



Complete Summary

TITLE

Low birth weight: rate of infants with low birth weight.

SOURCE(S)

AHRQ quality indicators. Guide to prevention quality indicators: hospital admission for ambulatory care sensitive conditions [revision 3]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2004 Jan 9. Various p. (AHRQ Pub; no. 02-R0203).

Brief Abstract

DESCRIPTION

This indicator assesses the number of low birth weight infants per 100 births within Metropolitan Statistical Area (MSA) or county.

RATIONALE

Infants may be low birth weight because of inadequate interuterine growth or premature birth. Risk factors include sociodemographic and behavioral characteristics, such as low income and tobacco use during pregnancy.

Proper preventive care may reduce incidence of low birth weight, and lower rates represent better quality care.

PRIMARY CLINICAL COMPONENT

Low birth weight rate

DENOMINATOR DESCRIPTION

All births (discharges in Major Diagnostic category [MDC] 15, newborns and other neonates) in Metropolitan Statistical Area (MSA) or county

NUMERATOR DESCRIPTION

The number of births with International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) principal diagnosis code for birth weight less than 2500 grams in any field. Patients transferring from another institution are excluded.

Evidence Supporting the Measure

PRIMARY MEASURE DOMAIN

Outcome

SECONDARY MEASURE DOMAIN

Access
Process

EVIDENCE SUPPORTING THE MEASURE

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Evidence Supporting Need for the Measure

NEED FOR THE MEASURE

Wide variation in quality for the performance measured

EVIDENCE SUPPORTING NEED FOR THE MEASURE

AHRQ quality indicators. Guide to prevention quality indicators: hospital admission for ambulatory care sensitive conditions [revision 3]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2004 Jan 9. Various p. (AHRQ Pub; no. 02-R0203).

State of Use of the Measure

STATE OF USE

Current routine use

CURRENT USE

Internal quality improvement
Quality of care research

Application of Measure in its Current Use

CARE SETTING

Ambulatory Care
Community Health Care

PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Advanced Practice Nurses
Physician Assistants
Physicians

LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Counties or Cities

TARGET POPULATION AGE

Newborns/neonates

TARGET POPULATION GENDER

Either male or female

STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

Characteristics of the Primary Clinical Component

INCIDENCE/PREVALENCE

Unspecified

ASSOCIATION WITH VULNERABLE POPULATIONS

Socioeconomic measures such as parental education and income have been shown to be negatively associated with rates of low birth weight infants. Demographic factors such as age and race also appear important, and may be correlated with socioeconomic factors. Mothers under 17 years and over 35 years are at higher risk of having low birth weight infants. One study of all California singleton births in 1992 found that after risk adjustment, having a black mother remained a significant risk factor.

EVIDENCE FOR ASSOCIATION WITH VULNERABLE POPULATIONS

Hessol NA, Fuentes-Afflick E, Bacchetti P. Risk of low birth weight infants among black and white parents. *Obstet Gynecol* 1998 Nov;92(5):814-22. [PubMed](#)

O'Campo P, Xue X, Wang MC, Caughy M. Neighborhood risk factors for low birthweight in Baltimore: a multilevel analysis. *Am J Public Health* 1997 Jul;87(7):1113-8. [PubMed](#)

BURDEN OF ILLNESS

Unspecified

UTILIZATION

Unspecified

COSTS

Unspecified

Institute of Medicine National Healthcare Quality Report Categories

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness
Timeliness

Data Collection for the Measure

CASE FINDING

Both users and nonusers of care

DESCRIPTION OF CASE FINDING

All births within Metropolitan Statistical Area (MSA) or county

DENOMINATOR SAMPLING FRAME

Patients associated with provider

DENOMINATOR (INDEX) EVENT

Clinical Condition
Institutionalization
Patient Characteristic

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusions

All births (discharges in Major Diagnostic Category [MDC] 15-newborns and other neonates) in geographic areas defined at the Metropolitan Statistical Area (MSA) level or the county level

Exclusions

Unspecified

NUMERATOR INCLUSIONS/EXCLUSIONS

Inclusions

The number of births with International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) principal diagnosis code for birth weight less than 2500 grams in any field (see Appendix A of the original measure documentation for ICD-9-CM codes and Diagnosis Related Group [DRG] codes)

Exclusions

Patients transferring from another institution are excluded.

DENOMINATOR TIME WINDOW

Time window is a single point in time

NUMERATOR TIME WINDOW

Encounter or point in time

DATA SOURCE

Administrative data

LEVEL OF DETERMINATION OF QUALITY

Not Individual Case

OUTCOME TYPE

Proxy for Outcome

PRE-EXISTING INSTRUMENT USED

Unspecified

Computation of the Measure

SCORING

Rate

INTERPRETATION OF SCORE

Better quality is associated with a lower score

ALLOWANCE FOR PATIENT FACTORS

Analysis by subgroup (stratification on patient factors)

DESCRIPTION OF ALLOWANCE FOR PATIENT FACTORS

Observed (raw) rates may be stratified by areas (Metropolitan Statistical Areas or counties), age groups, race/ethnicity categories, and sex.

