Once upon a time …

First colonists

2

Foundation of Texas Vital Statistics

The Legislature in 1873 made it mandatory that fathers, mothers, or guardians, report the birth of children within six months of their birth.

The clerks of the District Courts were authorized to charge ten cents for each birth registered, and a fine of $5.00 was to be imposed for each month beyond six that the registration was delayed.

3

Foundation of Texas Vital Statistics

Dusting in the State Capitol, Austin, 1946

4

Birth Certificate 1940

Bureau of Vital Statistics
Standard Certificate of Birth
County of _____ Legitimate?_____
Name of _____Date of Birth_____
Father _____ Address _____
Mother _____ Address_____
Number of Children Now Living _____
Medical Attendance _____

And the prophylactic used to prevent ophthalmia neonatorum was _____

File Number
File Date
Local Registrar

Type of information

•?

5

Birth Certificate 1940

Bureau of Vital Statistics
Standard Certificate of Birth
County of _____ Legitimate?_____
Name of _____Date of Birth_____
Father _____ Address _____
Mother _____ Address_____
Number of Children Now Living _____
Medical Attendance _____

And the prophylactic used to prevent ophthalmia neonatorum was _____

File Number
File Date
Local Registrar

Type of information

- **Legitimate?**

6

Birth Certificate 1940

Bureau of Vital Statistics
Standard Certificate of Birth
County of _____ Legitimate?_____
Name of _____Date of Birth_____
Father _____ Address _____
Mother _____ Address_____
Number of Children Now Living _____
Medical Attendance _____

And the prophylactic used to prevent ophthalmia neonatorum was _____

File Number
File Date
Local Registrar

Type of information

- Legitimate?
- Demographic
- Geographic
- Pregnancy history – one item
- Medical – one item

23 items

7

Birth Outcomes and Infant Mortality,1956

First summary report on vital statistics in Texas

COUNTY AND CITY	LIVE BIRTHS	INFANT DEATHS NO.	INFANT DEATHS RATE	NEONATAL DEATHS NO.	NEONATAL DEATHS RATE	MATERNAL DEATHS NO.	MATERNAL DEATHS RATE	FETAL DEATHS NO.	FETAL DEATHS RATIO
TEXAS	245,863	7,804	29.5	4,877	19.8	134	0.5	3,918	15.9
ANDERSON	572	15	26.2	7	12.2	1	1.7	13	22.7
Rural	288	10	34.7	3	10.4	1	3.5	5	17.4
Palestine	284	5	17.6	4	14.1	0	-	8	28.2
ANDREWS	328	7	21.3	6	18.6	0	-	0	-
Rural	328	7	21.3	6	18.6	0	-	0	-
Andrews	296	6	20.3	6	20.3	0	-	0	-
ANGELINA	915	20	21.9	15	16.4	2	2.2	19	20.8
Rural	478	7	14.6	5	10.5	0	-	4	8.4
Lufkin	437	13	29.7	10	22.9	2	4.6	15	34.3
ARANSAS	116	8	69.0	4	34.5	0	-	3	23.2
Rural	112	7	62.5	4	35.7	0	-	3	26.8
Aransas Pass	4	1	*	0	-	0	-	0	-
ARCHER	145	1	6.9	1	6.9	0	-	1	6.9
ARMSTRONG	32	0	-	0	-	0	-	0	-
ATASCOSA	470	20	42.6	13	27.7	0	-	9	19.1
Rural	356	16	44.9	11	30.9	0	-	5	14.0
Pleasanton	114	4	35.1	2	17.5	0	-	4	35.1
AUSTIN	278	6	21.6	4	14.4	0	-	6	21.6
BAILEY	258	14	54.3	10	38.8	0	-	5	19.4
BANDERA	59	0	-	0	-	0	-	1	16.9
BASTROP	561	25	69.3	20	55.4	1	2.8	12	33.2
Rural	171	7	41.0	6	35.1	0	-	4	23.4
Bastrop	61	7	114.8	6	98.4	1	16.4	5	82.0
Elgin	71	6	84.5	4	56.3	0	-	0	-
Smithville	58	5	86.2	4	69.0	0	-	3	51.7
BAYLOR	97	4	41.2	4	41.2	0	-	3	30.9
Rural	88	0	-	0	-	0	-	1	10.7
Seymour	69	4	58.0	4	58.0	0	-	2	29.0
BEE	679	17	25.0	12	17.7	1	1.5	10	14.7
Rural	158	2	12.7	1	6.3	1	6.3	2	12.7
Beeville	521	15	28.8	11	21.1	0	-	8	15.4
BELL	2,664	74	27.8	53	19.9	0	-	30	11.4
Rural	1,752	48	27.4	33	18.8	0	-	20	11.5
Temple	760	21	27.6	15	19.7	0	-	4	5.3
Belton	212	7	33.0	5	23.6	0	-	1	4.7
Killeen	1,152	27	23.4	22	19.1	0	-	10	8.7
BEXAR	19,488	606	31.1	435	22.3	5	0.3	376	19.3
Rural	1,007	30	29.8	19	18.9	1	1.0	25	24.8
San Antonio	18,315	575	31.4	415	22.7	4	0.2	350	19.1
Alamo Heights	81	0	-	0	-	0	-	1	12.3
Olmos Park	21	0	-	0	-	0	-	0	-
Terrell Hills	66	1	15.2	1	15.2	0	-	0	-

8

WHY?

Why in Bexar County 31.1 infants died out of each 1,000 live births in 1956 but in Tarrant County the infant mortality rate was much lower – 24.1?

