

PNQIN AIM

Opioid Use Disorder in Pregnancy

Webinar Series

February 16, 2021
Webinar 8



OUD in Pregnancy Webinars

Monthly Agenda Overview

12:00 - 12:05: Welcome/ Introductions – Happy New Year!

12:05 - 12:15: PNQIN & team updates

12:15 - 12:30: Brief QI teaching

- **Ronald Iverson, MD, MPH – Using the PDSA Cycle**

12:30 - 12:55: Team presentations + discussion

- **Godwin Osei-Poku – OUD SMM Data**

12:55 - 1:00: Closing/ Final Comments

Webinar Housekeeping

- We will take attendance in the chat box each month – please comment with your name and hospital
- Please mute yourselves unless you would like to contribute to the conversation or ask a question
- Utilize the "raise hand" feature or chat box to speak
- We will record this session and upload the recording and webinar slides to our website after the call
- We welcome feedback about the webinar content and structure!
- Please participate! We want this webinar to be helpful and collaborative!

PNQIN AIM Wave 2 - Who's on the Line?

Beth Israel Deaconess Plymouth
Beverly Hospital
Brockton Hospital
Cambridge Hospital/CHA
Charlton Memorial Hospital
Emerson Hospital
Good Samaritan Medical Center
Health Alliance Hospital
Heywood Hospital
Holy Family Hospital
Holyoke Medical Center
Lawrence General Hospital
Martha's Vineyard Hospital
Melrose-Wakefield Hospital

Mount Auburn Hospital
Nantucket Cottage Hospital
Norwood Hospital
St. Elizabeth's Medical Center
St. Luke's Hospital
Sturdy Memorial Hospital
Tobey Hospital
Winchester Hospital

Closed OB permanently
Closed OB temporarily



PNQIN AIM OUD Wave 2 **Targeted** Hospitals

- Beth Israel Deaconess Plymouth
- Beverly Hospital
- Brockton Hospital
- Cambridge Hospital/CHA
- Charlton Memorial Hospital
- Emerson Hospital
- Good Samaritan Medical Center
- Health Alliance Hospital
- Heywood Hospital
- Holy Family Hospital
- Holyoke Medical Center
- Lawrence General Hospital
- Martha's Vineyard Hospital
- Melrose- Wakefield Hospital
- Mount Auburn Hospital
- Nantucket Cottage Hospital
- Norwood Hospital
- St. Elizabeth's Medical Center
- St. Luke's Hospital
- Sturdy Memorial Hospital
- Tobey Hospital
- Winchester Hospital

PNQIN Perinatal Opioid Project Leadership Team

PNQIN

- Fifi Diop (DPH) – Grant Primary Investigator
- Audra Meadows (BWH)
- Ron Iverson (BMC)
- Munish Gupta (BIDMC)
- Kali Vitek (BMC)
- Allie Doyle (BIDMC)

Neonatal Folks

- Elisha Wachman (BMC)
- Larry Rhein (UMass)
- Rachana Singh (Baystate)
- Davida Schiff (MGH)
- Alan Picarillo (Maine)
- Eileen Costello (BMC)

Maternal Folks

- Katherine Callaghan (UMass)
- Leena Mittal (MCPAP for Moms)
- Laura Sternberger (Moms Do Care)
- Nicole Smith (BWH)
- Donna Jackson-Kohlin (Baystate)
- Linda Jablonski (Baystate)

Academic and Organizational Partners

- Patrice Melvin (BCH)
- Karla Damus (BU)
- Christina Gebel (Accompany Doula Care)

State Partners

- Fifi Diop (DPH and PI of PNQIN Grant)
- Griffin Jones (HPC)
- Michael Kelleher (OHHS)
- Debra Bercuvitz (DPH)
- Abby Taylor (AGO)
- Karen Pressman (BSAS)
- Julia Reddy (BSAS)
- Mary Lutz (DCF)
- Alissa Cruz (MassBIRT)
- Colleen Labelle (BMC)
- Julia Prentice (BLC)
- Natalia Ciesielska (BLC)

Families

- Patricia McDonnell (Baystate)
- Julie Maida
- Meghann Perry
- Ceara McManus (Moms Do Care)

Announcements

- Online stigma, bias, and trauma-informed care training on the PNQIN website is now LIVE!!
 - Visit the page below for more details and to register; please note the different registration links for Nursing vs. CME/Social Work credit-seekers
 - <https://www.mpqcma.org/trauma-informed-care-trainings>
- Keep on an eye out for a Memorandum of Understanding (BLC) – these **must** be signed and returned in order to start collecting site data
 - Goal date to send MOU: End of February
 - We are also exploring a way to complete this document electronically to make it easier for teams
- Several new updates to MPQC site!

Available Trainings/Events

- ASAM/ACOG's Buprenorphine Waiver Trainings
 - **Upcoming dates:** February 13th, 19th; March 15th
 - **Register:** https://www.asam.org/education/live-online-cme/waiver-qualifying-training/ob-gyn-focus?utm_source=ACOG&utm_medium=Today's%20Headlines&utm_campaign=ACOG&utm_term=20TOUD
- SBIRT (Screening, Brief Intervention, and Referral to Treatment) Training through MASBIRT at Boston Medical Center
 - Virtual, 1-hour training that fit into regular meeting times (training team can offer multiple sessions)
 - Alex Heinz will be our guest speaker at next month's webinar; please chat in or email Kali (PNQINAdmin@pnqinma.org) with the following:
 - What do you want to learn from the SBIRT presentation?
 - Is there anything about the AIM OUD bundle or implementation that you are struggling with?

Available Trainings/Events

SPEAK UP Champions© Implicit and Explicit Racial Bias Education

- March 23rd & 25th, 2021 from 8:30am – 12:30pm ET (both days)
- This education is **free** to Perinatal Professionals in Massachusetts!
- 8 hours of live virtual interactive learning that outlines quality improvement strategies to support individuals and groups with dismantling racism, providing quality equitable care, and reducing health disparities.
 - 5.75 CNE contact hours (CME credits approval pending)
- Please register by February 28th, 2020 so that PQI can mail your workbook in time: <https://www.perinatalqi.org/events/register.aspx?id=1461110>

New Resources: COVID-19 vaccine

Visit <https://www.mpqcmma.org/covid-19-vaccine> for more details!



The Massachusetts Perinatal
Quality Collaborative

[Home](#) [About Us](#) [Meetings and Events](#) [Obstetrical Projects](#) [Team Resources](#) [PNQIN COVID-19 Response](#) [Contact Us](#)

The COVID-19 Vaccine: Guidelines and Resources for Pregnant & Lactating Patients

PNQIN-MPQC and our partners are committed to providing accurate, up-to-date guidance and resources on counseling for and administration of the COVID-19 vaccine to pregnant and lactating patients in Massachusetts. Please continue reading for more information.

