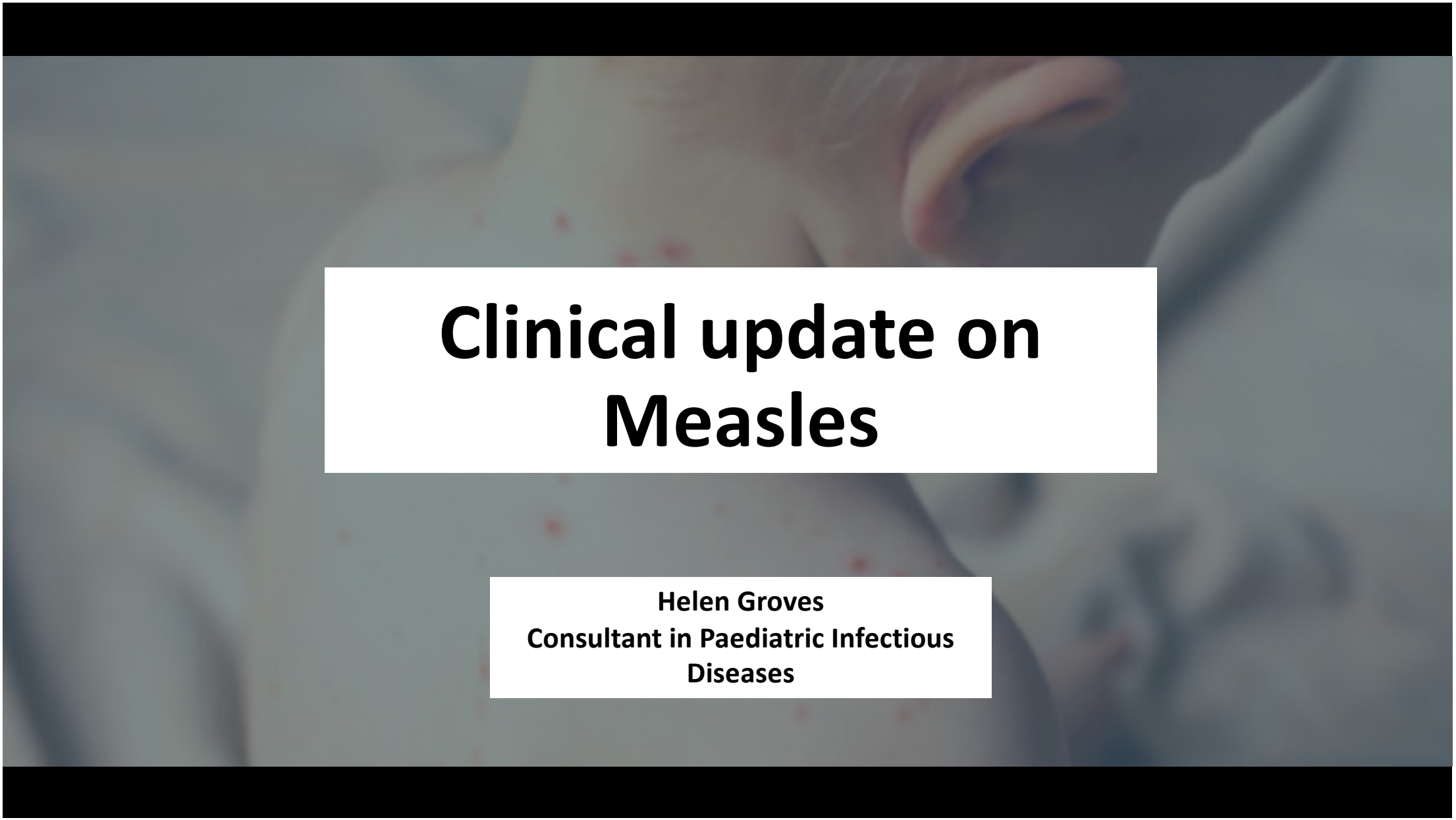


Clinical update on Measles

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Overview

- Status of cases in England and NI
- Refresher on measles clinical presentation and differentials
- Measles complications overview
- Management of suspected/confirmed cases

