

# New Healthcare Worker Guidelines and Practical Implications

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# Disclosures

- None
- Some slides adapted from Dr. Lynn Sosa

# Outline

- Background and rationale
- What's change and what stayed the same
- Some scenarios for common questions
- TB testing and mRNA COVID-19 vaccines



## **Morbidity and Mortality Weekly Report**

Recommendations and Reports

December 30, 2005 / Vol. 54 / No. RR-17

# **Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health-Care Settings, 2005**

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# CDC Guidelines for Preventing TB Transmission in Health Care Settings - 2005

## Summary of Recommendations

- **At hire** - symptom screen and IGRA or tuberculin skin test (TST) testing in those without prior history of TB or LTBI
- **Post exposure** – symptom evaluation and IGRA or TST testing for those with a negative test at baseline and without TB history
- **Serial Screening and Testing** – Recommended for health care personnel (HCP) in medium risk setting and setting with potential ongoing transmission
- **Follow up of LTBI positive** – treatment referral and annual symptom review

# Background

**2013** Aplisol shortage amplifies discussion about the need for serial testing HCP

**2015**

- Joint NSTC-NTNC session at the National Tuberculosis Conference
- Working group created

**2017** Systematic review commenced

# Research Questions

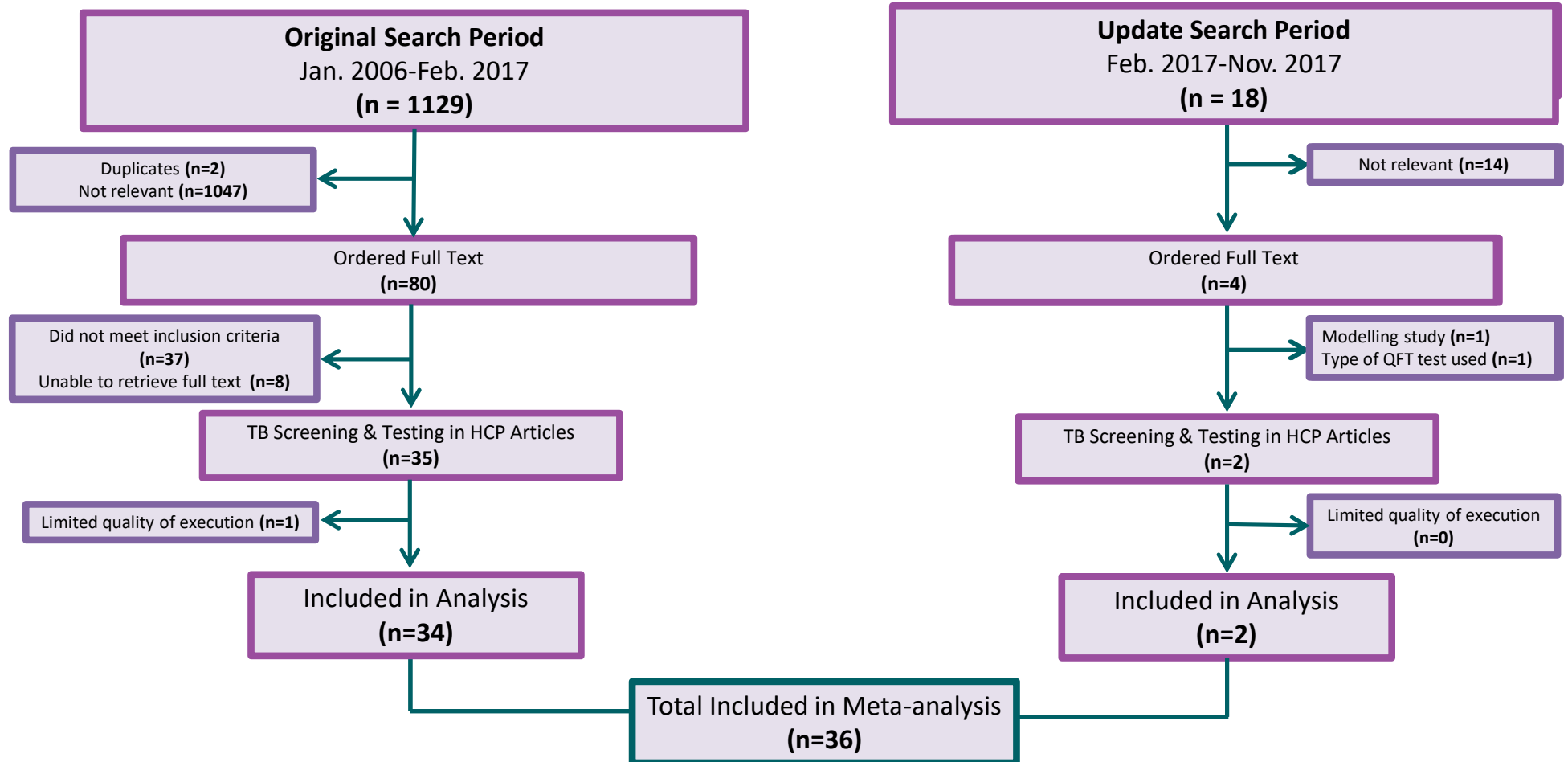
- What is the prevalence and incidence of LTBI among health care personnel in the United States?
- What is the incidence of TB disease among health care personnel in the United States?
- Does annual or serial testing (via TST or IGRA) of U.S. health care personnel reduce the risk of TB transmission in U.S. healthcare settings?
- Does annual or serial testing (via TST or IGRA) of U.S. health care personnel increase the detection of occult TB transmission in U.S. healthcare settings?
- Are certain individuals who work within health care facilities at higher risk of TB than others based on occupational and non-occupational factors?



