Western Health and Social Care Trust

POLICY FOR THE PREVENTION AND CONTROL OF MEASLES

APRIL 2019

Western Health and Social Care Trust

Title:	Policy for the Prevention and Control of Measles		
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Ownership:	Wendy Cross, Head of Infection Prevention & Control		
Approval By:	IP&C Guidance Reference Group Chief Executive HCAI Accountability Forum Corporate Management Team Trust Board	**Approval Date:**	Circulated for comment 22 November 2018 01 March 2019 14 March 2019 04 April 2019
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Links to Other Policies, Procedures, Guidelines or Protocols:	• Disinfection and Decontamination Policy (Patient Care Equipment) • Guidelines on the Management and Collection of Specimens • Support Services Infection Prevention Cleaning Procedures • Personal Protective Equipment (PPE) Advice for Health and Social Care Trust Staff • Occupational Health: Employee Screening and Immunisation • Laundry Handling Guidelines • Infection Prevention & Control Standard Precautions Policy		

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KEY POINTS

Infectious Agent:
Measles virus.
Measles starts with a 2-4day illness ('**prodromal phase'**) before the rash appears, which typically includes fever, coryzal symptoms, cough and conjunctivitis. The latter is a more specific symptom that differentiates measles from many other causes of influenza-like illness. Symptoms typically peak on the first day of the rash.

Reservoir:
Humans.

Transmission:
The transmission route is airborne by droplet spread or direct contact with nasal or throat secretions of infected person.
Spending more than 15 minutes with someone infected with measles is sufficient time to transmit measles. In a susceptible (non-immune person) less than 15 minutes exposure to a case can lead to disease.

Clinical Signs and Symptoms:
Fever – Typically increases during the prodromal phase peaks (generally >39) around the onset, and will gradually decrease after.
The Maculopapular Rash – Generally starts on the face and behind ears. The number of lesions/ spots generally increases in the first 2-3 days, and their distribution expands further to face, trunk and can sometimes be generalised. The rash is red, blotchy, maculopapular (i.e. non-vesicular), not itchy and generally last for 3-7 days fading gradually.
Koplik Spots – Small white spots (often on a reddened background) that occur on the inside of cheeks early in the course of measles.

Complications:
Complications are frequent and can include pneumonia, otitis media and diarrhoea. Less frequently encephalitis may occur and rarely sub-acute sclerosing panencephalitis (SSPE).

Diagnosis:
Confirmation is performed on oral fluid or serum samples.

Period of Infectivity:
Patient is infectious from 4 days before to 4 days after the onset of the rash.

Incubation Period:
Typically around 10-12 days from exposure to onset of symptoms, but can vary from 7-21 days.

Prevention
Measles, Mumps & Rubella (MMR) vaccination.
Non-immune staff should not provide care.

Precautions:
Contact/ airborne precautions should be applied apply.
Healthcare workers (HCWs) should wear gloves, aprons and Fluid Filter Particulate (FFP3)

masks for all contact.
Patient should be isolated, ideally in a NEGATIVE PRESSURE room.

1.0 INTRODUCTION

1.1 Background

Measles is one of the most highly infectious diseases known. Measles can be severe in susceptible infants, pregnant women and immunocompromised individuals. The most effective way to control measles is by active immunisation, using the Measles, Mumps & Rubella (MMR) vaccination.

1.2 Purpose

This policy document provides advice on the risk assessment and management of patients with confirmed or suspected measles. It aims to eliminate or minimise the risk of transmission to healthcare workers (HCWs) and others coming into contact with a person with measles.

2.0 SCOPE OF THE POLICY

This policy is relevant to all HCWs, either employed by the Western Health & Social Care Trust (WHSCT) or working within the Trust in a contracted capacity, who come into contact with a patient with suspected/ confirmed measles, as well as with contacts of infected patients with measles.

3.0 ROLES/ RESPONSIBILITIES

3.1 Trust Board and Chief Executive

Have an overall governance role in Infection Prevention and Control (IP&C) in relation to staff, patients and visitors. They have a collective responsibility to ensure that patients with suspected/ confirmed measles can be managed according to the procedures set out in this policy.

3.2 Senior Managers

- Should ensure staff have access to this policy and adhere to the procedures set out in it.
- Have a key role in the co-ordination of actions required following unexpected exposure incidents/ outbreaks.

