Preterm Birth and Low Birth Weight by Source of Payment for the Delivery:

New Data from the Birth Certificate

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Introduction: Healthcare coverage of reproductive-age women is an important public health issue as it is one of the factors associated with increased use of preconception and prenatal care services, important determinants of birth outcomes (1). The expansion of Medicaid over the last two decades to cover more pregnant women has led to increasing Medicaid coverage during pregnancy (2). Previous research has shown that mothers whose pregnancies are insured by Medicaid are at a higher risk for poor birth outcomes in terms of preterm births (infant born at less than 37 weeks completed gestation) and low birth weight (infant weighing less than 2,500 grams) compared with mothers with private insurance (3). Often, these differences are diminished or eliminated when differences in maternal sociodemographic and clinical characteristics are considered.

As studies have found lack of insurance coverage to be associated with late and inadequate prenatal care usage (4), more adverse birth outcomes for uninsured mothers would be expected . However, the uninsured population is disproportionately Hispanic and immigrant (5), who often have better outcomes than those of their native-born counterparts and sometimes even better than non-Hispanic white women despite being more socioeconomically disadvantaged and having more risk factors during pregnancy. This has been referred to as the epidemiological or Hispanic paradox (6). Teasing apart the relationship between lack of insurance coverage and birth outcomes is therefore complex. Limited data sources are available which have adequate numbers of births to fully explore these issues.

This paper will use new birth certificate data on source of payment for the delivery to examine birth outcomes, preterm birth and low birth weight, by payment source for mothers with either private insurance, Medicaid, or those whose deliveries are self-pay (uninsured). Differences among groups in maternal characteristics such as age, race/Hispanic origin, educational attainment, nativity status, and parity will be factored into the analysis to see if differences in outcomes persist net of these characteristics. Particular attention will be given to Hispanic mothers by nativity. Despite issues with

underreporting on the birth certificate, variation in maternal clinical and behavioral risk factors among payment groups (e.g. hypertension, diabetes, smoking during pregnancy) will also be explored as a pathway to differences in birth outcomes. Also examined will be the extent to which differences in outcomes by source of payment are mediated by the differences in prenatal care receipt among payment groups.

Methods: The 2003 revision of the Certificate of Live Birth collects information on the source of payment for the delivery for the first time. The categories included are: private insurance, Medicaid, self-pay (uninsured), and other payment sources. In 2011, 36 states and the District of Columbia had revised to the 2003 standard, numbering almost 3.3 million births and representing 83 percent of all U.S. births in 2011. These birth certificate data offer a large number of births in which to perform detailed source-of-payment analyses that can be challenging with sample survey data.

Differences in the percent of births that are preterm and low birth weight by payment source will be examined for the following birth certificate payment categories—private insurance, Medicaid, and self-pay (uninsured). Preterm births will be further subdivided into early preterm (less than 34 completed weeks gestation) and late preterm (34 to less than 37 weeks completed gestation) to compare the levels among groups in these more refined definitions. Low birth weight will also be subdivided into very low birth weight (less than 1500 grams) and moderately low birth weight (1500 to 2499 grams). Prenatal care receipt will also be factored into the analysis by stratifying payment groups according to when the prenatal care was initiated to assess whether outcomes still differ once this is considered.

In addition to percent distributions, multivariate models (logistic regression) which control for maternal sociodemographic characteristics (maternal age, maternal race/Hispanic origin, maternal educational attainment, nativity status, and parity) and clinical/behavioral characteristics (hypertension, diabetes, smoking) will be examined to explore the extent to which outcome differences by payment group can be accounted for by differences in maternal characteristics.   These models will be stratified by prenatal care receipt to determine potential interactions which can then be tested in the full models. Separate models will also be examined for the more refined definitions of preterm and low birth weight using multinomial logistic models.

Results: We are currently in the process of analyzing the revised birth certificate data. Since source of payment is a newly revised item on the birth certificate the data are not yet publicly available. Unfortunately we cannot share our results at this time but will be able to do so hopefully by the end of 2013, and certainly by the time of the PAA Annual Conference in May 2014.

Conclusions: These new birth certificate data will be an important, unique resource in examining outcomes by source of payment because of the large number of births. These data facilitate analyses by prenatal-care receipt, and nativity status for Hispanic mothers.

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