COVID-19 Shared Decision-Making (Baystate Health & UMass Medical School - Baystate)

This [decision aid](#) was created for use by pregnant people (and people planning to become pregnant) who are considering whether to get the COVID-19 vaccine, as well as their healthcare providers, friends, and family. The working group that developed this resource consists of experts in the fields of OB/GYN, Maternal-Fetal Medicine, Shared Decision-Making and risk communication, Emergency Medicine, and current COVID-19 research.

Please direct any questions to Dr. Elizabeth Schoenfeld (Elizabeth.Schoenfeld@bhs.org). Feedback on this decision aid can be provided via the survey link on page 5.

Team Updates/Check-In

What has your team been working on over the last month?

"We are compiling the data from our breastfeeding survey. Dr. Sherman has created a stoplight system:

- **Green** for medications that are compatible with breastfeeding;
- **Yellow** for medications that require a team huddle to decide if they are compatible with breastfeeding;
- **Red** for medications that are not compatible with breastfeeding.

We have also finalized a key driver diagram:

Primary Aim Statement: To improve provider knowledge of breastfeeding in dual diagnosis and increase breastfeeding rates.

Outcome Measures: 1. Provider report of increased comfort in counseling clients (survey) 2. Increase percentage of women with dual diagnosis who breastfeed at discharge.

We will continue to work on our project and keep you up to date. Thank you so much for everything!"

QI Webinar Topics for Next 12 months

Date/QI Topic

7/21/20	OUD Bundle Components Overview & Stakeholders
8/18/20	Developing a Project AIM
9/15/20	Measures for Improvement
10/20/20	Key Driver Diagram
11/24/20	Developing Interventions
12/15/20	Understanding Run Charts
1/19/21	Understanding Data Control Charts
2/16/21	Using the PDSA Cycle
3/16/21	PDSA: Making Adjustments
4/20/21	Scale and Spread Up
5/18/21	Sustainability

QI Teaching: Using the PDSA Cycle

Ronald Iverson, MD, MPH
Boston Medical Center

Slides from: Nicole Smith, MD, MPH, Brigham & Women's Hospital

PDSA CYCLES - TESTING IMPROVEMENT IDEAS

NEOQIC QI Workshop

Massachusetts Medical Society

Waltham, MA

May 7, 2019

Nicole Smith, MD, MPH

Maternal Fetal Medicine

Brigham and Women's Hospital

Ilona Goldfarb, MD

Maternal Fetal Medicine

Massachusetts General Hospital

COURSE MATERIALS ATTRIBUTION

Adapted from the Lean Practitioner Training course contributed by and/or developed jointly with GE HealthCare and Brigham and Women's/Faulkner Hospitals in 2010 and subsequently adapted for the Partners Clinical Process Improvement Leadership Program (CPIP).

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Additional materials are adapted from the Illinois Perinatal Quality Collaborative.
www.ilpqc.org

MODEL FOR IMPROVEMENT-PDSA CYCLE

The Three
Improvement
Questions:

What are we trying to accomplish? AIM
How will we know that a change is an improvement? MEASURES
What changes can we make that might result in improvement? SOLUTION IDEAS

The PDSA Cycle



HOW DO WE EMBARK ON A TEST OF CHANGE?

Mothers and Newborns affected by Opioids (MNO)- Obstetric Initiative



AIMs

- Improve identification of pregnant women with opioid use disorder (OUD) through standardized universal screening and assessment for OUD (validated screening tool) on: admission to labor and delivery, emergency rooms and affiliated outpatient prenatal sites; with a Screening, Brief Intervention, and Referral to Treatment (SBIRT) protocol to improve response to screen positive patients.
- Improve linkage to addiction care for moms with OUD through standardized mapping of local resources to



AIMs

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ILPQC MISSION

Engage perinatal stakeholders across disciplines at every level, in a collaborative effort to improve the quality of perinatal care and health outcomes for Illinois women and infants using improvement science, education, and evidence-based practice guidelines

Implementation of clinical strategies to reduce opioid over-prescribing after delivery.

PROBLEM

The use of opioids in pregnancy and related maternal morbidity and mortality has drastically increased in recent years. In Illinois, there was a 116% increase in maternal antenatal opioid use and a 53% increase in the Neonatal Abstinence Syndrome (NAS) rate between 2011 and 2015/2016. There has been a 6-fold increase in opioid overdose maternal deaths in Illinois between 2008 and 2016. The increase in mothers and newborns affected by opioids can be attributed to a rise in over prescription of opioids, abuse of prescription opioids, and illicit use.

EVIDENCE-BASED PRACTICES

The recently released ACOG committee opinion on opioid use and OUD in pregnancy and the Alliance for Innovation on Maternal Health (AIM) patient safety bundle regarding obstetric care for women with OUD provide guidelines for improving care for women with OUD.

ILPQC provides collaborative learning opportunities, rapid response data, and quality improvement supports to implement these and other evidence-based tools and guidelines using quality improvement strategies to achieve the initiative AIMs. Key opportunities of focus in 2018 to improve outcomes for pregnant women and their newborns have included early identification of OUD through validated self-reported screening tools, SBIRT protocol to standardize response to screen positive patients and system to help link women to Medication Assisted Treatment (MAT) and other services, and implementing a clinical checklist to be completed for all screen positive women in the prenatal, and L&D medical record, standardized provider/nurse education regarding screening, SBIRT, protocols and stigma, as well as standardized patient education on OUD/ NAS and engagement in NAS care.

SCOPE

One hundred seven Illinois birthing hospitals are participating in the ILPQC Mothers and Newborns affected by Opioids-Obstetric Initiative.

To learn more about the Illinois Perinatal Quality Collaborative, please visit us at www.ilpqc.org

