Prevention of Tuberculosis and Management of Tuberculosis Exposure in Health Care Workers

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Document Author:	Hilary Winch, Head of Workplace Health, Safety & Wellbeing Dr Robert Hardman, Consultant in Occupational Medicine		
Document Owner:	Hilary Winch, Head of Workplace Health, Safety & Wellbeing		
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Version History:

Version	Date	Author	Reason/Change
V5.0	May 2019	Workplace Health & Wellbeing	Update with agreed High Risk TB areas agreed by IP&C committee
V6.0	October 2022	Workplace Health & Wellbeing	Update to new Trust format / Update guidance on new entrant recruitment to protect Trust in recent increase in overseas recruitment and the impact of not using an overseas agency to undertake pre-screening of candidates

Distribution Control

Printed copies of this document should be considered out of date. The most up to date version is available from the Trust Intranet.

Consultation

This guideline has been developed by Workplace Health & Wellbeing in consultation with Respiratory Medicine, Infection Prevention & Control, Microbiology, Recruitment and the TB Group within the Norfolk and Norwich University Hospital NHS Trust.

Monitoring and Review of Procedural Document

The document owner is responsible for monitoring and reviewing the effectiveness of this Procedural Document. This review is continuous however as a minimum will be achieved at the point this procedural document requires a review e.g. changes in legislation, findings from incidents or document expiry.

Relationship of this document to other procedural documents

This document is a clinical guideline applicable to Norfolk & Norwich University Hospitals NHS Foundation Trust

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Prevention of Tuberculosis and Management of Tuberculosis Exposure in Health Care Workers

1. Quick Reference Guide 1 – New Starter screening

New Starter screening for all Health Care Workers (HCW) who are new to the NHS / transferring to the Norfolk and Norwich University Hospital from another NHS organisation. This screening process will be undertaken by Workplace Health & Wellbeing

1.1. Overseas Recruitment

- New members of staff arriving from high-risk TB countries (those countries whose rates of Tuberculosis are greater than 40/100,000 Tuberculosis by country: rates per 100,000 people - GOV.UK (www.gov.uk)) to work at the Norfolk & Norwich pose the highest potential risk to our patients. **Prior to travelling to the UK**, the new entrant should complete their pre-placement health questionnaire and include evidence of TB clearance in the form of their Visa TB certificate (valid for 6 months). If the TB visa certificate is not provided the pre-placement health questionnaire will be rejected and the candidate will have to re-submit with this evidence.
- If the Chest X ray report within this certificate indicates an abnormal chest xray, shows active TB or the individual has signs or symptoms of TB then the outcome report will indicate that they should have the necessary investigations and treatment **prior to travelling** to the UK for employment purposes.
- If they do travel prior to this occurring, this is against WHWB advice for the organisation. If their chest xray report indicates an area that needs further investigation, WHWB will advise that they are not cleared for patient facing activities and the worker will be required to seek medical intervention via a primary care provider and submit the necessary reports to WHWB to indicate that the appropriate investigation and treatment has been undertaken. WHWB will not further progress the case until these requirements have been met and will not be responsible for any active monitoring, follow up or support until they have. It will be the responsibility of the worker to provide this information to WHWB before the Pre-placement process can resume and assuming no other issues are identified clearance for patient facing activities is provided.
- All workers must be registered with the primary care provider soon after arrival in the UK prior to enable any further processing of their pre-placement process by WHWB. It is the responsibility of the employer to ensure all workers are appropriately supported and receive necessary guidance to understand how the NHS functions for them as a patient. Without registration with the primary care provider WHWB will not proceed to further testing as there would be no safe route for the worker to receive appropriate care if an issue is identified.
- If the individual submits a 'normal' CXR report prior to travelling, then an IGRA blood test will be undertaken on arrival.
    - If the IGRA test is positive and the worker is symptomatic the worker will be required to seek medical intervention via a primary care provider and submit the necessary reports to WHWB to indicate that the appropriate investigation and treatment has been undertaken. WHWB

will not further progress the case until these requirements have been met and will not be responsible for any active monitoring, follow up or support until the required documentation has been received. It will be the responsibility of the worker to provide this information to WHWB.

