



TEXAS
Health and Human
Services

Texas Department of State
Health Services

High presumptive positive rates in NICU babies—

The Texas experience

Texas Overview



TEXAS
Health and Human
Services

Texas Department of State
Health Services

- 2 screen state
- 782,187 screens in 2016
 - 21,370 presumptive positives
 - ~49% of those PPs belong to NICU infants

Problem



TEXAS
Health and Human
Services

Texas Department of State
Health Services



“I have a positive attitude...
but it might be a false positive.”

Clinical Care Coordination



TEXAS
Health and Human
Services

Texas Department of State
Health Services

- Verbal notification required
 - Clinical staff
- High call volume to Texas NICUs
- Concerns voiced



TEXAS
Health and Human
Services

Texas Department of State
Health Services

Methodology

- High volume
- Lowest diagnostic rates
- Public Health Prevention Specialists (PHPS)

CAH Outbound Call Volume



TEXAS
Health and Human
Services

Texas Department of State
Health Services

CAH PHPS (42 month period)

Result	Pos Screens	Diagnosed	
CAH LBW	6354	12	0.2%
CAH NBW SE	9392	155	1.7%
Grand Total	15746	167	1.1%

- Dx rate of total screens not babies
- 6,354 outbound calls for CAH LBW alone
- **40%** of PHPS outbound calls for CAH
- ~8 calls per workday
- ~1 FTE
- Almost all calls to NICUs

THY Outbound Call Volume



TEXAS
Health and Human
Services

Texas Department of State
Health Services

THY PHPS (42 month period)				
Result	Pos Screens	Diagnosed		
T4 L/TSH N LBW	13580	164	1.2%	
NBW	5134	222	4.3%	
T4 N/TSH SE LBW	1289	30	2.3%	
NBW	4913	93	1.9%	
T4 H/TSH N LBW	8	2	25.0%	
NBW	161	5	3.1%	
T4 L/TSH SE LBW	137	9	6.6%	
NBW	54	4	7.4%	
Grand Total	25276	529	2.1%	

- Dx rate of total screens not babies
- 13,580 outbound calls for T5 LBW alone
- **54%** of PHPS outbound calls for thyroid
- ~17 calls per workday
- ~2.1 FTEs
- Almost all calls to NICUs

MSMS Outbound Call Volume



TEXAS
Health and Human
Services

Texas Department of State
Health Services

MSMS PHPS (6 year period)

Result	Pos Screens	Diagnosed	
GE/TPN only	6755	0	0.0%
CUD LBW only	96	0	0.0%
Grand Total	6851	0	0.0%

- Dx rate of total screens not babies
- 6,755 outbound calls
- **27%** of all outbound calls for MSMS
- **Zero** babies diagnosed
- ~5 calls per day
- 0.625 FTE
- Almost all calls to NICUs

MSMS – Doubles Anyone?



TEXAS
Health and Human
Services

Texas Department of State
Health Services

- Double = the same analyte is elevated on a repeat screen that is associated with a GE or TPN determination
- GE/TPN doubles create a Nurse case
- Serum labs
- ZERO diagnosed in 6 years





TEXAS
Health and Human
Services

Texas Department of State
Health Services

Looking Ahead

- Five of the Nation's Eleven Fastest-Growing Cities are in Texas (2014-2015)
- More people, more babies
- More babies

