



South Carolina Department of Health and Environmental Control

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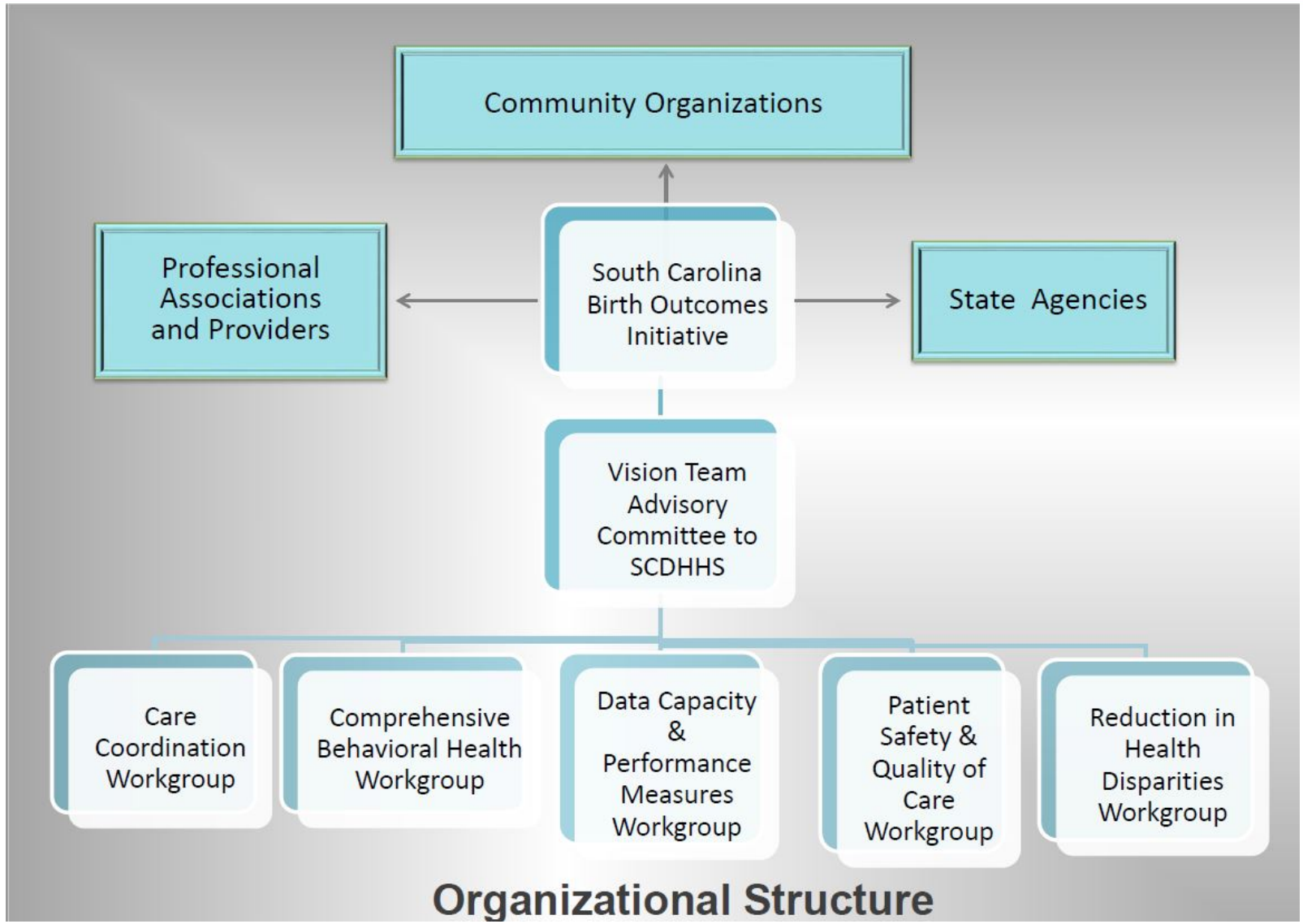
# SC Birth Outcomes Initiative – Data Workgroup

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Division of Biostatistics  
Vital Statistics

# SC Birth Outcomes Initiative (SCBOI)

- Launched in July 2011.
- SCBOI is an effort by the SC Department of Health and Human Services (SCDHHS), South Carolina Hospital Association, SC Department of Health and Environmental Control (SCDHEC), March of Dimes, Blue Cross Blue Shield of South Carolina and over 100 stakeholders to improve the health outcomes for newborns not only in the Medicaid program but throughout the state's population.



**Organizational Structure**

# Data Capacity and Performance Measures Workgroup

- The group has members representing agencies and organizations that provide and utilize data.
- Members have extensive knowledge of the various data sets across multiple state agencies and other data sources.
- Working together as a group allows us to combine the unique knowledge around issues specific to each data set.

# Data set

- A linked data set was created in order to produce reports.
- The data set links records from birth certificates with hospital discharge data, and Medicaid claims data.
- This linked data set allows for a very detailed analysis of maternal characteristics and birth outcomes.

# Linked data set

- Birth certificate data
  - link the mother's to the baby's record
  - contain some medical and health history of the mother
- Hospital discharge data
  - contain information on the current delivery
- Medicaid data
  - verification of payor

# Reports

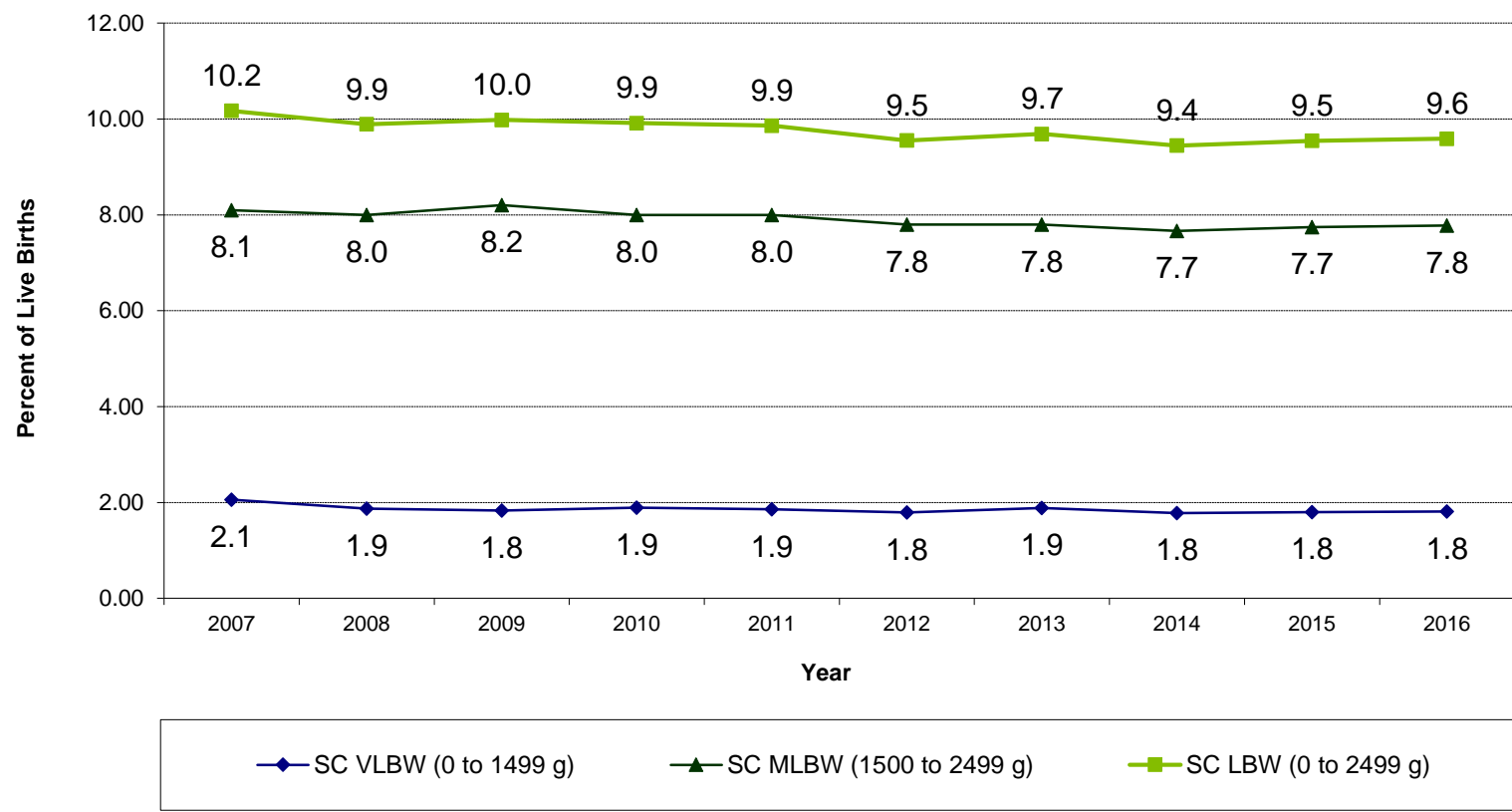
- Reports are produced after careful consideration of:
  - policies around data release
  - confidentiality of data
  - quality and completeness of specific variables
  - use of small numbers
  - definitions of variables and indicators
  - use of ICD-9 and ICD-10 codes
  - interpretation of data and indicators

