

# Measles: The UK perspective



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25th March 2024

THANKS TO VACCINES  
**MEASLES DEATHS**  
FELL DRAMATICALLY

**2021 - 128 000 deaths**  
**351 deaths per day**  
**14 deaths an hour**

**#VACCINESWORK**

- 2000-2021 an estimated 56 million deaths prevented making measles vaccine one of the best buys in public health.

# Outline of talk

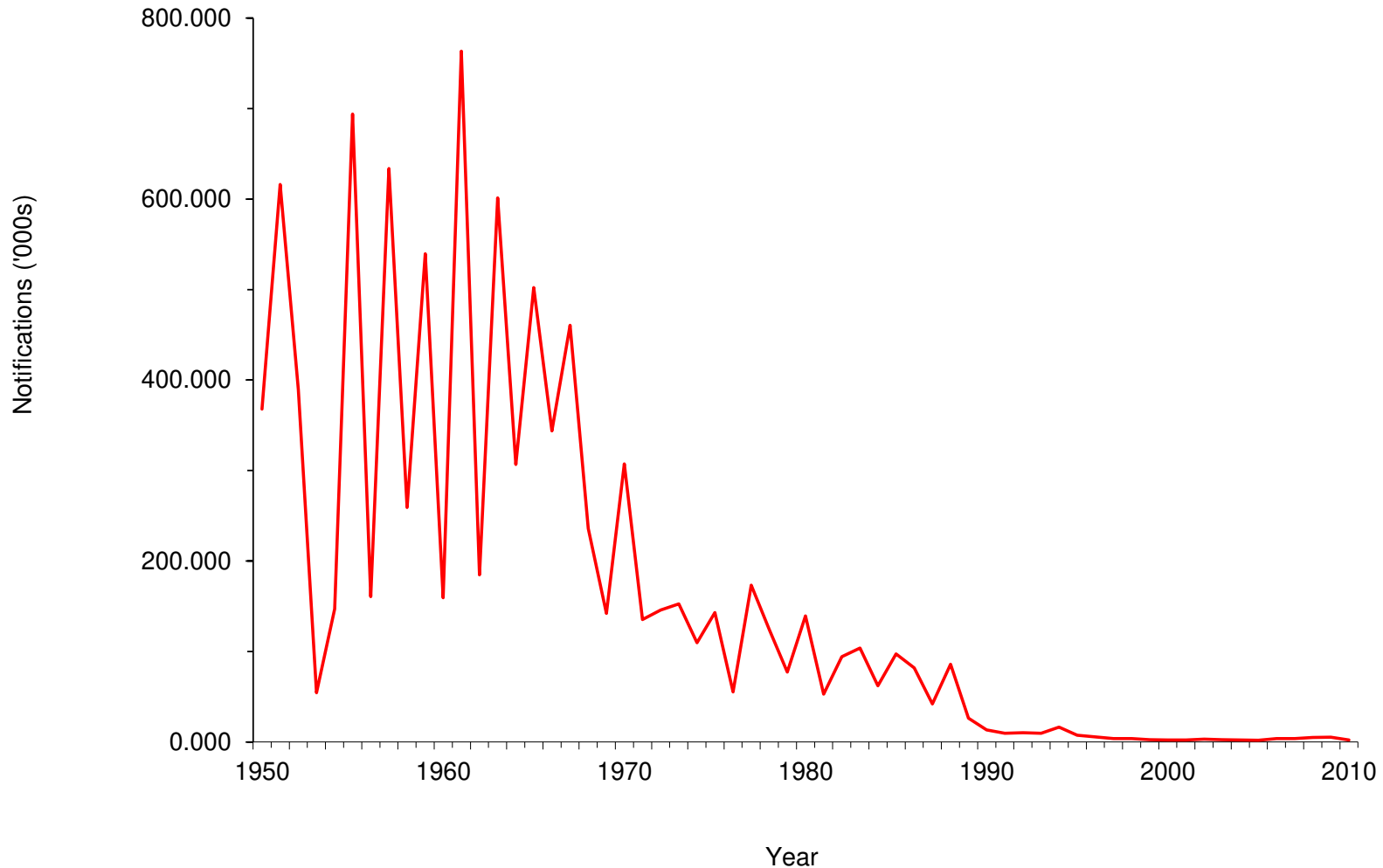
- Background - vaccination in UK
- Measles in UK – epidemiology, vaccine policy and uptake
- Current measles outbreaks UK and Europe
- UK response

# UK immunisation programme

- Joint Committee on Vaccination and Immunisation (<https://www.gov.uk/government/groups/joint-committee-on-vaccination-and-immunisation>)
  - Independent expert committee make recommendations to Ministers of Health re immunisation programme
  - Vaccination must reach cost – effectiveness threshold
  - UK population have a right to recommended vaccines
- Recommended vaccines free on National Health Service
- Vaccines not mandated
- Since 2013 commissioned by NHS England
- Most pre-school vaccines given in primary care by practice nurses
- Vaccines for school aged either in school or primary care

# Annual measles notifications & vaccine coverage

## *England and Wales 1950-2010*



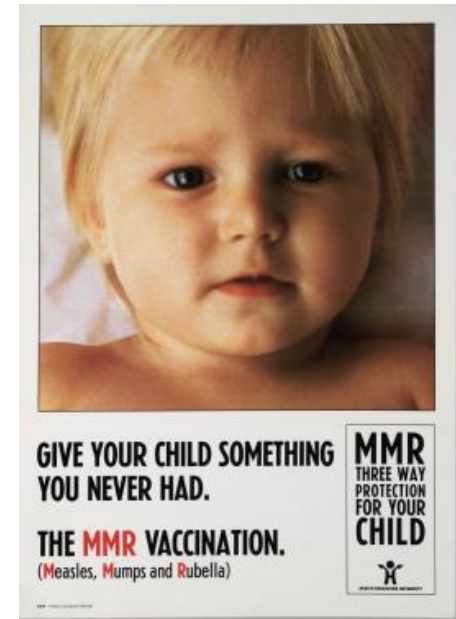
Sources: The Information Centre and Health Protection Agency

# Measles, mumps and rubella vaccines in UK

- 1968 live attenuated measles vaccine introduced at 12-18 months
- 1970 live rubella vaccine for pre-pubertal girls and non-immune women

## MMR

- 1<sup>st</sup> dose at 12-13 months introduced in 1988
- Aim – eliminate measles, mumps, rubella
- Protection from one dose of MMR
  - Rubella-98%; Measles-95%; Mumps 85%
- 2<sup>nd</sup> dose before school entry introduced in 1996 (or shorter interval)



## UK Routine Child & Adolescent Immunisation Schedule – 2024

Age	Vaccine
8 weeks	DTaP/IPV/Hib/hepB & MenB & rotavirus
12 weeks	DTaP/IPV/Hib/hepB & PCV & rotavirus
16 weeks	DTaP/IPV/Hib/hepB & MenB
12 – 13 months	Hib/Men C & PCV & MenB & MMR
2 – 15 years	Influenza vaccine
3 yrs 4 months	MMR, DTaP/IPV
12-13 yrs	HPV (& boys from Sept 2019)
14 yrs	Men ACWY
14 yrs	Td/IPV

# MMR vaccine in UK

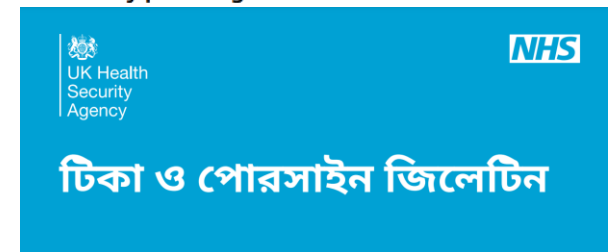
- Live attenuated vaccine
- Two products available:
  - MMR VaxPro contains porcine gelatin



