Hot Topic Webinar: Improving Newborn Screening Specimen Quality and Submission

August 12, 2026

3:00 - 4:00 pm ET

Today's Webinar

This webinar will provide an in-depth discussion of strategies implemented across state/territorial NBS programs to improve specimen quality, strengthen submitter practices, and enhance overall timeliness. Presenters will share programmatic experiences and operational approaches, followed by an opportunity for attendees to contribute additional practices and insights through discussion.

Objectives

1. Review the importance of reducing unsatisfactory specimens and promoting timely submission to support accurate and efficient NBS.
2. Discuss effective and innovative methods for educating and training submitters to improve specimen quality and submission practices.
3. Describe the vast number and type of possible submitters and the persistence required to meet their varied educational needs.
4. Facilitate knowledge sharing and encourage active participation during the Q&A session to identify additional strategies and successful practices from programs nationwide.

Speakers

- **Shari Arceneaux, RN, BSN,** Newborn Screening Educator, Oklahoma State Department of Health
- **Patrick V. Hopkins, BS,** Newborn Screening Project Specialist, Missouri State Public Health Laboratory

Poll #1

What is the biggest challenge your program faces related to newborn screening specimens?

a) High rate of unsatisfactory specimens

b) Delays in specimen collection or shipment

c) Inconsistent submitter training and education

d) Monitoring and follow-up with submitters

e) We are not currently experiencing significant challenges

f) Not sure

g) Other

Poll #2

What strategies has your program used to improve newborn screening specimen quality and submission? (Select up to 3)

a) In-person training

b) Live virtual training or webinars

c) Site visits

d) Immediate or routine feedback on unsatisfactory specimen

e) Educational tools and resources (e.g., written guides, videos, tip sheets)

f) Quality monitoring and data review

g) Refresher trainings for submitters

h) Targeted outreach to specific facilities or submitter groups

i) Other

Improving Newborn Screening Specimen Quality and Submission

Patrick Hopkins; Missouri NBS Project Specialist and APHL Consultant

This webinar is provided and funded by the Association of Public Health Laboratories (APHL)

I have nothing to disclose

Things That Can Affect Screening Results

- The timing of the sample collection
- The age, weight, gestation and health of the baby
- Treatments the baby has obtained
- Genetic variation
- The quality of the NBS sample
- Instrument and reagent variability
- Laboratory technician expertise

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Unsatisfactory Specimens

They are called different things in different states:

- Unsatisfactory Specimens
- Unacceptable Specimens
- Unsuitable Specimens
- Rejected Specimens
- Poor Quality Specimens
- Less than Ideal Specimens
- Suboptimal Specimens

CLINICAL AND LABORATORY STANDARDS INSTITUTE®

7th Edition

NBS01

Dried Blood Spot Specimen Collection for Newborn Screening

This standard highlights specimen collection methods, discusses acceptable techniques for applying blood drops or aliquots to the filter paper section of the specimen collection device, and provides instructions on proper specimen drying, handling, and transport to ensure quality specimens are consistently obtained for newborn screening analysis.

A standard for global application developed through the Clinical and Laboratory Standards Institute consensus process.

Blood should be collected on only one side of the specimen collection device. The surface of the specimen collection device must be unaltered, and the specimen must be dried as described in Subchapter 5.6 and transported as outlined in Subchapter 6.1. Training and education are required to ensure that all specimens collected are of acceptable quality.

Figure 4. Image of a Good-Quality Specimen (Reprinted with permission from Borrajo GJC. *Neonatal Screening for Congenital Diseases* [PhD thesis]. La Plata, Argentina: National University of La Plata; 2011. Reprinted from the Service for the Dissemination of Intellectual Creation, the Institutional Repository of the National University of La Plata. http://hdl.handle.net/10915/42046. Accessed 2 March 2021.)

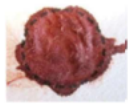
When the filter paper section of the specimen collection device has a preprinted circle, its diameter is controlled by local standards that may differ from program to program. Regardless of the diameter, specimens should be collected in a manner that fills the preprinted circle. If a preprinted circle is not present, local requirements must exist to define the quantity of specimen considered acceptable.

5.7.3.2 Poor-Quality Specimens

Poor-quality specimens are those that do not meet the criteria listed in Subchapter 5.7.3.1. Poor-quality specimens are unacceptable because they can cause false-negative and/or false-positive NBS results. See Appendix B for images and descriptions of specimens that are classified as poor-quality specimens.[76] Not all spots on each specimen may be affected. Results from poor-quality blood spots should not be reported to prevent unreliable, misleading, or inaccurate results. Refer to local policies to determine whether the specimen should be analyzed

Appendix B. How to Collect and Identify a Good-Quality Dried Blood Spot Specimen

This appendix can be used as a guide to obtain good-quality dried blood spot (DBS) specimens and to identify poor-quality specimens.

Example	Comments
	**Good-quality specimen**[a]: Allow a large drop of blood to form at the puncture site on the heel. Gently bring the blood collection (specified filter paper) section of the specimen collection device in contact with the blood drop and allow a sufficient quantity of blood to absorb into and through the filter paper. Do not touch the filter paper to the heel. Do not apply blood to both sides of the filter paper.
	**Specimen quantity insufficient for testing (small volume)[a]:** If preprinted circles exist on the blood collection (specified filter paper) section of the specimen collection device, fill the entire circle using a single drop of blood. Incompletely filled circles may adversely affect NBS results.
	**Specimen quantity insufficient for testing (incomplete saturation)[a]:** Check that the blood applied to one side of the blood collection (specified filter paper) section of the specimen collection device has completely and uniformly penetrated to the other side of the filter paper.[b] Contact between the heel and the filter paper can contaminate or prevent blood from uniformly soaking through the filter paper.
	**Specimen overfilled[a]**: Do not apply excessive amounts of blood to a preprinted circle. Depending on local rules and regulations, overfilling the preprinted circle may result in an unacceptable DBS specimen.
	**Specimen appears supersaturated[c]**: Do not apply excessive amounts of blood to a preprinted circle through repeated applications at the same location. Supersaturation can cause wrinkling and compromise the NBS results.
	**Specimen layered[a]**: Allow only a single large drop of blood to come in contact with one side of the blood collection (specified filter paper) section of the specimen collection device. Layering occurs when successive drops of blood are applied to the same location. This nonuniform saturation of blood can also result when blood is applied to both sides of the filter paper.

Famous photo of a satisfactory and freshly drawn NBS. Circles are filled up to and on top of the preprinted lines.

Unsatisfactory Specimens: To Test or Not to Test?

- Specimens are typically not globally Unsat (all circles not the same).
- Most states currently test their Unsat's but how they do this is greatly varied.
- Some still do not test Unsat's at all.
- CLSI Standards from ~15 years ago said "No". Several States got deviations on their CLIA inspections for doing so and stopped.
- Testing does not have to equal reporting (normal results not provided).
- Testing provides an opportunity for an alert on clear-cut positives thereby potentially saving the baby!

What's Best For the Babies? Things to Think About:

- It may be the only screen that you ever get on this baby
- Maybe the only chance to save the baby
- What is the right thing to do ethically since the declaration of "Unsat" is subjective and varies from state to state and maybe even from day to day in NBS labs
- A delayed screen can be as bad as a missed screen
- The cost is worth it! You can even charge the hospitals for testing the Unsat's just like all other NBS samples.