- If the IGRA test is positive and worker is asymptomatic, the individual will be able to commence work, but will be provided with information to be sent to their primary care provider and advised to seek a referral for latent TB investigation via their Primary Care provider. The worker does not need to agree to be referred or to agree to undergo treatment once they have been referred but the referral must be discussed and considered with them. All such workers will require a 12 monthly symptom questionnaire to be completed until such time as they choose to undergo treatment for latent TB. If not completed within a month of distribution, WHWB will inform the line manager that they are no longer cleared for patient contact. All such workers will be advised that they have a mandatory requirement to immediately report any symptoms suggested of active TB and indicate that they are not able to continue patient facing work until cleared by their primary care provider, specialist TB treatment team and occupational Health Service.
- If the IGRA test is negative then the worker can commence work and no further follow up is required.

1.2. UK recruitment / Overseas Recruitment from low risk TB areas

HCWs who are new to the NHS / transferring to the Norfolk and Norwich University Hospital from another NHS organisation who will be working with patients or clinical specimens should not start work in a TB high risk area until they have completed a TB health check (or they can provide evidence that the TB health check has been completed in the preceding 12 months). The TB health check is defined as an assessment of personal and family history, symptom questionnaire and either reliable evidence of TB skin testing in the last 5 years (or IGRA) or documented evidence of having a BCG or a BCG scar check by Occupational Health). Staff can start work in other clinical areas if the symptom check on the new starter health questionnaire does not indicate that there are any signs or symptoms of active TB.

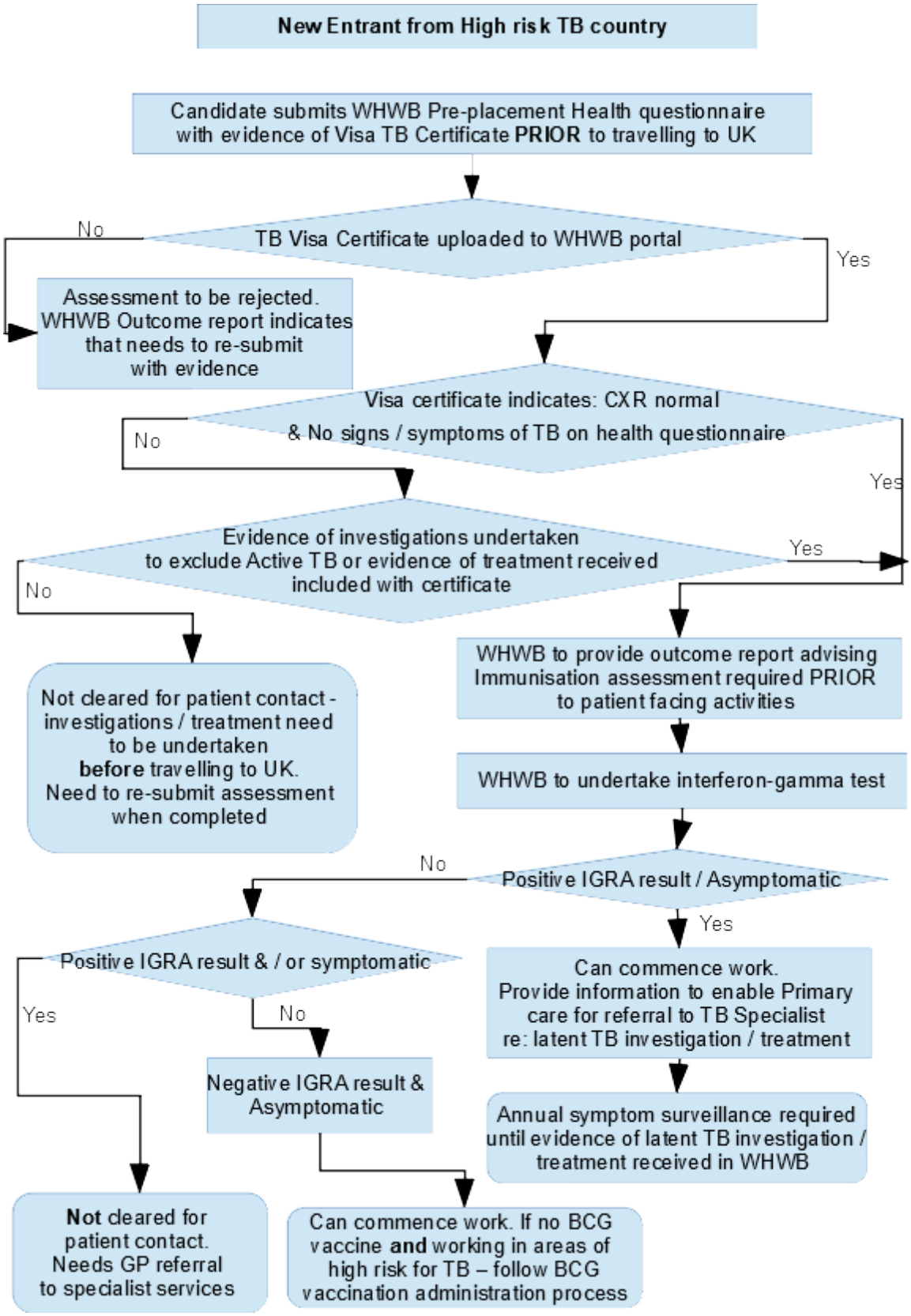
Staff who are new to the NHS / transferring from another NHS organisation who will not have patient contact or contact with clinical specimens should not start work if they have signs or symptoms of TB.