- MMR does not contain thiomersal
- Egg allergy not a contraindication



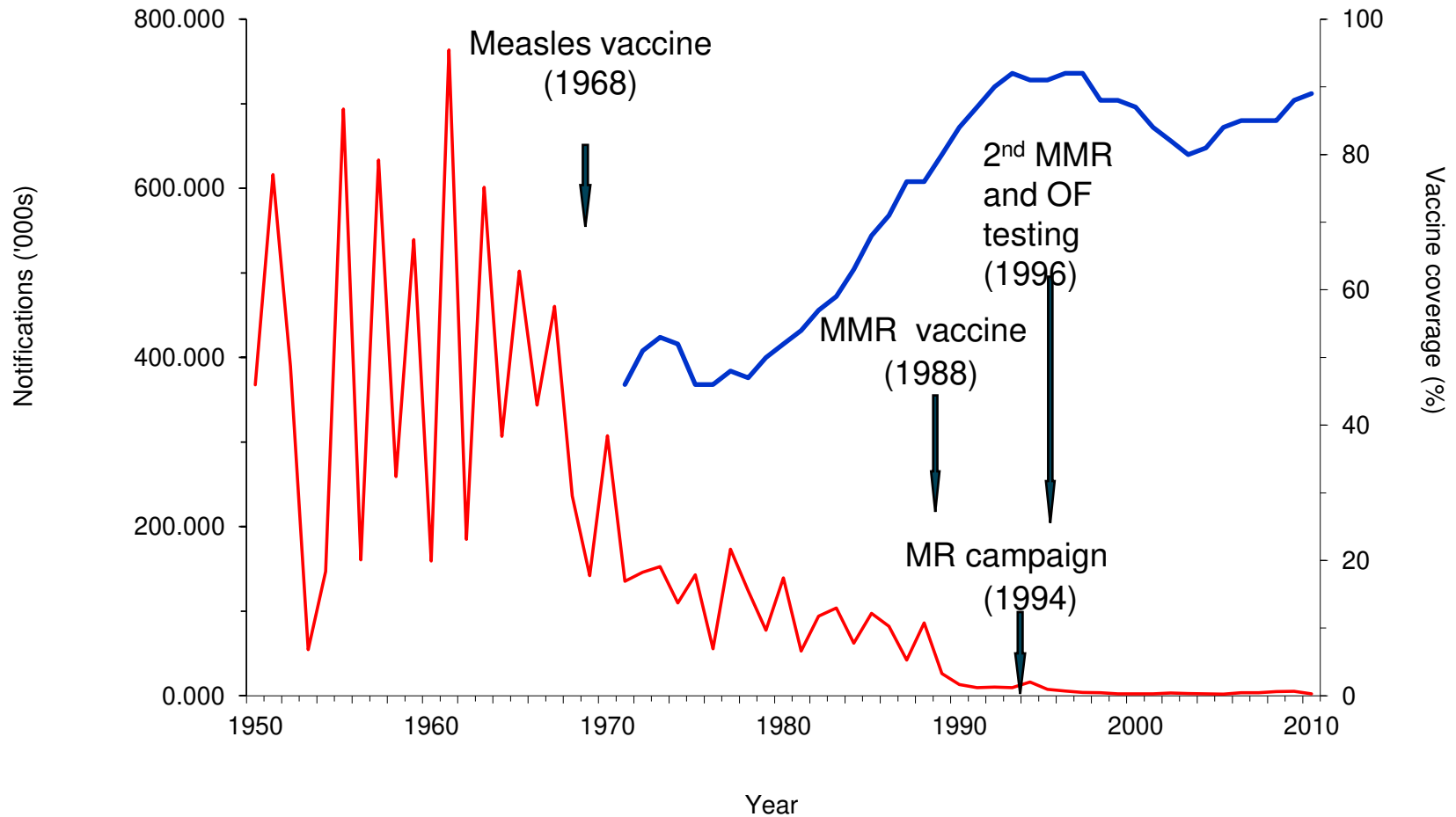
This leaflet describes how and why porcine gelatine is used in vaccines



এই লিফলেটটি বর্ণনা করে কিভাবে ও কেন পোরসাইন জিলেটিন টিকায় ব্যবহৃত হয়



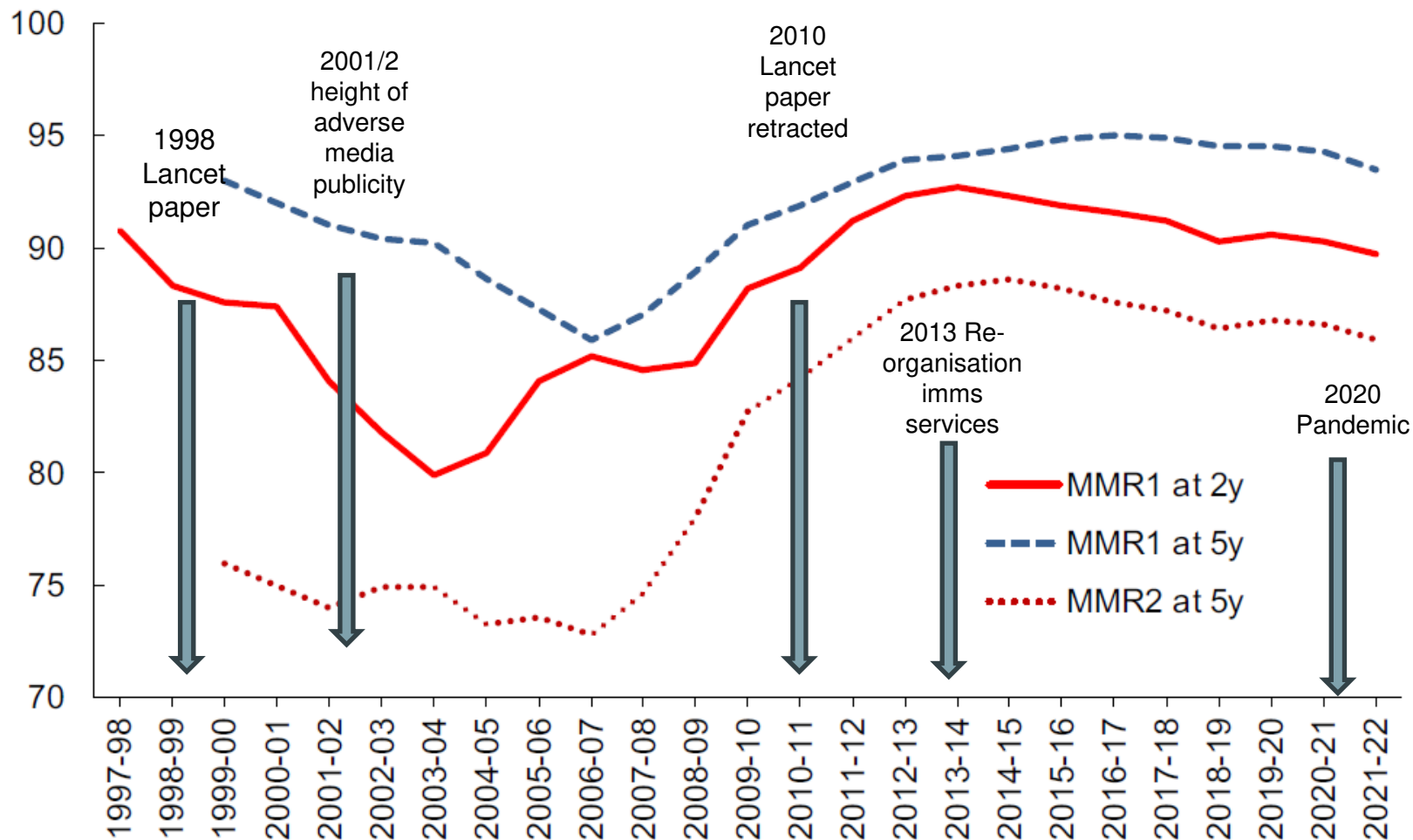
# Annual measles notifications & vaccine coverage *England and Wales 1950-2010*



Sources: The Information Centre and Health Protection Agency

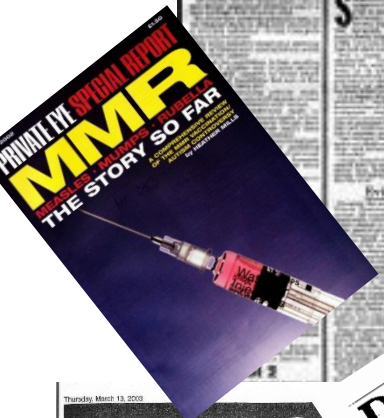
Notifications —  
Vaccine coverage —

# MMR annual vaccine coverage, England 1997/1998 to 2021/2022



Source: Childhood Vaccination Coverage Statistics 2020 to 2021 Annual National Official Statistics, NHS Digital, UKHSA.

# UK media coverage – 2001/2



**Daily Mail**  
COMMENT  
So much for 'joined up government'?

## MMR safe? Baloney. This is one scandal that's getting worse

**S** **Melanie Phillips**



Should you vaccinate your child?

