It's All About That Data: Five Year Laboratory Trends from TB Elimination Cooperative Agreements

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Why do we collect all that data and what do we do with it?

IT'S ALL ABOUT THAT DATA

Why the Emphasis on Data

- We are all doing more with less
  - Greater emphasis on accountability
- Every dollar spent must have greatest possible impact
- Need to document Return on Investment (ROI)
  - Maximizing ROI for each program allows demonstration of impact – and may provide case for maintaining funding
- Collecting, analyzing, and reporting laboratory data fundamental to DTBE's Laboratory Capacity Team (LCT) mission

Maximizing CDC's Impact, Thomas R. Frieden, MD, MPH
Director, Centers for Disease Control and Prevention , May 16, 2011 CDC All-Hands Meeting

What do We do With the Data?

- Some used in funding formula calculations
- Provides LCT opportunities to be responsive and adaptive to needs of PHL
- Allows strengthening of capacity
  - evaluate laboratory services and systems
  - measure program impact
  - navigate change
  - improve service delivery in the prevention and control of tuberculosis

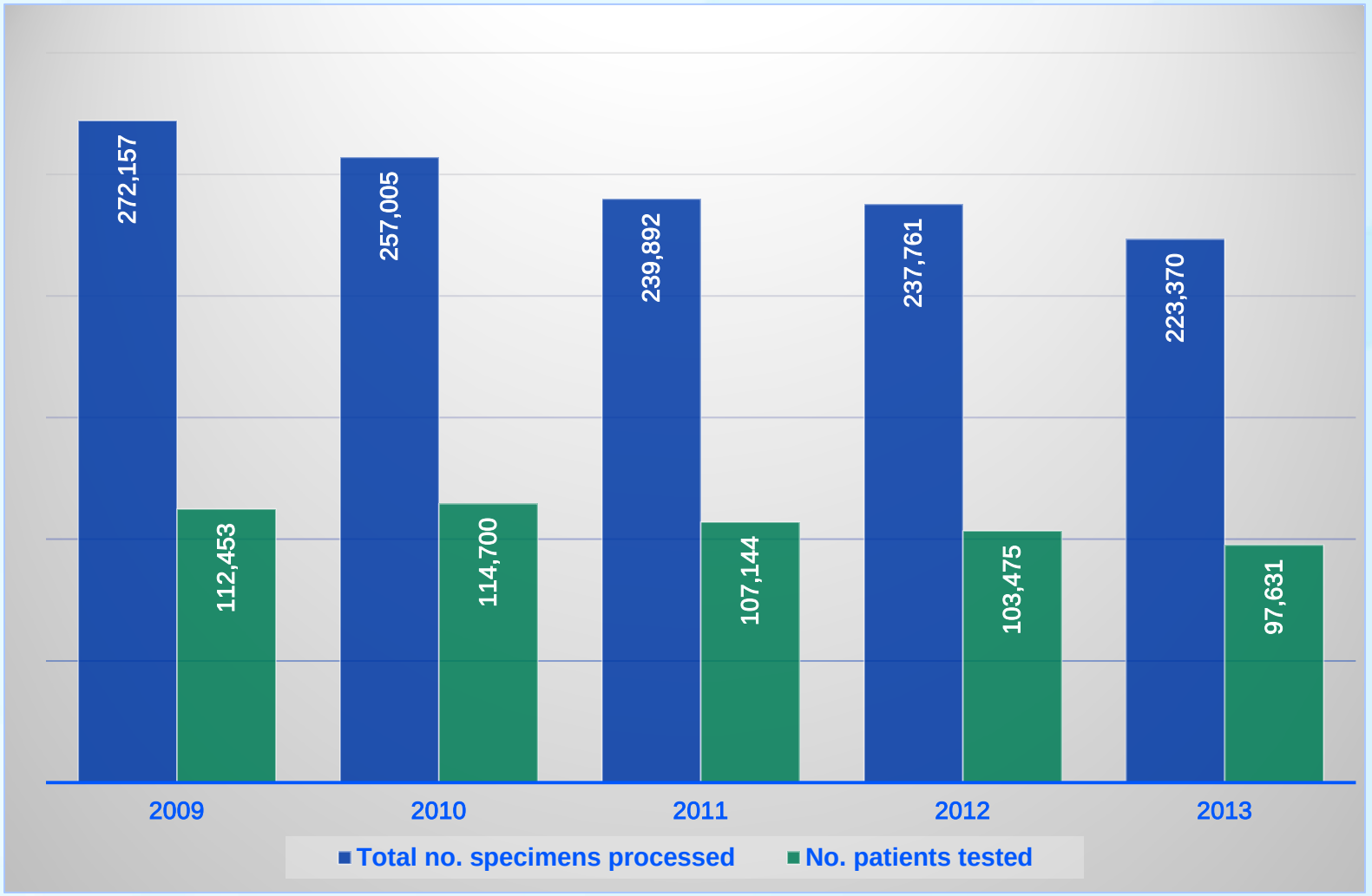
Sources of Data

- **Cooperative Agreement Applications**
  - Required elements
    - Workload
    - Turnaround times
  - Narratives
    - Methods
    - Algorithms
- **Site Visits**
  - More details regarding laboratory operations
- **National Surveillance Data**
  - How much TB testing is done in PHL?