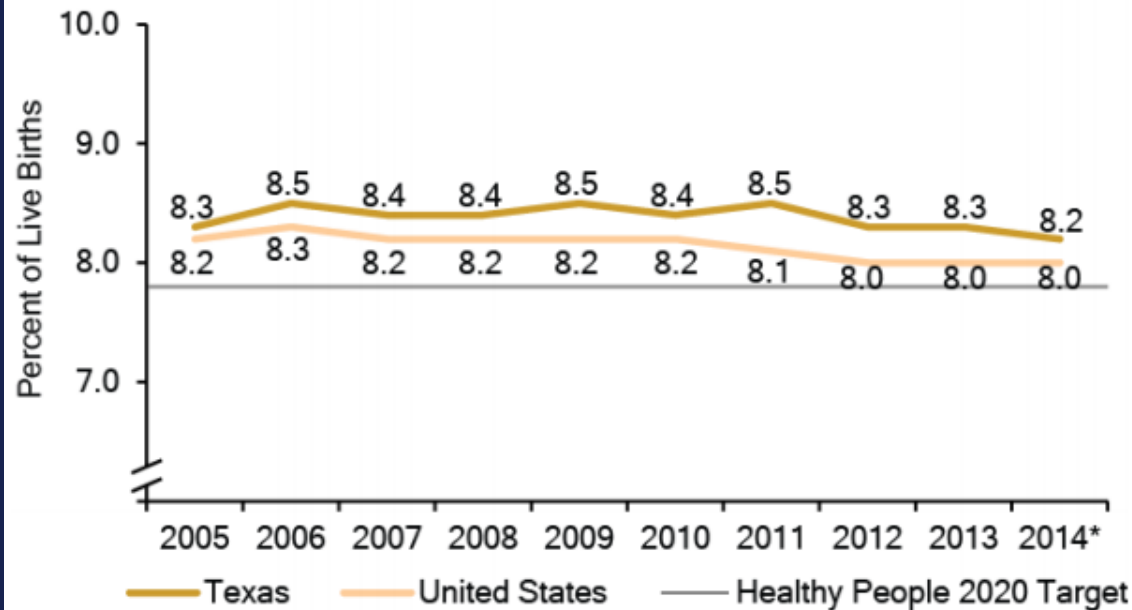
More LBW Babies



TEXAS
Health and Human
Services

Texas Department of State
Health Services

Percent of Births that are Low Birth Weight (less than 2500 g) in Texas and the United States, 2005-2014



- TX 8.3% x 400,000 = 33,200



Solution – CAH

Day	Circumstance	CCC Action
Day of release	1 st NBS CAHL \leq 2000g	Fax notification of abnormal result to submitter with request for GA & BW.
Next bus day		Look for submitter response (due by COB).
Next bus day	If GA & BW not received	Call submitter for GA & BW.
17 th DOL	2 nd NBS not received	Call infant's current provider. Notify 2 nd NBS not received. Recommend collection asap.

Solution - THY



TEXAS
Health and Human
Services

Texas Department of State
Health Services

Day	Circumstance	CCC Action
Day of release	1 st NBS T5 \leq 2000g	Fax notification of abnormal result to submitter.
17 th DOL	2 nd NBS not received	Call infant's current provider. Notify 2 nd NBS not received. Recommend collection asap.

T5 = T4 L/TSH N

Why Choose ≤2000 Grams?



TEXAS
Health and Human
Services

- Baby likely to remain in NICU until 2nd NBS results available
- 19.3 days vs 7.4 days

Gestational Age, Birth Weight, and Avg LOS NICU/SCN		
GA (wks)	Average Weight (grams)	Average LOS (days)
24	651	78.9
25	737	83.3
26	827	82
27	936	74.7
28	1061	66
29	1204	56.5
30	1373	47.8
31	1546	38.5
32	1734	28.2
33	1956	19.3
34	2187	7.4
35	2413	4.7
36	2664	3.3
37	2937	2.6

- Olsen, I. E., Groveman, S. A., Lawson, M. L., Clark, R. H., & Zemel, B. S. (2010). New intrauterine growth curves based on United States data. *Pediatrics*, peds-2009.
- Phibbs, C. S., & Schmitt, S. K. (2006). Estimates of the Cost and Length of Stay Changes that can be attributed to One-Week Increases in Gestational Age for Premature Infants. *Early Human Development*, 82(2), 85–95. <http://doi.org/10.1016/j.earlhumdev.2006.01.001>

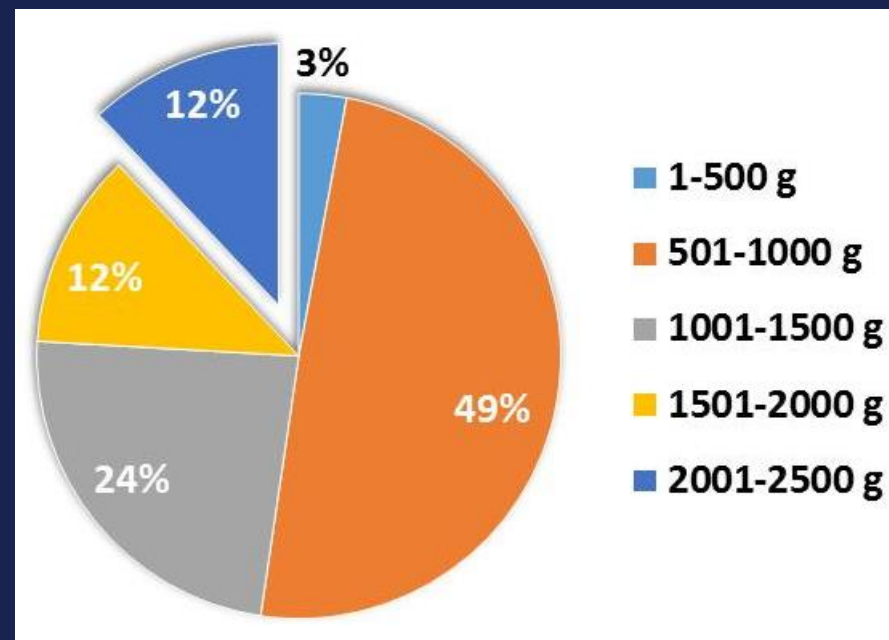
Why Choose ≤ 2000 Grams?