# Selected Measures from Birth Certificate Data

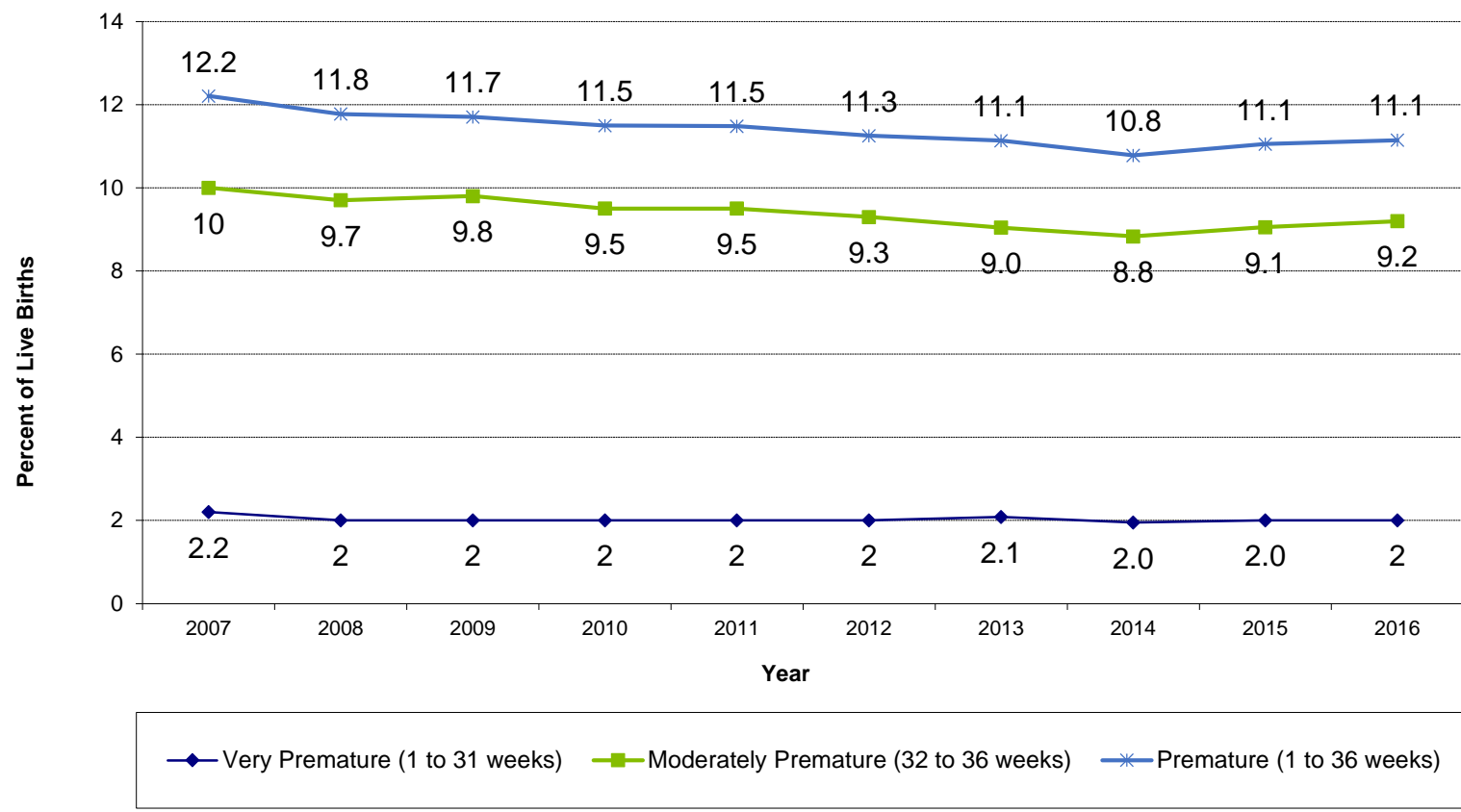
- Trends over the last 10 years
- Population level measures
- Include data for all residents of the South Carolina, not just births that occurred in SC hospitals



