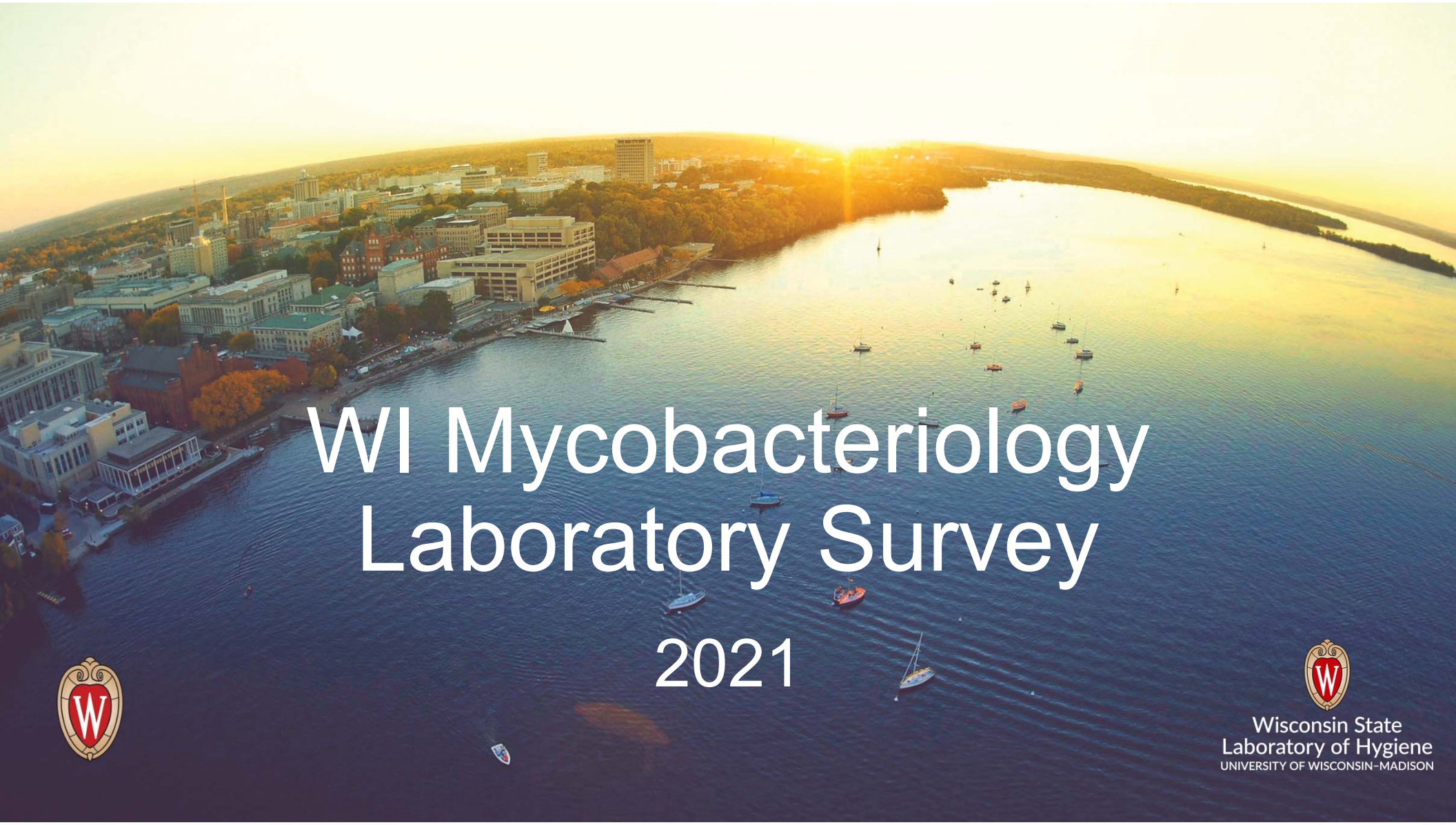
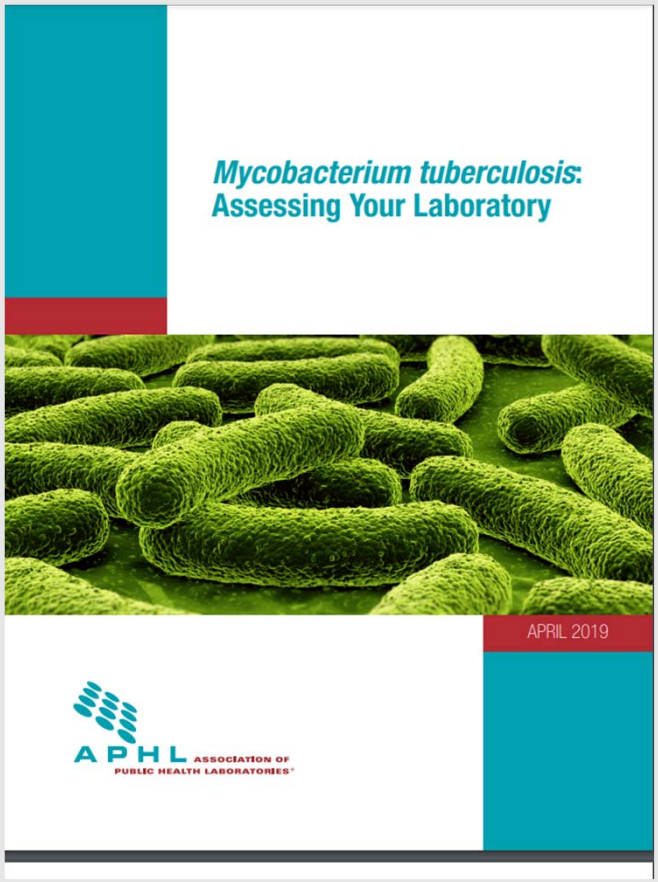