TEXAS
Health and Human
Services

Texas Department of State
Health Services

- 88% of call volume for 1st NBS CAHL (< 2500 g) expended on ≤ 2000 g infants



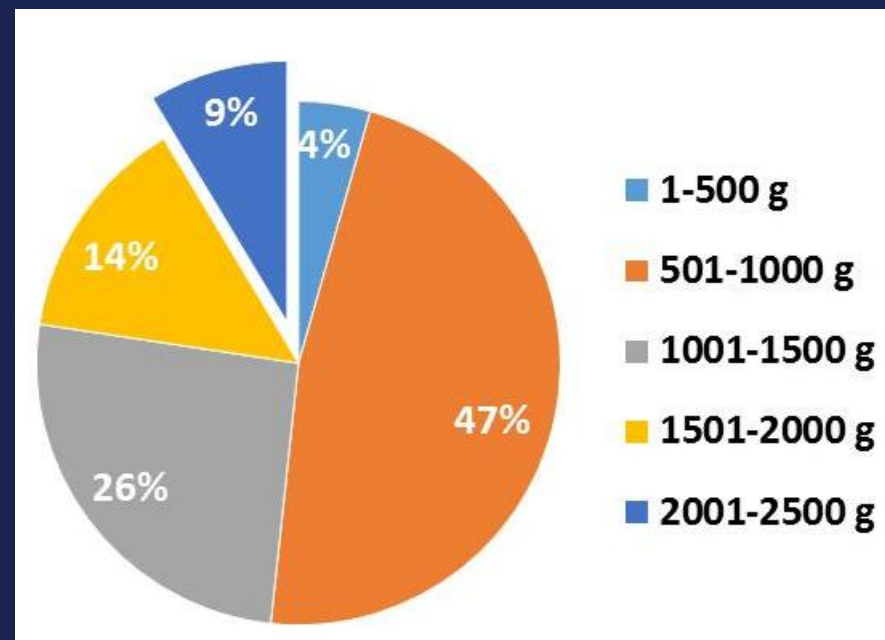
Why Choose ≤ 2000 Grams?



TEXAS
Health and Human
Services

Texas Department of State
Health Services

- 91% of call volume for 1st NBS THY (T4 L/TSH N) (< 2500 g) expended on ≤ 2000 g infants



Impact Endocrine Call Volume



TEXAS
Health and Human
Services

Texas Department of State
Health Services

- For CAHL
 - Of 6,354 PPs
 - 5,083 were \leq 2000g on 1st NBS
 - 80% call volume reduction
 - \sim 5.6 calls per workday
- For THY (low T4/N TSH)
 - Of 13,580 PPs
 - 6,060 were \leq 2000g on 1st NBS
 - 45% call volume reduction
 - \sim 7 calls per workday





Solution – Doubles

Day	Circumstance	CCC Action
Day of release	1 st NBS GE or TPN	Create action to search for 2 nd NBS as 17 days of life (DOL)
8 th to 16 th DOL	2 nd NBS is a double	Call infant's current provider. Notify of abnormal results. -For GE, recommend repeat NBS. -For TPN, recommend repeat NBS when off TPN.
17 th DOL	2 nd NBS not received	Call infant's current provider. Notify 2 nd NBS not received. Recommend 2 nd NBS asap.

Impact MSMS Call Volume



TEXAS
Health and Human
Services

Texas Department of State
Health Services

- Of 6,755 PPs for GE/TPN only,
 - 3,252 had a 1st NBS-TPN only
 - 576 had a 1st NBS-GE only
- 57% call volume reduction
- ~2.5 calls per workday





Review

- Reduces call volume for:
 - CAHL by 80%
 - T5 (T4 L/TSH N) LBW by 45%
 - MSMS by TPN/GE by 57%
 - ~2 FTEs

Questions?



TEXAS
Health and Human
Services

Texas Department of State
Health Services

Thank you

Lori Fitzgerald, MSN

Lori.fitzgerald@dshs.texas.gov

512-776-6414