Results from piloting the checklist for TB surveillance standards and benchmarks:

United States

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U.S. National TB Surveillance System (NTSS)

- Began reporting in 1953
- Current 4-page report form used since 1993, revised to 6 pages in 2009
- Individual patient-level reporting
- Reporting flow: Local to State to CDC
- Electronic reporting
- Reporting areas:
  - Fifty state health departments
  - New York City and District of Columbia
  - Six U.S.-affiliated Pacific Islands, Puerto Rico, U.S. Virgin Islands
TB Reporting and Surveillance System — United States

Suspected TB

Clinician

Local Health Departments
Investigate suspected TB

Laboratories

State Health Departments
• Count cases if definition met
• De-duplicate

National Genotyping Reference Laboratories

CDC
• Validation
• Quality control

(March, provisional data for previous year)

Annual report (Fall, final data for previous year)
Vital Status

- National mortality data (death certificates) reported annually for death by TB.
- Report form collects “dead at diagnosis” and “death during treatment” as outcome.
- Starting in 2009 and 2010, U.S. began reporting TB as cause of death or not on national reporting form.
# U.S. Case Verification and Treatment Outcome

### Case Verification
- Culture-confirmed
- NAAT confirmed
- Smear positive
- Clinical Case
- Provider Diagnosis

### Treatment Outcome
- Completed
- Died
- Moved
- Refused
- Lost
- Adverse treatment event
- Not TB
- Other and unknown
Essential Features (Table 1)

- U.S. meets most of the benchmarks/standards at the federal level.

- Problems identified
  - Surveillance activities are not singled out as a budget item.
  - U.S. surveillance system is decentralized to the state level and in some cases to the local level.
  - CDC doesn’t monitor all activities at the state/local areas.
    - Challenge to uniformly implementing and assessing checklist
  - Case finding or data quality audits of state/local areas not routinely performed.
System Coverage (Table 2)

- U.S. meets many of the benchmarks/standards

- Main successes
  - Questions answered from studies performed in 2010 when US experienced unexpected 11.4% drop in TB cases.
    - Large resource demand for this type of study

- Main challenges
  - Unable to measure some features
    - Assessing under-diagnosis is not part of routine surveillance.
    - Outbreak investigations may assess for under-diagnosis of TB.
  - Many activities performed only in urgent situations or for special studies.
    - Highlights need to clarify assessment period and if checklist is to be used routinely or periodically
Core Data Items (Part 3)

- U.S. meets many of the benchmarks/standards using their definitions

- Main challenges
  - CDC and WHO use different outcome and case verification criteria
    - Data are not completely transferable.
    - U.S. does not recognize case notification rates.
    - Data for outcome status by MDR TB and HIV status are available but not routinely reported.
Data Quality and Completeness (Table 3)

- U.S. meets completeness benchmarks (U.S.-defined) for most reporting variables

- Main challenges
  - CDC has varying benchmarks for each variable and computed variables that differ from WHO.
  - Completeness measured annually
  - CDC does not recognize “core” variables (all variables are requested for report)
  - CDC does not request quarterly aggregate reporting (all reporting is case-based)
  - State reporting varies (daily, weekly, monthly)
Main challenges

- State surveillance is decentralized from the federal level (CDC).
- Many detailed state surveillance activities are unknown.
- Must rely on state-published data and annual state summary reports.
  - Using published data affects representativeness of the pilot results
- CDC reports numerator data that is recalculated and re-interpreted by other agencies causing results to differ from U.S.-published reports.
General comments/Lessons learned

- State health departments are partially funded by CDC through cooperative agreement; not by contract.

- TB treatment outcomes and case classification definitions vary from those of WHO.
  - How would the checklist assess a surveillance system if not all standards/definitions apply?

- Difficult to implement checklist and assess standards and benchmarks for a decentralized surveillance system
Recommendations

- Add separate elements for countries with case-based reporting vs. those with aggregate reporting only.
- TB treatment outcomes and case classification definitions vary from those of WHO.
  - Encourage countries to substitute equivalent elements using their own definitions and benchmarks.
- Add more explicit instructions with examples to promote uniform data collection.
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