

# A System for the Validation of Labor Induction Rate as an Obstetric Quality Indicator

Margaret H. Sullivan, MD, MPH, Shelley L. Galvin, MA, Melinda Bryant, BSN, RN, A. Kellett Letson, MD  
 Department of Obstetrics & Gynecology, Mountain Area Health Education Center & Mission Hospital  
 Asheville, North Carolina

## Abstract

**Objective:** To develop a new internal data collection system at a private regional hospital to compare local obstetric outcomes with national quality measures, and to provide baseline data on induction of labor in order to examine and improve obstetric quality.

**Methods:** This retrospective data analysis of deliveries from June 2008 to May 2009 identified all women who underwent induction of labor. Gestational age and reasons for inductions were collected from the delivery log; descriptive and chi-square analyses were performed.

**Results:** Of 4134 deliveries during the study period, 1061 (25.7%) were inductions of labor; 229 (21.6%) of these inductions were elective. Fifty-six (24.5%) of the elective inductions occurred at less than 39 weeks, comprising 5.3% of total inductions. The induction rate of 25.7% was significantly higher ( $p < 0.001$ ) than the hospital's 2008 National Perinatal Information Center (NPIC) rate of 21.5% that was generated from ICD-9 codes.

**Conclusions:** Rates of inductions varied by source between NPIC or hospital data; the delivery log data was significantly more accurate than the billing data. A hospital quality improvement initiative to reduce inductions before 39 weeks is suggested as ACOG guidelines recommend against elective labor induction before 39 weeks. The Joint Commission's Perinatal Care Core Measure Set (April 2010) will include elective deliveries as a new indicator of obstetric care quality. New methods of benchmarking obstetric quality measures, including internal validation systems, will be necessary with the debut of the Joint Commission's upcoming quality measures.

## Background

The new Joint Commission's (JCAHO) Perinatal Care Core Measures, revised April 2010, initiated an intensified focus on obstetric quality improvement at our hospital. These new measures include:

- Rate of elective delivery <39w
- Cesarean section rate
- Antenatal steroids
- Iatrogenic bloodstream infections in newborns
- Breast feeding initiation

Obstetric quality indicators are often benchmarked by independent outside agencies—such as at our hospital the National Perinatal Information Center (NPIC)—by using ICD9 codes which may not easily track the above JCAHO measures.

## Objectives

To create a valid and reliable process for comparing local obstetric outcomes with national quality measures

To develop an internal data collection system at a private regional hospital

To provide baseline data on induction of labor as an obstetric quality indicator

## Methods

**Study Design:** Retrospective, descriptive

**Patients:** 4134 deliveries at a private regional hospital & high risk pregnancy referral center in Western North Carolina