1.3. New employees working in higher TB risk areas

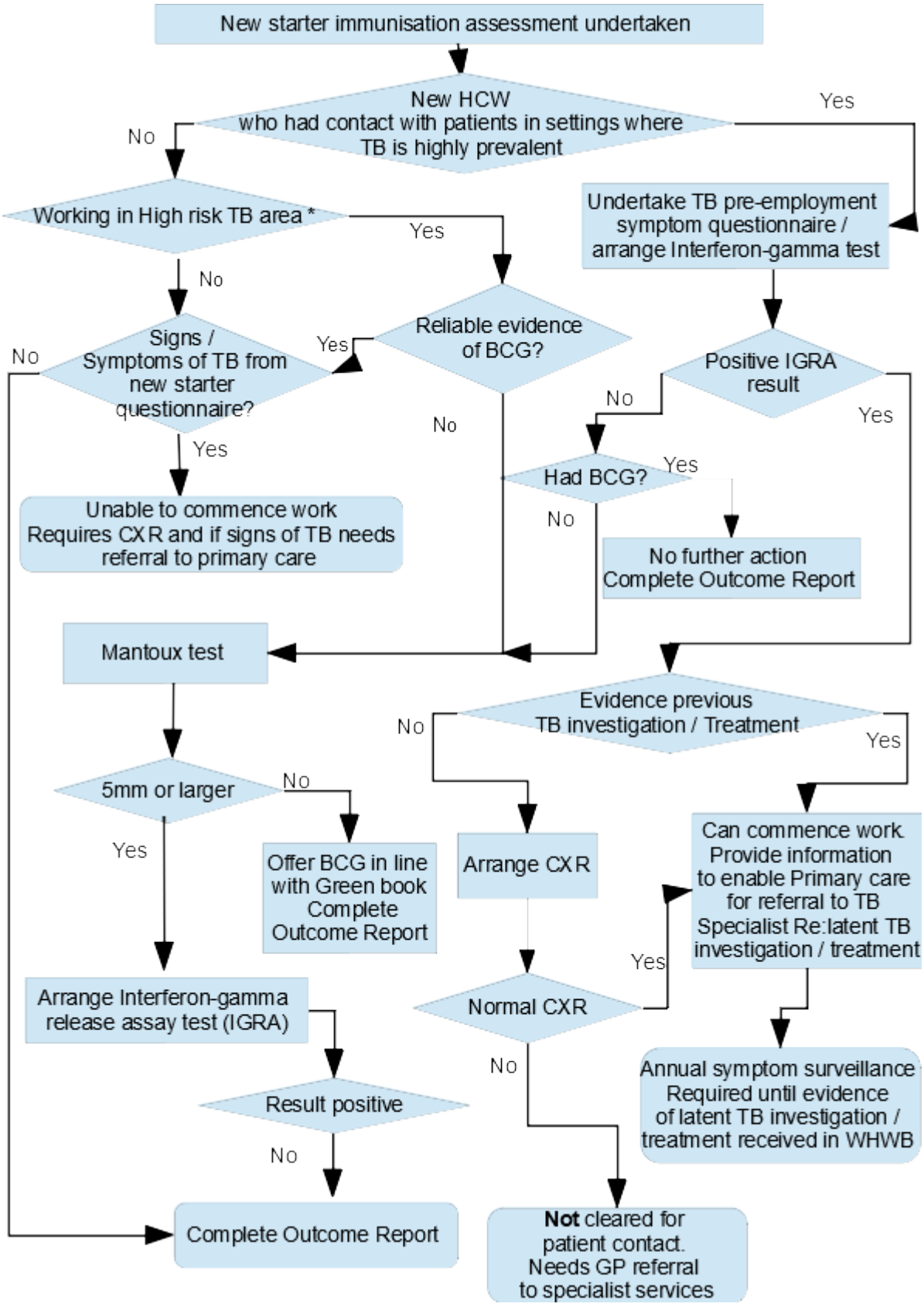
HCWs and other NHS employees who are at higher risk of exposure to tuberculosis (see Quick Reference Guide 2) and who are previously unvaccinated (that is, without adequate documentation or a BCG scar) and have a Mantoux(tuberculin) test result of less than 5mm, who are not immuno-compromised, should be offered the BCG vaccination irrespective of their age. If the BCG vaccination is contra-indicated or refused, the risks should be explained to the individual and supplemented with written advice, the outcome recorded in their occupational health record and their line manager informed that they are not protected against infection with tuberculosis. The importance of reporting possible symptoms of tuberculosis promptly will be re-emphasised. If the person still declines BCG vaccination, he or she should not work