Measles outbreak England:
UKHSA data update 22nd February 2024

- Since 1st Oct 2023: 581 confirmed cases (60 in previous week)
  - 47% West Midlands – mostly Birmingham
  - 14% London
  - 14% North West
  - 11% East Midlands
  - 10% Yorkshire and the Humber

- 65% <10 years old
- 27% >15 years old

NI cases status

The number of notified clinically suspected measles cases from the start of 2023

	2023	2024
	(N=19)	(N=34)
Infection		
Confirmed	0 (0%)	2 (5.88%)
Probable	0 (0%)	9 (26.5%)
Possible	19 (100%)	23 (67.6%)

https://www.publichealth.hscni.net/directorates/public-health/health-protection/surveillance-data/measles

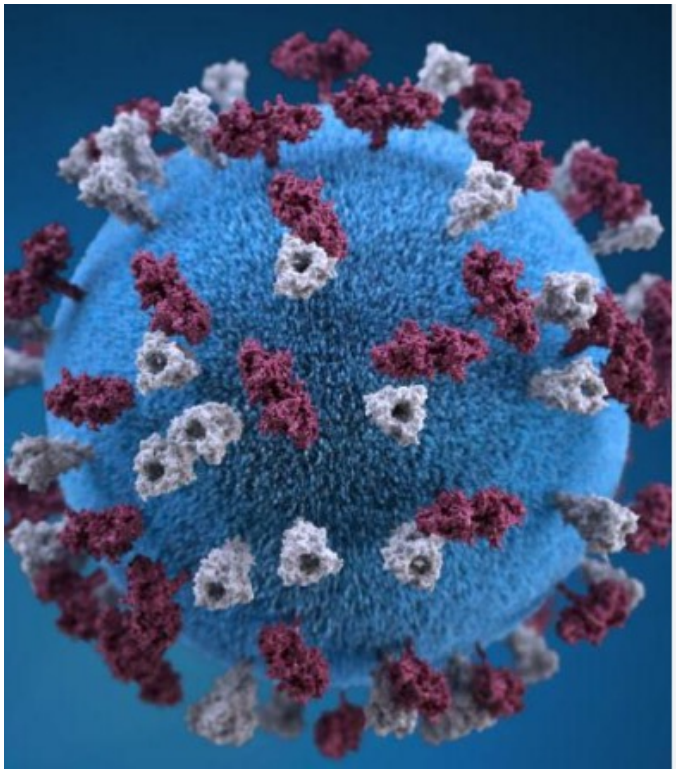
Measles clinical features

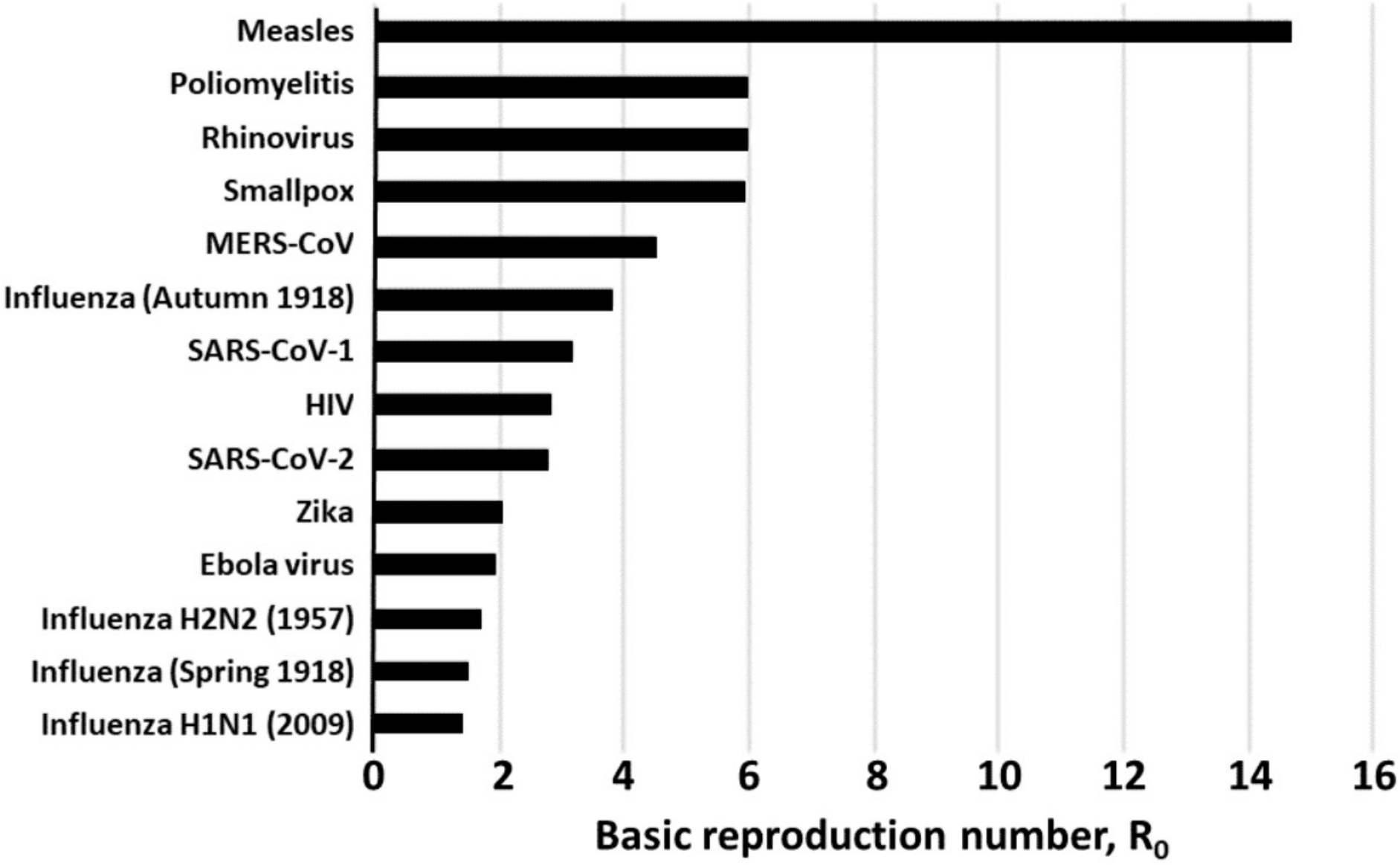


Spread

- Transmitted by:
  - Airborne
  - Direct contact with infectious droplets

- Highly contagious:
  - 90% of susceptible household contacts will develop illness
  - Incubation period 7-21 days
  - **Infectivity 4 days pre/4 days post rash onset**



