Quality Improvement Community of Learning

Severe Hypertension in Pregnancy: Sharing Successes and Guidance

June 21st, 2022

4:00-5:00 pm ET

Welcome!

Thank you for joining the call! We will get started shortly.

- You may be **muted upon entry** to the call
- You **DO have the ability** to unmute yourself
- We encourage participants to remain muted in an effort to reduce background noise

This presentation will be recorded

Today's Agenda

- Welcome
- Arizona Hospital and Healthcare Association (AzHHA)/Arizona Department of Health Services (ADHS)
- Illinois Perinatal Quality Collaborative (ILPQC)
- Institute for Healthcare Improvement (IHI)
- Next Steps and Close


Washington
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Massachusetts
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New Hampshire
Maine
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Alaska
Hawaii

Speakers

Vicki Buchda, MS, RN, NEA-BC
Vice President, AzHHA

Patricia Ann Lee King, PhD, MSW
State Project Director and Quality Lead, ILPQC

Catherine Mather, MA
Director, IHI

QI Community of Learning Overview

Topic	Month
Quality Improvement: What is it? Why do we use it? How do we start?	January 25, 2022, 2-3:30pm ET
The Model for Improvement Part 1	February 22, 2022, 2-3pm ET
The Model for Improvement Part 2	March 31, 2022, 1-2:30pm ET
More on Using Data for Improvement	April 27, 2022, 1-2pm ET
Obstetric Hemorrhage: Sharing Successes and Guidance	May 31, 2022, 2-3pm ET
Severe Hypertension in Pregnancy: Sharing Successes and Guidance	June 21, 2022, 4-5pm ET
Care for Pregnant and Postpartum People with Substance Use Disorder: Sharing Successes and Guidance	July 13, 2022, 1-2pm ET
Sustaining the Gains and Spread	July 26, 2022, 1-2:30pm ET
Cardiac Conditions in Obstetrical Care: Sharing Successes and Guidance	August 2022 (exact date TBD)

Be sure to add all webinars to your calendar if you have not already done so!

