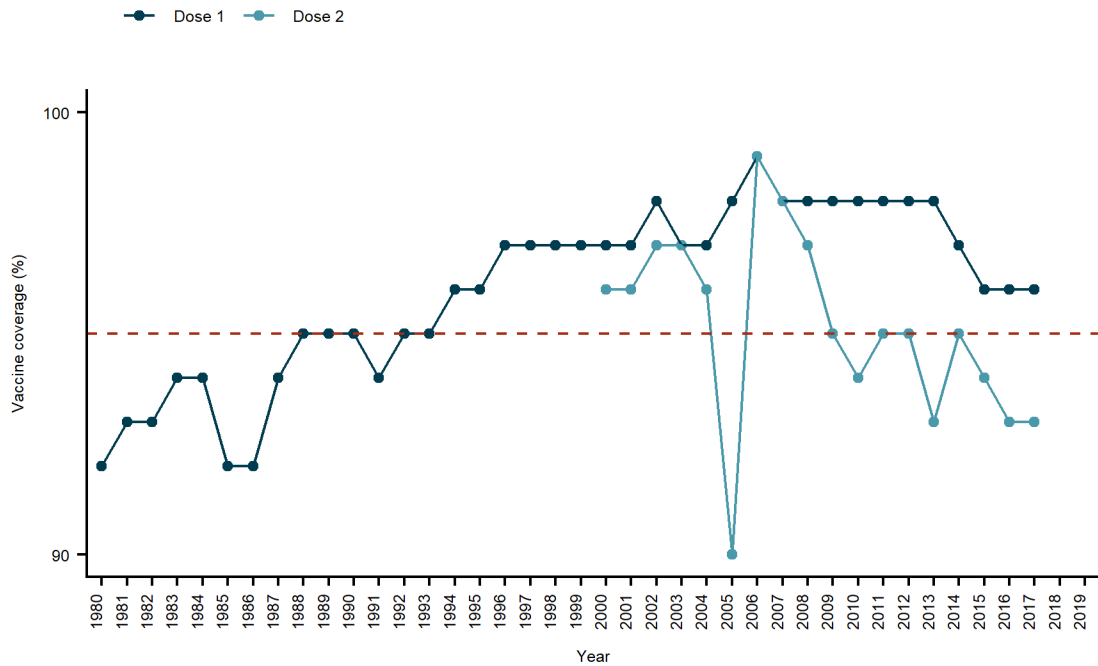
Population	37,976,687
Measles elimination status (2017 data)	Interrupted 24 months
MMR vaccine schedule	13 months
	6 years

1 Jan 2016 to 31 Mar 2019

Cases (of which confirmed; %)	1,056 (621; 59%)
Average annual notification rate per million population	Crude: 5.3. Age-standardised: 5.4 (95% CI: 5 - 5.8)
Number of deaths (CFR)	0 (0%)
Median age (IQR) of cases in years	22 (4 - 36)
Number of exportations to other EU/EEA countries	22

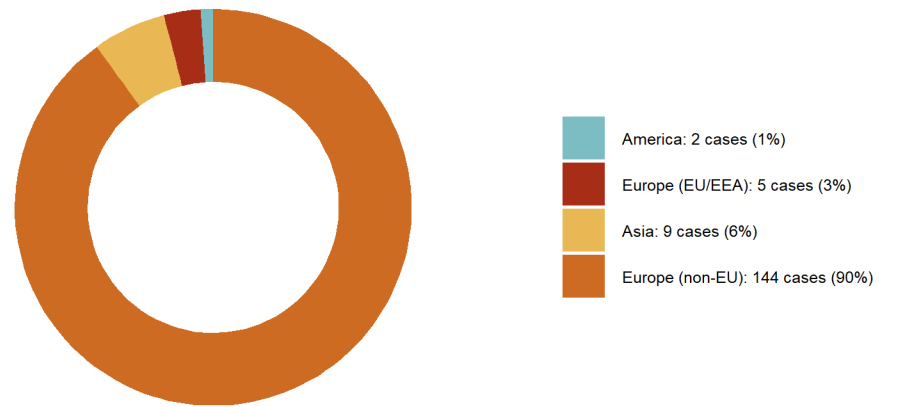
National level measles-containing vaccine coverage, 1980 to 2017

WHO/UNICEF Estimates of National Immunization Coverage



Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

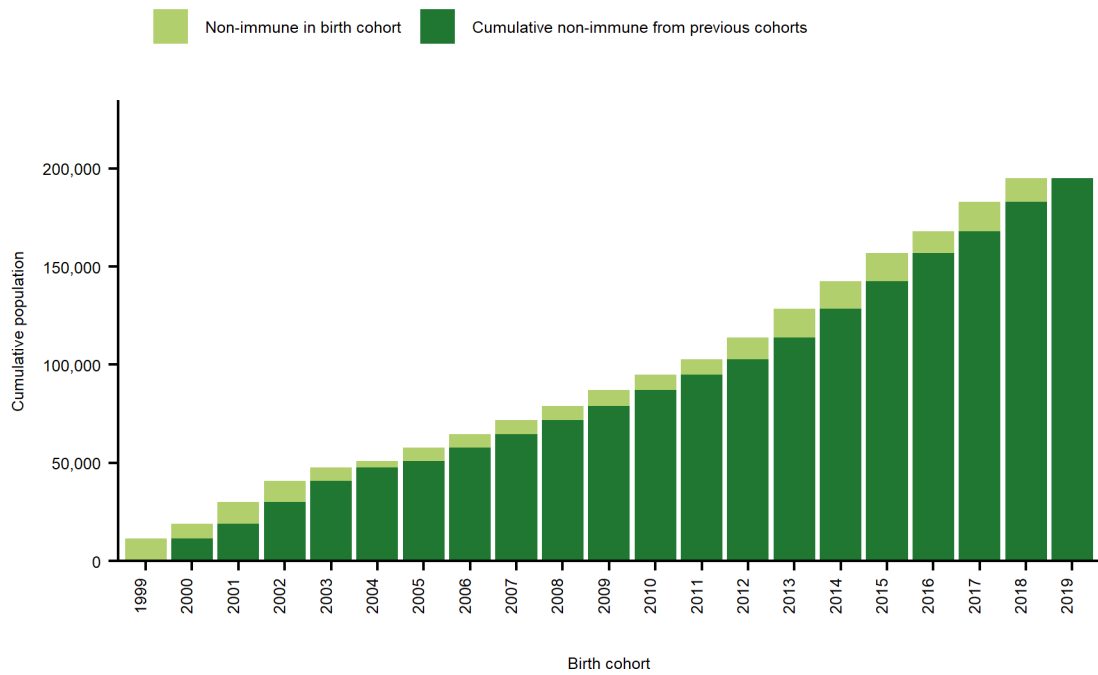
Based on 160 of 659 cases (24.3%) submitted as case-based data that were reported as imported with known probable country of infection



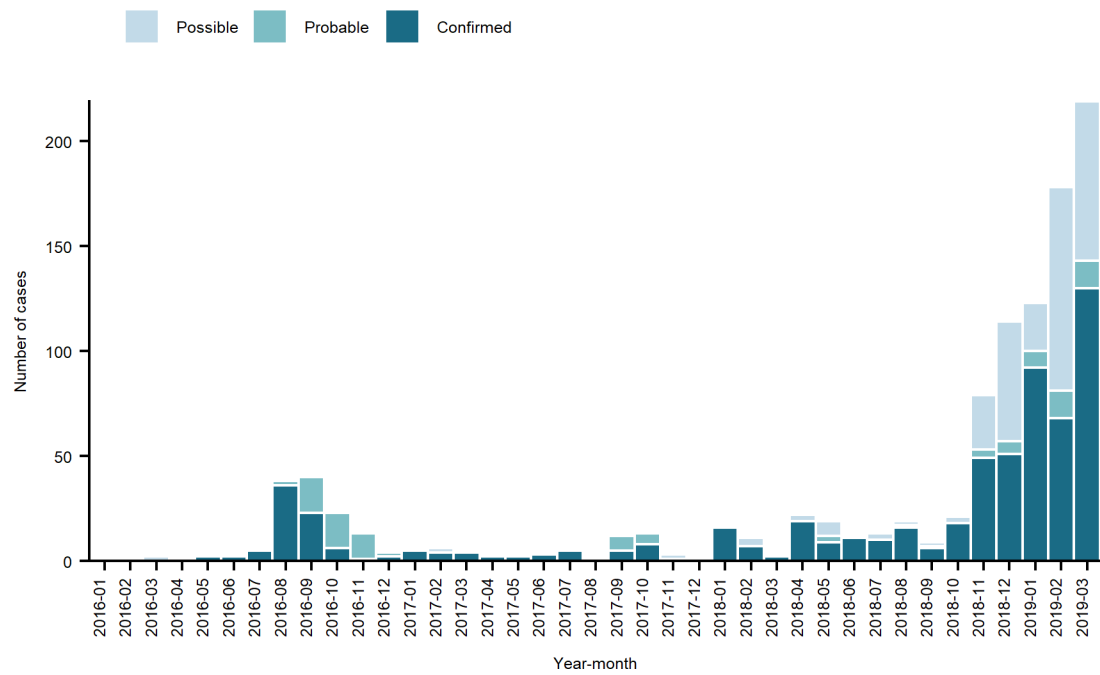
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 195,175 (2.6%) of the children born in the above period were non-immune by 2019

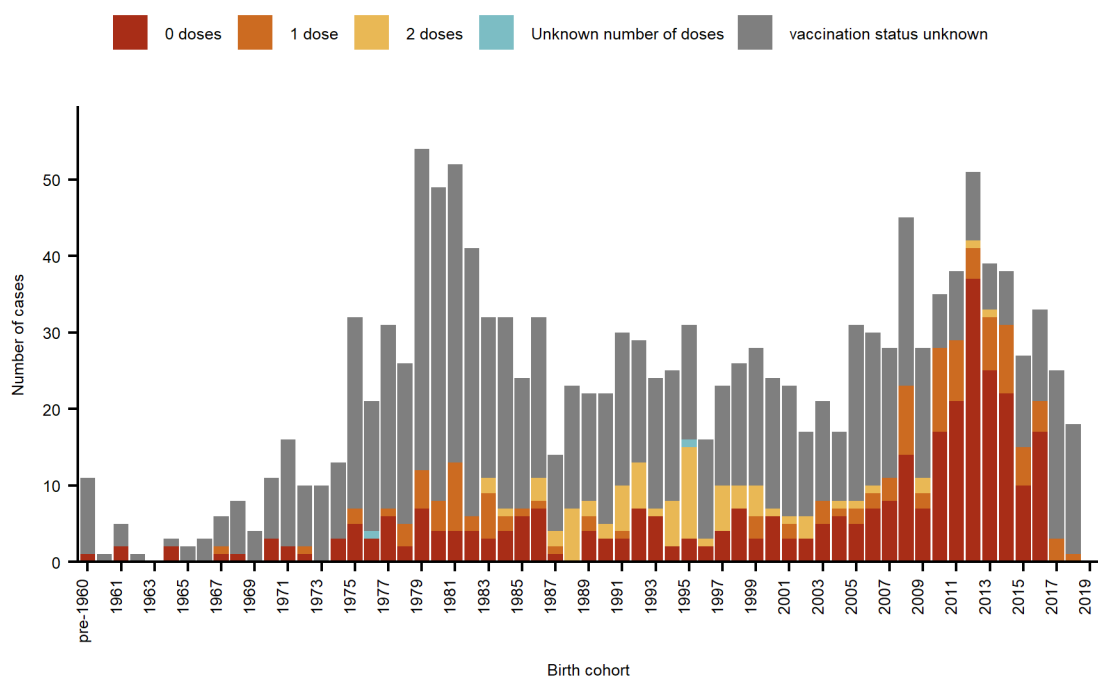
Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 Jan 2005 to 31 Jan 2019
No adjustment has been made for 397 cases reported in aggregate format since they cannot be assigned to a birth cohort
Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%



Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 1,056)

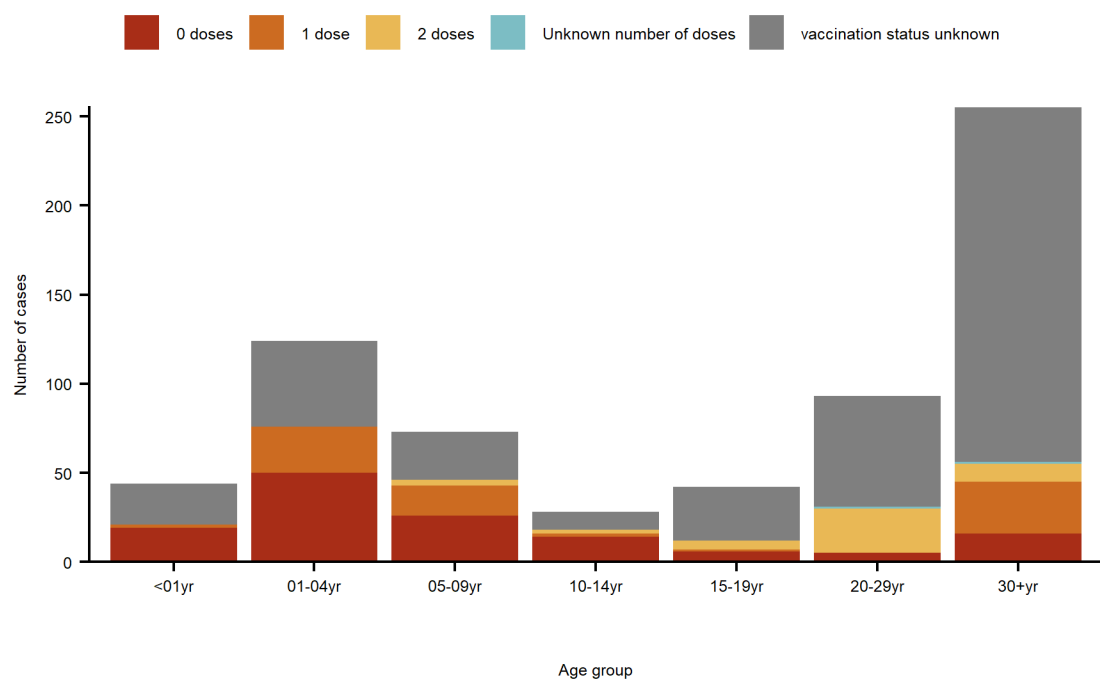


Measles cases by birth cohort and vaccination status, reported to TESSy 1 Jan 2005 to 31 Jan 2019 (n = 1,411)



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 659)

397 cases with unknown age excluded.