Trends Analyzed

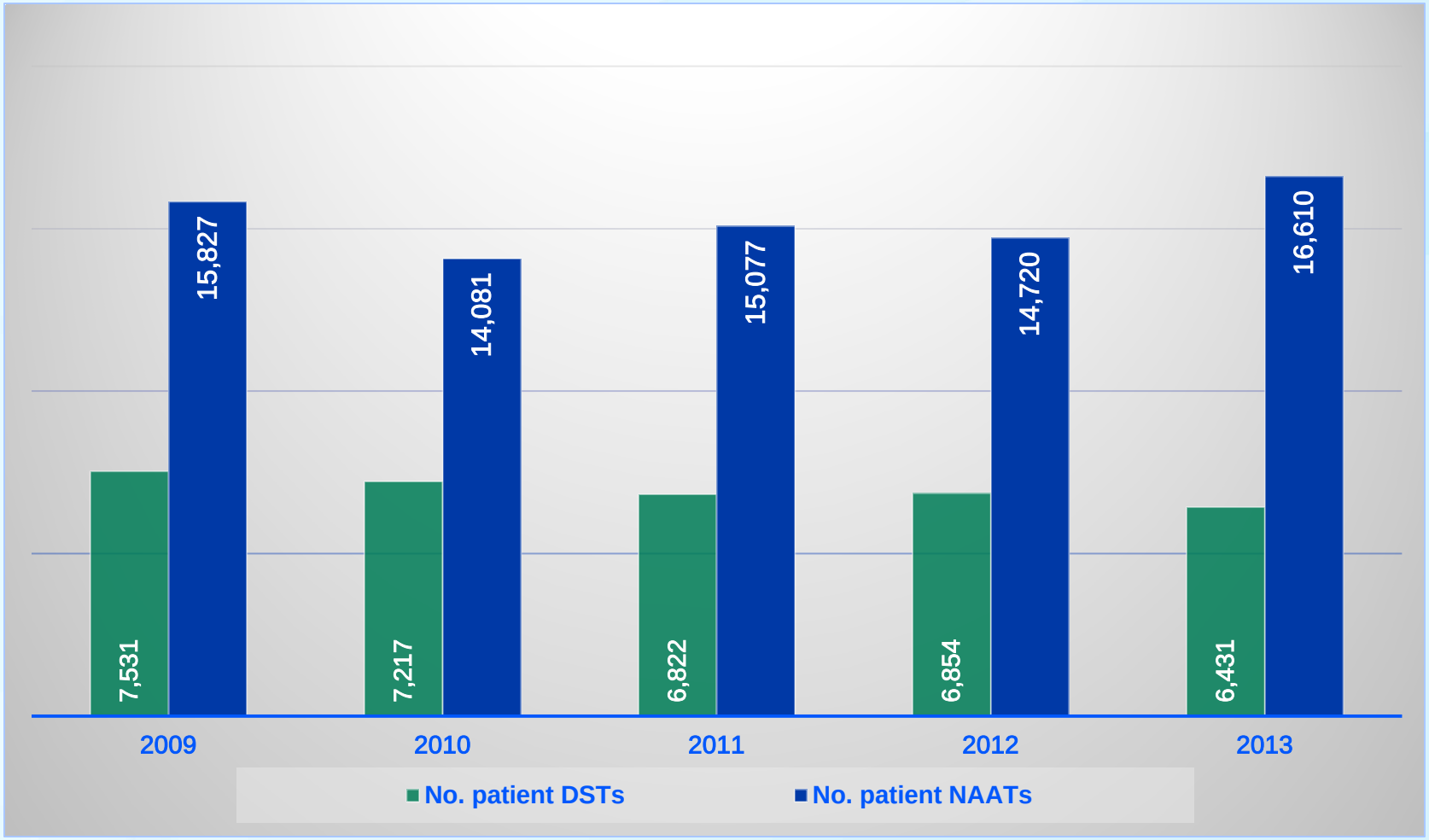
- Workload
- Turnaround Times
- Methods and Algorithms
- Comparisons to Surveillance Data

Workload Trends, 2009 – 2013



Workload Trends, 2009 – 2013

Workload Trends, 2009 – 2013, con't.



