Optimizing the Public-Private Partnership for Rapid Tuberculosis Laboratory Testing  

Pak CJ1,3, Desmond E2, Barry PM3, Lin SY2

1Johns Hopkins Bloomberg School of Public Health, 2Microbial Disease Laboratory, CA Dept. of Public Health, 3Tuberculosis Control Branch, CA Dept. of Public Health

Background

- In California, specimens from patients with suspected tuberculosis (TB) are tested by both public health and private sector laboratories
- Local TB programs have noted instances of delay in specimen flow and reporting of results within private sector laboratories
- Delays can impact public health because drug-resistant organisms may be ineffectively treated, acquire further resistance, and be transmitted within communities for prolonged periods of time

Objective

- Use surveillance data to describe public and private laboratory use
- Determine common contributors to delays
- Address delays with multiple interventions

Methods

- Analyzed CA TB Registry data to describe proportion of cases with sputum cultures performed outside a public health laboratory
- Solicited reports of substantial delays from local TB programs
- Reports reviewed by program and laboratory staff to identify common contributors to delays
- Several interventions were implemented to address these contributors

Results

Pulmonary sputum culture positive TB cases by laboratory type 2010-2015

- Commercial & Other
- Public Health

<table>
<thead>
<tr>
<th>Year</th>
<th>% Cases</th>
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<tbody>
<tr>
<td>2010</td>
<td>0%</td>
</tr>
<tr>
<td>2011</td>
<td>10%</td>
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<tr>
<td>2012</td>
<td>20%</td>
</tr>
<tr>
<td>2013</td>
<td>30%</td>
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<tr>
<td>2014</td>
<td>40%</td>
</tr>
<tr>
<td>2015</td>
<td>50%</td>
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Cochran-Armitage trend: p<.0001

Common Contributors to Delays

- Delays in reporting
  - Not reporting results to health department, only to provider*
  - Not reporting preliminary results
  - Complex communication procedures
- Logistical procedures
  - Transport within facilities in the system
  - Sub-culturing each time isolates arrive
  - Not performing DSTs unless ordered*
- Underutilization of rapid tests such as molecular detection of drug resistance

*Required by CA Code of Regulations

Conclusions

- Private sector laboratories play an increasing and critical role in the diagnosis of TB in California
- Interventions to build channels of communication and increase knowledge of reporting guidelines between local TB programs and private laboratories had good qualitative outcomes

Limitations

- Challenges were detected by passive reporting and assessed qualitatively

Next steps

- Continue building communication and partnerships to improve timeliness in TB specimen flow, processing, and reporting
- Integrate input from seven local TB programs currently piloting the toolkit (Yolo, Humboldt, El Dorado, Alameda, Los Angeles, San Francisco) and distribute toolkit to all TB programs
- Analysis in progress on turnaround time of DSTs for multidrug-resistant TB patients by laboratory type

Webinar

- Jointly presented by CA Microbial Disease Laboratory and CA TB Control Branch
- Invitation by official departmental correspondence
- Attended by >150 laboratorians from >55 laboratories
- 72 of 72 (100%) attendees who evaluated the webinar indicated the presentation increased their knowledge of the subject matter

Was there anything you found particularly effective about the course?

- “The importance of timely reporting was emphasized throughout the entire presentation.”
- “Explaining the hierarchies of reporting to the public health lab or what to further do if a lab discovers a TB culture”
- “The explanation of how pyrosequencing works is very helpful”
- “How and when to send isolates for confirmation/testing”
- “Collaboration between TB control program and laboratory”
- “The importance of molecular methods to decrease turn round time of TB testing”
- “The expertise is amazing. Thanks for a great presentation”

Toolkit for Working with Private Laboratories

- 10-page written guide for local TB programs
- Developed with information gained from:
  - Conference calls with commercial laboratories
  - Experience with customer service
  - Reports from TBCB program liaisons and local TB program staff
- Includes contact information for three large commercial laboratories and State MDL
- Tips to guide communication and understand specimen flow (Copies available for viewing purposes, please ask!)

For more information, please contact Christy Pak christy.pak@cdph.ca.gov

Acknowledgments: Local TB control programs, local public health laboratories, commercial laboratories, TB program liaisons

References: 1) Cal. Code Regs. tit. 17, § 2505