Improving Transit Time of Newborn Screening Bloodspots in Arizona

Celia Nabor, MPA
Chief, Office of Vital Records
Project Manager, Office of Newborn Screening
Arizona Transit Time Taskforce

Sondi Aponte
Isaac Lee
Celia Nabor
Executive Management

Don Herrington       Ward Jacox
Victor Waddell      William Slanta

Director: Will Humble
- 6th largest land/water
- 6.5 million population
- 15 Counties
- 60.5% Maricopa
- 15% Pima County
- 24.5% in 13 other counties
- 43 birth hospitals
- 90,000 births
- 310 miles east to west
- 400 miles north to south
- One state laboratory
How will Arizona NBS achieve.....

Quality
Transparency
Accountability
Partnerships

Owen
50 years of NBS
Continuous Quality Improvement

• Step 1 Identify a need/issue/problem and develop a problem statement
• Step 2 Define the current situation
• Step 3 Analyze the problem
• Step 4 Develop an action plan
• Step 5 Look at the results
• Step 6 Start over - go back to the first step and use the same process for the next problem
“Arizona has one of the worst track records in the country, with 17% of all newborn screening samples arriving at the state lab five or more days after collection in 2012.”
“At Maryvale Hospital Medical Center in Phoenix last year, 70% of newborn screening samples arrived at the state testing lab five or more days after they were collected.”
Delays by hospitals hinder blood screening of newborns for rare diseases
Conditions in 2013

HABOOB
Conditions in 2013

• Director immediately announced this finding as an agency priority
• Letter to hospitals from Director of Licensing
• Announced a statewide goal
• December 2013-Transit Time taskforce and executive sponsors
Goal

Within six months (by July 1, 2014), 95% of newborn screening bloodspots (initial screens) will be received at the Arizona Public Health Laboratory within three days of collection.
Analysis

• Excessive batching
• Specimen shipping not occurring within 24 hours of collection
• Satellite locations for hospitals
• No courier services during holidays and Saturdays
• Negative impacts on knowledge transfer
Analysis

• Performance reports for Transit Time not available
• Lack of monitoring system to evaluate internal processes to ensure timely shipment in hospitals
• Availability of complimentary courier service
January 2014

• Partnered with Arizona Perinatal Trusts, Arizona Hospital and Healthcare Association (AzHHA), and March of Dimes

• Baseline data released to hospital
  – CEOs, Director of Nursing, & Director of Laboratory
2013 Transit Time in Arizona

- ≤ 3 days: 67%
- 4 days: 20%
- 5 days: 9%
- > 5 days: 4%
February 2014

• Educational webinars for hospitals-Back to the basics, statewide goal, quality
• Hospital site visits-evaluation of processes and technical assistance
• Notification of website
March 2014

- Hospital site visits
- Launch of the Transit Time Project webpage
Office of Newborn Screening
Transit Time Project

Congratulations to the Arizona Hospitals and their achievement of the transit time goal.

The Milwaukee Journal Sentinel recently accessed de-identified information for Newborn Screening Programs nationwide through an open-records request. The Sentinel published their findings on delays in newborn screening testing due to delayed bloodspot delivery to the laboratory for testing (transit time). These findings revealed many opportunities for improvement.

In an effort to improve services to newborns and families, the Arizona Department of Health Services (ADHS) developed an internal taskforce to lead newborn screening transit time initiatives, effective January 2014. ADHS is committed to transparency, accountability, and increased partnership as stakeholder’s progress towards meeting this new statewide goal.

What does the Newborn Screening Transit Time Project offer?

- Information about the Newborn Screening Transit Time Project and new statewide goal
- Monthly performance reports for Arizona birth hospitals
- Answers to frequently asked questions about transit time
- Links to valuable resources
- Ability to request a site visit

What is the new goal for Arizona birth hospitals?

By July 1, 2014, 95% of all newborn screening bloodspots (initial screens) will be received at the Arizona State Laboratory within three (3) days of collection.

How is progress towards the transit time goal measured?

Summary of first screen statistics for all hospitals in Arizona.

INITIAL BLOODSPOTS RECEIVED IN % WITHIN 3 DAYS OF COLLECTION
• Statewide, peer to peer, and hospital
• Website allows access to two transit time performance reports; mean days and acceptance rate. These two performance reports should be used in combination to help determine progress towards the goal.
Office of Newborn Screening
Transit Time Project

Congratulations to the Arizona Hospitals and their achievement of the transit time goal.

Hospital Performance

Hospital performance can be viewed individually and peer-to-peer. Peer-to-peer data allows hospitals to view their performance as it compares to birth hospitals with similar level of care. Hospitals can view their individual performance in average transit time (goal: within three days) and target acceptance percentage (goal: 95%). The peer groups were based on the Arizona Perinatal Trust Certification Levels of Care.

- **Level I** – Low risk OB patients; basic newborn care
- **Level II** – Selected high risk OB patients; continuing care for newborns 32 weeks or greater
- **Level IIE** – High risk OB patients; continuing care for newborns 28 weeks or greater
- **Level III** – All OB and newborn patients, including those requiring subspecialty and intensive care at all gestational levels.

