

newborn
hearing
screening



Oklahoma Newborn Hearing Program

**Using Hospital EHDI data to
impact change for families!**

**EHDI Conference
Monday, March 4, 2019**

Acknowledgement of Funding

This project is supported by:

- Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant number H61MC00043, *Universal Newborn Hearing Screening*
- Central for Disease Control and Prevention (CDC) of HHS under the Cooperative Agreement NUR3DD000065, *Oklahoma Documentation and Use of Follow-up Diagnostic and Intervention Services Data through the Maintenance and Enhancement of the Early Hearing Detection and Intervention Information System*

This information, content and conclusions are those of the authors and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, CDC, HHS or the U.S. Government.



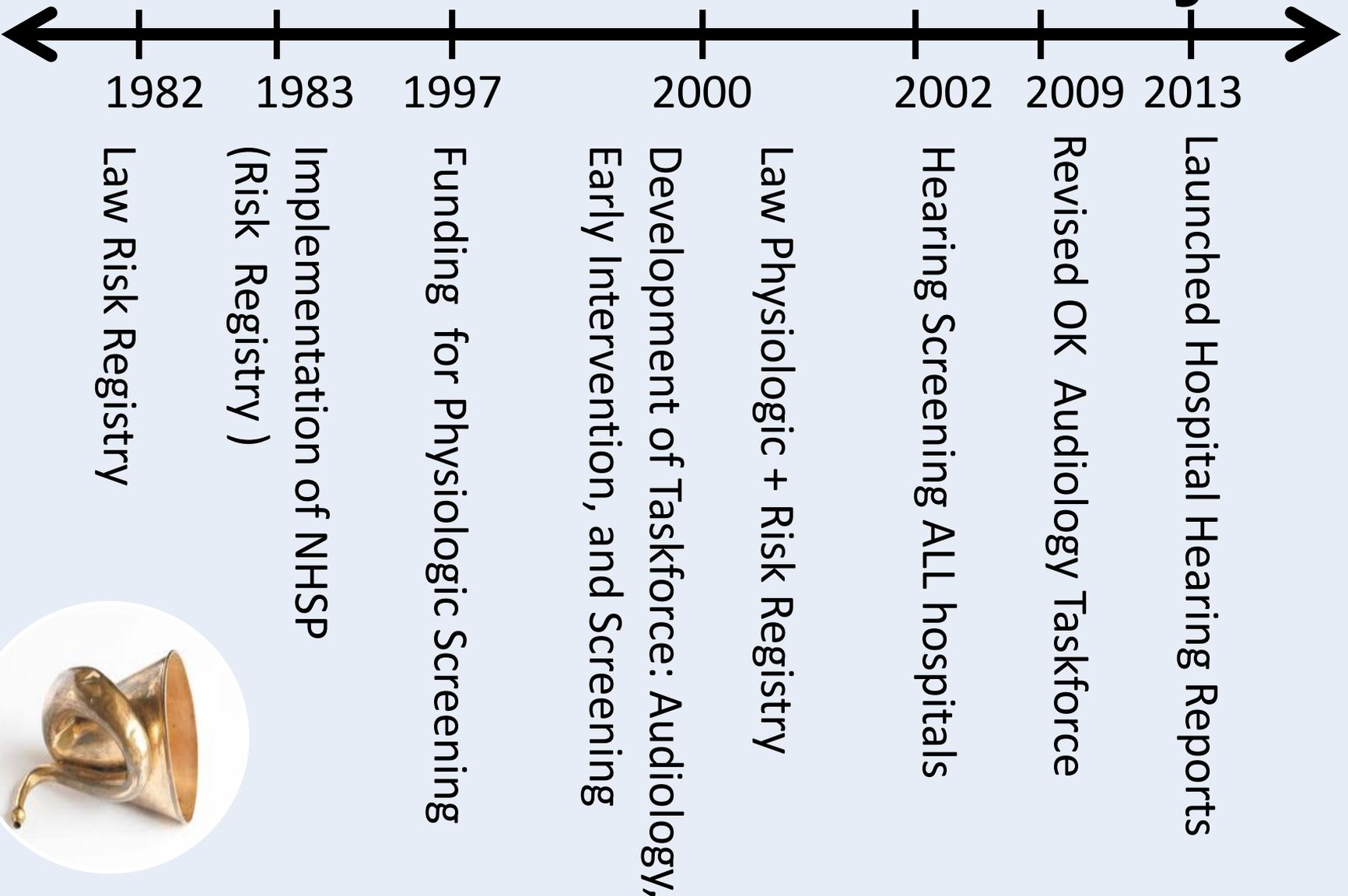
Learning Objectives

At the end of this presentation, participants will be able to:

- Identify ways to track and integrate hospital hearing screening data within EHDI
- Learn how to maximize EHDI Hospital Hearing Screening Reports
- Learn ways to enhance partnerships with hospitals and outsourced vendors



Oklahoma NHSP History





Hospital Hearing Reports

History of Hospital Hearing Reports



- Prior to launching Hospital Hearing Reports, informal surveys were completed
 - Hospitals asked if they were SCREENING all infants at their hospitals per state mandate
 - Hospitals asked if they were REPORTING all infants at their hospitals per state mandate
 - ALL HOSPITAL SAID “YES OF COURSE”
- However OK NHSP knew that wasn't true
 - Children not being screened prior to discharge
 - NHSP had to contact hospitals for missing and conflicting results on regular basis



Hospital Hearing Reports

History of Hearing Reports



- Trialed Hearing Reports with 3 individual hospitals
 - Partnership to determine if screening all infants born at each location and reporting all hearing results to NHSP
 - Completed several Quality Improvement cycles to develop currently utilized report format
- Launched Reports in June 2013
 - Retrospective data 2011-2012
 - Individualized Hospital Specific Reports
 - Not Performed, Not Reported, Refer Rates





Hospital Hearing Reports

History of Hearing Reports



- Since Launch (Accomplishments)
 - More than 3x correspondences with hospitals
 - Provided communication, troubleshooting tips, and coaching for hospitals with high rates
 - Completed several individual hospital Quality Improvement projects
 - Noted that hospitals have taken more “ownership for data”
 - Experienced significant improvement in all 3 hospital report areas
 - Increase level of expectations which in turns helps infants and families





Concern Categories

** National Average – 2-4% Refer Rate **

2011-2013 Refer Concern Rates

No	Low	Medium	High	Extremely High
2.0 - 5.99%	0.0 - 1.99%	6.0 - 9.99%	10.0 - 14.99%	≥15%

2014-2017 Refer Concern Rates

No	Low	Medium	High
1.0 - 5.99%	0-0.99%, 6.0-7.99%	8.0 - 9.99%	≥10%

2018 Refer Concern Rates

No	Low	Medium	High
1.0 - 4.99%	0-0.99%, 5.0-6.99%	7.0 - 8.99%	≥9%

Concern Categories

2011-2013 Not Performed/Reported Concern Rates

No	Low	Medium	High
0% - 4.99%	5.00% - 9.99%	10.00% - 19.99%	<u>≥</u> 20.00%

2013-2017 Not Performed/Reported Concern Rates

No	Low	Medium	High
0.0 - 0.99%	1.0 - 1.99%	2.0 - 3.99%	<u>≥</u> 4.0%

2018 Not Performed & Not Reported Rate

No	Low	Medium	High
0.0 - 0.99%	1.0 - 1.99%	2.0 - 2.99%	<u>≥</u> 3.0%



Report Distribution

All hospital reports come out 1 quarter AFTER a quarter has been completed.

- Allows for hearing screenings of infants in the NICU as well as statewide data analysis.

Months Covered	Distribution	Report Type
Jan – Dec 2017	April 2018	2017 Annual (All Quarters)
Jan – March 2018	July 2018	2018 Quarter 1
April – June 2018	October 2018	2018 Quarter 2
July – Sept 2018	January 2019	2018 Quarter 3



Report Description Page

Oklahoma Newborn Hearing Screening Program 2016 Annual Report for Hospital A

Please find attached the 2016 Annual Report for your hospital(s) from the Oklahoma Newborn Hearing Screening Program (NHSP).

This report includes (monthly and cumulative):

- Refer (Not pass) Rate
- Not Performed Rate
- Not Reported Rate

One goal of universal newborn hearing screening is to ensure that all infants are screened for hearing at birth and receive appropriate follow-up. Therefore, one purpose of this annual report is to assist your hospital and the NHSP in tracking program performance for quality assurance purposes. Data presented reflects information received to dates.

Upon receipt of this report, if you have any questions please do not hesitate to contact our program.

Refer (Not Pass) Rate

According to Automated Auditory Brainstem Response (AABR) manufacturers, 2-5% is the average rate for refers (babies who did not pass the hearing screening). All babies that “refer” need additional testing to determine if hearing loss is present. A high Refer Rate may be indicative of improper screening techniques (electrode placement, noisy child/environment, etc) or having equipment that is not calibrated annually.