The Heartland Good Spot/Bad Spot Project

T. McCallister, L. Himstedt, L. Ross, D. Freer, M. Valbracht, S. Berberich, M. Ramirez, D. Kline, D. Eiken, P. Hopkins

NBS Workgroup of the Heartland Regional Genetics and Newborn Screening Collaborative, Oklahoma City, OK

Introduction

The Heartland (Region 5) Newborn Screening Workshop has taken place throughout the Heartland 8-State Region with the support of the Heartland Regional Coordinating Center each spring for the last three years. At the last NBS Workshop, the topic of testing unsatisfactory (UNSAT) specimens was discussed in depth. For this poster, the definition of unsatisfactory specimens will include specimens that have been deemed rejected due to poor quality collection, i.e., insufficient blood (incomplete saturation or spots too small), layered, oversaturated and/or clotted blood. Two states in our region have been prohibited from analyzing any UNSAT Specimens by their CLIA inspector. We recognize the possibility does exist for obtaining false results when testing UNSAT specimens. The goal of this project was to evaluate and determine:

- If there is a **definite** value in analyzing UNSAT Specimens as most true disorders are still easily and confidently detectable, providing the opportunity to act on certain high risk positive cases requiring urgent intervention and follow-up.
- The extent to which UNSAT specimens produce false positive or false negative results.

METHODS

Study #1 – Heartland State NBS Labs utilized residual blood spots from a total of 135 true/confirmed positive cases obtained from their freezers. The states collected data from their samples on the key/marker analytes for the confirmed disorder, recording the original screening values, the values obtained during retesting of the specimens on the day of the study, and the values obtained from testing them using the two simulated extreme poor quality scenarios. This parallel testing was conducted on the same day, same instrument, same plate, and the same reagent lot. The rules for punching these specimens were:

- Simulated Incomplete Saturation – Punch one spot from the edge of the circle with approximately 50% white filter paper showing.
- Simulated Layered/Oversaturation – Obtain two normal punches to test in the same well of the testing plate.
- Test for storage induced changes (Control Specimen) - Obtain one regular punch as your normal protocol dictates.

Study # 2 – Over several months, Heartland State NBS Labs utilized regular routine specimens that had one or two poor quality circles out of the five available on the same specimen card for this study. After regular newborn screening tests were completed, these specimens were retested using one punch from a good area of the blood spot tested in parallel from the corresponding poor quality area of the blood spot on the same card. This parallel testing was conducted on the same day, same instrument, same plate, and the same reagent lot. Data was collected on key/marker analytes (TSH, GALT, PHE, C8, C3, 17-OHP, IRT, HB, and BT) representing each of the NBS testing categories. Analyte values obtained from the good area of the blood spot were compared to the analyte values from the poor quality area of the blood spot.

- Incomplete Saturation – Punch one spot from the poor quality area of the blood spot with the goal of approximately 50% of white filter paper showing.
- Control Specimen – Punch one spot from a good area of the blood spot.
- Layered/Oversaturated - Punch one spot from the poor quality area of the blood spot where it is visibly darker, crusted, or too concentrated with blood.

The Heartland Genetics and Newborn Screening Collaborative is supported by a cooperative agreement with the Genetic Services Branch of the Maternal and Child Health Bureau (MCHB) of the Health Resources and Services Administration (HRSA Grant U22MC03962).

RESULTS

Study #1

Chart 1 illustrates the 135 confirmed disorders analyzed for Study # 1. In 117 of the 135 cases the result for the incomplete saturation samples remained positive. In 9 cases, the incomplete saturation resulted in conversion to a "borderline" result. These 9 cases are included in Table 1. In 9 other cases, the incomplete saturation resulted in conversion to normal results. These are included in Table 2. Please note, these cases converted using the decision schemes of the state conducting the testing and may not necessarily have converted using other Heartland states' algorithms.

From the oversaturation simulation portion of the study, none of the 135 positive cases converted to borderline, and only 4 were converted to normal by oversaturation simulation. Of the 4 cases which were converted, 3 cases were carnitine uptake deficiency and 1 was a D/G Galactosemia. It is important to note that three cases of classical Galactosemia remained positive after oversaturation.

Study #2

Chart 2 illustrates how many specimens were examined for the 9 analytes measured. None of the incomplete saturation samples converted to abnormal. Forty three of the oversaturated samples converted to abnormal. Of those, 41 were analyzed by one state that was forced to punch two spots into one well (similar to the confirmed positive study) instead of punching from an area of the blood spot where it was visibly darker, crusted, or too concentrated with blood.

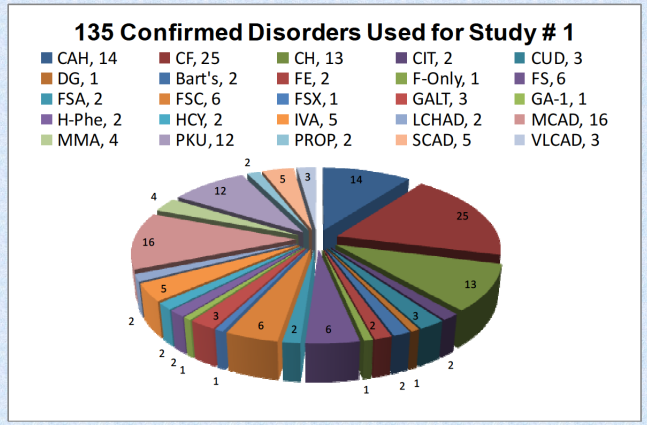


Chart 1: 135 confirmed positive cases grouped by disorder.

9 Confirmed Disorders Converted to Borderline with Undersaturation

1 Citrullinemia (Mild)	Citrulline dropped from 102 to 71
2 Hypothyroidism	One TSH dropped from 50 to 35, and the other dropped from 65 to 45
1 CAH	17-OHP dropped from 75.5 to 66.7
1 MCAD (variant)	C8 dropped from 1.08 to 0.50; C8/C10 went from 1.87 to 1.4
1 VLCAD	C14:1 dropped from 1.09 to 0.71; C14:1/C16 went from 0.48 to 0.55
1 LCHAD	C16OH dropped from 0.30 to 0.15; C16OH/C16 went from 0.11 to 0.09
1 MMA (Cbl-C)	C3 dropped from 7.74 to 5.71; C3/C2 remained at 0.25
1 Propionic acidemia	C3 dropped from 7.32 to 5.64; C3/C2 went from 0.48 to 0.53

Table 1: Confirmed disorders which converted to borderline with undersaturation

9 Confirmed Disorders Converted to WNL with Undersaturation

3 PKU (Mild)	Phe dropped below some states' cutoffs; Ratios remained elevated
H-Phe	Phe dropped from 157 to 112; P/T went from 2.2 to 2.3
1 Hypothyroidism	TSH dropped from 30.6 to 24.4
1 Homocystinuria	Met dropped from 80 to 51; Met/Phe went from 1.5 to 1.3
1 Cystic Fibrosis	IRT dropped from 104 to 98.4; would still be positive in most states
1 MCAD (variant)	C8 dropped from 0.54 to 0.40; C8/C10 went from 1.0 to 0.64
1 SCAD	C4 dropped from 1.56 to 1.15; C4/C2 and C4/C3 reamained elevated

Table 2: Confirmed cases which converted to Within Normal Limits.