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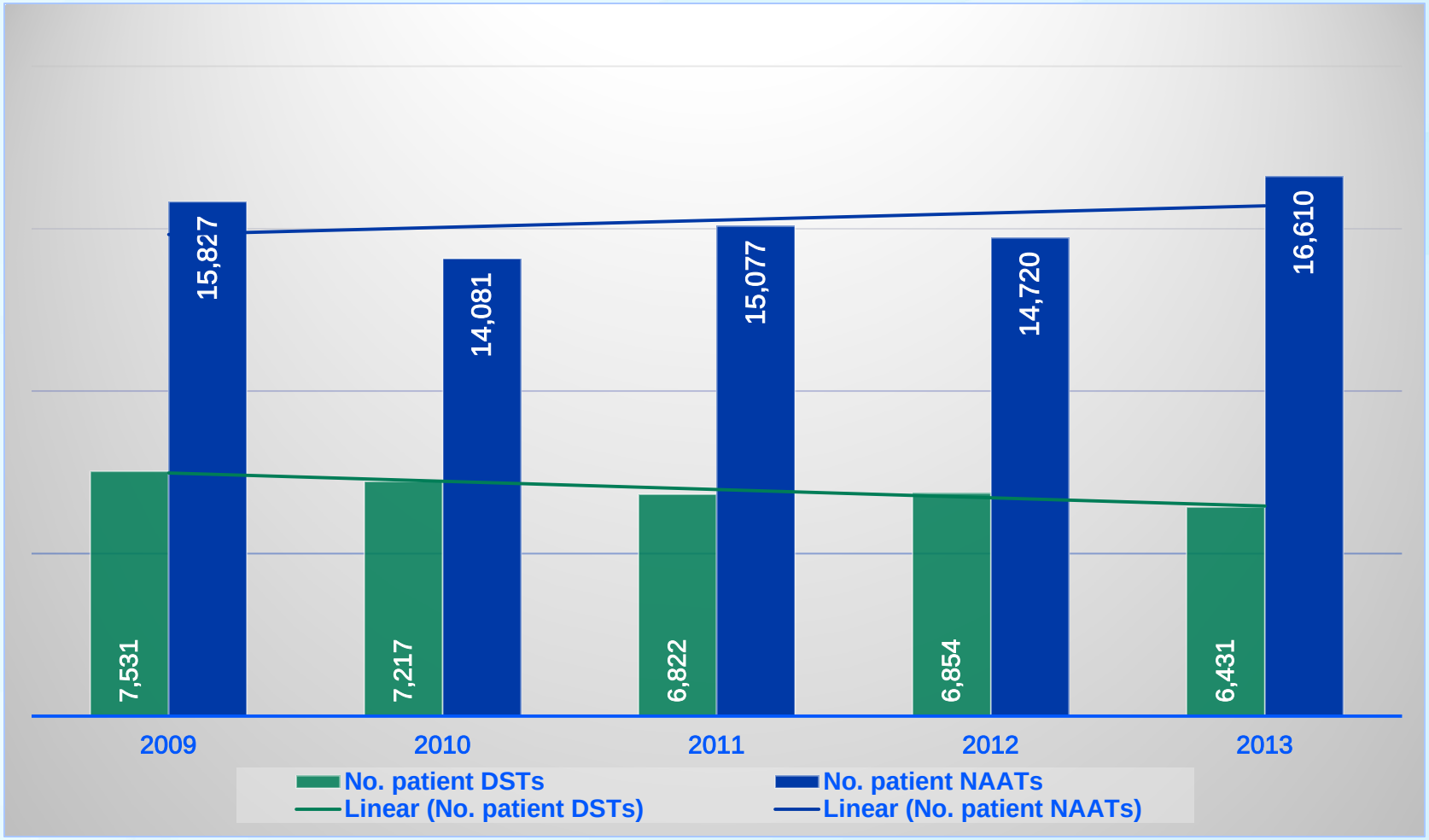