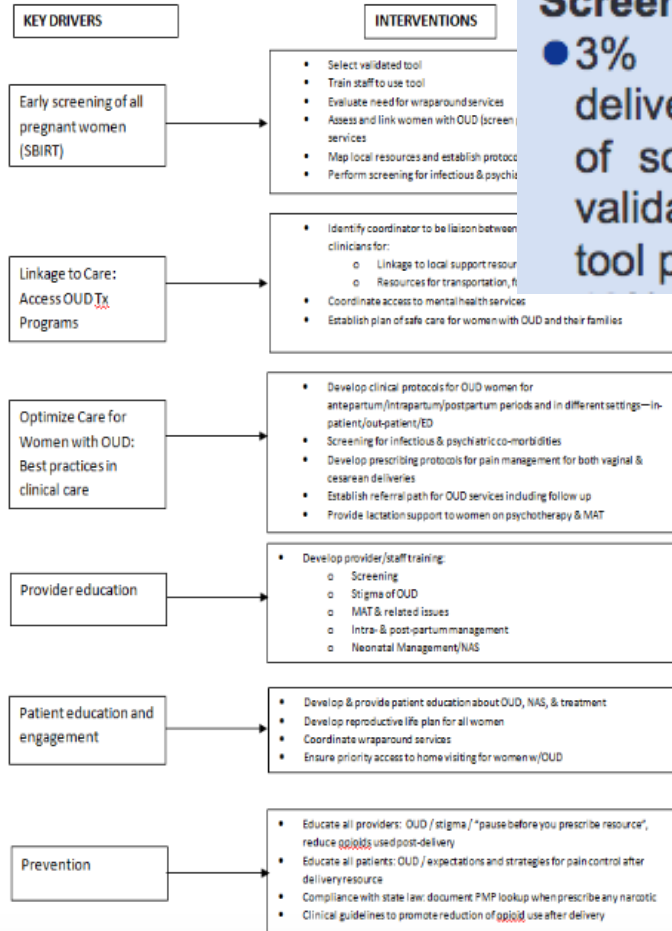
November 2018

DRIVER DIAGRAMS AND BASELINE DATA

MNO- OB Draft Key Driver Diagram

AIM

Optimize the care of mothers with opioid use disorder (OUD) and their infants during the prenatal & postpartum periods by providing screening and comprehensive care



Screening & Linkage to Care

- 3% of random sample of deliveries had documentation of screening for OUD using a validated self-report screening tool prenatally or on L&D

DRIVER DIAGRAMS AND BASELINE DATA

MNO- OB Draft Key Driver Diagram

AIM

Optimize the care of mothers with opioid use disorder (OUD) and their infants during the prenatal & postpartum periods by providing screening and comprehensive care

KEY DRIVERS

Early screening of all pregnant women (SBIRT)

Linkage to Care: Access OUD Tx Programs

Optimize Care for Women with OUD: Best practices in clinical care

Provider education

Patient education and engagement

Prevention

INTERVENTIONS

- Select validated tool
- Train staff to use tool
- Evaluate need for wraparound services
- Assess and link women with OUD (screen positive) to OB & OUD treatment services
- Map local resources and establish protocols for referral
- Perform screening for infectious & psychiatric co-morbidities

- Identify coordinator to be liaison between community partners and clinicians for:
 - Linkage to local support resources
 - Resources for transportation, food & housing
- Coordinate access to mental health services
- Establish plan of safe care for women with OUD and their families

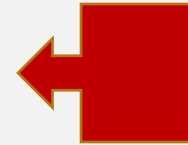
- Develop clinical protocols for OUD women for antepartum/intrapartum/postpartum periods and in different settings—in-patient/out-patient/ED
- Screening for infectious & psychiatric co-morbidities
- Develop prescribing protocols for pain management for both vaginal & cesarean deliveries
- Establish referral path for OUD services including follow up
- Provide lactation support to women on psychotherapy & MAT

- Develop provider/staff training:
 - Screening
 - Stigma of OUD
 - MAT & related issues
 - Intra- & post-partum management
 - Neonatal Management/NAS

- Develop & provide patient education about OUD, NAS, & treatment
- Develop reproductive life plan for all women
- Coordinate wraparound services
- Ensure priority access to home visiting for women w/OUD

- Educate all providers: OUD / stigma / "pause before you prescribe resource", reduce opioids used post-delivery
- Educate all patients: OUD / expectations and strategies for pain control after delivery resource
- Compliance with state law: document PMP lookup when prescribe any narcotic
- Clinical guidelines to promote reduction of opioid use after delivery

Possible interventions



USE QI TOOLS TO IDENTIFY POTENTIAL AREAS FOR CHANGE- **PRIORITY/PAYOFF MATRIX**

Impact	High yield	Engage clinic staff as champions of screening	Train all clinic staff in screening, provide time and support for universal screening
	Low yield	Educate providers about the need to screen Print some screening tools and leave at front desk	Create a hard stop in EMR for documentation of OUD screening
		Easy	Difficult
		Ease of Implementation	

USE QI TOOLS TO IDENTIFY POTENTIAL AREAS FOR CHANGE- PRIORITY/PAYOFF MATRIX

Impact	High yield	Engage clinic staff as champions of screening	Train all clinic staff in screening, provide time and support for universal screening
	Low yield	<div style="background-color: yellow; padding: 2px;">Educate providers about the need to screen</div> Print some screening tools and leave at front desk	Create a hard stop in EMR for documentation of OUD screening
		Easy	Difficult

Ease of Implementation

PLAN - CREATE TEST PLAN

Elements of a Test Plan



Project Name:

Problem Statement: *What specific problem are you trying to solve?*

Aim Statement: *Specific, Measurable, Actionable, Realistic and Time-bound*

Proposed Solution: *What are you going to do?*

Measures: *What measures will determine if the test worked as expected?*

Predicted Outcome / Theory of Change: *Why do we think this change might work?*

REVIEW: MEASURE DEFINITIONS

Clinical Outcome Measures

- High-level clinical or financial outcomes that concern healthcare organizations (*here: Linkage to addiction care for moms with OUD across the institution*)

Process Measures

- Performance measures for specific processes that contribute to a particular outcome (*here: Screening moms for OUD so they can be connected to care*)

Balancing Measures

- Metrics tracked to ensure that improvement in one area isn't negatively impacting another area
- Monitors for unintended consequences
- (*here: screening for OUD slows down clinical flow, creates unhappiness in inadequately supported staff*)

PLANNING FOR A TEST OF CHANGE

Who is involved in the test?

Practice/unit/department staff

Who else needs to know?

When will the test happen?

Schedule, duration

What obstacles or challenges do we anticipate?

Are there other initiatives/major changes occurring?

Resistance to change?

Logistical Issues?

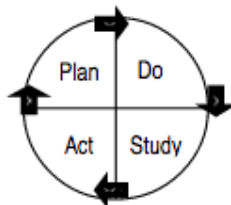
Who needs to know about the test?

Communication plan

Elevator Speech



PDSA WORKSHEET EXAMPLE



PDSA WORKSHEET

Team Name: Hospital A	Date of test: June 1, 2016	Test Completion Date: June 3, 2016
Overall team/project aim: By December 2017, to reduce the rate of severe morbidities in women with preeclampsia, eclampsia, or preeclampsia superimposed on pre-existing hypertension by 20%		
What is the objective of the test? To improve access to IV labetalol on the L&D unit.		

PLAN:

Briefly describe the test:

Test use of the severe hypertension medication box containing: magnesium sulfate (with tubing, syringes, and needles), labetalol, hydralazine, and calcium gluconate.

How will you know that the change is an improvement?

Feedback from providers and staff on experience with box after use on one patient – does it contribute to improved access and time to treatment?

What driver does the change impact?

Response

What do you predict will happen?

We predict the medication box will improve access to IV hypertensive medication when caring for patient with severe hypertension.