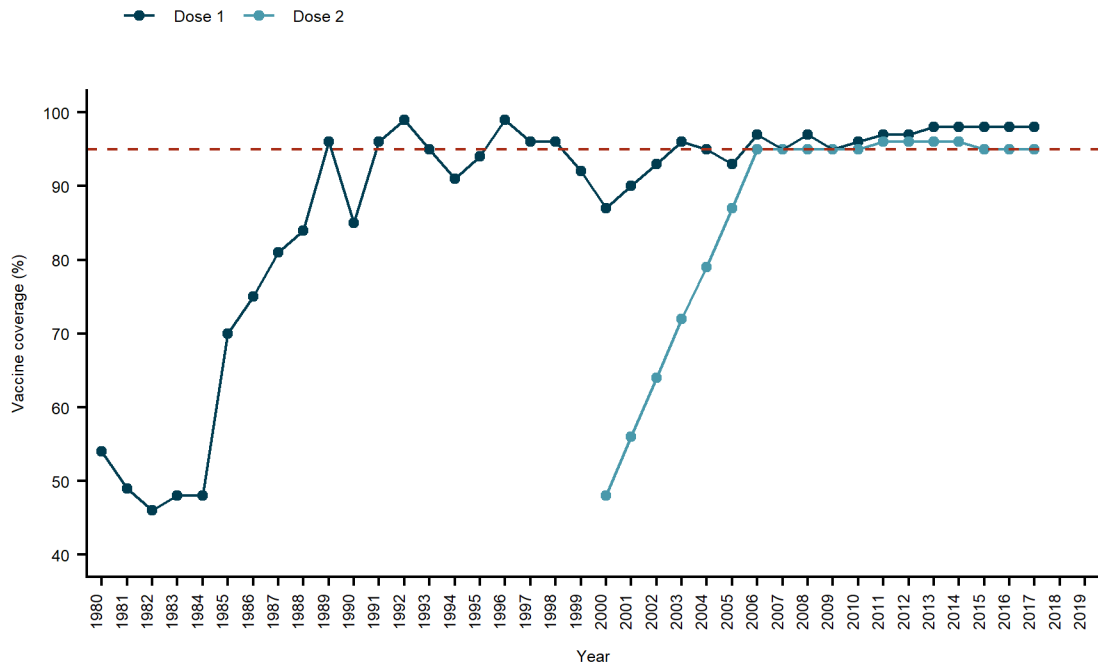


Portugal

General		1 Jan 2016 to 31 Mar 2019	
Population	10,291,027	Cases (of which confirmed; %)	202 (195; 97%)
Measles elimination status (2017 data)	Eliminated	Average annual notification rate per million population	Crude: 6. Age-standardised: 6.4 (95% CI: 5.5 - 7.3)
MMR vaccine schedule	12 months	Number of deaths (CFR)	1 (0.5%)
	5 years	Median age (IQR) of cases in years	28 (23 - 34)
		Number of exportations to other EU/EEA countries	4

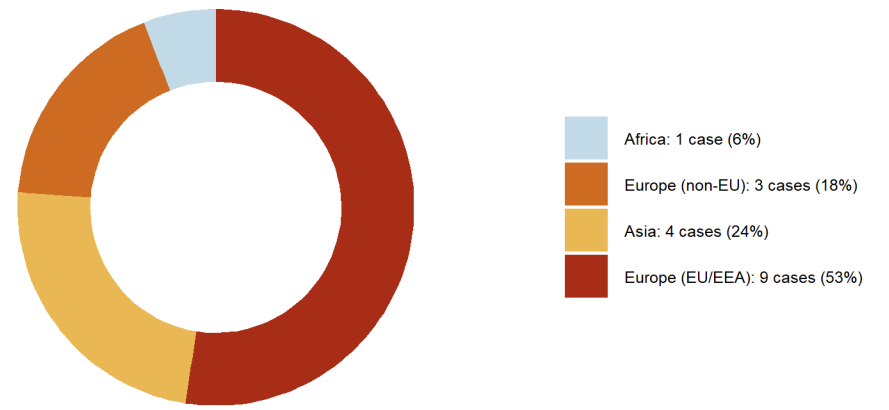
National level measles-containing vaccine coverage, 1980 to 2017

WHO/UNICEF Estimates of National Immunization Coverage



Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

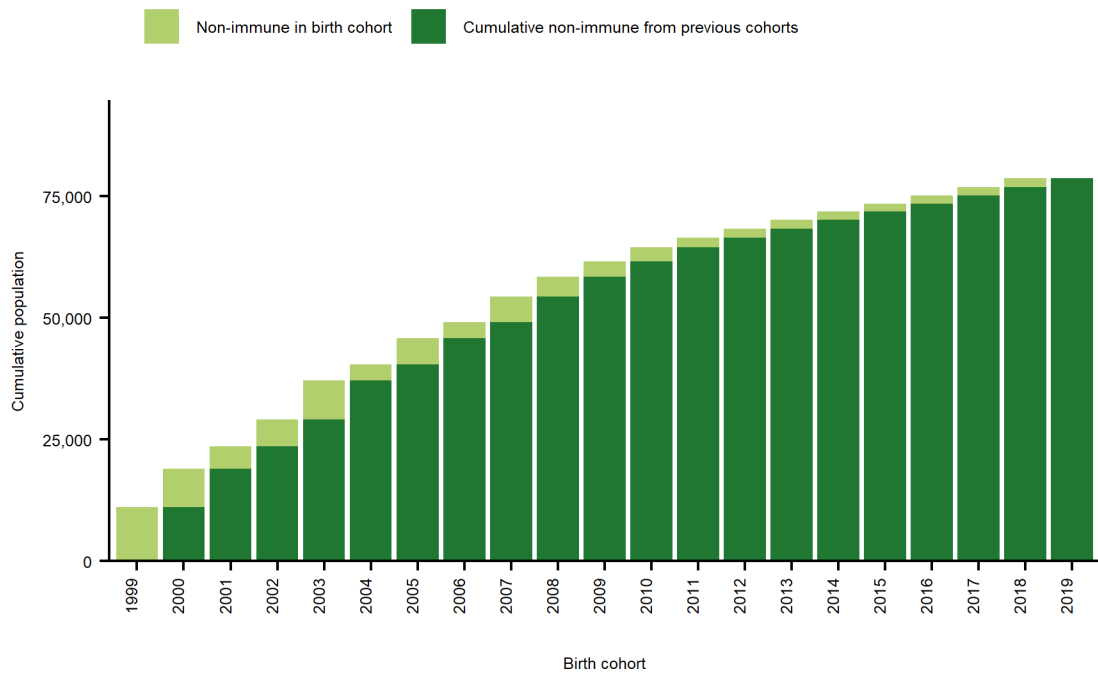
Based on 17 of 202 cases (8.4%) submitted as case-based data that were reported as imported with known probable country of infection. An additional 1 imported case had unknown probable country of infection.



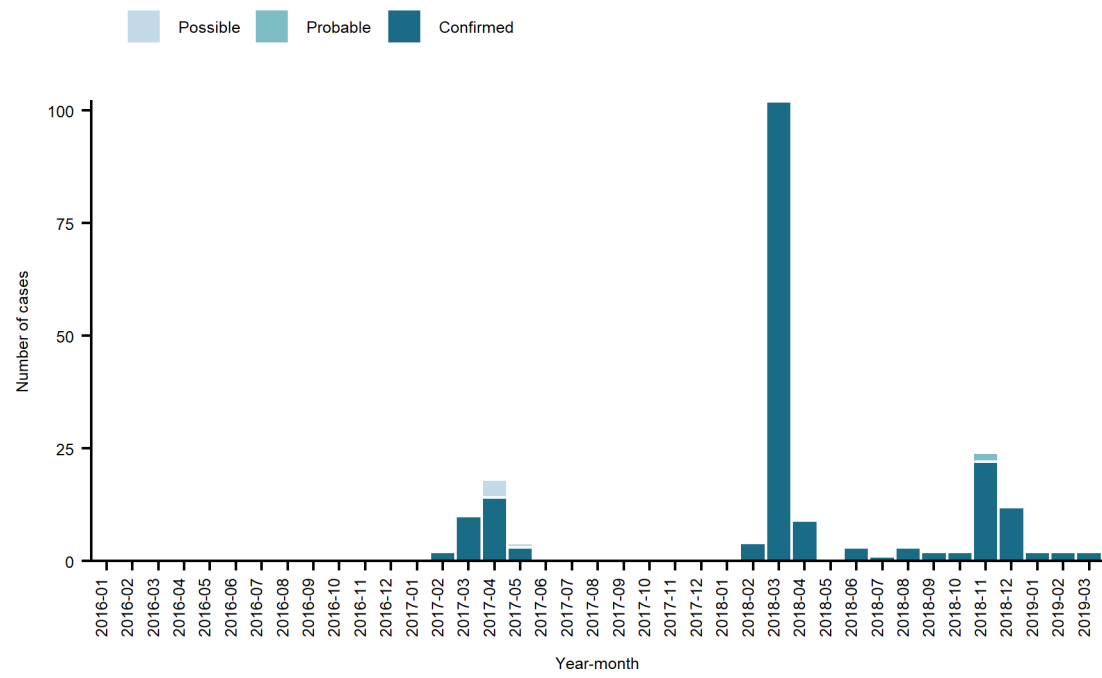
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 78,727 (3.9%) of the children born in the above period were non-immune by 2019

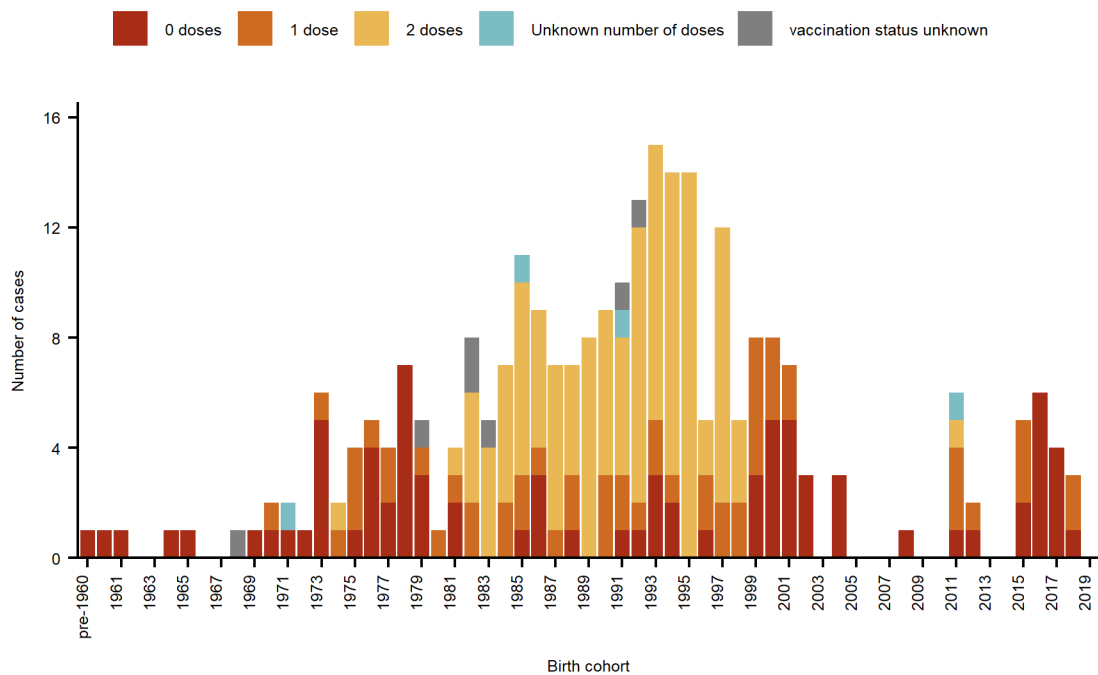
Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 Dec 2000 to 31 Mar 2019. Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%



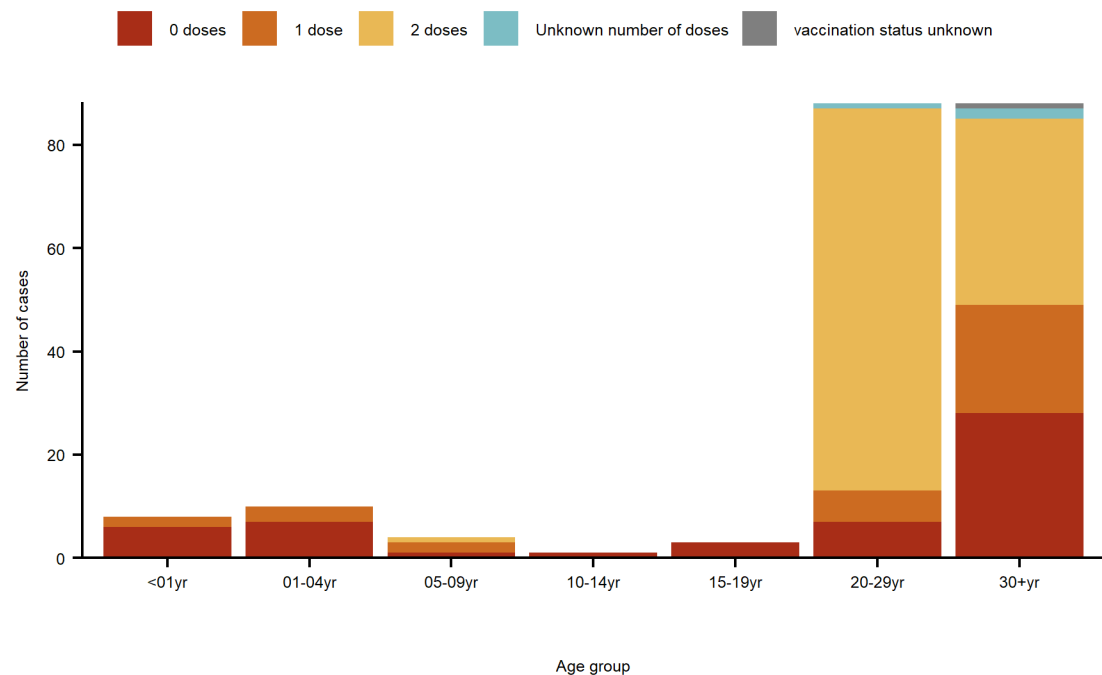
Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 202)