3.3 Ward Managers

Ensure that:

- Staff within their area of responsibility adhere to the procedures outlined in this policy.
- Adverse incidents are reported and managed as per Trust policy.
- Staff are provided with suitable information, instruction and training with regards to IP&C as provided during mandatory IP&C training and maintain accurate records of attendance.
- An accurate record of patient placement within the ward is maintained at all times to facilitate accurate retrospective information gathering if required.
- Staff have access to appropriate personal protective equipment (PPE).
- The IP&C Nurses are informed of any suspected/ confirmed measles patients within their ward.

3.4 All Healthcare Employees within the WHSCT

- Must be familiar with this policy.
- Have a responsibility to report any signs or symptoms of measles to the Occupational Health Department, who will give advice regarding appropriate vaccination and management of HCWs exposed to or suspected of suffering from measles.
- Contact the Occupational Health Department if they have any concerns regarding exposure to measles or require information regarding their current immunisation status.
- **All staff** required to have contact with patients are responsible for ensuring that they are compliant with Occupational Health guidance on Employee Screening and Immunisation.

3.5 Infection Prevention & Control Team

- Advise on the IP&C issues for individual patients.
- Contribute to the updating of the Policy for the Prevention and Control of Measles.
- Contribute to the management of unexpected exposure incidents within the Trust, including patients and staff.

3.6 Consultant Microbiologists

- Advise on the IP&C issues for individual patients.
- Contribute to the management of unexpected exposure incidents within the Trust, including patients and staff.

3.7 Clinician Responsible for the Patient

- Must be familiar with the guidance set out within this policy.
- Provide expert advice on the management of unexpected exposure to measles for both patient and HCWs.
- Provide clinical follow-up of all contacts.

3.8 Occupational Health Physician/ Nurse

- Is responsible for ensuring that processes are in place to screen new employees who may be required to have contact with patients with measles in accordance with the Employee Screening and Immunisation policy, and following up any staff who have had contact with a case of measles.
- Advise staff who are vulnerable or non-immune.

3.9 Patient Flow/ Bed Management Team

Are responsible for organising patient movements to isolation rooms.

4.0 NOTIFICATION

Measles remains a notifiable disease under the Health Protection Act (Northern Ireland) 1967 and therefore cases should be notified to the Public Health Agency's (PHA) Duty Room (including out of hours).

This should be by phone as soon as possible; the contact number is 0300 555 0119. Email: pha.dutyroom@hscni.net . Out of Hours: Call the PHA Doctor through NI Ambulance Control on 028 90 404045.

5.0 MINIMUM DETAILS TO BE TAKEN WHEN A CASE IS REPORTED

When a case is reported or notified to the Public Health Duty Room, the following information is essential for the risk assessment of the case.

Caller's details:

- Name, address, designation and contact number

Demographic details:

- Name, Date of Birth (DOB), sex, ethnicity, and Health and Care number (HCN)
- Address, including postcode
- Current residence if not the home address
- Contact phone number and contact details of parent if case is a child
- Occupation (if relevant)
- Place of work/ education (if relevant)
- *** GP name, address and phone number**
- *** Member of hard to reach population (e.g. travelling family)?**

Clinical/ epidemiological assessment:

- Clinical information (including onset dates for prodromal, rash and diagnosis)
- *** Immunisation history**
- *** Contact with confirmed or suspected case?**
- *** UK and non-UK travel in previous 4 weeks?**
- *** Context, such as high risk population (e.g. international students, traveller family)?**

***** Information required in addition to the routine information collected on all notifiable diseases.

6.0 LABORATORY CONFIRMATION OF MEASLES

An urgent laboratory test is only required when the public health risk is high and the epidemiological features are **not** consistent with measles.

If there are epidemiological factors to suggest measles is likely then public health action should proceed without waiting for confirmation of the diagnosis.

Samples required from a clinically suspected measles case:

- Salvia samples are usually positive for measles specific IgM on the day the rash appear. If negative, a second sample 2-6 weeks after the onset is recommended to document an IgM response and/ or IgG seroconversion.

- Oral fluid test kit – Measles IgM can now reliably be detected in saliva if the specimen is collected between 1 and 6 weeks after the onset of symptoms. (This sample can be tested for PCR if indicated Hospital).