Not Performed Rate

Oklahoma mandate requires that all babies have their hearing screened. There are several reasons why screening is not performed:

- Babies were discharged early
- Oversight by screeners

Not Reported Rate

State mandate indicates that all hearing screening need to be reported to the Oklahoma Newborn Hearing Screening Program. There are several reasons why the hearing tests were not reported:-

- Babies still in NICU
- Loss documentation (did not send result)
- Oversight by screeners
- Did not mark bloodspot filter paper

The rates are based on the month it was requested and not the month of birth



Quarterly vs. Annual Reports

Hospital A

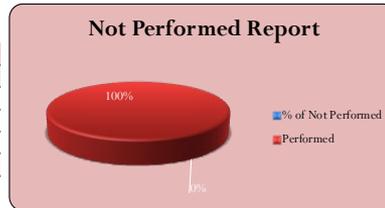
1st Quarter Report - 2016

Reports submitted by the Oklahoma Newborn Hearing Screening Program

Refers				
Month	Births	Refers	% of Non Refers	% of Refers
January	95	6	93.68%	6.32%
February	60	5	91.67%	8.33%
March	72	6	91.67%	8.33%
Total	227	17	92.51%	7.49%



Not Performed				
Month	Births	Not Performed	% of Not Performed	Performed
January	95	0	0.00%	100.00%
February	60	0	0.00%	100.00%
March	72	0	0.00%	100.00%
Total	227	0	0.00%	100.00%



Not Reported				
Month	Births	Not Reported	% Not Reported	% Reported
January	95	1	1.05%	98.95%
February	60	0	0.00%	100.00%
March	72	0	0.00%	100.00%
Total	227	1	0.44%	99.56%



Quarterly Reports

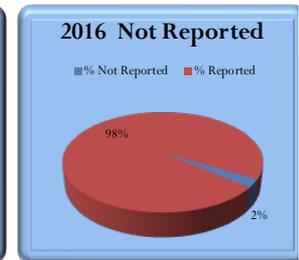
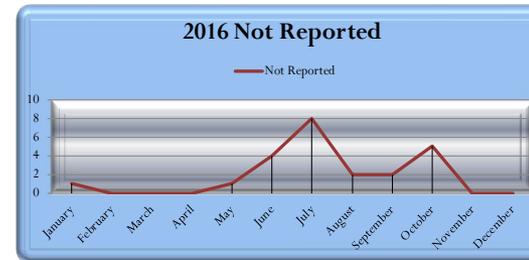
Annual Report

Hospital A

Annual Report - 2016

Reports submitted by the Oklahoma Newborn Hearing Screening Program - OSDH

2016 Not Reported						
Month	Births	#Sent	Still NICU	Not Reported	% Not Reported	% Reported
January	95	1	0	1	1.05%	98.95%
February	60	0	0	0	0.00%	100.00%
March	72	0	0	0	0.00%	100.00%
1st Quarter	227	1	0	1	0.44%	99.56%
April	74	0	0	0	0.00%	100.00%
May	69	1	0	1	1.45%	98.55%
June	73	4	0	4	5.48%	94.52%
2nd Quarter	216	5	0	5	2.31%	97.69%
July	88	8	0	8	9.09%	90.91%
August	91	2	0	2	2.20%	97.80%
September	85	2	0	2	2.35%	97.65%
3rd Quarter	264	12	0	12	4.55%	95.45%
October	74	6	1	5	6.76%	93.24%
November	75	0	0	0	0.00%	100.00%
December	75	0	0	0	0.00%	100.00%
4th Quarter	224	6	1	5	2.23%	97.77%
CUMULATIVE	931	24	1	23	2.47%	97.53%



Quarterly vs. Annual Reports

Hospital A

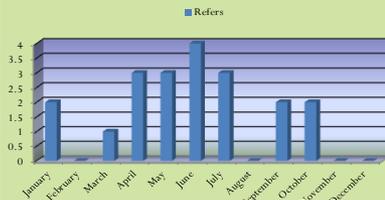
Annual Report - 2016

Reports submitted by the Oklahoma Newborn Hearing Screening Program - OSDH

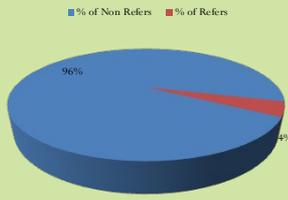
2016 Refers				
Month	Births	Refers	% of Non Refers	% of Refers
January	41	2	95.12%	4.88%
February	41	0	100.00%	0.00%
March	36	1	97.22%	2.78%
1st Quarter	118	3	97.5%	2.5%
April	41	3	92.68%	7.32%
May	42	3	92.86%	7.14%
June	47	4	91.49%	8.51%
2nd Quarter	130	10	92.3%	7.7%
July	43	3	93.02%	6.98%
August	35	0	100.00%	0.00%
September	37	2	94.59%	5.41%
3rd Quarter	115	5	95.7%	4.3%
October	50	2	96.00%	4.00%
November	27	0	100.00%	0.00%
December	41	0	100.00%	0.00%
4th Quarter	118	2	98.3%	1.7%
CUMULATIVE	481	20	95.84%	4.16%

NOTE: AABR Manufacturers indicate an average refer rate of 2-5%.

2016 Refers



2016 Refers



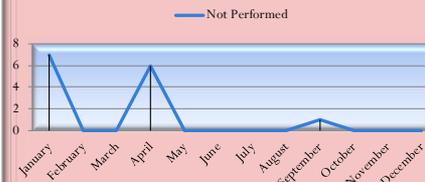
Hospital A

Annual Report - 2016

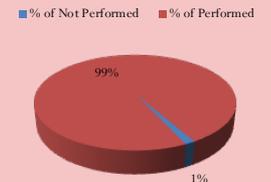
Reports submitted by the Oklahoma Newborn Hearing Screening Program - OSDH

2016 Not Performed				
Month	Births	Not Performed	% of Not Performed	% of Performed
January	69	7	10.14%	89.86%
February	75	0	0.00%	100.00%
March	86	0	0.00%	100.00%
1st Quarter	230	7	3.04%	97.0%
April	79	6	7.59%	92.41%
May	86	0	0.00%	100.00%
June	87	0	0.00%	100.00%
2nd Quarter	252	6	2.38%	97.6%
July	75	0	0.00%	100.00%
August	88	0	0.00%	100.00%
September	87	1	1.15%	98.85%
3rd Quarter	250	1	0.40%	99.6%
October	79	0	0.00%	100.00%
November	100	0	0.00%	100.00%
December	81	0	0.00%	100.00%
4th Quarter	260	0	0.00%	100.0%
CUMULATIVE	992	14	1.41%	98.59%

2016 Not Performed



2016 Not Performed



Quarterly Report Letter



Oklahoma State Department of Health
Creating a State of Health

Dear Hospital A and Nursery staff,

As a reminder, the Oklahoma Newborn Hearing Screening Program (OK NHSP) will be disseminating hospital compliancy reports for all Oklahoma birthing hospital each quarter. This project is in collaboration with Centers for Disease Control and Prevention (CDC) Cooperative Agreement. Attached is your quarterly report for Quarter 1 2017. Descriptions for all three reports are included. These reports will be provided approximately 3-4 months after a quarter has ended due to areas such as NICU placement, hospital request for data that has not been reported, and data analysis.

- Refer Report: Your hospital Quarter 1 Refer rate is **3.02%**
 - **Concern Level: None**
 - The Q1 rate is within the AABR manufacturer and JCIH recommendations of an average of 2-5%.
 - The 2016 Average Refer Rate for Oklahoma birthing hospitals was 4.54%
- Not Performed Report: Your hospital Quarter 1 Not Performed rate is **0.14%**
 - **Concern Level: None**
- Not Reported Report: Your hospital Quarter 1 Not Reported rate is **0.27%**
 - **Concern Level: None**
 - All children should be reported by your facility. It has been noted that several hospitals have a rate lower than 1%.

The OK NHSP Follow-up/Audiology Coordinator would be glad to assist in any of the areas above. Please let us know if you have any questions. We are grateful for any feedback that might assist your hospital.

Sincerely,

Patricia Burk, M.S., CCC-SLP, LSLIS Cert. AVT
Program Coordinator
Newborn Hearing Screening Program
Oklahoma State Department of Health
Patriciaab@health.ok.gov

Nazim Abdul Rahim, M.B.A., M.I.S.
Quality Assurance/Data Coordinator
Newborn Hearing Screening Program
Oklahoma State Department of Health
NazimA@health.ok.gov

How to Analyze Quarterly Reports

Review Overall **Quarterly** Percentages & Concern Levels

Quarterly Percentage

- Refer Report: Your hospital Quarter 1 Refer rate is **3.02%**
 - **Concern Level: None**
 - The Q1 rate is within the AABR manufacturer and JCIH recommendations of an average of 2-5%.
 - The 2016 Average Refer Rate for Oklahoma birthing hospitals was 4.54%

- Not Performed Report: Your hospital Quarter 1 Not Performed rate is **0.14%**
 - **Concern Level: None**

Concern Level

- Not Reported Report: Your hospital Quarter 1 Not Reported rate is **0.27%**
 - **Concern Level: None**
 - All children should be reported by your facility. It has been noted that several hospitals have a rate lower than 1%.