where there is a risk of exposure to TB. The employer will need to consider each case individually, taking account of employment and health and safety obligations.

1.4. Quick Reference Guide 1 Flowchart - New Starter New entrant



1.5. Quick Reference Guide 1a Flowchart - New Starter NOT New entrant



2. Quick Reference Guide 2 High Risk Areas (agreed by Infection Prevention & Control Committee, April 2019)

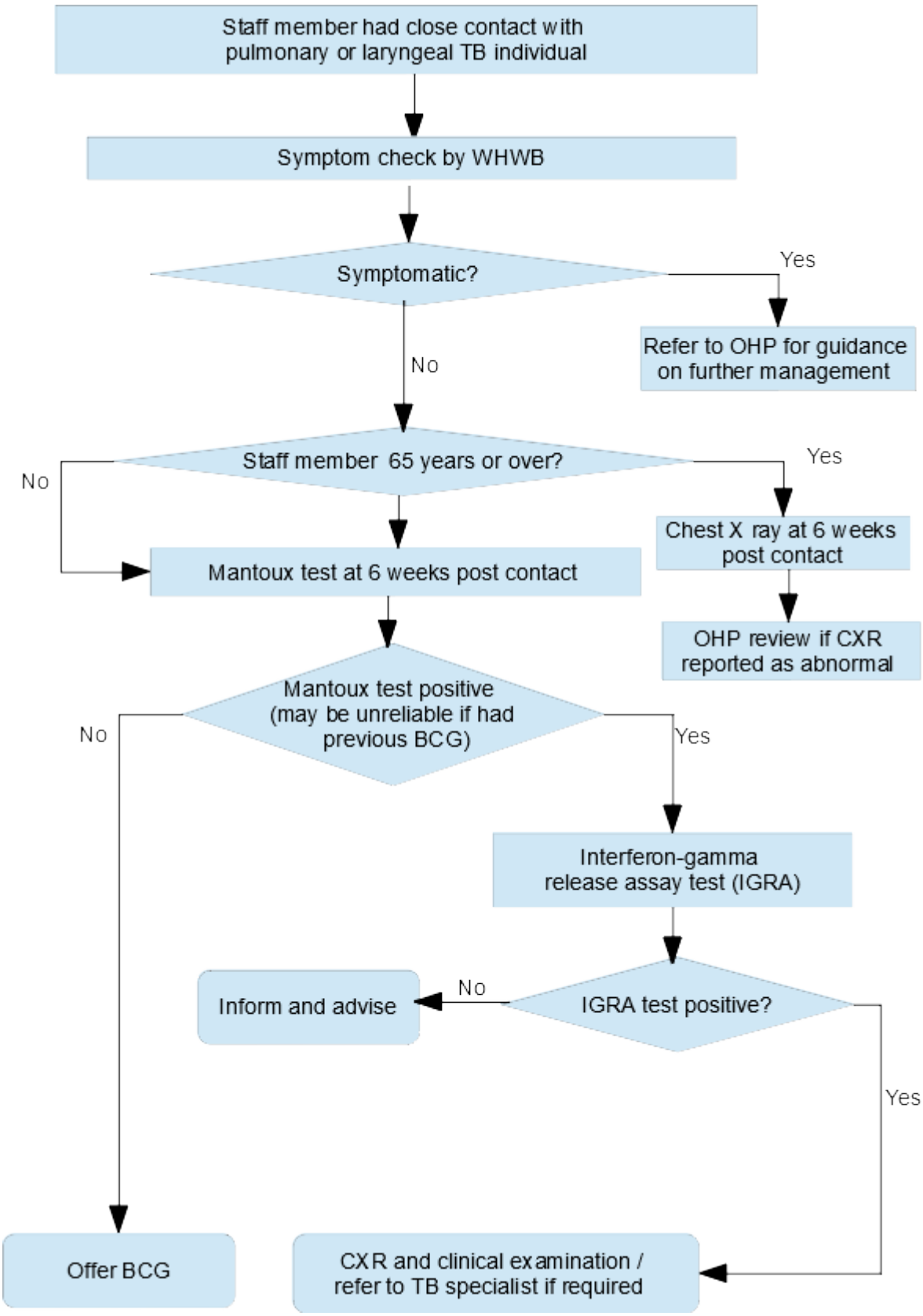
Higher risk areas for TB are as follows:

- Mortuary
- Histopathology
- Microbiology
- Thoracic Surgery
- Respiratory Medicine (including outpatients)
- Aerosol generating procedures including
    - Bronchoscopies
    - Chest Physiotherapy
- Oncology/Haematology
- Renal Dialysis Unit
- Emergency departments
    - Emergency Department (ED)
    - Urgent care centre (UCC)
    - Children's Assessment unit (CAU)
    - Acute medical unit (AMU)
    - Emergency assessment unit surgery (EAUS)
    - Older peoples emergency department (OPED)
    - Rapid access & treatment service (RATS)
    - Ambulatory emergency department (AED)

3. Quick Reference Guide 3 – Contact Tracing

Contact trace guidance to follow should a HCW be exposed to a case of pulmonary or laryngeal tuberculosis (TB). This will be initiated and managed by Workplace Health & Wellbeing with the assistance of line managers (See Quick Reference Flowchart below)

3.1. Testing and treating Health Care workers who have had close contact with an individual diagnosed with pulmonary or laryngeal TB



4. Introduction

4.1. Rationale

This policy has been written to outline how this organisation will comply with the relevant national guidance documents with respect to TB screening for staff both at pre-placement and during employment if close contact with a confirmed case has been identified.

- NICE Tuberculosis (https://www.nice.org.uk/guidance/NG33)
- Green Book Tuberculosis Chapter Tuberculosis: the green book, chapter 32 - GOV.UK (www.gov.uk)

4.2. Objective

The objective of the Prevention of Tuberculosis and management of Tuberculosis Exposure in Health Care worker is to:

- To prevent and manage the risk of a Health Care Worker (HCW) developing tuberculosis (TB) from patient contact.
- To prevent and manage the exposure of TB in HCWs
- To outline the health surveillance and reporting mechanisms for those staff who are regularly exposed to patients with TB or who work in high risk clinical environments for exposure to TB.

4.3. Scope

This document applies to the process' that are undertaken by Workplace Health & Wellbeing in relation to the prevention and management of Tuberculosis exposure in staff

4.4. Glossary

The following terms and abbreviations have been used within this document:

Term	Definition
TB	Tuberculosis
CXR	Chest X-ray
WHWB	Workplace Health & Well Being
NHS	National Health Service
BCG	Bacillus Calmette-Guérin vaccine protects against tuberculosis
PPE	Personal Protective Equipment
FFP3 mask	Filtering Face pieces mask used for protection of staff when caring for patients with Tuberculosis
RIDDOR	Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013
IGRA	Interferon-Gamma Release Assays (IGRAs) are blood tests that can aid in diagnosing tuberculosis infection.
New Entrant from High risk TB country	New members of staff arriving from high-risk TB countries (those countries whose rates of Tuberculosis are greater than 40/100,000 Tuberculosis by country: rates per 100,000 people - GOV.UK (www.gov.uk)

HCW	Health Care Worker
ED	Emergency Department
UCC	Urgent care centre
CAU	Children's Assessment unit
AMU	Acute medical unit
EAUS	Emergency assessment unit surgery
OPED	Older peoples emergency department
RATS	Rapid access & treatment service
EAGA	Expert Advisory Group on Aids
Mantoux Test	Skin test to determine if a person is infected with Tuberculosis
NICE	National Institute for Health and Care Excellence

5. Responsibilities

5.1. Responsibility of the Trust

- To ensure the health & safety of patients is not compromised by their exposure to HCWs who are infected with tuberculosis
- To ensure the health & safety of staff members are not compromised by their exposure to patients who are infected with tuberculosis by providing appropriate preventative staff protection – e.g. vaccination, provision of Personal Protective Equipment (PPE) & appropriate training in the PPE / fit testing programme for FFP3 masks