NICHQ

SBD

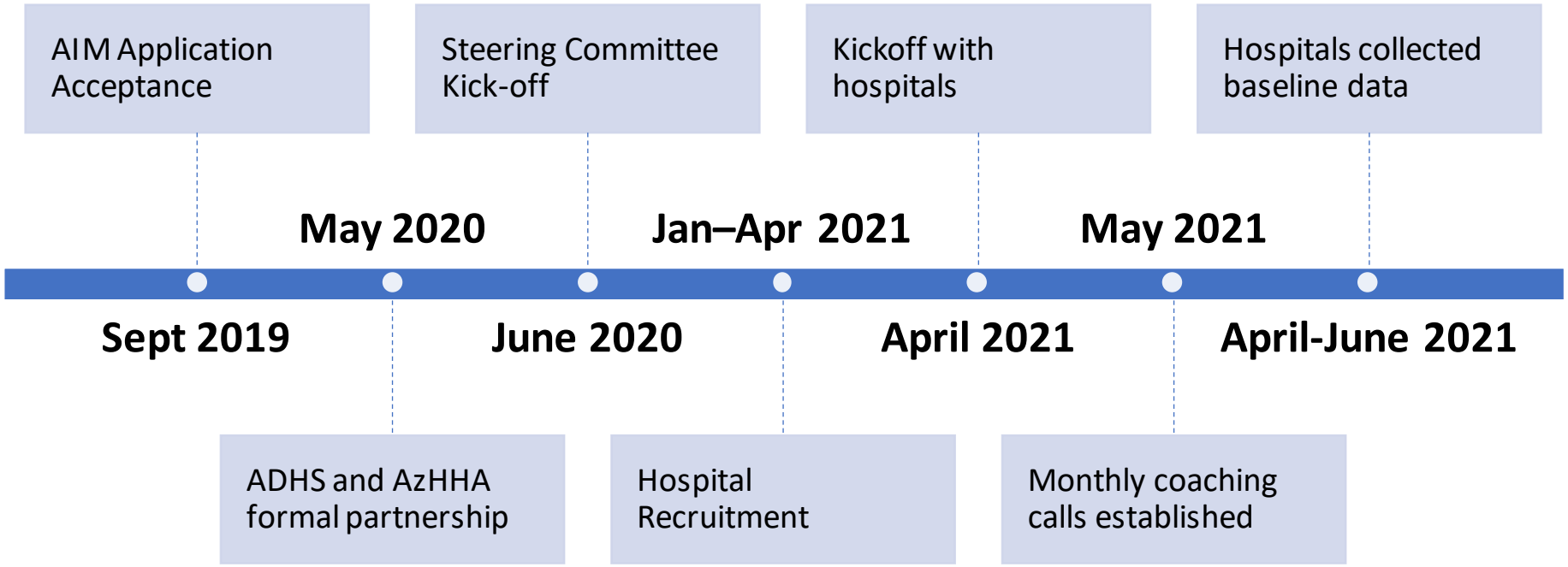
AIM in Arizona

A partnership between

ARIZONA DEPARTMENT OF HEALTH SERVICES

AzHHA
Arizona Hospital and Healthcare Association

AIM in AZ Timeline



ARIZONA DEPARTMENT OF HEALTH SERVICES

AzHHA Arizona Hospital and Healthcare Association

The Arizona AIM Collaborative

Started with Hypertension

Aim Statement:

Reduce the **rate of severe maternal morbidity and mortality** in women with severe preeclampsia, eclampsia, or preeclampsia superimposed on pre-existing hypertension by **20%** in participating hospitals by March 2023.

ARIZONA DEPARTMENT OF HEALTH SERVICES

AzHHA Arizona Hospital and Healthcare Association

Key Goals

1. **Reduce time to treatment**

   Goal: 80% of women with two consecutive blood pressures of 160/110 are treated within 60 minutes

2. **Improve provider and RN debrief**

   Goal: At least 50% of cases of women with confirmed severe maternal hypertension without treatment within 60 minutes have RN/provider debrief

Program Components

- Monthly coaching calls
  - One hour webinar
  - Initial focus on data
  - Topics presented by hospitals and other subject matter experts including implicit bias training
- Pivoted in February to webinars featuring the IHI Better Maternal Outcomes (BMO) Improvement Sprint: Reducing Harm from Hypertension
  - 90 minutes includes 30 minutes for debrief
    - February: #1 Introduction: Building the Will for Change
    - March: #2 Key Changes to Reduce Morbidity and Mortality from Hypertension
    - April: #3 Learning from Peers in Action
    - May: #4 There is not Quality without Equity: Working Across Race and Geography
    - June: #5 Steering Improvement: Meaningful Testing, Meaningful Measurement
    - July: #6 Putting the Pieces Together for the Road Ahead

AzHHA
Arizona Hospital and Healthcare Association

Program Components, cont.

- One day in-person conference planned for September
- Future: site visits and regional meetings
- Considering a LISTSERV
- Extensive materials available on-line; including examples from hospitals (peer to peer sharing)
- Implementation and QI
  - Hospitals choose what to work on
  - Resources and coaching available for 30-60-90 day plans and PDSA approach

Hospital Sharing and Learning

- Debriefs
  - Some started from scratch, others established but when they collected data found inconsistencies
- Protocols and policies
  - Still underway
- EMR enhancements for early warning and alerts
- When to treat and myth-busting
  - Worry about hypotension when the epidural is started
- Health equity
  - “we treat everyone the same”