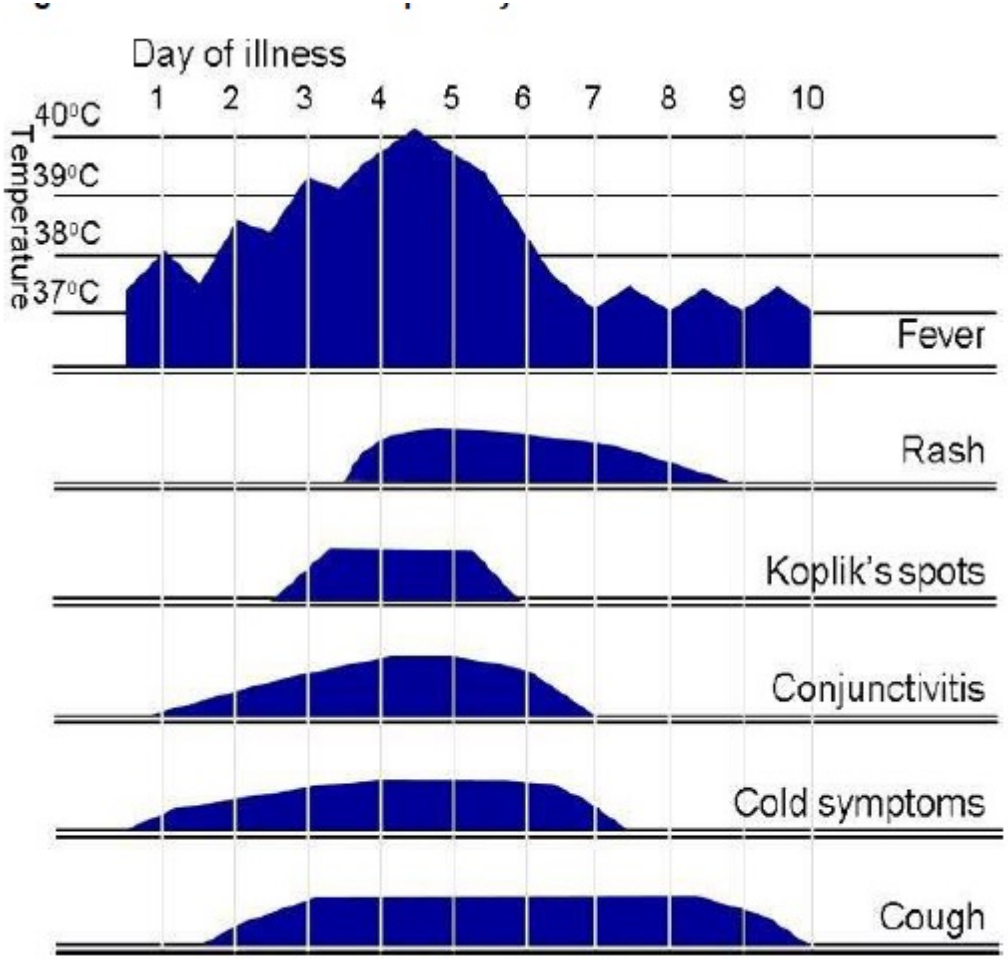

Measles
Poliomyelitis
Rhinovirus
Smallpox
MERS-CoV
Influenza (Autumn 1918)
SARS-CoV-1
HIV
SARS-CoV-2
Zika
Ebola virus
Influenza H2N2 (1957)
Influenza (Spring 1918)
Influenza H1N1 (2009)
0
2
4
6
8
10
12
14
16
Basic reproduction number, R_0

Clinical features of Measles

Clinical features	Symptoms

Classical primary measles: generally very unwell and considered measles until proven otherwise	• fever equal to or over 39°C in the absence of antipyretics, and
	• generalised maculopapular rash, and
	• one or more of:
	  ○ conjunctivitis
	  ○ cough
	  ○ coryza

Clinical features



Source: WHO Manual for the laboratory diagnosis of measles and rubella infection



Measles Rash

- Typical presentation:
  - Starts on face, at hairline, or behind ears
  - Spreads downwards to neck, trunk, extremities
  - Maculopapular
    - Small raised or flat red bumps
    - Spots may join together as the rash spreads
  - Not usually itchy
  - Koplik spots may be present on buccal mucosa





Koplik Spots

https://www.nhs.uk/conditions/measles

NI case definitions

- **Confirmed case**: A suspected case with laboratory confirmation of acute infection.

- **Probable case**: A clinically classical case of measles with epidemiological features that either increase the likelihood of the individual having been exposed and/or favour the diagnosis of measles relative to other causes of rash illness.

- **Possible case**: A suspected case of measles which does not meet the definition of a likely case, either because it is not clinically classical or because the epidemiological context is not suggestive of measles.

Epidemiological factors to consider

1. Link to known case of measles

2. Recent travel outside NI to area where measles is circulating

3. Unvaccinated or incomplete or uncertain vaccine history

4. Member of community where vaccination rates are known to be low

Differentials to consider

- **Scarlet fever (GAS)**
- Roseola (HHV6/sixth disease)
- Fifth disease (Parvovirus ‘slapped cheek’ syndrome)
- Infectious mononucleosis
- Enteroviruses (e.g. hand, foot, mouth)
- Other
  - Travel related e.g. Dengue, Zika, Chikungunya



Slapped Cheek rash



HFM

Complications

Complication	Incidence rate
Diarrhoea	8%
Otitis Media	7-9%
Pneumonitis	1-6%
Hospitalization	1 in 4
Encephalitis	1 per 1,000
Death	1-3 per 1,000
SSPE	7-11 per 100,000