**Time Frame:** June 2008 – May 2009

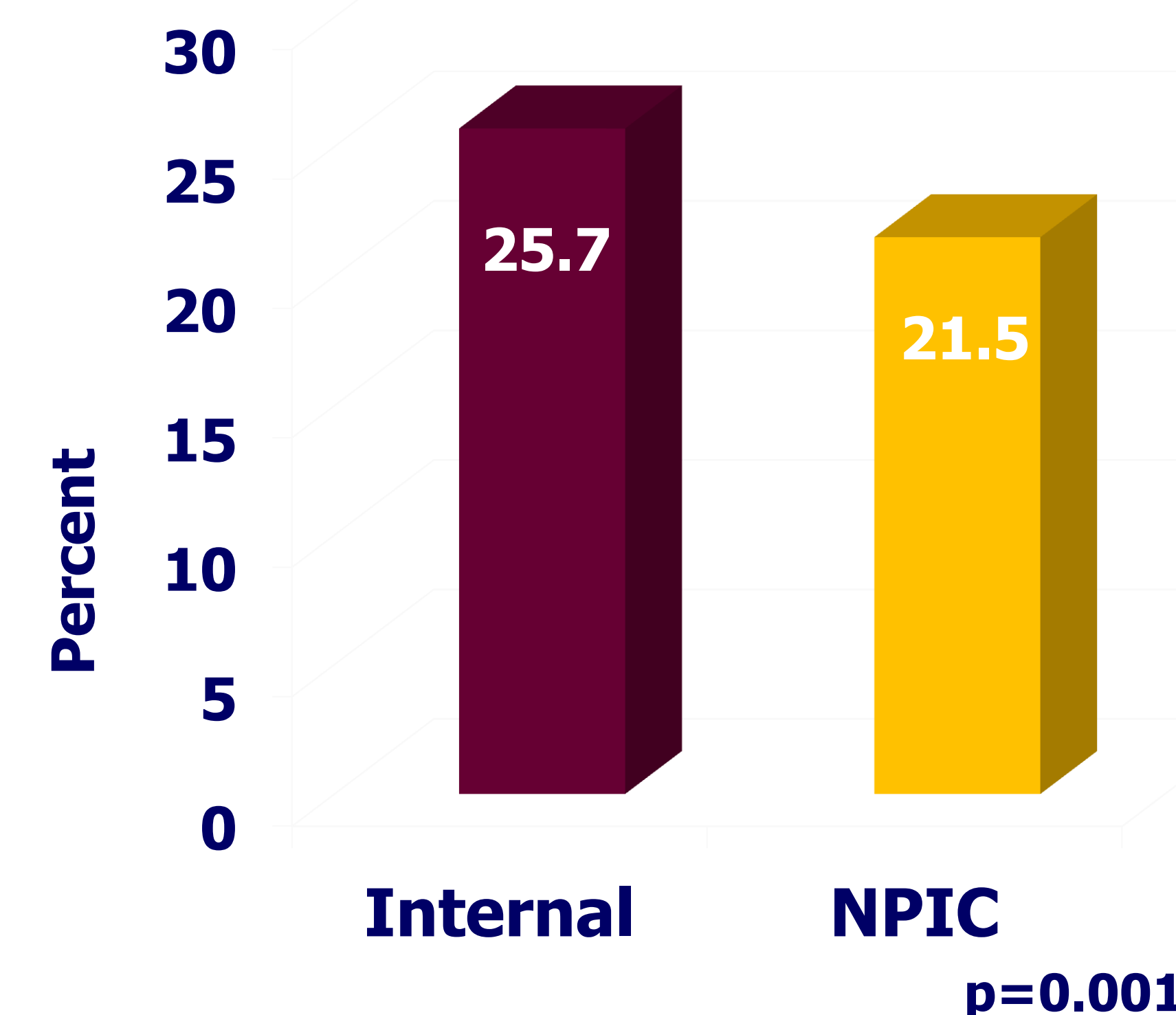
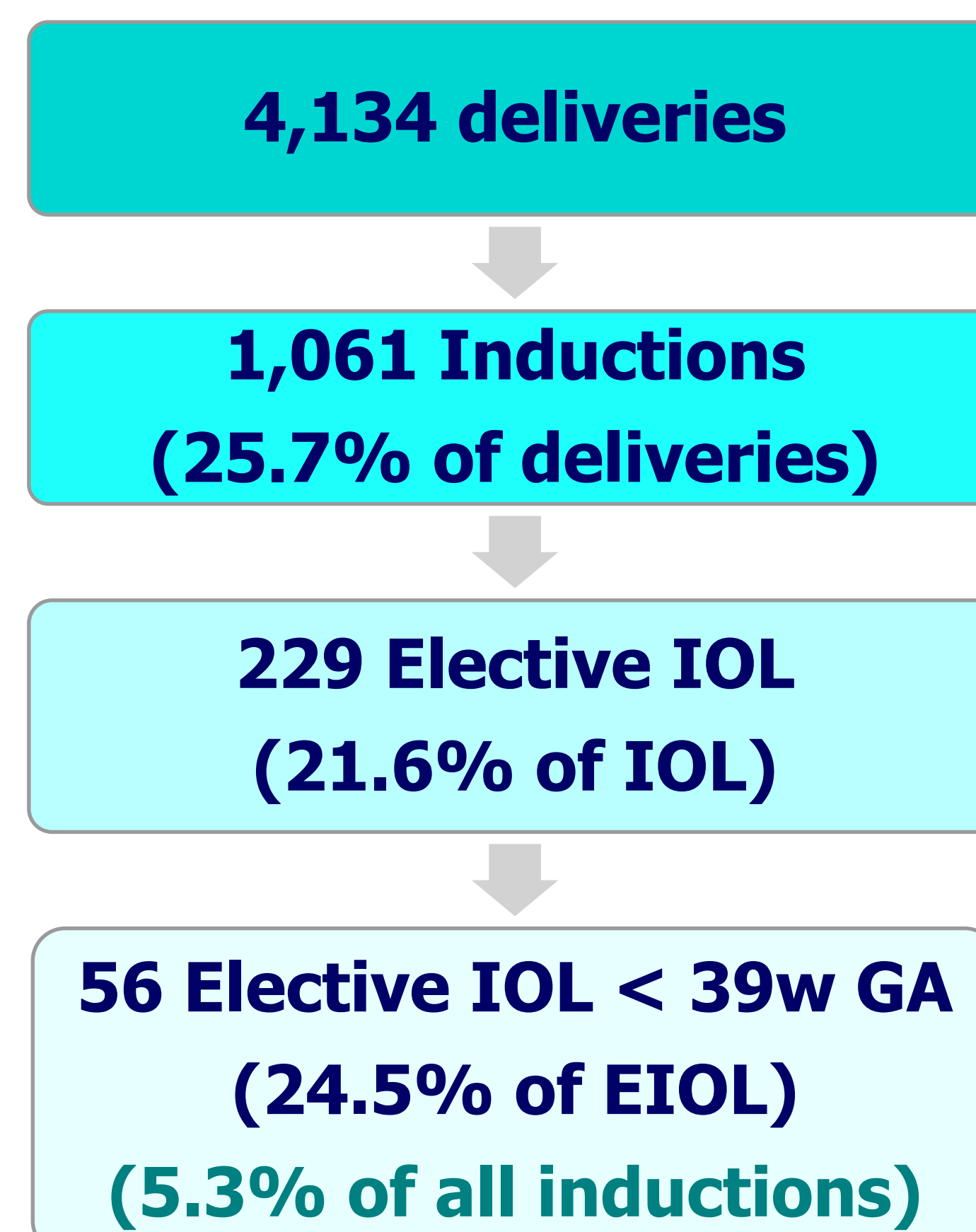
**Data Sources:** Pregnancy, delivery & neonatal records