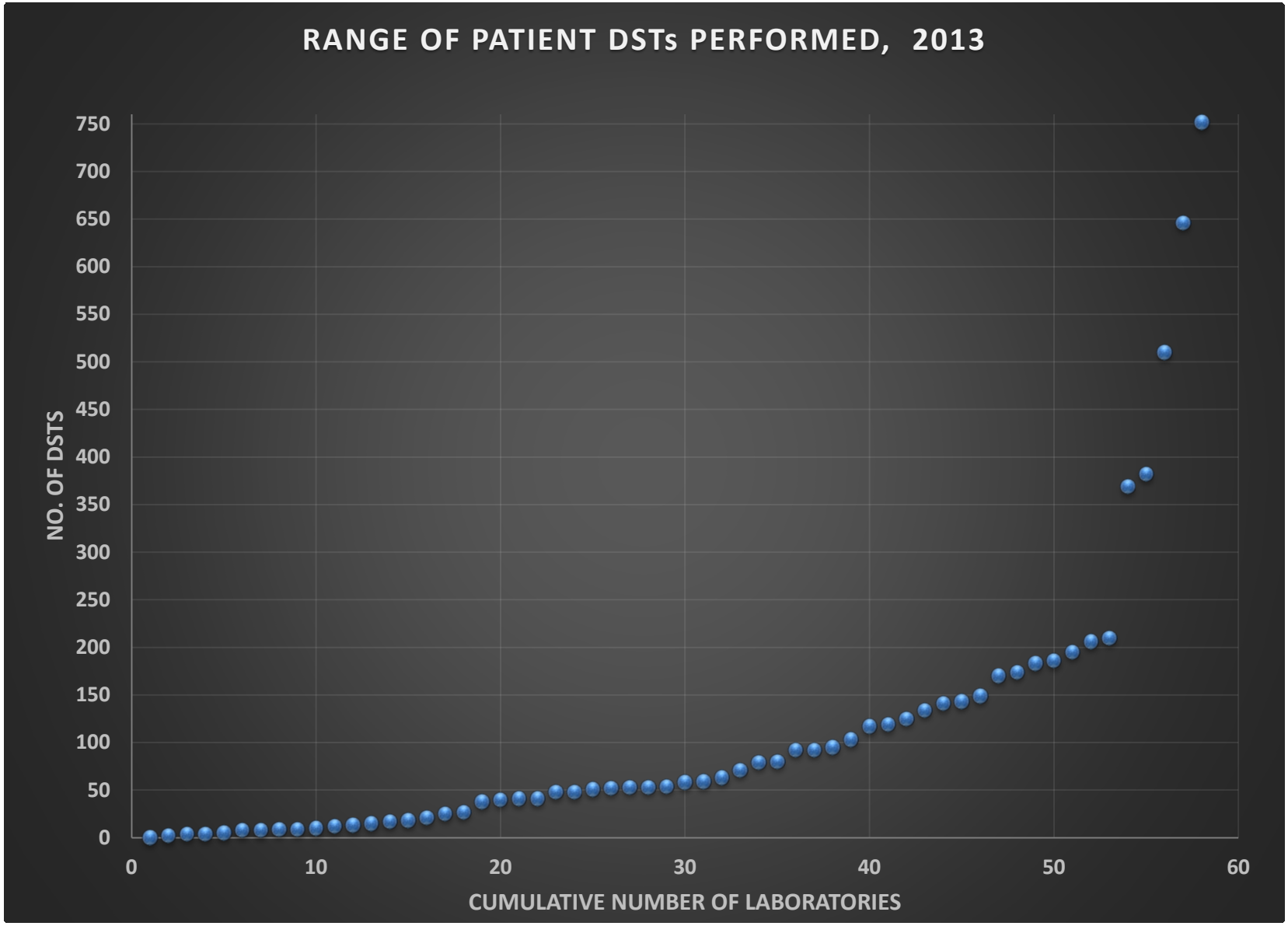
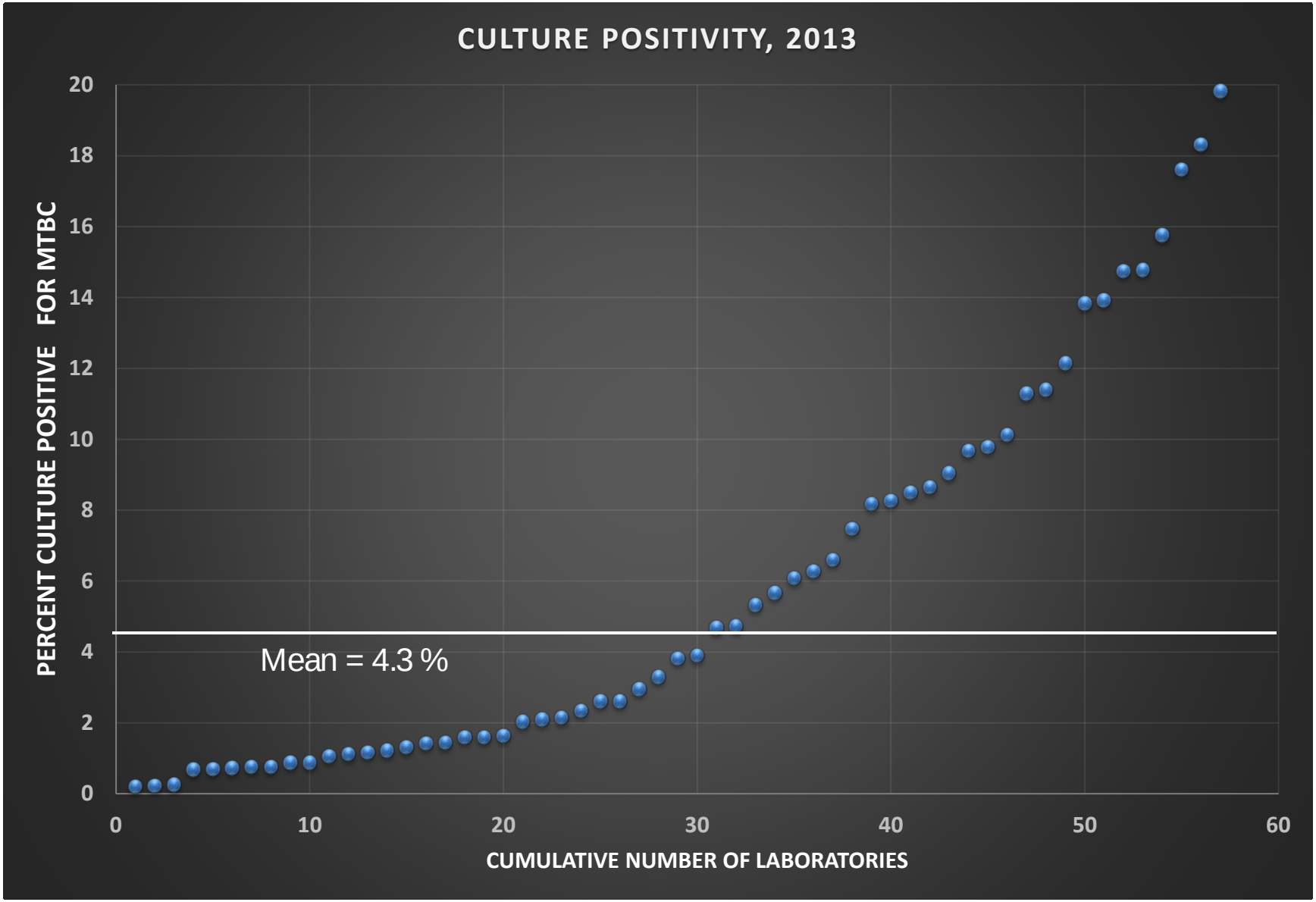
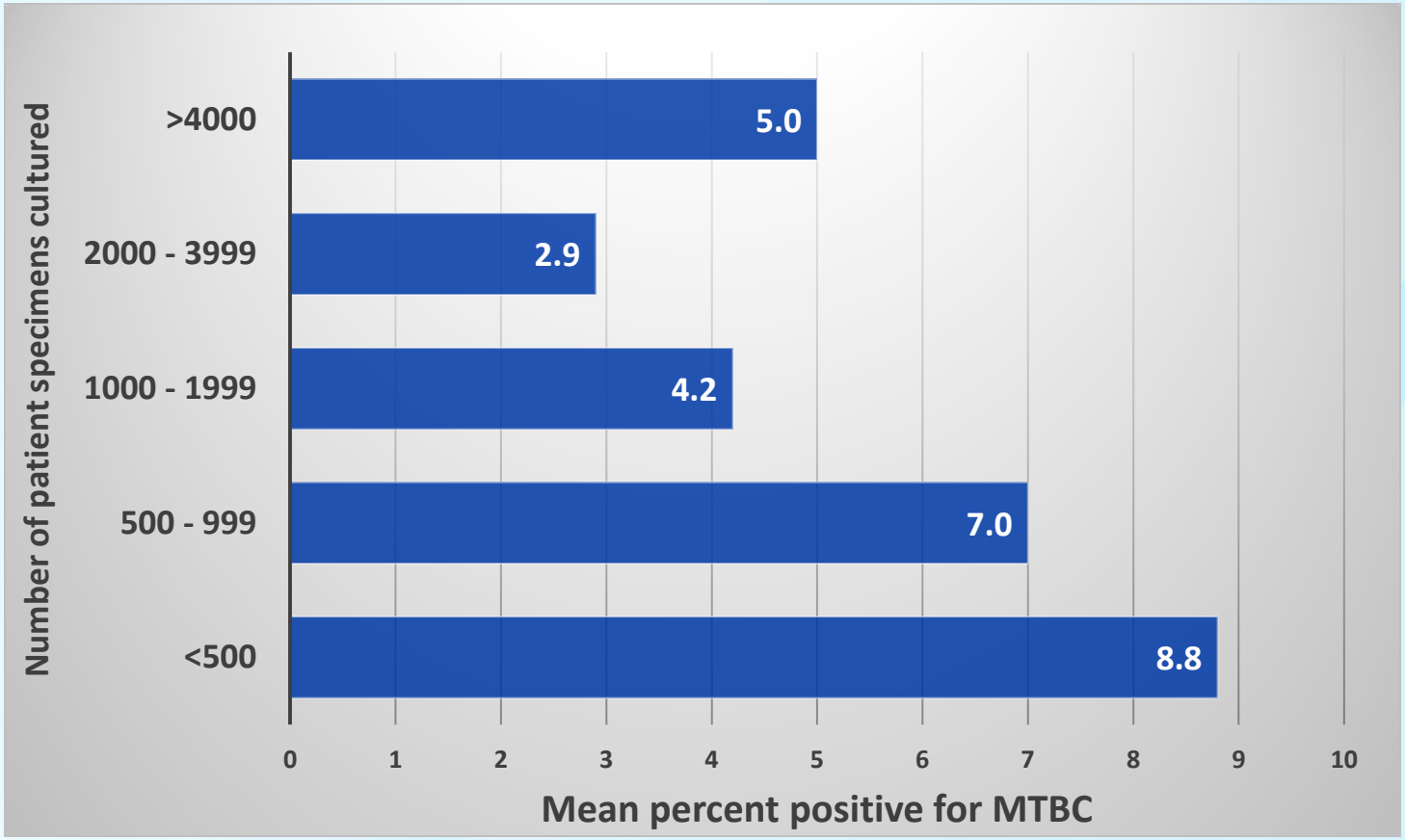