9

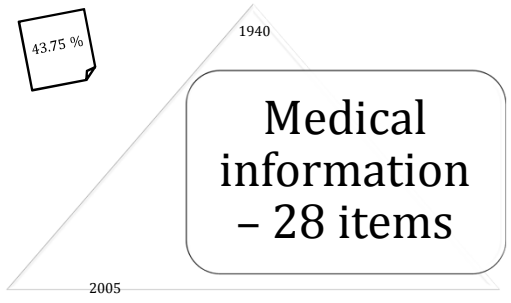
To answer this question, birth certificate gets more and more……

10

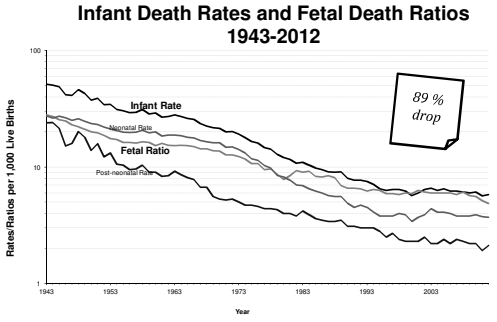
… information

11

Birth Certificate 2005
64 items



12



13

How long a birth certificate should be?

Problems

- How much information is enough?
- Do we collect the exact information that Public Health Professionals and Researchers need?
- If not, which medical information should be collected?

14

Accuracy and completeness of the birth certificate information

Syntax to Edit Birth Data, p. 1

```
*GROUP 1: Variables necessary to produce VS Annual Report.
**************************************************.
temporary.
select if nstatefilenumber < '900000'.
frequencies re_state.
*09/23/2014: 44=386383; Total=395052; missing=3.
**************************************************
*Check data in the facility/institution type field since it is used in Table 2 in the Annual Report.
**************************************************
TEMPORARY.
select if  nstatefilenumber < '900000'.
freq inst_typ.
*If there are any question marks or facility type = 6 or 8 or 9 in the data, list them.  Changes will need to be made in the statistical file.
*06/01/2014: without the LT 900000, there would be 44,000 records to look at!.
*If facility type is midwife (code = 6) or unknown (code = 9), check the RECORDTYPE field because it may have information such as HOME BIRTH etc.
```

Report on Birth Edits, 2013

Date of first prenatal care visit is Unknown – **14,198** records

No Prenatal Care

Mother's menses date is unknown or invalid – **3,327** records

Gestational Age Unknown

15

Texas Electronic Vital Event Registrar (TxEVER)

Estimated completion - 2017

Goals to improve birth data quality:

- LINK the Electronic Health Records with Vital Event data.
- Transfer data from physicians' records to the hospital worksheets.
- Reduce the number of birth certificates with missing or inaccurate data.
- Reduce administrative costs associated with health data errors.

http://www.dshs.state.tx.us/vs/field/The-TxEVER-Project/

16

More data, more……

17

More data, more RESEARCH.

18

Uses of Birth Data

Government	Private Sector
1) Federal, State, Local Population Estimates 2) Provide and Coordinate Government Services 3) Planning Infrastructure (schools, roads, hospitals) 4) Public Health Research and Policy 5) Surveillance/Screening	1) Locating Commercial Enterprises 2) Market Analysis 3) Actuarial Studies 4) Legal Purposes 5) Media
Institutions	**Texans**
1) Grant Applications 2) Population Characteristics 3) Locating Programs/Services 4) Educational Planning and Research 5) Academic Research	1) Verify Identity 2) Establish Citizenship 3) Legal Documentation

Public health professionals, researchers and government agencies receive birth data and statistics….

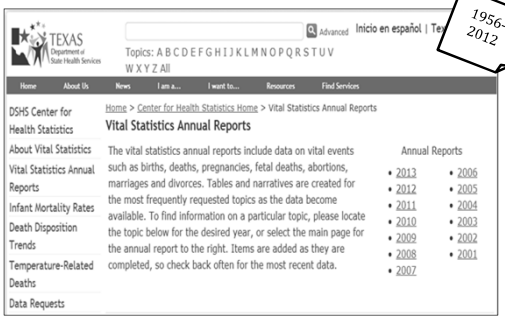
Is it enough users?

20

Not really ….