Measles cases by birth cohort and vaccination status, reported to TESSy 1 Dec 2000 to 31 Mar 2019 (n = 265)



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 202)

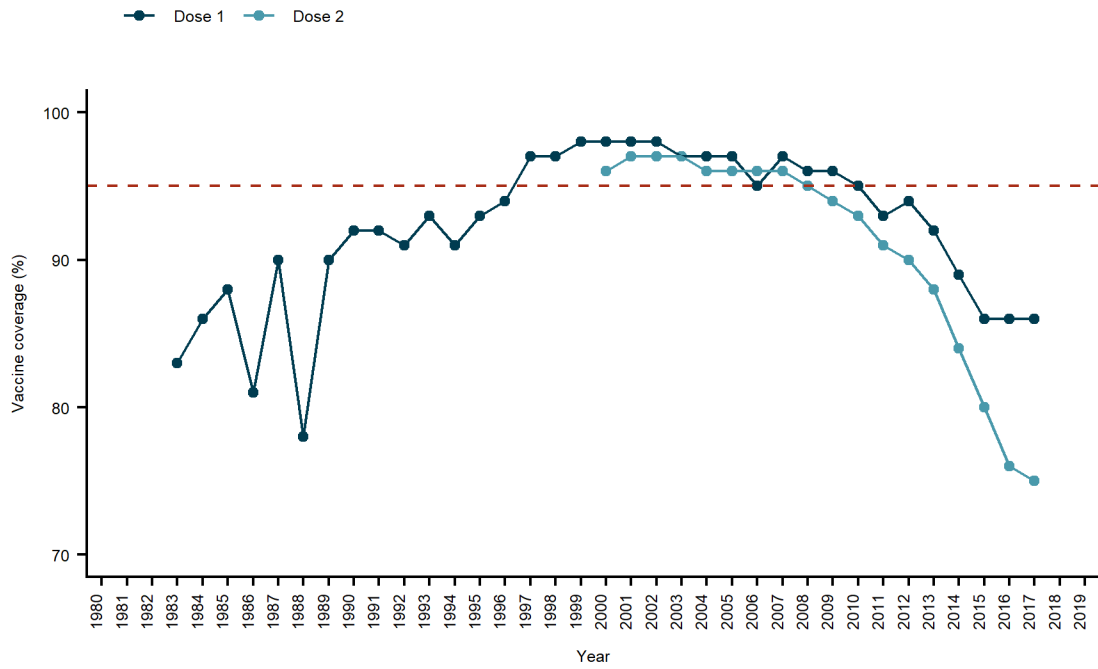


Romania

General		1 Jan 2016 to 31 Mar 2019	
Population	19,530,631	Cases (of which confirmed; %)	17,850 (7,370; 41%)
Measles elimination status (2017 data)	Endemic	Average annual notification rate per million population	Crude: 281.2. Age-standardised: 283.4 (95% CI: 279.2 - 287.6)
MMR vaccine schedule	12 months 5 years	Number of deaths (CFR)	59 (0.33%)
		Median age (IQR) of cases in years	4 (1 - 10)
		Number of exportations to other EU/EEA countries	253

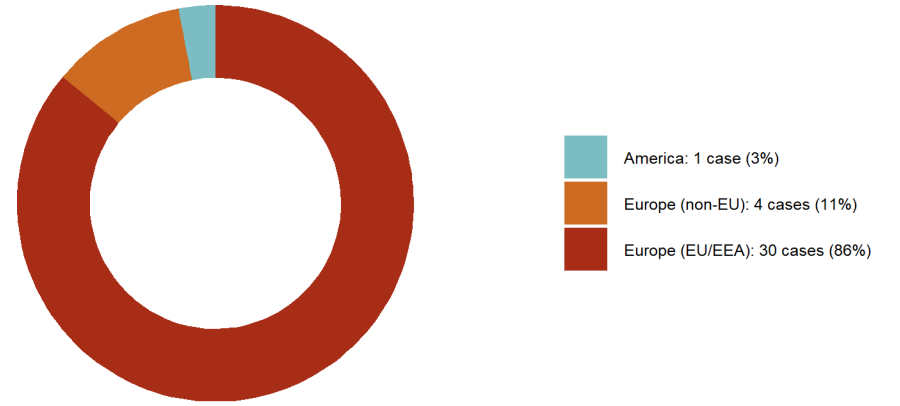
National level measles-containing vaccine coverage, 1983 to 2017

WHO/UNICEF Estimates of National Immunization Coverage



Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

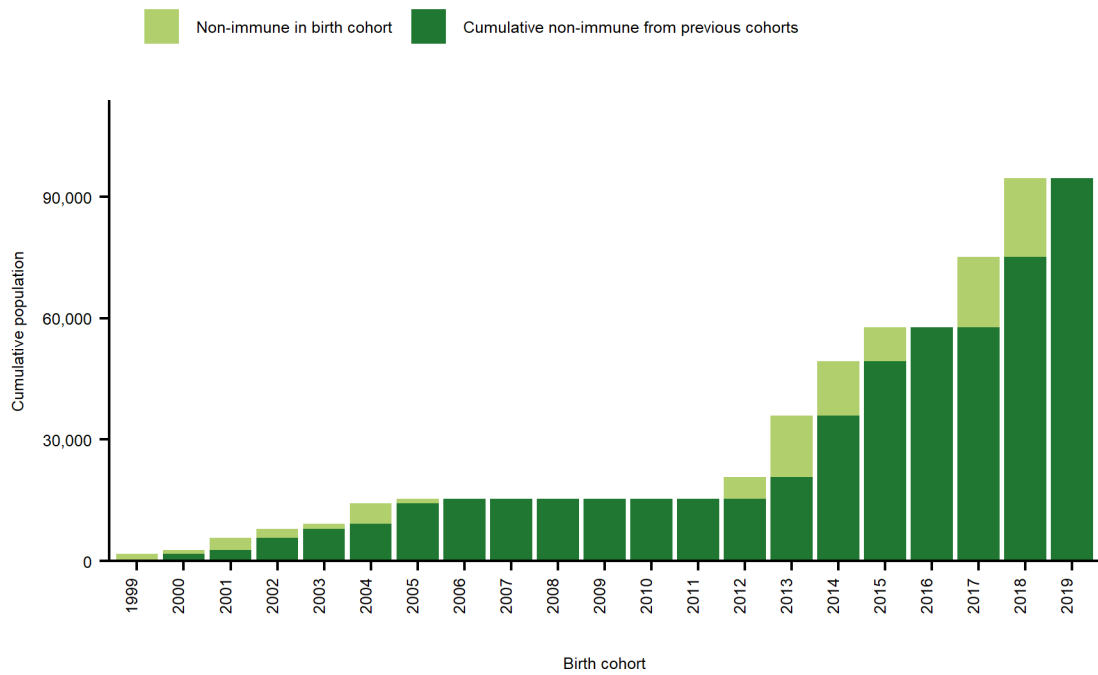
Based on 35 of 14,038 cases (0.2%) submitted as case-based data that were reported as imported with known probable country of infection. An additional 18 imported cases had unknown probable country of infection.



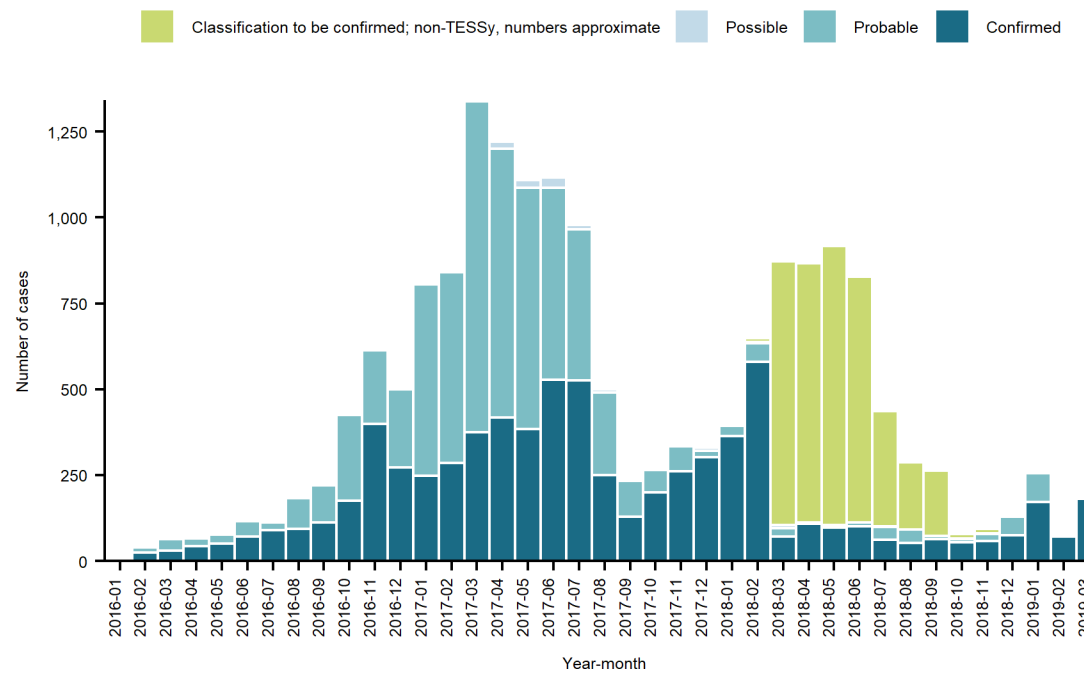
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 94,705 (2.3%) of the children born in the above period were non-immune by 2019

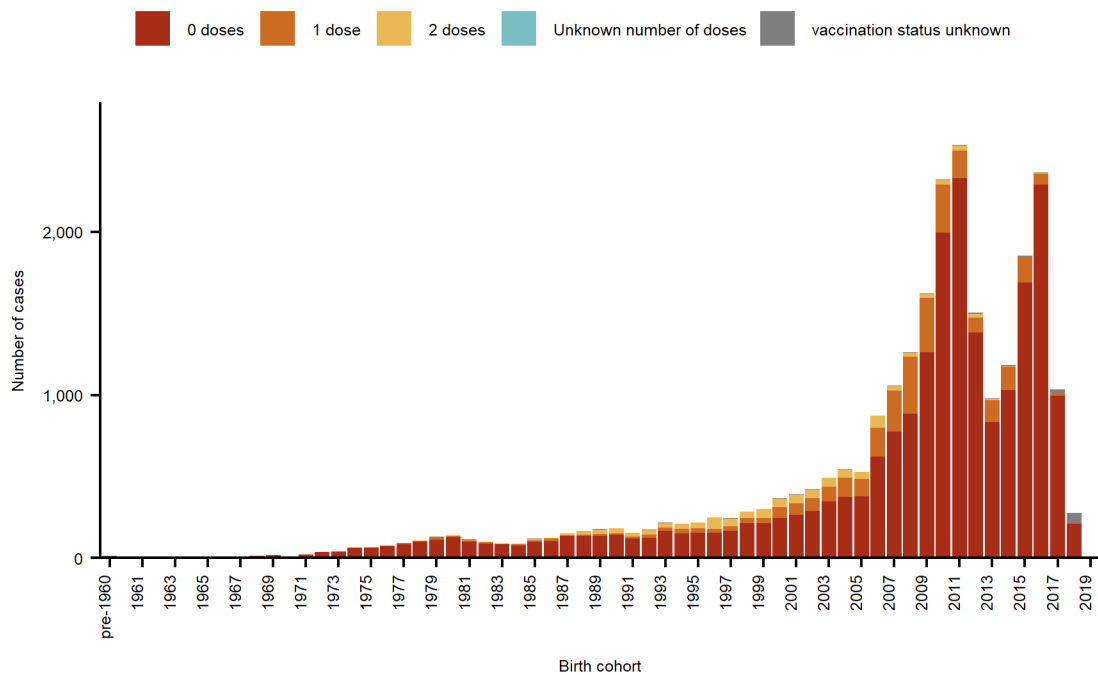
Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 Feb 2008 to 31 Mar 2019. No adjustment has been made for 13,007 cases reported in aggregate format since they cannot be assigned to a birth cohort. Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%



Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 17,850)

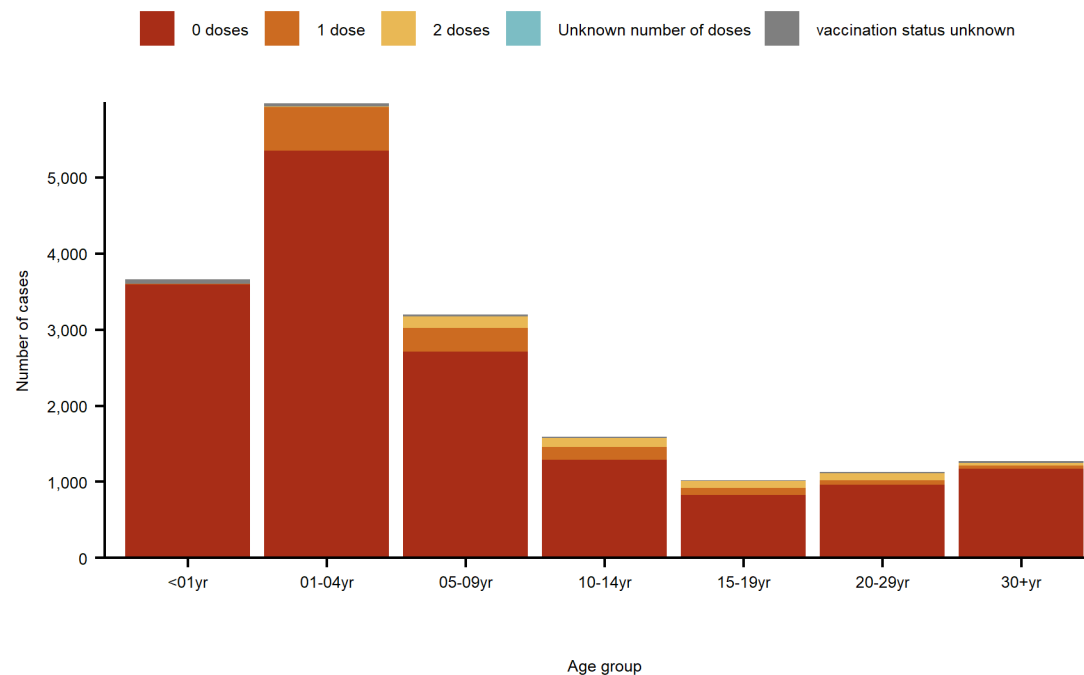


Measles cases by birth cohort and vaccination status, reported to TESSy 1 Feb 2008 to 31 Mar 2019 (n = 25,796)



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 17,848)

2 cases with unknown age excluded.