RANGE OF PATIENT DSTs PERFORMED, 2013
NO. OF DSTS
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
0
10
20
30
40
50
60
CUMULATIVE NUMBER OF LABORATORIES

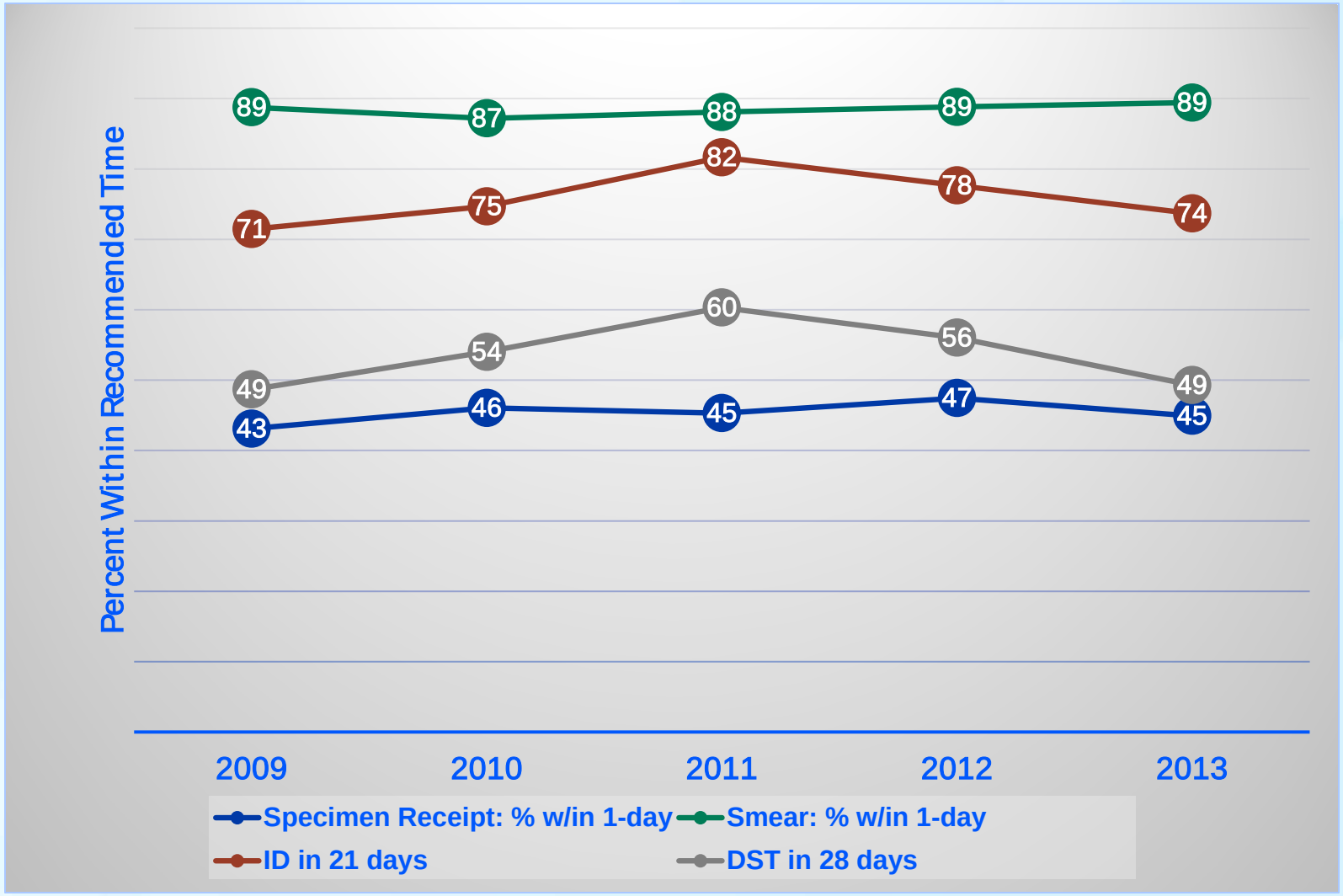

CULTURE POSITIVITY, 2013
PERCENT CULTURE POSITIVE FOR MTBC
20
18
16
14
12
10
8
6
4
2
0
Mean = 4.3 %
0
10
20
30
40
50
60
CUMULATIVE NUMBER OF LABORATORIES