# Methodology

- Community Guide systematic review methods used to evaluate the evidence
- Two reviewers independently screened and abstracted data for each included study
- Disagreements were resolved by consensus

# Search Results



# Systematic Review - results

- Relatively low proportion (3%–5%) of U.S. HCP test positive for *M. tuberculosis* at baseline
- <1% of U.S. HCP previously testing negative convert to a positive test result during serial testing
- Nearly 50% of U.S. HCP previously testing positive revert to a negative test result during serial testing
- Insufficient evidence to assess incidence and transmission of TB disease among HCP
  - No cases of TB disease reported among the ~64,000 U.S. HCP included in the studies reviewed

# What does this all mean?

- Updated recommendations (like the previous version) are based primarily on expert opinion

## Tuberculosis Screening, Testing, and Treatment of U.S. Health Care Personnel: Recommendations from the National Tuberculosis Controllers Association and CDC, 2019

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The 2005 CDC guidelines for preventing *Mycobacterium tuberculosis* transmission in health care settings include recommendations for baseline tuberculosis (TB) screening of all U.S. health care personnel and annual testing for health care personnel working in medium-risk settings or settings with

and TSTs have well-documented limitations for serial testing of health care personnel at low risk for LTBI and TB disease (9,10).

### Methods

In 2015, an NTCA-CDC work group comprising experts in

MMWR 2019;68:439–443

<http://dx.doi.org/10.15585/mmwr.mm6819a3>

# Workgroup Members

## **CDC/DTBE Staff**

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# Definitions

- Health Care Personnel (HCP)
  - Replaces Healthcare Worker (HCW) to be consistent with current HHS and CDC preferred language
  - Definition unchanged from 2005 recommendations
  
- TB screening
  - Broad process that includes a risk assessment, symptom evaluation, a test for LTBI (either a TST or IGRA), and additional work-up for TB disease as needed
  
- TB Testing
  - IGRA or TST

# 2019 Recommendations – Key changes

- Pre-placement – IGRA or TST with symptom assessment and individual TB risk assessment added (new)
- Post exposure – Symptom evaluation and IGRA or TST testing for those with a negative test at baseline and without TB history (unchanged)
- Serial Screening and Testing (new)
  - **Serial screening / testing not routinely recommended;** can be considered for certain HCP groups
  - Annual TB education of all HCP including TB exposure risks
- Follow up of LTBI positive HCP – **LTBI treatment strongly recommended unless a contraindication exists (new)**



# Baseline (Pre-Placement) Screening and Testing

- Baseline screening on hire should include:
  - Individual TB risk assessment
  - Symptom evaluation
  - TST or IGRA (not both)
- Low risk HCP testing positive should have second test
  - Consistent with TB Diagnostic Guidelines (Lewinsohn CID 1/15/2017)

# Baseline Individual Risk Assessment

**Health care personnel should be considered at increased risk for TB if they answer “yes” to any of the following statements.**

1. Temporary or permanent residence (for  $\geq 1$  month) in a country with a high TB rate (i.e., any country other than Australia, Canada, New Zealand, the United States, and those in western or northern Europe)

**Or**

2. Current or planned immunosuppression, including human immunodeficiency virus infection, receipt of an organ transplant, treatment with a TNF-alpha antagonist (e.g., infliximab, etanercept, or other), chronic steroids (equivalent of prednisone  $\geq 15$  mg/day for  $\geq 1$  month), or other immunosuppressive medication

