Caring for Mothers: Pregnancy Spacing and Birth Outcomes, 2005

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Babies born to women who become pregnant shortly after having a child or who wait many years between children are at risk for adverse birth outcomes such as lower birthweight and preterm birth. Several studies have shown that spacing births 18 to 23 months apart promotes optimal birth outcomes, whereas interpregnancy intervals (IPI) of fewer than 6 months or greater than 10 years increase perinatal risks significantly.1 Because women who are enrolled in Medicaid may have risk factors for adverse birth outcomes that cannot be addressed by coverage or prenatal care alone, understanding patterns in the interpregnancy interval among these women may open the door to other risk reduction strategies.2

The purpose of this study is to compare the length of interpregnancy interval among mothers with Medicaid coverage (HUSKY A managed care and fee-for-service) with pregnancies for other Connecticut mothers. The findings are based on birth certificates for babies born in 2005, linked with enrollment and eligibility data for their mothers.3 This brief on pregnancy spacing is the first to be issued by Connecticut Voices highlighting maternal health.4

FINDINGS
In 2005, there were 39,815 singleton births to Connecticut residents, including 10,662 births (27%) to mothers enrolled in HUSKY A and 2,363 births (6%) to mothers whose births were covered by fee-for-service (FFS) Medicaid. Characteristics of all Connecticut births in 2005 are reported elsewhere.5 A total of 22,180 singleton births in 2005 occurred to women who had at least one previous live birth, including 6,094 (27%) births to HUSKY A mothers and 1,261 births (6%) to FFS mothers.

Interpregnancy interval: Women with Medicaid coverage (HUSKY A or FFS) were less likely to have an optimal IPI than other Connecticut mothers.6 Over 9 percent of women in HUSKY A who had a consecutive singleton pregnancy in 2005 had an optimal IPI of 18 to 23 months, compared to 7 percent of FFS mothers and nearly 15 percent of all other mothers (Table 1). Mothers enrolled in HUSKY A were two times more likely to have an IPI of fewer than 6 months than other mothers. FFS mothers were also more likely than other mothers to have an IPI of fewer than 6 months. Both HUSKY A and FFS mothers were more likely to have had a subsequent pregnancy 5 years or more after the previous pregnancy.

Table 1. Interpregnancy Interval, 2005

<table>
<thead>
<tr>
<th>Interpregnancy Interval (months)</th>
<th>HUSKY A Mothers (n=6,094)</th>
<th>FFS Mothers (n=1,261)</th>
<th>Other Mothers (n=14,825)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fewer than 6</td>
<td>6.6%</td>
<td>4.2%</td>
<td>3.3%</td>
</tr>
<tr>
<td>6 - 11</td>
<td>9.5%</td>
<td>9.6%</td>
<td>11.8%</td>
</tr>
<tr>
<td>12 - 17</td>
<td>11.2%</td>
<td>10.5%</td>
<td>15.9%</td>
</tr>
<tr>
<td>18 - 23 (optimal)</td>
<td>9.4%</td>
<td>7.1%</td>
<td>14.5%</td>
</tr>
<tr>
<td>24 - 59</td>
<td>38.6%</td>
<td>36.0%</td>
<td>37.6%</td>
</tr>
<tr>
<td>60 - 119</td>
<td>19.8%</td>
<td>25.1%</td>
<td>13.1%</td>
</tr>
<tr>
<td>120 or more</td>
<td>5.0%</td>
<td>7.5%</td>
<td>3.8%</td>
</tr>
</tbody>
</table>

HUSKY A mothers of different racial/ethnic groups, health plans, or smoking status were no more or less likely to have an IPI of 18 to 23 months or fewer than 6 months.7

Birth Outcomes: Among mothers with Medicaid coverage, those who gave birth less than 6 months after the previous pregnancy were no more or less likely to have low birthweight babies (<2500 grams) than those who gave birth 18 to 23 months after the previous pregnancy.8 They were also equally likely to have given birth preterm (<37 weeks gestation), compared with births to Medicaid mothers with an optimal interpregnancy interval.9

DISCUSSION
This report shows that mothers who gave birth with Medicaid coverage (HUSKY A or FFS) are less likely
than other Connecticut mothers to have given birth after what the literature shows is an optimal interpregnancy interval for reducing the risk of adverse birth outcomes. This finding underscores the necessity for ensuring access to family planning services (i.e., contraception methods and counseling) during the interconception period.

Differences in birth outcomes associated with optimal versus short interpregnancy intervals were not evident for this Medicaid subset of Connecticut births in 2005. Compelling evidence for the J-shaped relationship between interpregnancy interval and adverse birth outcomes, reported by Zhu, is based on data for hundreds of thousands of births that occurred over 6 to 8 years in each of 3 states (see Figure 1 from Zhu report).\(^\text{10}\) The consistency of the findings across states and methods suggests that the relationship is actually causal. In this study, the absence of significant differences in birth outcomes associated with interpregnancy interval should be interpreted with caution and not used to discount the value of interconceptional care.

