



UK Health
Security
Agency

Laboratory confirmed cases of measles, rubella and mumps, England: July to September 2021

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Introduction

Measles, rubella and mumps are notifiable diseases and healthcare professionals are legally required to inform their local [Health Protection Team \(HPT\)](#) of all suspected cases. National enhanced surveillance including oral fluid (OF) testing of all suspected cases is provided through the Virus Reference Department (VRD) at Colindale to support and monitor progress towards World Health Organization (WHO) measles and rubella elimination targets.

The 2 main WHO indicators for measuring the performance of national measles and rubella surveillance systems are the rate of laboratory investigations (at least 80% of suspected cases) and the annual rate of discarded cases (at least 2 per 100,000 population). In order to achieve these targets our focus is on ensuring that all suspected cases are appropriately tested. IgM serology testing and oral fluid testing are the only 2 tests considered adequate by WHO for confirming and importantly discarding suspected measles and rubella cases. Recent infection is confirmed by measuring the presence of IgM antibodies or detecting viral RNA (by PCR) in these samples.

Samples that have been confirmed positive for measles or rubella are further sequenced and entered on the WHO global Measles Nucleotide Surveillance (MeaNS) or the Rubella Nucleotide Surveillance (RubeNS) system, respectively, which are hosted at the National Reference Laboratory. Genotyping and further characterisation of measles and rubella is used to support investigation of transmission pathways and sources of infection.

Data presented here is for the third quarter of 2021 (July to September). Analyses are done by date of onset of rash or symptoms and regional breakdown figures relate to Government Office Regions.

Historical annual and quarterly measles, rubella and mumps epidemiological data is available from 2013 onwards:

- [Measles: confirmed cases](#)
- [Mumps: confirmed cases](#)
- [Rubella: confirmed cases](#)

Results from all samples tested at Colindale are reported on the MOLIS/LIMS system and reported back to the patient's GP and local HPT. HPTs can also access the results of samples which have been processed by the VRD in the previous 100 days through the [MRep site](#).

Table 1. Total suspected cases of measles, rubella and mumps reported to Health Protection Teams with breakdown of: a) proportion tested by Oral Fluid (OF); b) cases confirmed (all tests) nationally at the Virus Reference Department (VRD), Colindale; and at local NHS hospital and private laboratories; c) discard rate (all tests): weeks 27 to 39 of 2021

	Total suspected cases*	Number (%) tested by OF Target: 80%	Number of confirmed infections					** Discard rate based on negative tests per 100,000 population (all samples)
			Samples tested at VRD			Samples tested locally	Total	
			OF IgM positive samples	OF PCR positive samples	All other positive samples			
Measles	198	128 (65%)	0	0	0	0	0	0.23
Rubella	46	22 (48%)	0	0	0	0	0	0.04
Mumps	1143	731 (64%)	0	0	0	0	0	N/A