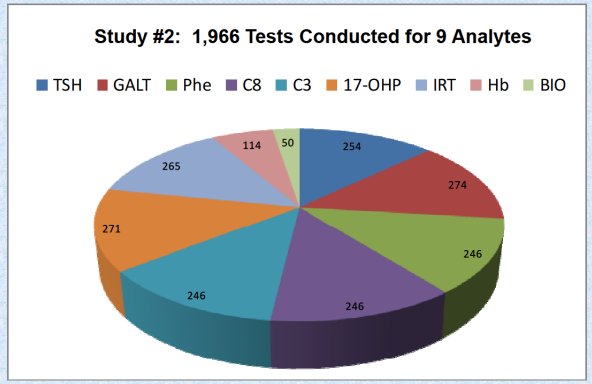


Chart 2: 1,966 analytes measured for Study #2.

Discussion and Conclusions

Working as a region offered several advantages. These included the ability to:

- Produce more confirmed positive cases for inclusion into the study
- Produce more routine poor quality cases for inclusion into the study
- Smooth out certain biases that may exist in how one state may determine UNSAT status
- Smooth out variables that may exist on how one state may set and use cutoffs or interpret result status

The project was successful in validating assumptions for several key issues:

- It was very evident that the Hemoglobinopathy testing category was invulnerable to the UNSAT scenarios that were utilized as the screening results for this category remained consistent throughout both studies. This is very important as Hemoglobinopathies are one of the most common disorders screened for in newborn screening.
- Analytical ratios commonly used in the MS/MS profiles were also very resilient to changes in sample concentrations resulting from incomplete and oversaturated samples.
- Very few routine specimens from Study #2 converted to borderline and positive, proving that analyzing UNSATs on a routine basis does not cause the laboratory to be inundated with false positive result predicaments.
- Very few true positives converted to borderline or normal status and the few that did were either milder forms of the disorder and/or would still have been abnormal in some states. For the MS/MS disorders where the primary marker converted to the borderline range in the Incomplete Saturation scenario, the ratios remained the same and thereby could essentially keep the sample in the higher risk range for many screening labs.
- Analyzing UNSAT specimens to look for obvious high risk NBS disorders can be accomplished without causing undo havoc in the NBS laboratory and provide what may be the only chance you have to provide life saving intervention for a child with a true disorder.

Improving NBS Quality – The Utmost Importance

A culture of high quality throughout the NBS system is needed:

- The NBS sample collection, demographic information, and timeliness with sample submission by the birthing facilities and all other submitters
- NBS Laboratory quality assessment of the sample, sample testing, results interpretation and risk assessment
- Timely reporting to follow-up to initiate confirmation and necessary actions
- Confirmatory feedback loops to lab and follow-up, tracking of performance metrics in order to refine cutoffs, decisions schemes and necessary the education of all stakeholders going forward

Actions and educational tools that may be considered:

1. Tracking many NBS performance metrics for quality and timeliness in your state
2. Stressing the seriousness of poor-quality NBS specimens and if it needs to be addressed in your state if the Unsat rate is running too high
3. To begin including images of the Unsat specimens to provide feedback to the submitters on how the samples are falling short
4. The CLSI training video for DBS collection and “Deadly Delays” video
5. Any new changes in your collection form’s demographic data elements or blood collection card (should consider submitter input before making changes)
6. Enhancements in monthly performance report cards and/or communications from your program, your website or NBS lab report access portal
7. Providing a Top-10-Reminders List for the all NBS submitters addressing any of the above issues

Making a Difference Through Newborn Screening

Dried Blood Spot Specimen Collection

Based on CLSI document NBS01:

Dried Blood Spot Specimen Collection for Newborn Screening

The video is now available on YouTube free of charge: https://m.youtube.com/watch?v=S51Y9ShD6HI

It goes through the entire process of NBS specimen collection and submission in great detail showing the correct processes and techniques.

It is a very powerful educational tool for all submitters of NBS specimens and can be utilized for training new staff and addressing poor quality specimen problems.

NEWBORN SCREENING

Top Ten Reminders

1. The optimum time for collection of the Newborn Screen (NBS) is when the baby is between **24 to 48 hours of age**, or before a RBC transfusion. It is no longer based on feeding time.
2. Be sure to **detach the top sheet from the NBS collection form and hand to the mother/parents** (this is the parent's information sheet). Make sure the mother/parents also receive the two NBS brochures entitled, "Protecting Your Newborn" and "Your Baby's First Hearing Test."
3. Fill out the collection form completely and accurately **printing clearly and in the correct boxes**. Incomplete or absent sample collection date and time will not be amendable after testing has been completed and a repeat screen will be necessary.
4. Enter the **date and time of only the most recent RBC transfusion when applicable**. The date and time of any antibiotics that were given is **not** needed.
5. **Don't confuse meconium ileus with meconium aspirate** on the health status section. Check this box only if meconium ileus is present as it is often a sign of Cystic Fibrosis.
6. Please obtain two phone numbers to contact the mother, and **make sure the correct Primary Care Physician is provided (the one who will be seeing the child after they are discharged)**. It is essential that this information is accurate in case the family needs to be immediately contacted due to high risk screening results.
7. **The heel stick is the preferred method of sample collection**. New testing methods that are being added encounter interference with both anticoagulants, EDTA and Heparin, so please avoid the use of these for newborn screening sample collection.
8. Get the sample to the state courier pickup site or mail-out site as soon as it has thoroughly air-dried (3 to 4 hours). **Prompt sample transit time can be life-saving for the baby**.
9. **All ill and premature newborns require a repeat screen between** 7 and 14 days of age. All premature newborns **less than 34 weeks gestational age or less than 2000 grams at birth are recommended to have a third screen at 28 days of age**.
10. Please check out the updated NBS website at health.mo.gov/lab/newborn. It has useful and important information and provides updates in the "What's New" tab.

If you have questions, please contact the State Newborn Screening Laboratory Manager by phone at 573-751-2662.

Missouri Department of Health and Senior Services
AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER Services provided on a non-discriminatory basis. 01/2014

Deadly Delays Stories

Deadly Delays- One disease, two babies – YouTube

- Two babies born with MCAD.
- One was saved by NBS, the other got delayed over the weekend and did not survive.
- Continually teach the importance of timeliness as hours count with time-critical disorders!


Noah, 2009

The Babies Thank You For All You Do!
Set the bar high for their sake!