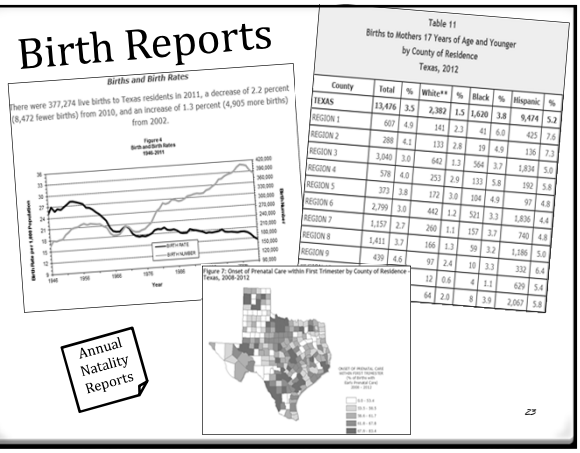
21

Texas Vital Statistics Annual Reports

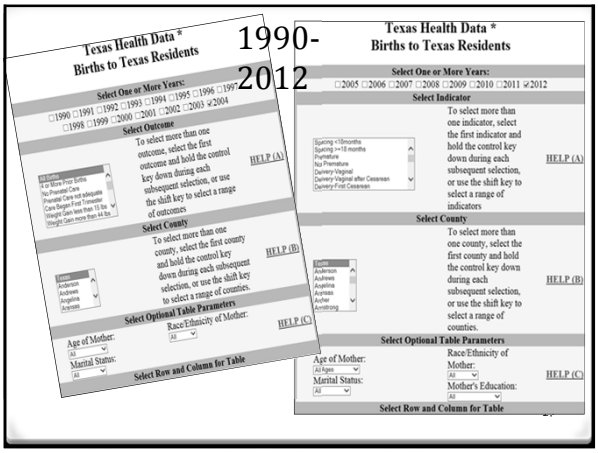


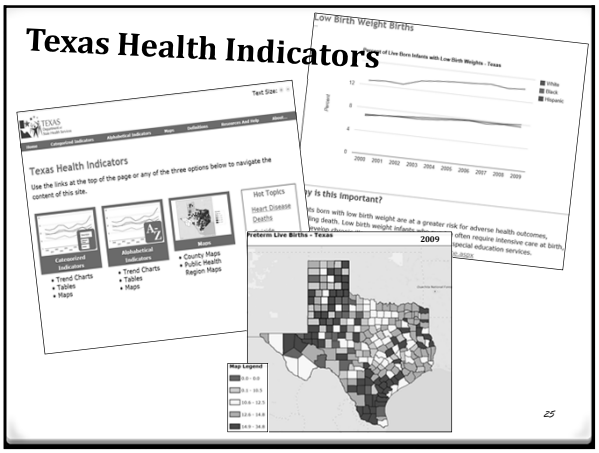
22

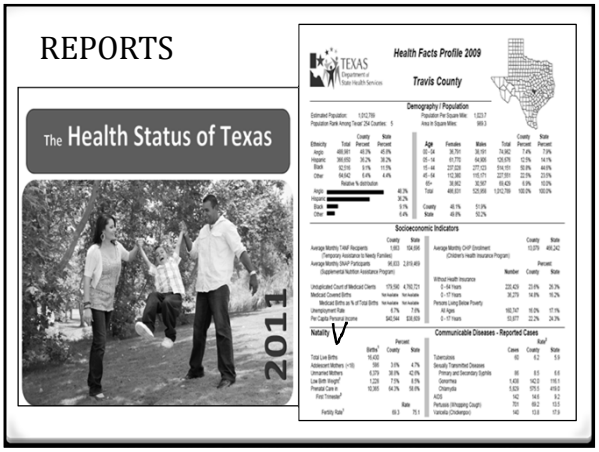
Birth Reports

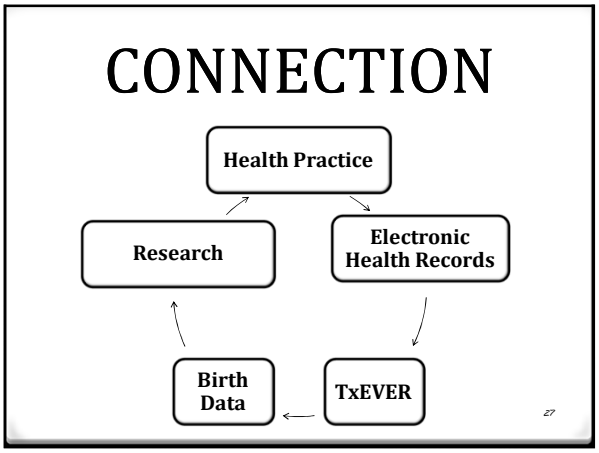


23




Texas Health Indicators
Low Birth Weight Births
Texas Health Indicators
Use the links at the top of the page or any of the three options below to navigate the content of this site.
Hot Topics
Heart Disease
Deaths
Categorical Indicators
• Trend Charts
• Tables
• Maps
Alphabetical Indicators
• Trend Charts
• Tables
• Maps
Maps
• County Maps
• Public Health Region Maps
Preterm Live Births - Texas
2009
Map Legend
25


REPORTS
The Health Status of Texas
2011
Health Facts Profile 2009
Travis County
Demography / Population
Socioeconomic Indicators
Natality
Communicable Diseases - Reported Cases


CONNECTION
Health Practice
Research
Electronic Health Records
Birth Data
TxEVER
27

Reference

1. *Howard E. Smith. History of Public Health in Texas. 1950*

2. *Texas Vital Statistics Annual Reports: http://www.dshs.state.tx.us/CHS/VSTAT/annrpts.shtm*

3. *Texas Health Data Query: http://soupfin.tdh.state.tx.us/birthdoc.htm*

4. *Texas Health Indicators: http://healthindicators.dshs.texas.gov/*

5. *The Health Status of Texas, 2011: http://www.dshs.state.tx.us/chs/datalist.shtm*

6. *Texas Health Facts Profiles: http://www.dshs.state.tx.us/chs/cfs/Texas-Health-Facts-Profiles.doc*

7. *Texas Health Currents: http://www.dshs.state.tx.us/chs/healthcurrents/*

Thank you

Texas Department of State Health Services

VSTAT@dshs.state.tx.us

Center for Health Statistics

512-776-7509

Data Management Team

Preterm Birth and Early Delivery in Texas

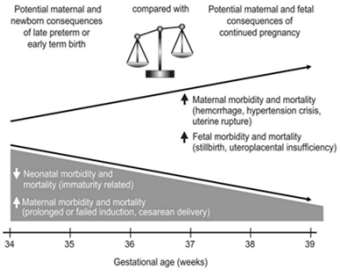
Jeff Swanson

60th Annual Texas Vital Statistics Conference

12/10/2014

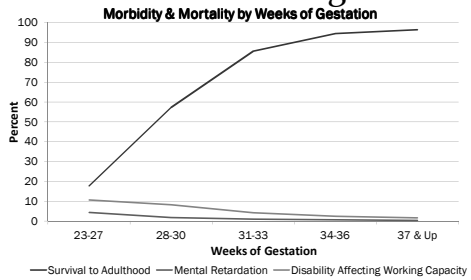
Timing of Birth

- Compromise between increased morbidity/mortality and risks of continued pregnancy.



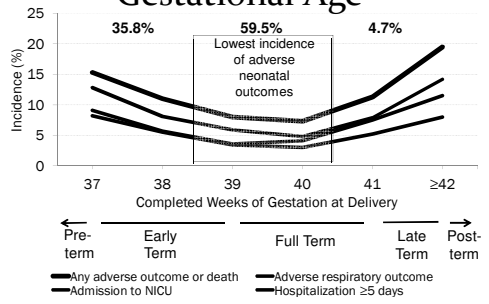
Spong, C. Y., Mercer, B. M., D'Alton, Kilpatrick, S., Blackwell, S., & Saade, G. (2011). Timing of indicated late-preterm and early-term birth. *Obstetrics & Gynecology, 118*, 323-333.

