Data worth waiting for?
Soon-to-be-released health data from the revised birth certificate

Presented by
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Division of Vital Statistics, Reproductive Statistics Branch
Attention!

- Preliminary data…
  - Please, do not quote or cite.
Acknowledgements

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T.J. Mathews
Brady E. Hamilton
Introduction

- Selected new data items available for first time
  - 2003 U.S. Standard Certificate of Live Birth

<table>
<thead>
<tr>
<th></th>
<th>MOTHER</th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DATE OF FIRST PRENATAL CARE VISIT</td>
<td>DATE OF LAST PRENATAL CARE VISIT</td>
<td>TOTAL NUMBER OF PRENATAL VISITS FOR THIS PREGNANCY</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MM DD YYYY</td>
<td>MM DD YYYY</td>
<td>(Include all visits - prenatal, well-child, and/or wellness visits)</td>
<td></td>
</tr>
</tbody>
</table>

- MEDICAL AND HEALTH INFORMATION

- 43. OBSTETRIC PROCEDURES (Check all that apply):
  - Normal delivery
  - Cesarean section
  - Other

- 44. ORDER OF LABOR (Check all that apply):
  - Premature rupture of membranes (PROM) (premature rupture of membranes)
  - Preterm labor (PTL) (preterm labor)
  - Prolonged labor (PTL) (prolonged labor)

- 45. CHARACTERISTICS OF LABOR AND DELIVERY (Check all that apply):
  - Induction of labor
  - Augmentation of labor
  - Spontaneous rupture of membranes
  - Complete rupture of membranes
  - Membrane rupture

- 46. MATERIALS, MORTALITY (Check all that apply):
  - Nuchal cord
  - Placenta previa
  - Uterine rupture
  - Other
New/ New Items

- Educational attainment of father
- Body mass index (BMI)
- Tobacco use 3 months prior to pregnancy
  - Quit prior to pregnancy
- Mother received WIC food during pregnancy
- Pregnancy resulted from infertility therapy
- Infections present during pregnancy (e.g., chlamydia)
- Source of payment for the delivery (e.g., Medicaid)
- Interval since last live birth
- Time of birth
- Maternal morbidities (e.g., ruptured uterus)
- Infant breastfed
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• 2009 data from 28 reporting areas

Revised by January 1, 2009
66% of all U.S. births
Methods

• Race/Hispanic origin groups:
  ▪ Single-race
    ○ Non-Hispanic white
    ○ Non-Hispanic black
  ▪ Hispanic

• Not generalizable to whole U.S.
  ▪ Hispanic women overrepresented
  ▪ Composition of Hispanic population differs from total U.S.
RESULTS
Pre-pregnancy BMI by race and Hispanic origin:
28-state reporting area, preliminary 2009

- Underweight
- Normal
- Overweight
- Obese

Race and Hispanic origin

- All races
- White*
- Hispanic
- Black*

* Non-Hispanic

Source: CDC/NCHS, National Vital Statistics System
Cesarean delivery by pre-pregnancy BMI: 28-state reporting area, preliminary 2009

<table>
<thead>
<tr>
<th>Pre-pregnancy BMI</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>30</td>
</tr>
<tr>
<td>Underweight</td>
<td>20</td>
</tr>
<tr>
<td>Normal</td>
<td>35</td>
</tr>
<tr>
<td>Overweight</td>
<td>40</td>
</tr>
<tr>
<td>Obese</td>
<td>45</td>
</tr>
</tbody>
</table>

Source: CDC/NCHS, National Vital Statistics System
High weight gain for pre-pregnancy BMI: 28-state reporting area, preliminary 2009

Based on Institute of Medicine recommendation: ≥40 lbs for underweight, ≥35 lbs for normal weight, ≥25 lbs for overweight, ≥20 lbs for obese.

