Relationship Between Place of Birth and Outcome

Michael E. Speer, MD
Professor of Pediatrics & Ethics
Baylor College of Medicine
Infant, neonatal, and postneonatal mortality rates

- Infant
- Neonatal
- Postneonatal

Deaths per 1,000 live births

Year


SOURCE: CDC/NCHS, Health, United States, 2009, Figure 17. Data from the National Vital Statistics System.
Assisted reproductive technology cycles

Number of cycles initiated in thousands

Year


Under 35 years
35–37 years
38–40 years
41+ years

SOURCE: CDC/NCHS, Health, United States, 2009, Figure 33. Data from the National Center for Chronic Disease Prevention and Health Promotion.
Percentage of Births by Cesarean: 32% (2007)

A Continuing Trend

Nearly a third of births in 2007 were delivered by Caesarean section, the highest rate ever in the United States.

Percentage of births by Caesarean

Source: National Center for Health Statistics
Rising Rate of Prematurity

Births by Gestational Age

Distribution of Births by Gestational Age, United States, 1990 and 2005

Pregnancy-Related Mortality Rates by Race/Ethnicity, California Residents: 1999-2006

Place of Birth and Outcome


California:

• Lower levels of NICU care and lower volumes associated with significantly higher odds ratios for death: 1.19 to 2.72

• < 1/4th VLBW deliveries occurred in facilities with NICUs that had high level of care and had a high volume
Place of Birth and Outcome


Germany:

- Neonatal mortality VLBW infants admitted to small NICUs was 12.2% and 10.2% in large NICUs.
Place of Birth and Outcome


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<thead>
<tr>
<th>United States</th>
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<tbody>
<tr>
<td></td>
<td>IVH</td>
<td>Over All</td>
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<tr>
<td>Inborn</td>
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<tr>
<td>*</td>
<td></td>
<td>25.4%</td>
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<tr>
<td>Outborn</td>
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<td>*</td>
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<td>61.8%</td>
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# Place of Birth and Outcome


<table>
<thead>
<tr>
<th>Location</th>
<th>Birth Weight Range</th>
<th>Outcome</th>
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<tbody>
<tr>
<td>Long Beach CA</td>
<td>BW 500-1200</td>
<td>Severe 9%</td>
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<tr>
<td></td>
<td></td>
<td>Inborn 9%</td>
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<td>Outborn 23%</td>
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# Place of Birth and Outcome


<table>
<thead>
<tr>
<th>Germany: GA 22-36 weeks</th>
<th>Birth Before 28 weeks’ Gestation:</th>
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<td></td>
<td>OR: 75.72 (95% CI: 46.14 to 124.30)</td>
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| Transport to another hospital | OR: 1.95 (95% CI: 1.07 to 2.56) |
California:

- The probability of a 500g to 1499g infant being born in a hospital with a Level II unit increased by 17 percentage points after the opening of a new nearby unit.
- Significant shifts of births from both high-level (-15 points) and low-level hospitals (-2 points) to midlevel hospitals.
New York:

- Adjusted for clinical variables influencing maternal transfer and hospital level, women in managed care were 44% less likely to be transferred compared to Medicaid FFS (OR=0.56; 95% CI: 0.36 to 0.86).

- Newborns were transferred at similar rates regardless of managed care status.
Maternal Child Health Bureau

National: Goal – 90%

The percent of low birth weight infants delivered at facilities for high-risk deliveries and neonates.

• 76.1 percent in 2003
• 67.7 percent in 2005.
• 68.1 percent in 2006
Place of Birth and Outcome

Maternal Child Health Bureau

Texas:

Percent of very low birth weight infants delivered at facilities for high-risk deliveries and neonates.

2006: 53.3%
Level of NICU Care: AAP

Level IIIA: Care for infants with birth weight of more than 1000 g/gestational age > 28 weeks.
- Limited to conventional mechanical ventilation

Level IIIB: Care for ELBW (< 1000 g birth weight or ≤ 28 weeks' gestation)
- HFOV and iNO;
- Pediatric medical/surgical subspecialists;
- Advanced imaging: CT, MRI, Echo
Place of Birth and Outcome

Level of NICU Care: AAP

Level IIIC: The capabilities of a level IIIB NICU; also can provide ECMO and surgical repair of serious congenital cardiac malformations that require cardiopulmonary bypass.
Place of Birth and Outcome

Number of NICUs - Texas

Level IIIA: 21
- 1 Fort Worth;
- 4 Houston (2 on periphery);
- 2 Dallas (periphery);
- 1 San Antonio

Level IIIB: 33

Level IIIC: 17 (More than any other state)
Questions?
Place of Birth and Outcome

Level of NICU Care: AAP

Level I (basic): Can perform neonatal resuscitation, evaluate and provide postnatal care of healthy newborn infants, stabilize and provide care for infants born at 35 to 37 weeks' gestation who remain physiologically stable

- Transfer everyone else
Place of Birth and Outcome

**Level of NICU Care: AAP**

Level II (specialty): A hospital special care nursery to provide care to infants born at more than 32 weeks' gestation and weighing more than 1500 g

- IIA – No ventilation
- IIB – Ventilation
Place of Birth and Outcome

**Level of NICU Care: AAP**

Level III (subspecialty): A hospital NICU to provide continuous life support and comprehensive care for extremely high-risk newborn infants and those with complex and critical illness.
Distribution of Births, by Gestational Age -- United States, 1990 and 2005

RISE IN LATE PRETERM BIRTHS (34-36 wks)

Source: National Center for Health Statistics
Prepared by March of Dimes, Perinatal Data Center, 2009

Courtesy of Karla Damus
DISTRIBUTION OF ALL US PRETERM BIRTHS 2004

- <32 weeks: 16%
- 32 weeks: 5%
- 33 weeks: 7%
- 34 weeks: 13%
- 35 weeks: 21%
- 36 weeks: 37%

Late preterm 71%

www.marchofdimes.com Late Preterm Birth: Every Week Matters 03/06