**Doctors make sure their children avoid MMR jab**

**I won't let our baby have MMR jab, says Livingstone**



**MMR NIGHTMARE OF GMTV STAR FIONA**

## I won't protect my son from bug that nearly blinded me

## Why I wouldn't give my baby the MMR jab

by Julia Carling

Thursday March 13, 2003

## WE FACE

### MMR: THE TRUTH

For years, doctors pooh-poohed parents' fears over the MMR jab. When cases of autistic children rocketed by around 270%, the statistics were dismissed as fantasy. But now the evidence is growing too strong to ignore

by **Melanie Phillips**

THE MMR ROW

### Researcher says choice of injection is essential

Health chiefs investigate nine cases in suspected new measles outbreak

**'I'd rather risk them being deaf or blind than becoming autistic'**

THE GREAT JABS DEBATE

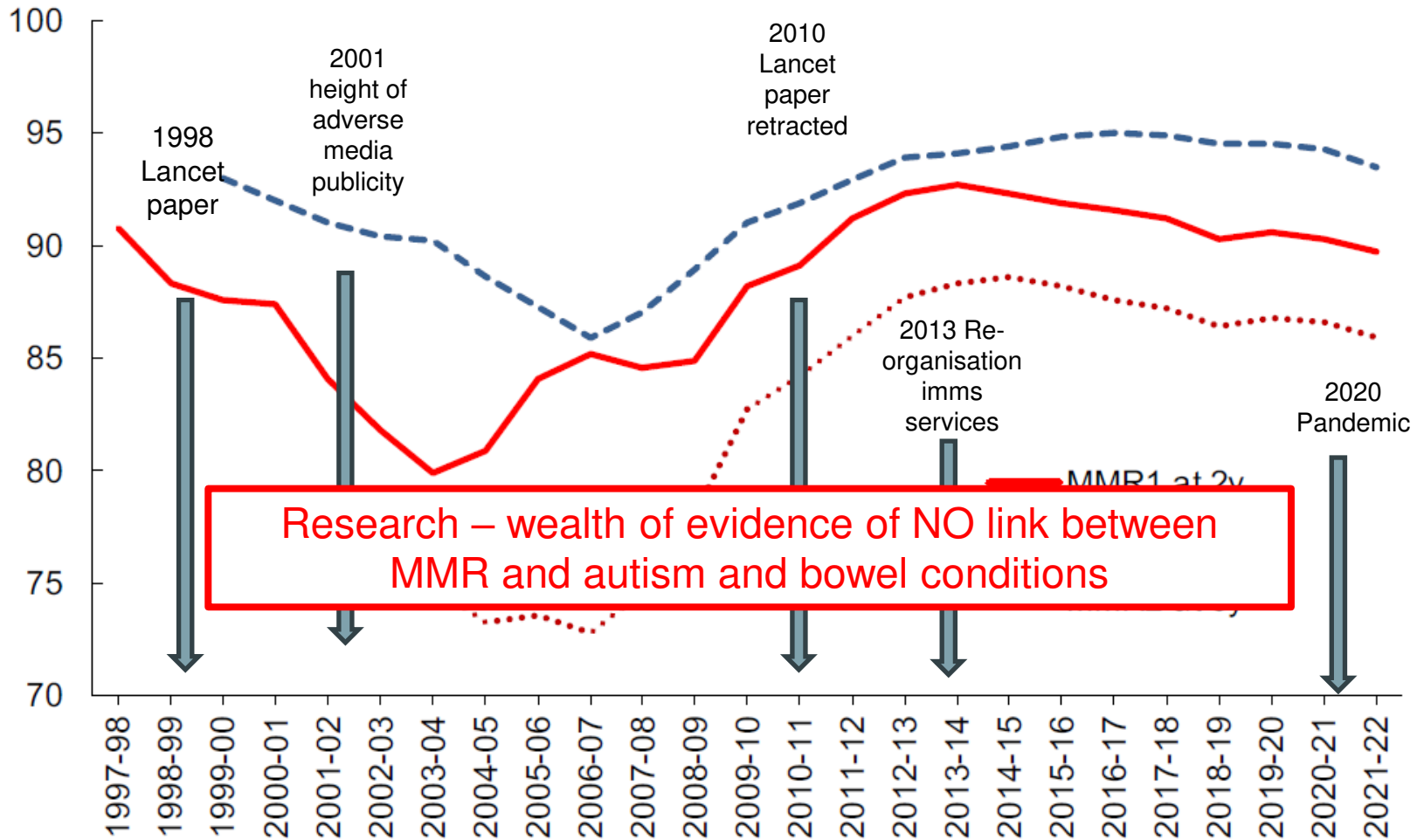
## Our son had MMR shot.. then the lights went out

FATHER TELLS OF AUTISM ENGLISH

MMR BLAIR IS WOBBLING



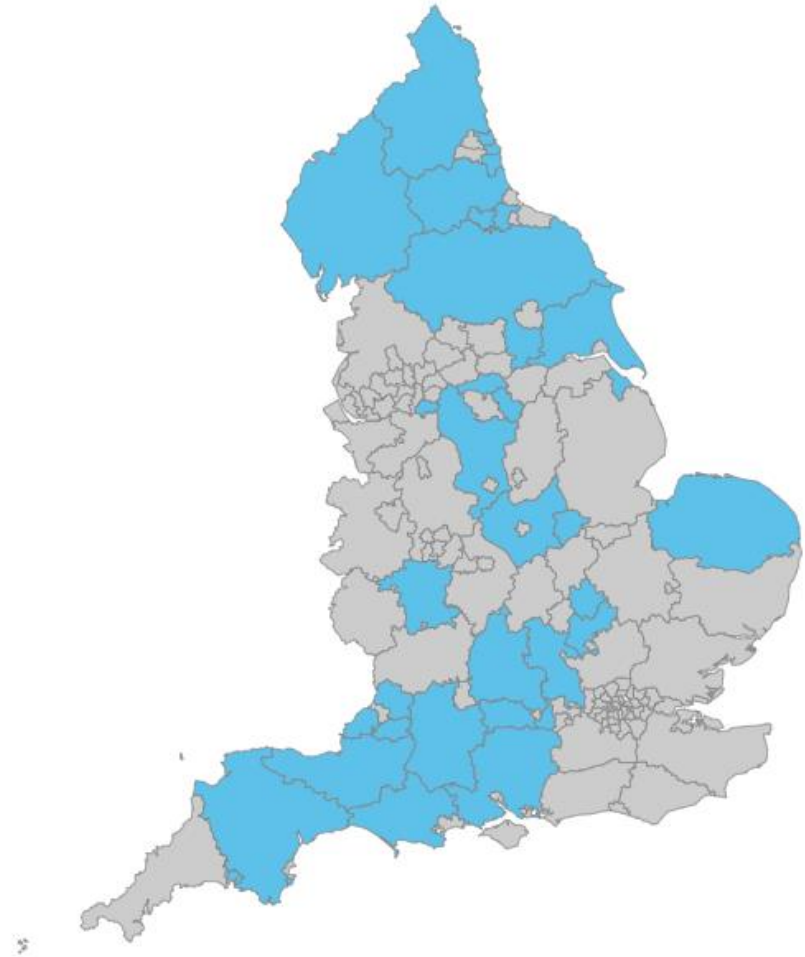
# MMR annual vaccine coverage, England 1997/1998 to 2021/2022



Source: Childhood Vaccination Coverage Statistics 2020 to 2021 Annual National Official Statistics, NHS Digital, UKHSA.

# Childhood vaccination coverage 2022-23 by Local Authority – England

- **MMR 1<sup>st</sup> dose at 24 months of age**
  - LA range 97.3 – 68.1%
  - Highest South Tyneside
  - Lowest Hackney & City of London
  - London 82.4%
- **MMR 1<sup>st</sup> and 2<sup>nd</sup> dose at 5 years**
  - England 84.5%
  - LA range: 94.4% - 56.3%
  - London 74.0%



9/149 areas met 95% target

Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

# Vaccine

journal homepage: [www.elsevier.com/locate/vaccine](https://www.elsevier.com/locate/vaccine)

## Impact of pregnancy vaccine uptake and socio-demographic determinants on subsequent childhood Measles, Mumps and Rubella vaccine uptake: A UK birth cohort study

