The Role of Prenatal Care as a Women’s Health Strategy to Reduce Infant Mortality

SACIM April 24, 2013
Despite ongoing considerations of its efficacy, prenatal care is still considered a key public health strategy to prevent adverse pregnancy outcomes.
Why Prenatal Care?

Prenatal care as an infant mortality intervention strategy grew out of favor in the aftermath of the Medicaid expansions which increased prenatal care utilization but did not simultaneously lead to a decrease in low birth weight and preterm delivery.
Why Prenatal Care?

- The result of what some might consider a “policy failure” was the recognition that the nine months of pregnancy is insufficient to make a difference on its own and led to the movement for well-woman’s health care /preconception/interconception care.
- Simultaneous decreased emphasis on prenatal care.
Why Prenatal Care?

- Our approach (until recently) of abandoning prenatal care as an important intervention strategy failed to take many factors into consideration:
  - Medicaid payment for delivery does not equal Medicaid payment for prenatal care
  - The highest risk women were not affected by the Medicaid expansion
  - Quality and content of prenatal care minimally addressed by Medicaid expansion

- Studies of prenatal care effectiveness routinely plagued by selection bias
Improving Adequacy and Quality of Prenatal Care to Reduce Infant Mortality

- So, given this history, can improvements in prenatal care make a difference in infant mortality rates?
- If all women of all racial/ethnic groups have access to early and excellent high quality prenatal care, will there be an impact on infant mortality? Yes, because high quality PNC can:
  - Reduce behavioral risks (e.g. smoking, alcohol, substance abuse, appropriate weight gain)
  - Reduce the impact of pre-existing morbidities
  - Provide Social Support to reduce stress
  - Link to high-risk delivery system and appropriate levels of care for delivery
  - Link to postpartum care–interconception care–family planning
Three Components of Prenatal Care

- Early and Ongoing Assessment of a Woman’s Risk Status

- Health Education and Health Promotion:
  - Pregnancy, parenting and well-child care
  - Nutrition
  - Hygiene
  - Changes in a woman’s body, fetal growth and development
  - What to expect from PNC visits and pregnancy, as it progresses
  - Warning signs of potential health problems
  - Avoiding harmful exposures

- Interventions to Address Risk Factors and any Health Problems which are discovered
Healthy People 2010 Objectives

16-6. Increase the proportion of pregnant women who receive early and adequate prenatal care.

Target and baseline:

<table>
<thead>
<tr>
<th>Objective</th>
<th>Increase in Maternal Prenatal Care</th>
<th>1998 Baseline</th>
<th>2010 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>16-6a.</td>
<td>Care beginning in first trimester of pregnancy</td>
<td>83</td>
<td>90</td>
</tr>
<tr>
<td>16-6b.</td>
<td>Early and adequate prenatal care</td>
<td>74</td>
<td>90</td>
</tr>
</tbody>
</table>

Target setting method: Better than the best.

Data source: National Vital Statistics System (NVSS), CDC, NCHS.
# Healthy People 2010 Objectives

<table>
<thead>
<tr>
<th>Live Births, 1998</th>
<th>Maternal Prenatal Care</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16-6a. First Trimester</td>
</tr>
<tr>
<td></td>
<td>Percent</td>
</tr>
<tr>
<td>TOTAL</td>
<td>83</td>
</tr>
<tr>
<td><strong>Mother’s race and ethnicity</strong></td>
<td></td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
<td>69</td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td>83</td>
</tr>
<tr>
<td>Asian</td>
<td>86</td>
</tr>
<tr>
<td>Native Hawaiian and other Pacific Islander</td>
<td>75</td>
</tr>
<tr>
<td>Black or African American</td>
<td>73</td>
</tr>
<tr>
<td>White</td>
<td>85</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>74</td>
</tr>
<tr>
<td>Not Hispanic or Latino</td>
<td>85</td>
</tr>
<tr>
<td>Black or African American</td>
<td>73</td>
</tr>
<tr>
<td>White</td>
<td>88</td>
</tr>
</tbody>
</table>
# Prenatal Care Utilization