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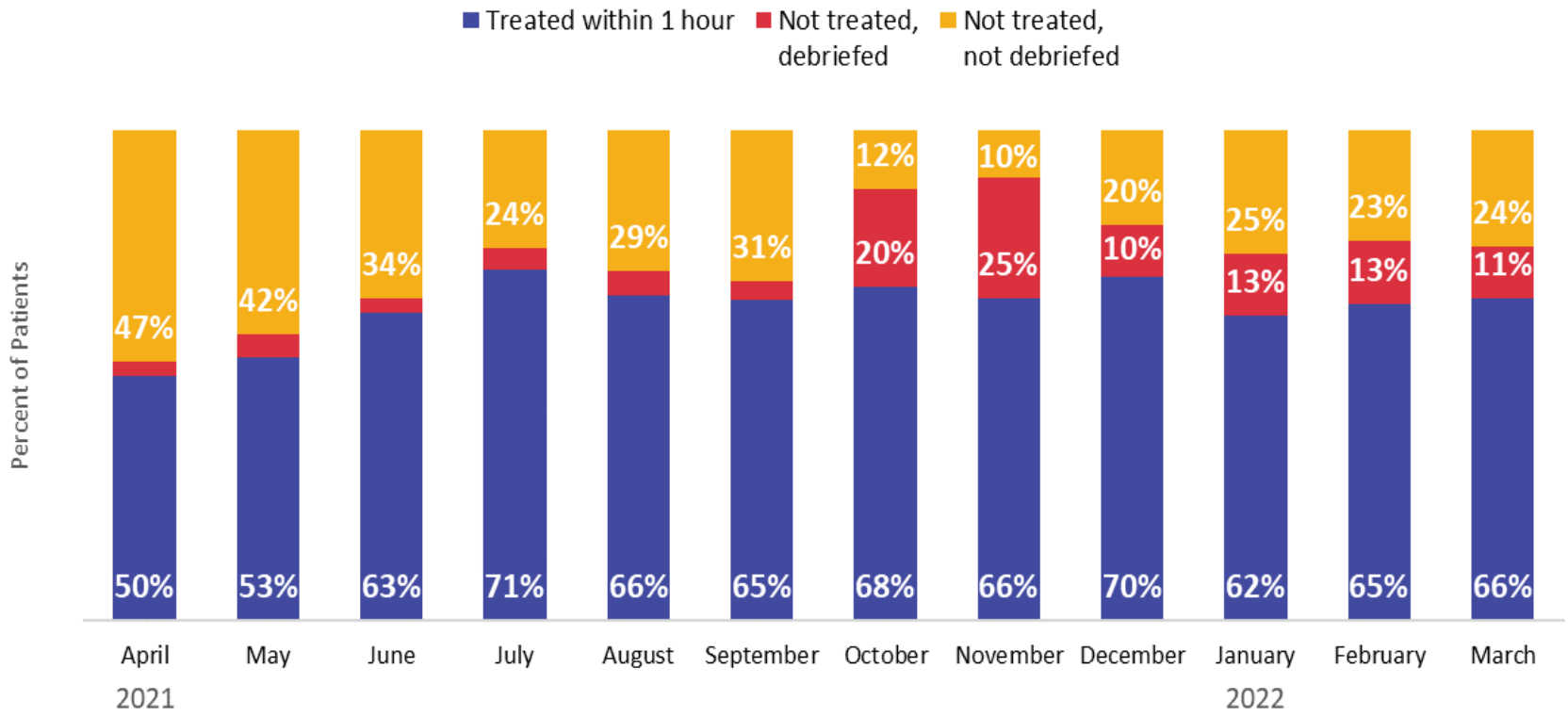
Process Measure: Treatment of Severe Hypertension

31 hospitals are included in this process measure



Next Steps

- Further recruit hospitals not yet participating
  - Include messaging about the CMS birthing-friendly
- Further engage tribal and IHS leaders
- Further engage patients and families
- Share hospital reports with CEO, CNO and CMO in addition to unit leads
- Automating monthly reports to hospitals

Thank you!

For Questions Contact:
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Heidi.Christensen@azdhs.gov

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Illinois Perinatal Quality Collaborative: Maternal Hypertension Initiative