WI Mycobacteriology Laboratory Survey

2021

Wisconsin State Laboratory of Hygiene
UNIVERSITY OF WISCONSIN–MADISON

TB Laboratory Self-Assessment Tool



- Public Health Lab
- Clinical Lab
- Commercial Lab

https://www.aphl.org/programs/infectious_disease/tuberculosis/Pages/Self-Assessment-Tool.aspx

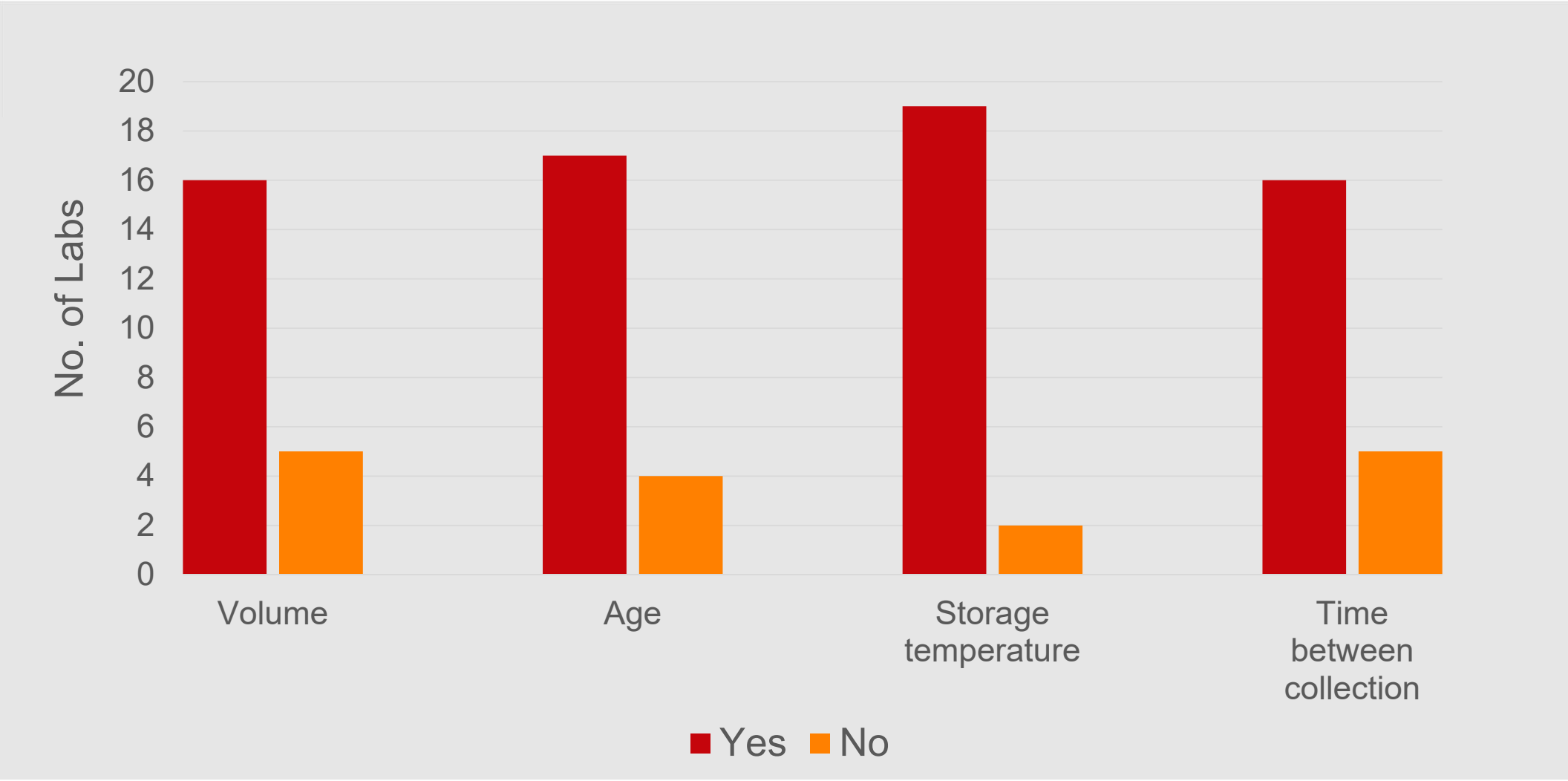
TB Laboratory Self-Assessment Tool

- General Specimen Collection and Handling
- Safety
- General Laboratory Practice
- Smears from Clinical Specimens
- Public Health and Epidemiology
- Specimen Processing and Decontamination
- Inoculation and Growth Detection
- Susceptibility Testing
- Direct Detection

Does your laboratory have written specimen collection and rejection criteria for AFB smear/culture specimens for:

- Volume of specimen
- Age of specimen
- Storage temperature of specimen
- Minimum time between collection of sputum specimens

Collection/Rejection Criteria



On average, how many specimens does your laboratory process per week?