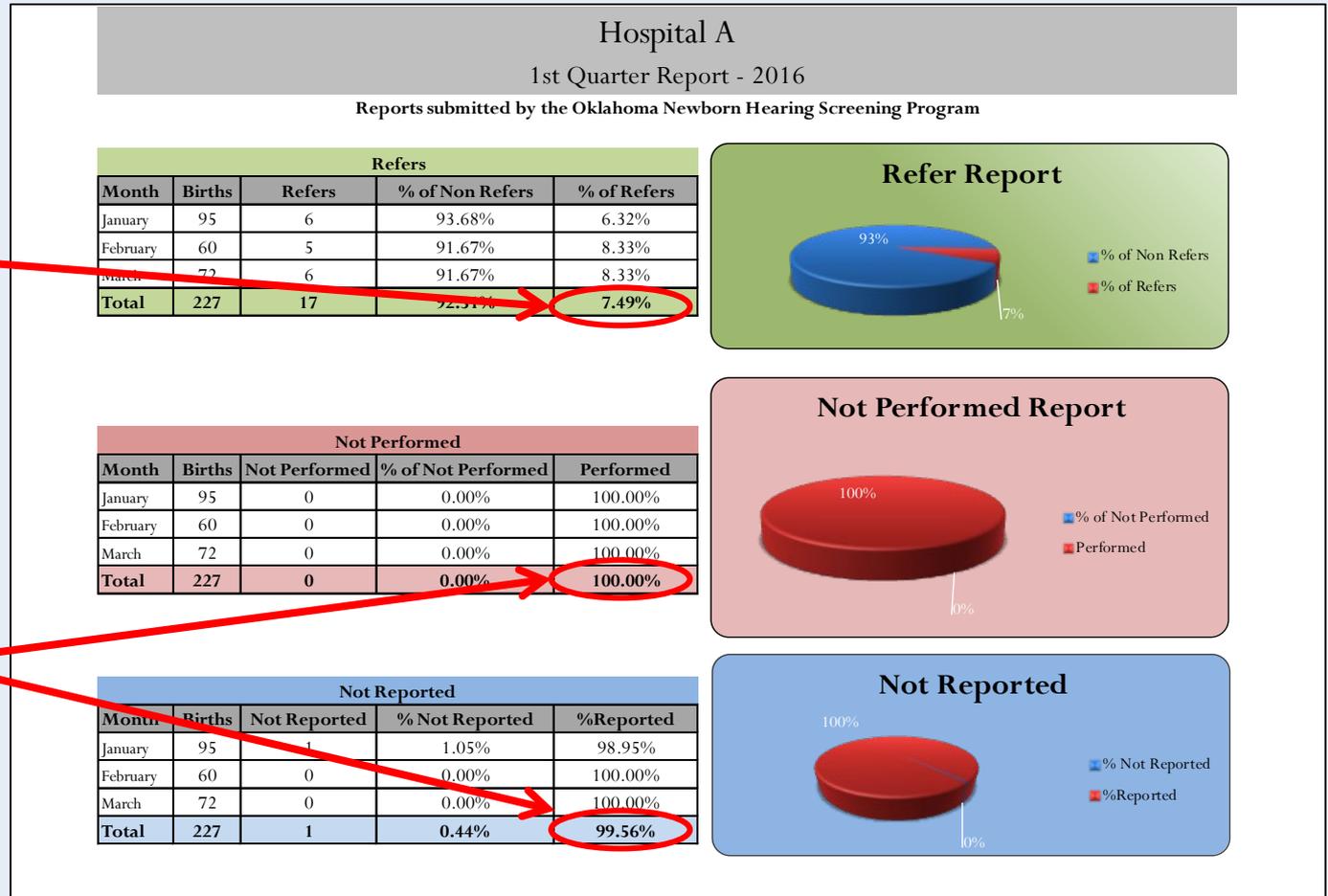


How to Analyze Quarterly Reports

Review Overall Quarterly Percentage Rates

**Goal Range:
2-5%**

**Goal:
100%**

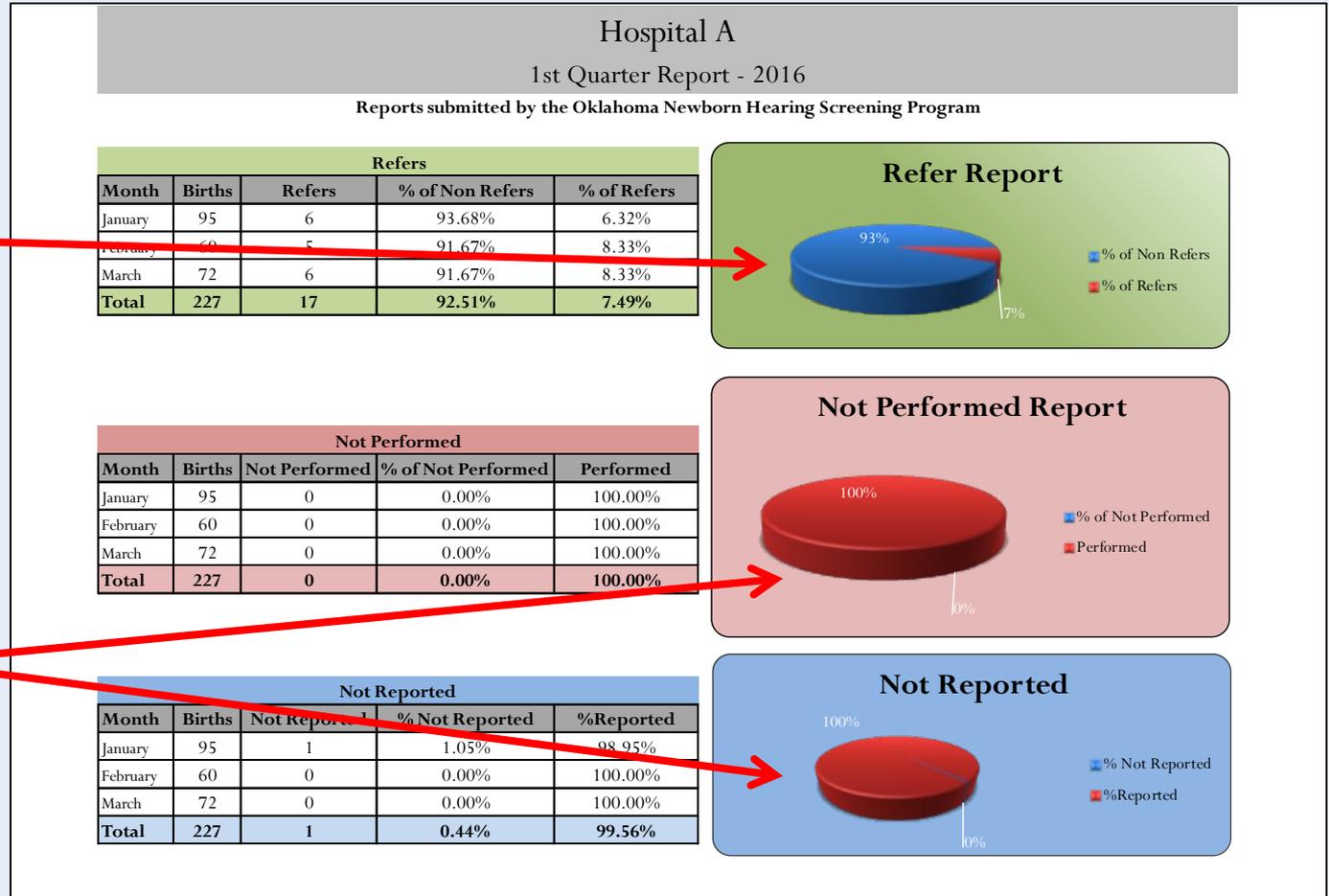


How to Analyze Quarterly Reports

Review Overall Quarterly Percentage Charts

**Goal Range:
2-5%**

**Goal:
100%**

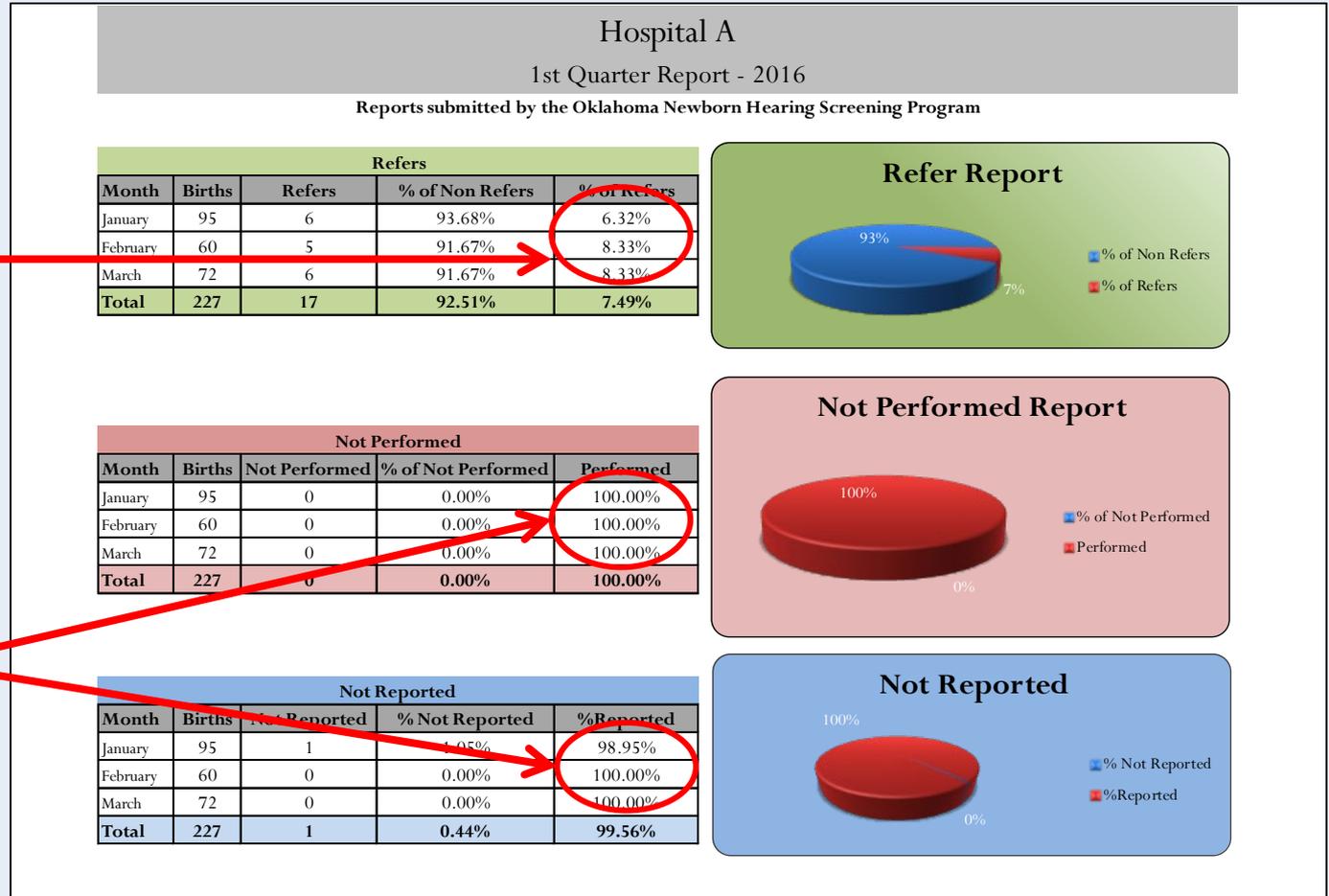


How to Analyze Quarterly Reports

Review Individual **Monthly** Percentage Rates

**Goal Range:
2-5%**

**Goal:
100%**



How to Analyze Quarterly Reports

Review Individual **Monthly** Percentage Rates

- Are there any increases (concerns) or decreases (improvements) noted?
 - If yes, when?
 - ASK: What was happening around that time?
 - New staff
 - Management Change
 - Cable issues
 - Machine not working
 - Holidays
 - Training received



Annual Report Letter



Oklahoma State Department of Health
Creating a State of Health

June 26, 2017

ATTN:
Hospital A
Address 1
Address 2

Dear Hospital A and Nursery staff,

Through a Center for Disease Control and Prevention (CDC) Cooperative Agreement, the Oklahoma Newborn Hearing Screening Program (OK NHSP) has created three hospital compliancy reports for all Oklahoma birthing hospitals. The purpose is to assure that 100% of infants born at Oklahoma birthing hospitals are screened and that initial hospital screening results are reported per Oklahoma law. Another purpose of the reports is to assure that hospital refer (not pass) rates are kept within normal limits indicated by the equipment manufacturer and the Joint Committee on Infant Hearing (JCIH) recommendations.