Adverse Outcomes by Gestational Age



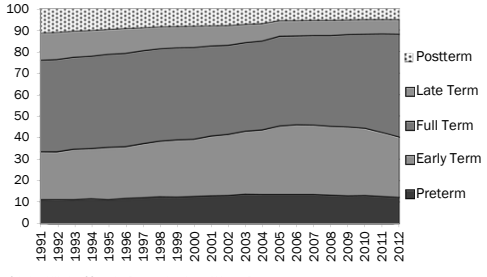
Mogster, D., Twje, R., & Markestad, T. (2008). Long-term medical and social consequences of preterm birth. *New England Journal of Medicine, 359*, 262-273

Adverse Outcomes by Gestational Age



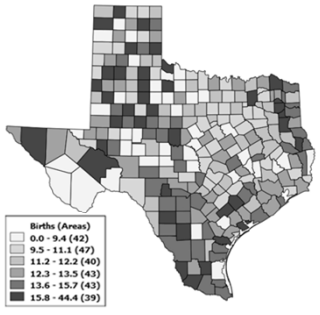
Adapted from Tita ATN, et al. Timing of elective repeat cesarean delivery at term and neonatal outcomes. N Engl J Med 2009;360(2):111-120.
Spong, C. Y. (2013). Defining "term" pregnancy: Recommendations from the defining "term" pregnancy workgroup. *Journal of the American Medical Association*, 309, 2445-2446.
American College of Obstetricians and Gynecologists (2013). Definition of term pregnancy. Committee Opinion No. 579. Obstetrics & Gynecology, 579(122), 1139-1140.

Percent of Live Births by Weeks of Gestation, 1991-2012

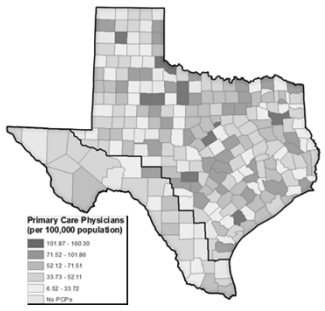


Notes: Calculated Weeks of Gestation Based on Last Normal Menses Date
Percentages are of All Live Births to Texas Residents in which the Last Normal Menses Date was Known
Data Source: Texas Department of State Health Services, Center for Health Statistics, Birth Statistical Files, among Texas Residents

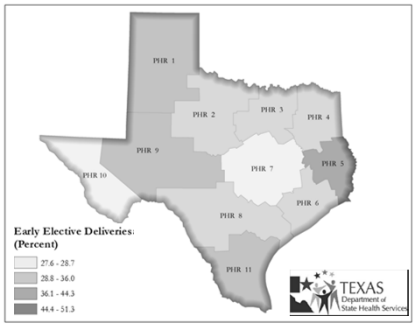
Percent of Infants Born Preterm by County of Residence, 2012



Fewer Primary Care Providers in Border Counties, Texas, 2012

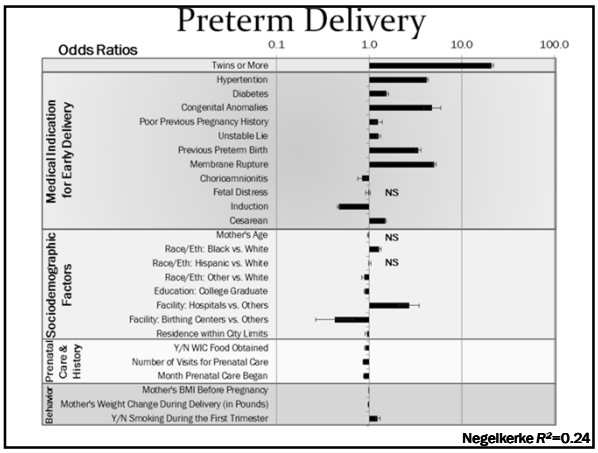


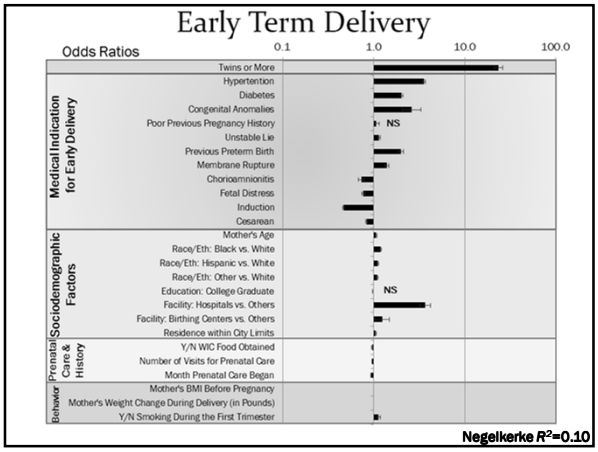
Percentage Non-Medically Indicated Early Elective Deliveries by Public Health Region, 2012

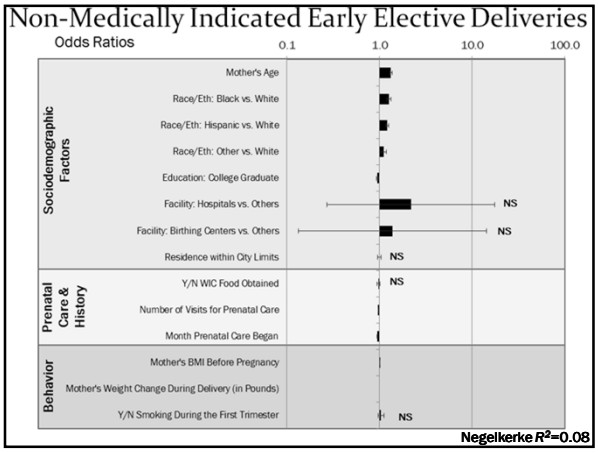


Factors Associated with Preterm and Early Term Delivery

- Live Births to Texas Residents, 2012
- Logistic Regression
  - Odds of an Outcome Based on a Predictor
  - Outcomes:
    - Preterm Deliveries
    - Early Term Deliveries
    - Non-Medically Indicated Early Elective Deliveries
  - Predictors:
    1. Single vs. Multiple Gestations
    2. Medical Indication for an Early Cesarean or Induction
    3. Sociodemographic Factors
    4. Prenatal Care & Pregnancy History
    5. Behavioral Risk Factors