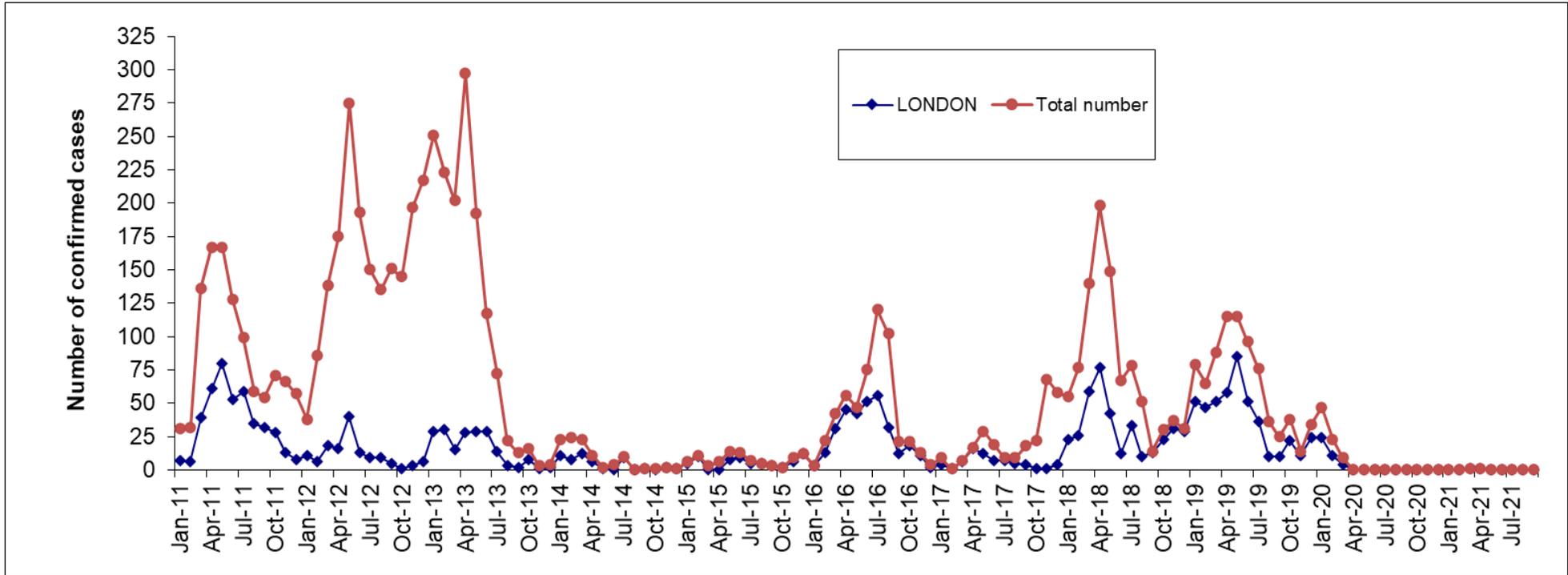
* This represents all cases reported to HPTs in England, that is, possible, probable, confirmed and discarded cases on HPZone.

** The rate of suspected measles or rubella cases investigated and discarded as non-measles or non-rubella cases using laboratory testing in a proficient laboratory. The annual discard rate target set by WHO is 2 cases per 100,000 population. We present quarterly rates here with an equivalent target of 0.5 per 100,000 population.

Measles

In the period between July and September 2021 there were no laboratory confirmed measles cases reported ([Figure 1](#)). The total number of laboratory confirmed measles cases in 2021 remains 2.

Figure 1. Laboratory confirmed cases of measles by month of onset of rash or symptoms reported, London and England: January 2011 to September 2021



All suspected cases of measles and rubella should be reported promptly to Health Protection Teams, a risk assessment conducted, and an Oral Fluid kit (OFK) sent for confirmatory testing even if local diagnostic testing is underway. This quarter an oral fluid sample was taken on 65% of all suspected measles cases, well below the 80% WHO target ([Table 1](#)).

Rubella

There have been no new laboratory confirmed cases of rubella reported in the UK since 2019.

Mumps

In England, there were no laboratory confirmed mumps infections between July and September 2021 compared with 2 in the previous quarter of 2021 [1].