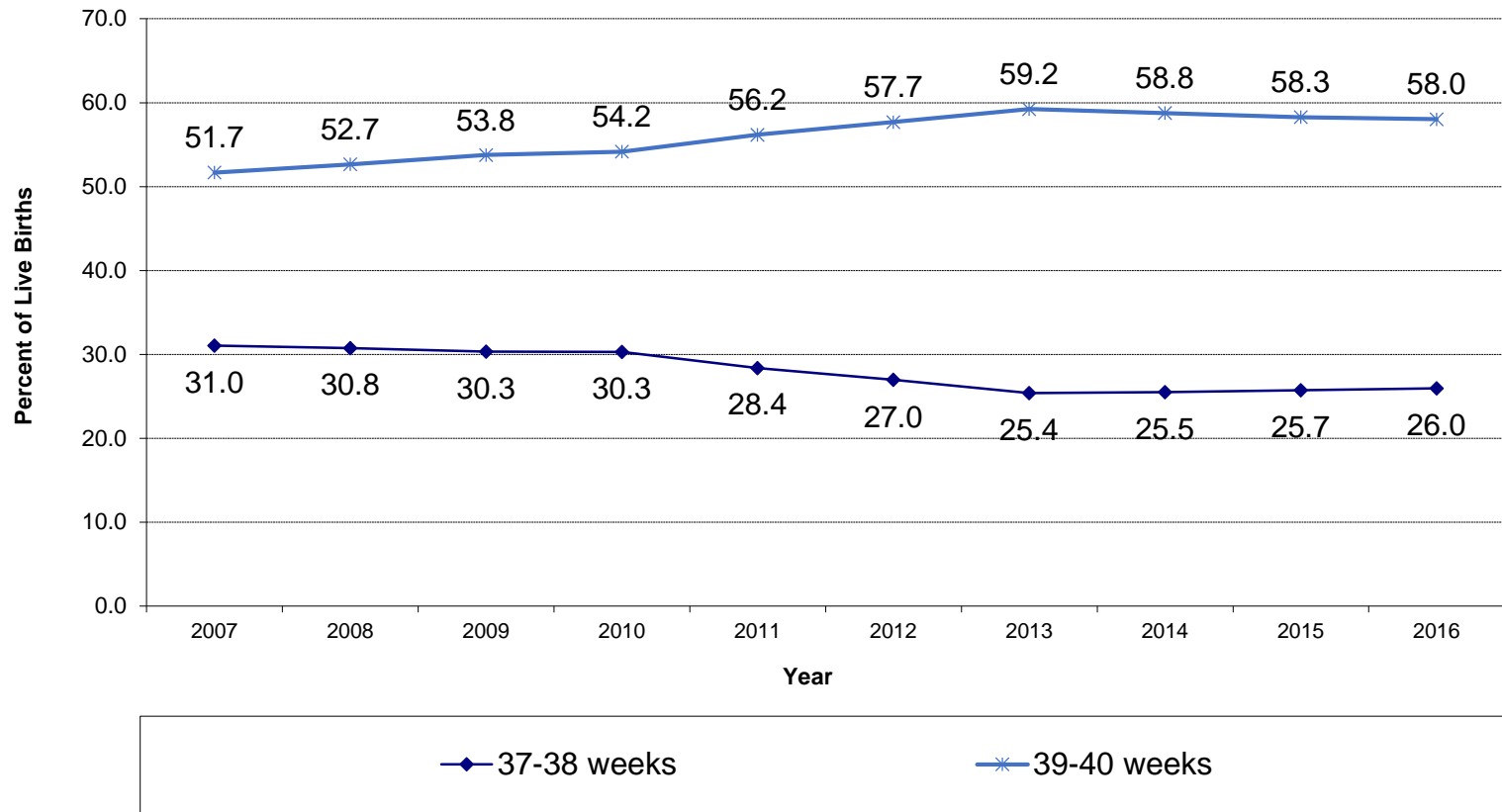
# Low Birthweight Rates, 2007-2016



# Preterm Rates, 2007-2016

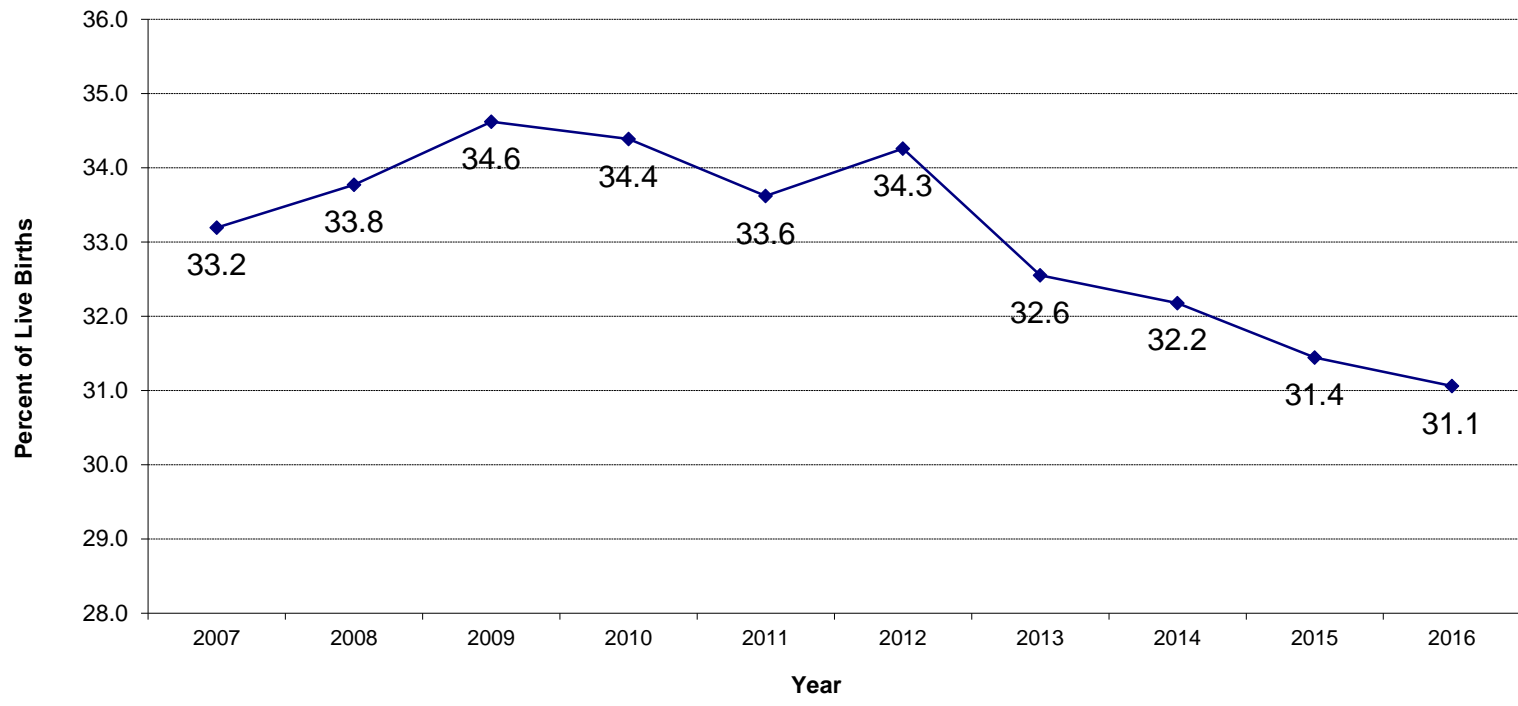


# Full Term Rates, 2007-2016



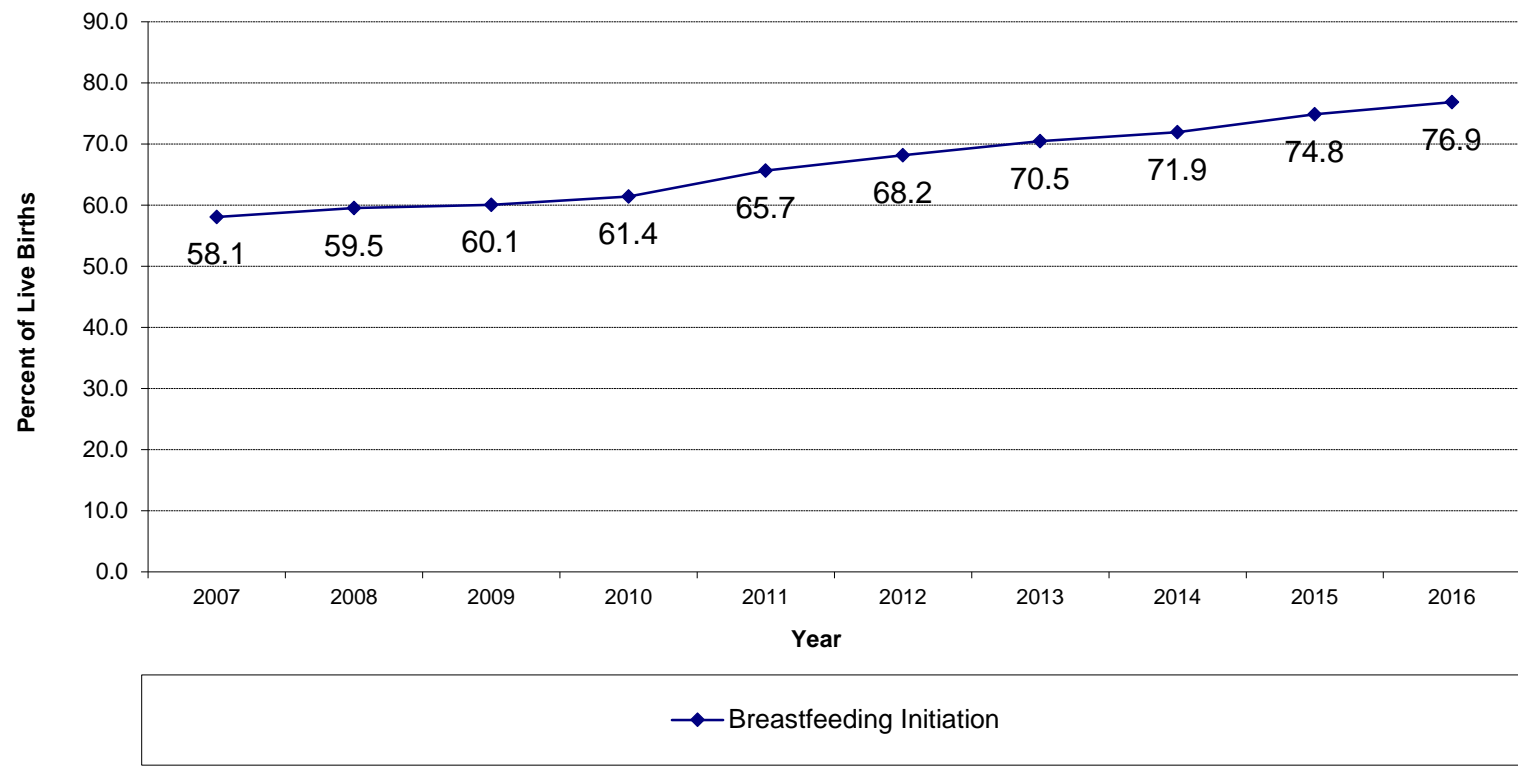
# Primary C-Sections, 2007-2016

% C-Sections First Time Moms



—◆— % C-Sections First Time Moms

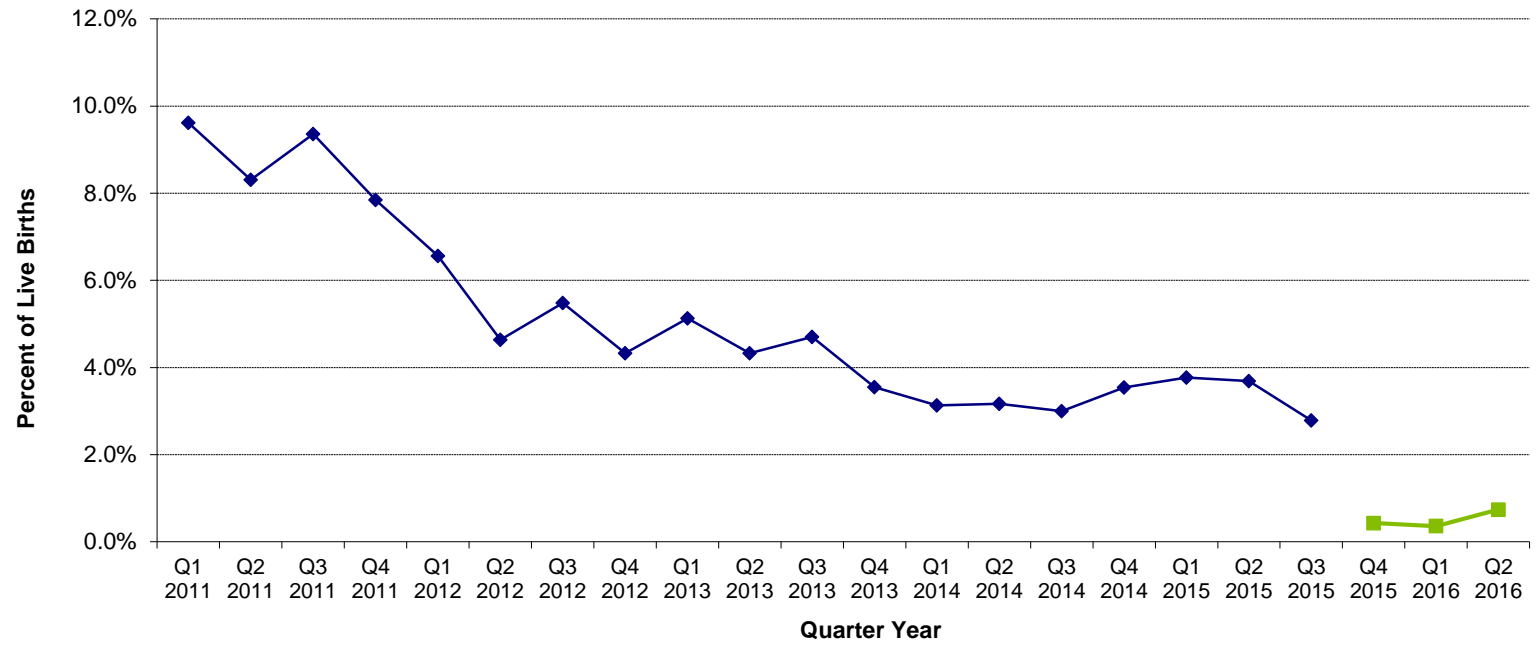
