

Transition to the Obstetric Estimate for Measuring Gestational Age

National Data Transition

For data year 2014, the National Center for Health Statistics (NCHS) transitioned from measuring gestational age based on the last normal menses (LMP) and the date of infant's birth to the new measure, the obstetric estimate of gestation at delivery (OE). This transition was due to the increasing evidence of the greater validity of the OE compared with the LMP-based measure. According to NCHS, the reliability of the LMP-based measure was in question due to imperfect maternal recall, irregular menstrual cycles, misinterpretation of bleeding early in pregnancy and data entry errors, resulting in the incorrect categorization of gestational age especially for preterm and postterm births.

Percent Preterm¹ Births LMP-Based Gestation² 2007-2014

	2014	2013	2012	2011	2010	2009	2008	2007
IDAHO	9.8	10.4	10.3	10.2	10.3	10.1	9.8	10.5
U.S. ³	11.3	11.4	11.5	11.7	12.0	12.2	12.3	12.7

Percent Preterm¹ Births OE-Based Gestation 2007-2014

	2014	2013	2012	2011	2010	2009	2008	2007
IDAHO	8.2	9.0	8.5	8.1	8.9	9.0	9.4	9.3
U.S. ³	9.6	9.6	9.8	9.8	10.0	10.1	10.4	10.4

¹ Preterm births: <37 completed weeks gestation.

² LMP data in which the date of LMP is unknown or implausible with birthweight have imputed obstetric estimated gestation.

³ U.S. data for 2014 are preliminary and may differ from final data.

Note: 2007 is the first year for which national data based on the obstetric estimate of gestation are available.

Impact

According to a recently published NCHS study, the weeks of gestation were the same for LMP- and OE-based measures for 62.1 percent of all 2013 births. The OE was within 1 week of the LMP for 83.4% of records and within 2 weeks for 91.4 percent of records. When comparing OE- and LMP- based measures, the OE preterm birth rate is lower than the LMP birth rate, while the OE percentage of full-term deliveries was higher than the LMP-based percentage and the OE-based preterm infant mortality rate was higher than the LMP-based rate. Additional measures that will be impacted by the transition to the OE are prenatal care utilization, elective deliveries, and previous preterm birth risk factors. Data may differ with the transition to using OE to determine length of gestation.

Idaho Data Transition

Idaho vital statistics will transition to using the new measure beginning with data year 2014. Data for gestational age based on LMP are not comparable with data based on OE-based gestation. Newly released publications with gestational data shown for years prior to 2014, in 2014, and subsequent years will be published using OE-based gestational age.

Benefit

According to NCHS, there is evidence of greater validity of OE-based data compared with LMP-based data. Research has shown LMP data were less reliable than OE-based gestation among younger, less-educated women, and women who entered prenatal care after the first trimester of pregnancy. In addition, the number of birth records with unknown date from LMP is much higher than records with unknown obstetric estimated gestation. From 2007 to 2014, the number of Idaho birth records with unknown LMP (4,519 records) was ten times higher than the number of records with unknown OE (437 records). In the past, national and Idaho records with missing LMP or LMP-based gestation that were implausible with infant's birthweight were imputed with the OE length of gestation, if known.

Limitations

OE-data are based on records with known obstetric estimated gestation between 17 and 47 weeks completed gestation. As of October 2015, NCHS has not released editing procedures for records with missing or implausible OE gestation. Idaho OE data may be revised when the editing procedures are implemented, which may affect statistics for length of gestation, elective deliveries, onset of prenatal care, and prenatal care utilization. From 2007 to 2014, 0.2 percent of Idaho records (437 births) had unknown OE-based length of gestation. National data on OE are limited to data beginning with 2007 data. OE data for Idaho are available beginning in 2004. Prior to 2004, the clinical estimate (CE) was obtained from the Idaho birth certificate, and is comparable with OE length of gestation.

Sources:

Bureau of Vital Records and Health Statistics, Division of Public Health, Idaho Department of Health and Welfare.

Martin, J.A., Osterman, M.J.K., Kirmeyer, S.E., Gregory, E.C.W. Measuring gestational age in vital statistics data: transitioning to the obstetric estimate. National vital statistics reports; vol. 64 no.5. Hyattsville, MD: National Center for Health Statistics, 2015. http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_05.pdf