Leveraging the Attention
HOW TEXAS TOOK ADVANTAGE OF HEIGHTENED NATIONAL AWARENESS TO EXPEDITE ONGOING SPECIMEN TRANSIT QUALITY IMPROVEMENT EFFORTS

BRENDAN REILLY
Program Specialist
Texas DSHS Newborn Screening Laboratory
2014
Texas Newborn Screening Performance Measures Project

- Initiated Sept. 2007
- Develop evidence-based performance measures to improve patient care for newborns identified with disorders through the newborn screening program

<table>
<thead>
<tr>
<th>Pre-analytical Measure</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specimens Unsuitable for Testing</td>
<td>100% Satisfactory Specimens</td>
</tr>
<tr>
<td>Timing on Initial NBS Specimen Collection</td>
<td>100% Collected between 24 and 48 hours</td>
</tr>
<tr>
<td>Specimen Transit Time from Collection to State Laboratory</td>
<td>100% Received within 72 hrs from collection</td>
</tr>
<tr>
<td>Specimen Missing Key Demographic Information</td>
<td>100% Submission of all key demographic information</td>
</tr>
</tbody>
</table>
Specimen Collection Rules and Instructions

- Texas Administrative Code (Rules)
  - Drawn between 24 and 48 hours or immediately prior to discharge
  - Blood specimens must be mailed to the department within 24 hours after collection.

- Instructions
  - Must ship dried specimen **WITHIN 24 HOURS.**
  - DO NOT hold specimens for bulk mailing. Send within 24 hours of collection.
Quality Improvement Assistance for Healthcare Providers

- Newborn Screening email distribution list (>7000 recipients)
- Fax notifications
- Educational Inserts
  - Kit Orders
  - Result Reports
- Submitter telephone consultation
- Onsite Presentations
Quality Improvement Education

- Report Cards
- Online Resources
  - Specimen Shipping Instructions
  - Specimen Collection Video
  - Unsatisfactory Specimen Guides
- Yearly Reminders Prior to and During Holidays
- Quarterly Quality Improvement Hints

TIPS TO AVOID THIS TYPE OF REJECTION:

- Allow the card to dry thoroughly in a horizontal position for a minimum of 3-4 hours after the specimen has been collected.
- Ship dried specimens directly from the collection facility to the Newborn Screening Laboratory.
- Ship dried specimens within 24 hours, preferably via overnight courier. If mall or courier services are unavailable, ship as quickly as possible.
- Do not batch or hold specimens for bulk mailing.
- Ensure proper postage.
- Note that mall holidays (Christmas, Thanksgiving, etc.) will further delay delivery.
- Consider the use of courier services, especially during the holidays.
- Ensure that all specimens are sent with a correct Date of Collection.
- Identify internal processes which may delay shipment and look for possible improvements.

- Remember to Use Correct Mailing Address when Sending Specimens:
  - If using Overnight/Priority Shipping (UPS, DHL, FedEx, etc) please use this address:
    Texas Department of State Health Services
    Laboratory Services Section, MC 1947
    1100 W. 49th Street
    Austin, TX 78756-3199
  - If sending by regular mail, please use this address:
    Texas Department of State Health Services
    Laboratory Services Section, MC 1947
    PO Box 149341
    Austin, TX 78714-9341

Specimen Transit Time from Collection to State Laboratory

<table>
<thead>
<tr>
<th>Goal: Received within 72 hrs from collection</th>
<th>Count</th>
<th>Percent</th>
<th>State Average</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>495</td>
<td>495</td>
<td>90.49%</td>
<td>68.02%</td>
<td>100%</td>
</tr>
<tr>
<td>Received by state laboratory &lt;24 hrs from collection</td>
<td>203</td>
<td>37.11%</td>
<td>12.33%</td>
<td></td>
</tr>
<tr>
<td>Received by state laboratory &lt;48 hrs from collection</td>
<td>406</td>
<td>74.22%</td>
<td>46.10%</td>
<td></td>
</tr>
<tr>
<td>Received on day 14 or more - rejected for testing</td>
<td>0</td>
<td>0.00%</td>
<td>0.11%</td>
<td>0%</td>
</tr>
</tbody>
</table>
Pilot project started April 2010
- Did not cover all facilities
- Did not include pickups on weekends or major holidays
- Set up as a single tier service that included special handling for all shipments

Expanded 2012

Cost ~$2.5 million

NBS Submitter Accounts: 432
Covers 67% of NBS specimens
Courier Effect on Delayed Specimens