- Arrangements should be made with the local virology laboratory**, Royal Victoria Hospital, Belfast (RVH)** if urgent IgG testing is required.

- Contact: **028 90 634606** (direct line virology laboratory), **028 90 632662**, or out of hours Virologist on call via RVH switchboard.

- Serology – Single raised IgM or a rise in IgG from specimen(s) collected 1-3 weeks after the onset of symptoms.

- The sensitivity of serum IgM assay may be slightly higher in the early phase than saliva, but serum is significantly less useful for PCR than saliva or other clinical samples.

- Culture – The diagnosis can also be confirmed by culture (in blood, nasopharyngeal swab, conjunctiva secretions and urine). Throat swab and urine can be tested for measles by PCR.

Note:

- Saliva sample taken after the onset of rash is the first line investigation for rapid confirmation of measles.
- Salivary swab kits will be sent from the PHA to the hospital concerned once notification is received.

7.0 ASSESSMENT OF CONTACTS AND CONSIDERATIONS FOR POST EXPOSURE PROPHYLAXIS

It is vital to attempt to protect vulnerable contacts. Where transmission is widespread, individual case assessment and contact tracing may not be possible to sustain. At lower levels of transmission the priority for contact tracing is to identify the following:

1. Immunocompromised contacts,
2. Vulnerable immunocompetent contacts (pregnant women, infants),
3. HCWs,
4. Healthy contacts.

7.1 Vulnerable Contacts

For all vulnerable contacts potentially exposed to a case of confirmed, epidemiologically linked or likely measles the following criteria should be addressed.

- Has there been significant exposure as advised below?

Individuals are infectious from 1 day before the beginning of the prodromal symptoms (usually about 4 days before rash onset) until 4 full days after the rash appears. Measles is one of the most contagious diseases known; less than 15 minutes exposure to a case can lead to disease in a susceptible (non-immune) person.

Thresholds for measles exposure times

Immunocompromised people exposed: if any immunocompromised person is exposed (e.g. patients with leukaemia, high dose immunosuppressant) there is a very low threshold for follow-up: even a very short exposure (minutes) should trigger investigation. In a highly immunosuppressed child who is unlikely to be immune it may even be worth considering prophylaxis where the possibility of exposure has occurred by entering a room within a short period **after** a case has been present.

Immunocompetent (pregnant or infants) people exposed: if healthy immunocompetent persons or HCWs are exposed to measles they should be followed up if there has been face-to-face contact of any length or where exposure for 15 minutes or longer in the same room has occurred.

- Is the exposed person likely to be susceptible?

Infants, pregnant women and immunosuppressed individuals should be assessed for susceptibility according to the Public Health England **Guidelines on Post Exposure Prophylaxis for Measles**.

7.2 Healthcare Workers

HCWs with patient contact should be screened to assess their level of immunity/ protection in relation to measles. Screening of healthcare workers is available through the WHSCT's Occupational Health Department.

HCWs potentially exposed to a case of confirmed or suspected measles should be followed up if there had been face to face contact irrespective of the time exposed, or exposure for 15 minutes or longer in the same room. For HCWs in high risk settings, a lower level of exposure may be considered significant.

HCWs with satisfactory evidence of protection can continue to work normally but should be advised to report to Occupational Health if they develop a fever or symptoms of measles in the next 18 days. Satisfactory evidence of protection includes documentation of having received two or more doses of measles containing vaccine and/ or a positive measles antibody test and have adhered to strict airborne precautions.

HCWs who do not have satisfactory evidence of protection should be excluded from work from the 5th day after exposure, unless they have been tested and shown to be IgG positive.

Susceptible HCWs exposed to measles should receive one dose of MMR and be excluded from work from day 5 after exposure. The HCW can return to work 21 days after the final exposure, or earlier if symptom free and found to be measles IgG positive at least 14 days after MMR was given.

HCWs who become ill with symptoms or rash should be excluded from all work until 4 full days after the onset of the rash. Treat HCW as a case and confirmation and notification should be sought in the usual way.

In the event of measles not having been suspected at the time of admission and unprotected staff and patients being exposed to a case they should be dealt with according to the algorithm at Appendix 1**.**

7.3 Other Healthy Contacts

MMR vaccination is effective post-exposure prophylaxis if given within 72 hours of exposure.