You can access the individual hospital data for each category and peer-to-peer performance using the links below:

<table>
<thead>
<tr>
<th>Level I Hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level II Hospitals</td>
</tr>
<tr>
<td>Level IIE Hospitals</td>
</tr>
<tr>
<td>Level III Hospitals</td>
</tr>
</tbody>
</table>
You can access the individual hospital data for each category and peer-to-peer performance using the links below:

- Level I Hospitals
- Level II Hospitals
- Level IIE Hospitals
- Level III Hospitals

**Level I Hospitals**

**Peer-to-Peer Performance - September 2014**

Click on the links below to see the most recent hospital performance charts:

- Level I Average Transit Time Chart
- Level I Initial Screens Received Within 3 Days Chart

**Individual Hospital Data - September 2014**

Hospitals can view their cumulative performance in average transit time (goal: within three days) and acceptance percentage (goal: 95%).

- **Banner Page**
  - Carondelet Holy Cross
  - Banner Casa Grande
  - Cobre Valley

- **Kingman Regional**
  - Little Colorado Medical Center
  - Havasu Hospital
  - Mt. Graham

- **Valley View**
  - Verde Valley
  - Payson Regional
  - Tempe St. Luke's

  Western Arizona Regional Medical Center

Note: All files provided in PDF format unless otherwise noted.
Level II
Average Transit Time

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Mean Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARYVALE HOSPITAL</td>
<td></td>
</tr>
<tr>
<td>MOUNTAIN VISTA MED CTR</td>
<td></td>
</tr>
<tr>
<td>SIERRA VISTA REGIONAL MEDICAL CENTER</td>
<td></td>
</tr>
<tr>
<td>BANNER BAYWOOD</td>
<td></td>
</tr>
<tr>
<td>BANNER GATEWAY MED CTR</td>
<td></td>
</tr>
<tr>
<td>YAVAPAI REGIONAL</td>
<td></td>
</tr>
<tr>
<td>SCOTTSDALE HEALTHCARE OSBORN</td>
<td></td>
</tr>
<tr>
<td>WEST VALLEY HOSPITAL</td>
<td></td>
</tr>
<tr>
<td>SUMMIT HEALTH (NAVAPOCHE)</td>
<td></td>
</tr>
<tr>
<td>MERCY GILBERT MEDICAL CTR</td>
<td></td>
</tr>
<tr>
<td>BANNER DEL E. WEBB</td>
<td></td>
</tr>
<tr>
<td>BANNER IRONWOOD</td>
<td></td>
</tr>
<tr>
<td>PHOENIX BAPTIST</td>
<td></td>
</tr>
<tr>
<td>PARADISE VALLEY</td>
<td></td>
</tr>
</tbody>
</table>

http://www.azdhs.gov/lab/aznewborn, August 2014
Level II
Initial screens received within 3 days

- MARYVALE HOSPITAL
- MOUNTAIN VISTA MED CTR
- SIERRA VISTA REGIONAL MEDICAL CENTER
- BANNER BAYWOOD
- BANNER GATEWAY MED CTR
- YAVAPAI REGIONAL
- SCOTTSDALE HEALTHCARE OSBORN
- WEST VALLEY HOSPITAL
- SUMMIT HEALTH (NAVAPACHE)
- MERCY GILBERT MEDICAL CTR
- BANNER DEL E. WEBB
- BANNER IRONWOOD
- PHOENIX BAPTIST
- PARADISE VALLEY

http://www.azdhs.gov/lab/aznewborn, August 2014

% Received within 3 days
April 2014

- Implementation of statewide courier-EZ Messenger-Multi Tier approach
- Monday-Saturday pick up and delivery
- Pick up 8:00 AM-11:00 AM
- Same day or next business day delivery
- Lab open six days a week shipping/receiving area
May/June 2014

• Webpage maintenance
• Logistical planning with courier service
• Communication! Communication! Communication!

Kaiden
50 years of NBS
Results

- In five months 99% of newborn screening bloodspots specimens (initial screens) collected at birth hospitals were received at the Arizona State Laboratory within one day of collection.
March Of Dimes Honors Arizona With First-Ever Newborn Screening Award
Arizona Health Director Honored for Reforms to Avoid Deadly Delays
CHANDLER, ARIZONA — Thursday, September 18, 2014
Time Commitment

• 1.40 FTE of ADHS staff time (SME, Project Manager, Epidemiologist)
• Biweekly project meetings with executive team
• Weekly project deliverables
Ongoing monitoring

- Providing detailed reports on a monthly basis to include the outliers
  - Medical Record #, date of collection, date of receipt
- September data 99%, average transit time of one day
Acknowledgements

Arizona Department of Health Services
Arizona Newborn Screening
All Laboratory staff
Arizona Birth Hospitals
EZ Messenger Courier Service
Arizona Hospital and Healthcare Association
March of Dimes
Arizona Perinatal Trust
Arizona NBS is committed to:

Quality

Transparency

Accountability

Partnerships

Babies & Families of Arizona

Celia’s cousin Ava
Thank you

Celia Nabor
Celia.Nabor@azdhs.gov

www.aznewborn.com