PLAN

List the tasks necessary to complete this test (what)	Person responsible (who)	When	Where
1. Gather medication for boxes using appropriate protocol	Jane & John	June 1	L&D Room 2X
2. Assemble boxes and label all contents individually and list contents on box.	Jane & John	June 1	L&D Room 2X
3. Mark boxes with a PDSA label so team knows it's part of a test of change	Jane & John	June 1	L&D Room 2X
4. Notify L&D staff and providers of the box and its location in all rooms.	Jane & John	June 2	Staff meeting L&D Room 3X
5. Meet with nurse, provider and any other involved staff after first use for feedback.	John	June 3	L&D Room 3X
6. Develop subsequent PDSA cycle/other action.	Team	June 3	Team meeting L&D Room 3X

Plan for collection of data: Qualitative discussion of nurse and provider experience with the box.

DO: Test the changes.

Was the cycle carried out as planned? Yes No

Record data and observations.

Nurse Joan used the box with a patient on June 3. Felt it greatly increased her access to the medications and patient was treated within 45 minutes of confirmed BP. Feedback that box was difficult to open. Questions about how to ensure new box is in place for next case were raised.

What did you observe that was not part of our plan?

We didn't expect packaging to be an issue.

STUDY:

Did the results match your predictions? Yes No

Compare the result of your test to your previous performance:

First test. Previous treatment required additional steps to access medications.

What did you learn?

Medication box helps but needs to be easier to access in an emergency. Plan for restocking needed.

ACT: Decide to Adopt, Adapt, or Abandon.

Adapt: Improve the change and continue testing plan.
Plans/changes for next test: Change box closure type and retest with one patient. Add checking boxes for restocking to the hospitals existing crash cart check list and review status after one box is used with one patient.

Adopt: Select changes to implement on a larger scale and develop an implementation plan and plan for sustainability

Abandon: Discard this change idea and try a different one

DO – PILOT TEST

WHY work at a small scale?

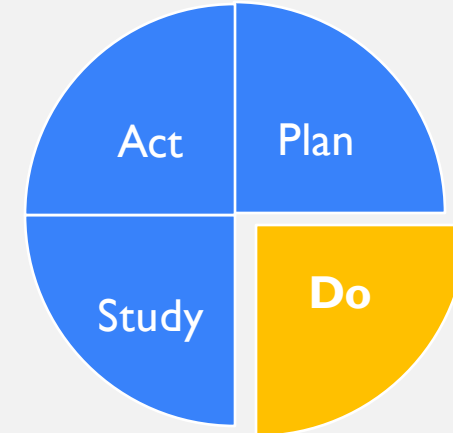
- Minimizes risk and facilitates learning
- **Experience a concept quickly in the actual working environment**
- Work out operational details / kinks before more robust testing
- **Minimize resistance: ask participants to “try” a change temporarily & provide feedback**
- Refine measurement / data collection strategy
- **Evaluate effort required / identify any unintended consequences of change**



DO – PILOT TEST

HOW to work at a small scale:

- Limit the # of locations, clinicians, patients, duration, etc.
- Test with willing volunteers
- Pick easy, non-controversial changes first
- Collect useful data during each test and reflect on the results of every change
- Be prepared to end the test of change



STUDY – ANALYZE RESULTS

1. **Qualitative:** Gather **immediate feedback** from everyone involved in the change
2. **Quantitative:** track process measures over time using a **Run Chart** or a **Control Chart**



QUALITATIVE DATA

Regular, immediate feedback

Huddle or touch base with everyone involved in the test regularly (morning huddle, mid-day check-in, weekly review)

Questions to Ask:

- What happened today?
- What have we learned?
- Is there anything we need to clarify or change?



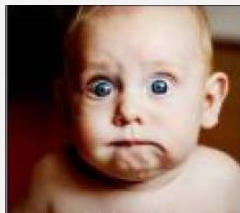
QUALITATIVE DATA – KEEP AN EYE ON THESE

1. Did we actually **perform the test as planned**?
2. Are people participating? How are people reacting?
3. What have we learned while doing this test?
4. Have we started to adopt different behaviors?
5. Have we started any new practices?

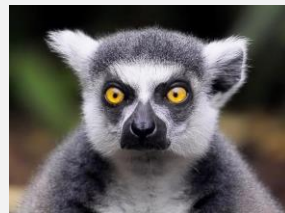


RECEIVING FEEDBACK ON CHANGES

- Be prepared to listen; people want to express opinions and feel heard; You want to know what is working/not working
- If people complain, listen patiently
- When you hear positive feedback, remember it and ask permission to share with others
- Remember: some people take longer to adapt to change than others



Fear



Anxiety



Unconvinc



STUDY – ANALYZE RESULTS

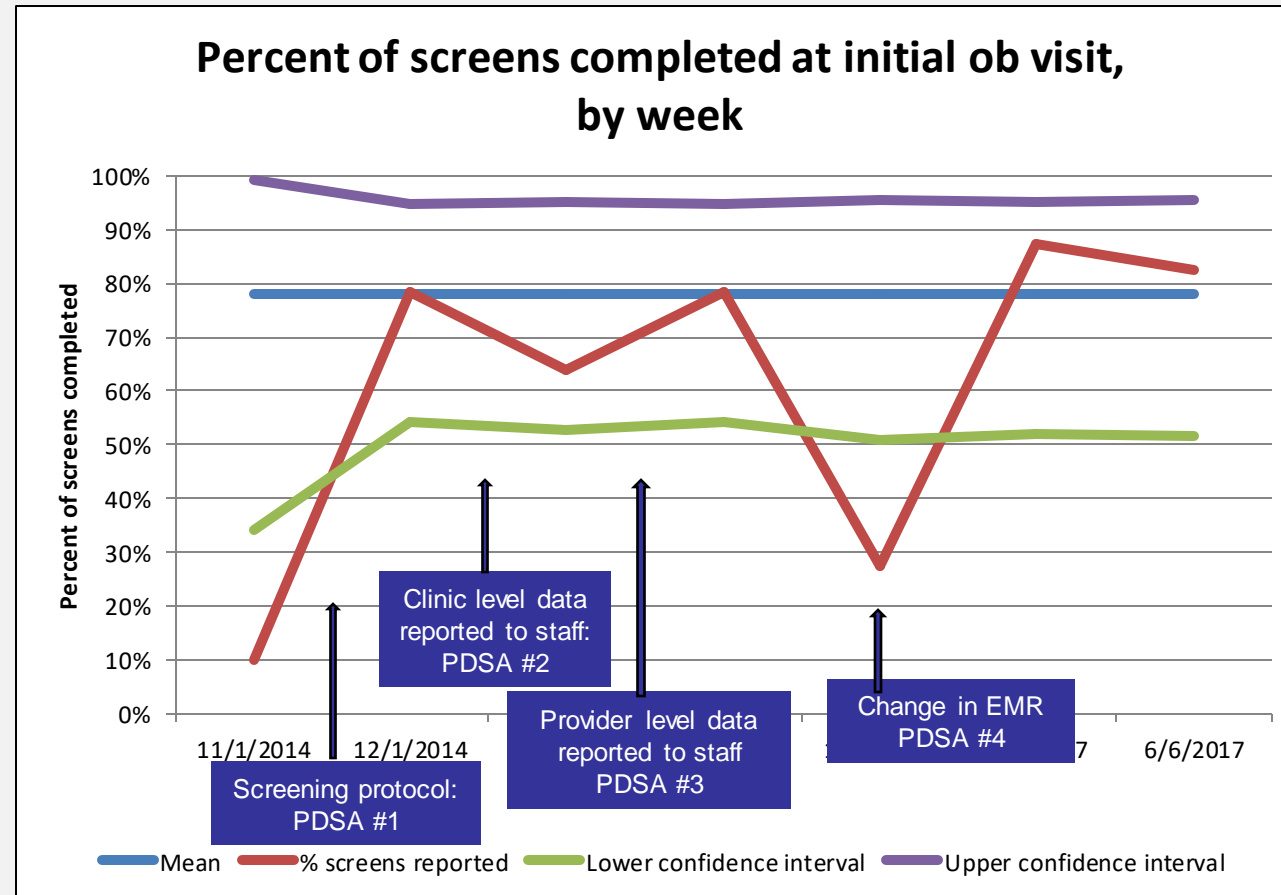
1. **Qualitative:** Gather **immediate feedback** from everyone involved in the change
2. **Quantitative:** track process measures over time