Slovakia

General

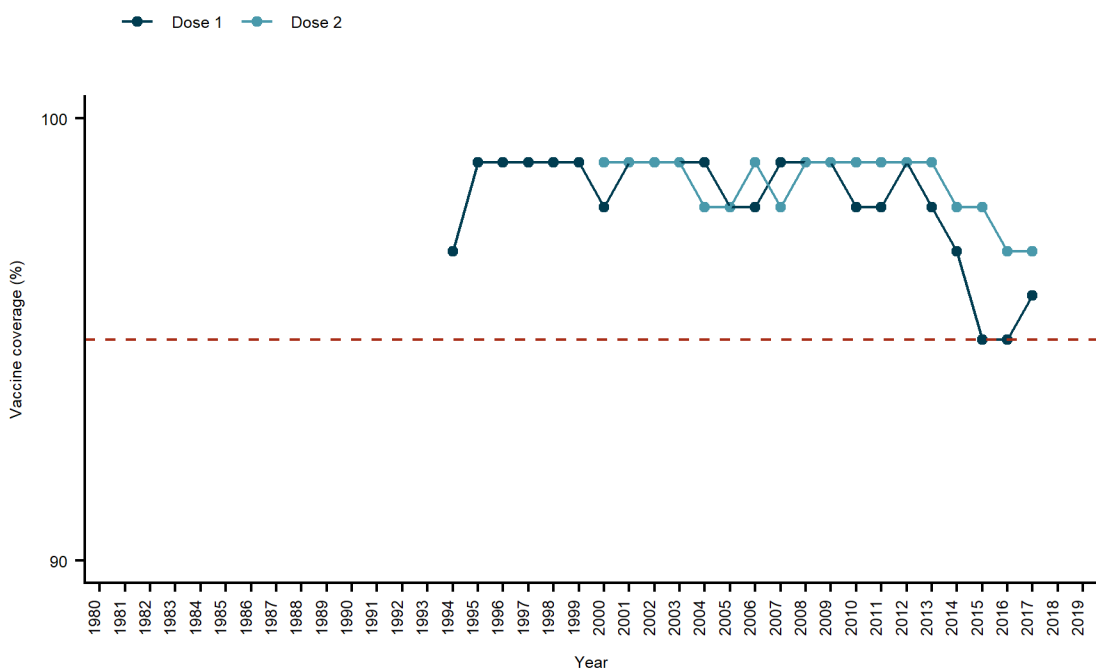
Population	5,443,120
Measles elimination status (2017 data)	Eliminated
MMR vaccine schedule	14-17 months
	10 years

1 Jan 2016 to 31 Mar 2019

Cases (of which confirmed; %)	721 (531; 74%)
Average annual notification rate per million population	Crude: 40.8. Age-standardised: 40.5 (95% CI: 37.6 - 43.6)
Number of deaths (CFR)	0 (0%)
Median age (IQR) of cases in years	7 (1 - 17)
Number of exportations to other EU/EEA countries	13

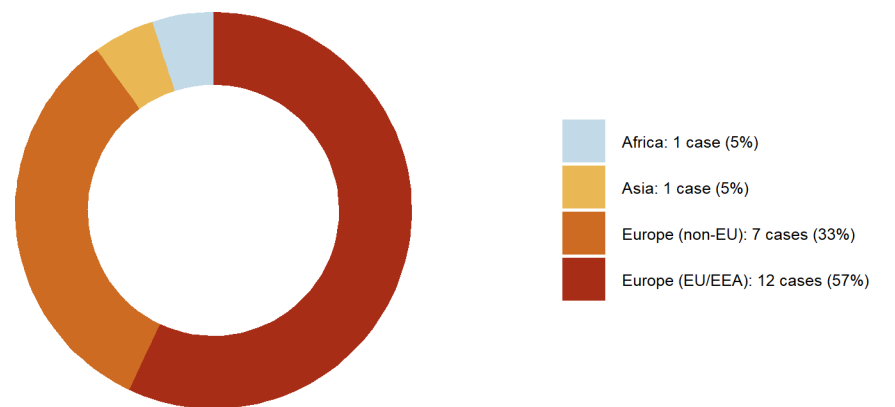
National level measles-containing vaccine coverage, 1994 to 2017

WHO/UNICEF Estimates of National Immunization Coverage



Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

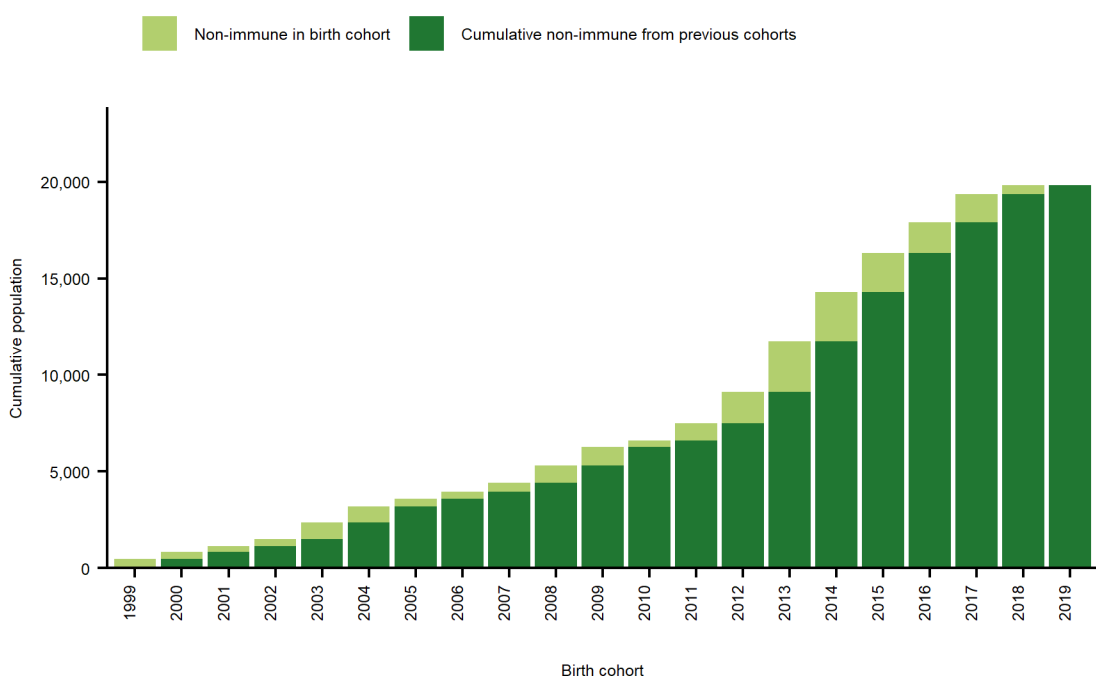
Based on 21 of 721 cases (2.9%) submitted as case-based data that were reported as imported with known probable country of infection. An additional 2 imported cases had unknown probable country of infection.



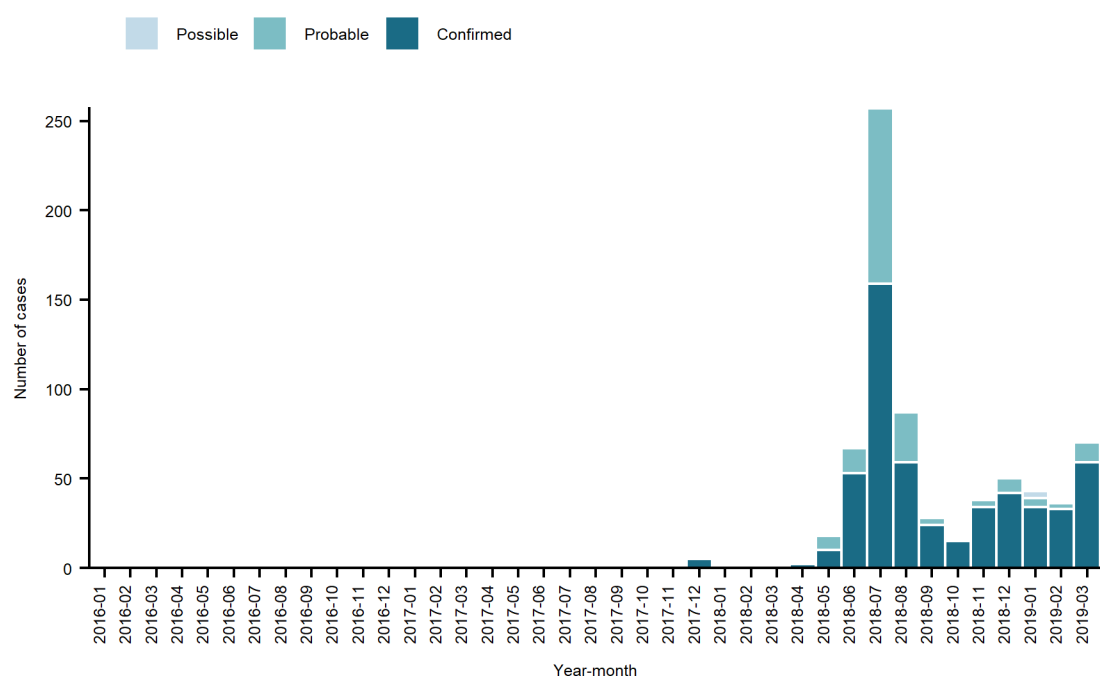
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 19,836 (1.8%) of the children born in the above period were non-immune by 2019

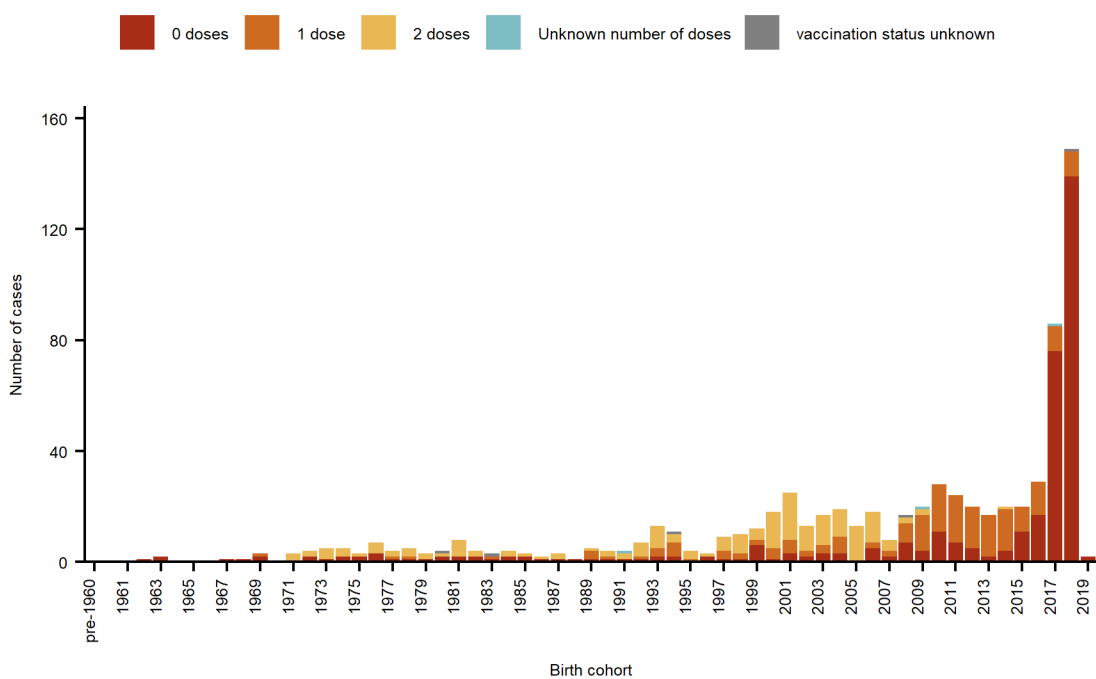
Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 Apr 2011 to 31 Mar 2019. Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%



