

**Rates of Preterm Birth and Low Birth Weight as Clinical Outcomes  
For Family Planning Waiver (FPW) Programs**

**Prepared for Southeast FPW Evaluators Conference Call Oct. 10 2011 by Jeff Roth, Univ. of FL**

1. Rate of preterm birth (less than 37 completed weeks of gestation age [GA]) in U. S was 12.3 % of all births [including multiples] in 2008, up from 9.4% in 1981.<sup>1</sup>
2. Infants born even late preterm (34-36 weeks GA) are more likely to suffer delivery complications, long-term impairment, and early death compared with those born full term.<sup>2</sup>
3. Rate of low birth weight (LBW = less than 2500 grams) in U.S. was 8.2% of all births in 2008, up from 6.7% in 1982.<sup>1</sup>
4. Long-term follow-up studies of low birth weight infants demonstrate a high frequency of developmental delays in survivors of neonatal intensive care who were formerly considered to be non-disabled. These delays interfere with the acquisition of everyday skills and, in particular, with normal school functioning.<sup>3</sup>
5. Low birth weight is now thought to place the infant at greater risk of later adult chronic medical conditions, such as diabetes, hypertension, and heart disease.<sup>4</sup>
6. Both short and long birth intervals lead to increased risks of preterm birth, low birth weight, and small size for gestational age.<sup>5</sup>
7. Family planning has been documented to contribute to optimal birth spacing and significantly lower maternal morbidity.<sup>6</sup>
8. Preterm/low birth weight infants in the United States account for half of infant hospitalization costs and one quarter of pediatric costs, suggesting that major infant and pediatric cost savings could be realized by preventing preterm birth.<sup>7</sup>
9. Charges for initial hospitalizations increase as birth weights and gestational ages decrease.<sup>8</sup>
10. UF conducted a study of women enrolled in FPW during demonstration years 2007-09, distinguishing between those who received at least one FP service (“Participants”) and those who received no FP services (“Non-Participants”). We compared their LBW rates.

Enrollee Characteristic	Total Number of Births N=31,798	Participants N = 11,230 (35.3)	Non-Participants N = 20,568 (64.7)
LBW Infant			
Yes	2915 (9.2)	944 (8.4)	1971 (9.6)

In unadjusted logistic regression model, Participants had 13% lower odds of LBW compared to Non-Participants, with an odds ratio (OR) of 0.87 (0.80, 0.94). These odds were slightly attenuated [aOR=0.92 (0.84, 1.00)] after adjustment for all other covariates in the model (maternal race, maternal age, maternal education, marital status, pre-pregnancy BMI, smoked during pregnancy, consumed alcohol during pregnancy, plurality, and prenatal care).<sup>9</sup>

<sup>1</sup> Martin JA, Hamilton BE, Sutton PD, et al. Births: Final data for 2008. National vital statistics reports; vol 59 no 1. Hyattsville, MD: National Center for Health Statistics. 2010.

<sup>2</sup> Shapiro-Mendoza CK, Tomashek KM, Kotelchuck M, Barfield W, Nannini A, Weiss J, Declercq E. Effect of late-preterm birth and maternal medical conditions on newborn morbidity risk. *Pediatrics*. 121(2):e223–32. 2008.

<sup>3</sup> Allen MC, Cristofalo EA, Kim C. Outcomes of preterm infants: morbidity replaces mortality. *Clin Perinatol*. 2011 Sep;38(3):441-54.

<sup>4</sup> Goldenberg RL, Culhane JF. Low birth weight in the United States. *Am J Clin Nutr*. 2007 Feb;85(2):584S-590S.

<sup>5</sup> Conde-Agudelo A, Rosas-Bermúdez A, Kafury-Goeta AC. Birth spacing and risk of adverse perinatal outcomes: a meta-analysis. *JAMA*. 2006 Apr 19;295(15):1809-23.

<sup>6</sup> Tsui AO, McDonald-Mosley R, Burke AE. Family planning and the burden of unintended pregnancies. *Epidemiol Rev*. 2010 Apr;32(1):152-74.

<sup>7</sup> Russell RB, Green NS, Steiner CA, Meikle S, Howse JL, Poschman K, Dias T, Potetz L, Davidoff MJ, Damus K, Petrini JR. Cost of hospitalization for preterm and low birth weight infants in the United States. *Pediatrics*. 2007 Jul;120(1):e1-9.

<sup>8</sup> Cuevas KD, Silver DR, Brooten D, Youngblut JM, Bobo CM. The cost of prematurity: hospital charges at birth and frequency of rehospitalizations and acute care visits over the first year of life: a comparison by gestational age and birth weight. *Am J Nurs*. 2005 Jul;105(7):56-64.

<sup>9</sup> UF Family Data Center. Retrospective Cohort Study: Adverse Birth Outcomes among Women Who Received Family Planning Services and Those Who Did Not. Tallahassee, FL: Agency for Health Care Administration, 2011.