August 2026

Tactics for Taming Unsatisfactory Bloodspot Specimen Rates

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Newborn Screening Quality Assurance and Education Coordinator
Shari.Arceneaux@health.ok.gov

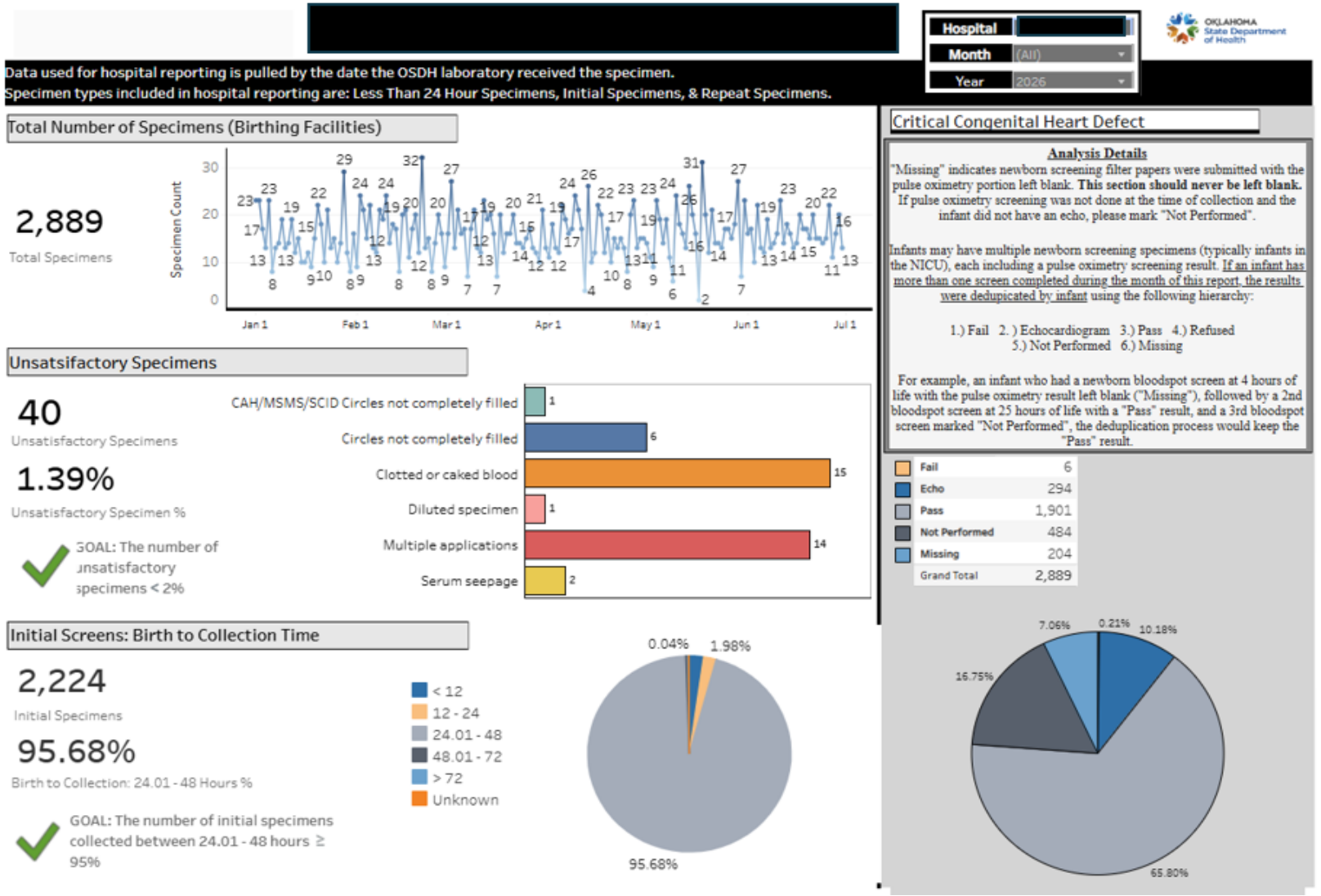
OKLAHOMA
State Department of Health

No Conflict of Interest To Declare

Identify the Problem

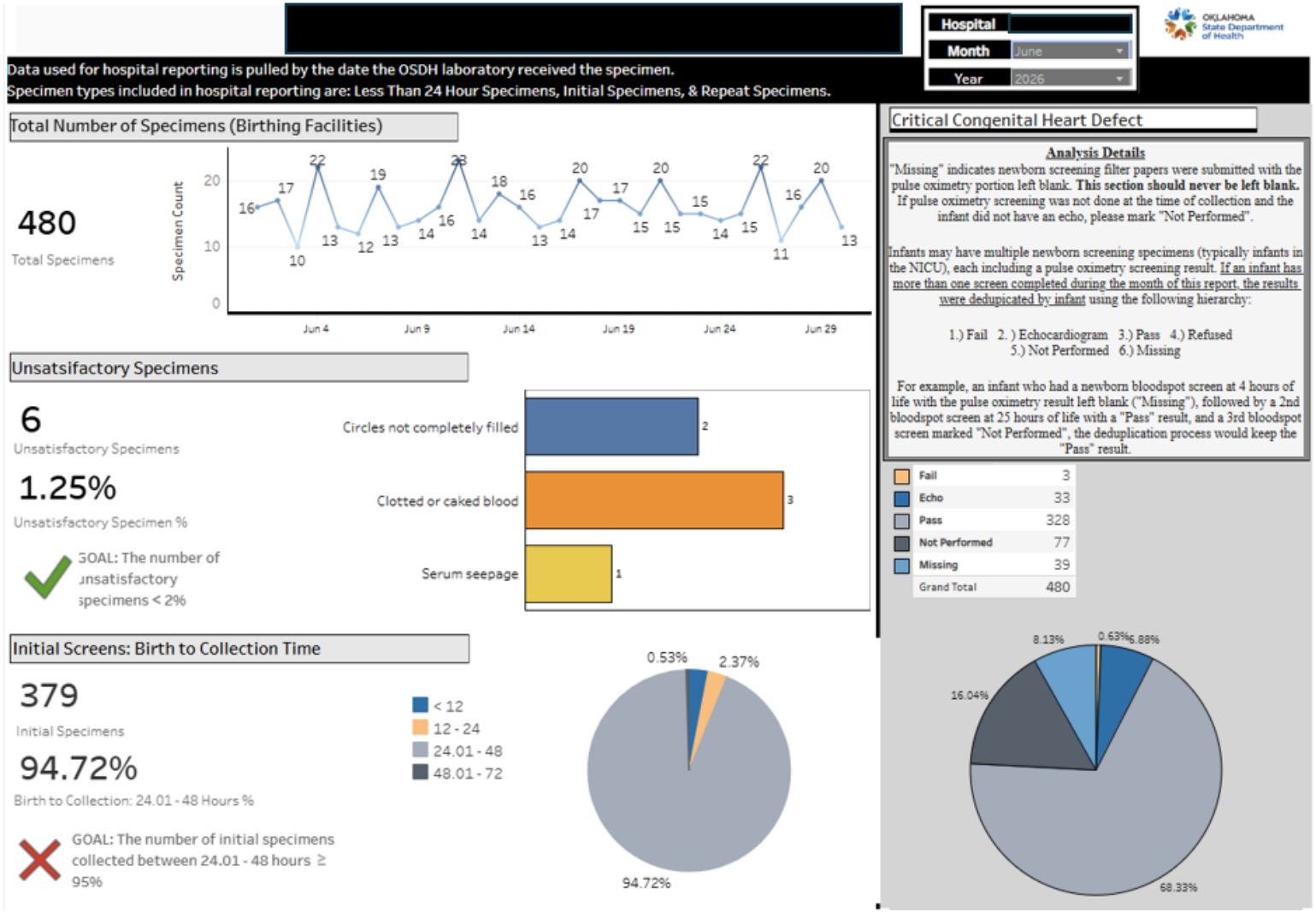
- Ask the questions?
    - Which performance measures matter?
    - What are the benchmarks/goals for your state?
    - How are your hospital partners doing in relation to those state goals?
- In Oklahoma:
    - Our dashboards reflect many measures, but we focus strongly on percentage of unsatisfactory screens (unsats) and transit time.
    - Oklahoma's goal is for less than 2% of specimens to be unsat for testing and greater than 95% of specimens to arrive at the PHL within 24 - 48 hours of collection time.
    - Hills and Valleys…..