Source: CDC/NCHS, National Vital Statistics System

NOTE: Singletons only
Smoked and quit prior to pregnancy: 25-state reporting area, preliminary 2009

* Non-Hispanic

Source: CDC/NCHS, National Vital Statistics System
Smoked and quit prior to pregnancy: 25-state reporting area, preliminary 2009

- Smoked 3 months prior to pregnancy
- Quit prior to pregnancy

Race and Hispanic origin:

- All races
- White*
- Black*
- Hispanic

* Non-Hispanic

Source: CDC/NCHS, National Vital Statistics System
Births resulting from infertility therapies, by age and race and Hispanic origin: 28-state reporting area, preliminary 2009

* Non-Hispanic
Source: CDC/NCHS, National Vital Statistics System
Births resulting from infertility therapies, by plurality: 28-state area, preliminary 2009

Source: CDC/NCHS, National Vital Statistics System
Receipt of WIC food by age and race and Hispanic origin: 28-state reporting area, preliminary 2009

* Non-Hispanic

Source: CDC/NCHS, National Vital Statistics System
Receipt of WIC food by age and race and Hispanic origin: 28-state reporting area, 2009

Source: CDC/NCHS, National Vital Statistics System

* Non-Hispanic
Infections present and/or treated during this pregnancy:
28-state reporting area, 2009

Gonorrhea  Syphilis  Chlamydia  Hepatitis B  Hepatitis C

Chlamydia by age and race and Hispanic origin: 28-state reporting area, 2009

Principal source of payment for delivery: 28-state reporting area, preliminary 2009

- Private insurance
- Medicaid
- Self pay
- Other

Source: CDC/NCHS, National Vital Statistics System
Principal source of payment for delivery by age of mother: 28-state reporting area, preliminary 2009

Source: CDC/NCHS, National Vital Statistics System
Maternal morbidities:
28-state reporting area, preliminary 2009

Perineal laceration
Maternal transfusion
ICU admission
Unplanned hysterectomy
Ruptured uterus

Source: CDC/NCHS, National Vital Statistics System
Ruptured uterus by age and race and Hispanic origin: 28-state reporting area, preliminary 2009

Source: CDC/NCHS, National Vital Statistics System
Infant breastfed at discharge from hospital by race and Hispanic origin:
28-state reporting area, preliminary 2009

<table>
<thead>
<tr>
<th>Race and Hispanic origin</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>78</td>
</tr>
<tr>
<td>Black*</td>
<td>68</td>
</tr>
<tr>
<td>White*</td>
<td>81</td>
</tr>
<tr>
<td>Hispanic</td>
<td>82</td>
</tr>
</tbody>
</table>

Source: CDC/NCHS, National Vital Statistics System
Infant breastfed at discharge from hospital by maternal educational attainment: 28-state reporting area, preliminary 2009

Source: CDC/NCHS, National Vital Statistics System
Data Quality

• Some items appear well-reported:
  ▪ WIC
  ▪ Chlamydia
  ▪ Source of payment
  ▪ BMI: Overweight

• Some items are likely underreported
  ▪ Infertility treatment
  ▪ Maternal morbidities
  ▪ Smoking prior to pregnancy
  ▪ Gonorrhea
  ▪ BMI: Obese
  ▪ Infant breastfed

• Differentials by age, race, and Hispanic origin compare well with other sources
Data Quality

• Birth certificate vs. other data sources
  - Can be difficult to compare
    - 28-state reporting area vs. nationally representative samples
      - Birth certificate reporting area not nationally representative
      - Many states with higher rates are unrevised (e.g. infections)
    - Somewhat different populations
      - e.g. All births vs. Survey respondents
    - Somewhat different questions
      - e.g. Ever breastfed vs. during specific period (between birth and hospital discharge)
    - Different data years
Data Quality

- Birth clerk interviews
  - Infertility treatment: availability of information
  - Infant breastfed: confusion on exclusivity and duration

- Good agreement with medical record
  - Interval since last live birth
  - Source of payment
  - Infant breastfed
Stay tuned

• Steps to improve data quality

• Larger revised reporting area: national data by 2014

• Reports/data releases:
  - Births: Expanded data for 2009 (with new/new items)
  - Re-release the 2009 final birth file (with new/new items)
  - Report on quality of revised medical/health data for medical record review
  - 2010 Final file: Will re-release file with new/new items later this year
Thank you