Preterm Delivery
Odds Ratios
0.1
1.0
10.0
100.0
Twins or More
Hypertention
Diabetes
Congenital Anomalies
Poor Previous Pregnancy History
Unstable Lie
Previous Preterm Birth
Membrane Rupture
Chorioamnionitis
Fetal Distress
Induction
Cesarean
Mother's Age
Race/Eth: Black vs. White
Race/Eth: Hispanic vs. White
Race/Eth: Other vs. White
Education: College Graduate
Facility: Hospitals vs. Others
Facility: Birthing Centers vs. Others
Residence within City Limits
Y/N WIC Food Obtained
Number of Visits for Prenatal Care
Month Prenatal Care Began
Mother's BMI Before Pregnancy
Mother's Weight Change During Delivery (in Pounds)
Y/N Smoking During the First Trimester
Medical Indication for Early Delivery
Sociodemographic Factors
Prenatal Care & History
Behavior
NS
NS
NS
Negelkerke R^2=0.24


Early Term Delivery
Odds Ratios
0.1
1.0
10.0
100.0
Twins or More
Hypertention
Diabetes
Congenital Anomalies
Poor Previous Pregnancy History
Unstable Lie
Previous Preterm Birth
Membrane Rupture
Chorioamnionitis
Fetal Distress
Induction
Cesarean
Mother's Age
Race/Eth: Black vs. White
Race/Eth: Hispanic vs. White
Race/Eth: Other vs. White
Education: College Graduate
Facility: Hospitals vs. Others
Facility: Birthing Centers vs. Others
Residence within City Limits
Y/N WIC Food Obtained
Number of Visits for Prenatal Care
Month Prenatal Care Began
Mother's BMI Before Pregnancy
Mother's Weight Change During Delivery (in Pounds)
Y/N Smoking During the First Trimester
Medical Indication for Early Delivery
Sociodemographic Factors
Prenatal Care & History
Behavior
NS
NS
Negelkerke R^2=0.10


Non-Medically Indicated Early Elective Deliveries
Odds Ratios
0.1
1.0
10.0
100.0
Mother's Age
Race/Eth: Black vs. White
Race/Eth: Hispanic vs. White
Race/Eth: Other vs. White
Education: College Graduate
Facility: Hospitals vs. Others
Facility: Birthing Centers vs. Others
Residence within City Limits
Y/N WIC Food Obtained
Number of Visits for Prenatal Care
Month Prenatal Care Began
Mother's BMI Before Pregnancy
Mother's Weight Change During Delivery (in Pounds)
Y/N Smoking During the First Trimester
Sociodemographic Factors
Prenatal Care & History
Behavior
NS
NS
NS
NS
NS
Negelkerke R^2=0.08

Conclusions

- Preterm/Early Term related to **Region & Quality of Care**
- One of most important predictors: **Twins or more**
- **Education** less important for early term than preterm
- Target populations for intervention:
  - **Black and Hispanic** populations
  - Women of **Younger Age**
  - **Smokers**
  - Women with **No Prenatal Care** and **Few Prenatal Care Visits**
- To reduce non-medically indicated early elective deliveries, focus on **locations & facilities that serve groups at risk**.

Limitations

- Underreporting and low level of prediction
  - Need improve reporting accuracy on the birth certificate
  - Other factors may be involved
  - Other data sources

Odds Ratios for Logistic Regression Model Predicting Preterm Delivery (*Negelkerke R^2 = 0.24)*

	Odds Ratio	95% CI LL	95% CI UL	Statistically Significant?
Twins or More	21.1	20.1	22.1	Y
Medical Indication for Early Delivery				
Hypertention	4.2	4.1	4.4	Y
Diabetes	1.5	1.5	1.6	Y
Congenital Anomalies	4.8	3.9	5.9	Y
Poor Previous Pregnancy History	1.3	1.1	1.4	Y
Unstable Lie	1.3	1.2	1.3	Y
Previous Preterm Birth	3.4	3.2	3.6	Y
Membrane Rupture	5.1	4.8	5.3	Y
Chorioamnionitis	0.8	0.8	1.0	Y
Fetal Distress	1.0	0.9	1.0	N
Induction	0.5	0.5	0.5	Y
Cesarean	1.5	1.5	1.5	Y
Sociodemographic Factors				
Mother's Age	1.0	1.0	1.0	N
Race/Eth: Black vs. White	1.3	1.2	1.3	Y
Race/Eth: Hispanic vs. White	1.0	1.0	1.1	N
Race/Eth: Other vs. White	0.9	0.8	0.9	Y
Education: College Graduate	0.9	0.9	0.9	Y
Facility: Hospitals vs. Others	2.7	2.1	3.5	Y
Facility: Birthing Centers vs. Others	0.4	0.3	0.7	Y
Residence within City Limits	1.0	0.9	1.0	Y
Prenatal Care & History				
Y/N WIC Food Obtained	0.9	0.9	0.9	Y
Number of Visits for Prenatal Care	0.9	0.9	0.9	Y
Month Prenatal Care Began	0.9	0.9	0.9	Y
Behavior				
Mother's BMI Before Pregnancy	1.0	1.0	1.0	Y
Mother's Weight Change During Delivery (in Pounds)	1.0	1.0	1.0	Y
Y/N Smoking During the First Trimester	1.2	1.2	1.3	Y

Odds Ratios for Logistic Regression Model Predicting Early Term Delivery (*Negelkerke R^2 = 0.10)*