Mutual Data Engagement – Hospitals Have Viewing Licenses



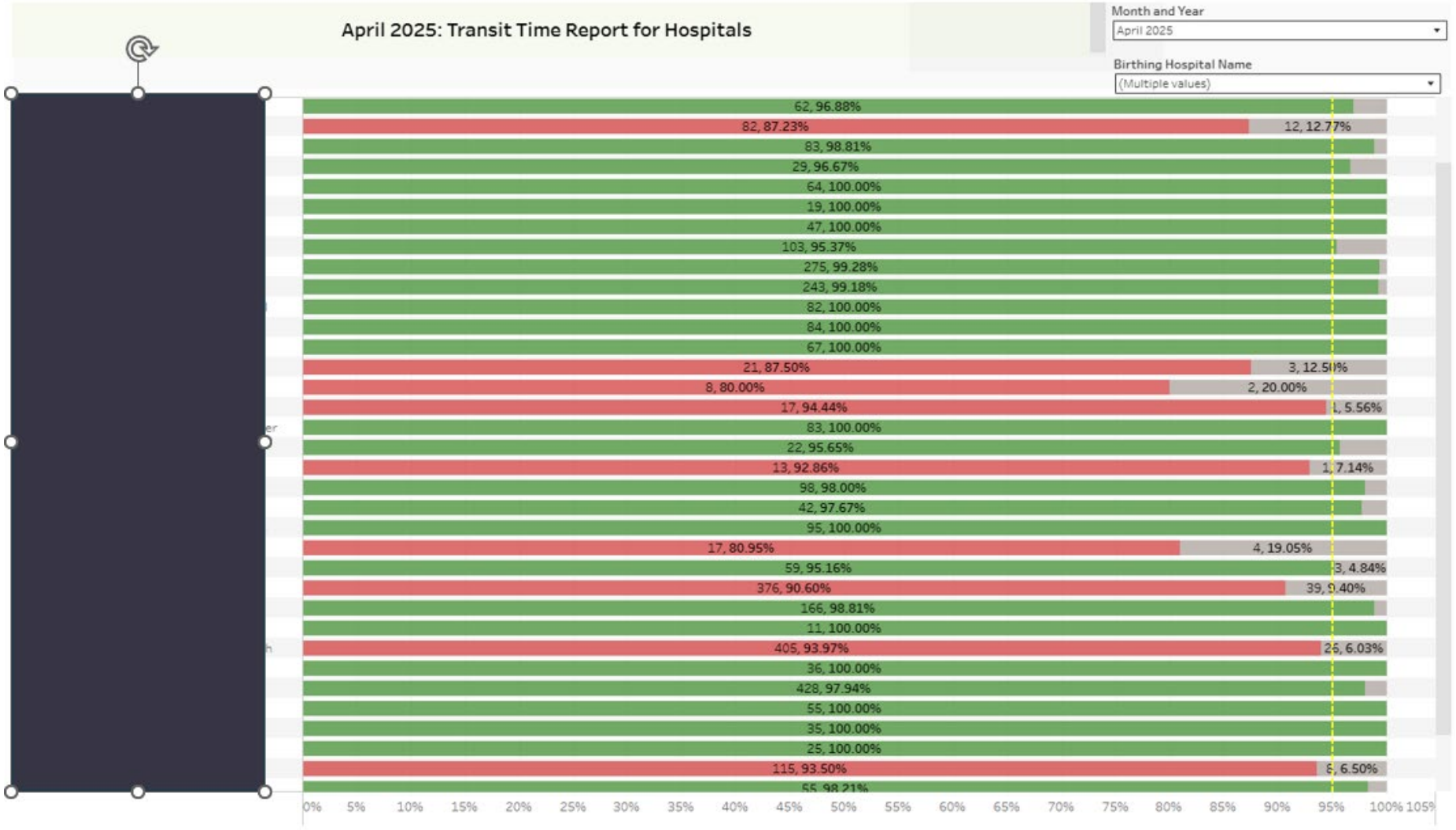
Single hospital, annual view

Mutual Data Engagement – Hospitals Have Viewing Licenses



Single hospital, monthly view

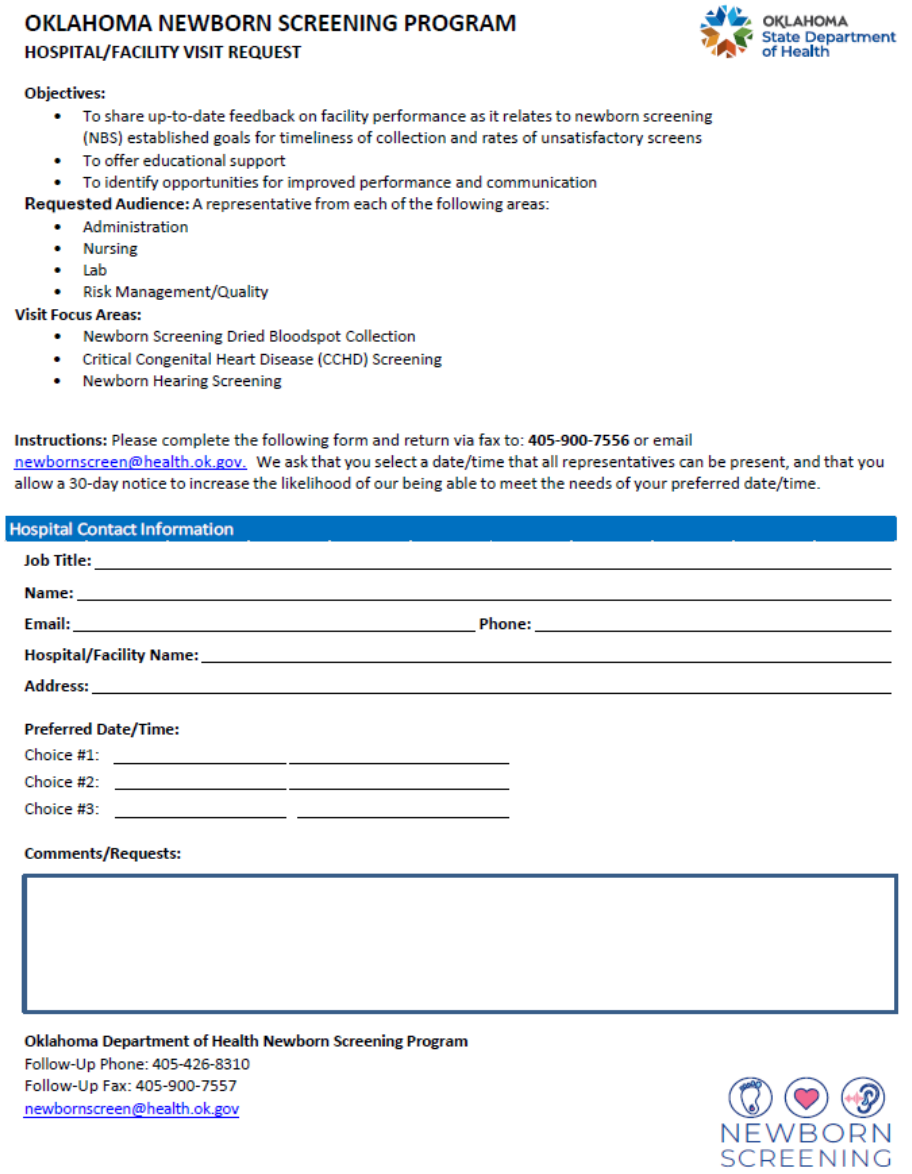
Mutual Data Engagement – Hospitals Have Viewing Licenses



All hospitals, monthly transit time view

Devise a Plan – Set a Goal

- 43 Birthing hospitals in Oklahoma in 2024
  - Identify leaders in mother baby, NICU, lab and quality
  - Establish connection with introductory email and site visit invite form.
  - Visit all 43 in one calendar year.