It is necessary to look at data over time to understand the impact of a change on the process of interest

Collect useful, not perfect data – the purpose is learning



Example of data over time



If the Tests did NOT work as expected

What are some possible reasons?

- Our theory of change was wrong
- Local factors influenced the test
- Test was not executed well



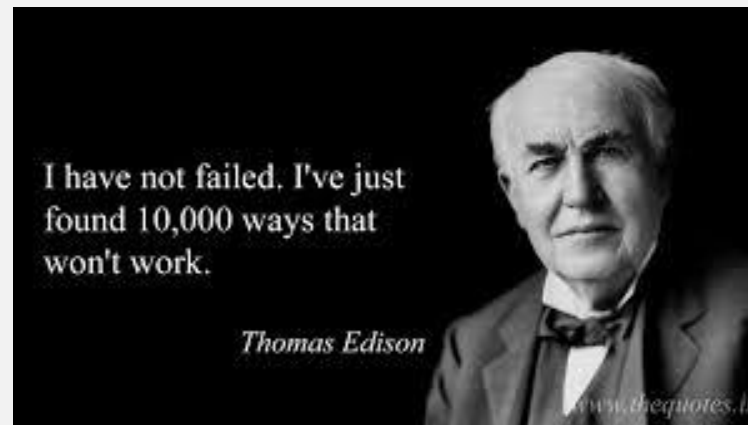
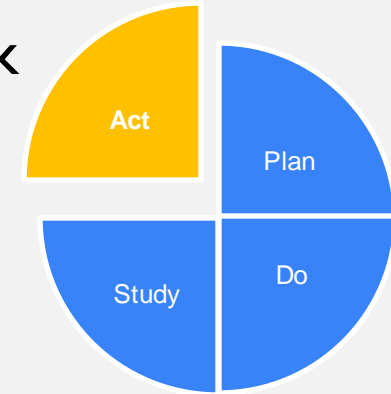
ACT – ADOPT, ADAPT OR ABANDON

Iterative cycles: Lessons learned from one cycle link and inform the next cycle.

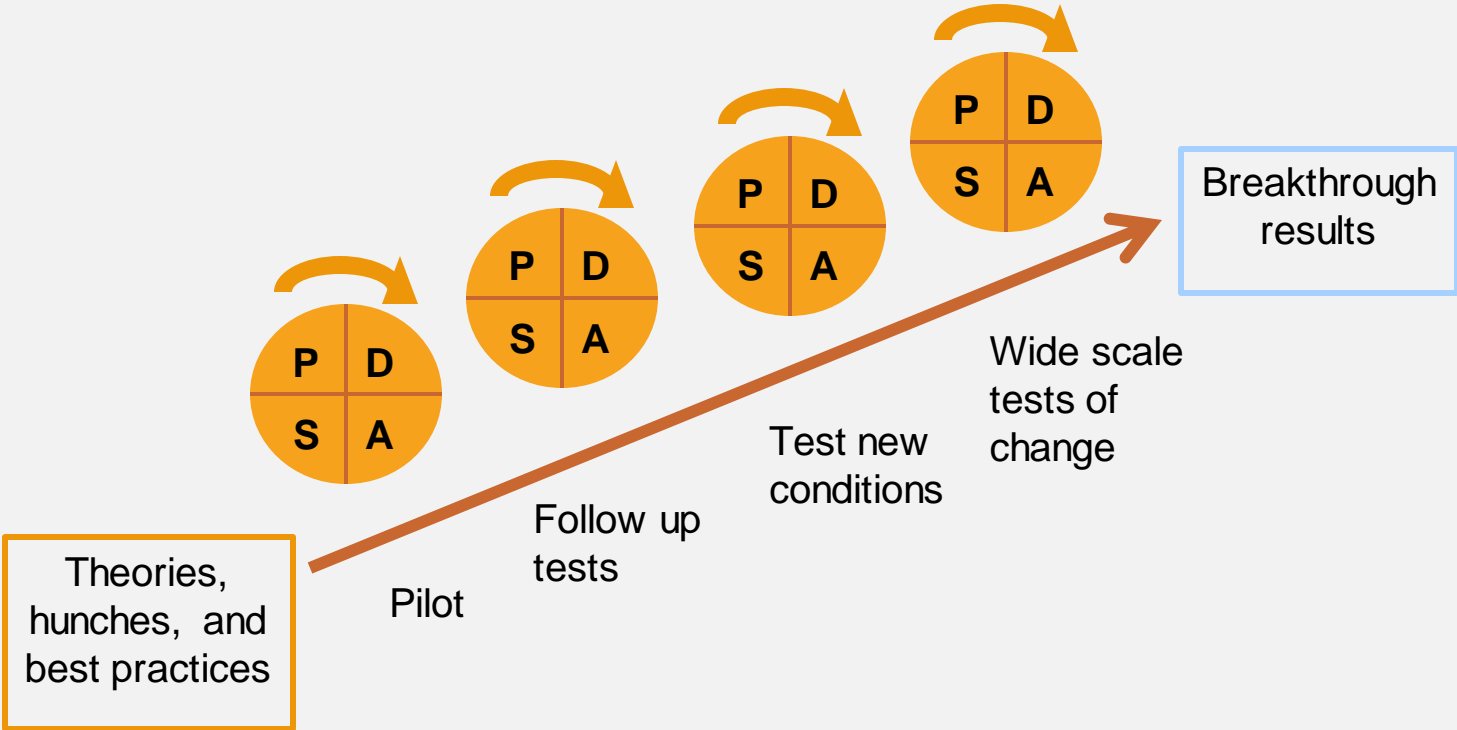
ADOPT: If the test was successful, begin to broaden its scope by including other locations, providers, etc.