**Variables:** Rate of labor induction, gestational age at induction, and reason for induction

**Statistics:** Descriptive statistics & chi-square analyses, using SPSS18

## Results

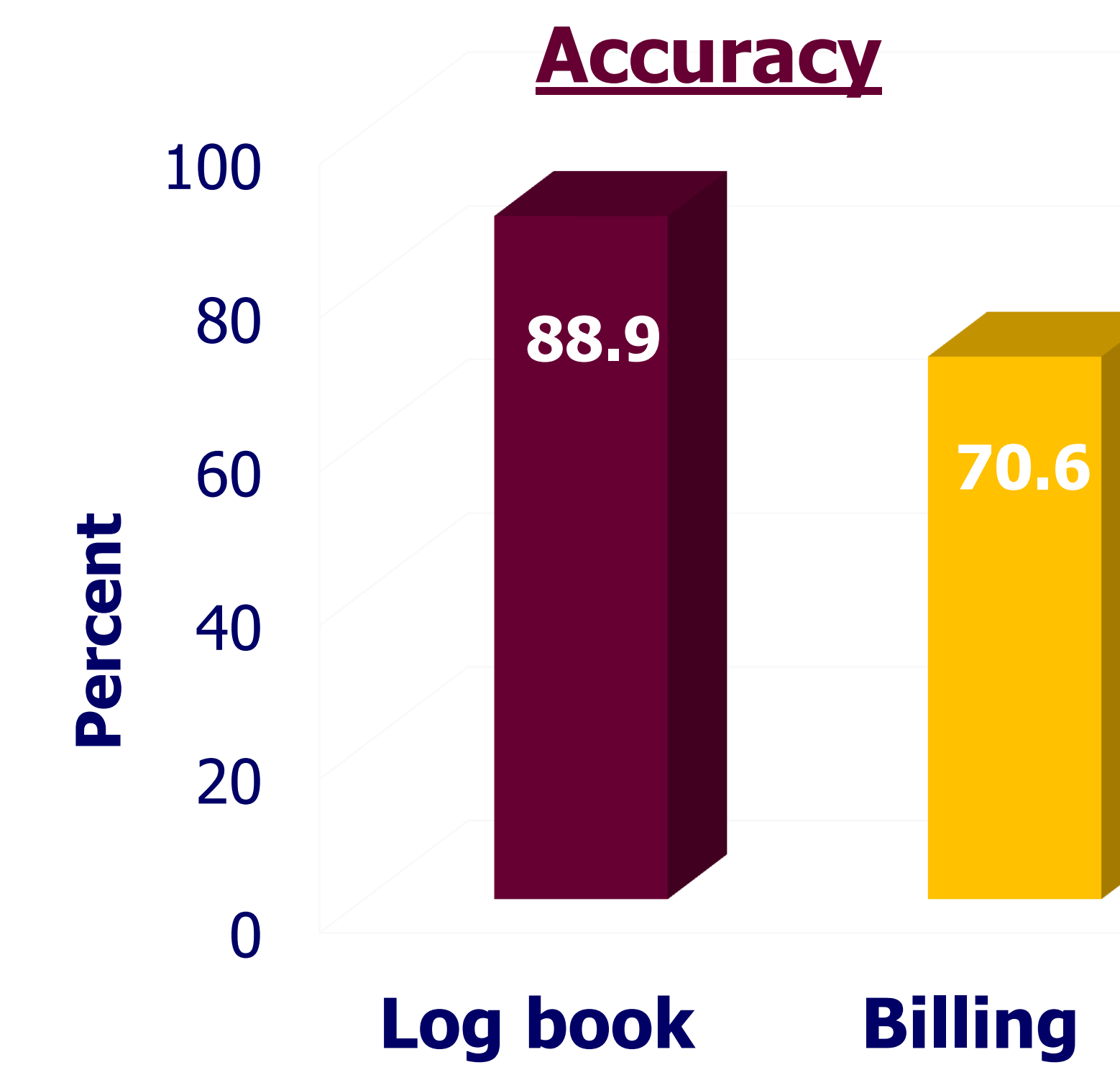
### Rate of Induction of Labor (IOL)