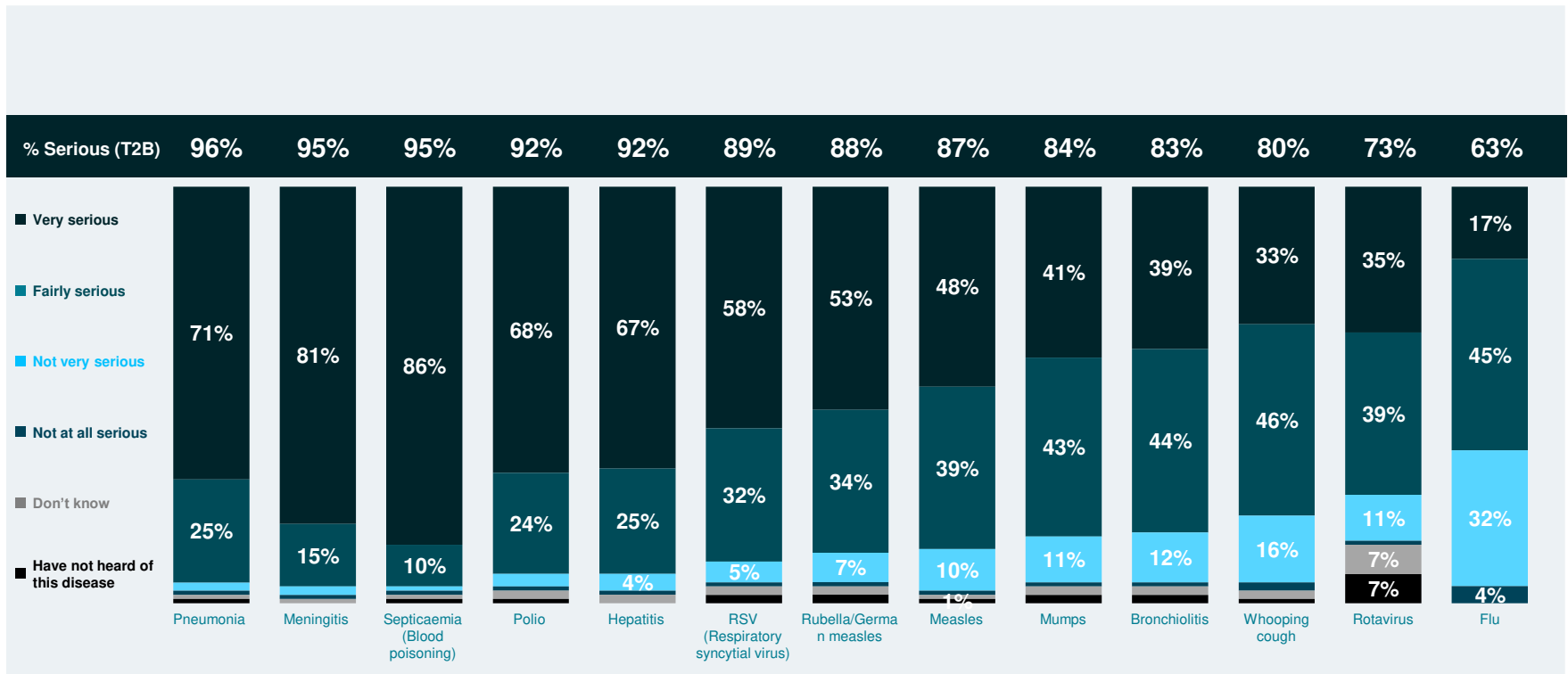
H Skirrow<sup>a,\*</sup>, K Foley<sup>a</sup>, H Bedford<sup>b</sup>, C Lewis<sup>b,c</sup>, E Whittaker<sup>d,e</sup>, C Costelloe<sup>f,a</sup>, S Saxena<sup>a</sup>

- UK Clinical Practice Research Datalink (almost 1000 GPs contribute data – nationally representative)
- Birth cohort 795,497 children born between 01/01/2000 – 31/12/2020
- Uptake of 1<sup>st</sup> MMR 89.4% by age 2 years and 92.6 % by age 5 years
- Second dose MMR uptake 85.9% among those children (70%) still in the cohort at age 3 years 4 months

### MMR vaccine uptake lower among:

- children in most deprived areas (14% less likely of least deprived areas)
- children of Black or Black British ethnicity (reduced after adjusting for deprivation and maternal age)
- younger mothers (20 years or younger) (reduced after adjusting for deprivation)
- first born children

## How serious do you think it could be if your baby or young child caught the following disease?



Source: Basis Research, [Childhood immunisation](#). Q8. How serious do you think it could be if your baby or young child caught the following disease?

Base: All parents with a child aged 2 months to less than 3 years 4 months (n=1001)

\*Figures under 4% not shown

<https://www.gov.uk/government/publications/childhood-vaccines-parental-attitudes-survey-2023/childhood-vaccines-parental-attitudes-survey-2023-findings>

# Childhood Vaccination Coverage Statistics - Regional Time Series



Vaccination Selected

Multiple Vaccinations Selected

Earliest Year  
2009-10

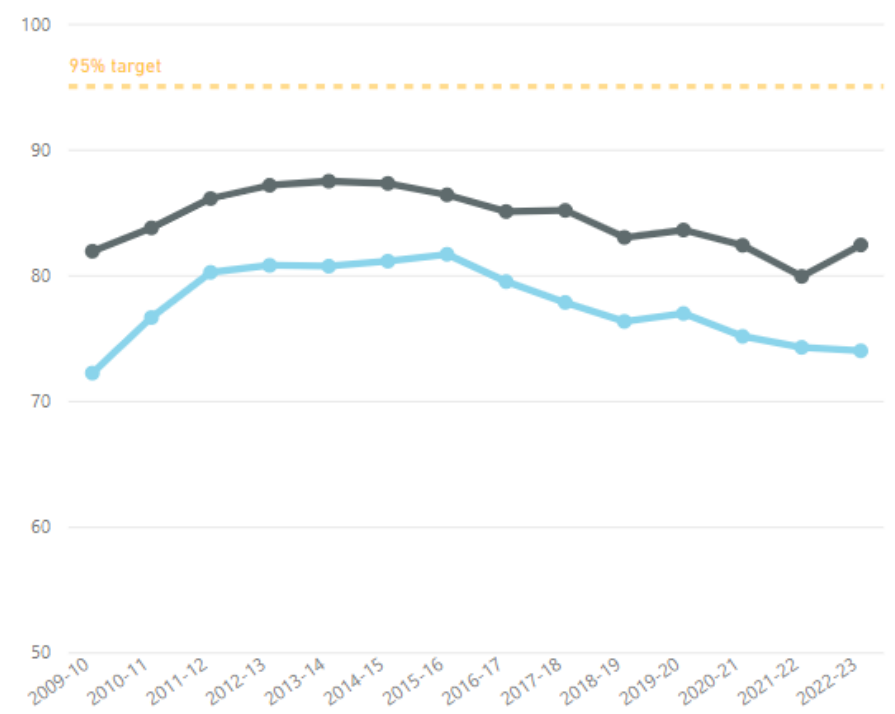
Latest Year  
2022-23

Years Shown  
14

Region

London

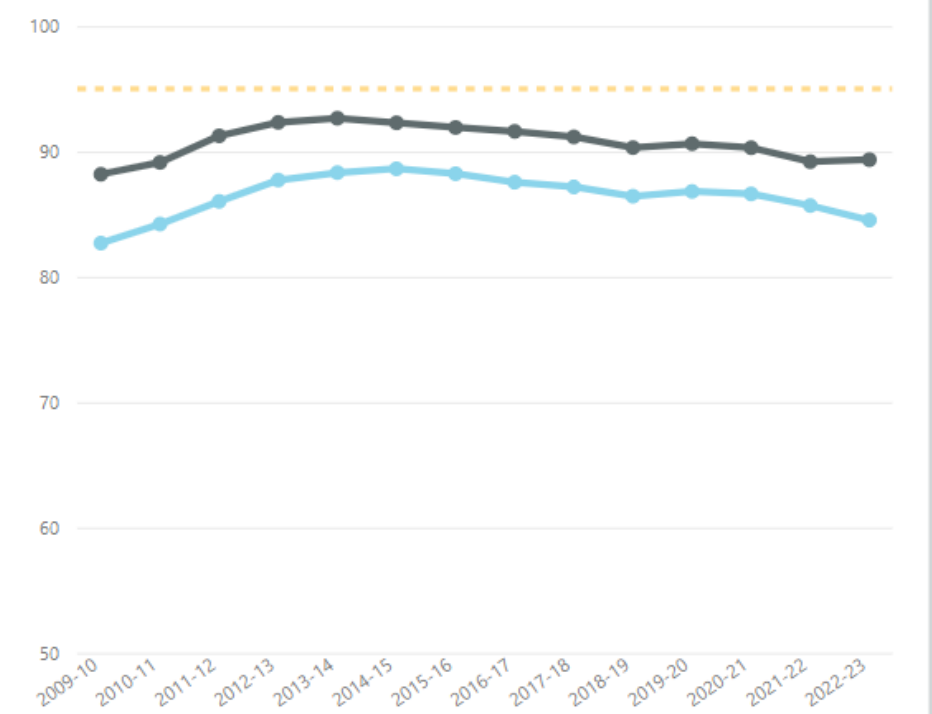
Region coverage (%)