OKLAHOMA NEWBORN SCREENING PROGRAM

HOSPITAL/FACILITY VISIT REQUEST

OKLAHOMA State Department of Health

Objectives:

- To share up-to-date feedback on facility performance as it relates to newborn screening (NBS) established goals for timeliness of collection and rates of unsatisfactory screens
- To offer educational support
- To identify opportunities for improved performance and communication

Requested Audience: A representative from each of the following areas:

- Administration
- Nursing
- Lab
- Risk Management/Quality

Visit Focus Areas:

- Newborn Screening Dried Bloodspot Collection
- Critical Congenital Heart Disease (CCHD) Screening
- Newborn Hearing Screening

Instructions: Please complete the following form and return via fax to: **405-900-7556** or email newbornscreen@health.ok.gov. We ask that you select a date/time that all representatives can be present, and that you allow a 30-day notice to increase the likelihood of our being able to meet the needs of your preferred date/time.

Hospital Contact Information

Job Title: _____

Name: _____

Email: _____ **Phone:** _____

Hospital/Facility Name: _____

Address: _____

Preferred Date/Time:

Choice #1: _____ _____

Choice #2: _____ _____

Choice #3: _____ _____

Comments/Requests:

Oklahoma Department of Health Newborn Screening Program

Follow-Up Phone: 405-426-8310

Follow-Up Fax: 405-900-7557

newbornscreen@health.ok.gov

NEWBORN SCREENING

Pre-Visit Assessment

- Establish meeting date, ask for two hours.
- Email Pre-site Checklist.
- Education only, not regulatory.

OKLAHOMA NEWBORN SCREENING PROGRAM
PRE-SITE VISIT CHECKLIST

Oklahoma State Department of Health | Newborn Screening Program

Date Completed: _____

Hospital: _____

Location/Unit: _____

Name & Title: _____

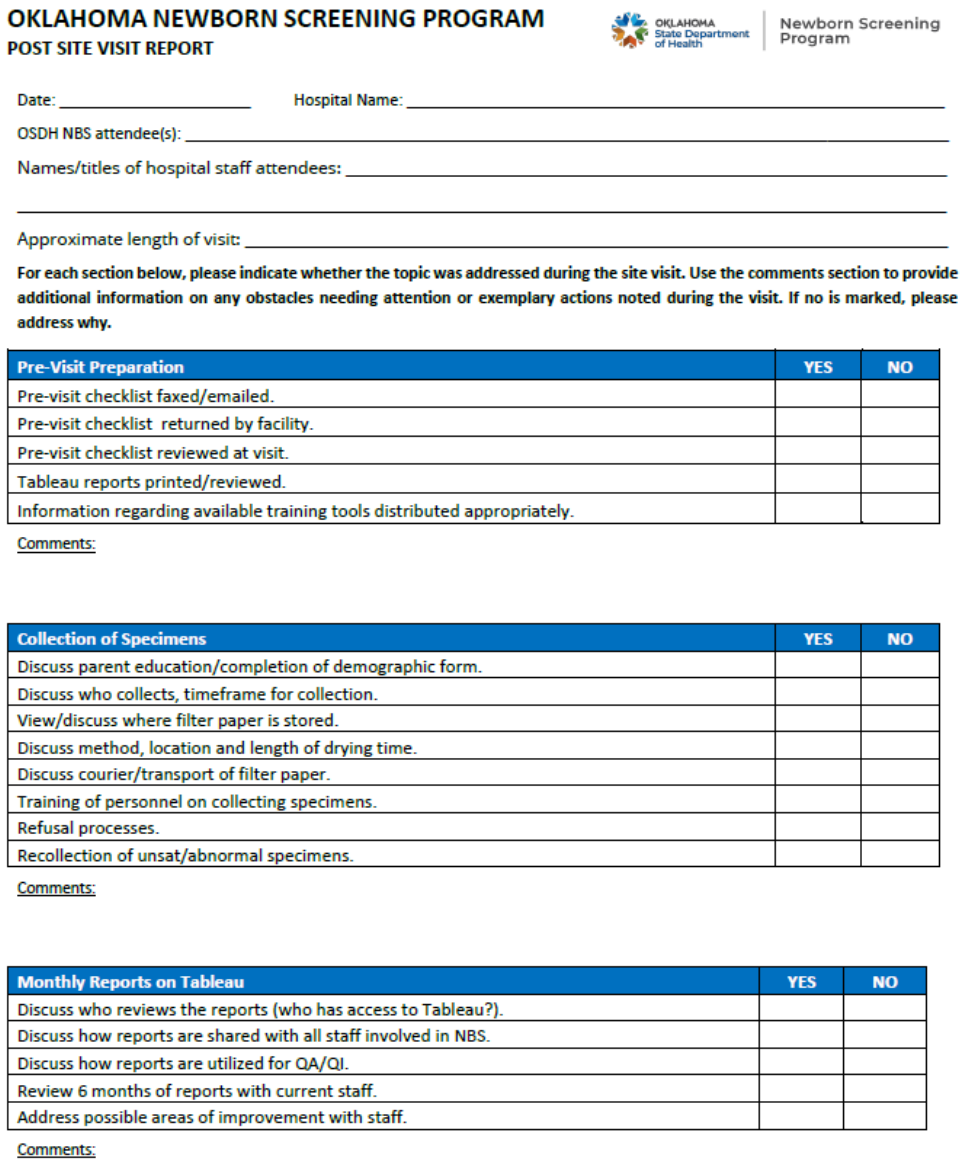
Instructions: Please complete the following form and return it to newborn screening at least **5 working days** before the date of the onsite observation session. Please return via email to newbornscreen@health.ok.gov or by fax to 405-900-7556

NBS Unit Processes		
Do you have a process in place to ensure that every newborn is screened prior to discharge?	Yes	No
Does your hospital have a policy and specified procedure regarding the reporting of deceased babies to the NBS program? If yes, please describe:	Yes	No
Where are NBS filter papers stored?		
Who is responsible for checking filter paper dates?		
Is the demographic information written on the filter paper form verified with parents at the time of specimen collection?	Yes	No
Does your facility have a policy regarding parent refusals? If yes, please describe: *(Policy should include the use of OSDH refusal form.)*	Yes	No
Are parent's fears/questions addressed regarding NBS in the event of a refusal? *It is important to keep a copy of the refusal form for hospital record and fax a copy to NBS program at 405-900-7556*	Yes	No
If the parents have not determined a PCP, who is listed on the filter paper as the PCP? *It is imperative that the accurate PCP is known in the event of out-of-range NBS results, so that timely notification and follow up can occur.*		
Where are filter papers placed to dry?		
Do filter papers dry horizontally for at least 3 hours?	Yes	No
Are filter papers double checked for satisfactory collection/completeness before mailing?	Yes	No
Who is responsible for the quality review of each filter paper? *(If specimen quality is under question, please submit original specimen AND collect second specimen immediately.)*		
Who is responsible for preparing the completed newborn screens for courier pickup?		