Under federal law, women enrolled in Medicaid managed care plans may obtain family planning services from providers of their choice, whether or not the Medicaid provider contracts with their health plans. In Connecticut, this means that HUSKY A managed care plans are responsible for ensuring direct access to care family planning services from primary care providers or women’s health specialists without referral or prior authorization.\(^\text{12}\) The plans must notify all members, including adolescents, about the availability of services. HUSKY A plans are also responsible for educating new mothers about the importance of postpartum visits in addition to well-baby care.

In fact, there is considerable evidence that interconceptional care is key to ensuring good maternal health before pregnancy.\(^\text{11}\) This care includes health promotion strategies for healthy women and those at risk for adverse birth outcomes in subsequent pregnancies. Family planning services are an importance component of interconceptional care, including age- and risk-appropriate contraceptive methods and counseling to help women avoid unintended pregnancies.

In recent years, 26 states have expanded Medicaid eligibility for family planning services to individuals who would not otherwise qualify for Medicaid because of income or categorical requirements (e.g., single adults).\(^\text{13}\) Rhode Island and 3 other states have extended eligibility from 1 to 5 years, depending on the state, to women who would otherwise lose eligibility after 60 days postpartum. The percentage of Rhode Island women on Medicaid who gave birth after an interpregnancy interval less than 18 months was cut nearly in half in the first three years, with savings of $14.3 million or two and a half times the state’s investment.\(^\text{14}\) A federally funded evaluation of Medicaid family planning waivers in 6 states found that an estimated 40,000 pregnancies were averted at a combined state-federal savings of $23 million.\(^\text{15}\) Connecticut recently expanded eligibility for pregnant women from 185% FPL to 250% FPL, but limits eligibility postpartum to the federally mandated 60 days. Due to recent changes in eligibility levels for parents and other competing program priorities, Connecticut has not yet implemented the Medicaid family planning waiver enacted in 2005.

**OPTIONS FOR CONNECTICUT**

- Ensure high quality care for new mothers in the immediate postpartum period;
- Expand Medicaid coverage for new mothers to a year or more postpartum;
- Expand Medicaid coverage for family planning services to new parents;
- Ensure that new mothers are informed about and connected with all possible options for coverage, such as Charter Oak, before their postpartum coverage expires.

3 **Methods**: Records of Connecticut births in 2005 were linked with HUSKY A enrollment files and with Medicaid eligibility data in order to identify births to mothers who: (1) were enrolled in HUSKY A (Medicaid managed care) or fee-for-service (FFS) Medicaid at the time they gave birth, and (2) had had at least one previous live birth. Women who had a multiple birth in 2005 were excluded from the analysis because twins and other multiple births are already likely to be premature and lower birthweight, hence potentially confounding the relationship between interpregnancy interval and those birth outcomes. The interpregnancy interval (IPI) was defined as the length of time in months between two consecutive live births minus the length of gestation of the second infant (born in 2005). Date of the previous live birth was assumed to be the 15th of the month listed on the birth certificate. IPI was calculated for HUSKY A, FFS, and all other mothers and compared overall and by maternal age. Women whose IPI was unknown or had more than a twenty-year IPI were excluded from the analysis. Interpregnancy interval was categorized into the following subgroups: fewer than 6 months, 6 to 11 months, 12 to 17 months, 18 to 23 months, 24 to 59 months, 60 to 119 months, and 120 or more months. Optimal IPI was defined as 18 to 23 weeks, the optimal IPI for preventing adverse birth outcomes as reported in the literature. The association between insurance status and length of IPI was calculated and compared across mothers in HUSKY A, FFS Medicaid, and other mothers.

4 Connecticut Voices for Children is a non-profit organization that conducts research and policy analysis on children’s issues. This report on births was prepared under a contract between the Connecticut Department of Social Services and the Hartford Foundation for Public Giving, with a grant to Connecticut Voices from the Hartford Foundation. This report was prepared by Mary Alice Lee, Ph.D., Senior Policy Fellow, with support from Karen Sautter, M.P.H., and Amanda Learned, B.A. This report is also available at www.ctkidslink.org. This publication does not express the views of the Department or the State of Connecticut. The views and opinions expressed are those of the authors.


6 Rate ratio \(\text{MEDICAID:ALL OTHER MOTHERS}=0.62\) (95% CI: 0.57, 0.67), meaning that mothers with Medicaid coverage (HUSKY A or FFS) are about 40% less likely than all other mothers to give birth 18-23 months after a previous birth, the optimal interval for better birth outcomes.

7 Results of data analysis available upon request.

8 Relative risk for low birthweight: Rate ratio\(<6\text{MONTHS}\cdot18-23\text{MONTHS}=1.32\) (95% CI: 0.85, 2.03)

9 Relative risk of preterm birth: Rate ratio\(<6\text{MONTHS}\cdot18-23\text{MONTHS}=1.23\) (95% CI: 0.86, 1.74)


12 HUSKY Program-Charter Oak RFP, Section IV Part Three 3.15, p. 55-56. Released 1.3.08.

13 Kaiser Family Foundation. Medicaid’s role in family planning. Issue Brief on Women’s Health Policy; October 2007.