<table>
<thead>
<tr>
<th>Year</th>
<th>All races&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Non-Hispanic</th>
<th>American Indian&lt;sup&gt;2&lt;/sup&gt;</th>
<th>Asian or Pacific Islander&lt;sup&gt;2&lt;/sup&gt;</th>
<th>Hispanic&lt;sup&gt;3&lt;/sup&gt;</th>
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</thead>
<tbody>
<tr>
<td>2002</td>
<td>83.7</td>
<td>88.6</td>
<td>75.2</td>
<td>69.8</td>
<td>76.7</td>
</tr>
<tr>
<td>2001</td>
<td>83.4</td>
<td>88.5</td>
<td>74.5</td>
<td>69.3</td>
<td>75.7</td>
</tr>
<tr>
<td>2000</td>
<td>83.2</td>
<td>88.5</td>
<td>74.3</td>
<td>69.3</td>
<td>74.4</td>
</tr>
<tr>
<td>1995</td>
<td>81.3</td>
<td>87.1</td>
<td>70.4</td>
<td>66.7</td>
<td>70.8</td>
</tr>
<tr>
<td>1990</td>
<td>75.8</td>
<td>83.3</td>
<td>60.7</td>
<td>57.9</td>
<td>60.2</td>
</tr>
<tr>
<td>1985</td>
<td>76.2</td>
<td>...</td>
<td>...</td>
<td>57.5</td>
<td>74.1</td>
</tr>
<tr>
<td>1980</td>
<td>76.3</td>
<td>...</td>
<td>...</td>
<td>55.8</td>
<td>73.7</td>
</tr>
</tbody>
</table>

... Data not available.

<sup>1</sup>Includes races other than white and black and origin not stated.

<sup>2</sup>Includes persons of Hispanic and non-Hispanic origin.

<sup>3</sup>Includes all persons of Hispanic origin of any race.

NOTE: Race categories are consistent with the 1977 Office of Management and Budget guidelines; see “Technical Notes.”
Measurement of Prenatal Care Utilization on Birth Certificate

- Birth certificate data on month PNC began collected differently in 1989 and 2003:
  - In 1989, month prenatal care based on “month prenatal care began”
  - In 2003 revision month prenatal care based on “date of first prenatal visit”
- 2003 birth certificate recommends obtaining data from the medical record; no instructions provided in 1989
- PNC data based on 2003 birth certificate reported on 28 states and one territory
- NCHS has not included PNC utilization statistics in its recent Births reports
Table II. Timing of prenatal care, and primary cesarean and vaginal birth after previous cesarean (VBAC) by race and Hispanic origin of mother: 19 (revised) states, 2006 and 2007

<table>
<thead>
<tr>
<th>Race and Hispanic origin of mother</th>
<th>1st trimester</th>
<th>Late or no PNC</th>
</tr>
</thead>
<tbody>
<tr>
<td>All races and origins</td>
<td>67.5</td>
<td>69.0</td>
</tr>
<tr>
<td>Non-Hispanic white</td>
<td>74.9</td>
<td>76.2</td>
</tr>
<tr>
<td>Non-Hispanic black</td>
<td>57.1</td>
<td>58.4</td>
</tr>
<tr>
<td>Hispanic</td>
<td>56.1</td>
<td>57.7</td>
</tr>
</tbody>
</table>

Method of delivery
## Prenatal Care Utilization Update 2008

### Table C. Selected medical and health characteristics of births, by race and Hispanic origin of mother: Total of 27 reporting states, 2008

