

Assignment

Group Discussion

Measles Case Study

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Introduction

Measles is a viral infection caused by the measles virus. It spreads very easily from person to person through droplets released into the air when an infected individual coughs, sneezes, or talks. The disease is most common in children but can affect people of any age who are not fully vaccinated. Symptoms usually begin with a fever, cough, runny nose, and red, watery eyes. A few days later, a distinctive red-brown rash develops and spreads across the body. In some cases, measles can cause severe complications, including pneumonia, brain inflammation(encephalitis), hearing problems, and seizures.

Question 1 : (Zobia) How can measles be measured?

Recognition of Symptoms

The first step in measuring measles is identifying the symptoms. Healthcare professionals assess whether a person has a high temperature, cough, runny nose, red eyes, Koplik's spots inside the mouth, and the characteristic rash. These signs help doctors determine whether measles is suspected. WHO (2025)

Laboratory Testing

To confirm a diagnosis, laboratory tests may be carried out. Samples of saliva, blood, or urine can be collected and tested for the presence of the measles virus or antibodies produced by the immune system. Laboratory testing provides accurate confirmation of infection. UHSA(2025)

Surveillance and Case Reporting

Once a case has been confirmed, it is reported to public health authorities. This information is used to monitor the number of cases, identify outbreaks, and track how the disease is spreading within communities. Surveillance data helps health organisations understand patterns of infection and respond appropriately. NHS (June 2026)

Monitoring Vaccination Rates

Public health agencies also measure measles by monitoring vaccination coverage within the population. High vaccination rates reduce the likelihood of outbreaks, while lower rates increase the risk of transmission. A vaccination coverage of at least 95% is recommended to provide effective community protection.

Application to Roma's Case Study

Roma developed symptoms that are commonly associated with measles, including a fever, cough, Runny nose, and a rash. Healthcare professionals could use these symptoms to identify a suspected case and arrange laboratory testing to confirm the diagnosis. The reporting of Roma's illness, together with the twAn additional case identified at her school, would allow health authorities to monitor the outbreak and assess whether vaccination levels in the local community are sufficient to prevent further spread.

Qustion 2: Oksana

How can a measles outbreak be monitored?

To monitor the incidence of measles in the local community, public health authorities use several surveillance and data collection strategies, these approaches help identify new cases, detect outbreaks early, and assess the effectiveness of prevention programmes.

MONITORING METHOD

- **Surveillance and Case Finding**

Healthcare providers must inform local health authorities immediately if they suspect a case of measles (NHS ,2024)

- **Active case finding**

In areas with outbreaks or places with low vaccination rates, health authorities check schools, childcare settings, laboratory records to find unreported cases.

Public Health Agencies carefully investigate all reported cases within the first 48 hours and aim to collect samples (blood, oral fluids) within 10 days of the onset of the rash.

- **Laboratory Testing**

Testing oral fluids swabs using PCR is the main standard method to confirm an active measles infection. More reliable results are obtained when samples are tested as close as possible to the first day of rash onset. Only results from approved laboratories both local centres and the national reference laboratory –are accepted. Positive samples are studied further, and their details are added to the World Health Organisation's global data base. This helps experts understand how the disease spreads and find its source. Updated (UKHSA, 2026)

- **Community Level Strategies**

According to the UK Health Security Agency and the World Health Organisation (2024), educating people about measles helps spot cases early and control outbreaks. This includes explaining symptoms, how the disease spread, how to prevent it and the importance of vaccination. Working with local leaders and health workers help share information more widely. People also learn about good hygiene to recognise measles and why it is important to see doctor straight away if they notice symptoms. (WHO,2024)

- **Digital and Environmental Monitoring**

Health services use electronic surveillance systems to track vaccination rates and analyse data. This helps them quickly spot outbreaks and find communities or groups at higher risk of infection. (UKHSA,2026) Information from surveillance system, vaccination records and confirmed measles cases is used to monitor measles incidence and identify how the disease is spreading in local communities.

Measles monitoring in England is based on laboratory confirmation. Data are provisional and revised as new results become available (UKHSA,2026)

From 1 January to 25 May 2026, 630 measles cases were confirmed in England; most occurred in London (56%) and the West Midlands (19%). While lower than the 2024 peak, measles remains an ongoing issue across all regions of the country (UKHSA,2026)

Question 3: (Molly) How can measles be controlled?

Medication for measles-

Fever and pain relief: Acetaminophen or Ibuprofen (avoid aspirin in children because of the risk of Reye syndrome).

Fluids and rest: To prevent dehydration and aid recovery.

Vitamin A supplementation: Often recommended for children with measles, especially in severe cases, as it can reduce complications.

Treatment of complications: If a bacterial infection such as pneumonia or an ear infection develops, antibiotics may be prescribed.

(GOV.UK, 2025)

Higher risk –

Difficulty breathing

Severe dehydration

Confusion or extreme drowsiness

Seizures

Symptoms worsening rather than improving

(NHS,2025)

Treatment for measles –

A humidifier or steamy bathroom may help soothe cough and throat irritation.

Dim lighting can help if the eyes are sensitive to light.

Good nutrition supports recovery.

Recovery- **Early symptoms (2–4 days):**

- Fever
- Cough
- Runny nose
- Red, watery eyes

Rash phase (about 5–6 days):

- The rash appears and spreads from the face downward.
- Fever may remain high during the first few days of the rash.

Recovery (1–2 weeks after the rash appears):

- Fever resolves.
- Rash fades.
- Energy gradually returns.

(NHS, 2024)

References

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