MMR can be given at any time and in the following situations:

- The individual is incubating measles,
- The individual is already immune,
- In immunocompetent persons of any age above the age of 6 months. There is no upper age limit.

MMR should be offered to any household/ social contact likely to be susceptible (children and young adults who have not had 2 doses of MMR).

When measles is circulating in the community or there is contact with a confirmed case, the first dose of MMR should be given as soon as possible, followed by the second dose given after 1 month. If the second dose is given within three months of the first dose and the child is under the age of 18 months, the child will still require the pre-school dose of MMR.

Individuals who develop symptoms of measles within 10 days of receiving post-exposure prophylaxis vaccination should be assumed to have 'true measles', unless the index case has been discarded.

Even where it is too late to provide effective post exposure prophylaxis with MMR, the vaccine can provide protection against future exposure from all three infections. Therefore, contact with suspected measles, mumps or rubella provides a good opportunity to offer MMR vaccine to previously unvaccinated individuals. If the individual is already incubating measles, mumps or rubella, MMR vaccination will not exacerbate the symptoms.

In this situation, MMR may be given from 6 months of age. Where the vaccine has been given before 12 months, immunisation with 2 further doses should be given at the normal ages.

Where children who have received the first dose of MMR require immediate protection against measles, the interval between the first and second doses may be reduced to one month.

If the child is under 18 months of age when the second dose is given, then the routine pre-school dose should be given in order to ensure full protection. To be arranged by the patient's GP.

Infants, pregnant women and immunosuppressed individuals should be assessed according to the Public Health England **Guidelines on Post Exposure Prophylaxis for Measles**.

7.4 Human Normal Immunoglobulin (HNIG) and Accessing HNIG

Children and adults with compromised immune systems, regardless of their vaccination history, who come into contact with measles, should be considered for treatment with HNIG as soon as possible after exposure – at least 5 days.

Pregnant women who are exposed to measles may be considered for HNIG. A high proportion of such women will be immune and, therefore, whenever possible a sample for measles IgG should be taken.

The hospital Pharmacy Department supplies HNIG (out of hours the pharmacy on call service via duty manager/ sister on call).

8.0 ADDITIONAL INFORMATION REGARDING THE MMR VACCINE

8.1 Pregnancy

If MMR vaccine is given to adult women, pregnancy should be avoided for one month.

Women who are already pregnant must not receive MMR. It is therefore important to enquire about their status prior to immunisation.

8.2 Immunosuppression

- Individuals with HIV infection should be immunised (measles in HIV-infected persons can be severe and often fatal), excluding severely immunocompromised (low CD4+ T-lymphocyte counts).

- Note: Administration of live vaccine should be avoided for at least three months after levels have been reached that are not associated with immunosuppression. In such cases, please consult the consultant in charge of the patient and local or national immunisation experts.

8.3 Egg Allergy

Current evidence suggests that anaphylactic reactions to MMR are not associated with hypersensitivity to egg antigens. It is recommended that patients with egg allergy should receive the MMR in primary care.

Further information about MMR vaccination can be found in "Immunisation against Infectious Disease" guidelines (known as the Green Book, Chapter 21).

9.0 MANAGEMENT OF A CASE IN HOSPITAL

In the event a case is identified in a hospital setting (wards/ Emergency Department [ED]), the patient needs to be isolated in a single room with contact precautions in place.

9.1 Contacts

Patients on the ward during the time in which the index case was infectious must be identified. Contact has been defined as being in the same room (multi-bedded bay) for a significant period of time (15 minutes or more) or face-to-face contact.

Inform the IP&C Team and/ or Consultant Microbiologist. An additional risk assessment for contacts will be required to be undertaken. This will include consideration of healthcare staff, ambulance staff and vulnerable patients.

9.2 Isolation

Droplet isolation precautions are required. All cases of confirmed or probable measles should ideally be admitted to a **negative pressure isolation room**.

9.3 Personal Protective Equipment

Staff caring for a patient of measles who has suspected/ confirmed measles should wear PPE required for respiratory isolation. Airborne precautions are essential for all contact and handling of clinical specimens, these include gloves, aprons and FFP3 mask for which they have been face fit tested.

All staff must adhere to the WHSCT 7 step handwashing technique and the World Health Organisation (WHO) 5 moments for handwashing. Particular attention must be taken during and following the removal of PPE.