5.2. Responsibility of Managers

- To ensure all staff within their departments have had the appropriate new starter TB screening undertaken prior to the commencement of work in their area
- To ensure that all staff have attended immunisation updates / blood tests as indicated on the New Starter Fitness certificate provided by Workplace Health & Wellbeing.
- To undertake an individual risk assessment if a member of staff is identified to them by Workplace Health & Wellbeing as not having evidence of immunity from or vaccination for tuberculosis.
- To inform Infection Prevention and Control and Workplace Health & Wellbeing if a member of staff or patient is diagnosed with or exposed to tuberculosis.
- To provide information to Workplace Health & Wellbeing and Infection Prevention and Control when contact tracing programmes are required.
- To ensure that staff have received training and fit testing for personal protective equipment (PPE) that may be required when there is potential contact with patients known to have tuberculosis

5.3. Responsibility of Employee

- To attend Workplace Health & Wellbeing (WHWB) for new starter screening / new entrant screening as requested

- To adopt safe practices for patient care in accordance with the Trust Infection Prevention and Control Guideline for patients with confirmed or Suspected TB (C10) Trust Doc ID 627:. To ensure comply with PPE requirements in line with the Trusts Personal Protective Equipment (PPE) Procedure see Trust Doc ID: 588
- To promptly report any symptoms suspicious of tuberculosis to Workplace Health & Wellbeing
- To complete an annual health surveillance questionnaire identifying any symptoms associated with tuberculosis, if working in areas identified with an increased risk of exposure to tuberculosis (see quick reference Guide 2) or if identified as a requirement following suspected latent TB. This will also include information on reporting any symptoms promptly to Workplace Health & Wellbeing.
- To inform Workplace Health & Wellbeing if contact with known cases of tuberculosis.
- To attend appropriate screening if requested by Workplace Health & Wellbeing in the event of being in contact with a tuberculosis case.
- All HCWs who have been diagnosed as being infected with HIV must seek and follow advice from Workplace Health & Wellbeing regarding tuberculosis. HCWs must not rely on their own assessment of the risk they pose to patients or staff.

5.4. Role of Workplace Health & Wellbeing

- To undertake the appropriate new starter screening for TB when employees commence employment with the Trust, as per quick reference guide 1 and 1a.
- To provide a BCG vaccination service to those staff who meet the criteria (in line with the Green book)
- To provide guidance on restrictions for HIV infected health Care Workers
- To provide contact tracing for those staff who are exposed to pulmonary or laryngeal tuberculosis
- To liaise with the appropriate teams if a staff member has a diagnosis of Tuberculosis and if identified as a work acquired disease then ensure that the organisation submits a RIDDOR report to the Health & Safety Executive
- To undertake annual health surveillance for those staff who work in increased risk of tuberculosis and also staff who have had a positive IGRA test and WHWB have not received evidence of latent TB investigation or treatment
- To provide advice and education to Trust staff regarding both vaccination, protection and symptom reporting.

5.5. Role of Infection Prevention and Control

- To inform Workplace Health & Wellbeing of any suspected or confirmed cases of pulmonary or laryngeal tuberculosis.
- To initiate contact tracing of any patient contacts from an inpatient case.

5.6. Role of Health & Safety

- To oversee the organisations PPE fit testing service
- To be responsible for any RIDDOR reporting on behalf of the organisation.

5.7. Role of Education and training

- Staff education will occur both during the pre-employment screening process and on the Trust Risk Management Induction and Mandatory training sessions.

6. Policy Principles/ Service to be delivered/Processes to be followed

6.1. New Starter Screening

WHWB will undertake the appropriate new starter screening for TB when employees commence employment with the Trust, as per quick reference guide 1 and 1a.

6.2. BCG vaccine Administration

Prior to consideration of administration, a Mantoux test will be undertaken to ensure the individual can receive the vaccine. Routine screening tests for HIV infection before BCG vaccination of HCWs are not appropriate but a risk of HIV infection will be assessed prior to administration. If the worker is at significant risk, HIV testing (with counselling) will be offered; this will be undertaken when the tuberculin test / interferon gamma test is undertaken.

A Mantoux test of 5 mm or larger (regardless of BCG history) should prompt an IGRA, as NICE guidance, to confirm latent TB regardless of previous exposure or symptoms. If the IGRA is positive, a chest x-ray will be arranged if a UK reported film has not been carried out in the last 12 weeks. The HCW will subsequently be advised and consented for the results to be shared with their primary care provider for onward referral to the Respiratory Clinic for consideration of appropriate management.