Attached is your hospital's baseline report for 2016. Descriptions for all three reports are included. Please note that your hospital will receive future reports on a quarterly basis to assess your progress. Those reports will be provided approximately 3-4 months after a quarter has ended due to areas such as NICU placement, hospital requests for data that has not been reported, and data analysis. *Please let us know if you would like a printed copy of the documents attached.*

To assist your hospital in understanding these reports and making changes in the future as needed, the OK NHSP has compared your 2016 hospital data with all birthing hospitals as well as hospitals with similar birthing populations.

- **Refer Report:** Your hospital 2016 annual average is 73/931 = **7.84%**.
 - **Concern Level: Low**
 - Of all birthing hospitals in 2016, your hospital is ranked **47/51**.
 - The rate is above than the AABR manufacturer and JCIH recommendations of an average of 2-4%.
- **Not Performed Report:** Your hospital 2016 annual average is 22/931 = **2.36%**.
 - **Concern Level: Medium**
 - Of all birthing hospitals in 2016, your hospital is ranked **44/51**.
 - Though these rankings may seem high, it is due to the fact that most hospitals are reporting or have a less than 1% average.
- **Not Reported Report:** Your hospital 2016 annual average is 23/931 = **2.47%**.
 - **Concern Level: Medium**
 - Of all birthing hospitals in 2016, your hospital is ranked **26/51**.
 - All children should be reported by your facility. Your hospital rate is similar to some of the hospitals of your size. Several hospitals have a rate lower than 1%.

The OK NHSP Follow-up/Audiology Coordinator would be glad to assist in any of the areas above. Please let us know if you have any questions. We are grateful for any feedback that might assist your hospital.

Sincerely,

Patricia A. Burk

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How to Analyze Annual Reports

Review Overall **Annual** Percentages & Concern Levels

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- Annual Percentage
- Concern Levels
- Hospital Comparison Ranking



How to Analyze Annual Reports

Review Overall Annual Percentages & Concern Levels

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- Refer Report: Your hospital 2016 annual average is 73/931 = 7.84%.
 - **Concern Level: Low**
 - Of all birthing hospitals in 2016, your hospital is ranked 47/51.
 - The rate is above than the AABR manufacturer and JCIH recommendations of an average of 2-4%.
- Not Performed Report: Your hospital 2016 annual average is 22/931 = 2.36%.
 - **Concern Level: Medium**
 - Of all birthing hospitals in 2016, your hospital is ranked 44/51
 - Though these rankings may seem high, it is due to the fact that most hospitals are reporting or have a less than 1% average.
- Not Reported Report: Your hospital 2016 annual average is 23/931 = 2.47%.
 - **Concern Level: Medium**
 - Of all birthing hospitals in 2016, your hospital is ranked 26/51
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How to Analyze Annual Reports

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How to Analyze Annual Reports

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- Annual Percentage
- Concern Levels
- **Hospital Comparison Ranking**



How to Analyze Annual Reports

Refer Rate Reports

Refer (Not Pass) Rate

According to Automated Auditory Brainstem Response (AABR) manufacturers, 2-4% is the average rate for refers (babies who did not pass the hearing screening). All babies that “refer” need additional testing to determine if hearing loss is present. A high Refer Rate may be indicative of improper screening techniques (electrode placement, noisy child/environment, etc.) or having equipment that is not calibrated annually.



How to Analyze Annual Reports

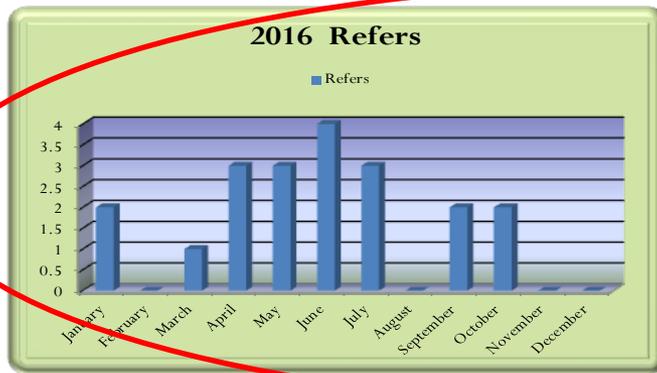
Review Overall Annual Refer Charts

Hospital A Annual Report - 2016

Reports submitted by the Oklahoma Newborn Hearing Screening Program - OSDH

2016 Refers				
Month	Births	Refers	% of Non Refers	% of Refers
January	41	2	95.12%	4.88%
February	41	0	100.00%	0.00%
March	36	1	97.22%	2.78%
1st Quarter	118	3	97.5%	2.5%
April	41	3	92.68%	7.32%
May	42	3	92.86%	7.14%
June	47	4	91.49%	8.51%
2nd Quarter	130	10	92.3%	7.7%
July	43	3	93.02%	6.98%
August	35	0	100.00%	0.00%
September	37	2	94.59%	5.41%
3rd Quarter	115	5	95.7%	4.3%
October	50	2	96.00%	4.00%
November	27	0	100.00%	0.00%
December	41	0	100.00%	0.00%
4th Quarter	118	2	98.3%	1.7%
CUMULATIVE	481	20	95.84%	4.16%

NOTE: AABR Manufacturers indicate an average refer rate of 2-5%.



How to Analyze Annual Reports

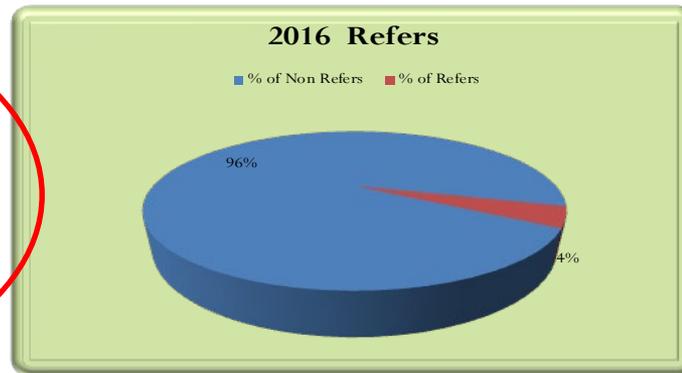
Review Overall Annual Refer Charts for Patterns

Hospital A Annual Report - 2016

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CUMULATIVE	481	20	95.84%	4.16%

NOTE: AABR Manufacturers indicate an average refer rate of 2-5%.



How to Analyze Annual Reports

Review Overall **Annual Refer** Charts & Data for Patterns



Hospital A Annual Report - 2016

by the Oklahoma Newborn Hearing Screening Program - OSDH

2016 Refers				
Month	Refers	% of Non Refers	% of Refers	
January	2	95.12%	4.88%	
February	0	100.00%	0.00%	
March	1	97.22%	2.78%	
1st Quarter	118	3	97.5%	2.5%
April	41	3	92.68%	7.32%
May	42	3	92.86%	7.14%
June	47	4	91.49%	8.51%
2nd Quarter	130	10	92.3%	7.7%
July	43	3	93.02%	6.98%
August	35	0	100.00%	0.00%
September	37	2	94.59%	5.41%
3rd Quarter	115	5	95.7%	4.3%
October	50	2	96.00%	4.00%
November	27	0	100.00%	0.00%
December	41	0	100.00%	0.00%
4th Quarter	118	2	98.3%	1.7%
CUMULATIVE	481	20	95.84%	4.16%

Increase

Decrease

NOTE: AABR Manufacturers indicate an average refer rate of 2-5%.



How to Analyze Annual Reports

Review Overall **Annual Refers** – Compare Quarters

Hospital A Annual Report - 2016				
Reports submitted by the Oklahoma Newborn Hearing Screening Program - OSDH				
2016 Refers				
Month	Births	Refers	% of Non Refers	% of Refers
January	41	2	95.12%	4.88%
February	41	0	100.00%	0.00%
March	36	1	97.22%	2.78%
1st Quarter	118	3	97.5%	2.5%
April	41	3	92.68%	7.32%
May	42	3	92.86%	7.14%
June	47	4	91.49%	8.51%
2nd Quarter	130	10	92.3%	7.7%
July	43	3	93.02%	6.98%
August	35	0	100.00%	0.00%
September	37	2	94.59%	5.41%
3rd Quarter	115	5	95.7%	4.3%
October	50	2	96.00%	4.00%
November	27	0	100.00%	0.00%
December	41	0	100.00%	0.00%
4th Quarter	118	2	98.3%	1.7%
CUMULATIVE	481	20	95.84%	4.16%

NOTE: AABR Manufacturers indicate an average refer rate of 2-5%.



