Health Trends in Increasing Maternal Age:
New Research and Implications for State Title V Programs
**Rationale**

- MCH priority in reducing teen pregnancy despite shrinking numbers
- Increasing number of women delaying childbearing
- Complexity of strategies to address the impact of delayed childbearing
Trends in Maternal Age

• Mean Age at Birth in 2004
  – First Births: 25.2 Years
  – All Births: 27.5 Years

• Rise in Mean Age since 1970
  – First Births: 3.8 Years
  – All Births: 2.9 Years
Figure 4. Birth rates by age of mother: United States, 1990–2004

Figure 5. Percentage change in birth rates by age of mother: United States, 1990 and 2004

Figure 4. Birth rates by age, race, and Hispanic origin of mother: United States, 2003

NOTE: Race categories are consistent with the 1977 Office of Management and Budget standards; see "Technical Notes."

Births to Young and Older Women, 2004

- 10-14 years: 6,781
- 15-17 years: 130,980
- 40-44 years: 103,679
- 45-54 years: 6,122
- Total Births: 4,112,052
Age Effects: Young Mothers

• Increased risk of poor outcomes associated with young maternal age

• Current thinking: Due to preponderance of other risk factors, most notably social disadvantage.
Age Effects: Young Mothers

• Some risk associated with first births among young mothers

• Little empirical support for biologic immaturity as a reason for poorer outcomes of young mothers
Increasing Low Birth Weight Rates

• United States

• Some Western European Countries:
  – England and Wales
  – France
  – Norway
Reasons for Rise in LBW Births

• Rising percentage of multiple births
• Rising percentage of LBW among multiple births
• Rising percentage of LBW among singleton births
## Rise in Multiple Births

<table>
<thead>
<tr>
<th>Year</th>
<th>Twin Deliveries</th>
<th>Triplet Deliveries</th>
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<tbody>
<tr>
<td>1980</td>
<td>68,339</td>
<td>1,337</td>
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<td>1999</td>
<td>114,307</td>
<td>6,742</td>
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<td>2001</td>
<td>121,246</td>
<td>6,805</td>
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<td>2002</td>
<td>125,134</td>
<td>6,898</td>
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<td>2003</td>
<td>128,665</td>
<td>7,110</td>
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<tr>
<td>2004</td>
<td>132,219</td>
<td>7,295*</td>
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Rise in Multiple Births

Quadruplets:
1989: 269
1994: 336
1996: 641
1998: 641
2002: 434
2003: 468
Reasons for the Rise in Multiple Births

• Delayed childbearing
• 25-33 percent of the rise between 1975 and 1998 attributable to increase in maternal age
• Data from England and Wales, France, Sweden and the US
Age Effects: Older Women

• Consider age as a continuum where the risks related to pregnancy and birth, increase gradually throughout the 30’s and markedly after age 40, especially after age 45.

• Age 35 is often thought of as the threshold for many of the risks shown above
Age Effects: Older Women

- Increased risk due to biological reasons
- Decreased fertility rates
  - Increased use of assisted reproductive technology (ART) and its outcome
    - Increased multiple births
    - Reduced birth rates after age 45
FIGURE 2. Live births per transfer and singleton live births per transfer for assisted reproductive technology procedures performed among women who used freshly fertilized embryos from their own eggs, by patient’s age — United States, 2003

Age Effects: Older Women

- Increased risk of systemic diseases with advancing age.
- Increased risk of pregnancy-induced complications
- Increased risk of cesarean delivery
Biologic Factors

• Increased risk of stillbirths
• Increased risk of some chromosomal anomalies with advancing age
• Preterm birth, low birth weight and perinatal mortality
Paternal Age Effects

- Increased risk of some conditions with advanced paternal age
  - Inherited balanced reciprocal structural abnormalities of paternal origin but not of maternal origin.
  - Birth defects, some cancer and congenital abnormalities
  - Low birth weight?
Weathering Hypothesis

• Increased aging, weathering, for women in disadvantaged groups
  – What is the evidence?
  – What has been missing in analyses?
  – How does residual confounding affect the hypothesis?

• Is there weathering for men as well?
Policy Implications for Age Trends

• What groups of women are most affected by age trends?
  – Positively and negatively

• What is the responsibility of public health with regard to age trends?

• What can we do about optimizing age trends?
Where should MCH be at the table?

• The news media: positive image of delayed childbearing

• Professional organizations’ development of clinical guidelines

• Policy makers with regard to workplace benefits, education policies and family services
Reduce Delayed Births

• Social policy, European Countries
  – Work-family reconciliation efforts
    • Policies that enable men and women to both participate in paid employment
• Support Health Insurance Coverage
Infertility Treatment

- Promoting guidelines for age limitations
- Promoting guidelines for the number of embryos transferred especially for older women
Infertility Treatment

• Promoting communication between infertility specialist and Obstetricians

• Promoting the measurement of success as one live birth; collecting data about IVF
Chronic Diseases and Pregnancy Complications

- Promotion of women’s health in general
- Promotion of preconception health
- Education about the risk of complications to women as they age, family planning providers, the media, and other communication channels
Stillbirths and Congenital Anomalies

- Guidelines for Antepartum testing with regard to age, as with genetic screening
- Guidelines for assessment and management of chronic diseases
- Maternal education
- Preconception Care
Obstetric Procedures

- Clinical Guidelines for cesarean delivery
- Education of women about the risks of cesarean delivery
- Monitoring of statistics on cesarean delivery and other obstetric procedures