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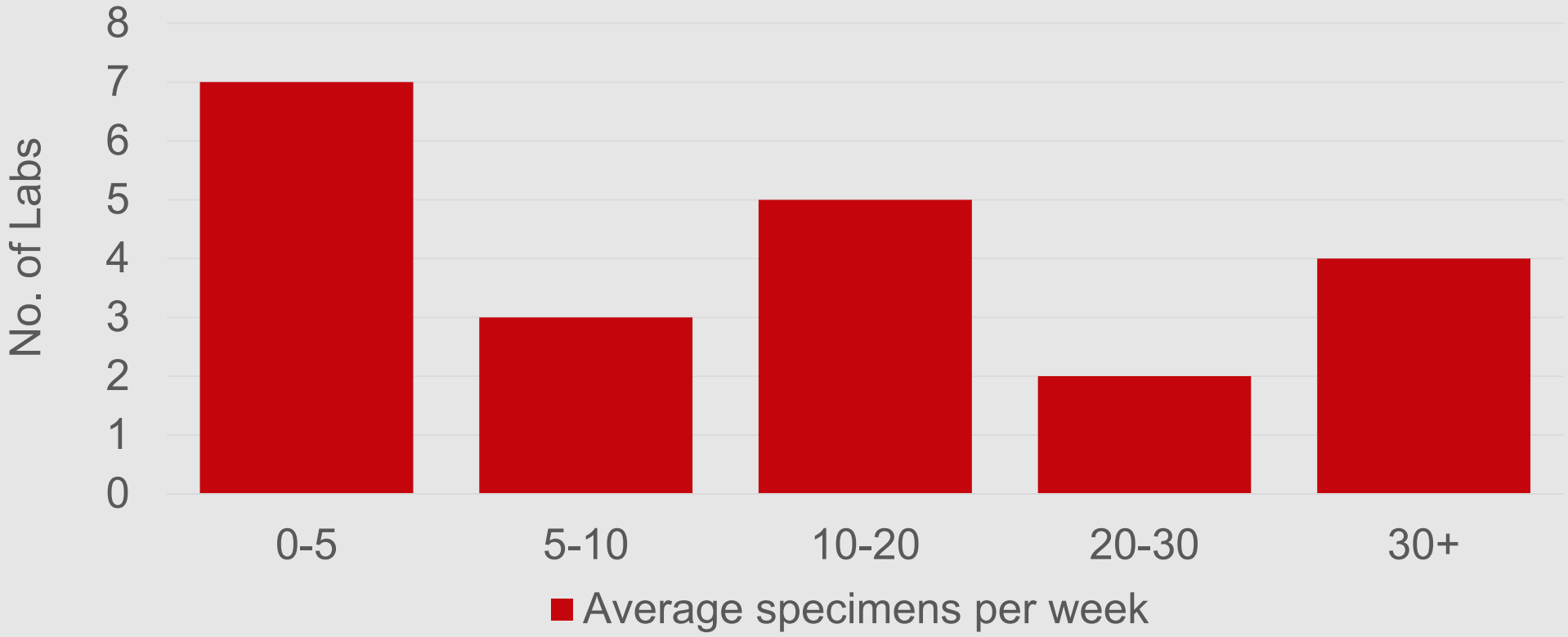
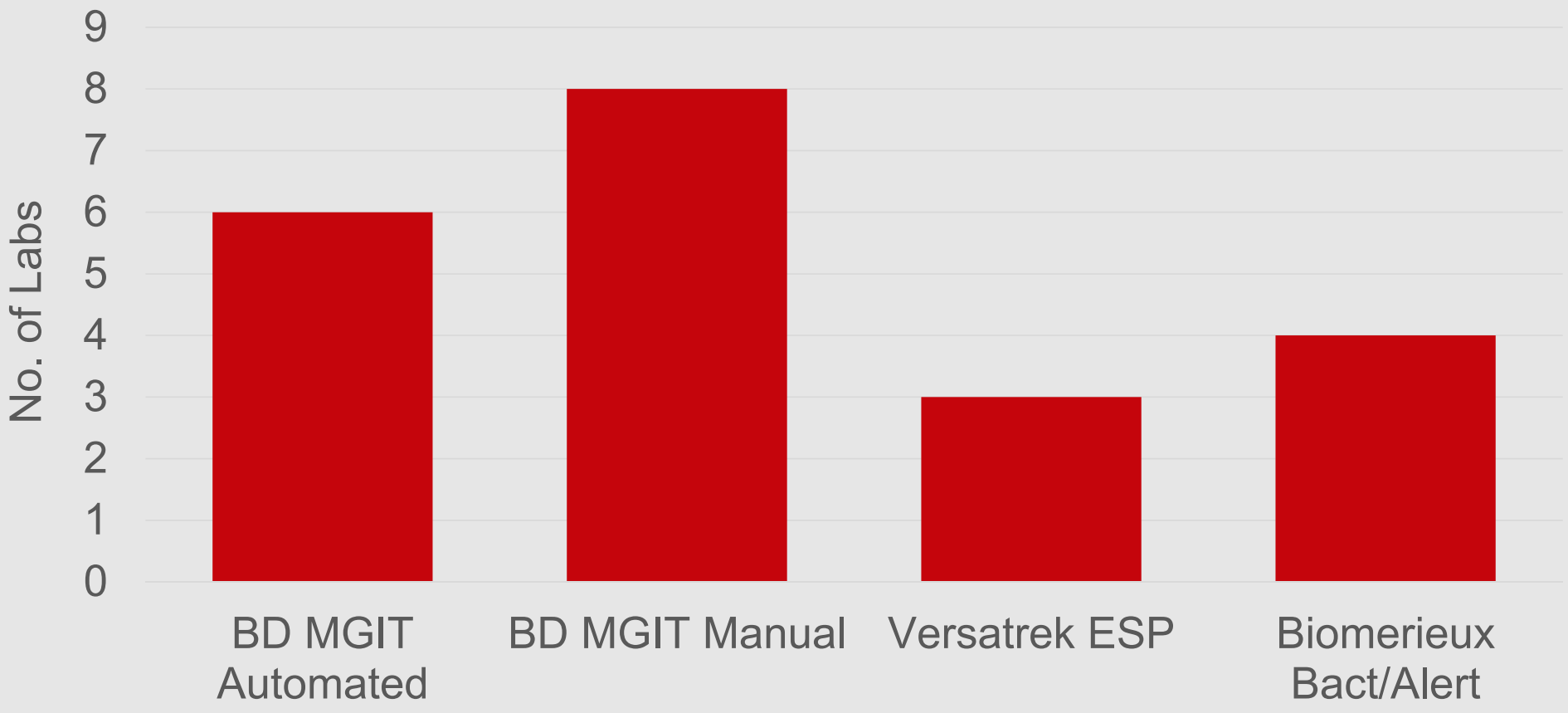