# Breastfeeding Initiation, 2007-2016



# Selected Measures Using Linked Data Set, Q1 2011- Q2 2016

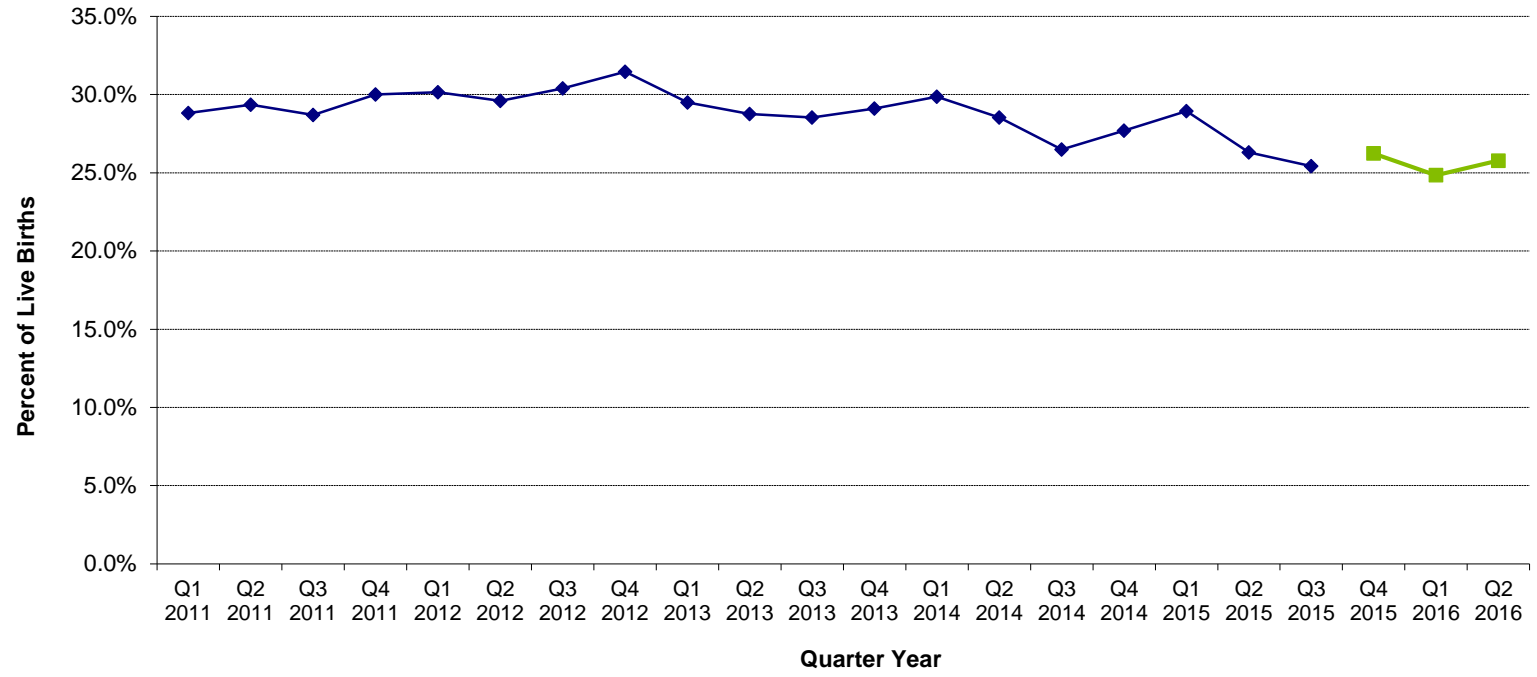
- Restricted to SC delivering hospitals
- Allows for exclusion of medically indicated records based on hospitals discharge data
- Quarterly estimates – small numbers!
- Change from ICD-9 to ICD-10 in Q4 2015
- Use with caution!