6.3. HIV Infected Health Care Workers

Guidance from the Expert Advisory Group on AIDS (EAGA) is that HIV infected HCWs who are well on antiretroviral treatment (viral load undetectable and CD4>500 cells/mμ), who have been screened for tuberculosis by occupational health and have taken chemoprophylaxis if indicated, no longer need to be restricted from working with patients who have tuberculosis. Workplace Health & Wellbeing will liaise with their treating consultant to receive regular updates regarding viral load and CD4 count, in order to review the requirement for restrictions.

If an HIV infected HCW does not meet these criteria, then their exposure to patients with tuberculosis may need to be restricted. Workplace Health & Wellbeing will inform their line manager of the requirement for the restriction, but not the reason for it.

WHWB will stress to this group of staff the importance of, and the responsibility to, report symptoms which may be suggestive of tuberculosis.

WHWB ensure that HIV infected HCWs do not receive the BCG vaccination. Workplace Health & Wellbeing will undertake an HIV risk assessment and, if appropriate, offer HIV counselling and testing at the time of undertaking a Mantoux test / IGRA.

6.4. HCW who have contact with Tuberculosis

Contact tracing will be implemented by Workplace Health & Wellbeing if the index (source) case has pulmonary or laryngeal tuberculosis. Workplace Health & Wellbeing will be alerted about the commencement of a HCW contact trace by the following staff:

- For exposure to inpatients with suspected tuberculosis - the Infection Prevention and Control Team will inform Workplace Health & Wellbeing once confirmed diagnosis.
- For exposure to outpatients with suspected tuberculosis - the TB Liaison Nurse Specialist will inform Workplace Health & Wellbeing of the confirmed diagnosis.
- Mortuary staff wear appropriate respiratory protection for known tuberculosis post-mortems. If they are exposed to an unexpected tuberculosis case, the Senior Mortuary Technician (in charge) will advise Workplace Health & Wellbeing both at the time of the exposure and when verification of the pathology has been received

Contact tracing will be carried out in line with Quick Reference Guide 3

The HCW contact will be categorised as either a 'casual contact' or 'close contact'. '**Casual contact'** includes staff members attending tuberculosis patients in a routine manner.

'Close contact' is defined as staff who have undertaken any of the following procedures: mouth to mouth resuscitation without appropriate protection, prolonged care of a patient who requires a high level of dependant nursing care, repeated chest physiotherapy, involved in a tuberculosis infected case at post-mortem or bronchoalveolar lavage without use of correct protective procedures. Prolonged care will not generally be considered to have occurred until a cumulative total exceeding 8 hours of high dependency nursing has occurred. If the source patient has had two weeks or more of anti-tuberculosis treatment the risk is significantly reduced.

'Close contacts' of tuberculosis cases will be screened as advised in the NICE (2016) guidance (see Quick reference guide 3). Contact tracing should be undertaken for the period that the case had respiratory symptoms, including cough. If this is unknown, contacts should be traced from 3 months preceding the first positive sputum smear. Tracing is extended backwards, a month at a time, if clinical indications in contacts suggest that transmission has occurred.

Possible close contacts will be identified by the ward / department and Workplace Health & Wellbeing will make contact with them to determine whether contact screening is required.

HCWs with HIV who are close contacts require active disease excluded and to then be given treatment for latent TB infection. They will be seen in Workplace Health and Wellbeing to assess whether they have symptoms of tuberculosis, arrange an IGRA and CXR and onward referral to a respiratory physician (in consultation with their treating HIV physician).

HCWs in 'casual contact' with a case of tuberculosis will (unless immunocompromised) only need to be reassured and reminded of the possible symptoms (over the next twelve-month period).

6.5. HCW who have a diagnosis of Tuberculosis

If a HCW is diagnosed with tuberculosis, whether occupationally acquired or not, liaison will occur between Workplace Health & Wellbeing, the treating Respiratory Physician, the TB Community Nurse and the Infection Prevention and Control Team. Tuberculosis contact tracing procedures will be initiated by the Infection Prevention and Control Team/TB Community Nurse for patient contacts and by Workplace Health & Wellbeing for staff contacts. If identified as a work acquired disease, then a RIDDOR report will be submitted by the organisation to the Health & Safety Executive. The Consultant in Communicable Disease Control will be informed by the respiratory team and will initiate any wider screening (family members etc.) that may be required.