What days of the week does the courier service pick up?	Su M Tu W Th F Sa
Location for specimen pick-up?	_____
Time for specimen pick-up?	_____

Conduct Visit

- Introductions and review purpose
- PowerPoint presentation covering NBS basics, QA measures, and current hospital performance
- Walk through all participating units to view drying, logs, etc.
- Summarize and set goals
- Written summary one to two days after visit



OKLAHOMA NEWBORN SCREENING PROGRAM
POST SITE VISIT REPORT

OKLAHOMA State Department of Health | Newborn Screening Program

Date: _____ Hospital Name: _____

OSDH NBS attendee(s): _____

Names/titles of hospital staff attendees: _____

_____

Approximate length of visit: _____

For each section below, please indicate whether the topic was addressed during the site visit. Use the comments section to provide additional information on any obstacles needing attention or exemplary actions noted during the visit. If no is marked, please address why.

Pre-Visit Preparation	YES	NO
Pre-visit checklist faxed/emailed.		
Pre-visit checklist returned by facility.		
Pre-visit checklist reviewed at visit.		
Tableau reports printed/reviewed.		
Information regarding available training tools distributed appropriately.		

Comments:

Collection of Specimens	YES	NO
Discuss parent education/completion of demographic form.		
Discuss who collects, timeframe for collection.		
View/discuss where filter paper is stored.		
Discuss method, location and length of drying time.		
Discuss courier/transport of filter paper.		
Training of personnel on collecting specimens.		
Refusal processes.		
Recollection of unsat/abnormal specimens.		

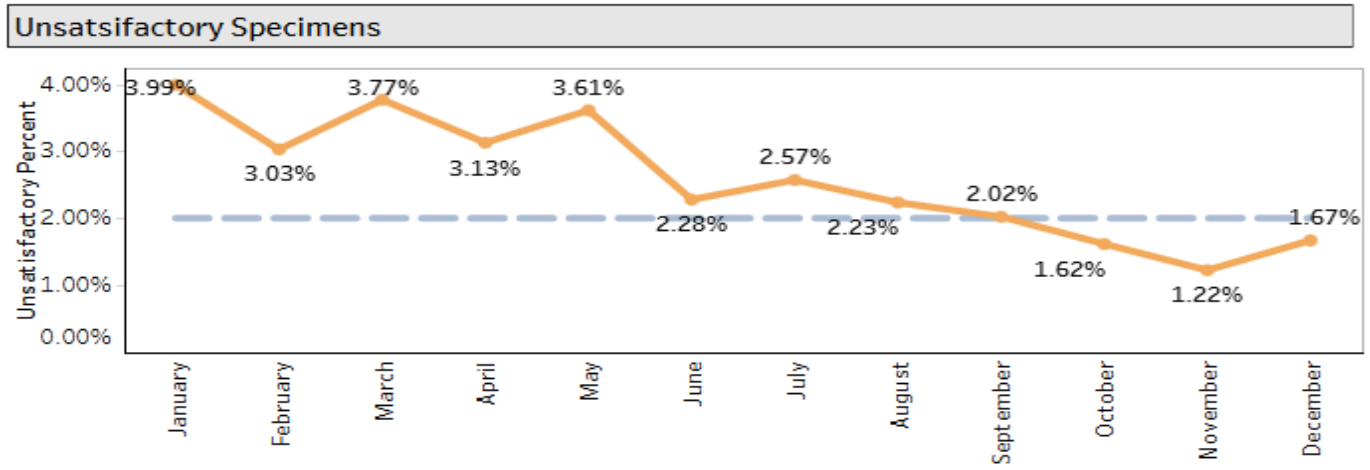
Comments:

Monthly Reports on Tableau	YES	NO
Discuss who reviews the reports (who has access to Tableau?).		
Discuss how reports are shared with all staff involved in NBS.		
Discuss how reports are utilized for QA/QI.		
Review 6 months of reports with current staff.		
Address possible areas of improvement with staff.		

Comments:

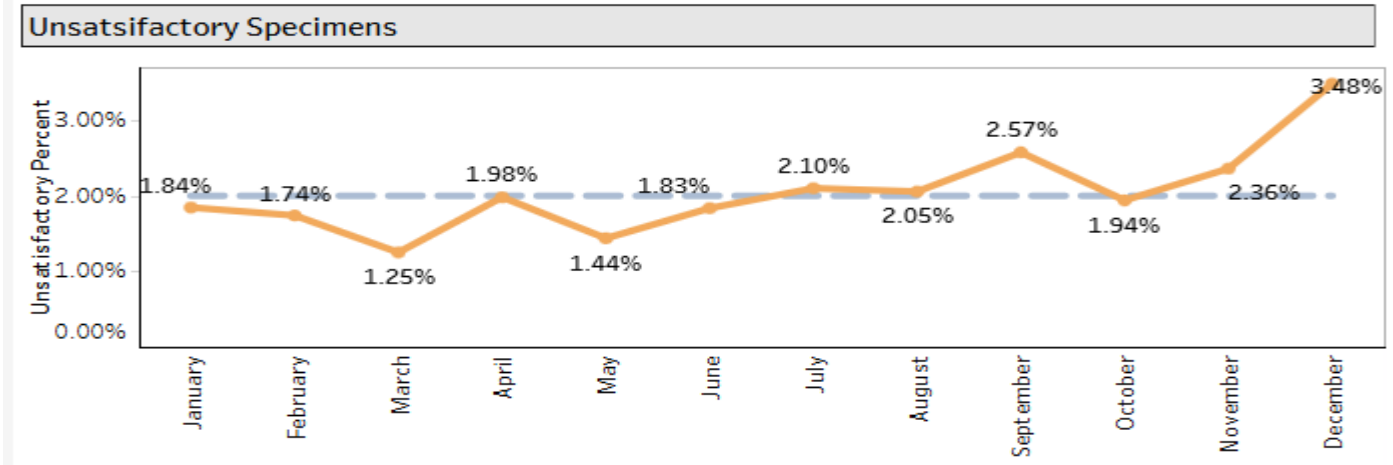
Continue to Monitor Performance

2024



Annual view, all hospital performance quality NBS collections.