**Or**

3. Close contact with someone who has had infectious TB disease since the last TB test

# Postexposure Screening and Testing

- Known exposure without adequate personal protection
- No history of positive TB test
  - Symptom assessment and TB test
  - Retest 8–10 weeks after last exposure
- History of positive TB test regardless of treatment
  - Symptom assessment, no test

# Occupational Risk – serial testing

- No routine testing of HCP at any interval in the absence of known exposure or ongoing transmission
- Health care facilities can choose to conduct routine testing of specific HCP
  - Most health care facilities don't need to!
  - This decision should be individualized to each facility and may be made in consultation with state/local health department

# Non-Occupational Risk

- Important to recognize non-occupational exposures to TB and risk factors for TB progression
- Facilities should educate HCP annually about TB
  - Include risk factors
  - Signs and symptoms
  - Encourage HCP to discuss any new exposures both occupational and non-occupational
- Decision to test HCP based on individual risk identified

# Follow-Up of Positive Test Results

- HCP with positive TB test result:
  - Chest imaging
  - Symptom assessment
  - Further evaluation for TB disease if warranted
- All HCP with LTBI should be offered and encouraged to complete LTBI treatment unless a contraindication exists

# Summary of Recommendation Changes

TABLE. Comparison of 2005\* and 2019† recommendations for tuberculosis (TB) screening and testing of U.S. health care personnel (HCP)

| Category  | 2005 Recommendation  | 2019 Recommendation   |
|---|--|---|
| Baseline (preplacement) screening and testing     | TB screening of all HCP, including a symptom evaluation and test (IGRA or TST) for those without documented prior TB disease or LTBI.  | TB screening of all HCP, including a symptom evaluation and test (IGRA or TST) for those without documented prior TB disease or LTBI ( <b>unchanged</b> ); individual TB risk assessment ( <b>new</b> ).  |
| Postexposure screening and testing                | Symptom evaluation for all HCP when an exposure is recognized. For HCP with a baseline negative TB test and no prior TB disease or LTBI, perform a test (IGRA or TST) when the exposure is identified. If that test is negative, do another test 8–10 weeks after the last exposure. | Symptom evaluation for all HCP when an exposure is recognized. For HCP with a baseline negative TB test and no prior TB disease or LTBI, perform a test (IGRA or TST) when the exposure is identified. If that test is negative, do another test 8–10 weeks after the last exposure ( <b>unchanged</b> ). |
| Serial screening and testing for HCP without LTBI | According to health care facility and setting risk assessment. Not recommended for HCP working in low-risk health care settings. Recommended for HCP working in medium-risk health care settings and settings with potential ongoing transmission.                                   | Not routinely recommended ( <b>new</b> ); can consider for selected HCP groups ( <b>unchanged</b> ); recommend annual TB education for all HCP ( <b>unchanged</b> ), including information about TB exposure risks for all HCP ( <b>new emphasis</b> ).   |
| Evaluation and treatment of positive test results | Referral to determine whether LTBI treatment is indicated.   | Treatment is encouraged for all HCP with untreated LTBI, unless medically contraindicated ( <b>new</b> ).   |

# Tuberculosis Screening, Testing, and Treatment of US Health Care Personnel

## *ACOEM and NTCA Joint Task Force on Implementation of the 2019 MMWR Recommendations*

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<https://acoem.org/Guidance-and-Position-Statements/Joint-Statements-Summit-Recommendations-Proceedings/Tuberculosis-Screening,-Testing,-and-Treatment-of-US-Health-Care-Personnel>



# Scenario 1

A primary care clinic located near the US-Mexico border and provides care for binational patients asks if they should continue doing annual TB tests for their health care staff.

What would you recommend?

# Question #1

Would you advise them to continue doing annual testing?

1. Yes –because the population they care for is at higher risk for TB
2. No – annual testing is no longer recommended; focus resources on ensuring LTBI treatment is completed
3. Maybe – I need more information

# What additional information might be helpful?

- Do you need to know the TB incidence in the jurisdiction?
- Does it matter where the clinic is located (ie near the US-Mexico border) or not?
- What if health care personnel had to be tested as part of a contact investigation the previous year?

# Scenario 1 – clinic serving a higher risk population

- Best Answer is #2 NO – focus on LTBI treatment and the administrative and environmental controls
- Additional info can help frame a discussion but it's unlikely annual testing has detected unrecognized TB transmission
- Most variability with annual testing is the known variability in the tests; <1% with TST vs 3-4% with IGRA (Dorman et al AJRCCM 2013).

# Scenario 1 – clinic serving a higher risk population

- If a facility or area within a facility has consistently seen a high rate of annual conversions then the focus should be on identifying and fixing the administrative and environmental controls that are causing it.
- In that very rare scenario, it would be appropriate to continue annual testing until it was confirmed that occult TB transmission was no longer a problem

# Scenario 2

An Occupational Health provider calls and asks what they are supposed to do with the new individual risk assessment and can they can stop doing the facility risk assessment.