QA program for AFB smear results

- Participation in multiple proficiency programs
- Internal proficiency testing or competency programs
- Blind review of 20% or more of AFB-stained smears by a supervisor or other employee
- Monitoring for a change in smear positivity rates
- Monitoring for smear/culture correlation

What broth culture system is your lab using?

What broth culture system is your lab using?



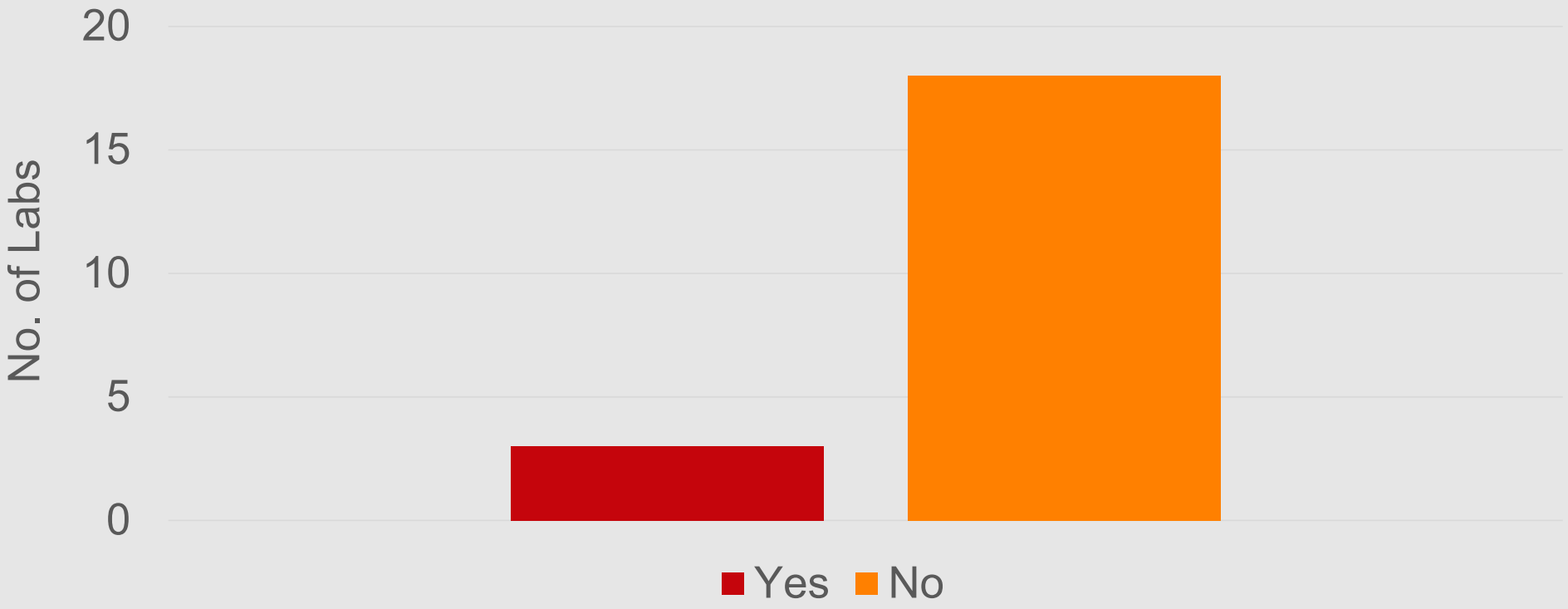
Do you use fluorescent, non-fluorescent or a combination of staining methods for primary specimen smears?

Do you use fluorescent, non-fluorescent or a combination of staining methods for primary specimen smears?

- All 21 labs are using fluorescent staining methods for primary smears!
  - 5 labs confirm with non-fluorescent stain

Does your laboratory include a negative control with each batch of specimens processed for culture?

Does your laboratory include a negative control with each batch of specimens processed for culture?



Does your laboratory use respiratory protection when performing AFB work?