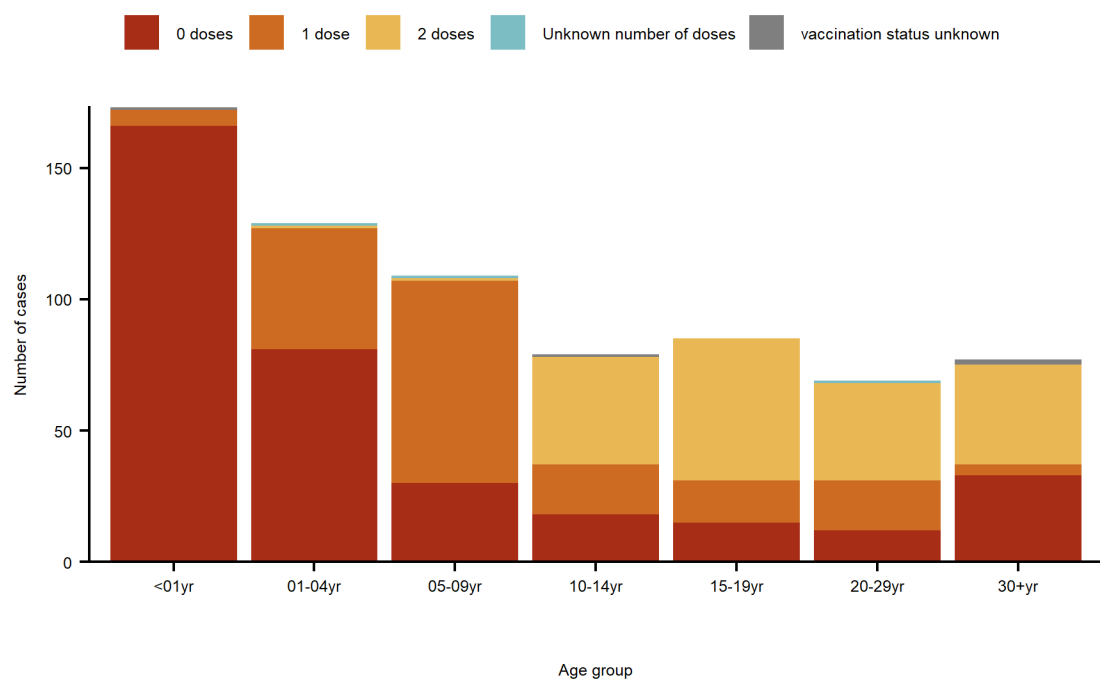
Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 721)



Measles cases by birth cohort and vaccination status, reported to TESSy 1 Apr 2011 to 31 Mar 2019 (n = 724)



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 721)



Slovenia

General

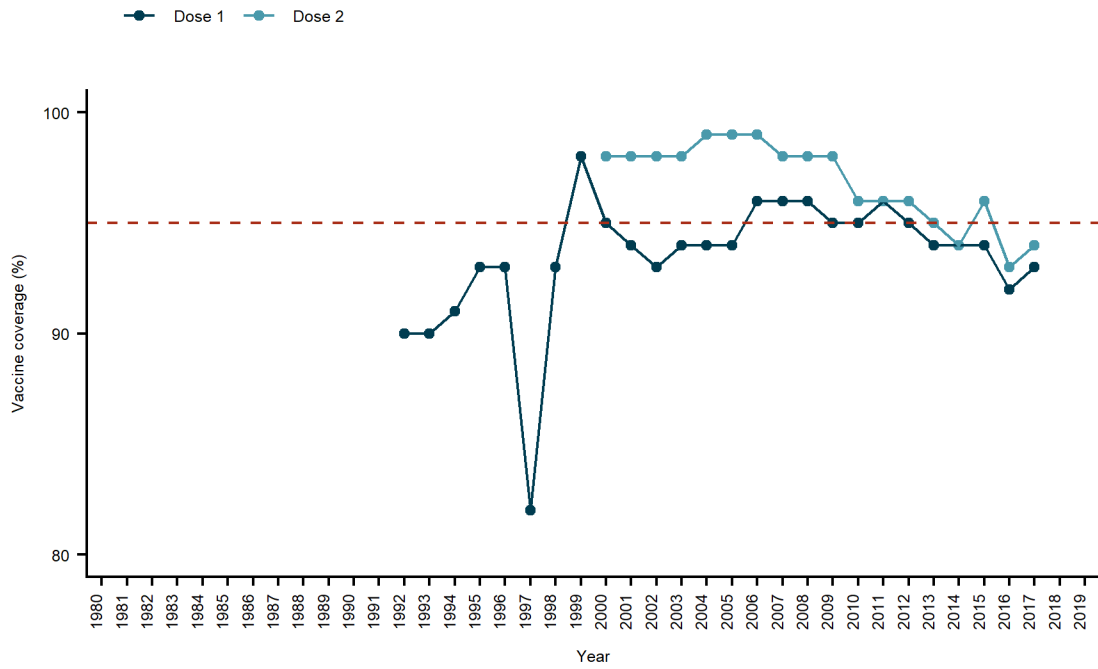
Population	2,066,880
Measles elimination status (2017 data)	Eliminated
MMR vaccine schedule	12-18 months 5-6 years

1 Jan 2016 to 31 Mar 2019

Cases (of which confirmed; %)	18 (18; 100%)
Average annual notification rate per million population	Crude: 2.8. Age-standardised: 2.9 (95% CI: 1.7 - 4.6)
Number of deaths (CFR)	0 (0%)
Median age (IQR) of cases in years	36 (22 - 46)
Number of exportations to other EU/EEA countries	0

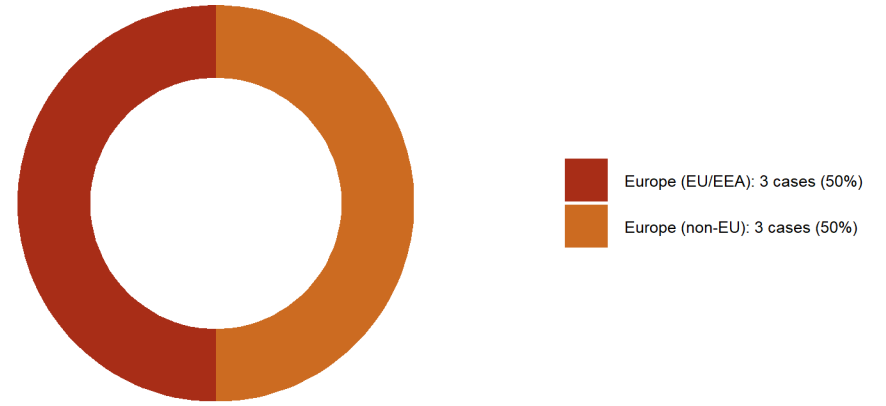
National level measles-containing vaccine coverage, 1992 to 2017

WHO/UNICEF Estimates of National Immunization Coverage



Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

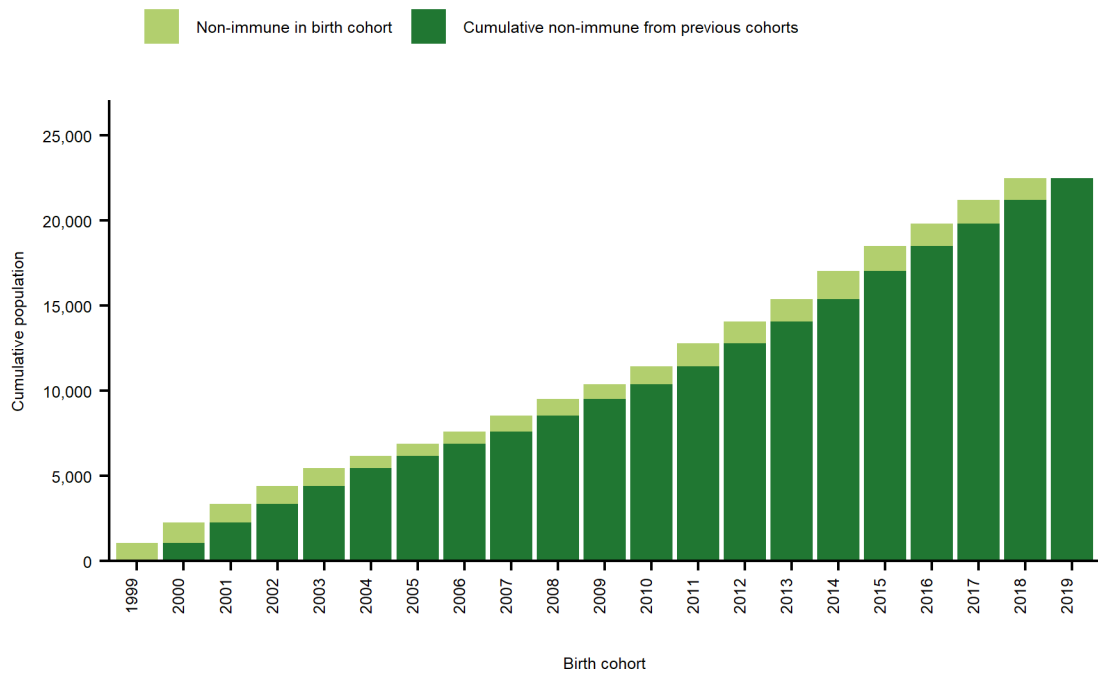
Based on 6 of 18 cases (33.3%) submitted as case-based data that were reported as imported with known probable country of infection



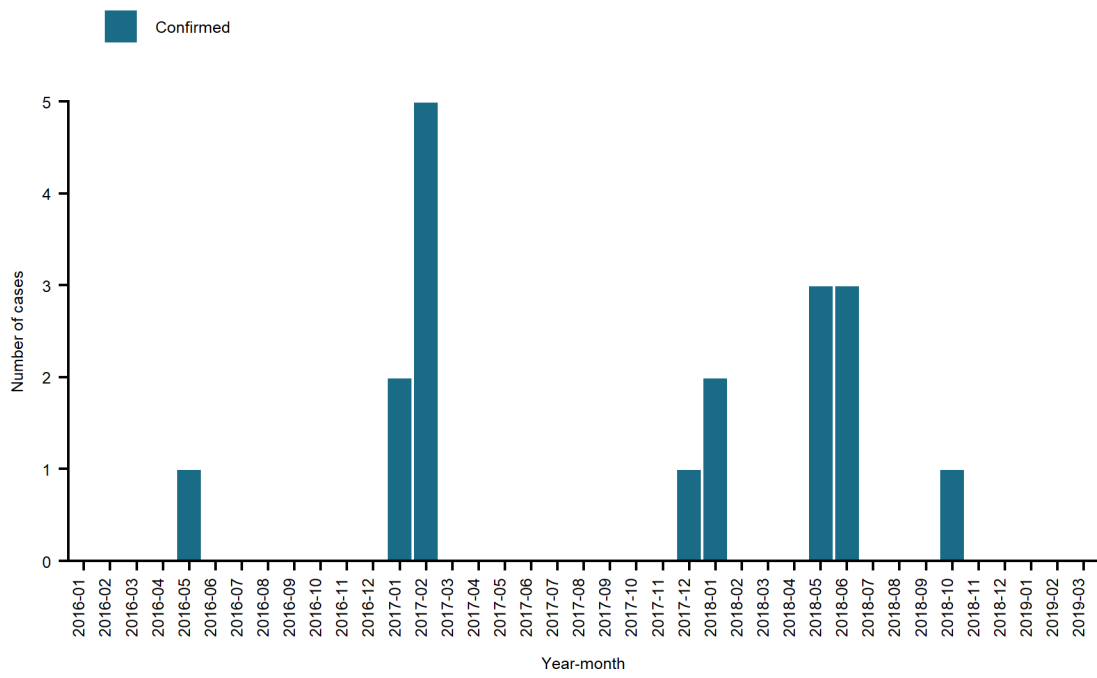
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 22,495 (5.6%) of the children born in the above period were non-immune by 2019

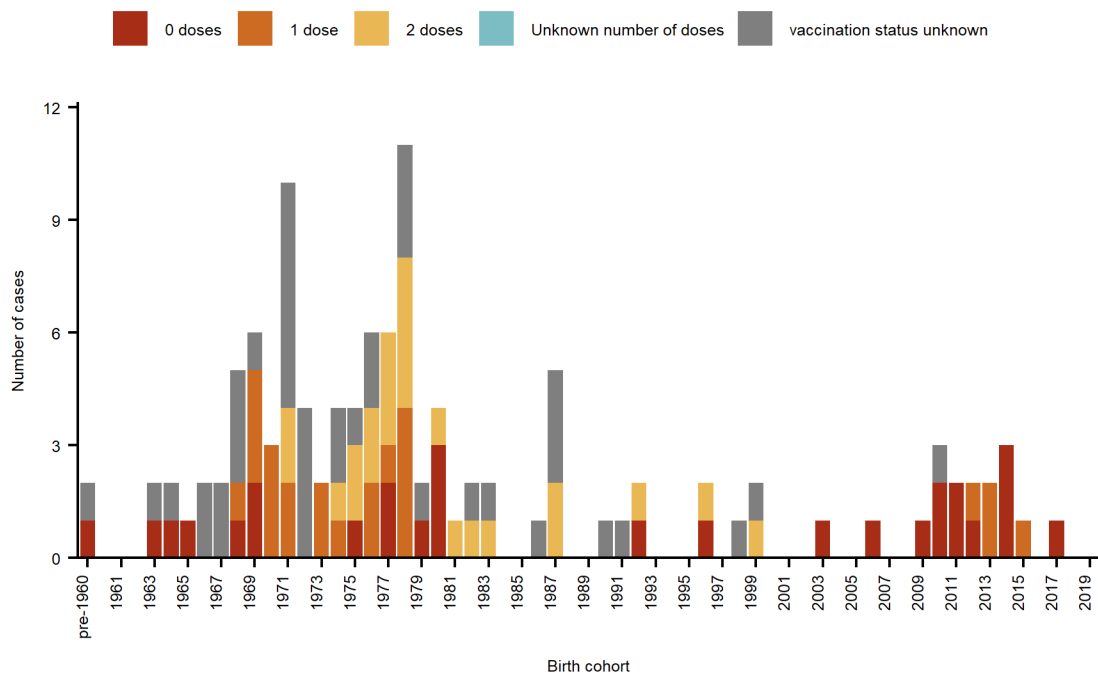
Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 Mar 2010 to 31 Oct 2018
Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%