	Odds Ratio	95% CI LL	95% CI UL	Statistically Significant?
Twins or More	23.4	21.2	26.0	Y
Medical Indication for Early Delivery				
Hypertention	3.6	3.5	3.7	Y
Diabetes	2.0	2.0	2.1	Y
Congenital Anomalies	2.6	2.1	3.3	Y
Poor Previous Pregnancy History	1.1	1.0	1.2	N
Unstable Lie	1.1	1.1	1.2	Y
Previous Preterm Birth	2.0	1.9	2.1	Y
Membrane Rupture	1.4	1.3	1.5	Y
Chorioamnionitis	0.7	0.7	0.8	Y
Fetal Distress	0.8	0.7	0.8	Y
Induction	0.5	0.5	0.5	Y
Cesarean	0.8	0.8	0.8	Y
Sociodemographic Factors				
Mother's Age	1.1	1.1	1.1	Y
Race/Eth: Black vs. White	1.2	1.2	1.2	Y
Race/Eth: Hispanic vs. White	1.1	1.1	1.1	Y
Race/Eth: Other vs. White	1.1	1.1	1.1	Y
Education: College Graduate	1.0	1.0	1.0	N
Facility: Hospitals vs. Others	3.7	3.2	4.2	Y
Facility: Birthing Centers vs. Others	1.2	1.0	1.5	Y
Residence within City Limits	1.1	1.0	1.1	Y
Prenatal Care & History				
Y/N WIC Food Obtained	1.0	0.9	1.0	Y
Number of Visits for Prenatal Care	1.0	1.0	1.0	Y
Month Prenatal Care Began	0.9	0.9	0.9	Y
Behavior				
Mother's BMI Before Pregnancy	1.0	1.0	1.0	Y
Mother's Weight Change During Delivery (in Pounds)	1.0	1.0	1.0	Y
Y/N Smoking During the First Trimester	1.1	1.1	1.2	Y

Odds Ratios for Logistic Regression Model Predicting Non-Medically Indicated Early Elective Delivery (*Negelkerke R^2 = 0.08)*

		95% CI		Statistically
	Odds Ratio	LL	UL	Significant?
Sociodemographic Factors				
Mother's Age	1.3	1.3	1.4	Y
Race/Eth: Black vs. White	1.3	1.2	1.3	Y
Race/Eth: Hispanic vs. White	1.2	1.2	1.2	Y
Race/Eth: Other vs. White	1.1	1.0	1.2	Y
Education: College Graduate	1.0	0.9	1.0	Y
Facility: Hospitals vs. Others	2.2	0.3	17.5	N
Facility: Birthing Centers vs. Others	1.4	0.1	14.3	N
Residence within City Limits	1.0	0.9	1.0	N
Prenatal Care & History				
Y/N WIC Food Obtained	1.0	0.9	1.0	N
Number of Visits for Prenatal Care	1.0	1.0	1.0	Y
Month Prenatal Care Began	0.9	0.9	1.0	Y
Behavior				
Mother's BMI Before Pregnancy	1.0	1.0	1.0	Y
Mother's Weight Change During Delivery (in Pounds	1.0	1.0	1.0	Y
Y/N Smoking During the First Trimester	1.0	1.0	1.1	N

What Can We Learn from the Birth Certificate Data?

Whitney Michael, MPH

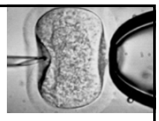
A lot, Actually. We'll Investigate Two Specific Cases

There were 382,438 births to Texas resident women in 2012.

- Pregnancy with fertility treatment(s)
  - How do women who give birth when the pregnancy was reported as the result of fertility treatments differ from those who have an unassisted pregnancy?
- Principal Payment Source for Delivery
  - How do women who report the principal payment source for delivery as Medicaid differ from those who report the payment source as private insurance?

2

Pregnancy with Fertility Treatments



- Comparing women whose pregnancy resulted from fertility treatments to those with an unassisted pregnancy. "Fertility treatments" include, but are not limited to:
  - Fertility-enhancing drugs
  - Artificial or Intrauterine insemination
  - Assisted reproductive technology (IVF or gamete intrafallopian transfer)

3

What Do the Numbers Tell Us?

Variable	Fertility Treatment	No Fertility Treatment
Total Number of Women	2,891 (0.8%)	379,547
Racial/Ethnicity Breakdown of the Mothers	64.3% White 5.6% Black 16.9% Hispanic 13.2% Other	34.4% White 11.3% Black 48.0% Hispanic 6.3% Other
Average Age of Mother at the Time of Birth*	33.8 years	27.2 years
Range of Mother's Ages*	20-56 years	10-63 years
Percentage of Multiple Births*	46.6%	2.9%

4

* Excludes unknowns

Controlling For Multiple Gestations

Group	Average Birth Weight*	Average Estimated Gestation*	Percentage of Preterm Births (< 37 weeks)
Fertility Treatment- All	2,756 grams ~ 6 lbs. 1 oz.	36.3 weeks	39.1%
Fertility Treatment- Singleton Births	3,251 grams ~ 7 lbs. 3 oz.	38.2 weeks	12.2%
Non Fertility Treatment- All	3,245 grams ~ 7 lbs. 2 oz.	38.4 weeks	10.3%
Non Fertility Treatment Singleton Births	3,273 grams ~ 7 lbs. 3 oz.	38.5 weeks	8.7%

* Excludes unknowns

5

Fertility Treatments versus Unassisted Pregnancies

- When compared to women who did not claim using fertility treatments in 2012, women who did claim using fertility treatments were:
  - More likely to be white or other races
  - On average, almost 7 years older
  - More likely to give birth to multiples (twins or greater)

6

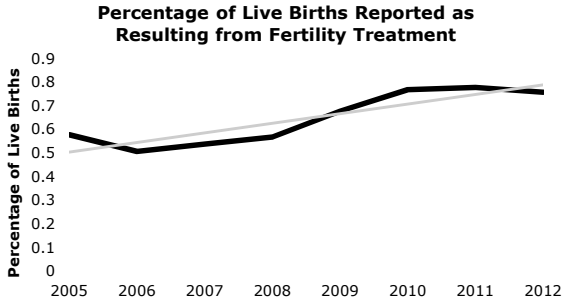
Continued…

- More likely to give birth to infants of lower weight, though this is not the case among women with singleton deliveries
- More likely to give birth to infants of lower gestational age, though again, findings are not as significant among women with singleton deliveries
- More likely to give birth to a pre-term infant (< 37 weeks)

7

Time Trends

- The variable for fertility treatments was added to the Texas certificate of birth starting in 2005.