# Question #2

What would you tell them?

1. The individual risk assessment is the only evaluation that is recommended now
2. The individual risk assessment is important for interpreting the TB tests; the facility risk assessment is important for determining environmental controls
3. The individual risk assessment is optional and may be helpful; the facility risk assessment is still important to decide who should get an annual TB test
4. Both the individual and facility risk assessment are important and should be performed every year.

# Scenario 2 – individual vs facility risk assessment

what to do with the individual risk assessment and can they can stop doing the facility risk assessment.

- The individual risk assessment is important for interpreting the TB tests
- The facility risk assessment is important for determining environmental and administrative controls needed (a modified version is coming in a companion document)



# Scenario 3

A friend who is a pulmonologist at a local hospital asks if she should continue to get an annual TB test because she regularly does bronchoscopies.

# Question #3

What would you recommend about annual TB testing for a pulmonologist?

1. Yes - because she does high risk procedures
2. No – routine testing isn't recommended for anyone
3. Maybe – I need more information

# Scenario 3 - Pulmonologist

- The guidelines are intentionally vague to allow flexibility since we could not predict every possible risk scenario among all health care personnel
- The most important take away from the update is that **almost no HCP are at risk for unrecognized TB transmission** from working in health care in the U.S.

# Scenario 3 - Pulmonologist

Personnel who work with patients at risk for TB and where the diagnosis is challenging

- Pulmonologists, respiratory therapists, coroners and others who assist in performing autopsies
- People working in a skilled nursing facility, particularly those working with patients who have advanced dementia

# Scenario 3 - Pulmonologist

To further reduce the risk of TB transmission in US healthcare facilities the focus should be

- Stop unnecessary testing
- Treat people with known LTBI
- Know the signs and symptoms of TB so that health care personnel can recognize it early in patients, coworker or themselves

# Scenario 4

Occupational health provider calls to ask what to do about TB screening for a traveling nurse who received his first COVID-19 mRNA vaccine one week ago. He reports multiple prior negative TSTs and has documentation of a negative interferon-gamma release assay (IGRA) 2 years ago.

# Question #4

What would you recommend for TB testing a traveling nurse who recently received a COVID-19 mRNA vaccine?

1. Test for TB now and accept the results
2. Delay TB testing until after his second COVID-19 vaccine
3. Test him now and if negative, repeat it a month after his second vaccine dose
4. No further testing needed if asymptomatic and no known TB exposure

# Scenario 4

## TB Tests and mRNA COVID-19 Vaccines: CDC Dear Colleague Letter, January 7, 2021

For [healthcare personnel](#) or patients who require baseline TB testing (at onboarding or entry into facilities) at the same time they are to receive a COVID-19 mRNA vaccine, [CDC recommends](#):

- Perform [TB symptom](#) screening on all healthcare personnel or patients.
- If using IGRA, draw blood prior to COVID-19 mRNA vaccination.
- If using TST, place prior to COVID-19 mRNA vaccination.
- If COVID-19 mRNA vaccination has already occurred, defer TST or IGRA until 4 weeks after completion of 2-dose COVID-19 mRNA vaccination.



# Scenario 4 - TB testing and COVID-19 mRNA vaccine

## **Step 1 - risk assessment and symptom review**

1. Test for TB now and accept the results
  - No evidence that mRNA vaccines affect TB results
  - May be most feasible for Occ Health
2. Delay TB testing until after his second COVID-19 vaccine
  - Consistent with CDC guidance
  - May be hard to implement

# Scenario 4 - TB testing and COVID-19 mRNA vaccine

3. Test him now and if negative, repeat it a month after his second vaccine dose
  - Reasonable if he had potential TB exposure since the last test (ex. working outside the US in an area where TB is common)
4. No further testing needed if asymptomatic and no known TB exposure
  - Consistent with the updated guidelines for HCP

# Summary (1)

2019 Guideline recommends focusing efforts on

- Baseline testing including an individual risk assessment
- Encourage health care personnel with LTBI to complete a course of treatment
- Educate all staff to recognize the symptoms of active TB and risks for potential non-occupational exposure (living, volunteering, and/or providing medical care in a country where TB is common).

# Summary (2)

- The guidelines do not override any local or state requirements
- They may be used to help change local requirements that are out of date relative to the actual risk for TB exposure and infection
- ACOEM Guidance Statement is a useful tool for implementing a change
- New COVID vaccinations present challenges that require practical decision making

# Questions?