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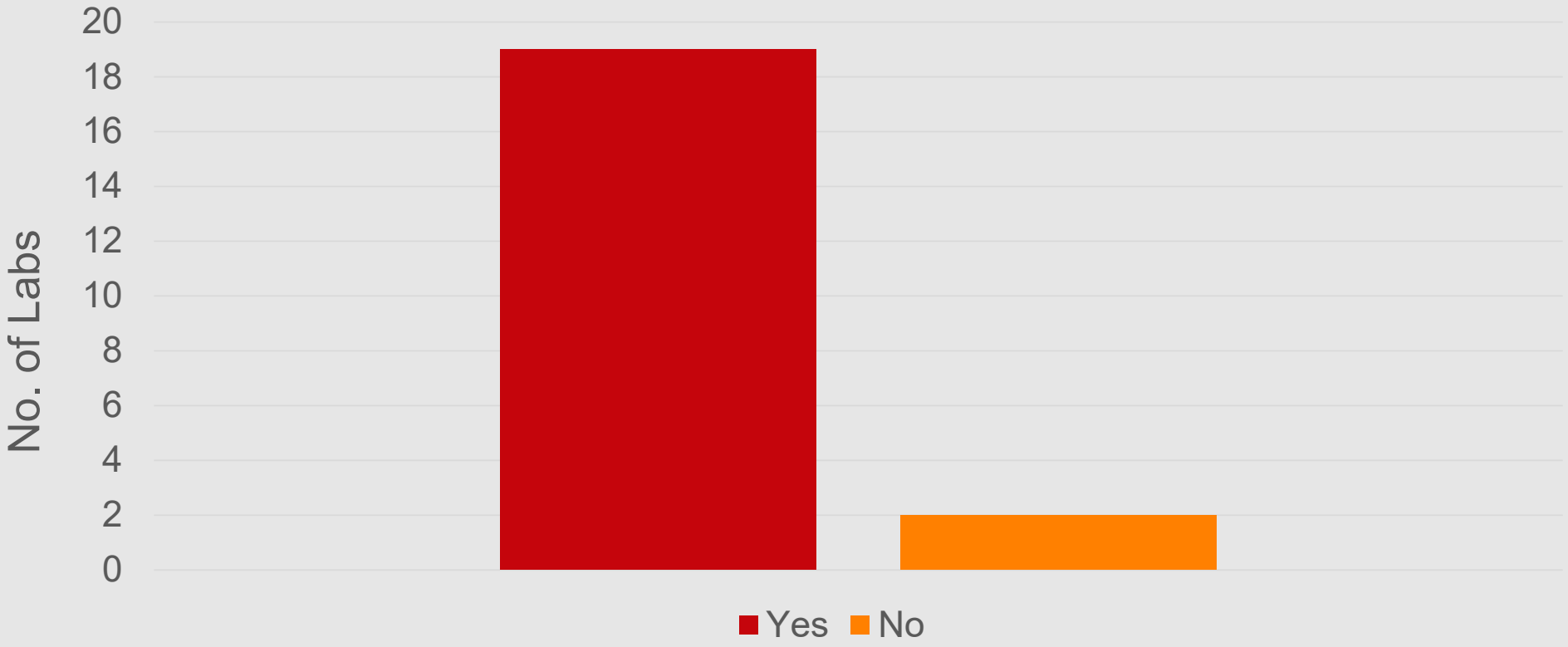


Considerations for use of respirators

- Laboratory risk level
  - Low
  - Moderate
  - High

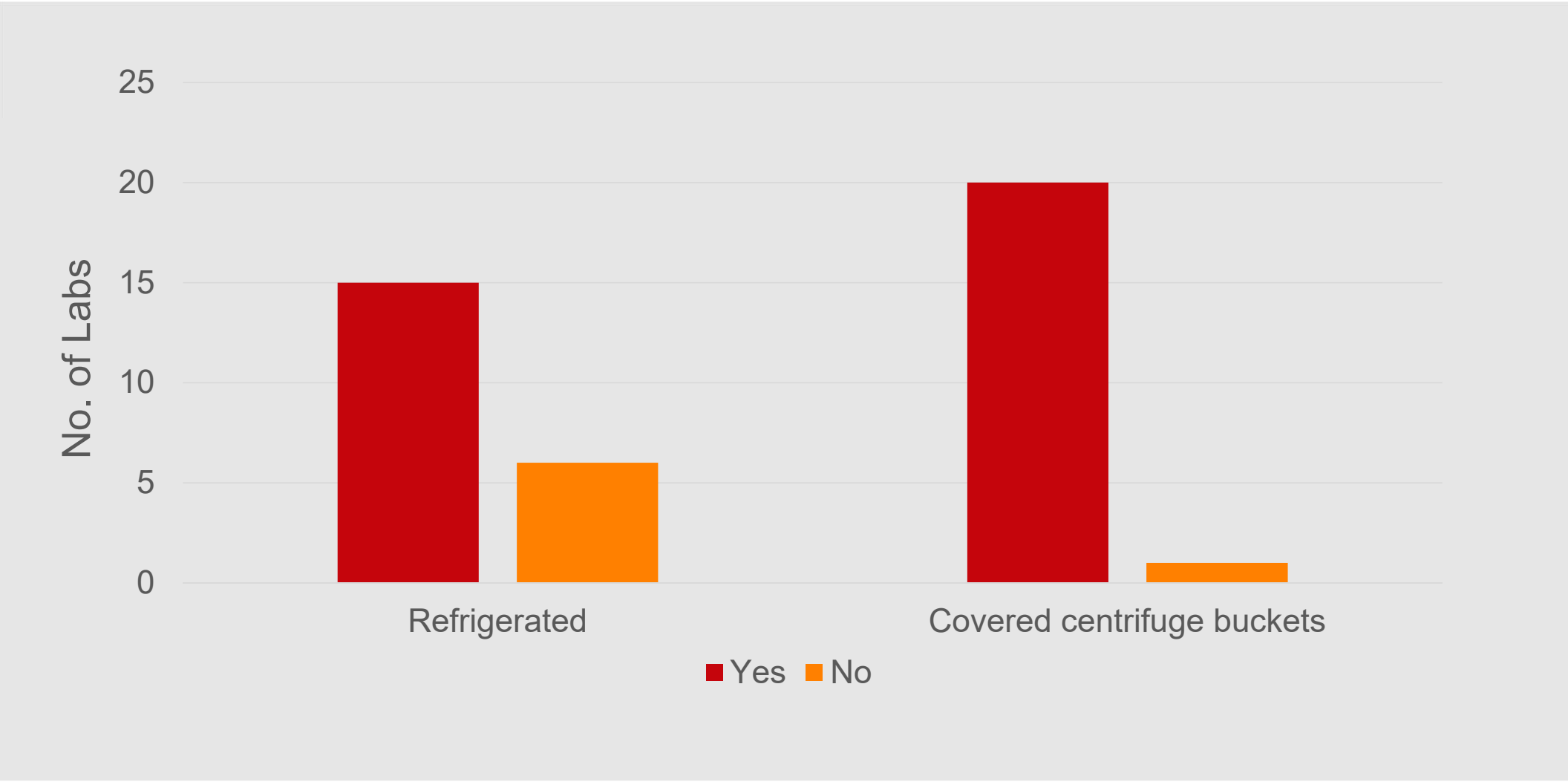
- Factors that increase the risk of infection
  - Opening and manipulating positive culture vials
  - Preparing smears from positive cultures
  - Potential for spill or broken culture containers
  - High positivity rate for MTBC