# Elective Inductions, Q1 2011- Q2 2016



◆ Elective Induction ICD-9 CM    
 ■ Elective Induction ICD-10 CM

# Primary C-Sections , Q1 2011- Q2 2016



◆ PRIMARY C-SECTION w/ exclusions ICD-9 CM     
 ■ PRIMARY C-SECTION w/ exclusions ICD-10 CM



# CONTACT US

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## Stay Connected

South Carolina Hospital Association

## *Using data to drive change in SC hospitals*



Aunyika Moonan, PhD, CPHQ  
Executive Director, Data and Measurement  
South Carolina Hospital Association





*“When you two have finished arguing your opinions, I actually have data!”*



## *Working together with SC hospitals and partners*

- Overwhelming evidence-low hanging fruit
- Engagement: August 2011, commitment from all birthing hospitals to stop early elective deliveries
- Throughout the entire Collaborative, use data to drive decision making
- 2013, SC DHHS and BCBSSC stopped reimbursement to hospitals and physicians

## *Working together with SC hospitals and partners*

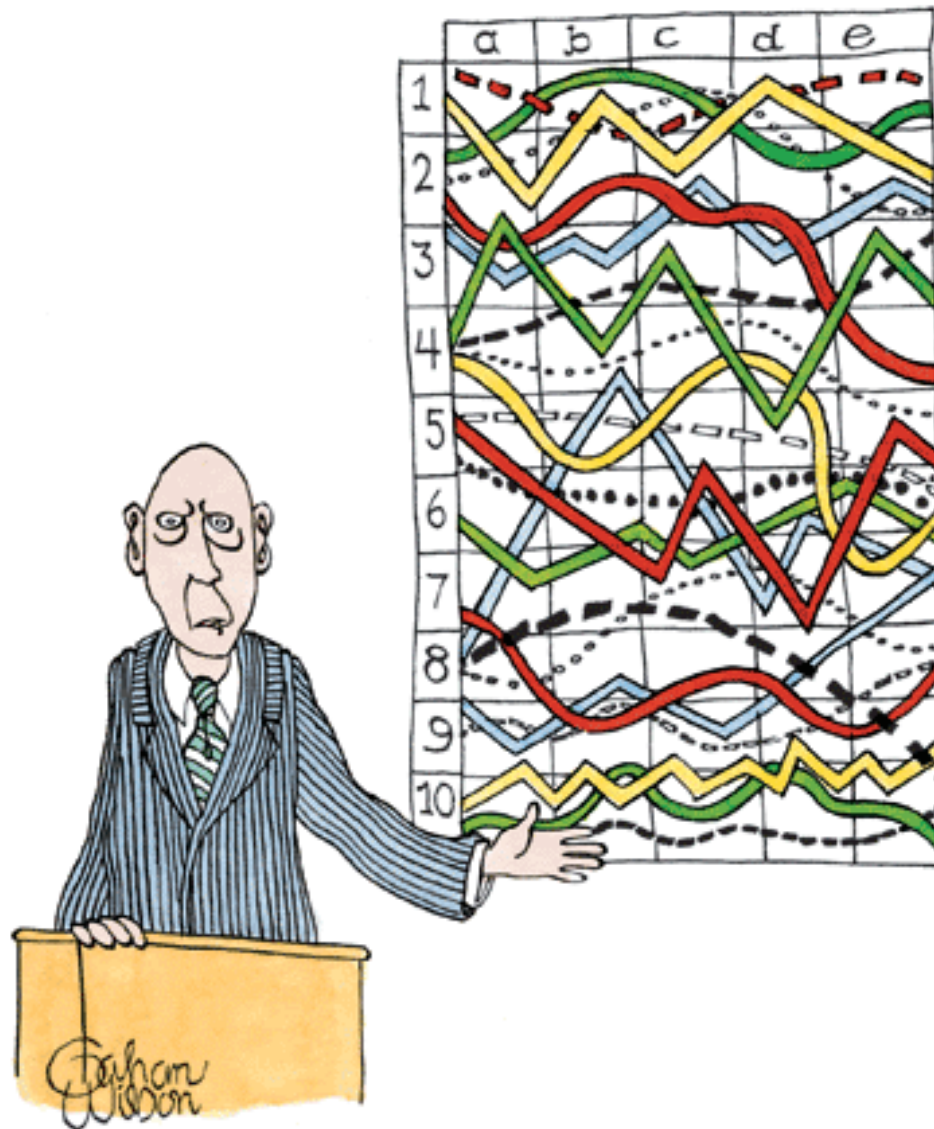
SC BOI programs: (Data driven)

- Baby-Friendly USA
  - 41.4% SC births, 39.5% Medicaid) vs. national average 21.5%
- Screening, Brief Intervention and Referral to Treatment (SBIRT)
- Long Acting Reversible Contraceptives
- Centering Pregnancy
- Supporting Vaginal Birth Initiative-signed commitments

# *BOI Hospital Reports*

Using Data to Monitor Birth Outcomes through  
Quality Improvement





*"I'll pause for a moment so you can let this information sink in."*



# *Purpose*



- Provide cover letter and data reports to CEO, Quality, Perinatal, CMO, Regional etc. point of contacts on a quarterly basis
- Continue tracking hospital progress through quarterly and annual hospital reports

South Carolina Birth Outcomes Initiative Data Committee

# Quarterly Hospital Report:

Data through Quarter 2, 2016 (April – June, 2016)

May, 2017



**Medicaid Policy Research**  
at the USC Institute for Families in Society



South Carolina Birth Outcomes  
Initiative Data Committee  
5-Year Anniversary  
Hospital Report:  
Data Comparing  
CY 2011 to CY 2015

January, 2017



**Medicaid Policy Research**  
at the USC Institute for Families in Society

# *BOI Data Webinars Offered*



# *Table of Contents of BOI Data Packets*

- 1) Data Committee members (point of contacts-who to call)
- 2) Data Dictionary
- 3) Quartile information for the perinatal level of the hospital being reported
- 4) Part A: Quarterly comparisons for your specific birthing facility and the state (tables/graphs)  
  
Part B: Annual comparisons for a specific birthing facility and the state (tables/graphs)
- 4) Appendix-detailed quartile information, data sources etc.

## 2) *Data Dictionary*

- Birth Facility-not freestanding
- Difference-Absolute
- Induction-37-38 weeks gestation
- NICU stays-NICU levels 3 or 4
- Pay Source-expected
- Quarter-CY
- Relative Percentage Change-(-) change indicates better outcome
- The Joint Commission Exclusion Criteria: PC-01 and PC-02

def·i·ni·tion

## *Reported Measures for Data Packet*

- Birthweight
- Gestation
- Overall Inductions at 37-38 Weeks
- Primary C-Sections at 37+ weeks with and without exclusions applied (PC-02)
- Primary C-Sections at 39-40 weeks with and without exclusions applied
- Repeat C-Sections
- Total C-Sections with and without exclusions applied
- Elective Inductions at 37-38 weeks gestation
- NICU Stays Among Deliveries at 37-38 Weeks
- The Joint Commission Early Elective Delivery (PC-01) Measure\*

### 3) Quartile Information: 2016

(Ex: Perinatal Levels II and IIE)

Lower rate is better



Measure	Your hospital %	Minimum	First Quartile	Median	Third Quartile	Maximum
Elective Inductions	2.63%	0.00%	1.36%	2.78%	3.89%	18.48%
The Joint Commission Early Elective Delivery	14.91%	13.56%	19.29%	22.61%	30.01%	53.26%
Primary C-Section with exclusions removed	28.64%	13.92%	23.97%	28.08%	34.42%	44.83%
Primary C-Sections at 39-40 weeks with exclusions removed	29.20%	14.00%	23.88%	28.79%	35.39%	50.00%