Country

England

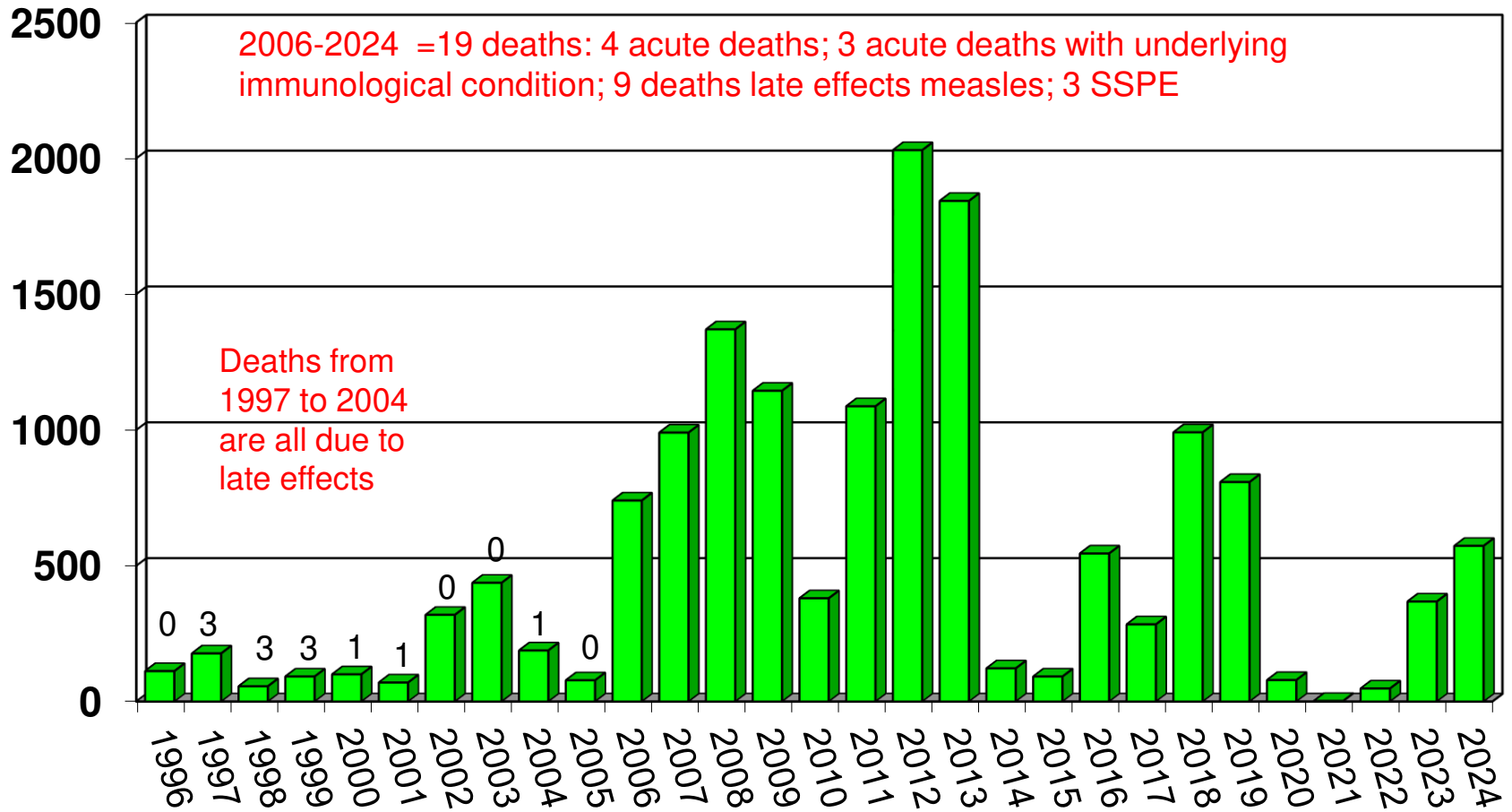
Country coverage (%)



● MMR1 at 24m ● MMR2 at 5y



# Measles - confirmed cases and deaths England & Wales 1996-2024



# Measles elimination - UK

- 2016 – UK achieved elimination status for rubella in 2016
- 2016 - UK achieved measles elimination status
- 2018 - UK lost elimination status due to re-established endemic transmission of measles due to outbreak linked to a measles resurgence across Europe.
- 2021 - UK regained measles elimination status based on a significant decline in measles circulation globally due to the COVID-19 pandemic
- 2022 – status pending

# Potential for measles outbreaks – 2023

- In UK target of 95% uptake with two doses MMR never been met
  - Years of sub optimal uptake
  - ‘Wakefield cohort’
- Current uptake lowest for a decade
- Risk of widespread transmission of measles – UK epidemic low
- However – unvaccinated teenager and young adult cohorts are at risk

HEALTH

## London at ‘real risk’ of measles outbreak with tens of thousands of cases

Poor vaccination rates have left children vulnerable to the infection

Kat Lay, Health Editor

Friday July 14 2023, 2:00pm,  
The Times

Health London



About one in ten children have not had both MMR doses when they start school; in London it is one in five  
ALAMY

- **Current level of coverage measles outbreak of 40,000-160,000 cases could occur in London unless vaccine coverage improves**

UK Health Security Agency. Risk assessment for measles resurgence in the UK [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1170146/risk-assessment-for-measles-resurgence-in-the-UK-2023.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1170146/risk-assessment-for-measles-resurgence-in-the-UK-2023.pdf)

# England is battling its biggest measles outbreak in 10 years amid spiralling cases in the West Midlands

- Latest data revealed a 118 people have contracted the virus in the last week
- It takes the total cases to 465 – higher than the last major outbreak in 2013

By **KATE PICKLES** HEALTH EDITOR FOR THE DAILY MAIL

**PUBLISHED:** 16:52, 8 February 2024 | **UPDATED:** 18:57, 8 February 2024

By **Kate Pickles**  
Health Editor

MEASLES cases have soared to the highest level in more than a decade, official figures show.

Latest UK Health Security Agency data revealed a further 118 people have contracted the virus in the past week alone – half as many as for the entire month of January.

It takes the total number of confirmed cases to 465 – higher than the last major outbreak in 2013 – amid concerns that attempts to contain the spread are not working.

Health officials said the West Midlands remains at the heart of the outbreak, while cases in London are also on the rise. Dr Vanessa Saliba, consultant epidemiologist at the UKHSA, said it

'continues to be a concern' and urged parents to make sure their children are fully protected.

She said: 'Measles is highly infectious and there is a real risk it will spread to other areas.'

'Parents should be aware that measles is a nasty illness for most children and for some can be very serious and life changing, but it is completely preventable.'

'Vaccination is the best way to protect yourself and your children. I strongly urge parents to protect their child now.' The latest rise in

weekly cases takes the number of confirmed cases way above levels in July 2013 – the last significant outbreak – when around 300 were recorded.

The majority (66 per cent) have been in children under the age of ten, with a quarter (25 per cent) in young people and adults over the age of 15, health officials said.

Almost three-quarters (71 per cent) have been in the West Midlands, 13 per cent in the capital and 7 per cent in Yorkshire and the Humber. Falling uptake of the Measles Mumps Rubella

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## Now measles cases at highest level in 10 years

16 National

### New measles alert after cases found in every region of England

**Andrew Gregory**  
Health editor

Millions of parents have been issued with a fresh warning to ensure their children are vaccinated against measles, as new figures show cases have emerged in every region in England.

The UK Health Security Agency (UKHSA) was forced to declare a national incident last month after a major outbreak in the West Midlands saw hundreds of children develop the potentially deadly disease.

Yesterday, an epidemiology report published by the agency revealed clusters of cases have now been

recorded hundreds of miles away from the original hotspot, in every part of the country. Cases have been found in London, the north-west, the north-east, Yorkshire and the Humber, the East Midlands, the east of England, the south-east and the south-west, UKHSA said.

Dr Vanessa Saliba, consultant epidemiologist at the UKHSA, said: 'As expected, due to worryingly low MMR [measles, mumps and rubella] vaccine uptake in some areas, we are starting to see clusters of cases in other regions. While parents are