Tips for Reducing Refer Rates

- **Make sure equipment is working properly**
 - Equipment checks
 - Required annual calibration
 - Have back-up cables on hand
- **Ensure good quality hearing screenings**
 - Know when and how to best screen
 - Proper baby selection
 - Properly prepare for screen
- **Complete troubleshooting**
 - Know potential problems during screening
 - Natus Technical support (free)
- **Request a training from OSDH NHSP Staff (as needed)**



Comparing Annual Reports

2017 Refer Reports 2017

- State Average: 4.74%
 - 33 hospitals NO concerns (66%)
 - 2,285 babies Referred
 - Range 0.52%-13.87%
 - Equipment can impact this area
 - Only 3 hospitals over 10%

No	Low	Medium	High
1.0 - 5.99%	0-0.99%, 6.0-7.99%	8.0 - 9.99%	≥10%



How to Analyze Annual Reports

Not Performed Reports

Not Performed Rate

Oklahoma mandate requires that all babies have their hearing screened. There are several reasons why screening is not performed:

- Babies were discharged early
- Oversight by screeners



How to Analyze Annual Reports

Review Overall Annual Not Performed Charts

Hospital A
Annual Report - 2016
Reports submitted by the Oklahoma Newborn Hearing Screening Program - OSDH

2016 Not Performed				
Month	Births	Not Performed	% of Not Performed	% of Performed
January	69	7	10.14%	89.86%
February	75	0	0.00%	100.00%
March	86	0	0.00%	100.00%
1st Quarter	230	7	3.04%	97.0%
April	79	6	7.59%	92.41%
May	86	0	0.00%	100.00%
June	87	0	0.00%	100.00%
2nd Quarter	252	6	2.38%	97.6%
July	75	0	0.00%	100.00%
August	88	0	0.00%	100.00%
September	87	1	1.15%	98.85%
3rd Quarter	250	1	0.40%	99.6%
October	79	0	0.00%	100.00%
November	100	0	0.00%	100.00%
December	81	0	0.00%	100.00%
4th Quarter	260	0	0.00%	100.0%
CUMULATIVE	992	14	1.41%	98.59%



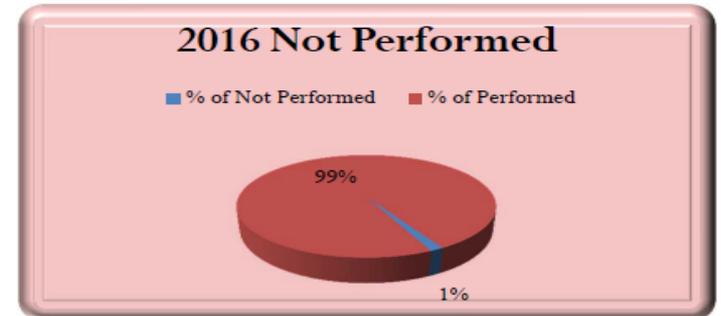
How to Analyze Annual Reports

Review Overall **Annual Not Performed** Charts for patterns

Increase

Decrease

Hospital A Annual Report - 2016				
Reports submitted by the Oklahoma Newborn Hearing Screening Program - OSDH				
2016 Not Performed				
Month	Births	Not Performed	% of Not Performed	% of Performed
January	69	7	10.14%	89.86%
February	75	0	0.00%	100.00%
March	86	0	0.00%	100.00%
1st Quarter	230	7	3.04%	97.0%
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October	79	0	0.00%	100.00%
November	100	0	0.00%	100.00%
December	81	0	0.00%	100.00%
4th Quarter	260	0	0.00%	100.0%
CUMULATIVE	992	14	1.41%	98.59%



How to Analyze Annual Reports

Review Overall **Annual Not Performed** Charts & Data for Patterns



Hospital A Annual Report - 2016 the Oklahoma Newborn Hearing Screening Program - OSDH			
2016 Not Performed			
	Not Performed	% of Not Performed	% of Performed
January	7	10.14%	89.86%
February	0	0.00%	100.00%
March	0	0.00%	100.00%
1st Quarter	7	3.04%	97.0%
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May	0	0.00%	100.00%
June	0	0.00%	100.00%
2nd Quarter	6	2.38%	97.6%
July	0	0.00%	100.00%
August	0	0.00%	100.00%
September	1	1.15%	98.85%
3rd Quarter	1	0.40%	99.6%
October	0	0.00%	100.00%
November	0	0.00%	100.00%
December	0	0.00%	100.00%
4th Quarter	0	0.00%	100.0%
CUMULATIVE	14	1.41%	98.59%

How to Analyze Annual Reports

Review Overall **Annual Not Performed** – Compare Quarters

Hospital A Annual Report - 2016				
Reports submitted by the Oklahoma Newborn Hearing Screening Program - OSDH				
2016 Not Performed				
Month	Births	Not Performed	% of Not Performed	% of Performed
January	69	7	10.14%	89.86%
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October	79	0	0.00%	100.00%
November	100	0	0.00%	100.00%
December	81	0	0.00%	100.00%
4th Quarter	260	0	0.00%	100.0%
CUMULATIVE	992	14	1.41%	98.59%

Disclaimer - Per state mandate of screening and reporting, no babies should appear on this list as the desired outcomes are 0% rate.



Tips to Ensure ALL Babies are Screened

- **Develop Systems & Processes to ensure all infants are screened prior to discharge**
 - Review hospital processes with management and screening personnel
 - Develop Quality Assurance measures to ensure all babies are screened and results are reported
 - Partner with hospital laboratory regarding transfer of bloodspot filter papers

- **Make sure equipment is working properly**
 - Equipment checks
 - Required annual calibration
 - Have back-up cables on hand



Tips to Ensure ALL Babies are Screened

- **Track supplies to ensure no lapses in screening**
 - Supplies are to be purchased by the hospital
 - Know the time needed for hospital procurement
 - Hold back a box of supplies in management office

- **Share hospital's Not Performed reports each quarter**
 - Staff Meetings
 - Nurse's Station

- **Remind staff about State Law for screening**

- **Request a training from OSDH NHSP Staff (as needed)**



Comparing Annual Reports

2017 Not Performed Reports 2017

- State Average: 0.27%
- 44 hospitals NO concerns
 - Less than 1% Not Screened
 - 27 way tie - ALL babies Screening
 - 8 hospitals missed ONLY 1 baby
 - 6 hospitals missed ONLY 2 babies
- 128 babies missed, only 3 hospitals over 10

No	Low	Medium	High
0.0 - 0.99%	1.0 - 1.99%	2.0 - 3.99%	≥4.0%



How to Analyze Annual Reports

Not Reported Reports

Not Reported Rate

State mandate indicates that all hearing screenings need to be reported to the Oklahoma Newborn Hearing Screening Program. There are several reasons why the hearing tests were not reported:

- Babies still in NICU
- Loss documentation (did not send result)
- Oversight by screeners

*The rates are based on the month it was requested
and not the month of birth*



Not Performed vs. Not Reported

Rule of Thumb

"Not Performed"

- ✓ Baby is no longer in hospital
- ✓ Baby was not screened
- ✓ Thus no results available

"Not Reported"

- ✓ Baby was screened
- ✓ No results sent to NHSP



Not Reported Requests

NHSP requests both missing & conflicting hearing results

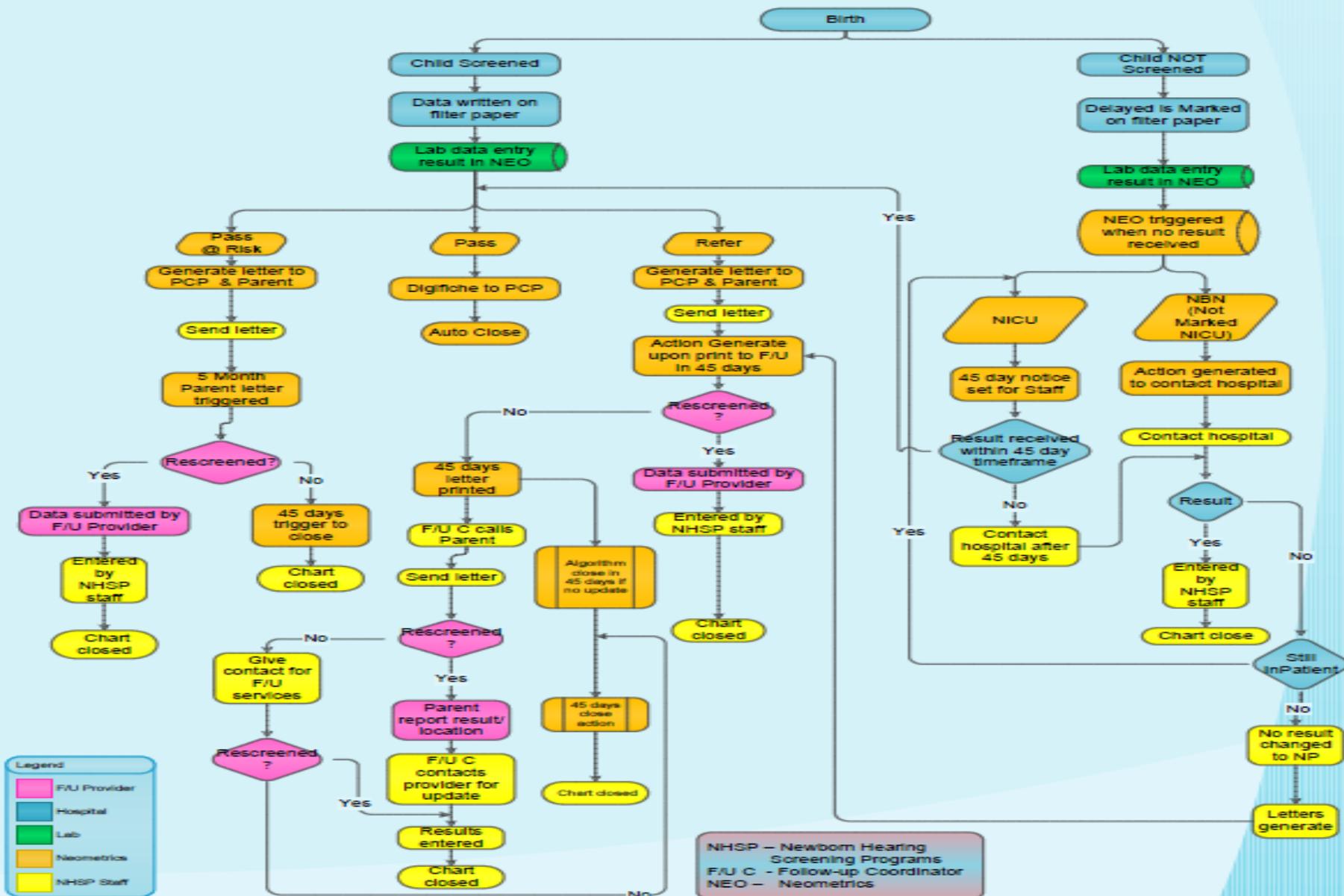
“Missing”