ADAPT: If the test did not work as expected, discuss how it could be adjusted and test again

ABANDON: If idea is not feasible, stop the test & rethink



ITERATIVE PDSA CYCLES





THANK YOU!

Guest Speaker Webinar Topics for Next 12 months

Date/Guest Speaker Topic

7/21/20	OUD Screening Options
8/18/20	Plans of Safe Care
9/15/20	Caring for Patients with OUD
10/20/20	Linkages to Care
11/24/20	Equity Considerations in OUD care
12/15/20	Centering Patient Voice
1/19/21	Wave 2 Team Presentations (formerly OUD SMM Data)
2/16/21	OUD SMM Data (formerly Early Head Start)
3/16/21	SBIRT Check-in
4/20/21	Pain Relief During Pregnancy, Labor, Surgery & Post-op
5/18/21	Early Head Start

Guest Topics: OUD SMM Data

Godwin Osei-Poku, MBCHB, MPH
Research Analytics Manager, Betsy Lehman Center



Racial/Ethnic Disparities in Severe Maternal Morbidity Among Women with Opioid Use Disorder in Massachusetts

Godwin Osei-Poku, MBCHB, MPH
Research Analytics Manager, Betsy Lehman Center
Doctoral Candidate, BUSPH

Ronald Iverson, MD, MPH
Vice chair, Obstetrics, Boston Medical Center
MPQC co-chair

November 18th, 2020

Disclosures

Neither presenter has a conflict of interest to report



Today's objectives

- Define Severe Maternal Morbidity (SMM)
- Understand the differences in SMM in women with OUD compared to women without OUD
- Explore the racial inequity in SMM for pregnant women with OUD
- Review actions to address inequities in OUD care



**BETSY
LEHMAN
CENTER**
for Patient Safety

Severe Maternal Morbidity

Definition and indicators

Definition

- Severe Maternal Morbidity (SMM) is an unexpected outcome of labor and delivery
 - Results in significant short- or long-term consequences to a woman's health

Indicators

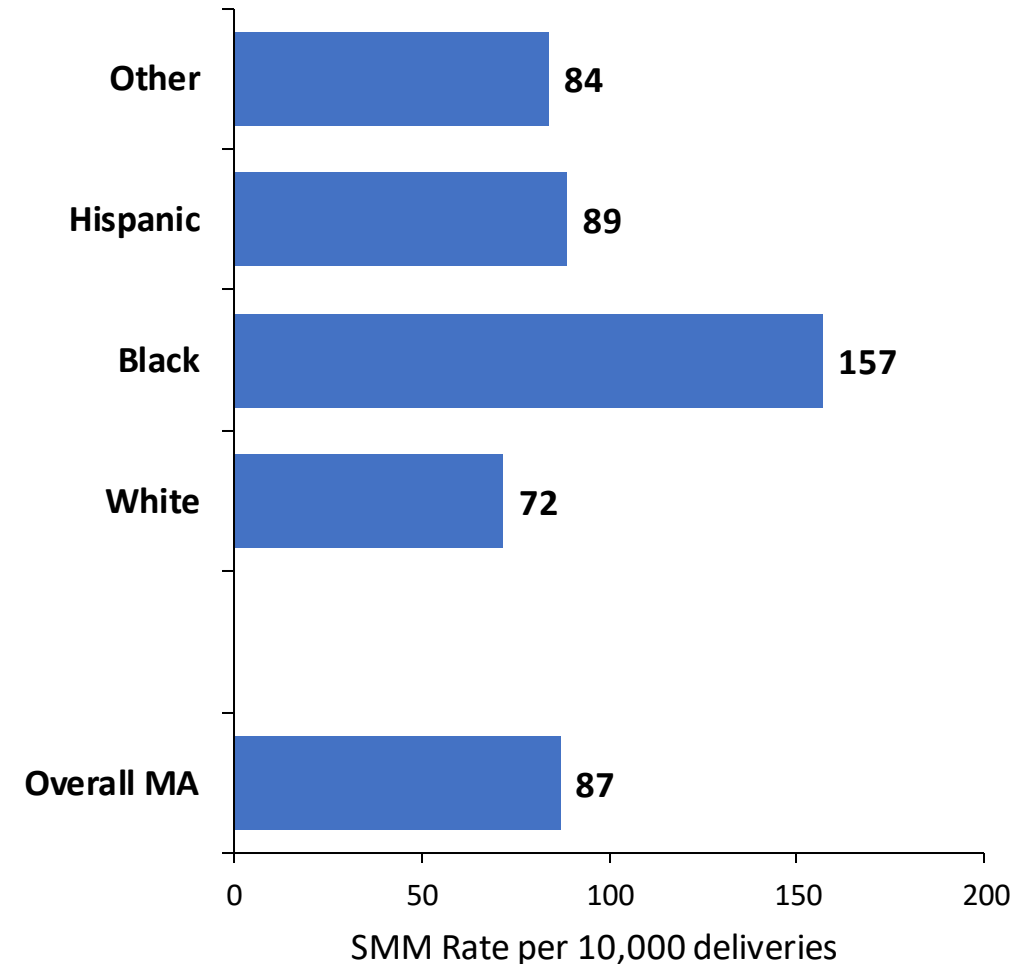
1. Acute myocardial infarction
2. Aneurysm
3. Acute renal failure
4. Adult respiratory distress syndrome
5. Amniotic fluid embolism
6. Cardiac arrest/ventricular fibrillation
7. Conversion of cardiac rhythm
8. Disseminated intravascular coagulation
9. Eclampsia
10. Heart failure/arrest during surgery or procedure
11. Puerperal cerebrovascular disorders
12. Pulmonary edema/Acute heart failure
13. Severe anesthesia complications
14. Sepsis
15. Shock
16. Sickle cell disease with crisis
17. Air and thrombotic embolism
18. Blood transfusion *SMM21 counts transfusions*
19. Hysterectomy *SMM20 ignores transfusions*
20. Temporary tracheostomy
21. Ventilation

- SMM Rates are calculated per 10,000 deliveries = $\left(\frac{\text{\# of SMM cases}}{\text{Deliveries}}\right) * 10,000$

Epidemiology

- Rising over the last 20 years in the United States
- Significant racial/ethnic disparities in SMM
 - E.g. In Massachusetts, Black mothers have nearly twice the SMM rate of White mothers
- Opioid use disorder (OUD) has been understudied in relation to both SMM and disparities in maternal health

Overall SMM Rate for MA and by Race/Ethnicity, 2016-2019*



*Indicates data from 1st, 2nd and 3rd quarters only



OUR SMM and Inequity

Preliminary analyses of ongoing study

Research Questions

- Are there any differences in SMM rate for mothers with OUD compared to mothers without OUD?
- What is the effect of race and ethnicity on the association between OUD status and SMM?