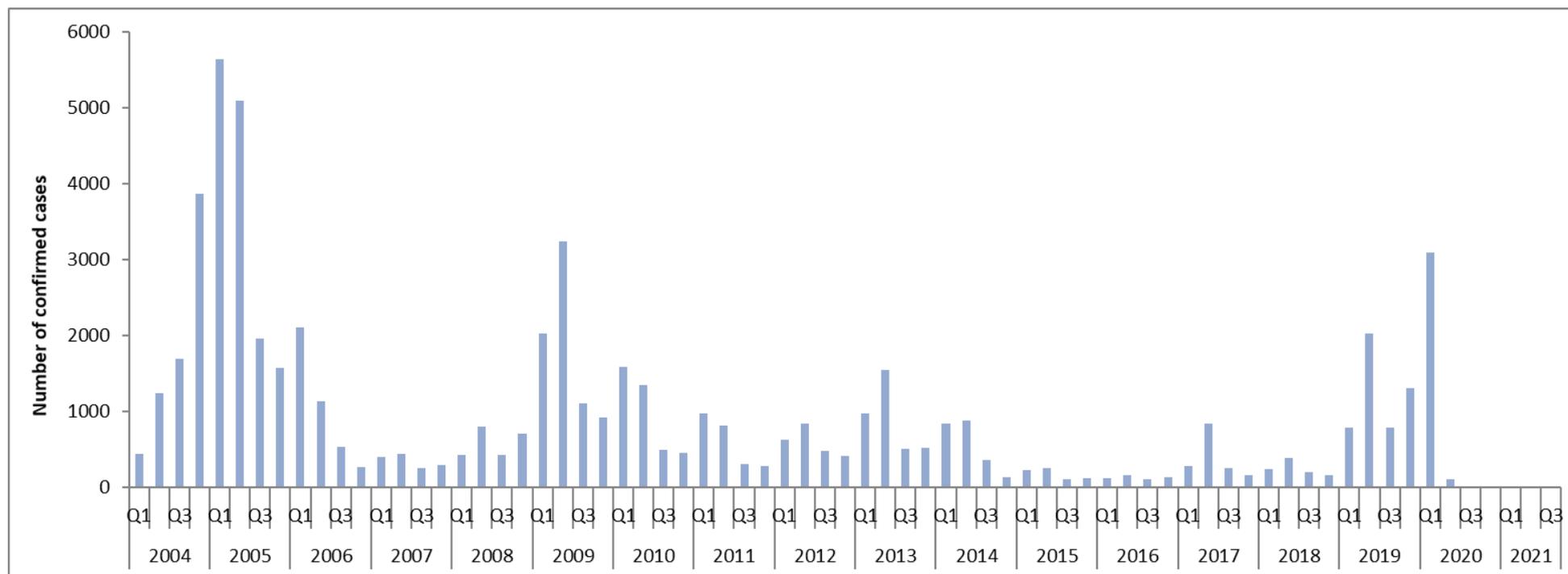
Mumps activity in 2021 continues to be low after the very high numbers reported in 2019 and the first quarter of 2020 (Figure 2).

Only 64% of suspected mumps cases returned an oral fluid sample this quarter.

Measles, mumps and rubella oral fluid testing

As previously described [1, 2], UKHSA arrangements with Royal Mail have changed and measles, mumps and rubella OFKs are now being dispatched through a central service commissioned by the Immunisation and Vaccine Preventable Diseases Division at Colindale [2]. HPTs are asked to note the changes in the service and to familiarise themselves with the full details at [Measles, mumps, rubella: oral fluid testing forms and instructions](#) [2]. A video on the [Oral fluid test for measles, mumps and rubella kit](#) explains how to take an oral fluid swab has also been published.

Figure 2. Laboratory confirmed cases of mumps by quarter, England: 2003 to 2021



Impact of the coronavirus (COVID-19) pandemic on measles mumps and rubella surveillance and epidemiology

The routine surveillance and epidemiology of measles, mumps and rubella in the UK has been impacted in a number of ways during the COVID-19 pandemic, as follows:

1. The reduction in international travel will have reduced the number of measles and rubella importations, providing fewer opportunities for new chains of transmission.
2. Social distancing and lockdown measures are likely to have had a limited impact on measles transmission which is many times more infectious than SARS-CoV-2 [3]. However, there has been a significant impact on health-seeking behaviour, making it more likely that people with mild symptoms do not present to healthcare services. A fall in measles and mumps notifications (Notifications of Infectious Diseases, NOIDS) made to UKHSA (previously PHE) was observed from week 12, 2020, and is more pronounced from week 13, 2020, the first week of COVID-19 lockdown (see [Figure 4](#) and [Figure 5](#)). This drop continued into 2021.

UKHSA is continuing to monitor the impact of the COVID-19 pandemic on the routine childhood immunisations. In 2019, 2020 and 2021, MMR1 coverage is substantially below the WHO target of 95% coverage at 24 months. In July 2021, 87.5% of infants were vaccinated with MMR1 by 18 months of age – this is 0.7 points lower than July 2019 and 0.5 percentage higher than July 2020, respectively [4]. Vaccine coverage data is still emerging, and further analyses will be published in due course.