▲ Hundreds of thousands of children in England remain unvaccinated

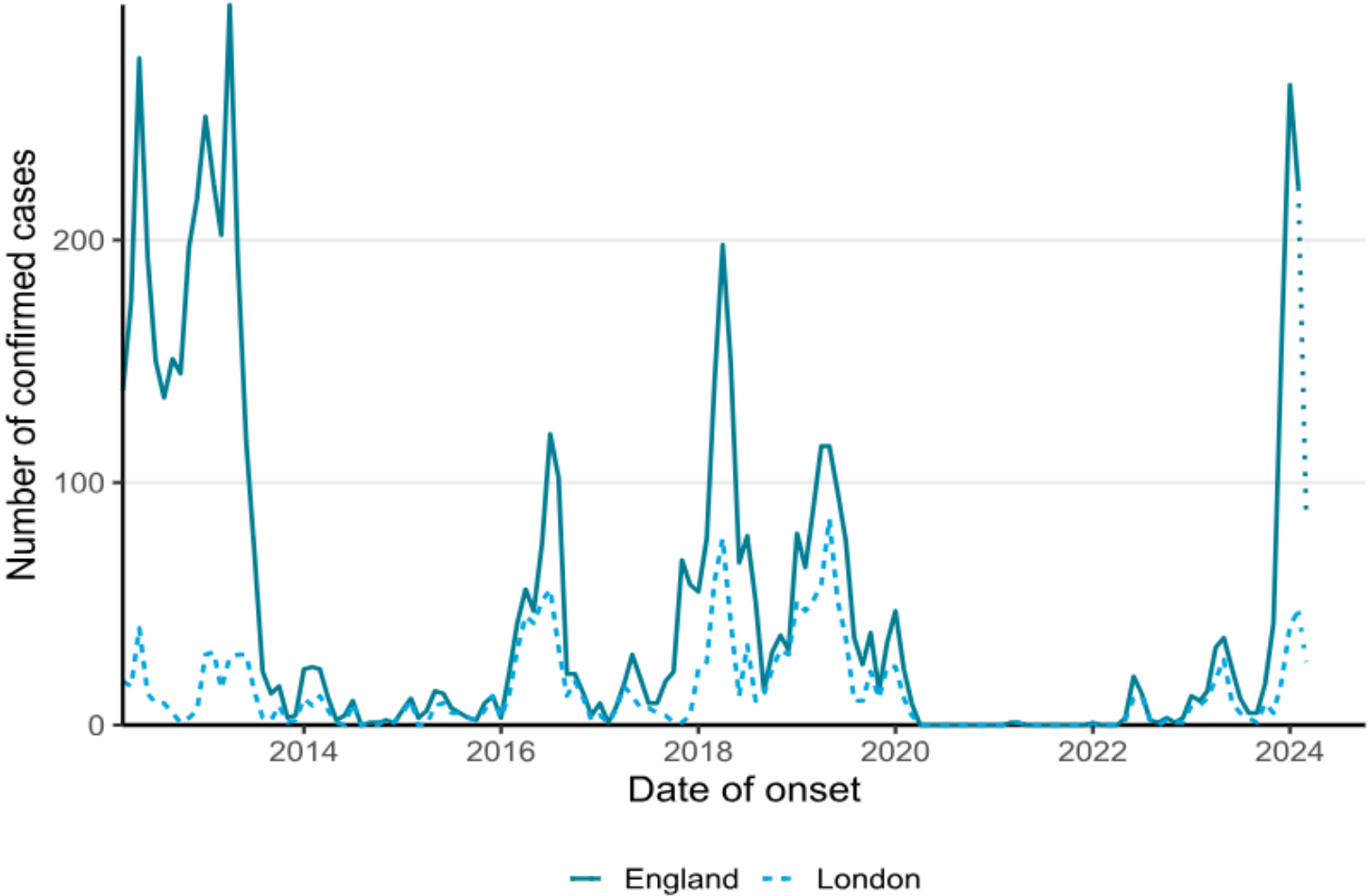
The Guardian Friday 16 February 2024

coming forward to take up the offer of the MMR vaccine for their children, there are still hundreds of thousands of children who remain unprotected and therefore remain at risk of serious complications or lifelong disability, but measles is completely preventable with vaccination.

'I strongly urge parents to take up the offer of the MMR vaccine now to make sure their child is protected.'

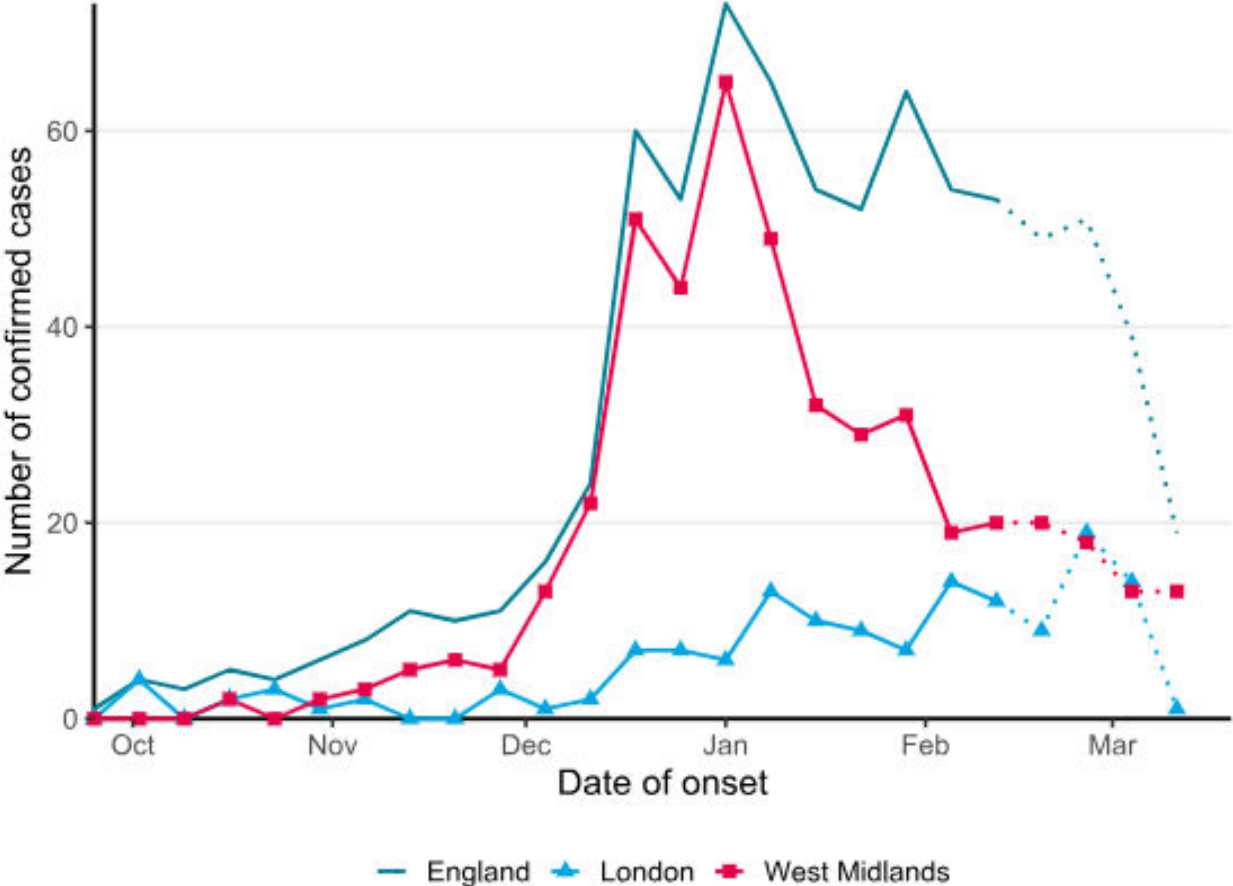
There have been an additional 56 cases in the past week, according to the UKHSA data, bringing the total number since October last year to 521.

# Laboratory confirmed cases of measles by month of onset of rash or symptoms reported, London and England: 1 March 2012 to 18 March 2024



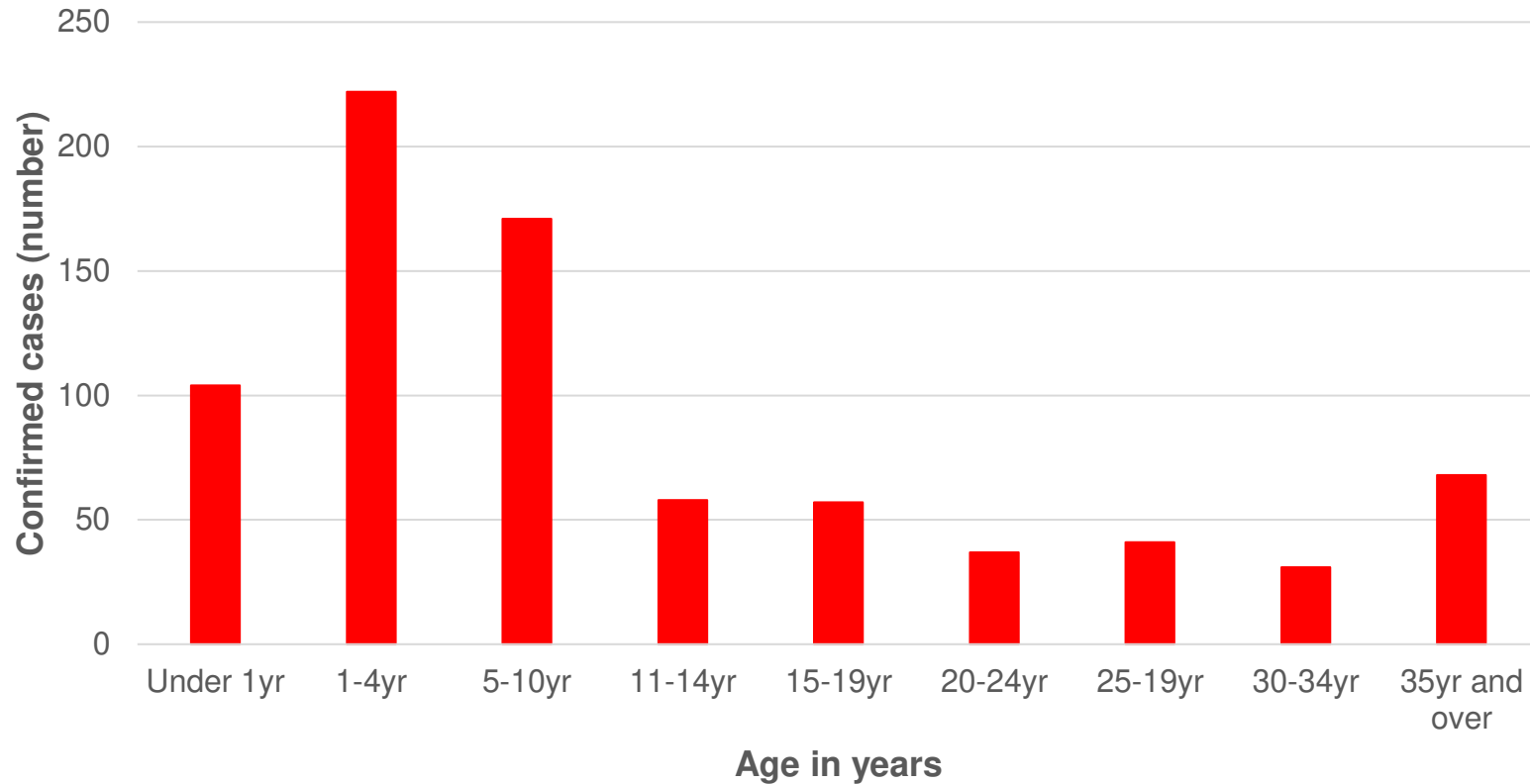
<https://www.gov.uk/government/publications/measles-epidemiology-2023/national-measles-standard-incident-measles-epidemiology-from-october-2023>