<table>
<thead>
<tr>
<th>Race and Hispanic origin of mother</th>
<th>All births</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All</td>
<td>First trimester care</td>
<td>Late or no care¹</td>
<td>Primary cesarean delivery²</td>
<td>Prepregnancy³</td>
<td>Gestational⁴</td>
</tr>
<tr>
<td></td>
<td>births</td>
<td>care</td>
<td>no care</td>
<td>delivery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All races and origins⁵</td>
<td>2,748,302</td>
<td>71.0</td>
<td>7.0</td>
<td>23.8</td>
<td>6.5</td>
<td>40.6</td>
</tr>
<tr>
<td>Non-Hispanic:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White⁶</td>
<td>1,366,527</td>
<td>76.7</td>
<td>4.8</td>
<td>24.1</td>
<td>5.9</td>
<td>39.1</td>
</tr>
<tr>
<td>Black⁶</td>
<td>349,243</td>
<td>60.2</td>
<td>11.3</td>
<td>26.4</td>
<td>9.2</td>
<td>34.9</td>
</tr>
<tr>
<td>American Indian or Alaska Native⁶</td>
<td>16,494</td>
<td>53.3</td>
<td>13.4</td>
<td>18.8</td>
<td>17.7</td>
<td>50.3</td>
</tr>
<tr>
<td>Asian⁶</td>
<td>147,132</td>
<td>77.9</td>
<td>4.7</td>
<td>25.0</td>
<td>5.9</td>
<td>70.6</td>
</tr>
<tr>
<td>Hispanic⁷</td>
<td>787,484</td>
<td>64.7</td>
<td>9.2</td>
<td>21.9</td>
<td>6.4</td>
<td>40.2</td>
</tr>
<tr>
<td>Mexican</td>
<td>529,877</td>
<td>63.5</td>
<td>9.6</td>
<td>20.0</td>
<td>6.6</td>
<td>41.3</td>
</tr>
<tr>
<td>Puerto Rican</td>
<td>43,484</td>
<td>66.7</td>
<td>7.8</td>
<td>25.8</td>
<td>8.4</td>
<td>45.8</td>
</tr>
<tr>
<td>Cuban</td>
<td>14,627</td>
<td>81.3</td>
<td>3.3</td>
<td>43.0</td>
<td>5.8</td>
<td>36.8</td>
</tr>
<tr>
<td>Central and South American</td>
<td>98,171</td>
<td>65.9</td>
<td>9.2</td>
<td>24.0</td>
<td>4.6</td>
<td>37.9</td>
</tr>
</tbody>
</table>

¹Refers to care beginning in third trimester or no care.
²Primary cesarean rate is the number of women having a cesarean delivery per 100 births to women without a previous cesarean.
³Refers to diagnosis prior to this pregnancy.
⁴Refers to diagnosis in this pregnancy.
⁵Includes other races not shown separately and origin not stated.
⁶Race and Hispanic origin are reported separately on the birth certificate. Race categories are consistent with the 1997 Office of Management and Budget standards; see “Technical Notes.” Data by race are non-Hispanic and exclude mothers reporting multiple races.
⁷Includes all persons of Hispanic origin of any race and of other Hispanic groups.

**NOTE:** Includes California, Colorado, Delaware, Florida, Georgia, Idaho, Indiana, Iowa, Kansas, Kentucky, Michigan, Montana, Nebraska, New Hampshire, New Mexico, New York, North Dakota, Ohio, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Vermont, Washington, and Wyoming.
Prenatal Care Utilization Not Improving

- First trimester prenatal care entry and percentage of women with late or no prenatal care far from HP 2010 objectives

- Racial and ethnic disparities remain pervasive
Healthy People 2020

- MICH–10 Increase the proportion of pregnant women who receive early and adequate prenatal care

  - MICH–10.1 Prenatal care beginning in first trimester
    - Baseline: 70.8 percent of females delivering a live birth received prenatal care beginning in the first trimester in 2007
    - Target: 77.9 percent
    - Target–Setting Method: 10 percent improvement
    - Data Source: National Vital Statistics System (NVSS), CDC, NCHS

More Information
MICH–10.2 Early and adequate prenatal care

- Baseline: 70.5 percent of pregnant females received early and adequate prenatal care in 2007
- **Target: 77.6 percent**
- Target–Setting Method: 10 percent improvement
- Data Source: National Vital Statistics System (NVSS), CDC, NCHS
Measurement of Prenatal Care Adequacy: Incomplete Picture