8

Principal Intended Payment Source for Delivery

- There are four options for "Principal source of payment for this delivery" on the birth certificate
  - Private insurance
  - Medicaid
  - Self-pay
  - Other

- Here, we compare women who claimed Medicaid as their principal intended payment source for delivery to women who claimed private insurance

9

A Little More About Medicaid

- Medicaid coverage for pregnant women includes prenatal care throughout pregnancy, labor and delivery, and for 60 days postpartum (Centers for Medicare & Medicaid Services, 2014)
- In Texas in 2012, women whose household income was 185% or less of the federal poverty level were eligible for Medicaid (Kaiser Family Foundation, 2014)
- Each month, there were an average of 127,000 expectant mothers on the Texas Medicaid caseload (Texas Health and Human Services Commission, 2014)

10

What Do the Numbers Tell Us?

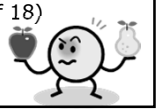
Variable	Medicaid	Private Insurance
Total Number of Women	177,353 (46.4%)	140,483 (36.7%)
Racial/Ethnicity Breakdown of the Mothers	23.8% White 15.2% Black 57.3% Hispanic 3.7% Other	55.9% White 7.6% Black 26.4% Hispanic 10.1% Other
Percentage of Unmarried Mothers	62.9%	15.5%
Percentage of Mothers who used WIC Benefits while Pregnant	78.2%	14.5%
Percentage of Cesarean Deliveries	34.2%	39.3%
Percentage of Women with a High School Diploma or More*	74.4%	97.2%

*Women over age 18. Excludes women whose educational level was unknown

11

Medicaid versus Private Insurance

- When compared to women who used private insurance, women using Medicaid were:
  - More likely to be Black or Hispanic
  - More likely to be Unmarried
  - More likely to use WIC benefits while pregnant
  - Less likely to have had a C-Section delivery
  - Less likely to have received their high school diploma (for women over the age of 18)



12

- While these are just two specific examples, we can learn many more things from the birth certificate data.
- To learn more, contact the data management team at the Center for Health Statistics
  512-776-7509
  VSTAT@dshs.state.tx.us

13

Thank you for your kind attention!

Any questions? :-{

Contact me at:
Whitney.michael@dshs.state.tx.us

*Let's Think About This!

Looking at Birth Certificates as More than Just a Data Entry Problem…

*In the Beginning…

*In the beginning we had the paper form! A gathering of boxes, lines, and text that gave the statistician their numbers and data.

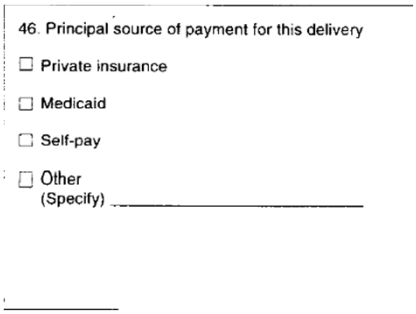
*Computers made us faster at data entering and analyzing,

*but the same old problem remained, if that data is wrong or missing, GIGO!

* One way to overcome something like GIGO is to look at the big picture. Look at the certificate while you enter data. Is what you are entering making sense? Are you capturing what the form wants to record?

* Not only understand what you are inputting, but think about how the data will be outputted. How are researchers using your work?

*From You to Us!


46. Principal source of payment for this delivery

☐ Private insurance

☐ Medicaid

☐ Self-pay

☐ Other
(Specify) _____

*Check or "X"?

*What you might see in a drop down box is:	*What the computer records:	*What we get:
Medicaid	0	Paymenttype|1
Private Insurance	1	Paymenttype|2
Other	2	Paymenttype|9
Self-Pay	3	Paymenttype|3
Unknown	4	

*Think Outside the Checkbox!

* "Other: Specify" is its own separate column on the computer. It is NOT a "comment" line.

* If the "Other" box is checked, supply the "Specify".

* If the "Specify" is filled in and "Other" not checked, it leaves the question in doubt.

* "Specify" is underutilized in research, because…

*If "Other", "Specify"

* HIDPANIC
* HIISPANIC
* HIPANIC
* HIPSANIC
* HIS
* HISANIC
* HISAPANIC
* HISAPIC
* HISAPNIC
* HISOANIC
* HISPAIC
* HISPAINC
* HISPAN IC
* HISPANA
* HISPANBIC
* HISPANC
* HISPANCI
* HISPANI
* HISPANI C
* HISPANI9C
* **HISPANIC**
* *HISPANIC*.
* HISPANICS
* *HISPANIC* `
* HISPANID
* HISPANIE
* HISPANIIC
* HISPANIN
* HISPANIV
* HISPANJC
* HISPANJIC
* HISPANNIC
* HISPANO
* HISPANUC
* HISPNAIC
* HISPNANIC
* HISPNIC
* HISPPANIC

*How do you spell that?

*ARMY MEDICAL CENTER

*ARMY MEDICALCENTER

*ARMYMEDICAL CENTER

*ARMYMEDICALCENTER

*CANWEHAZSPACES?

*C	*J	*P
*C HIP	*M	*PEDING
*C HIPS	*MA	*PENDING
*CCHC	*MCARE	*PRI
*CH	*MED	*QMP
*CHP	*N	*S
*FEDERAL	*NI	

*We Don't Know…

* Never put a Question Mark or any Character type in a Numeric field. Punctuation is a character type.

* On Smoking Cigarettes or a Pack of Cigarettes, do not put in a decimal point. In three months, no one smokes 0.2 cigarette, but they might smoke 0.5 pack.

* If a person's age is unknown put "999" or "000" not "??" or "0?"!

*"1" or 1

* If you have an unknown zip code, put “99999”. Don’t leave it at “9” or half like “787”.