UKHSA is working closely with partners on a recovery plan to catch-up any children who missed out on MMR and other vaccines in order to prevent outbreaks occurring as social distancing measures are gradually eased.

Figure 3. Measles notifications: England, 2020 to 2021 (Source: NOIDS)

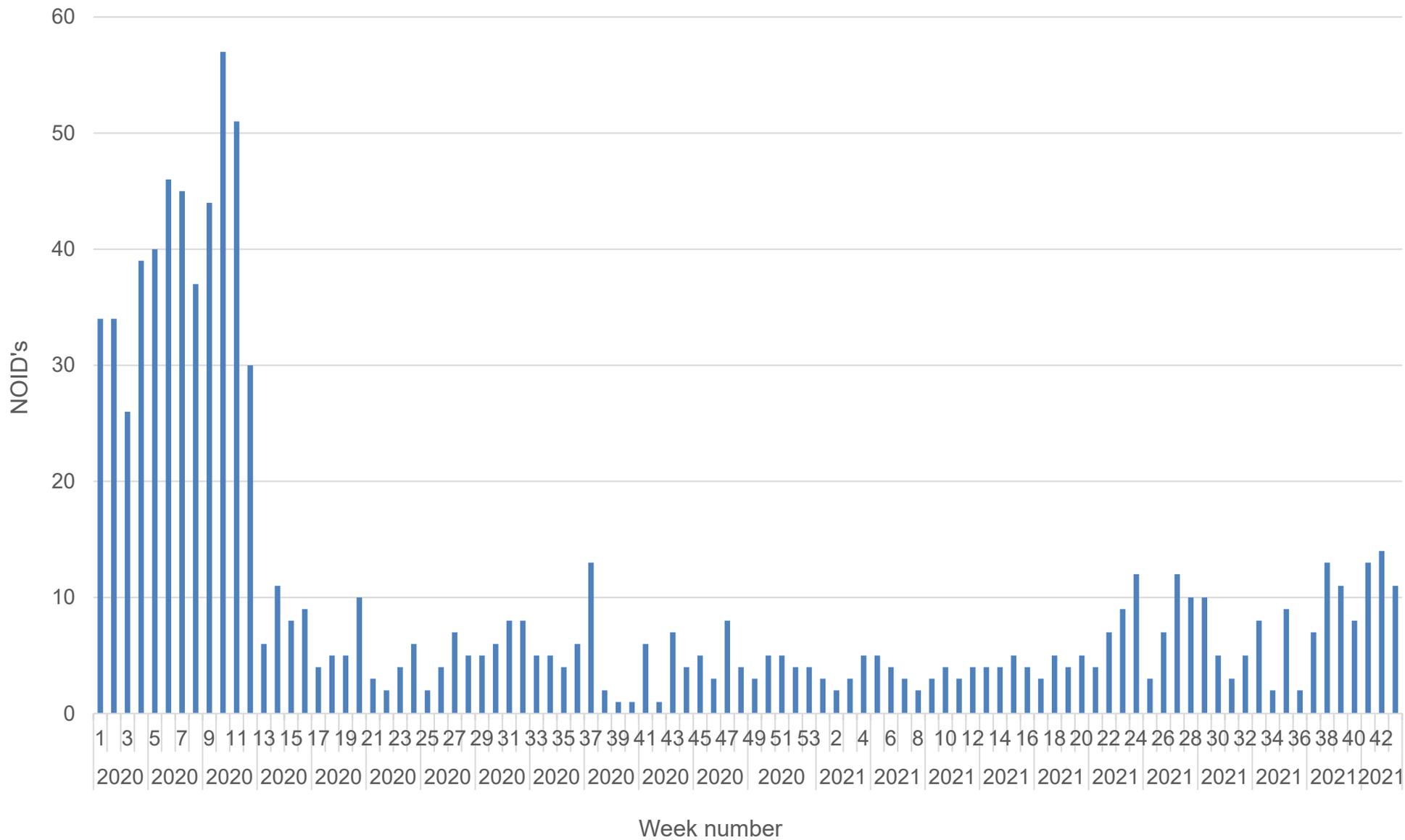


Figure 4. Mumps notifications: England, 2020 to 2021 (Source: NOIDS)