High-risk TB laboratories (TB-containment laboratories) - Tuberculosis Laboratory Biosafety Manual - NCBI Bookshelf (nih.gov)

Centrifuge questions:

- Does your laboratory use a refrigerated centrifuge?
- Does your laboratory have aerosol resistant buckets (covered centrifuge buckets)?
- What speed do you use to centrifuge your AFB samples?

Centrifuges:



Centrifuge speed:

Optimal recovery of AFB at:

3000-3300 x g

OR

>3800 RPM

42

M

3300 x g

Does your laboratory decontaminate all waste before it leaves the mycobacteriology area?

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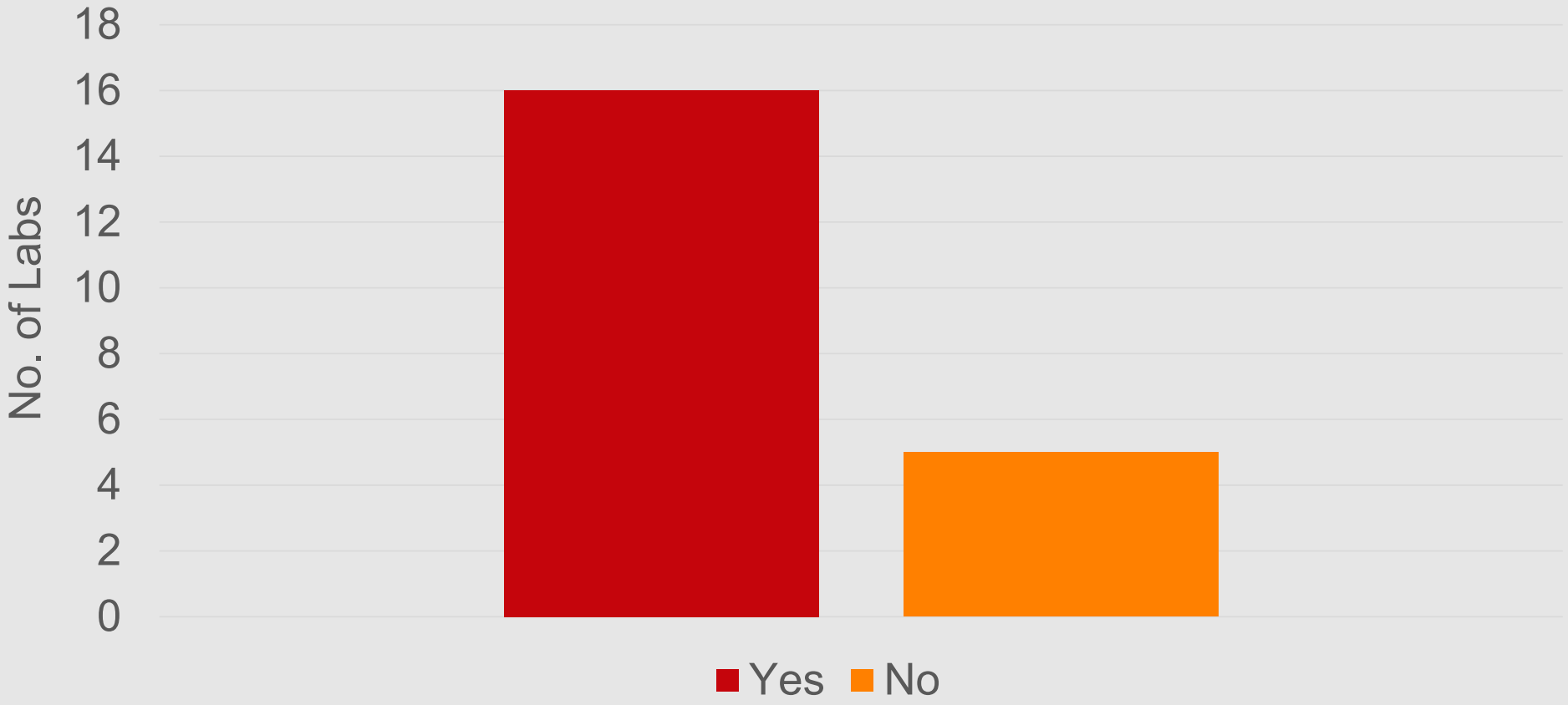

Does your laboratory monitor contamination rates of solid and broth media?