9.4 Emergency Departments

When measles is confirmed as circulating in the community, signage must be placed in waiting areas advising any patient with a rash, especially if preceded by a fever, to wait in a designated area. Receptionists and triage staff must be made aware that ALL patients with a fever and rash should be fast tracked to a dedicated respiratory isolation area to minimise the risk of transmission to others.

Medical Staff are required to review patients with suspected/ confirmed measles but prior to this must confirm they have immunity before patient contact.

The PHA will undertake an assessment of other contacts in the community

10.0 MANAGEMENT OF AN OUTBREAK

In the event of a hospital or community outbreak, an outbreak meeting should be convened. Membership of the meeting can be seen in section 11.1 and 11.2.

Where an outbreak is suspected, contact the PHA immediately, followed by the IP&C Team.

Expert advice can be sought from the Immunisation and Diagnosis Unit, Virus Reference Department (020 83276017) or the Immunisation Department, HPA Centre for Infections (020 82004400).

If there is a need to undertake an immunisation programme it is important to contact the PHA at an early stage to ensure that there is a secure vaccine supply. If a large amount of vaccine may be required please contact PHA vaccine supply on 03005550119 before any decision is made to proceed with a large campaign.

As no laboratory tests are 100% sensitive and specific, particularly in the early stage, management of people at high risk (e.g. immunosuppressed individuals) will need to proceed even if the preliminary results are negative.

11.0 MEMBERSHIP OF TEAM FOR OUTBREAK MEETINGS

11.1 Trust Hospital and Non-Acute Facilities

Hospital outbreaks/ clusters will require close liaison:

- Medical Director
- Consultant Microbiologist
- IP&C Team
- Clinical Directors/ Service Managers
- Occupational Health
- PHA representative

11.2 Community (to be convened by the PHA)

In the event of a community, an outbreak control team should be convened.

An outbreak team for measles is likely to include:

- Consultant in Health Protection, PHA
- Education representative from Education Board
- Immunisation Co-ordinator
- School Nurse/ Team Leader
- GPs (if identifiable practices within the community)
- Communications Lead (PHA, Hospital Trust)
- Acute Hospital representatives (Consultant Microbiologist, IP&C Nurse, Paediatric Consultant, Medical Director)

12.0 IMPLEMENTATION

12.1 Dissemination

The policy shall be available for staff to access on the Trust Intranet.

Staff shall be alerted via Trust Communication in relation to the availability of the policy on the Trust Intranet.

12.2 Exceptions

There are no exceptions.

13.0 MONITORING

Compliance with this policy shall be monitored by the IP&C Team on a case by case basis. The IP&C Team shall address any issues not adhered to.

14.0 REFERENCES

Public Health England (2013) *Immunisation against infectious disease: The Green Book* Chapter 21 Measles. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/147968/Green-Book-Chapter-21-v2_0.pdf

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Public Health England (2014). *Measles: Guidance, Data and Analysis*. Available at: https://www.gov.uk/government/collections/measles-guidance-data-and-analysis

Public Health England (2017): *Guidelines on post exposure prophylaxis for measles* (August 2017) Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/777013/Guidance_for_measles_post-exposure_prophylaxsis.pdf

15.0 CONSULTATION PROCESS

The following staff/ groups have been consulted in the development of this policy:

- IP&C Team
- Consultant Microbiologists
- Occupational Health Service
- Medical Director
- Medical Directorate Senior Management Team
- Chief Executive HCAI Accountability Forum
- Corporate Management Team
- Trust Board

Comments received have been considered and incorporated where appropriate.

16.0 EQUALITY STATEMENT

In line with duties under the equality legislation (Section 75 of the Northern Ireland Act 1998), Targeting Social Need Initiative, Disability Discrimination and the Human Rights Act 1998, an initial screening exercise to ascertain if this policy should be subject to a full impact assessment has been carried out. The outcome of the equality screening for this policy is: **PENDING**

Major impact ☐

Minor impact ☐

No impact ☐

17.0 APPENDICES

Appendices to this policy are as follows:

- Appendix 1 – Algorithm for the Public Health Management of Suspected Cases of Measles

18.0 SIGNATORIES

Signed for and on behalf of the Western Health & Social Care Trust:

Karen Martin
Mrs Karen Martin
Infection Prevention & Control Nurse

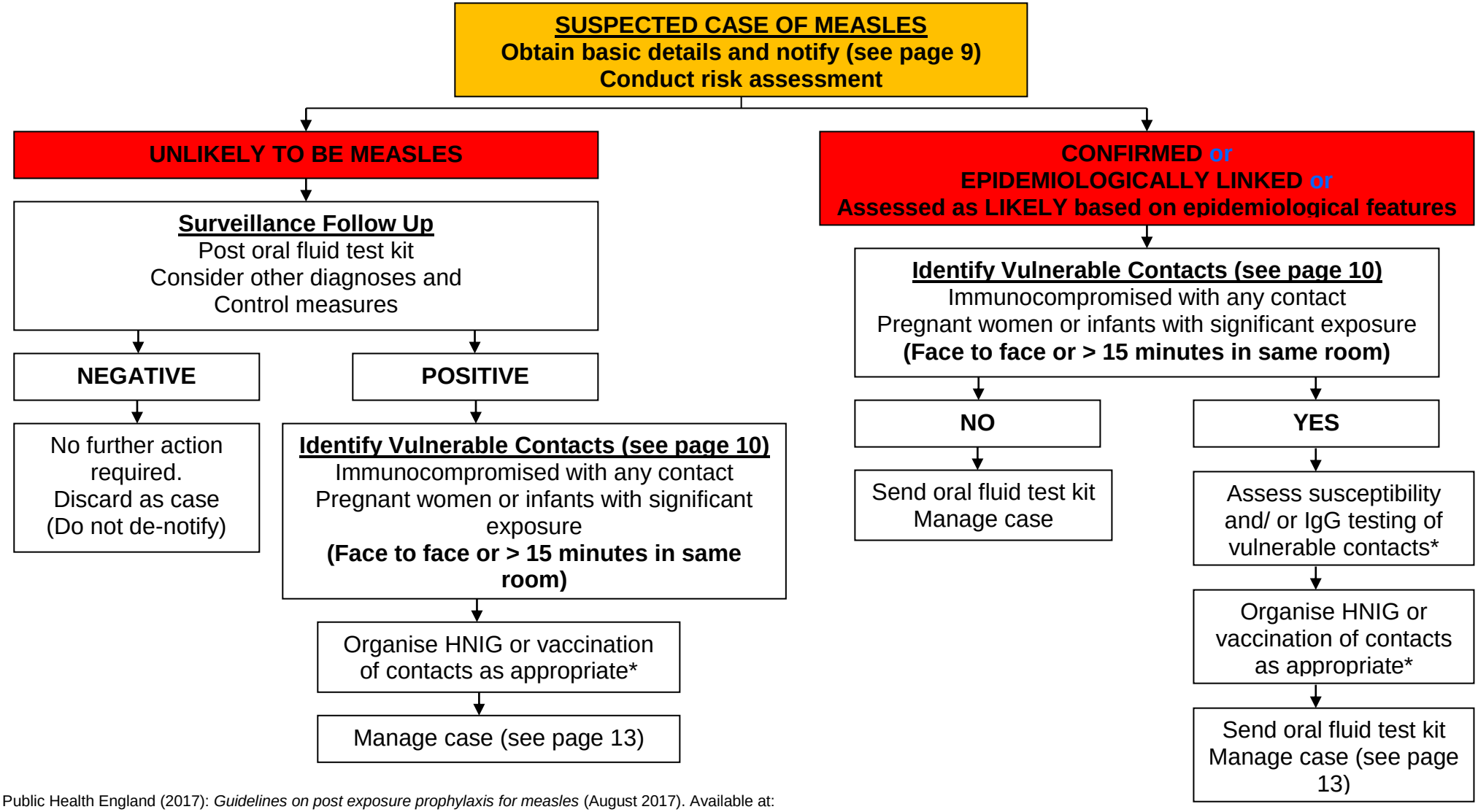
10/4/19
Date

Wendy Cross
Mrs Wendy Cross
Head of Infection Prevention & Control

09/04/19.
Date

Appendix 1

ALGORITHM FOR THE PUBLIC HEALTH MANAGEMENT OF SUSPECTED CASES OF MEASLES



Public Health England (2017): *Guidelines on post exposure prophylaxis for measles* (August 2017). Available at:
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