Data Source

- MA hospital discharge data (CaseMix)
 - Includes data from all birthing hospitals in MA
 - 42 hospitals
 - 257,445 patients
 - Hospitals submit data directly to the Center for Health Information and Analysis (CHIA)

Data Source

- Database includes
 - Patient demographic data
 - Admission and discharge information
 - Diagnostic and procedural coding
 - Provider details
 - Charge information

Study Population

- Women who had a delivery hospitalization from January 1, 2016 to September 30, 2019
- Patients were identified using ICD 10 diagnosis codes and delivery DRGs
 - Based on an algorithm from the National Alliance for Innovation in Maternal Health (AIM) program



OUD status and Race/Ethnicity

- OUD status was defined based on the presence of ICD-10 Diagnosis codes
- Maternal race was determined using an algorithm which prioritizes minority groups from five race/ethnicity variables
 - We prioritized any indication of Black, Hispanic or Other race over White NH
 - 2.7% of mothers were missing race/ethnicity
 - Self reported race/ethnicity, collected at intake

SMM outcome

- Any of the 20 SMM diagnoses, not including transfusion
- We excluded blood transfusions due to unreliable reporting at some birthing hospitals during the study period

Patient and hospital characteristics

- Models controlled for other patient and hospital characteristics that have previously been found to be associated with SMM

Patient	Hospital
Age	Delivery volume
Insurance status	% of black deliveries
	Teaching status
	Ownership
	Geographic region

Analysis

- Rates of SMM were calculated per 10,000 deliveries by OUD status and race/ethnicity.
- Logistic regression was used to compare the SMM rate for mothers with OUD vs those without
 - We examined the extent to which OUD status is associated with SMM when adjusting for patient and hospital level risk factors
 - We also tested for the interaction of race/ethnicity and age on the association between OUD status and SMM



(Data slides removed)

Conclusion

- Our findings suggest an increased risk of experiencing an SMM event for mothers with OUD compared to those without
 - Similar findings were made recently by a team in Philadelphia using national data
- Important racial/ethnic disparities exist in SMM for mothers regardless of OUD status
- Further research is needed to understand these disparities

Closing Thoughts

Next webinar is Tuesday, March 16th, 2021 from 12-1pm ET

- **QI Topic:** Making Adjustments to the PDSA Cycle
- **Guest Topic:** SBIRT Training

Reminders:

We highly encourage your whole team (OBs, RNs, MFMs, neonatologists, social workers, midwives, doulas, lactation consultants, educators, etc.) to register for SPEAK UP training!

For next month's webinar: Please email Kali (PNQINAdmin@pnqinma.org) with questions for Alex Heinz about SBIRT training – what do you want to learn from the presentation? Is there anything about the AIM OUD bundle or implementation that you are struggling with?

Questions or Concerns?



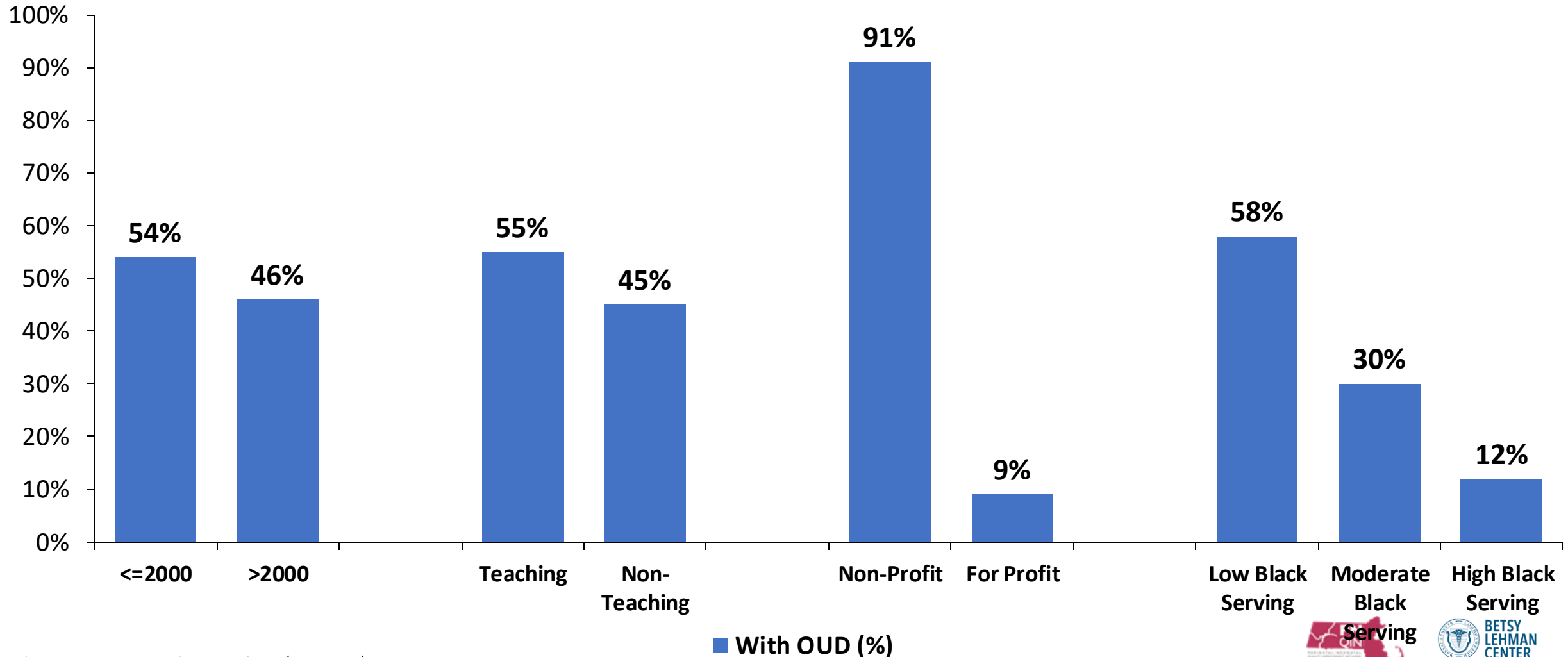


Appendix

Additional charts

Mothers with OUD were more likely to deliver in low to mod. volume hospitals, teaching and low black serving