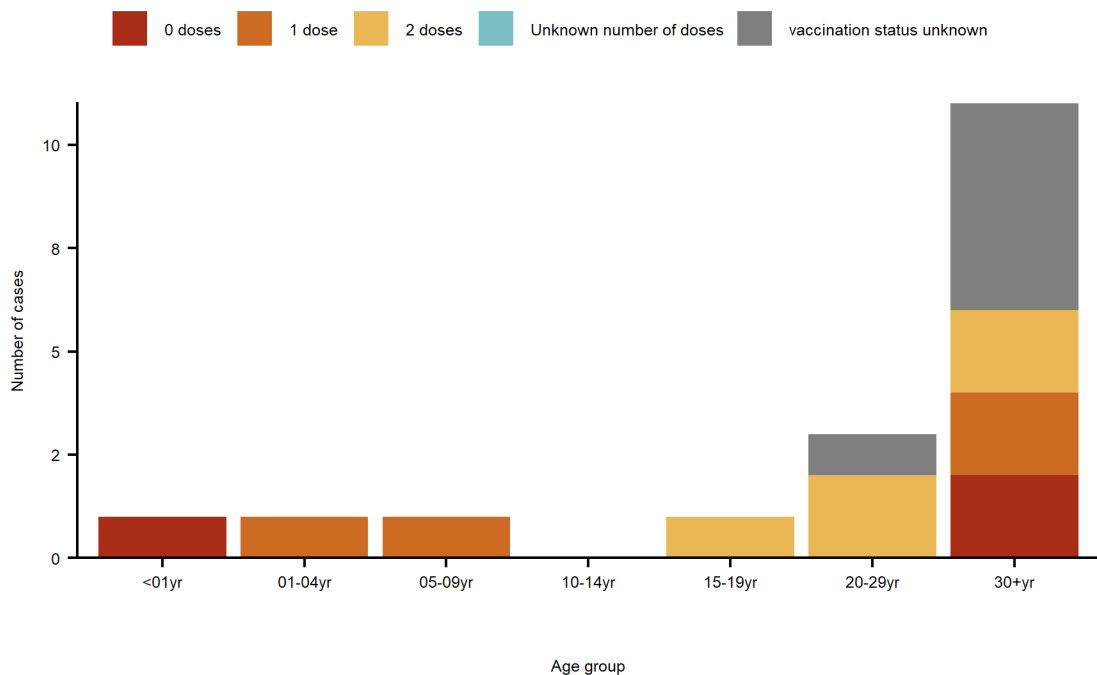
Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 18)



Measles cases by birth cohort and vaccination status, reported to TESSy 1 Mar 2010 to 31 Oct 2018 (n = 115)



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 18)

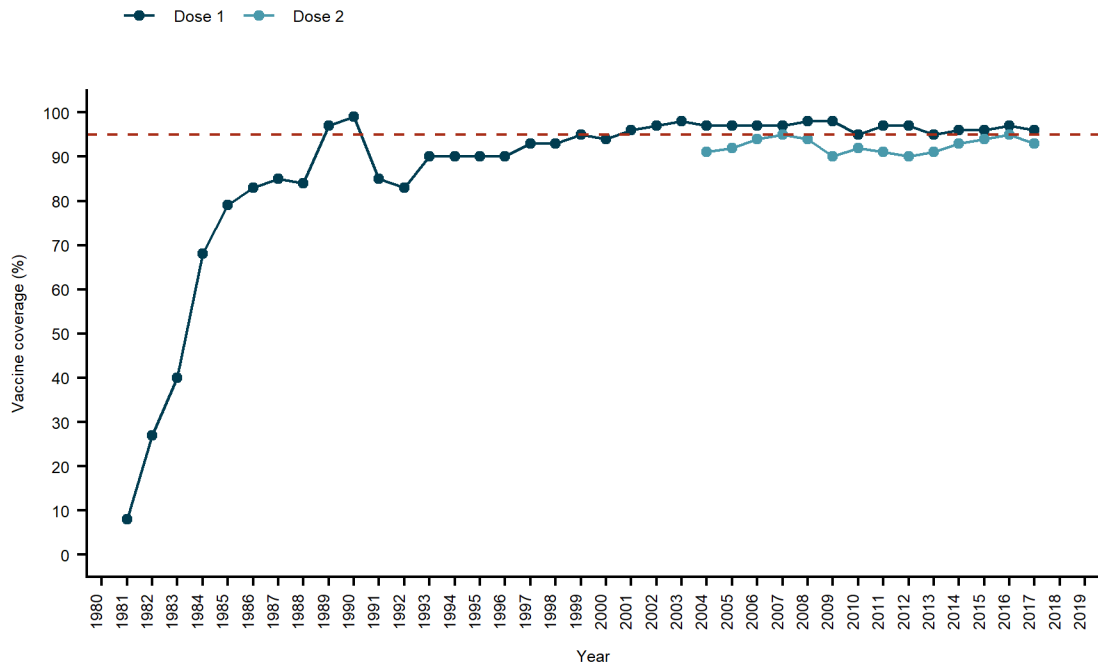


Spain

General		1 Jan 2016 to 31 Mar 2019	
Population	46,658,447	Cases (of which confirmed; %)	457 (429; 94%)
Measles elimination status (2017 data)	Eliminated	Average annual notification rate per million population	Crude: 3. Age-standardised: 3.1 (95% CI: 2.9 - 3.5)
MMR vaccine schedule	12 months	Number of deaths (CFR)	0 (0%)
	3-4 years	Median age (IQR) of cases in years	29 (14 - 38)
		Number of exportations to other EU/EEA countries	39

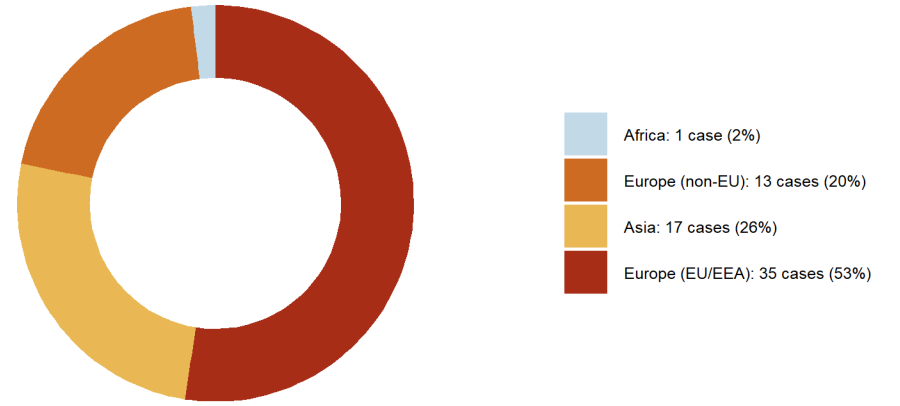
National level measles-containing vaccine coverage, 1981 to 2017

WHO/UNICEF Estimates of National Immunization Coverage



Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

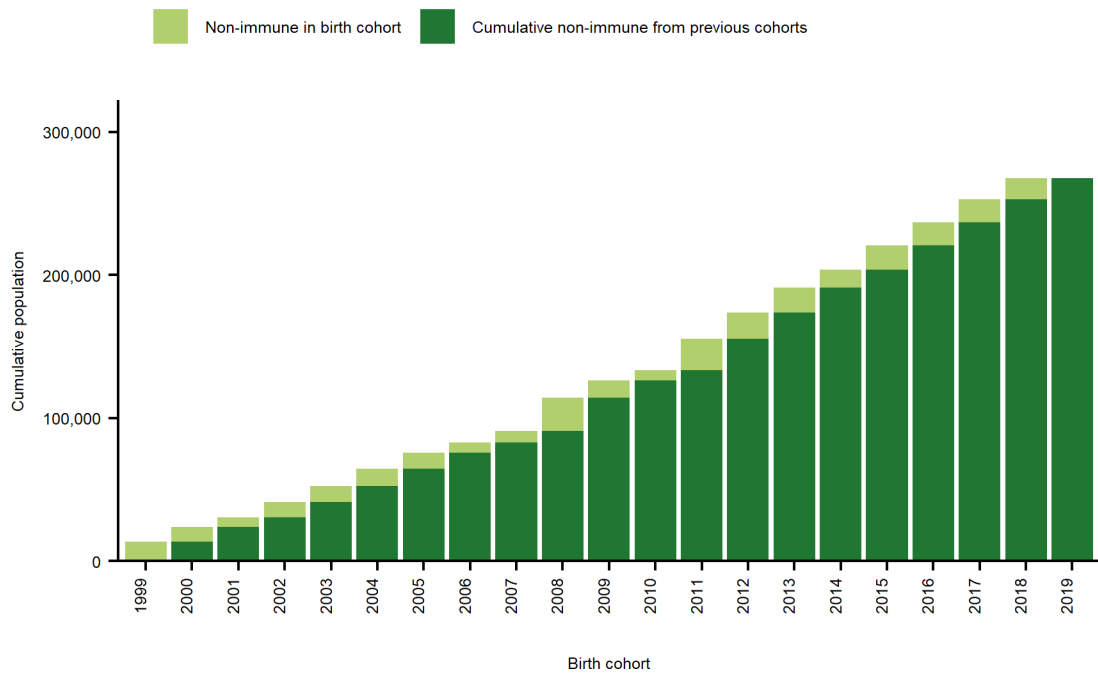
Based on 66 of 457 cases (14.4%) submitted as case-based data that were reported as imported with known probable country of infection. An additional 10 imported cases had unknown probable country of infection.



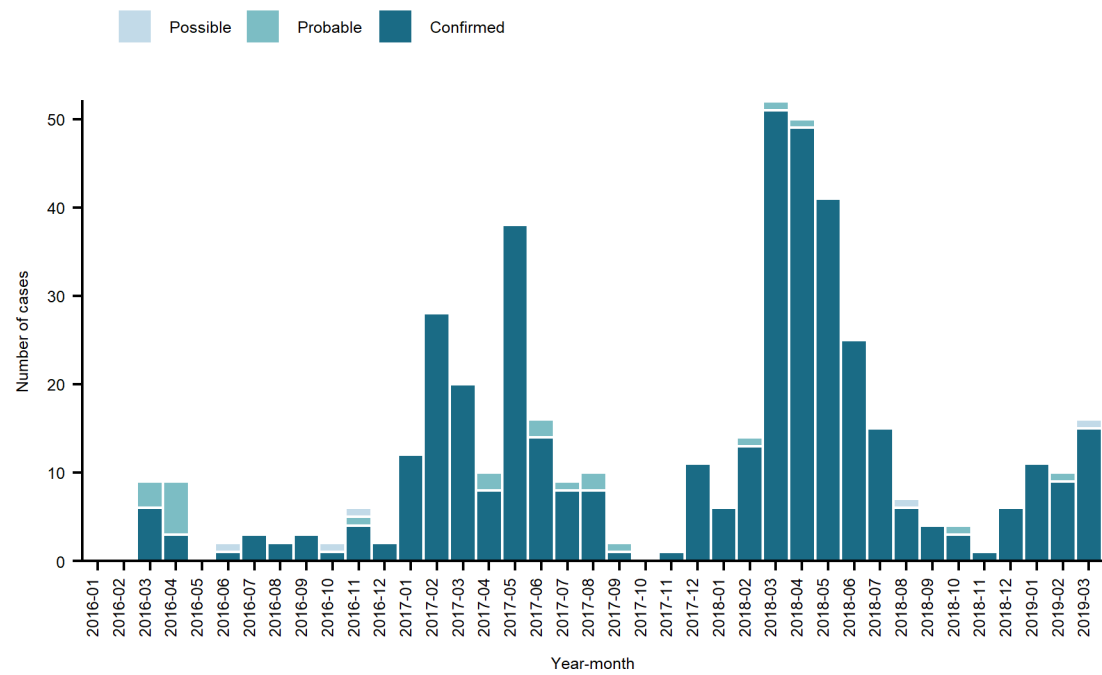
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 267,728 (3%) of the children born in the above period were non-immune by 2019

Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 Jan 2001 to 31 Mar 2019. Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%

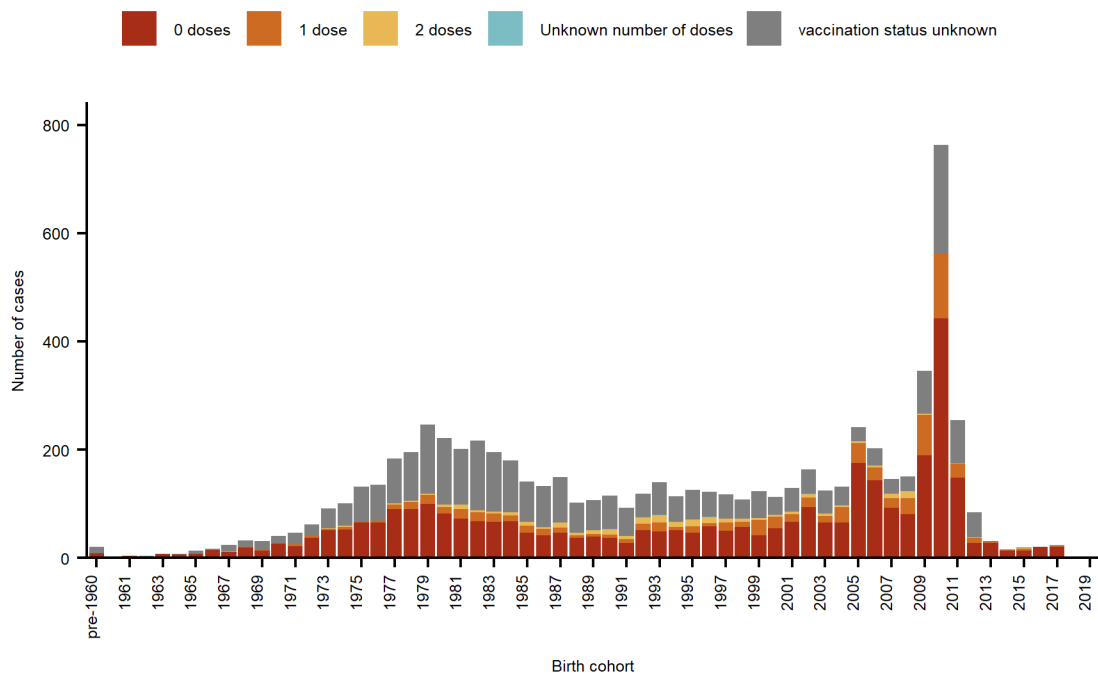


Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 457)