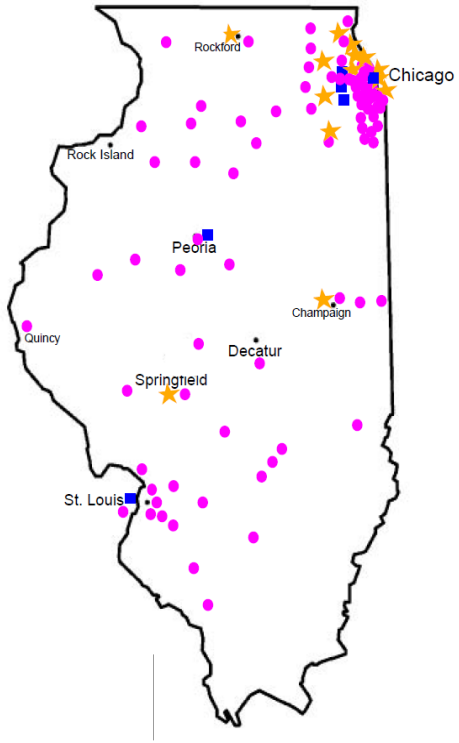
Patricia Lee King, PhD, MSW

June 21, 2022

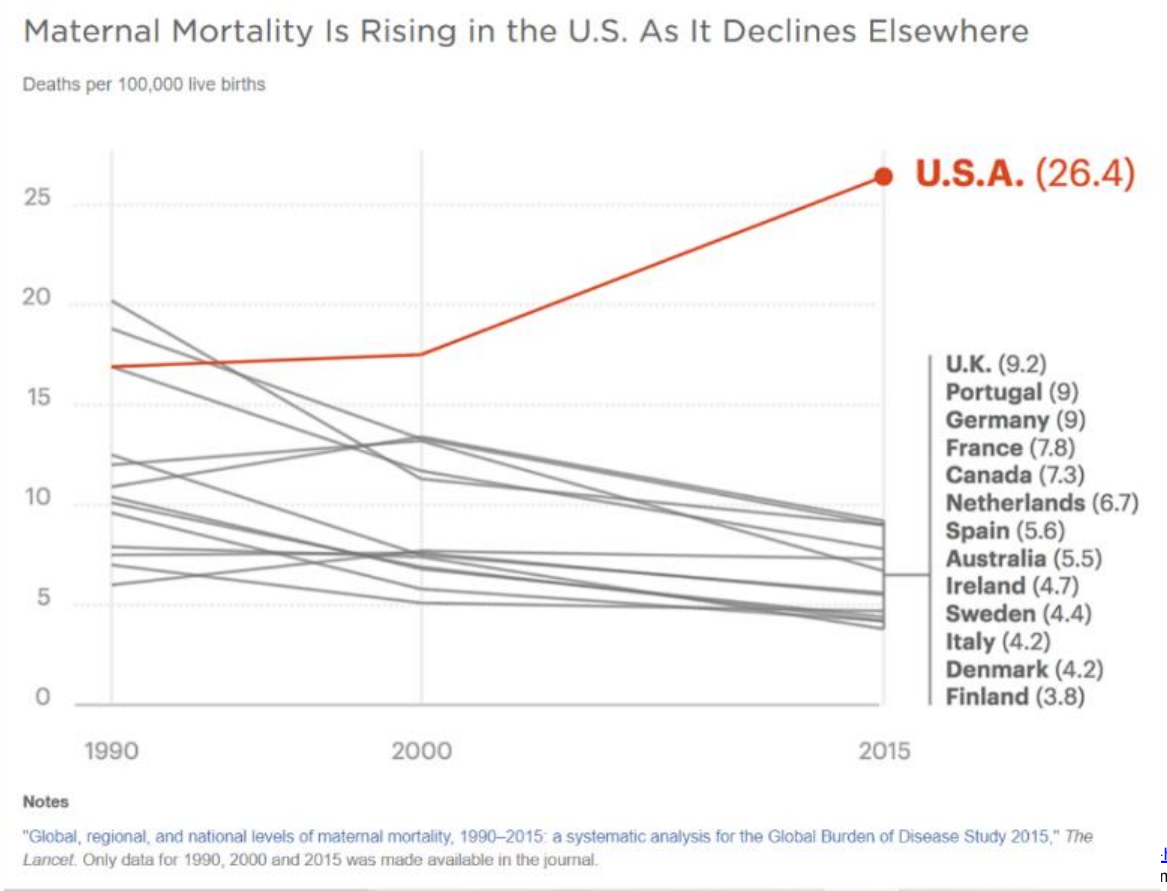
NICHQ QI Community of Learning:
Severe Hypertension in Pregnancy

ILPQC Overview

- Collaborative of physicians, nurses, hospital teams, patients, public health and community stakeholders
- Implementing data-driven, evidence-based practices to improve maternal and infant outcomes using quality improvement science
- Over 95% of birthing hospitals and neonatal intensive care units participate in initiatives
- Obstetric and neonatal advisory workgroup participation across the state



US maternal mortality



.has-the-worst-rate-of-maternal-deaths-in-the-developed-world
mortality/2020/maternal-mortality-rates-2020.htm#figures