* If a date is unknown put something like this:
  * 99/99/2014
  * 05/00/2014
  * 02/19/9999
  * Never like this: 05/??/2014

*“1.5” or 1.5

01
02
1
10
11
12
13
2
20
3
34
4
50
55
6
7
9

1
2
3
4
6
7
9
10
11
12
13
20
34
50
55

*Character vs. Numeric

* If you have the drop down box for "Prenatal Care?" and select it as "No" or "Unknown", make sure that all the Prenatal Care section is blank or zeros.

* If you have a "Number of Prenatal Visits", make sure to populate the dates of first and last visits.

* Same as the "Date of Last Live Birth" should have a date if there is a "Number Now Living".

* If you check an "Obstetric Procedure", be sure to check a reason for that procedure in the "Characteristics of Labor & Delivery" and/or "Method of Delivery".

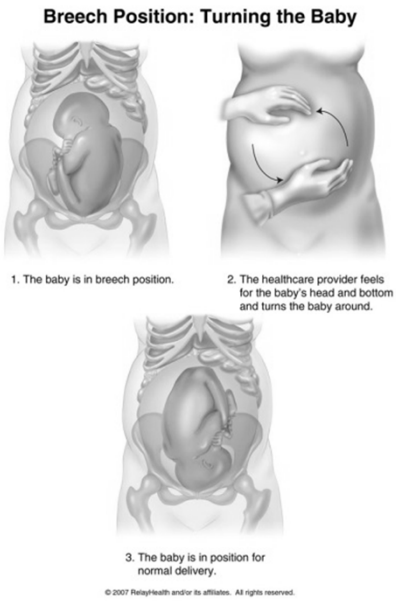
*Match "A" with "B"

This is Number 52 on the Texas Birth Certificate.

Guide to Completing the Facility Worksheets for the Certificate of Live Birth and Report of Fetal Death

Definitions	Instructions	Sources	Keywords/Abbreviations
16. Obstetric procedures (BC #43)			
Medical treatment or invasive/manipulative procedure performed during this pregnancy to treat the pregnancy or to manage labor and/or delivery.	Check all boxes that apply. The mother may have more than one procedure. If the mother has none of the procedures, check "none of the above."	*See below*	*See below*

*Obstetric Procedure – External Cephalic Version (ECV)



*Oh No, a Naked Person!

Guide to Completing the Facility Worksheets for the Certificate of Live Birth and Report of Fetal Death

Definitions	Instructions	Sources	Keywords/Abbreviations
16. Obstetric procedures – Con.			
External cephalic version Attempted conversion of a fetus from a nonvertex to a vertex presentation by external manipulation. *Successful* Fetus was converted to a vertex presentation. *Failed* Fetus was not converted to a vertex presentation.	If checked, also indicate whether the procedure was a success or a failure.	1st Prenatal Care Record *under*— ▪ Problem list ▪ Historical risk summary ▪ Complications this pregnancy ▪ Factors this pregnancy 2nd Labor and Delivery Nursing Admission Triage Form *under*— ▪ Complications ▪ Comments 3rd Admission H&P *under*— ▪ Current pregnancy history ▪ Medical history ▪ Problem list/findings 4th Delivery Record *under*— ▪ Maternal OB/labor summary ▪ Labor and delivery admission history ▪ Labor summary record	*Successful version:* Breech version External version *Failed version:* Unsuccessful external version Attempted version Failed version *Look for:* malpresentation

*Obstetric Procedure – ECV (cont.)

* The NCHS reported that some of the hospitals in Texas in 2012 had reported a ECV of 40% to 99%.
* This means that at these hospitals 40% to 99% of their births were breech births in some way.
* One hospital accounted for almost all "Unknown" "Fetal Presentation at Birth" for those births that had used ECV.
* At most, the ECV percentages should be closer to 1-7%.

*The Problem…

Total Births Per Hospital	Number of ECV per Hospital	ECV Divided By Total Births
3753	3749	99.89
2733	2670	97.69
8990	4827	53.69
4487	1777	39.60
2324	180	7.75

*The Top Five ECV by Numbers For Texas Hospitals, 2012

Fetal Presentation at birth	ECV		
	Not Used	Successful	Failed
Cephalic	329,100 88.8	11,368 86.32	198 49.38
Breech	12,257 3.31	262 1.99	183 45.64
Other	20,022 5.40	66 0.50	< 10 *
Unknown	9,215 2.49	***1,473*** ***11.19***	14 3.49
Totals	370,594	13,169	401

Texas Hospitals, 2012

*ECV by Fetal Presentation at Birth

Final Route of Delivery	ECV		
	Not Used	Successful	Failed
Vaginal/ Spontaneous	227,355 61.35	9,750 74.04	41 10.22
Vaginal/ Forceps	2,240 0.60	33 0.25	< 10 *
Vaginal/ Vacuum	7,001 1.89	151 1.15	< 10 *
Cesarean	133,994 36.16	***3,235*** ***24.57***	358 89.28
Unknown	< 10 *	< 10 *	< 10 *
Total	370,594	13,169	401

*Texas Hospitals, 2012

Fetal Presentation at Birth	Final Route of Delivery				
	Vaginal/ Spontaneous	Vaginal/ Forceps	Vaginal/ Vacuum	Cesarean	Unknown
Cephalic	219,379 92.51	2,068 90.94	6,564 91.77	***112,655*** ***81.88***	0 0.00
Breech	1,119 0.47	44 1.93	***30*** ***0.42***	11,509 8.36	0 0.00
Other	10,383 4.38	106 4.66	462 6.46	9,143 6.65	0 0.00
Unknown	6,265 2.64	56 2.46	97 1.36	4,280 3.11	< 10 *
Total	237,146	2,274	7,153	137,587	< 10

*Texas Hospitals, 2012

Anna Vincent
Program Specialist
DSHS – Center for Health Statistics, Data Management
anna.vincent@dshs.state.tx.us
512.776.2724
For data requests: VSTAT@dshs.state.tx.us
or 512.776.7509

*Thank You!