STANDARD OF COMPARISON

External comparison at a point in time
External comparison of time trends
Internal time comparison
Prescriptive standard

PRESCRIPTIVE STANDARD

Healthy People 2010 has set a goal of reducing the percentage of low birth weight infants to 0.9%.

EVIDENCE FOR PRESCRIPTIVE STANDARD

U.S. Department of Health and Human Services. Healthy people 2010: understanding and improving health. Conference ed. Washington (DC): Government Printing Office; 2000.

Evaluation of Measure Properties

EXTENT OF MEASURE TESTING

Each potential quality indicator was evaluated against the following six criteria, which were considered essential for determining the reliability and validity of a quality indicator: face validity, precision, minimum bias, construct validity, fosters real quality improvement, and application. The project team searched Medline for articles relating to each of these six areas of evaluation. Additionally, extensive empirical testing of all potential indicators was conducted using the 1995-97 Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases (SID) and Nationwide Inpatient Sample (NIS) to determine precision, bias, and construct validity. Table 1 in the original measure documentation summarizes the results of the literature review and empirical evaluations on the Prevention Quality Indicators. Refer to the original measure documentation for details.

EVIDENCE FOR RELIABILITY/VALIDITY TESTING

AHRQ quality indicators. Guide to prevention quality indicators: hospital admission for ambulatory care sensitive conditions [revision 3]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2004 Jan 9. Various p. (AHRQ Pub; no. 02-R0203).

Identifying Information

ORIGINAL TITLE

Low birth weight rate.

MEASURE COLLECTION

[Agency for Healthcare Research and Quality \(AHRQ\) Quality Indicators](#)

MEASURE SET NAME

[Agency for Healthcare Research and Quality \(AHRQ\) Prevention Quality Indicators](#)

DEVELOPER

Agency for Healthcare Research and Quality

ADAPTATION

This indicator was previously a Healthcare Cost and Utilization Project Quality Indicator (HCUP QI).

PARENT MEASURE

Low birth weight (Agency for Healthcare Research and Quality)

RELEASE DATE

2001 Oct

REVISION DATE

2004 Jan

MEASURE STATUS

This is the current release of the measure.

SOURCE(S)

AHRQ quality indicators. Guide to prevention quality indicators: hospital admission for ambulatory care sensitive conditions [revision 3]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2004 Jan 9. Various p. (AHRQ Pub; no. 02-R0203).

MEASURE AVAILABILITY

The individual measure, "Low Birth Weight Rate," is published in "AHRQ Quality Indicators. Guide to Prevention Quality Indicators: Hospital Admission for Ambulatory Sensitive Conditions." This document is available in [Portable Document Format \(PDF\)](#) and a [zipped WordPerfect\(R\) file](#) from the [Quality Indicators](#) page at the Agency for Healthcare Research and Quality (AHRQ) Web site.

For more information, please contact the QI Support Team at support@qualityindicators.ahrq.gov.

COMPANION DOCUMENTS

The following are available:

- "AHRQ Prevention Quality Indicators Software (Version 2.1 Revision 3)" (Rockville, [MD]: AHRQ, 2004 Jan 9) and its accompanying documentation can be downloaded from the [Agency for Healthcare Research and Quality \(AHRQ\) Web site](#). (The software is available in both SAS- and SPSS-compatible formats.)
- Guidance for using the AHRQ quality indicators for hospital-level public reporting or payment. Rockville (MD): Agency for Healthcare Research and Quality; 2004 Aug. 24 p. This document is available from the [AHRQ Web site](#).
- "HCUPnet, Healthcare Cost and Utilization Project" [internet]. (Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2004 [Various pagings]). HCUPnet is available from the [AHRQ Web site](#).
- "Refinement of the HCUP Quality Indicators" (Rockville [MD]: AHRQ, 2001 May. Various pagings. [Technical review; no. 4]; AHRQ Publication No. 01-0035). This document was prepared by the UCSF-Stanford Evidence-based Practice Center for AHRQ and can be downloaded from the [AHRQ Web site](#).

NQMC STATUS

This NQMC summary was completed by ECRI on December 19, 2002. The information was verified by the Agency for Healthcare Research and Quality on January 9, 2003. This NQMC summary was updated by ECRI on April 6, 2004.

COPYRIGHT STATEMENT

No copyright restrictions apply.

© 2004 National Quality Measures Clearinghouse

Date Modified: 11/1/2004

FIRSTGOV