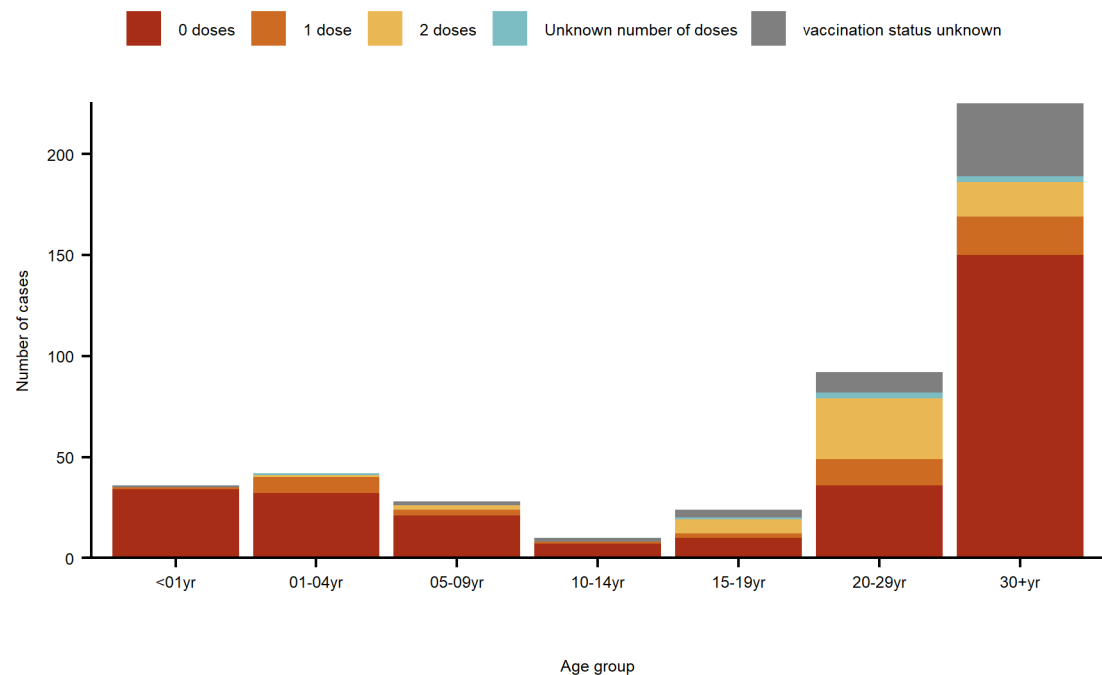


Measles cases by birth cohort and vaccination status, reported to TESSy 1 Jan 2001 to 31 Mar 2019 (n = 7,180)

The peak in birth cohorts 2009-11 was driven by a large outbreak that occurred between 2010 and 2012 in which 5,025 cases were reported, 600 (12%) of which were in children under 1 year of age who were too young to be vaccinated



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 457)

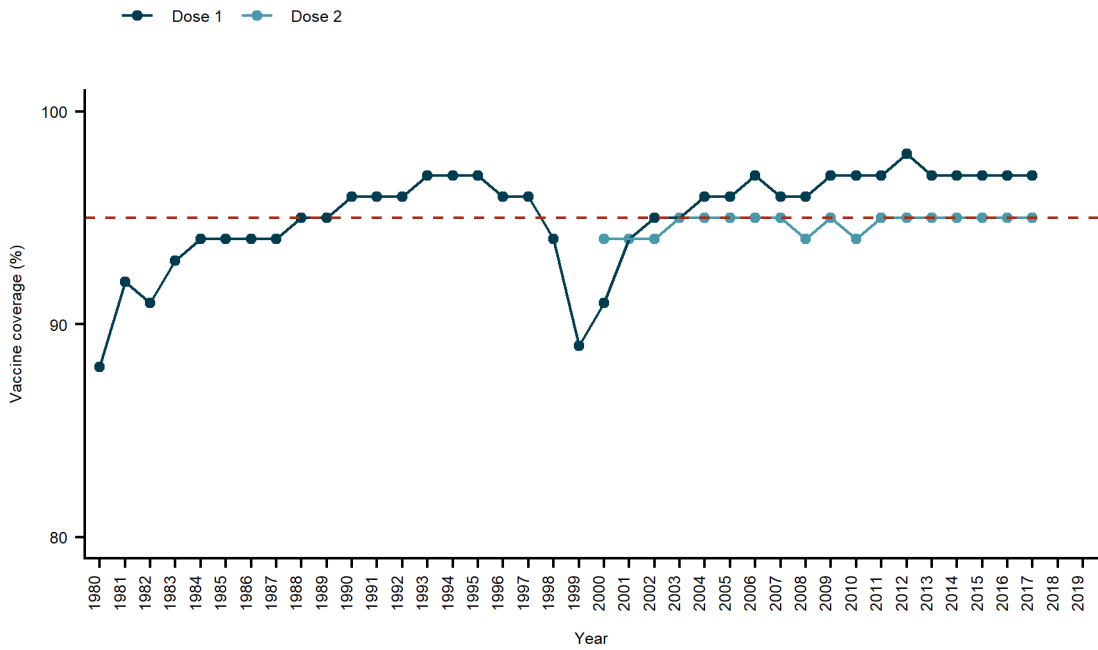


Sweden

General		1 Jan 2016 to 31 Mar 2019	
Population	10,120,242	Cases (of which confirmed; %)	92 (90; 98%)
Measles elimination status (2017 data)	Eliminated	Average annual notification rate per million population	Crude: 2.8. Age-standardised: 2.7 (95% CI: 2.2 - 3.3)
MMR vaccine schedule	18 months	Number of deaths (CFR)	0 (0%)
	6-8 years	Median age (IQR) of cases in years	26 (3 - 37)
		Number of exportations to other EU/EEA countries	1

National level measles-containing vaccine coverage, 1980 to 2017

WHO/UNICEF Estimates of National Immunization Coverage. Communication with the member state indicates that vaccination within birth cohorts 1999 and 2001 were postponed, rather than rejected. According to school coverage data* the one dose coverage at 12 years of age was 98% in these cohorts, and the two dose coverage 95%. This postponement has been described in the literature using Swedish county-level data**

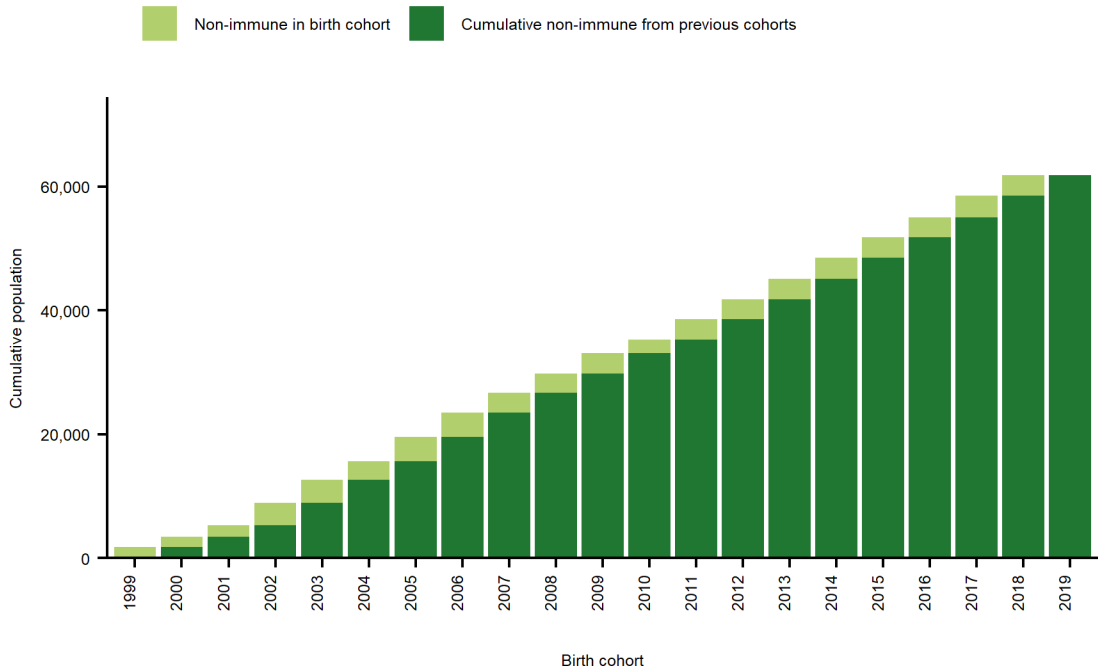


*<https://www.folkhalsomyndigheten.se/folkhalsorapportering-statistik/statistikdatabaser-och-visualisering/vaccinationsstatistik/statistik-fran-skolor>
 **Dannetun et al. Timeliness of MMR vaccination—influence on vaccination coverage. Vaccine. 2004 Oct 22;22(31-32):4228-32

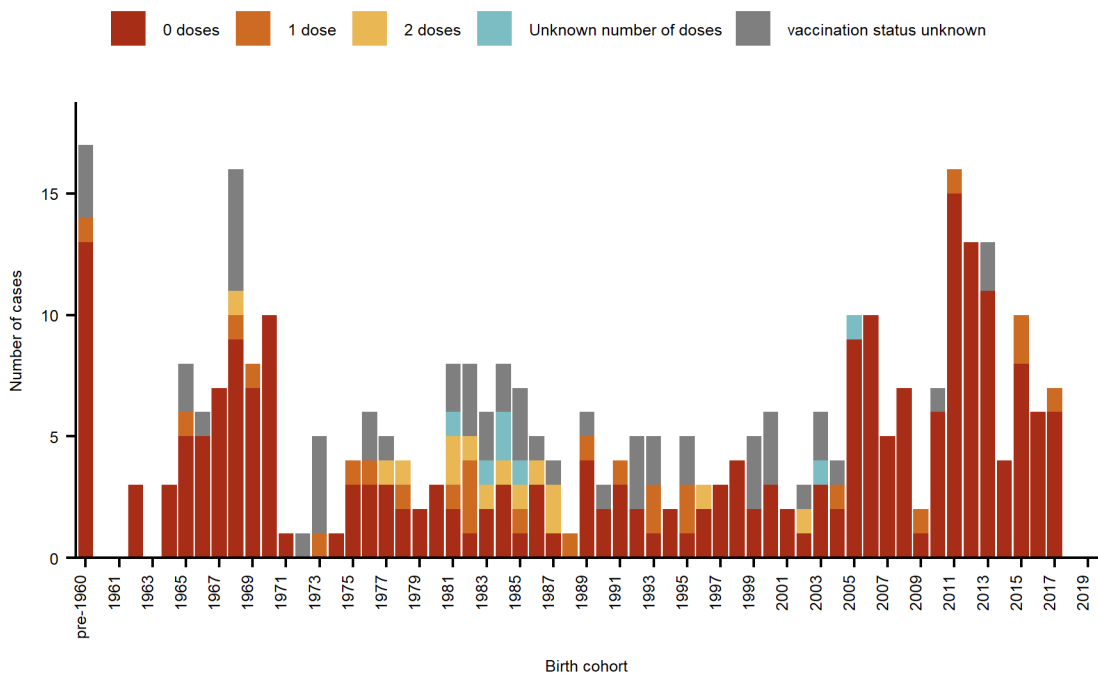
Estimated cumulative population non-immune to measles born between 1999 and 2019

An estimated 61,849 (2.9%) of the children born in the above period were non-immune by 2019

Based on MCV1 coverage since 2001 and cases per birth cohort reported to TESSy from 1 Nov 2001 to 31 Mar 2019. Not accounted for: MCV2, SIAs (previous and ongoing), delayed vaccinations. Assumptions: VE 100%, case ascertainment 10%. Vaccination coverage for 2001-2003 adjusted to take into account evidence of delayed vaccination resulting in 98% coverage by age 12 in birth cohorts 1999-2001

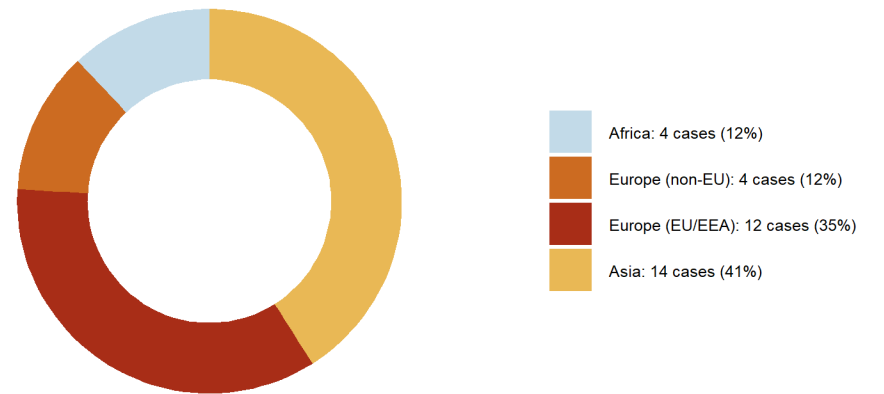


Measles cases by birth cohort and vaccination status, reported to TESSy 1 Nov 2001 to 31 Mar 2019 (n = 333)