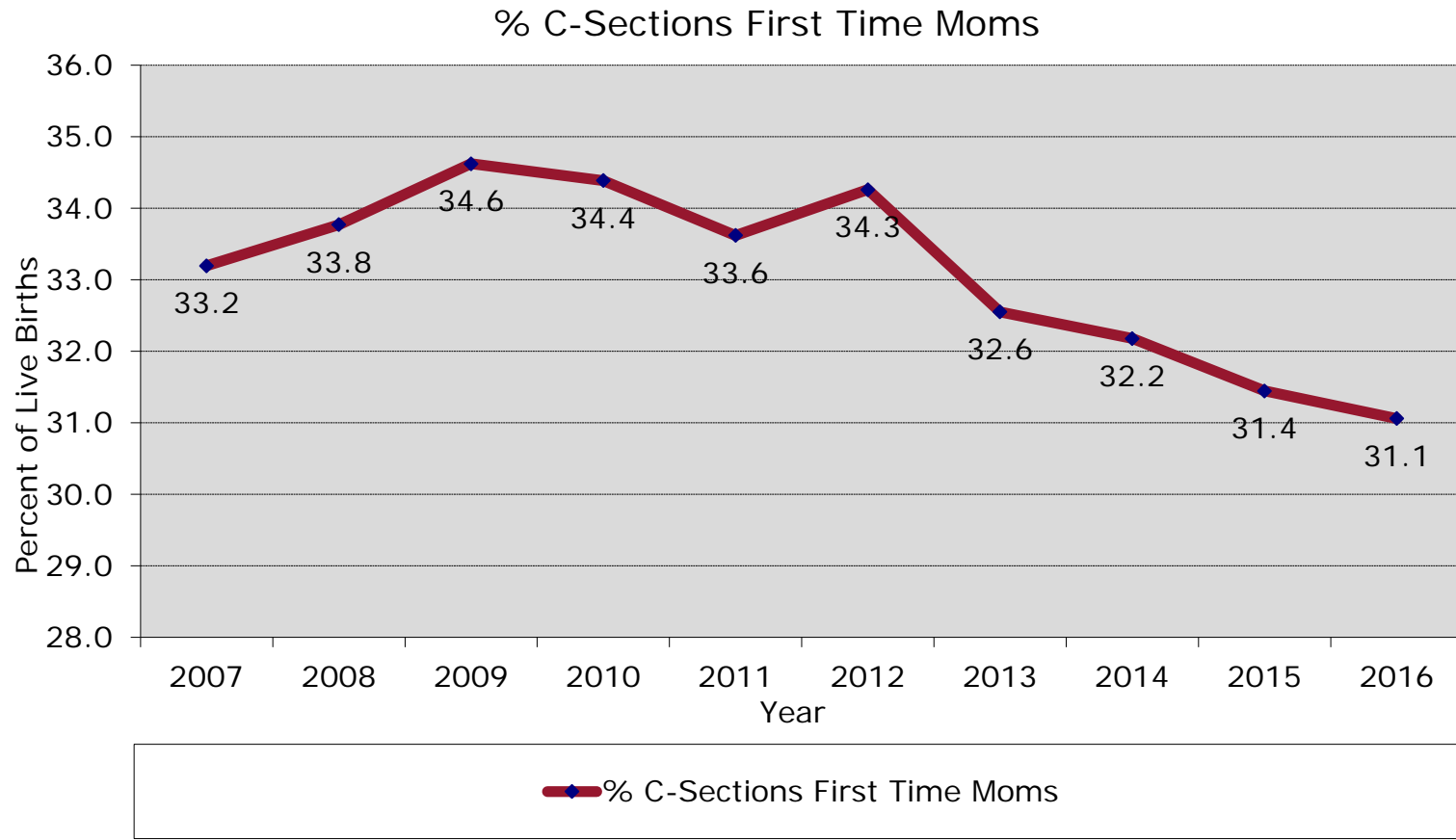


## 4) Table Layout of measures (by state and hospital)

	Qtr 1, 2011 rate	Qtr2, 2016 rate	Absolute Difference between Q2, 2016 and Q1, 2011(+/-)	Relative Percentage Change Q2, 2016 and Q1, 2011(+/-)
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Measure	All payers	Medicaid	All payers	Medicaid	All payers	Medicaid	All Payers	Medicaid
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# *Graphs: Percentage of Primary C-Sections for First Time Mothers with Exclusions removed*



## 5) *Appendix:*

- Data sources
- Detailed information about measures caveats
- Perinatal quartile levels of performance

# *Lessons Learned*



- Importance of data input by birth clerks, coders, documentation by physicians, nursing and other medical staff etc. Mirror results?
- Validation of results; internal process
- Don't let perfect be the enemy of good
- Did you read the fine print?

# *Lessons Learned*



- Pull your internal data-medical record numbers-check
- Understanding quality improvement
- Healthy Competition: YES
- Celebrate successes together!
- Data drives improvement!
- Hospitals love working together towards a common goal-healthier moms and babies in SC

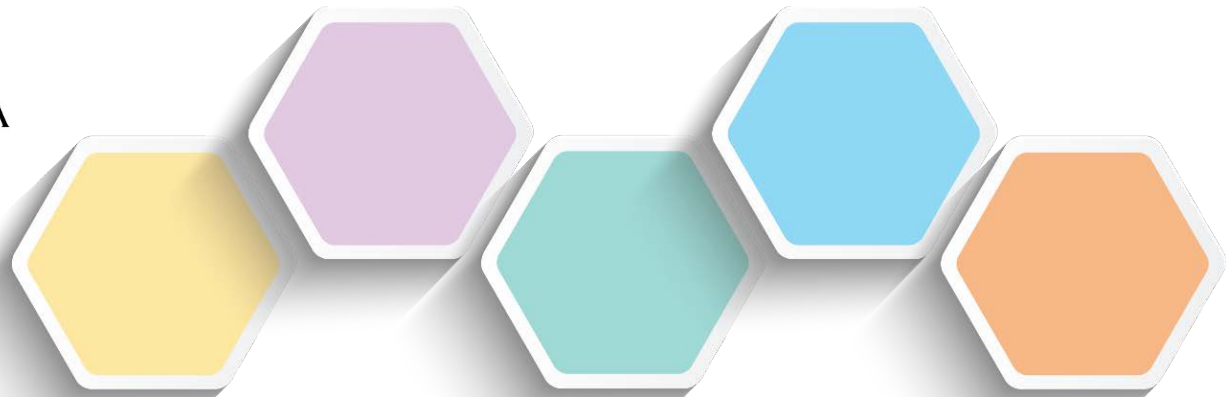


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# From Birth Data to Decision Making: Using Data to Advance Maternal and Child Health

Sarah Gareau, DrPH  
Ana Lòpez–De Fede, PhD

USC Institute for Families in Society  
Division of Medicaid Policy Research  
October 5, 2017



"That which is measured improves.  
That which is measured and  
reported improves exponentially."

- Karl Pearson





# Collaboration Is Key



# Collaboration

With input from the hospitals and other stakeholders, we have made changes to SC BOI data reporting over the years to improve usability.



# Collaboration

Reports are distributed and used to inform policy not only in SC, but nationally.



# Collaboration

Gains have been made  
by linking SC BOI  
evaluation

(data dissemination and  
understanding) with this  
collaboration of public and  
private partners (payers,  
hospitals, non-profits,  
and state agencies).

Collaboration



SC BOI  
Outcomes



GAINS:

# SC BOI Outcomes

## Comparing 2011-15

- ✓ 5% reduction in moderately low birthweight
- ✓ 7% reduction in births at 37 or 38 weeks gestation
- ✓ 9% reduction in Elective Primary, Primary at 39-40 weeks gestation, and Total C-Sections
- ✓ 31% reduction in The Joint Commission Early Elective Delivery Measure
- ✓ 9% reduction in overall inductions