- ✓ Hearing results not sent via bloodspot filter
- ✓ Subsequent hearing results not sent via fax or email after bloodspot filter left facility

“Conflicting”

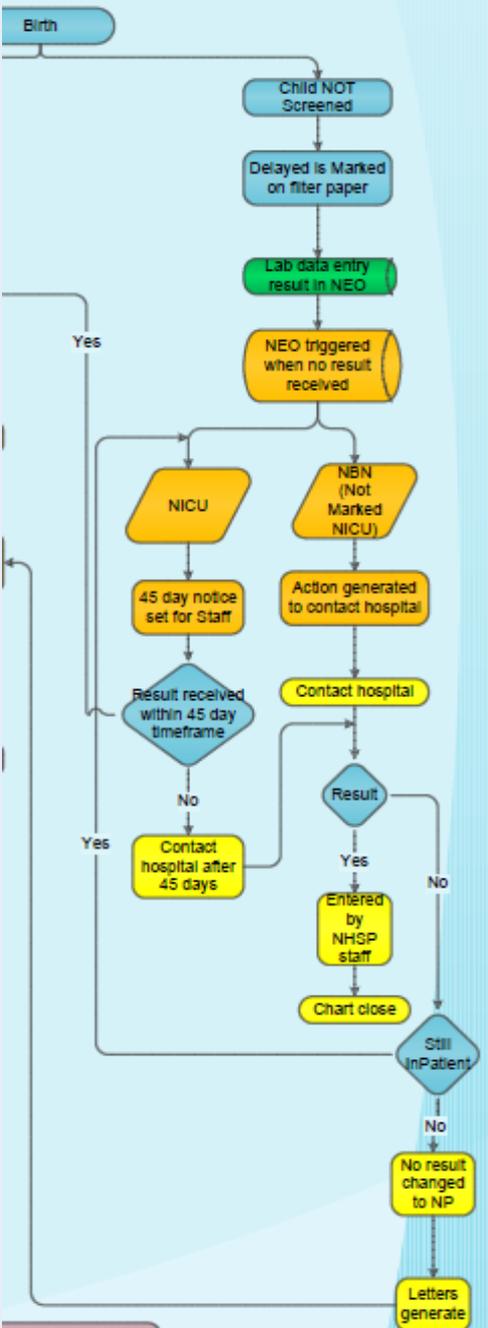
- ✓ Ex. Marked both “Pass” and “Refer”
- ✓ Ex. Missing results for one ear





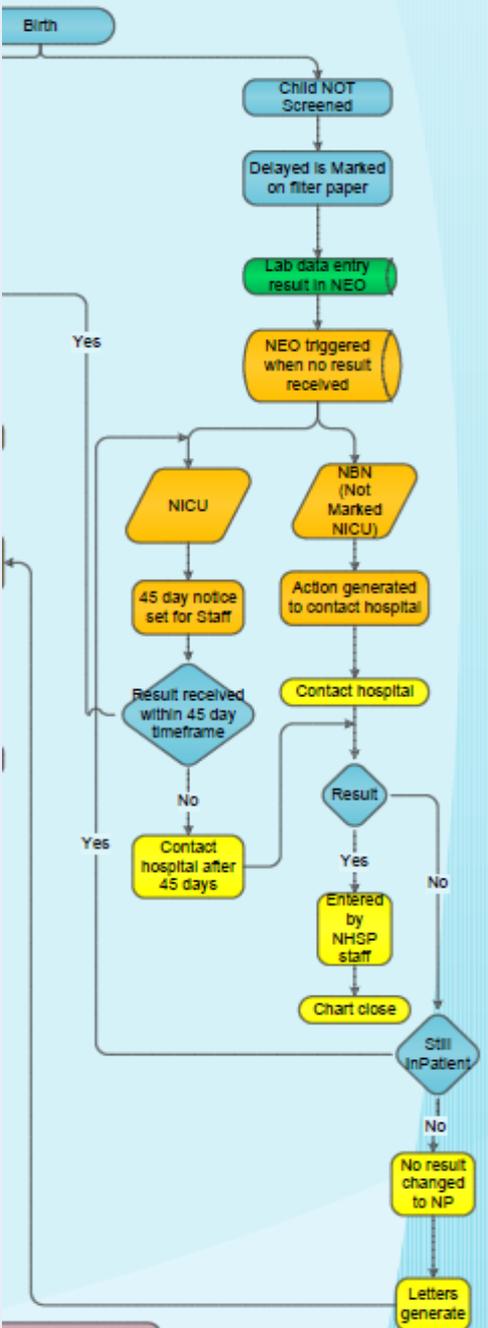
Wellborn Nursery

- If no hearing results are received within 1 week of life, the NHSP will request missing information
- If hearing results are conflicting, the NHSP will request updates
- If child's RISK was NOT marked as "Infant placed in a Level II or III nursery for more than 24 hours," then child is considered in this category unless otherwise noted by staff.



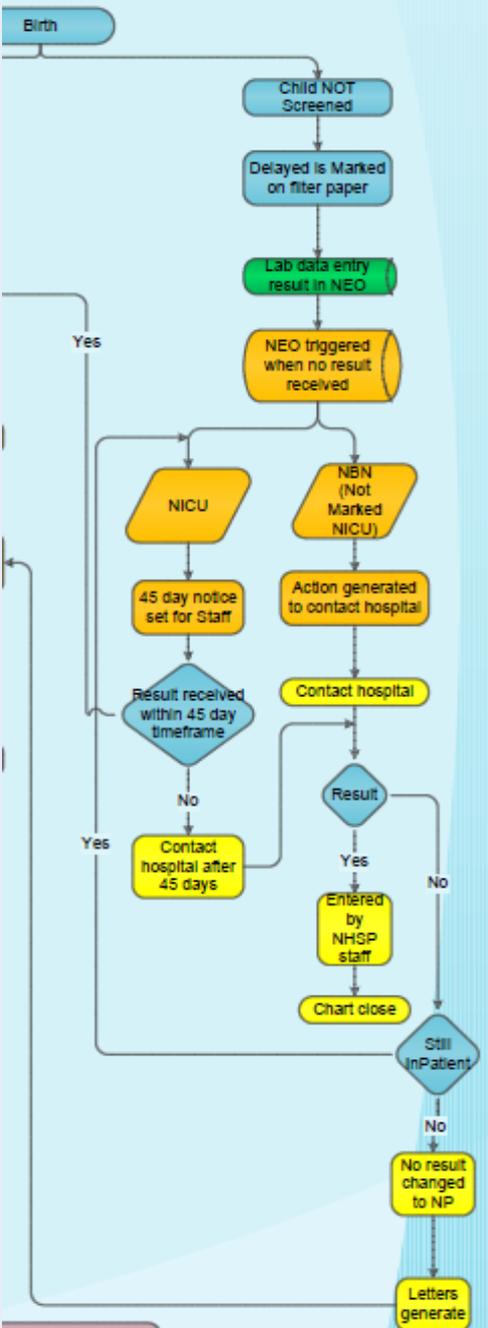
NICU Nursery

- To allow for hearing screenings of infants in the NICU, requests are delayed by 45 days.
- If results are received by 45 days, no request is made.
- If no hearing results are received within 45 days week of life, the NHSP will request missing information
 - If child still in NICU, request will be extended & not information on Not Reported reports



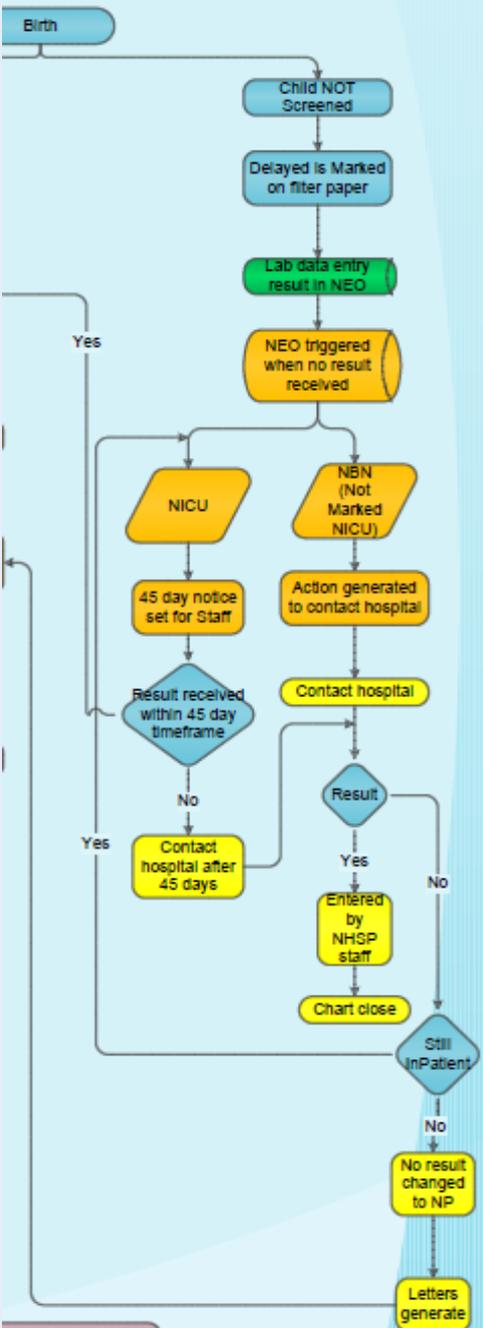
Not Reported Requests

- Request sent to ensure compliance with state mandates & to assist with follow-up case management (as needed)
- Requests are sent to birthing hospitals on Thursdays (except for vendor sites)
- NHSP requests a response within 1 week of notification
- Requests are made to the hospital contact provided to NHSP
 - Additional providers may be added



Not Reported Requests

- Requests sent to individual hospitals weekly via email:
 - ✓ Hospital Name
 - ✓ Number of Requests
 - ✓ Date Sent
 - ✓ Deadline Date
 - ✓ Child's Name, DOB, Medical Record Number, Serial Number (Filter Paper), Mom's Name
 - ✓ Reason for requests



Not Reported Requests



From:  McCalip, Mary L.
To:  Burk, Patricia A.
Cc:
Subject: [secure] Newborn Hearing Screening - Requesting Results -Patricia's Hospital 2 request(s) - Sent 6/26/17

Sent: Mon 6/26/2017 12:04

YOUR RESPONSE IS APPRECIATED ON OR BEFORE WEDNESDAY OF NEXT WEEK (7/3/27)

The Oklahoma Newborn Hearing Screening program noted that more information is needed from your site prior to sending parent and PCP letters. This request is to ensure your hospital is in compliance with state law for hearing screening and reporting.