6.6. Annual Surveillance

Those staff who work in areas of increased risk of tuberculosis (see Quick Reference Guide 2) will receive annual health surveillance questionnaires to complete and return to Workplace Health & Wellbeing.

Those staff who have a positive IGRA and WHWB have not received evidence of latent TB investigation / treatment will also receive annual surveillance questionnaires. If not received in WHWB within one month then their line manager will be informed that they are not cleared for patient contact. have not been treated for latent TB

7. Training & Competencies

- WHWB staff will have been trained in all aspects of this policy
    - Pre-placement screening
    - Undertaking of Mantoux and BCG vaccinations
    - Contact Tracing

All appropriate training and competencies will be signed off before a staff member undertakes these activities unsupervised.

8. Related Documents

- Personal Protective Equipment (PPE) Procedure Trust Docs
- Patients with confirmed or Suspected TB Trust Docs

- National Institute for Health and Clinical Excellence, Tuberculosis (NG33). https://www.nice.org.uk/guidance/NG33
- Department of Health 2007, Health Clearance for tuberculosis, hepatitis B, hepatitis C and HIV: New healthcare workers. Available at http://webarchive.nationalarchives.gov.uk/20130107105354/http:/www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_073132
- UK Health Security Agency Tuberculosis: the green book, chapter 32 Greenbook chapter 32 - tuberculosis (publishing.service.gov.uk)
- UK Health Security Agency (2021) Tuberculosis in England 2021 (accessing data to 2020) (Tuberculosis in England: 2021 report (publishing.service.gov.uk)
- UK Health Security Agency Tuberculosis by country: rates per 100,000 people - GOV.UK (www.gov.uk)

9. Monitoring Compliance / Audit of the process/policy principles/service to be delivered

Compliance with the process will be monitored through the following:

Key elements	Process for Monitoring	By Whom (Individual / group /committee)	Responsible Governance Committee /dept	Frequency of monitoring
All HCWs working in higher risk for tuberculosis will have had their immunity to tuberculosis assessed prior to commencement of work in the Trust	WHWB Audit	WHWB Governance	Workforce Leadership Sub-board / Health & Safety Committee	Biennial
All new entrants from countries at higher risk for TB will have an IGRA test prior to commencing work within the Trust	WHWB Audit	WHWB Governance	Workforce Leadership Sub-board / Health & Safety Committee	Biennial
An annual surveillance questionnaire will be completed by staff working in higher risk areas.	WHWB Audit	WHWB Governance	Workforce Leadership Sub-board / Health & Safety Committee	Biennial
All staff who are referred to Primary care for investigation /	WHWB Audit	WHWB Governance	Workforce Leadership Sub-board / Health &	Biennial

treatment for latent TB will have an annual health surveillance questionnaire until such time as evidence of treatment / exclusion of latent TB has been confirmed			Safety Committee	

The audit results are to be discussed at relevant governance meetings to review the results and recommendations for further action. Then sent to Workforce Education Sub board who will ensure that the actions and recommendations are suitable and sufficient.

10. Equality Impact Assessment (EIA)

Type of function or policy	Existing

Division	Corporate	**Department**	Workplace Health & Wellbeing
Name of person completing form	Hilary Winch	**Date**	17/10/2022

Equality Area	Potential Negative Impact	Impact Positive Impact	Which groups are affected	Full Impact Assessment Required YES/NO
Race	Nil	None	Trust	No
Pregnancy & Maternity	Nil	None	Trust	No
Disability	Nil	None	Trust	No
Religion and beliefs	Nil	None	Trust	No
Sex	Nil	None	Trust	No
Gender reassignment	Nil	None	Trust	No
Sexual Orientation	Nil	None	Trust	No
Age	Nil	None	Trust	No
Marriage & Civil Partnership	Nil	None	Trust	No
EDS2 – How does this change impact the Equality and Diversity Strategic plan (contact HR or see EDS2 plan)?				

- **A full assessment will only be required if: The impact is potentially discriminatory under the general equality duty**
- **Any groups of patients/staff/visitors or communities could be potentially disadvantaged by the policy or function/service**
- **The policy or function/service is assessed to be of high significance**

IF IN DOUBT A FULL IMPACT ASSESSMENT FORM IS REQUIRED

The review of the existing policy re-affirms the rights of all groups and clarifies the individual, managerial and organisational responsibilities in line with statutory and best practice guidance.