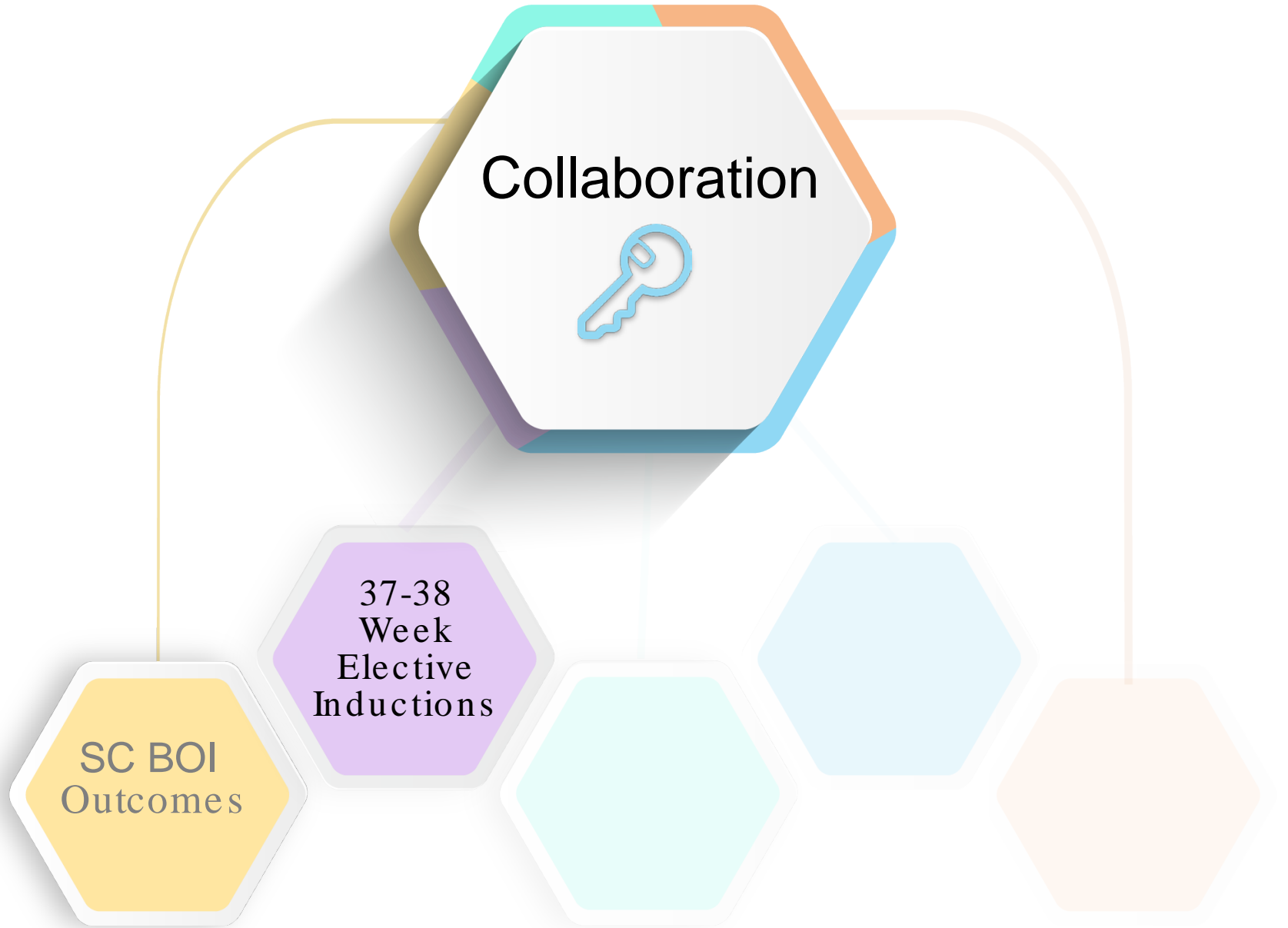


# Collaboration



37-38  
Week  
Elective  
Inductions

SC BOI  
Outcomes



GAINS:

# 37-38 Week Elective Inductions

- Data released May, 2017 showed a 92% improvement in this measure. (*Decrease from 9.62% in Q1, 2011 to 0.74% in Q2, 2016*)
- The policy to link payment reform with birth outcomes has been highlighted by Catalyst for Payment Reform, NPR Shots, and The LeapFrog Group.





GAINS:

# 37-38 Week Elective Inductions

## Using Education, Collaboration, and Payment Reform to Reduce Early Elective Deliveries

November 22, 2013

This case study by Catalyst for Payment Reform (CPR) with support from the Milbank Memorial Fund shares the story of South Carolina's Birth Outcomes Initiative (BOI). The report chronicles how South Carolina's Department of Health and Human Services, South Carolina's largest commercial health plan, and many other stakeholders partnered to engage providers in quality improvement activities, and then agreed together to stop paying for early elective deliveries—those occurring before 39 weeks gestation. Early elective deliveries are associated with worse health outcomes for infants and mothers and higher health care costs. Despite the overwhelming evidence against early elective deliveries, an estimated 10 to 15 percent of babies in the United States continue to be delivered early without medical cause.



*“This is one of the most extraordinary examples of progress in health care that I’ve seen in my career. It shows that public reporting can galvanize change, and that saves lives.”*

*- Leah Binder, president and CEO of LeapFrog*

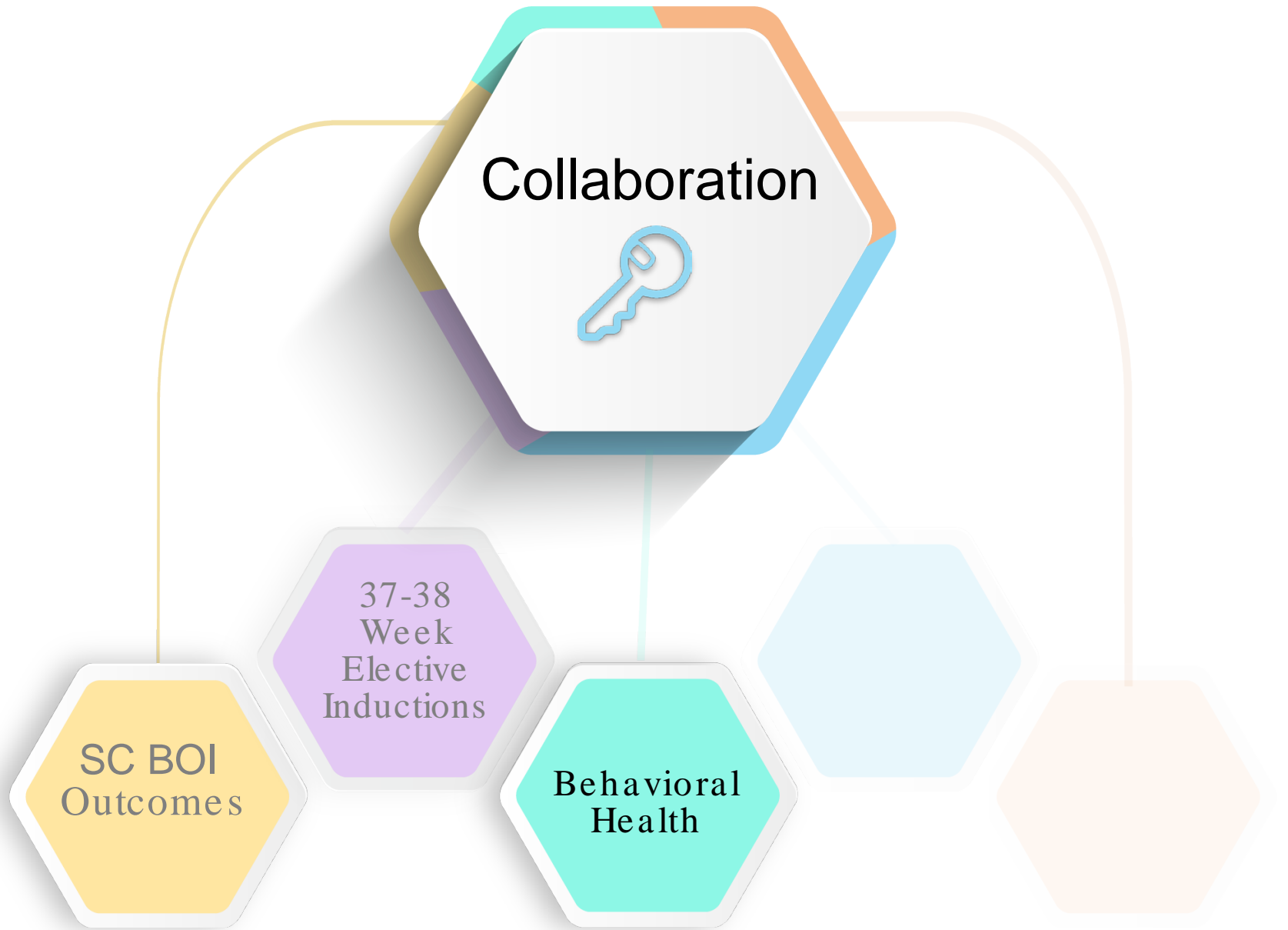
# Collaboration



37-38  
Week  
Elective  
Inductions

SC BOI  
Outcomes

Behavioral  
Health





# Behavioral Health

- Data team reports have highlighted the increase in neonatal abstinence syndrome (NAS) and need to better address opioid use during pregnancy.
- In 2016, at least one in four women with a delivery covered by Medicaid had participated in the Screening, Brief Intervention, and Referral to Treatment Initiative.
- Clinicians have also been trained on different methods of addressing NAS.