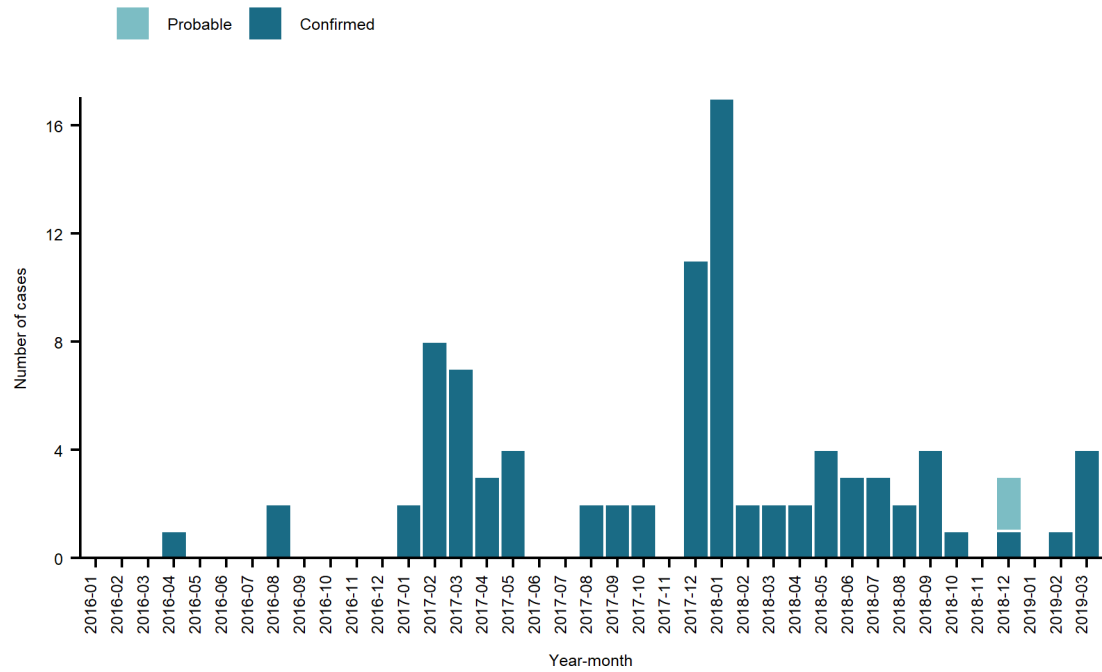


Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

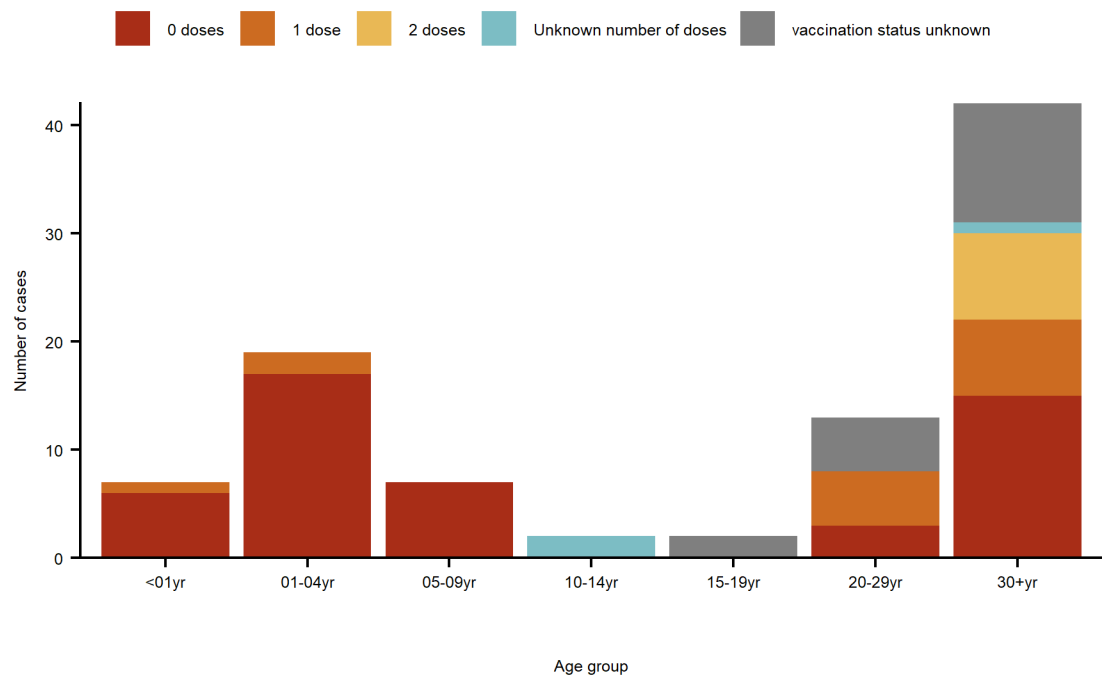
Based on 34 of 92 cases (37%) submitted as case-based data that were reported as imported with known probable country of infection. An additional 1 imported case had unknown probable country of infection



Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 92)



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 92)



United Kingdom

General

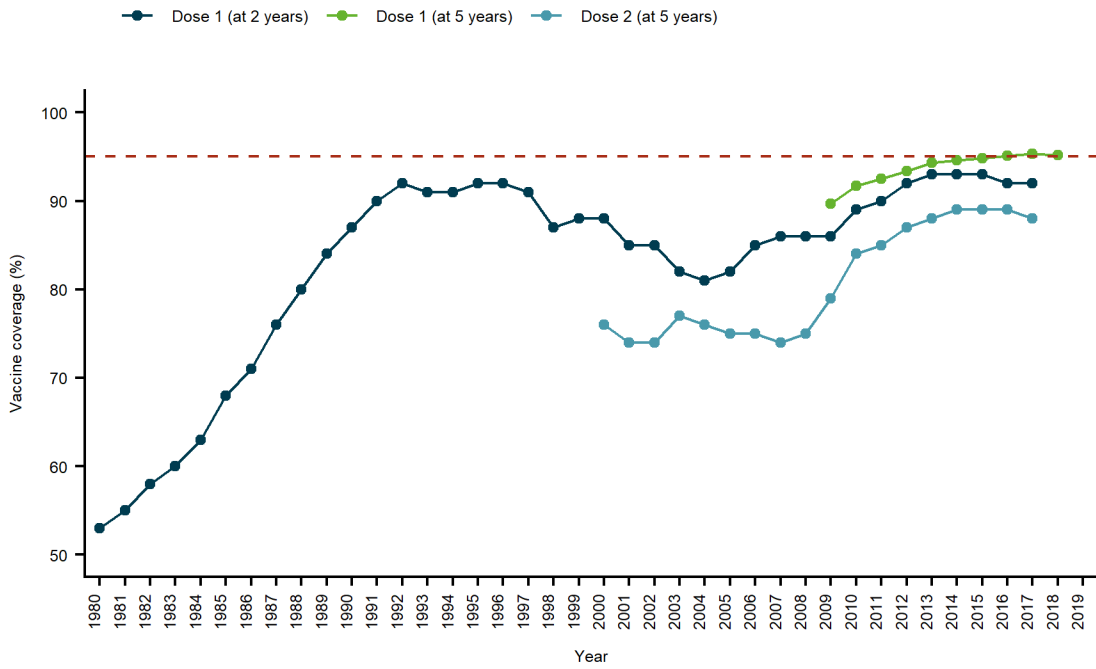
Population	66,273,576
Measles elimination status (2017 data)	Eliminated
MMR vaccine schedule	12 months 3 years

1 Jan 2016 to 31 Mar 2019

Cases (of which confirmed; %)	1,997 (1,997; 100%)
Average annual notification rate per million population	Crude: 9.3. Age-standardised: 8.7 (95% CI: 8.3 - 9.1)
Number of deaths (CFR)	1 (0.05%)
Median age (IQR) of cases in years	16 (5 - 27)
Number of exportations to other EU/EEA countries	52

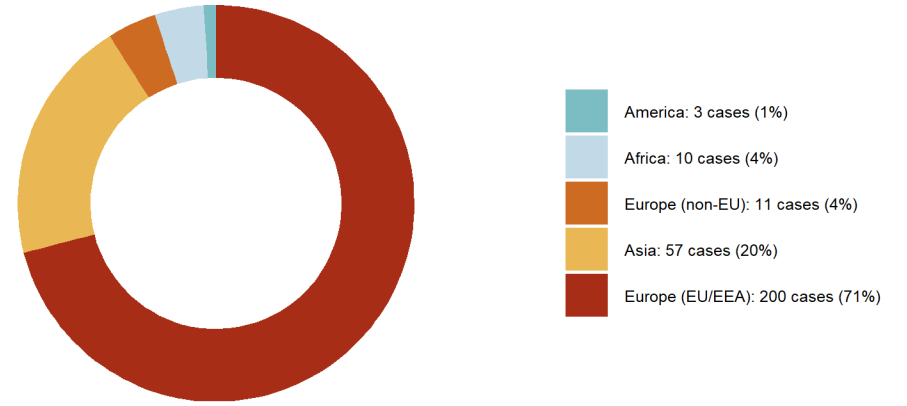
National level measles-containing vaccine coverage, 1980 to 2017

WHO/UNICEF Estimates of National Immunization Coverage and additional data from the member state for MCV1 at 5 years of age



Probable continent of infection of imported cases, 1 Jan 2016 to 31 Mar 2019

Based on 281 of 1,997 cases (14.1%) submitted as case-based data that were reported as imported with known probable country of infection. An additional 14 imported cases had unknown probable country of infection.

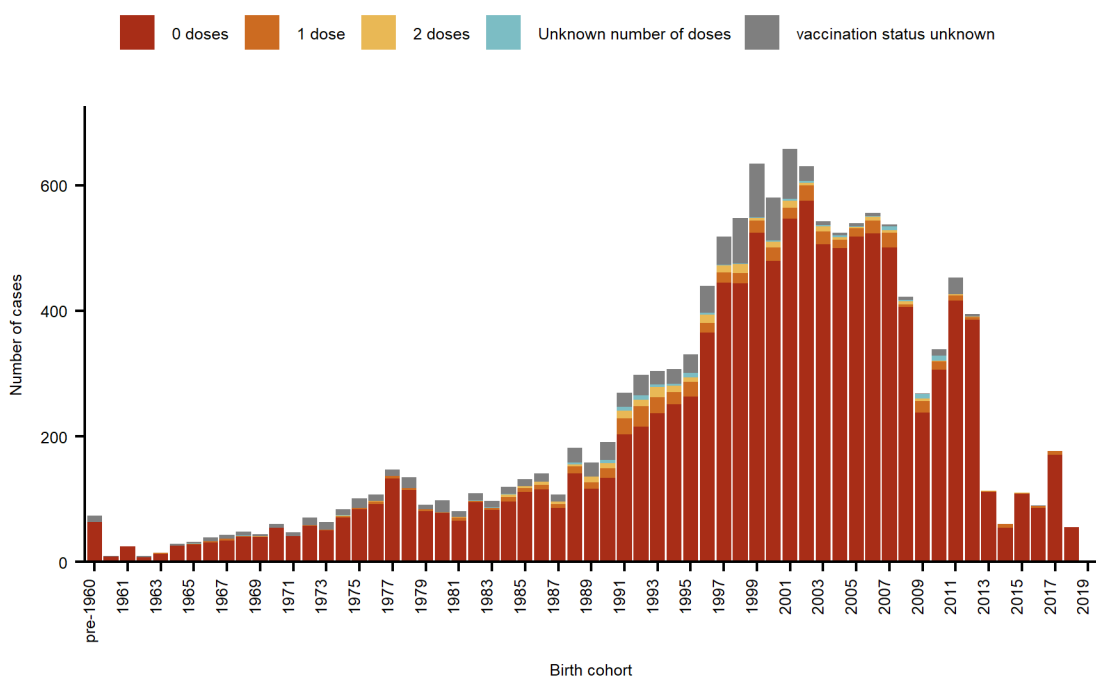


Estimates of the % non-immune to measles by birth cohort are published in the UK Measles and Rubella Elimination Strategy*

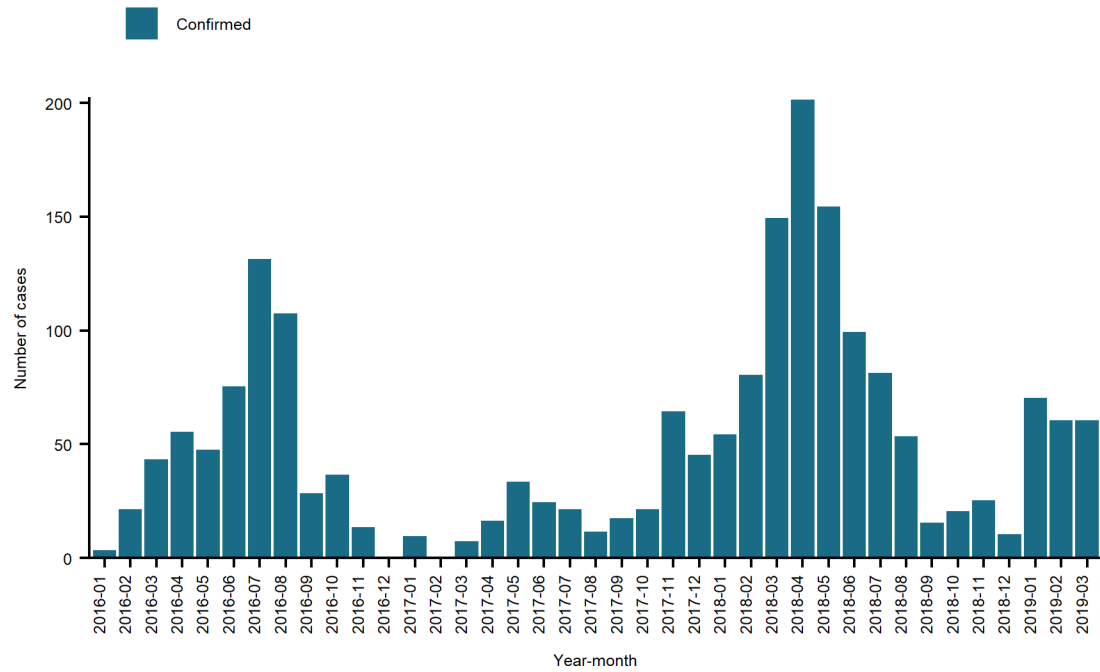
The analysis in the strategy takes into account under-ascertainment of vaccination coverage and MMR catch up campaigns. Communication with the member state indicates that, according to the analysis, approximately 600,000 (4%) children born between 1999 and 2019 were non-immune.

*https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/769970/UK_measles_and_rubella_elimination_strategy.pdf

Measles cases by birth cohort and vaccination status, reported to TESSy 1 Jan 1999 to 31 Mar 2019 (n = 13,390)



Measles by case classification, 1 Jan 2016 to 31 Mar 2019 (n = 1,997)



Measles cases by age and vaccination status, 1 Jan 2016 to 31 Mar 2019 (n = 1,997)