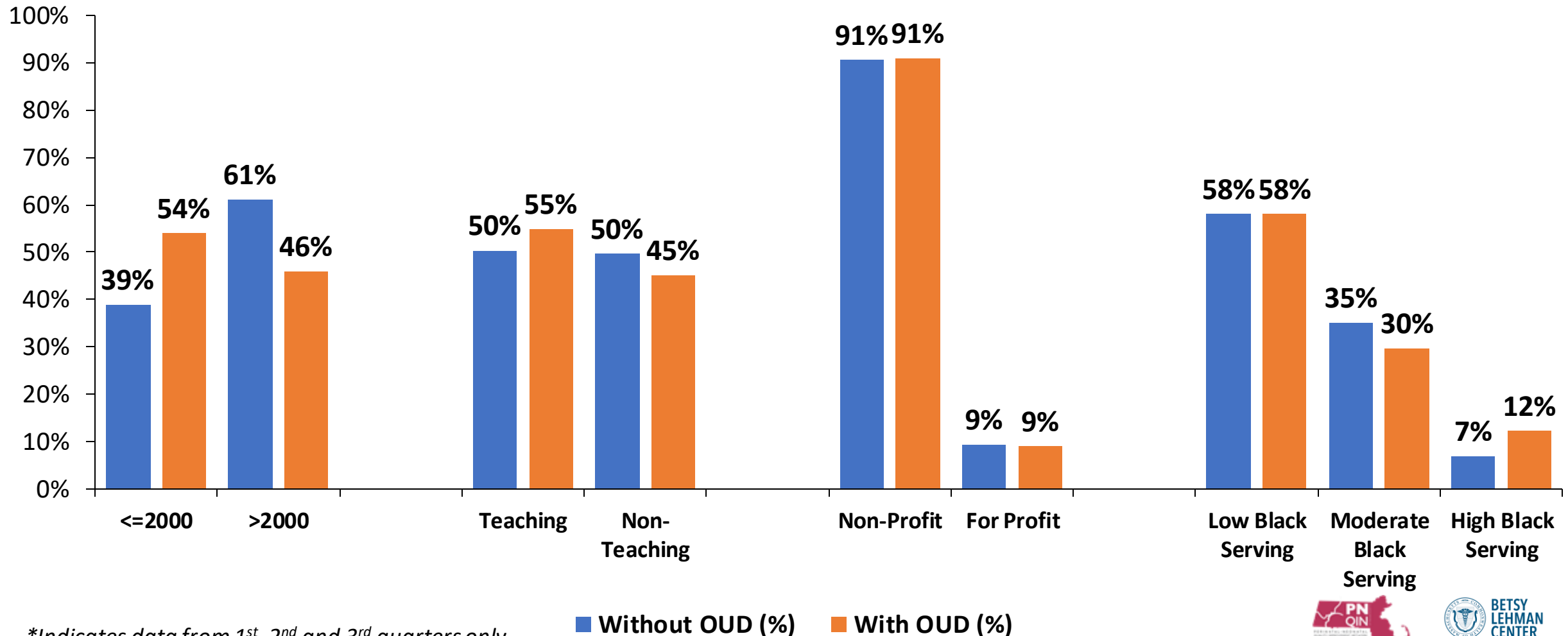
Delivery Hospital Characteristics for mothers with OUD in MA, 2016-2019*



*Indicates data from 1st, 2nd and 3rd quarters only

Mothers with OUD were more likely to deliver in a teaching hospital

Delivery Hospital Characteristics by OUD status in MA, 2016-2019*

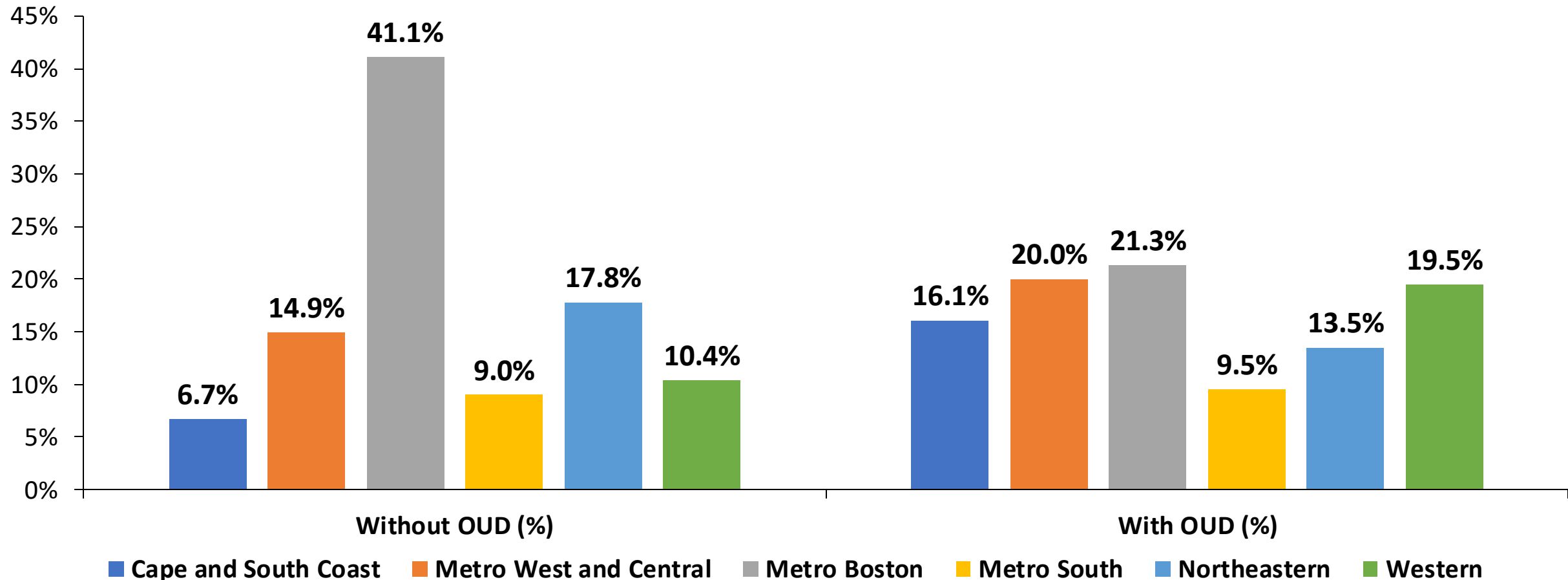


*Indicates data from 1st, 2nd and 3rd quarters only



Majority of mothers with OUD preferred to deliver in hospitals in Metro West, Central, Metro Boston and Western Mass.

Region of Delivery Hospital by OUD status in MA, 2016-2019*



*Indicates data from 1st, 2nd and 3rd quarters only