# Collaboration

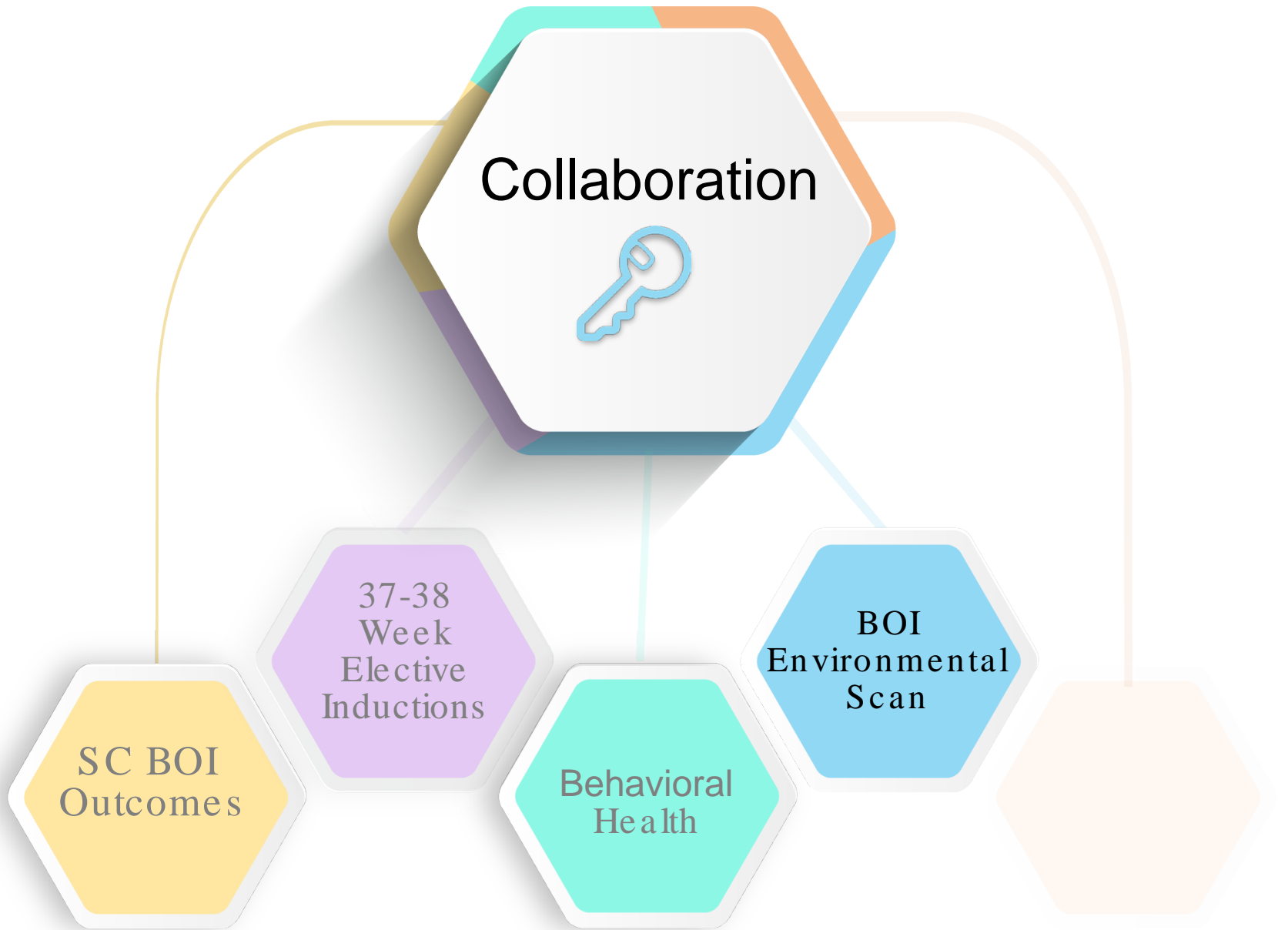


37-38  
Week  
Elective  
Inductions

BOI  
Environmental  
Scan

SC BOI  
Outcomes

Behavioral  
Health



AHEAD

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# BOI Environmental Scan



Census data were combined with birth outcomes data from vital records to provide a strong contextual framework within which to explore birth outcomes and socioeconomic status.

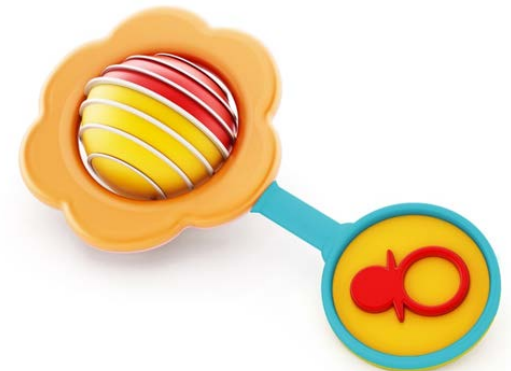
AHEAD

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# BOI Environmental Scan

The Environmental Scan can be used to:

- identify areas of high socioeconomic disadvantage;
- examine geographic patterns of disease burden;
- evaluate access to local health care facilities;
- identify potential health service gaps; and
- target interventions in high need areas.





AHEAD  
:

# BOI Environmental Scan

## INTERACTIVE MAP FEATURES



- Map layers that can be turned off and on using the “layers” feature in Adobe® Acrobat
- A responsive that legend adjusts to show currently active layers
- Overlays viewable on top of mapped data that show correlation between birth outcomes and SES Indicators
- Ability to compare mapped data ranges to statewide values

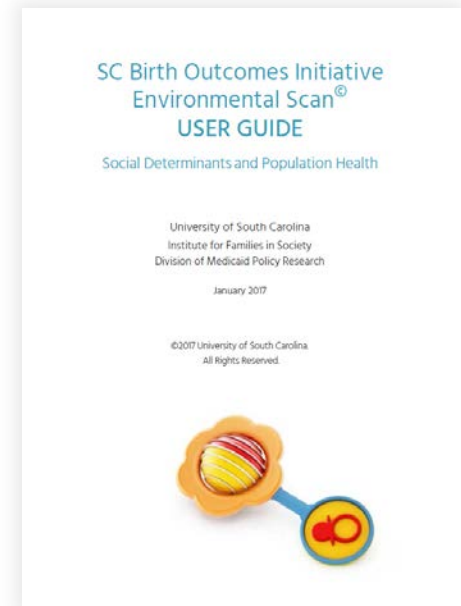
AHEAD

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# BOI Environmental Scan

Where can I find the Scan<sup>®</sup> and the User Guide?

[shealthviz.sc.edu/birth-outcomes-initiative](http://shealthviz.sc.edu/birth-outcomes-initiative)





# Collaboration



37-38  
Week  
Elective  
Inductions

BOI  
Environmental  
Scan

SC BOI  
Outcomes

Behavioral  
Health

NEW Hospital  
Reports

AHEAD

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## NEW Hospital Reports

- Driven by clinician feedback, will be providing a new set of biannual maternal and infant health quality improvement targets
- Will shift to explore more maternal outcomes



AHEAD

:

# NEW Hospital Reports

- There will also be a secure interactive online dashboard (with comparison at the state, perinatal, and payer levels).

## SC Birth Outcomes Quality Improvement Dashboard

Perinatal Quality Comparative Data Sample	Table Page Reference	Hospital Name	Level Average	Hospital vs. Hospital Level Average	All Hospitals Average	Hospital vs. All Hospitals Average
<b>Section A: Total Deliveries</b>	Table 1, p ---	2,603	3,579	NA	3,659	NA
<b>Section B: Quality Metrics</b>						
C-Section Delivery Rate (% of Total Deliveries )	Table 2, p ---	34.8%	32.7	ABOVE	33.0%	EQUAL
Primary C-Section Rate (% of Total Deliveries)	Table 2, p --	18.5%	18.7%	EQUAL	17.6%	EQUAL
Postpartum Hemorrhage Rate	Table 3, p --	2.9%	4.9%	BELOW	3.4%	EQUAL



"Coming together  
is a beginning,  
staying together  
is progress, and  
working together  
is success."

– Henry Ford

# Questions?

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