Importance of Timely Treatment of Severe Maternal Hypertension

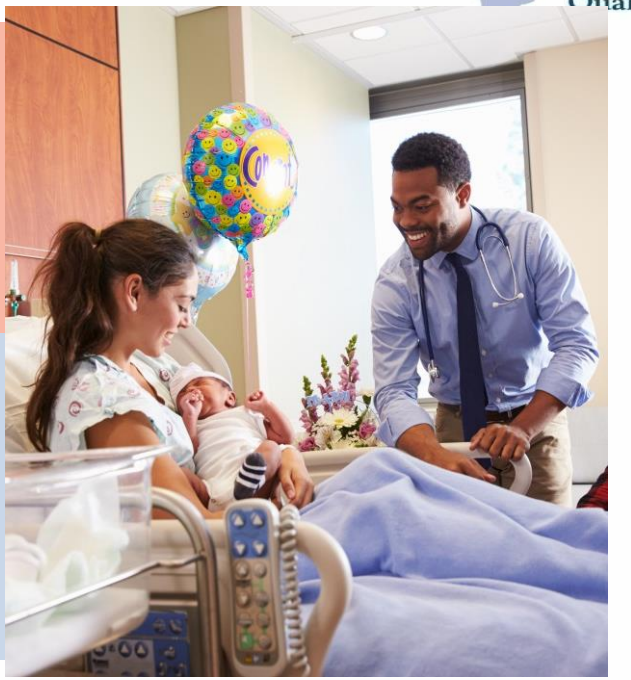
- Primary cause of maternal death is hemorrhagic stroke caused by untreated severe hypertension
- National guidelines recommend timely treatment of severe hypertension < 60 min to reduce maternal stroke and severe maternal morbidity, endorsed by ACOG
- Alliance for Innovation on Maternal Health (AIM) Severe Hypertension in Pregnancy Maternal Safety Bundle

ILPQC Maternal Hypertension Initiative

Aim: Reduce the rate of severe morbidities in women with severe preeclampsia, eclampsia, or preeclampsia superimposed on pre-existing hypertension by 20% by December 2017

Approach: 4 key goals

1. **Reduce time to treatment**
2. **Improve postpartum patient education**
3. **Improve postpartum patient follow up**
4. **Improve provider & RN debrief**



- 110 hospital teams - May 2016 kick off to December 2017
- 106 Hospitals submitted data for over 17,000 women who experienced severe maternal HTN across the initiative
- Sustainability started January 2018
- 86 teams have submitted sustainability data

Quality Improvement Focus

- Provider / staff education and standardized BP measurement
- Rapid access to medications
- IV treatment of BP's ≥ 160mmHg systolic or ≥ 110(105) mmHg diastolic within 30-60 min
- Standardize treatment algorithms / order sets
- Provider / nurse debrief time to treatment
- Early postpartum follow-up
- Standardized postpartum patient education

Key Driver Diagram: Maternal Hypertension Initiative

GOAL: To reduce preeclampsia maternal morbidity in Illinois hospitals

Illinois Perinatal Quality Collaborative

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%

Key Drivers	Interventions
GET READY IMPLEMENT STANDARD PROCESSES for optimal care of severe maternal hypertension in pregnancy	❑ Develop standard order sets, protocols, and checklists for recognition and response to severe maternal hypertension and integrate into EHR ❑ Ensure rapid access to IV and PO anti-hypertensive medications with guide for administration and dosage (e.g. standing orders, medication kits, rapid response team) ❑ Educate OB, ED, and anesthesiology physicians, midwives, and nurses on recognition and response to severe maternal hypertension and apply in regular simulation drills
RECOGNIZE IDENTIFY pregnant and postpartum women and ASSESS for severe maternal hypertension in pregnancy	❑ Implement a system to identify pregnant and postpartum women in all hospital departments ❑ Execute protocol for measurement, assessment, and monitoring of blood pressure and urine protein for all pregnant and postpartum women ❑ Implement protocol for patient-centered education of women and their families on signs and symptoms of severe hypertension
RESPOND TREAT in 30 to 60 minutes every pregnant or postpartum woman with new onset severe hypertension	❑ Execute protocols for appropriate medical management in 30 to 60 minutes ❑ Implement a system to provide patient-centered discharge education materials on severe maternal hypertension ❑ Implement protocols to ensure patient follow-up within 10 days for all women with severe hypertension and 72 hours for all women on medications
CHANGE SYSTEMS FOSTER A CULTURE OF SAFETY and improvement for care of women with new onset severe hypertension	❑ Establish a system to perform regular debriefs after all new onset severe maternal hypertension cases ❑ Establish a process in your hospital to perform multidisciplinary systems-level reviews on all severe maternal hypertension cases admitted to ICU ❑ Incorporate severe maternal hypertension recognition and response protocols into ongoing education (e.g. orientations, annual competency assessments)