- 1st screen Specimens Received ≤3 Days after Collection
  - Before ~46%
  - After ~70%
- 2013 - Lean Six Sigma Project to Improve Courier Efficiency
2013

- 392,358 1st screens
- ~400 birthing facilities and healthcare providers
  - ~270 Hospitals
  - ~130 Birthing centers, clinics, and midwives
- ~30% of all 1st screens received > 3 days after collection
- Of 280 largest birthing facilities
  - 261 >10% 1st screens delivered > 3 days
  - 99 >50% 1st screens delivered > 3 days
- 25 facilities responsible for 37% of delayed specimens

% of Specimens Received > 3 Days after Collection

[Map of Texas showing various cities and counties]
Transit Time Workgroup - Strategy for Improvement

- Expand Issue Awareness
- Identify Submitter Barriers and Issues
- Review and Revise Submitter Education
- Implement New and Ongoing Outreach Initiatives
- Pursue System Improvements
- Target 25 Sites with most specimens delayed
- Enhance Monitoring
- Expand Scope to Include Other Key Quality Measures
Expand Issue Awareness / Gather Information

• Series of listserv notices
• Stakeholder Consultation
  o Agency Management
  o Advisory Committee
  o Healthcare Professional Organizations
• Submitter Phone Consultation
  o 25 Sites with most specimens delayed
  o >50 smaller facilities with high percentage of delayed specimens
  o Best performing sites
• Onsite Consultations by NBS Medical Director
• Joint letter to Hospital CEOs from DSHS Commissioner and Texas Hospital Association
• Submitter Survey
Submitter Barriers to Meeting the Timeframe

- Cost of using an overnight courier for shipment of specimens.
- Limitations of DSHS Courier
- Use of hub hospitals as intermediary shipment points before sending to the Laboratory.
- Batching of samples taken over multiple days before shipment due to cost concerns.
- Flawed systems and communications among departments within hospitals (i.e. nursery, lab, and shipping).
- Misinterpretation or miscommunication about the timeline for specimen collection, drying, and shipment.
Workgroup Initiatives

- Excessively high delay rate following Thanksgiving
- 12/13/13: Transit Time Listserv notice
- Dec. 2013: Direct contact of > 100 facilities
- 01/15/14: All Top 25 added to courier
- 01/23/14: Model Workflow Notice
- 02/11/14: Initiated Monthly Top 10 Calls
- 02/17/14: Added Key Holiday Courier Pickups
- 02/19/14: Monthly Spotlight Recognition
- 03/14/14: Added Sunday Courier
- 04/08/14: Spotlight Newsletter
- 04/14/14: Initiated Tier 2 Courier Pilot
- 05/17/14: Monthly Spotlight Expanded
- 08/14: Biweekly email followup of Top 10
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- 08/14: Biweekly email followup of Top 10

Graph showing % 1st screens received ≤
Outreach Initiatives – Spotlight Recognitions

- High Volume Site Recognition
  - Large facility with best overall adherence to performance measures
  - Top performing large sites for transit time

- Lower Volume Provider Recognition
  - List of all providers that meet performance measures 100%
New Outreach Initiatives – Top 10

- Monthly follow-up with 10 facilities with highest volume of delayed specimens in previous month
- Escalate Repeat Offenders
- Biweekly follow-up with statistics
25 Target Sites

- All sites consulted regarding internal workflows
- Courier status
  - 8 already using courier
  - 17 added between Nov. 2013 and Jan. 2014
- December 2013 – 4429
- August 2014 - 666
Transit Time Status Summary

% 1st Screens Received ≤3 Days

- January: 65% (2013), 60% (2014)
- February: 70% (2013), 75% (2014)
- March: 80% (2013), 85% (2014)
- April: 80% (2013), 85% (2014)
- May: 80% (2013), 85% (2014)
- June: 90% (2013), 95% (2014)
- July: 90% (2013), 95% (2014)
- August: 90% (2013), 95% (2014)
- September: 70% (2013), 75% (2014)
- October: 70% (2013), 75% (2014)
- November: 65% (2013), 60% (2014)
- December: 50% (2013), 55% (2014)
Next Steps

- Continue outreach activities
- Expand courier services to all submitters
- Expand submitter tracking and education to include other quality measures
- Reassess TNSPMP Performance measure goals
- Assess laboratory workflows and improve laboratory turnaround times
Thank You

Transit Time Workgroup
Salvador Arreola
Amani Khamis
Sepehr Arshadmansab
Calvin Chapa
Callie Bresette
Evila Atkinson
Crystal Fitzhugh
Pearl Smith
Amy Schlabach