Special note: Beginning January 1, 2016, we will be including risk factors in our missing information requests.

If you notice a child is in the NICU but marked NBN, feel free to let me know. I would be glad to add the risk factor and adjust our requests which trigger in our system at 45 days if no hearing screening is completed. If I am advised by parents or follow up care providers of a risk not initially marked, I will be adding those to the weekly hospital requests.

Please let us know if you would like someone from our program to work with the hospital staff in regards to marking risk factors since those results are required and they also provide different case management actions/letters for parents and providers.

Please provide updates on the following (via yellow highlighted section) either via email or fax 405-271-4892.

Hospital	NICU /NBN	Last Name	First Name	DOB	Medical Record	Serial #	Mom	Results	Date	Notes
Patricia's Hospital										
	NICU	Doe	Male	6/01/2017	P00001	1600000	Jane			NICU Follow-up: Is child still inpatient? If not, was screened?

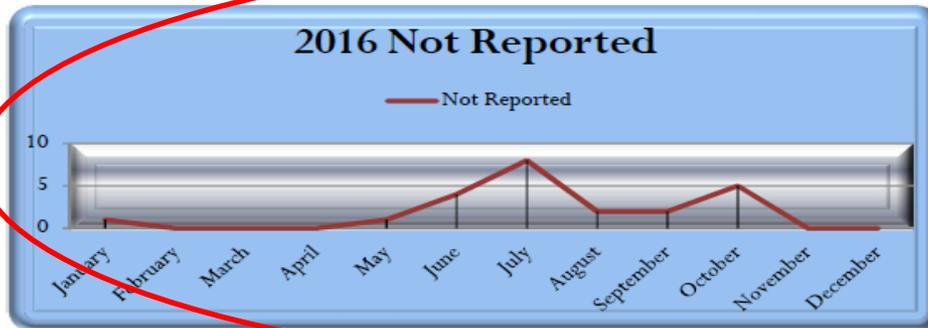


How to Analyze Annual Reports

Review Overall Annual Not Reported Charts

Hospital A
Annual Report - 2016
Reports submitted by the Oklahoma Newborn Hearing Screening Program - OSDH

2016 Not Reported						
Month	Births	#Sent	Still NICU	Not Reported	% Not Reported	% Reported
January	95	1	0	1	1.05%	98.95%
February	60	0	0	0	0.00%	100.00%
March	72	0	0	0	0.00%	100.00%
1st Quarter	227	1	0	1	0.44%	99.56%
April	74	0	0	0	0.00%	100.00%
May	69	1	0	1	1.45%	98.55%
June	73	4	0	4	5.48%	94.52%
2nd Quarter	216	5	0	5	2.31%	97.69%
July	88	8	0	8	9.09%	90.91%
August	91	2	0	2	2.20%	97.80%
September	85	2	0	2	2.35%	97.65%
3rd Quarter	264	12	0	12	4.55%	95.45%
October	74	6	1	5	6.76%	93.24%
November	75	0	0	0	0.00%	100.00%
December	75	0	0	0	0.00%	100.00%
4th Quarter	224	6	1	5	2.23%	97.77%
CUMULATIVE	931	24	1	23	2.47%	97.53%



How to Analyze Annual Reports

Review Overall **Annual Not Reported** Charts & Data for Patterns

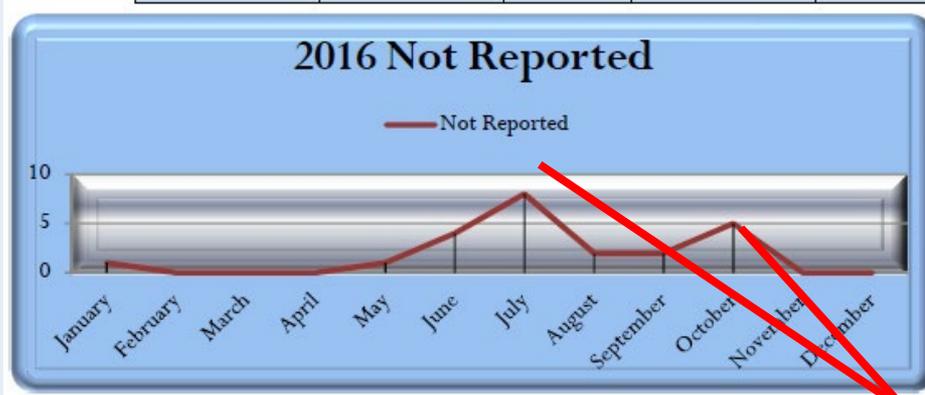


Table A
Report - 2016
Horn Hearing Screening Program - OSDH

Month	Not Reported	% Not Reported	% Reported
January	1	1.05%	98.95%
February	0	0.00%	100.00%
March	0	0.00%	100.00%
1st Quarter	1	0.44%	99.56%
April	0	0.00%	100.00%
May	1	1.45%	98.55%
June	4	5.48%	94.52%
2nd Quarter	5	2.31%	97.69%
July	8	9.09%	90.91%
August	2	2.20%	97.80%
September	2	2.35%	97.65%
3rd Quarter	12	4.55%	95.45%
October	5	6.76%	93.24%
November	0	0.00%	100.00%
December	0	0.00%	100.00%
4th Quarter	6	2.23%	97.77%
CUMULATIVE	24	2.47%	97.53%

How to Analyze Annual Reports

Review Overall **Annual Not Reported** – Compare Quarters

Hospital A Annual Report - 2016						
Reports submitted by the Oklahoma Newborn Hearing Screening Program - OSDH						
2016 Not Reported						
Month	Births	#Sent	Still NICU	Not Reported	% Not Reported	% Reported
January	95	1	0	1	1.05%	98.95%
February	60	0	0	0	0.00%	100.00%
March	72	0	0	0	0.00%	100.00%
1st Quarter	227	1	0	1	0.44%	99.56%
April	74	0	0	0	0.00%	100.00%
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July	88	8	0	8	9.09%	90.91%
August	91	2	0	2	2.20%	97.80%
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3rd Quarter	264	12	0	12	4.55%	95.45%
October	74	6	1	5	6.76%	93.24%
November	75	0	0	0	0.00%	100.00%
December	75	0	0	0	0.00%	100.00%
4th Quarter	224	6	1	5	2.23%	97.77%
CUMULATIVE	931	24	1	23	2.47%	97.53%



Tips to Ensure ALL Results are Reported

- **Complete Hearing Screenings Prior to Bloodspot**
 - Hearing Screenings can occur as early as 6 hours of life
 - Bloodspot taken at 24 hours + 1 minute
- **Enter Results on the Bloodspot Filter Paper**
 - Make sure to mark both Right and Left ear Results
 - Make sure to transfer results if bloodspot is redone
- **Make Corrections Properly**
 - If there are conflicting results, a request will be made
- **Check the size of your “x” on the filter**
 - If the marking touches multiple boxes, our laboratory is not able to “guess” or “assume” results
- **Check bloodspot before sending filter to Lab**



Tips to Ensure ALL Results are Reported

- **Know ways of reporting screened later than 48 hours**
 - Fax 405-271-4892
 - Email to the NHSP: PatriciaAB@health.ok.gov
 - Mail to 1000 NE 10th Street, Room 709, OKC, OK 73117
- **Share hospital's Not Reported reports each quarter**
- **Remind staff about State Law for reporting all results**
- **Request a training from OSDH NHSP Staff (as needed)**



Comparing Annual Reports

2017 Not Reported Reports 2017

- State Average: 1.75%
- 17 hospitals NO concerns (34%)
- 32 hospitals NO or LOW concern (63%)
 - Compared to 2016 – 39%
- 842 babies not reported
 - Approximately half of not reported were due to conflicting results

No	Low	Medium	High
0.0 - 0.99%	1.0 - 1.99%	2.0 - 3.99%	≥4.0%





2017

DESIGNED BY **vector open stock**





2017 Hearing Reports

Distributed in April 2018

- 48,189 Oklahoma births
- Refer Rates –
 - State Average: 4.74%
- Not Performed –
 - State Average: 0.27%
 - 27 way tie-All babies Screening
- Not Reported –
 - State Average: 1.75%
 - 842 - Required NHSP contact

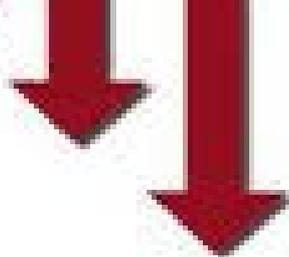
5 Years of Hearing Reports

	2013	2014	2015	2016	2017
Refer Rate	5.55%	5.69%	5.91%	4.54%	4.74%
State Average	Goal Range: 2-5%				
Total Referred (Not Passed)	2,840	2,913	3,020	2,273	2,285
Not Performed State Average	0.85%	0.86%	0.59%	0.66%	0.27%
	Goal : 0% Not Reported / 100% Screened				
Sites screening all infants	12	18	19	24	27
Not Reported State Average	3.12%	4.28%	2.72%	3.02%	1.75%
	Goal : 0% Not Reported / 100% Reported				
Total Not Reported	1,598	2,192	1,391	1,511	842
Total Birth	51,160	51,187	51,085	50,079	48,189

** Hospital Reports launched in 2013



RACE TO THE BOTTOM



(In a good way)



QI Projects/Trend Analysis

REFER RATES

YEAR	Total Birth Rate	Refer Ranking	# of Hospitals	Refers	Average Refer Rate
2011	938	10	57	25	2.76%
2012	1028	13	60	23	2.24%
2013	1000	18	57	34	3.40%
2014	991	40	56	76	7.67%
2015	1026	44	54	87	8.48%
2016	949	42	51	65	6.85%
2017	904	47	51	77	8.52%

Details:

- AABR manufacturer and JCIH recommendations of an average of 2-4%.
- Oklahoma 2017 Annual Refer Rate: 4.74%
- Increased Refer Rates can indicate poor screening, equipment issues, etc.