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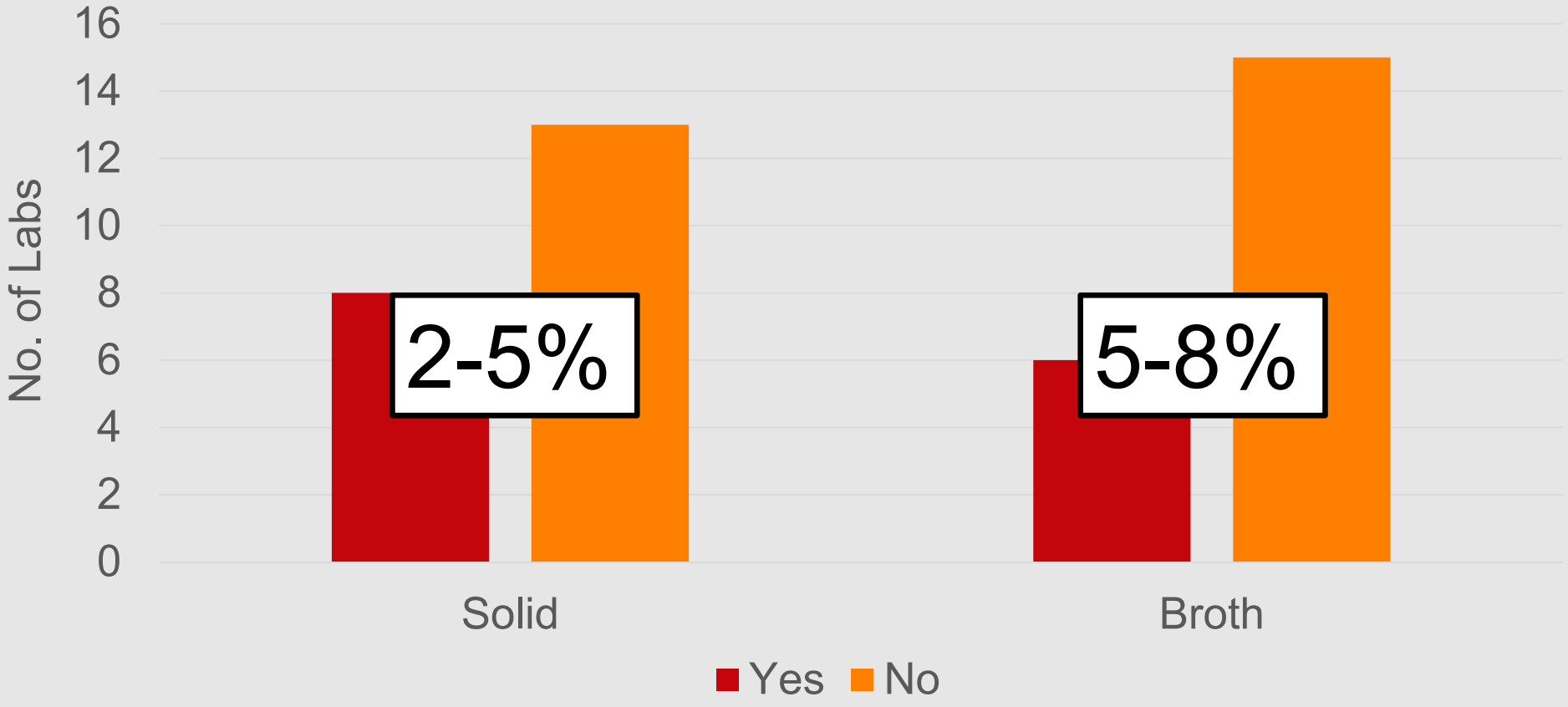

Does your laboratory reprocess contaminated cultures?