## Results

### Data Validation

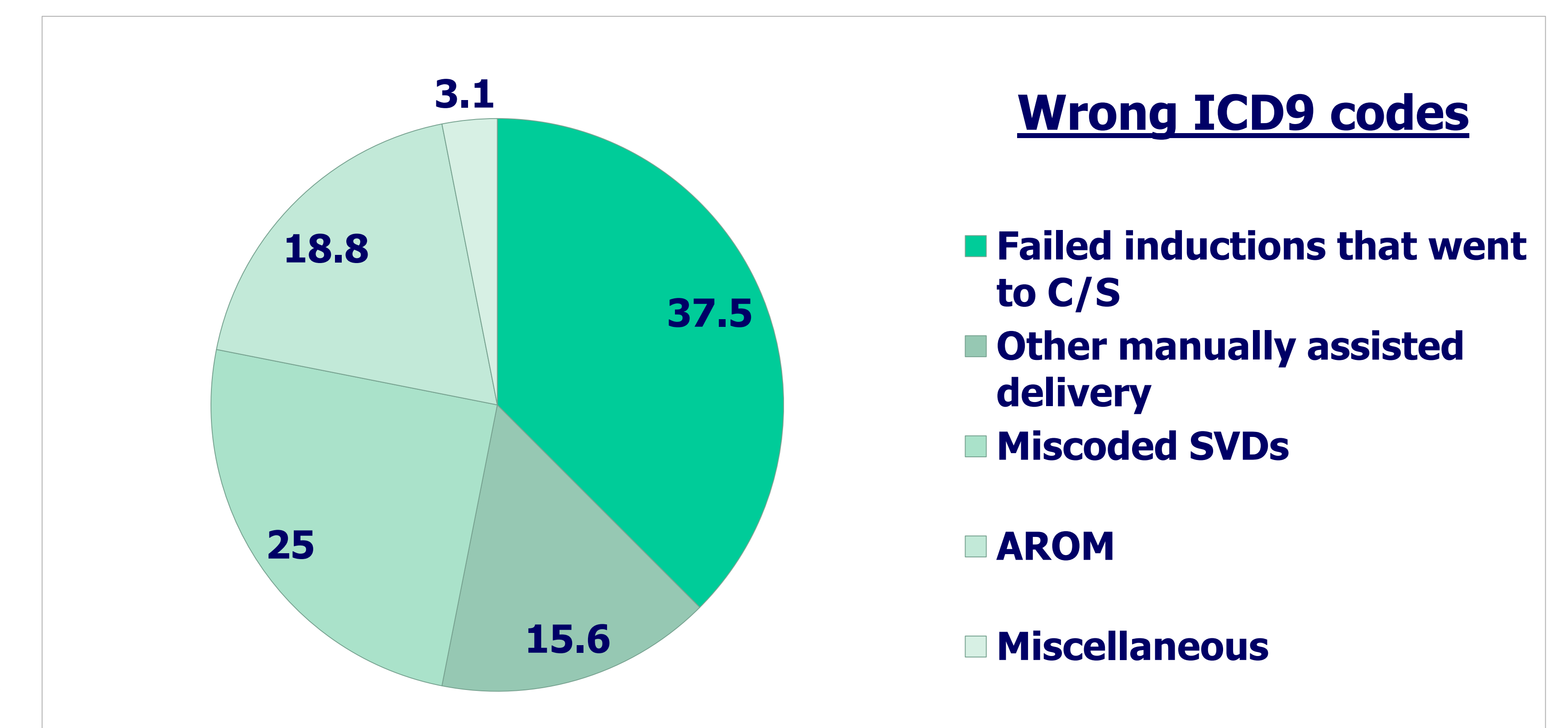
Compared our internal data with ICD9 billing data & rectified discrepancies on a random 4-month data set - Crosschecked with original patient chart



**Logbook data:** Errors decreased from 21→13→7→2 per month

**Billing data:** Errors varied from 26→34→20→34 per month

### Inaccuracy: Miscoded Inductions



## Conclusions

The internal data system had significantly greater accuracy. Miscoding of IOL most likely to occur with failed inductions coded as cesarean deliveries.

New methods of benchmarking OB quality indicators will be necessary with the debut of the JCAHO core measures .

Internal validation systems will be essential in tracking obstetric quality measures.



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