Culture Positivity Stratified by Testing Volume, 2013

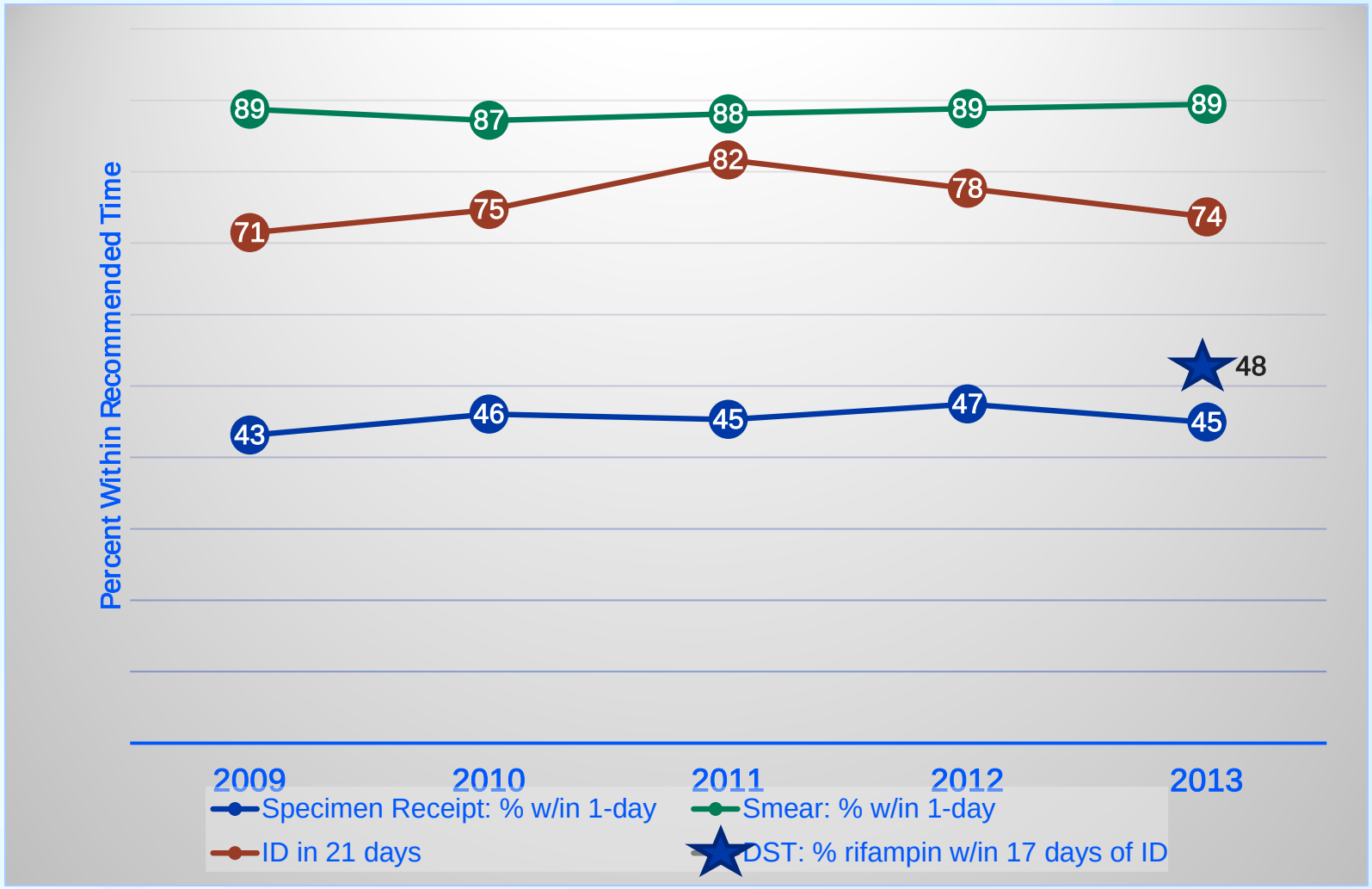


In 2013, culture positivity increased as volume decreased (except for the 4 highest volume laboratories). Overall in U.S. PHL, 4.3% culture positivity was seen for MTBC.