# Laboratory confirmed cases of measles by week of onset of rash or symptoms reported, London, West Midlands and England: 1 October 2023 to 18 March 2024



<https://www.gov.uk/government/publications/measles-epidemiology-2023/national-measles-standard-incident-measles-epidemiology-from-october-2023>

## Confirmed measles cases by age (total = 789) England 1/10/2023- 18/03/2024



[https://www.gov.uk/government/news/latest-measles-statistics-published?utm\\_medium=email&utm\\_campaign=govuk-notifications-topic&utm\\_source=5a60d94b-4bb3-4091-92d8-39ad49e06112&utm\\_content=daily](https://www.gov.uk/government/news/latest-measles-statistics-published?utm_medium=email&utm_campaign=govuk-notifications-topic&utm_source=5a60d94b-4bb3-4091-92d8-39ad49e06112&utm_content=daily)



# NEWS

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## Parents of baby with measles in vaccination plea



FAMILY

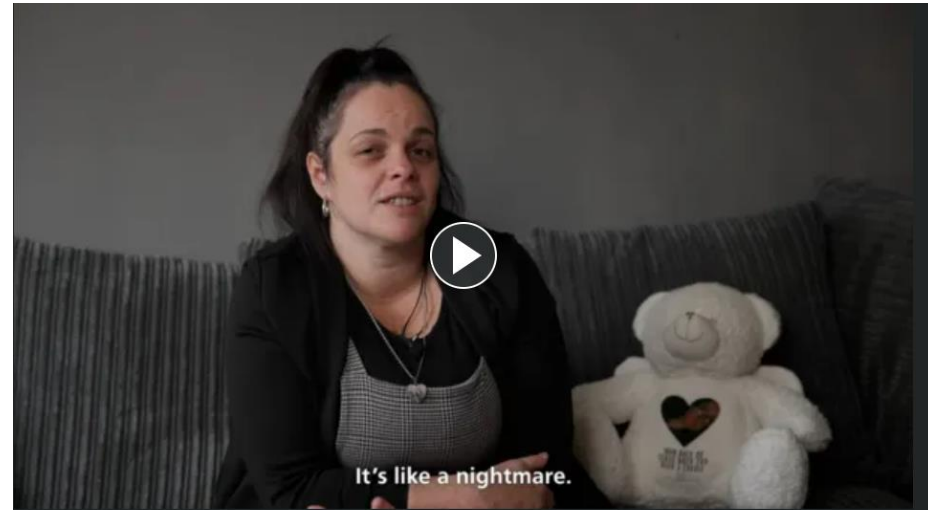
Ezra was too young to receive his first MMR vaccination

**Phil Mackie** **Katie Thompson**  
BBC News BBC News

31 January 2024

The parents of a four-month-old baby who caught measles are urging people to get their children vaccinated after cases doubled in three weeks in the West Midlands.

Ezra spent six days in hospital earlier this month after what started as a cold turned out to be measles.



Health > News Health

## HORROR ORDEAL Mum's warning to all parents after her 'fit and healthy' daughter, 10, died a DECADE after 'mild bout of measles'

Plus, all your questions on the MMR vaccine answered

Isabel Shaw, Health reporter

Published: 13:27, 22 Mar 2024 | Updated: 14:13, 22 Mar 2024



# Action in response to measles threat

Staged process of seeking out and contacting all those not had appropriate doses of MMR

- 1 November 2023 – 12 months rising 6 years
- 5 February 2024 – 6 years rising to 11 years
- 5 February 2024 – 11 years rising to 16 years\*
- 19 February 2024 – 16 years to rising 26 years\*

\*London and parts of West Midlands only

All finished by end of March 2024.....



UK Health  
Security  
Agency

## National measles guidelines

February 2024



# Think measles



### Cases are rising...

People who have not been vaccinated with 2 doses of MMR vaccine can get measles.

"Think measles" when treating children, young people and anyone from an under-served community.

### Symptoms to look out for:

- Aching and feeling unwell
- High fever
- Rash – sometimes starting behind the ears\*
- Sore red eyes
- Cough
- Runny nose



\*Images of the rash on different skin tones can be seen using the QR codes.

Measles is a serious illness that is highly infectious. If you suspect measles:

- ensure the patient is in an area where they cannot pass the infection to other vulnerable people such as infants, the immunocompromised and pregnant women.
- immediately notify your local Health Protection Team (HPT)

Remember, the best way of preventing measles is vaccination.

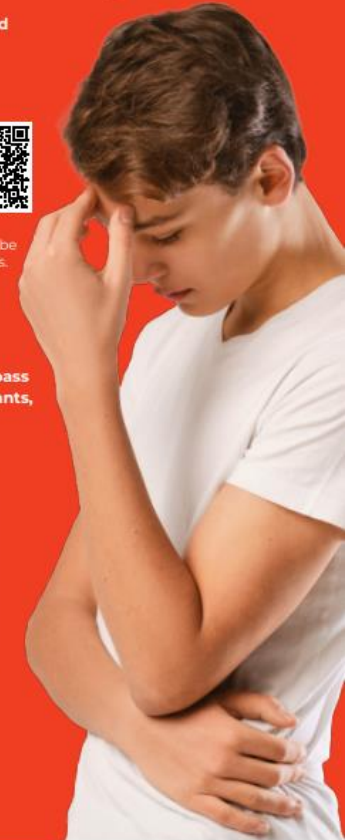
Use every opportunity to check immunisation history and offer MMR to those who haven't had two doses.

For more information go to:  
<https://cks.nice.org.uk/topics/measles/>

**RCPCH**  
Royal College of  
Paediatrics and Child Health  
*Leading the way in children's health*

**RCGP** Royal College of  
General Practitioners

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The Royal College of Paediatrics and Child Health (RCPCH) is a registered charity in England and Wales (1057744) and in Scotland (SC038299).



# MMR pop-up vaccine clinics available in the Black Country

23 January 2024

You are here: [Home](#) > [News and events](#) > [Latest news](#) > [MMR pop-up vaccine clinics available in the Black Country](#)

Due an increase in measles cases across the West Midlands, more pop-up vaccination clinics have been set up in the Black Country to help ensure people are up to date with their measles, mumps and rubella (MMR) jab.

Children aged five and over and any adults who are yet to receive both doses of the MMR vaccine are invited to come forward.

Measles is a highly infectious disease which can lead to serious complications such as severe lung infections and inflammation of the brain. It also damages and suppresses the whole immune system, meaning children can be left much more susceptible to catching other illnesses.

Measles cases are increasing locally

**Have you and your children had the MMR vaccine?**

Pop-up measles, mumps and rubella (MMR) vaccine clinics are available for children aged 5 years and over and adults who have missed a dose. Book now.



[supporting you](#) [our social value](#) [your feedback](#) [get involved](#)

## New community film spotlights the need for measles vaccination in our area

29th January 2024

A new film about the measles, mumps and rubella (MMR) vaccine launches in Bristol today, a collaboration between the Bristol Somali community and community health partners. The timely video launches as local health leaders are urging people to check if they have had their MMR vaccine following a national rise in measles cases.