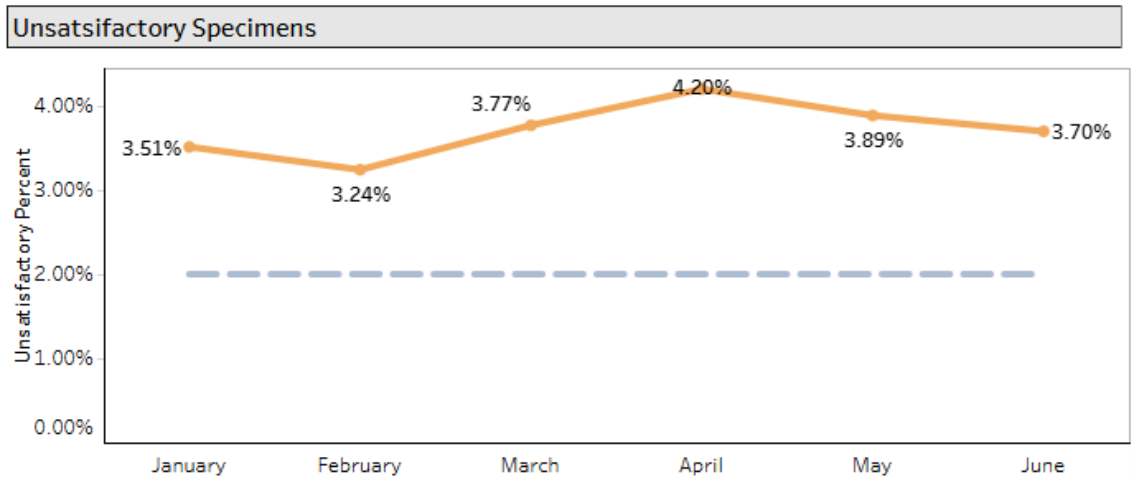
2025



Hospitals receive annual report cards detailing their year's performance and determining the need for repeat visit in the coming year.

Stay Vigilant – Educational Need is Ongoing

2026



Discouraging? Absolutely, but …

- We now have established relationships with hospital partners.
- They ask for visit or education, because they are invested in the cause.
- They ask questions about rejected specimens and want to know why.

The Value of Immediate Feedback

Back

U52
Specimen unsatisfactory due to multiple applications, uneven application, or supersaturation of filter paper.
Possible causes:

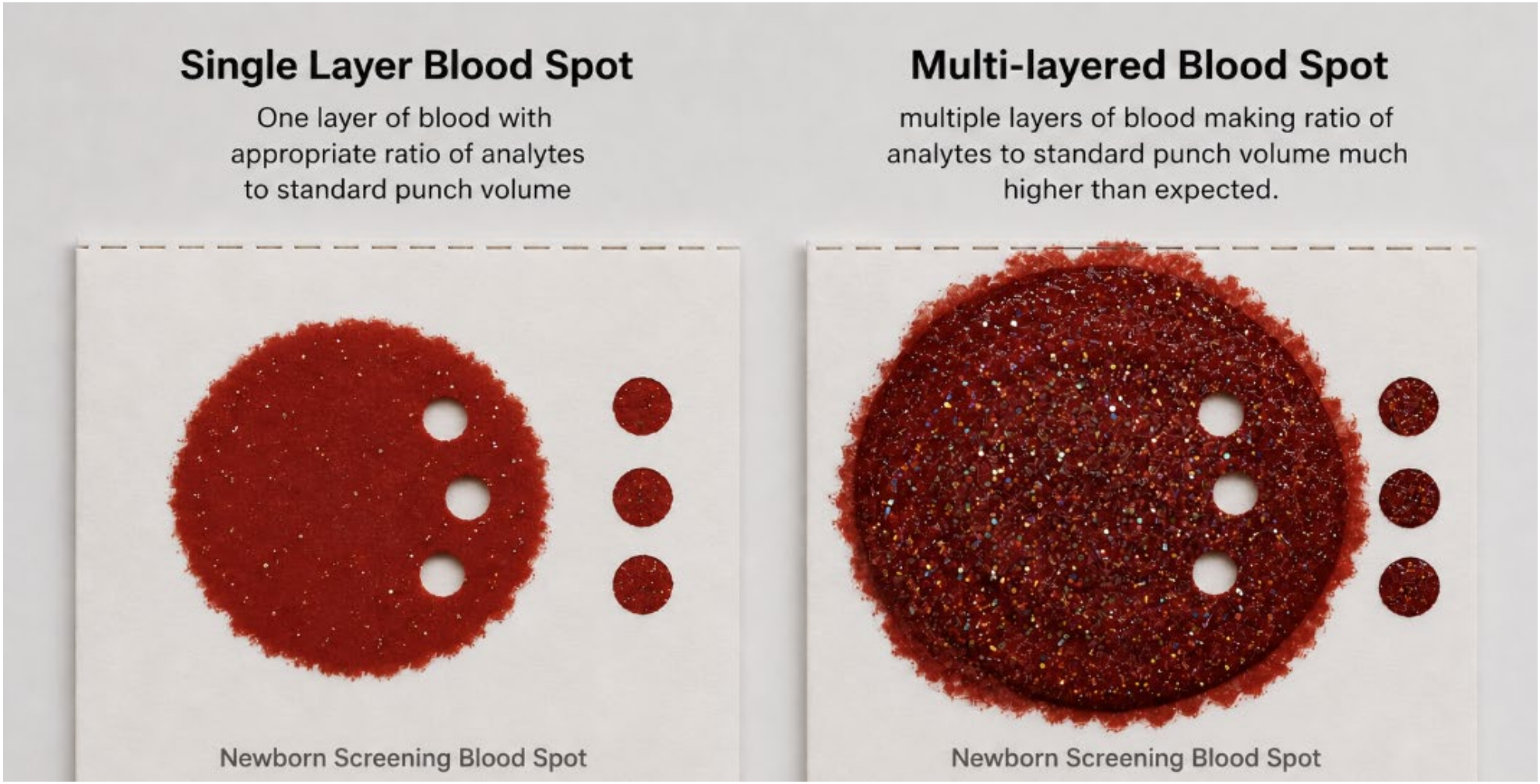
- Applying excess blood to filter paper, usually with a device
- Applying blood to both sides of filter paper
- Repeatedly touching infant's heel to same circle

A satisfactory specimen must be collected to ensure the correct amount of blood is present for testing.

- The Oklahoma NBS lab scientists take the time to scan copies of each day's unsat screens.
- These are then emailed to selected team members at each hospital, along with the reason for the declaration of unsatisfactory.
- There are times (particularly C-section babies) when the recollection can be performed before infant is discharged.
- Sometimes the poor quality is obvious and other times it is more nuanced. I defer to lab staff if I cannot explain the defect.
- The view with naked eye is always more discerning than a scanned image.

Biggest Learning Curve – the Layered, Overlapping, or Clotted Sample Why Does This Matter?

(Flakes of glitter represent analytes in blood samples.)



Is An Annual Visit Possible/Practicable For Every Hospital? (No)

Potential Solutions

- Develop Criteria for Mandatory Site visit.
  - Unsat annual average greater than 3%
  - Transit time annual average less than 90%
- Use email communication for check ins after noting a particularly poor performance month in one or more hospitals. (I see you, what is going on? Are you aware?)
- Schedule a virtual visit with the same leadership.
- Respond to hospital requests for education or extra visits as able.
- Develop an educational video for leadership to use for onboarding new staff, or annual review.

NBS Collection Training | Videos & Movies on Vimeo

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Q&A Session

Share your feedback

Please let us know what other topics you would like us to consider for future webinars!

Thank you!!!