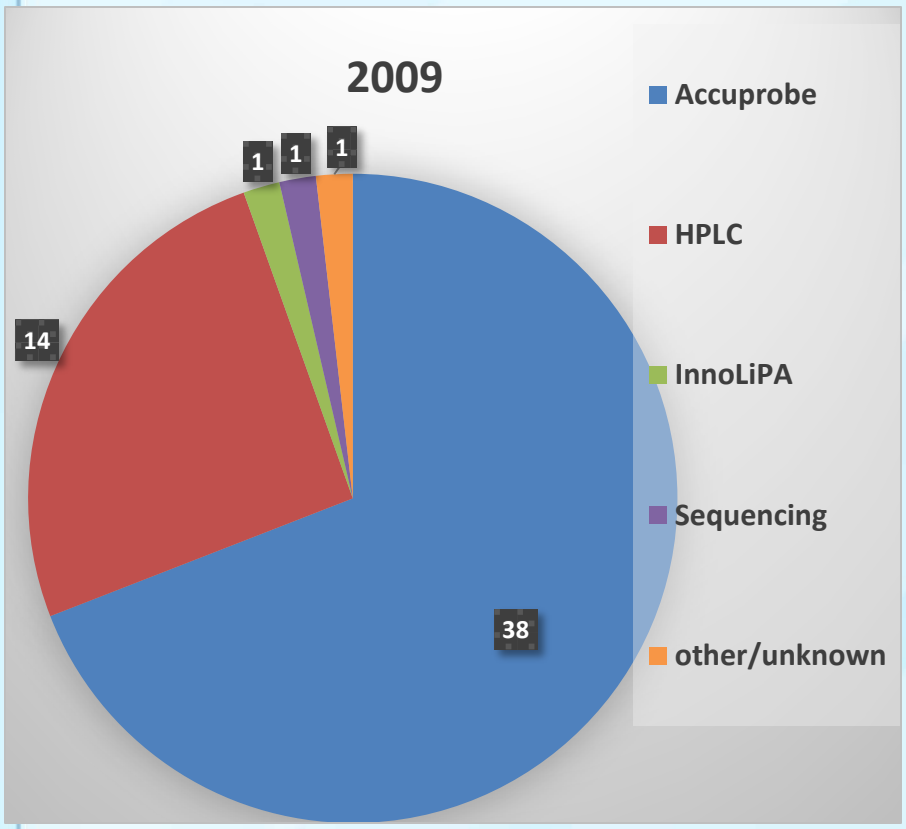
National Trends in TAT

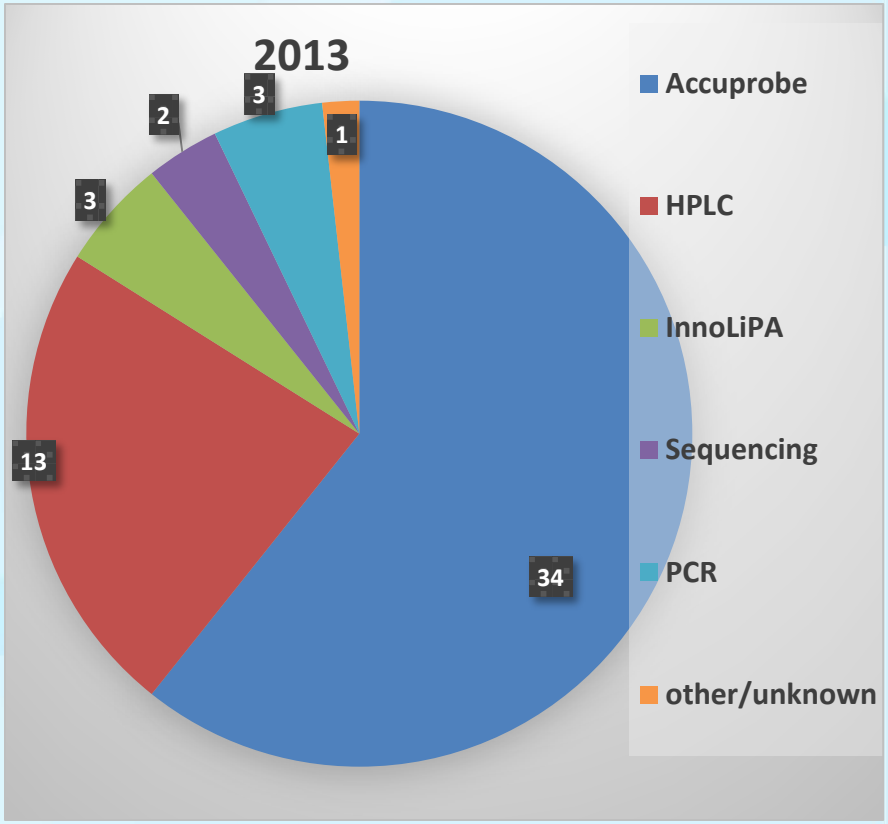


National Trends in TAT

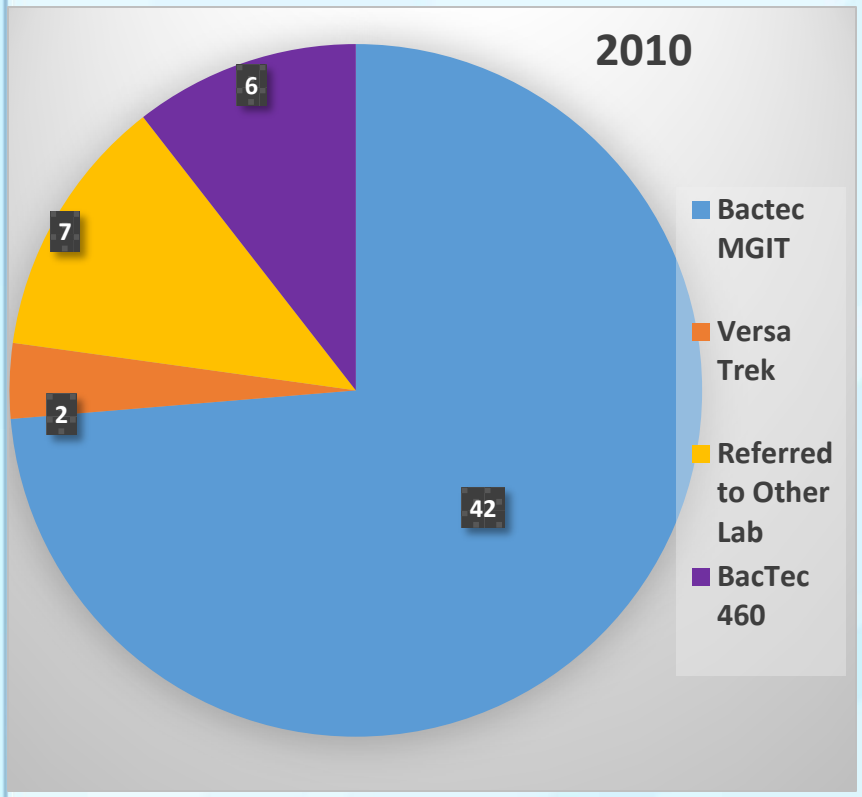


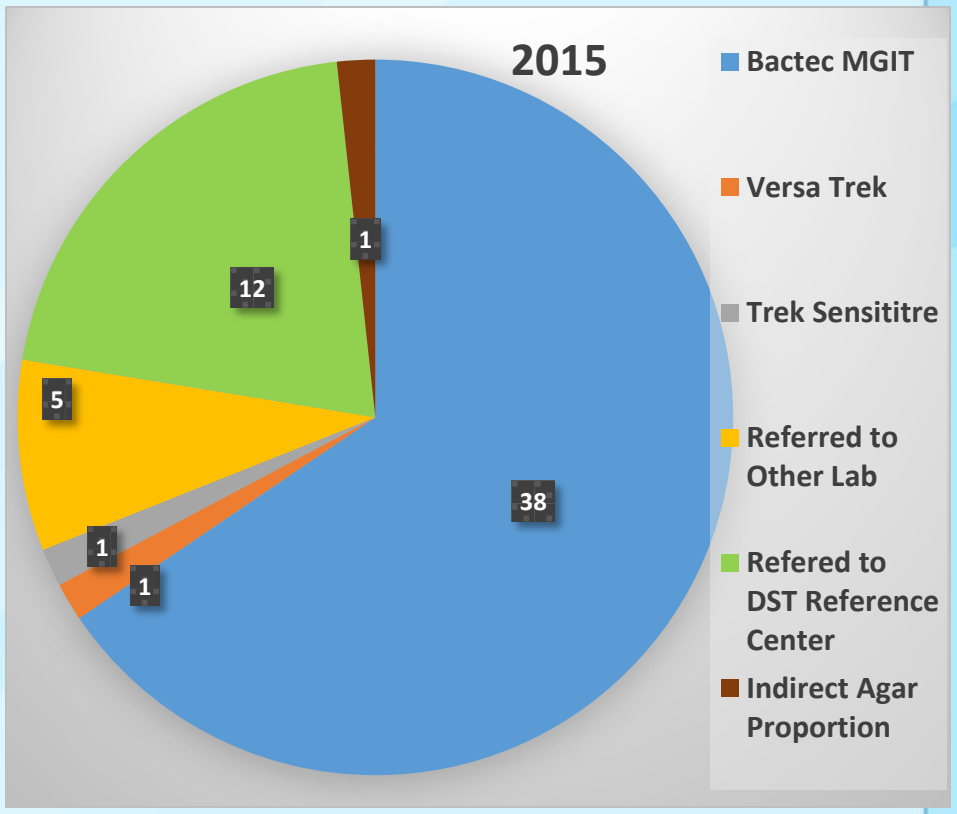
Trends in Primary Identification Methods