The short film, titled 'Let's talk about MMR' is aimed at people aged 17 to 30 of Somali heritage. It features young people from the Somali community, including Dr Asha Mohamed from University Hospitals Bristol & Weston (UHBW), discussing the symptoms and possible side effects of catching measles, mumps and rubella. It also explains how two doses of the MMR vaccine provides very high protection against these serious illnesses.



## NEWS

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[Health](#)

## Measles campaign features children pleading for jabs in England

29 February





# Measles globally

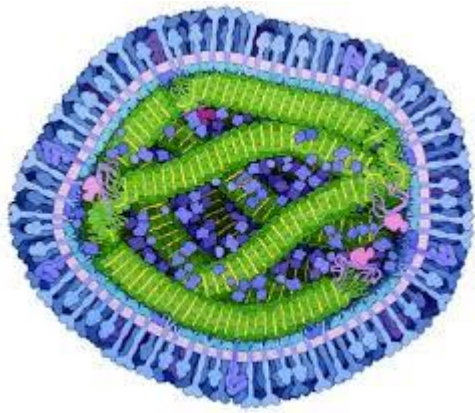
- Increase in cases and outbreaks globally in 2023 cf 2020-2022
  - Yemen, India, Ethiopia
- WHO European Region – over 58,000 cases reported by 41 of 53 countries
  - 21,000 hospitalisations; 10 deaths

“Health systems in the WHO European Region have some catching up to do to rapidly reach the 1.2 million children who missed their measles vaccine between 2020 and 2022 while continuing with routine immunization,” noted Dr Hans Henri P. Kluge, WHO Regional Director for Europe.

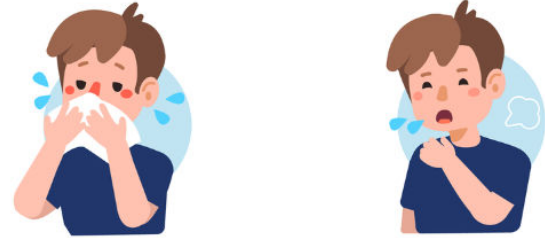
## UK Routine Child & Adolescent Immunisation Schedule – changes **2025**

Age	Vaccine
8 weeks	DTaP/IPV/Hib/hepB & MenB & rotavirus
12 months	DTaP/IPV/Hib/hepB & PCV & rotavirus
16 weeks	DTaP/IPV/Hib/hepB & MenB
12 – 13 months	<div style="background-color: #cccccc; width: 150px; height: 55px; display: inline-block;"></div> PCV & MenB & <b>MMRV</b>
<b>18 months</b>	<b>DTaP/IPV/Hib/hepB &amp; MMRV</b>
2 – 15 years	Influenza vaccine
3 yrs 4 months	<div style="background-color: #cccccc; width: 75px; height: 55px; display: inline-block;"></div> DTaP/IPV
12-13 yrs	HPV (& boys from Sept 2019)
14 yrs	Men ACWY
14 yrs	Td/IPV

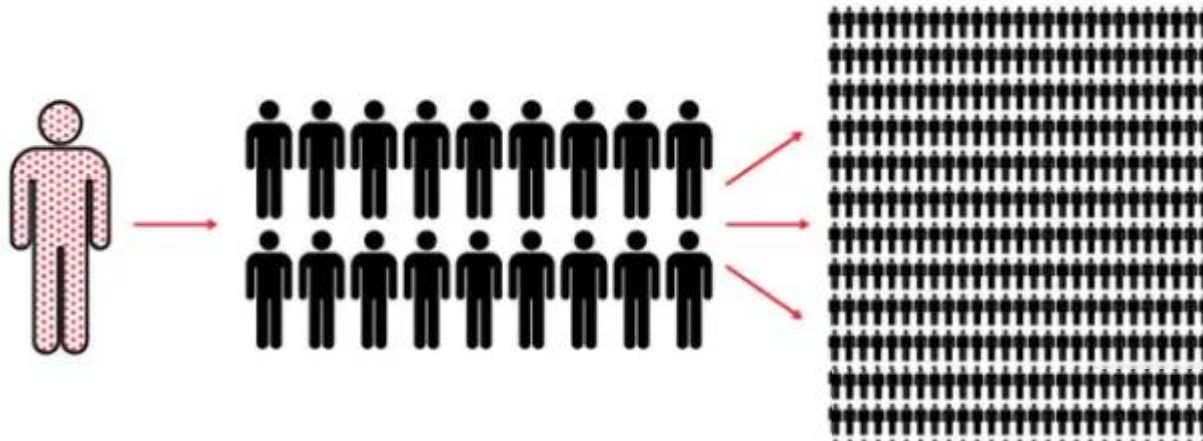
ANY  
QUESTIONS  
?



member of the genus Morbillivirus in the family Paramyxoviridae.

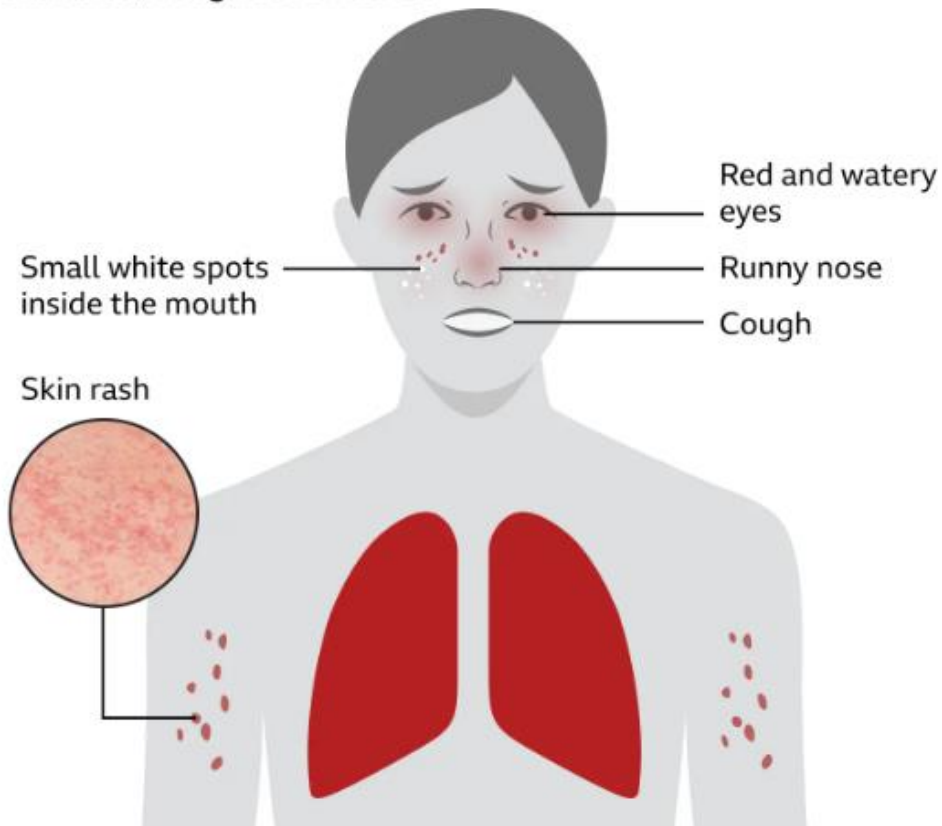


$R_0$  12-18: one person with measles can infect up to 12-18 susceptible people



## Symptoms of measles

Highly contagious disease spread when an infected person breathes, coughs or sneezes



Note: Measles can lead to serious and potentially life-threatening complications in some people, including infections of the lungs and brain.

Source: World Health Organization, UK National Health Service

BBC



Photo: Susannah George

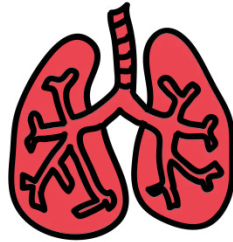




# Complications are common



Otitis media  
7-9% (1 in 12)



Pneumonia  
1 – 6% (1 in 16)



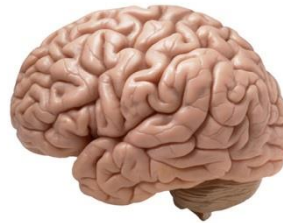
Fits (seizures)  
1 in 200



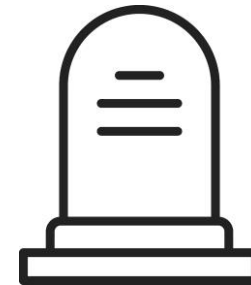
Inflammation of the  
brain (encephalitis)  
1-4 per 1000 -2000



Idiopathic  
thrombocytopenic purpura  
(ITP) 1 in 3,000



Sub acute sclerosing  
panencephalitis (SSPE)  
1 in 25,000  
higher if measles <2 years  
1 in 8000



death  
1-3 per 1000  
(in high income countries)