- NO Information Routinely Collected on Content and Quality of Prenatal Care
- Information on quality and content of prenatal care is only available from special studies or through surveillance such as PRAMS in which women retrospectively report on select content (e.g., health education provided)
- Information on prenatal care enhancements not routinely collected
Pivotal Points for Action with Respect to Prenatal Care

Increasing Women’s Entry into Care During the First Trimester (Building on the ACA):

- Linkage to Well-Woman Health Care and Reproductive Health/Life Plans
- Case-Finding strategies added to Case Management/Home Visiting/Healthy Start
- Adoption of Universal Strategies of Western Europe which Provide Support and Recognition of Pregnant Women from Early in Pregnancy
Pivotal Points for Action with Respect to Prenatal Care

- Revisiting the Visit Schedule


  - Specific content and timing of prenatal visits, contacts and education should vary depending on risk status of pregnant woman and her fetus – *more visits early* to assess risk and to permit delivery of health promotion and interventions for found medical/psychosocial risks.
Figure 5-1. Comparison of Current and Recommended Cumulative Visits
Addressing the Content and Quality of Prenatal Care

  - Need for a comprehensive prenatal care record—(Illinois promotion of minimum prenatal care dataset)
  - Effectiveness of PNC will be improved by additional research on specific content of care

- Develop strategies for ongoing monitoring/measuring the content and quality of prenatal care
Electronic Prenatal Dataset: Illinois CHIPRA Proposal

- A minimum set of prenatal data available to prenatal providers/hospitals electronically
- A valuable information source identifying test results, prenatal complications, and risk factors
- A tool to assist in providing appropriate level of care and avoiding duplicate testing
Why an Electronic Prenatal Dataset?

- To assure continuity of care:
  - When a woman changes prenatal providers
  - Uses the emergency room
  - Presents for delivery without prenatal care records

- To promote efficiency:
  - Information provided in a standard user-friendly format (1-page, organized, clearly labeled, problem list)
  - Hospital relieved of having locate a prenatal care record
  - One source of prenatal data regardless of number of prenatal providers involved

- To improve quality:
  - Allows provision of appropriate level of care
  - Appropriate care leads to improved outcomes

- To control costs:
  - Reduces duplication of services – services received and test results are readily available – no need to repeat
  - Better outcomes result in lower costs

- To improve research on content and quality of care
Ensure Universal Access to Prenatal Care Enhancements

- Eliminate Differential Focus and Reimbursement of PNC Components beyond “Medical”:
  - Smoking cessation
  - Alcohol and substance abuse treatment
  - Screening, Treatment, and Social Support for Stress, Depression, Intimate Partner Violence
  - Nutrition
  - Oral Health
Pivotal Points for Action with Respect to Prenatal Care

Resume Reporting on Prenatal Care in the National Vital Statistics Reports

In order to draw attention to the importance of prenatal care as an infant mortality reduction strategy, we need to continue to report on progress or lack thereof.
Pivotal Points for Action with Respect to Prenatal Care

- Develop/Test/Expand New Models of Prenatal Care and Prenatal Care Enhancements
  - Build on the Strong Start Initiative and provide support for integrated and new models of prenatal care: Centering Pregnancy, Maternity Care Home, Birthing Centers, Doula Supports during Pregnancy and Labor and Delivery
Pivotal Points for Action with Respect to Prenatal Care

Increasing Women’s Voice in the Delivery of Prenatal Care

- Promoting Strategies that Empower Women with respect to decision-making throughout pregnancy and labor and delivery
- Increasing women’s choice of providers, and sites of both prenatal care and delivery

( January 28, 2010: Revamping the US Maternity Care System: Childbirth Connections)
Pivotal Points for Action with Respect to Prenatal Care

- Improve the delivery of high-risk maternal health care
  - Strengthen support for development/enhancement of the regional perinatal system in each state
  - Improve clinical practice/protocols for high-risk maternal conditions
  - Develop a uniform approach to maternal health and maternal death surveillance
While prenatal care is not sufficient to improve perinatal outcomes and reduce rates of infant death, it is an essential component of the continuum of reproductive/perinatal care that continues to deserve attention.