Trends in First-Line DST Methods

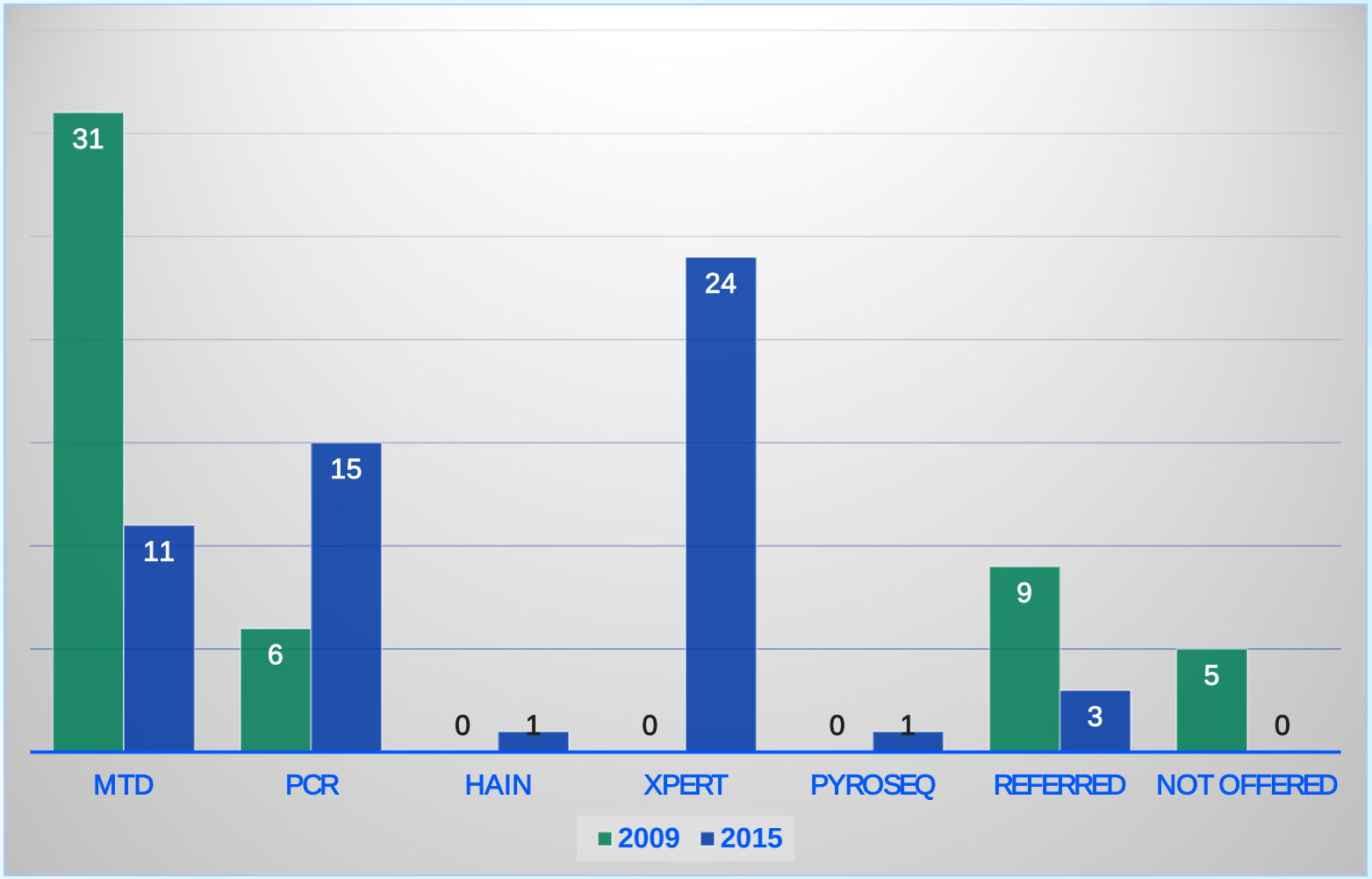




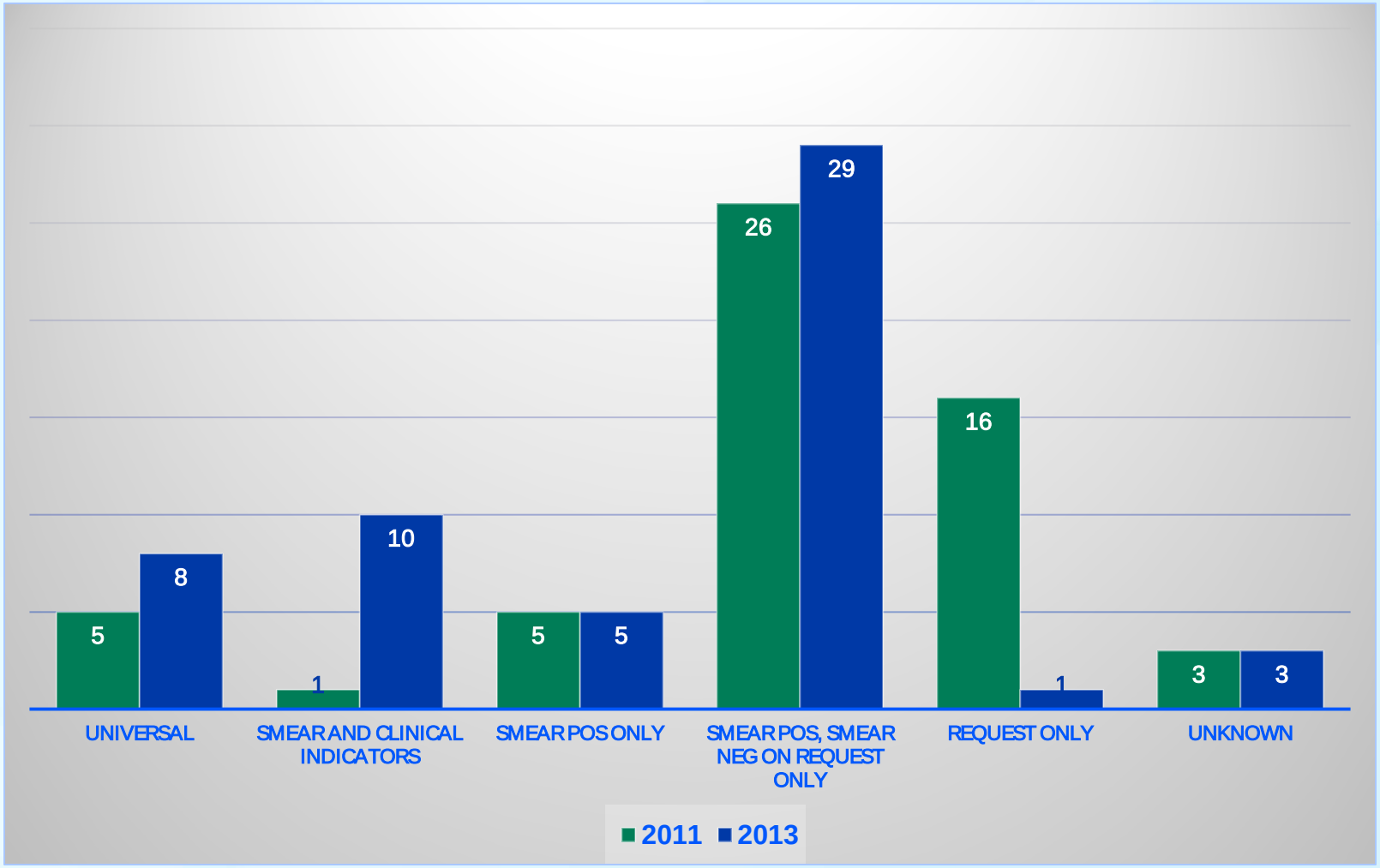
Second-Line DST

Second–line DST in U.S. PHL		
	2010	2015
No. PHL performing SL–DST	18	17
No. PHL that reported SL–DST panel	16	14
No. PHL testing at least 1 SL–INJ and 1 FQ	16	13
No. PHL testing >1 FQ	4	3
No. PHL testing all 3 SL–INJ	4	4

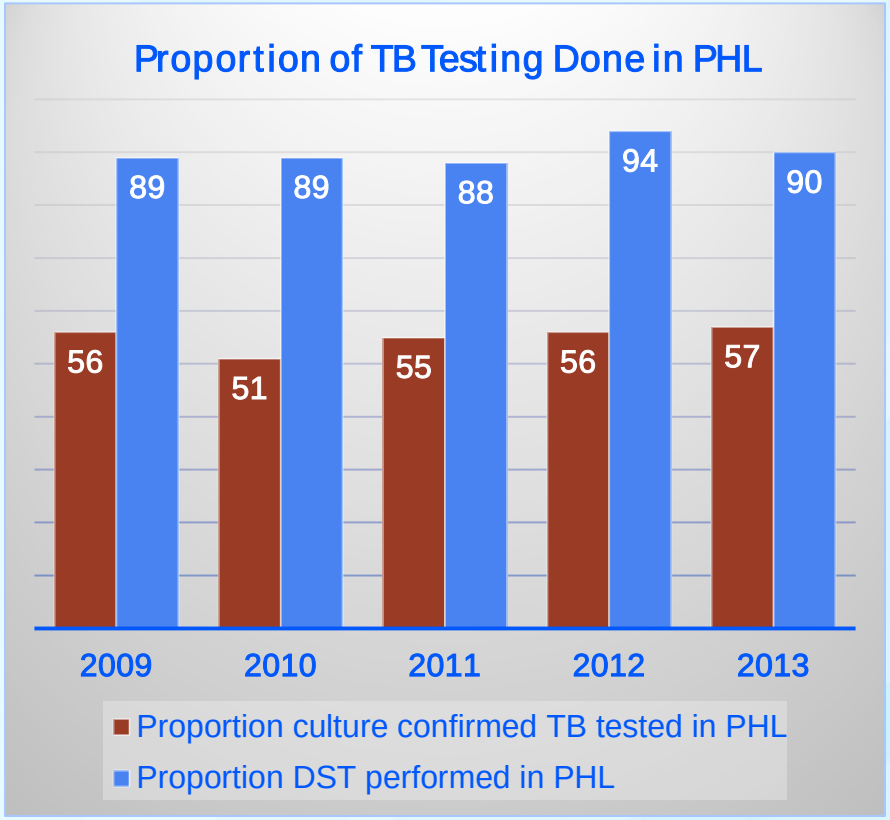
Trends in NAAT Methods



Trends in NAAT Algorithms



Comparisons to Surveillance Data



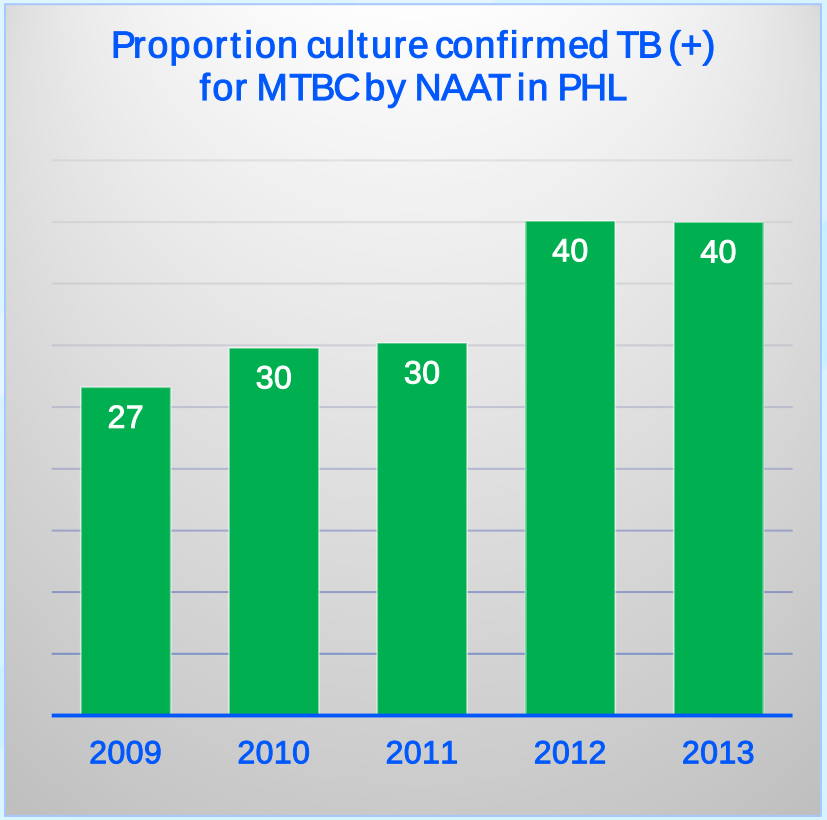


Chart 1: Denominators: Number of culture confirmed TB, and number of culture-confirmed TB that had DST done, U.S., 2013. Numerators, number of patients (+) for MTBC by culture in PHL, and number of patient DSTs done in PHL, 2013.

Chart 2: Denominator: Number of Culture confirmed TB cases, U.S,. 2013. Numerator: Number of patients (+) for MTBC by NAAT in PHL, 2013

Conclusions

- **Volume of TB diagnostic testing is declining in the United States**
  - NAAT is on the rise
- **Substantial proportion of TB testing in United States is contributed by PHLs**
  - Culture and DST proportion has remained stable or slightly increasing
  - NAAT proportion significantly increased from 2009
- **PHLs are very diverse in their roles within jurisdictions**
- **PHLs are very adaptive**
  - Uptake of rapidly changing technologies, changes in data-driven algorithms, increased collaborations with partners

Individual Site and National Data Reports

Available 2:30pm – 3:00pm In This Room (during break) with the Laboratory Consultant for Your Site

Stephanie Johnston

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Indiana
Kentucky
Michigan
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