UKHSA - Hospitalisation rates vary by age but range from 20 to 40%

Bellini WJ et al. J Infect Dis 2005;192:1686–93

Management of suspected/confirmed case

- Isolate promptly away from other patients pending clinical assessment
- Exclude from school/work/nursery and stay at home pending test results
  - **If confirmed** – isolate until four days after rash onset
  - **Remember -** Immunosuppressed individuals may be infectious for longer and may not display typical symptoms
- Notify Public Health
- Management is supportive (no good evidence for antivirals)

Public Health Agency Notification

- Measles is a notifiable disease

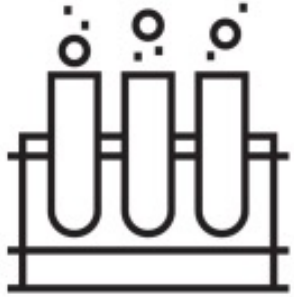
- **ALL** suspected cases should be reported promptly to Health Protection Duty room or on-call service between 8am to 8pm
  - 0300 555 0119 (Mon-Fri 9-5)
  - NI Ambulance Control out of hours (02890404090)

Laboratory Testing for Measles (NI testing)

- Dry throat or mouth swabs **clearly labelled for measles PCR** to RVL if within 6 days of onset of rash

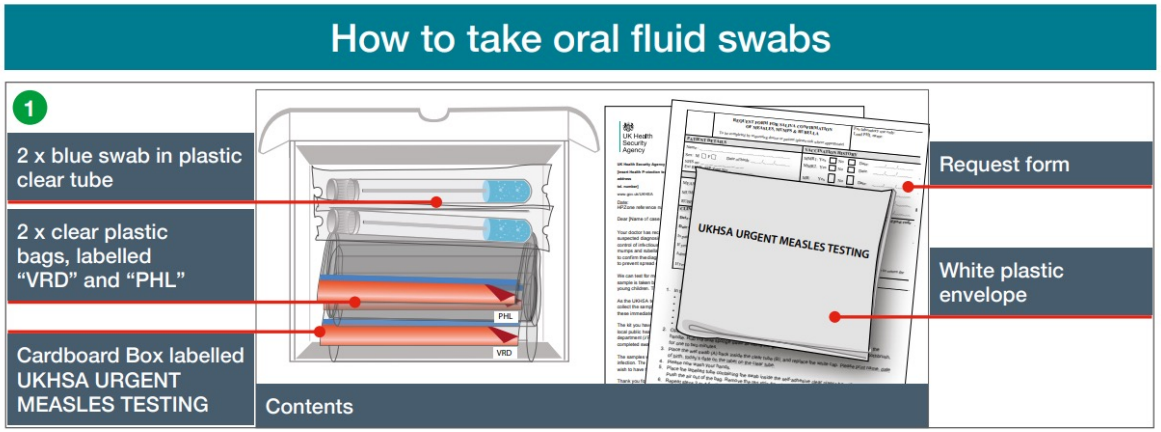
  - See Belfast Trust Virology Website for lab request form https://rvl-belfast.hscni.net/documents-forms/

- PHA can arrange for oral swabs to be sent to the clinician/patient directly for postage to National ref lab



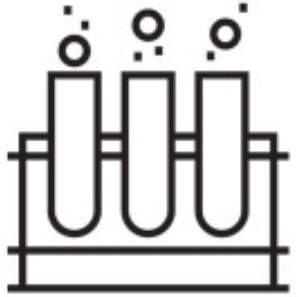
Laboratory Diagnosis of Measles (UKHSA guidance)

- Oral fluid → optimal sample
  - Measles IgM/IgG and EIA testing, as well as viral RNA detection by PCR



https://www.youtube.com/watch?v=zR0dankzUJ4

MMR-How to take an oral fluid swab - Gov.uk



At risk groups







Any questions?



References

- National measles guidelines. UKHSA. January 2024
- Preventing a measles resurgence in Northern Ireland letter. PHA. 26th Jan 2024