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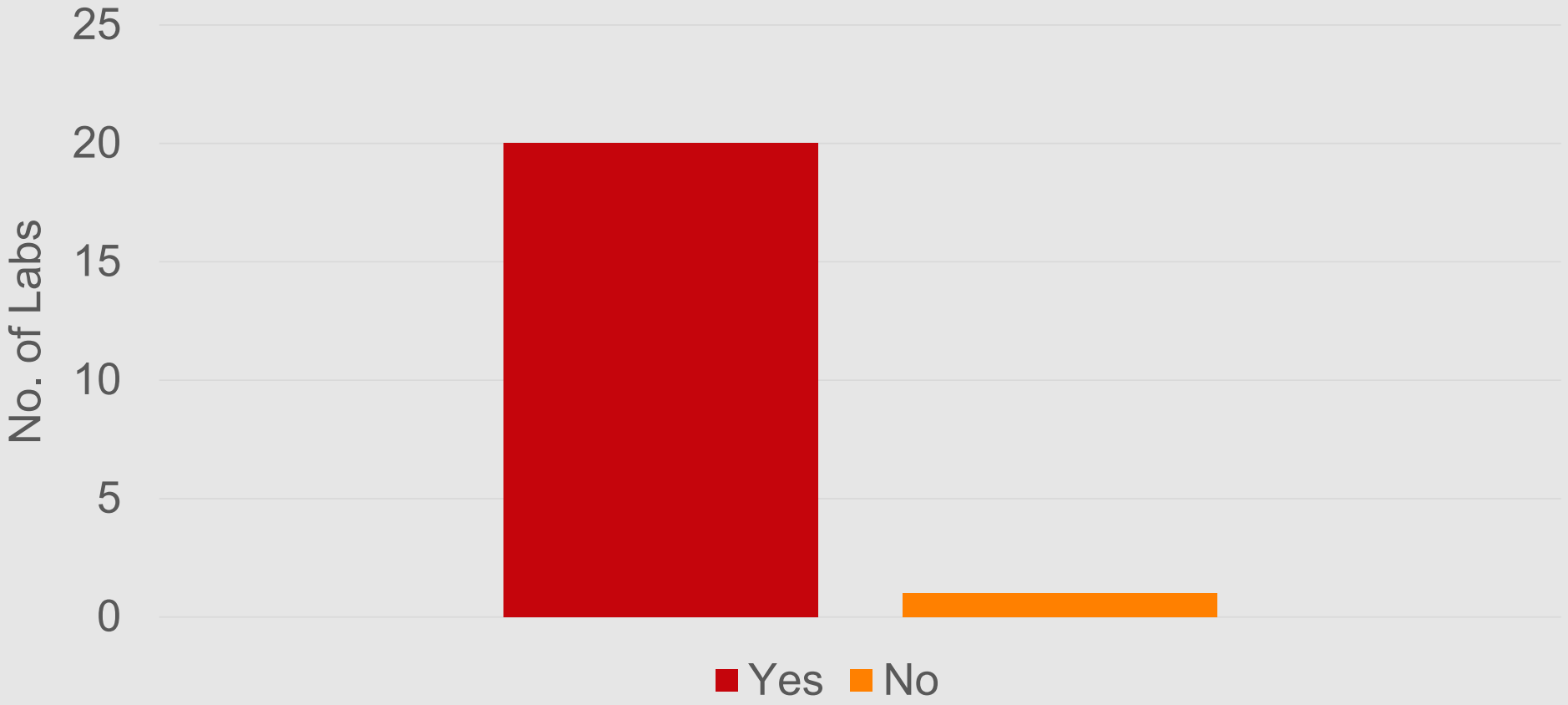
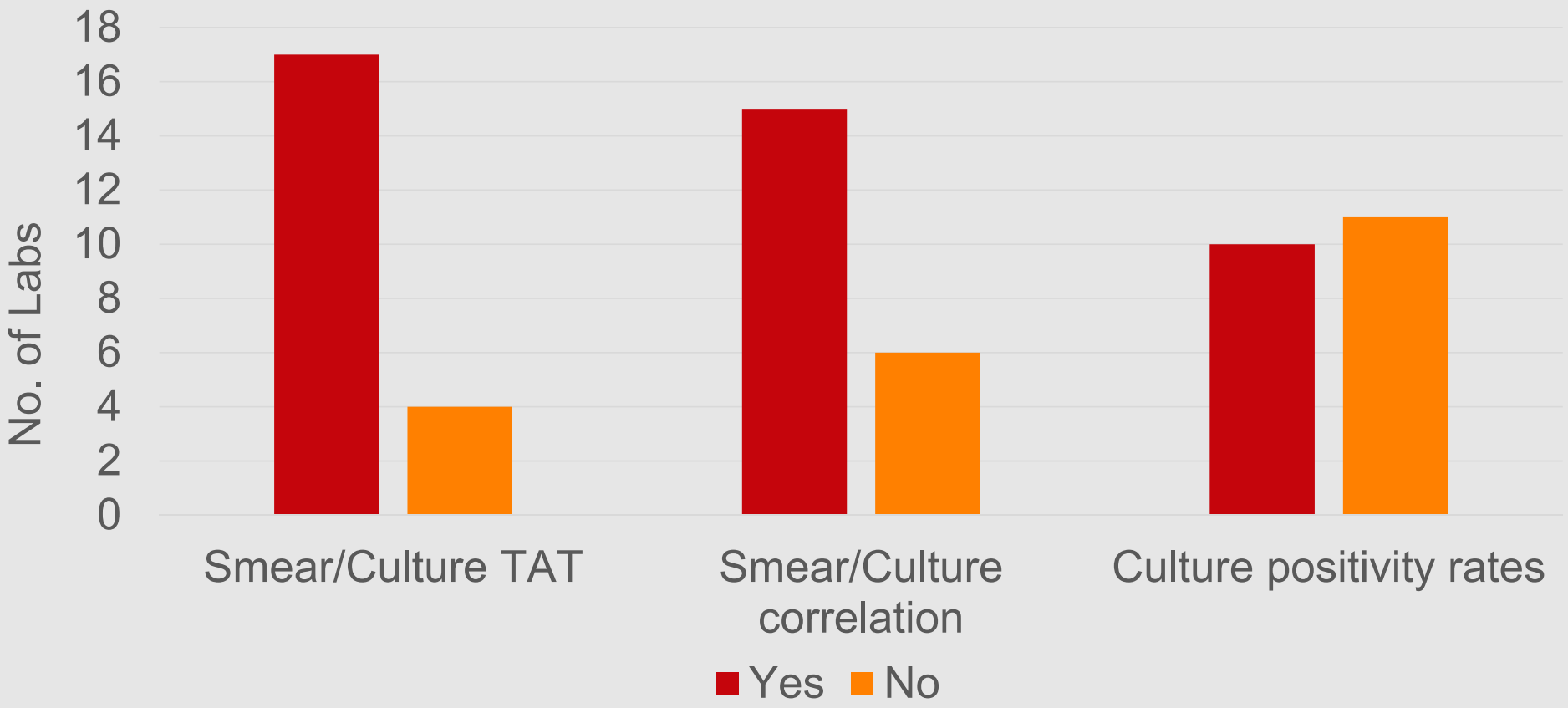


Does your laboratory monitor:

- Turn-around times for smear and culture reporting?
- Smear/culture correlation data?
- Culture positivity rates?

Does your laboratory monitor:



Resources:

- WSLH!
- APHL: Tuberculosis Page
  - https://www.aphl.org/programs/infectious_disease/tuberculosis/Pages/default.aspx
  - Self-assessment tool
  - Mycobacteriology Training Modules
  - Fact Sheets
  - Guidelines and Best Practices
- CDC: Tuberculosis Page
  - https://www.cdc.gov/tb/default.htm
  - False Positive Investigation Toolkit
  - Guidelines
  - Data & Statistics

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Questions?