Hospital Specific Refer Rate



Statewide Refer Ranking



Summary:

- Refer Rates have risen with inconsistencies year to year
- Refer (not passed) ranking has shifted from the Top 10 in the state to the Bottom 10 in the state.
- Hospital met state Refer standards 3 of 7 years
- Hospital did not meet state standards 4 of 7 years

QI Projects/Trend Analysis

5 Year Trend Analysis

	2013	2014	2015	2016	2017	Trend
Facilities in Oklahoma	5	5	5	5	5	
# of Birth	10593	10592	10925	10326	9651	
Average Refer Rate	7.00%	6.10%	4.78%	3.58%	3.02%	
Refer Range	2.27% - 14.22%	2.81% - 21.10%	2.52% - 9.94%	2.22% - 5.54%	2.12% - 4.82%	
# of Not Performed	71	74	16	13	9	
% of Not Performed Rate	0.67%	0.70%	0.15%	0.13%	0.09%	
# of Not Reported	343	499	341	238	89	
% of Not Reported Rate	3.24%	4.71%	3.12%	2.30%	0.92%	

5 Year Trend Analysis

	2013	2014	2015	2016	2017	Trend
Facilities in Oklahoma	9	10	10	11	11	
# of Birth	14088	15262	15160	16455	15785	
Average Refer Rate	3.90%	3.89%	5.71%	5.34%	5.65%	
Refer Range	2.43% - 5.50%	1.81% - 7.67%	3.91% - 8.98%	3.50% - 8.39%	3.83% - 8.52%	
# of Not Performed	8	6	6	10	6	
% of Not Performed Rate	0.06%	0.04%	0.04%	0.06%	0.04%	
# of Not Reported	196	293	193	485	168	
% of Not Reported Rate	1.39%	1.92%	1.27%	2.95%	1.08%	



CONGRATULATIONS TO 10 HOSPITALS NO CONCERNS IN 2017

- Each hospital ONLY receives their information
- However, NHSP is partnering the with OSDH Newborn Screening Program “Every Baby Counts” website to launch Transparent Hearing Reports
- Webinars began in 2017 to:
 - Share the statewide data
 - Provide tips on improvement
 - Congratulate sites meeting “state standards” (No Concern on all 3 reports...screen and report all babies with appropriate Refer Rates)



CONGRATULATIONS TO 10 HOSPITALS NO CONCERNS IN 2017

AllianceHealth Deaconess*

Great Plains Regional Medical Center

Jackson County Memorial Hospital

Jane Philips Medical Center

Integris Edmond *

Norman Regional Hospital *

OU Medical Center *

Saint Anthony Shawnee Hospital*

Southwestern Medical Center in Lawton

St. Mary's Regional Medical Center



* = Vendor

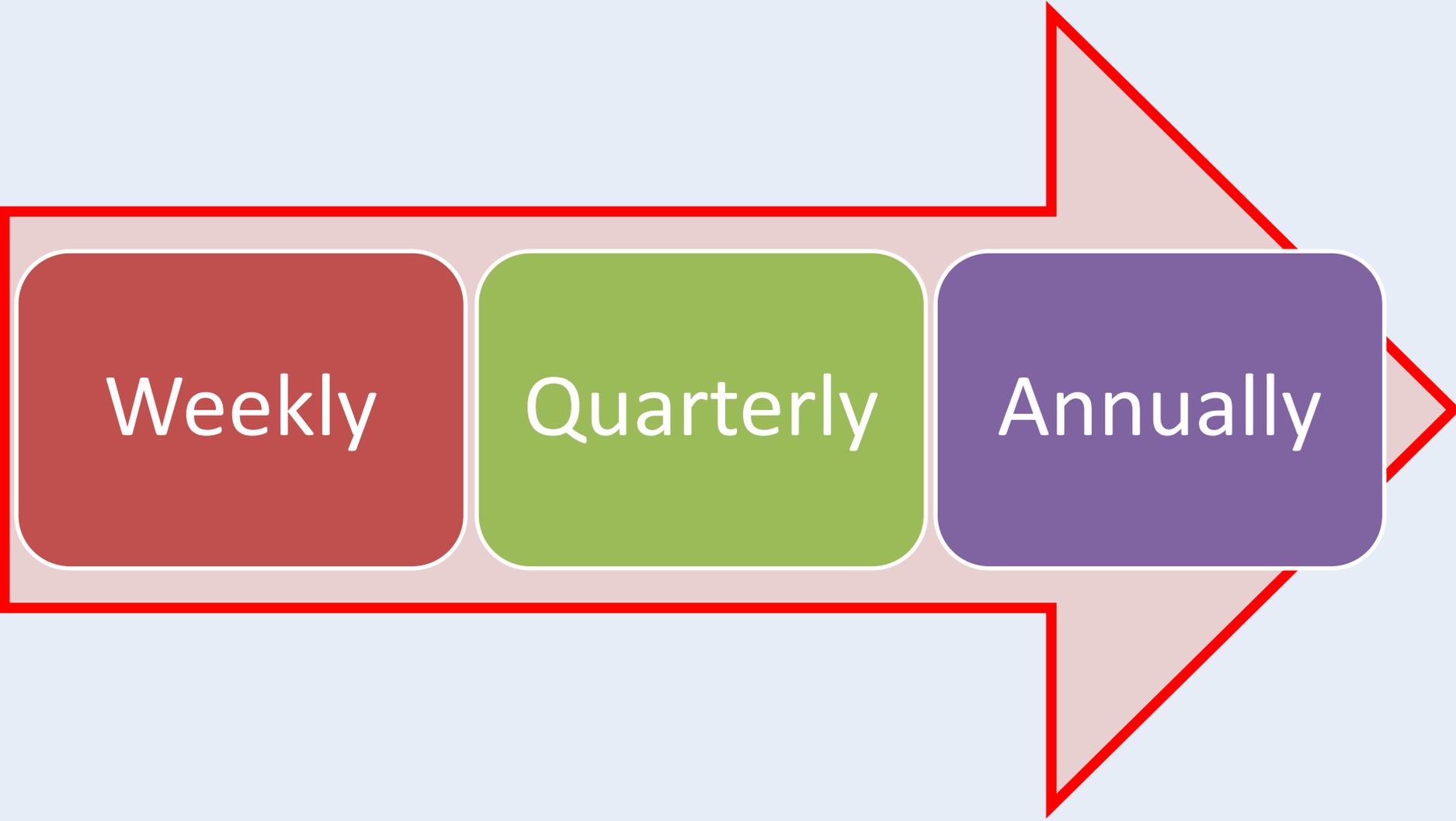


Tips to Improvement

- **Monitor data along the way**
 - Daily: Within facility, individual children
 - Weekly: Requested Results Emails
 - Monthly/Quarterly & Annually: NHSP Reports
- **Look for Spikes in data and quickly adjust**
 - Try to pinpoint causes of data change (good & bad)
- **Seek assistance from NHSP**
 - Phone call/emails to review data
 - Quality Improvement projects
 - Request a training from OSDH NHSP Staff (as needed)



Monitor at Various Stages



Weekly

Quarterly

Annually



How does Hospital EHDI data impact change for families?



How has OK NHSP Hospital Hearing Reports impacted change for Oklahoma families

- Within the last 5 years (2013-2018), OK NHSP Hospital Hearing Reports have impacted:
 - 250,000 infants born
 - 50+ Oklahoma birthing hospitals
- Reports helped the OK NHSP provide targeted education/troubleshooting for individual hospitals and/or outsourced vendors
- Reports identified top performers who were able to provide feedback on running quality hearing programs
- Hospital reports have improved the quality of care at hospitals regarding hearing screenings
 - Consistent quality screening





How has OK NHSP Hospital Hearing Reports impacted change for Oklahoma families

- Ensuring screening prior to discharge assists with early identification of hearing loss
 - Ex. Each year, several children in OK diagnosed with hearing loss within 1 week of life
- Proper reporting ensures timely and accurate correspondences/case management/follow-up with parents and PCP/Medical Home Providers
- High Refer Rates burden follow-up clinics and reduces the availability of timely appointments
- Low Refer Rates reduces parent/caregiver stress
- Early identification of hearing loss and early intervention placement gives children more options and maximizes on development synchrony



How OK NHSP Hospital Hearing Reports continue to impact change for Oklahoma families



- Lower Not Performed/Refer Rates

- Track fewer children (ones needing follow-up) through EHDI 1-3-6 Process

- Allows EHDI staff more time to talk with families about follow-up needs

- Reduces # of children going to audiology thus able to obtain appointment in more timely manner

- Allows EHDI to partner with audiology to connect with EI services as needed

- Allows time for new partnerships with Parent to Parent Support and Deaf Mentors





OK Newborn Hearing Screening Program

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