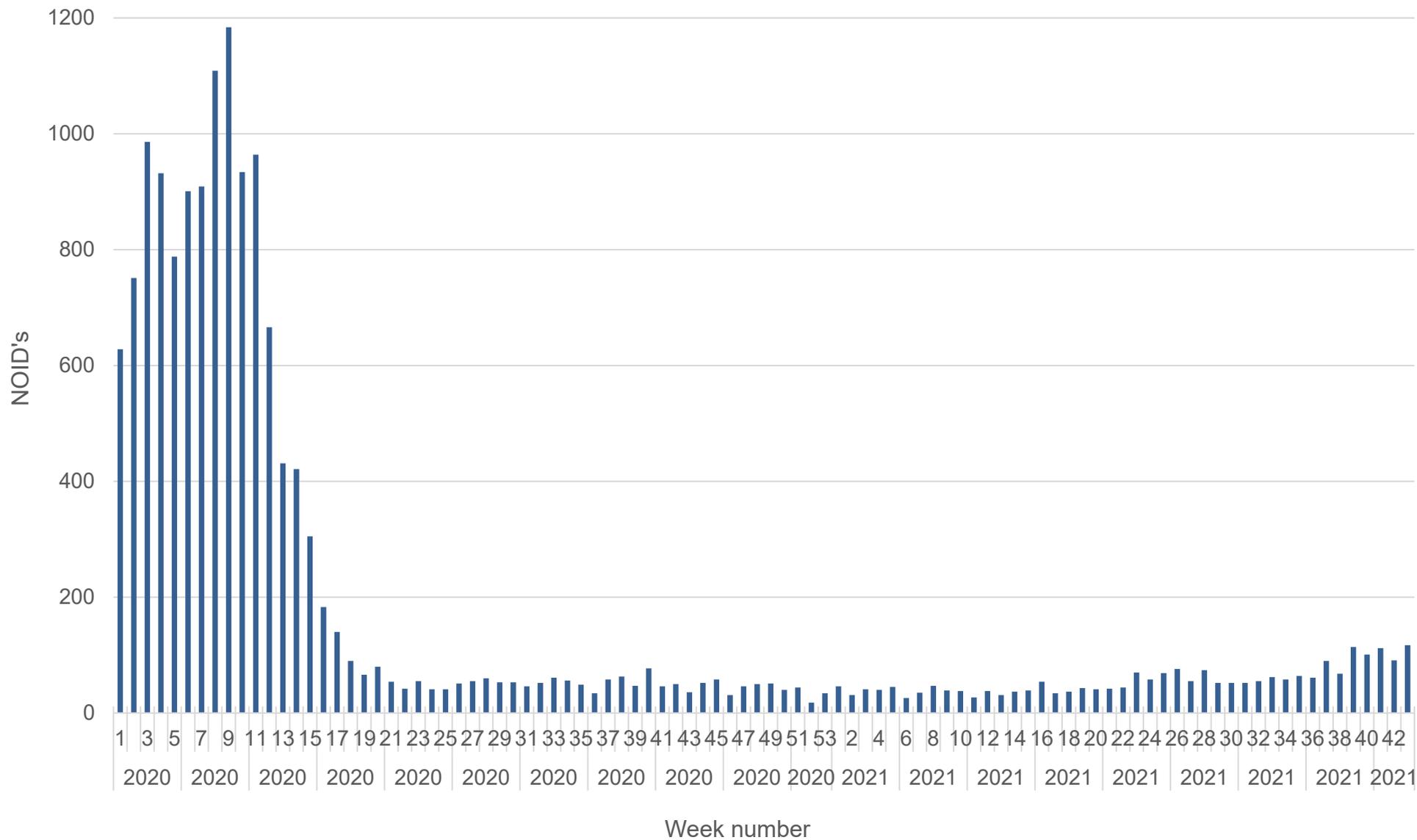
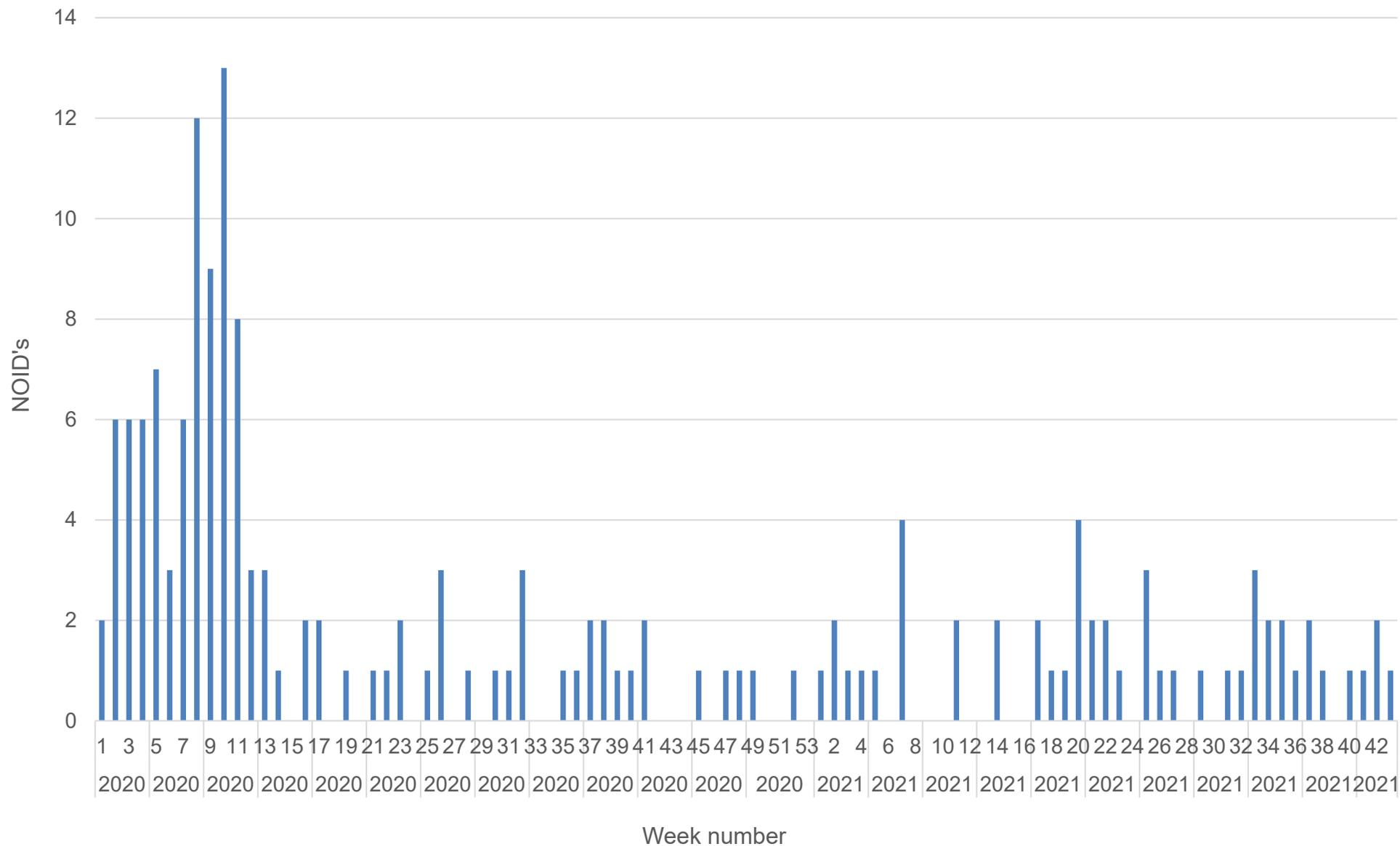


Figure 5. Rubella notifications: England, 2020 to 2021 (Source: NOIDS)



References

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About the UK Health Security Agency

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