ILPQC HTN Initiative Goal & Key Measures

Goal: Reduce preeclampsia maternal morbidity

IL Measure	Type	Goal
Severe Maternal Morbidity (outcome) No. of women with severe maternal morbidities (e.g. Acute renal failure, ARDS, Pulmonary Edema, Puerperal CNS Disorder such as Seizure, DIC, Ventilation, Abruption) / No. pregnant & postpartum women with new onset severe range HTN	Outcome	20% reduction
Appropriate Medical Management in under 60 minutes (process) No. of women treated at different time points (30,60,90, >90 min) after elevated BP is confirmed / No. of women with new onset severe range HTN	Process	100%
Debriefs on all new onset severe range HTN* cases (process)	Process	100%
Discharge education and follow-up (process) within 10 days for all women with severe range HTN, 72 hours with all women with severe range HTN on medications	Process	100%

Severe range HTN: ≥160 systolic / ≥110(105) diastolic per hospital standard

*New onset severe range HTN: first episode of persistent severe range HTN (lasting >15 minutes) in a hospitalization (ER, L&D, or other inpatient setting), can be chronic HTN, gestational HTN, preeclampsia and/or postpartum diagnosis.

Key Measures cont.

- **Balancing:** Hypotension, Fetal heart rate
- **Structure:**
  - Facility-wide protocols for timely identification and treatment of severe maternal hypertension
  - Provider /nurse education on HTN protocols
  - Rapid access to IV medications
  - System plan for escalation of care
  - Facility-wide protocols for patient education

Quality Improvement Strategy

ILPQC facilitated:

- Development of hospital-based QI teams by April 2016
- ***Collaborative learning*** through 4 in-person meetings, 21 monthly webinars, and 15 QI topic calls with teams
- ***Rapid-response data system*** for teams to compare data across time and to other hospitals
- ***QI support*** through a toolkit, network meetings, and QI coaching calls to individual hospital teams
- Regular communications including twice-monthly e-newsletters to teams and website with resources

Quality Improvement Strategy

Hospital teams facilitated:

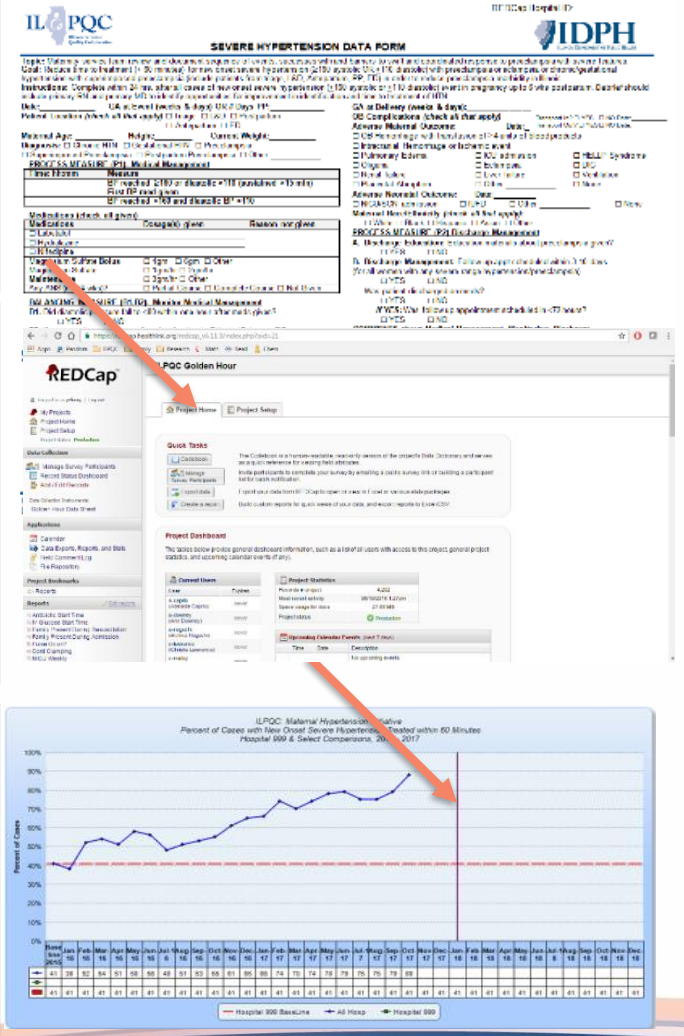
- Representatives from each team at twice yearly in-person ILPQC meetings
- Monthly participation in ILPQC webinars
- Collection and submission of monthly QI data and quarterly structure measures to ILPQC Data System
- Monthly QI team meetings to review data and develop and implement QI strategies with Plan Do Study Act (PDSA) cycles

ILPQC Data System

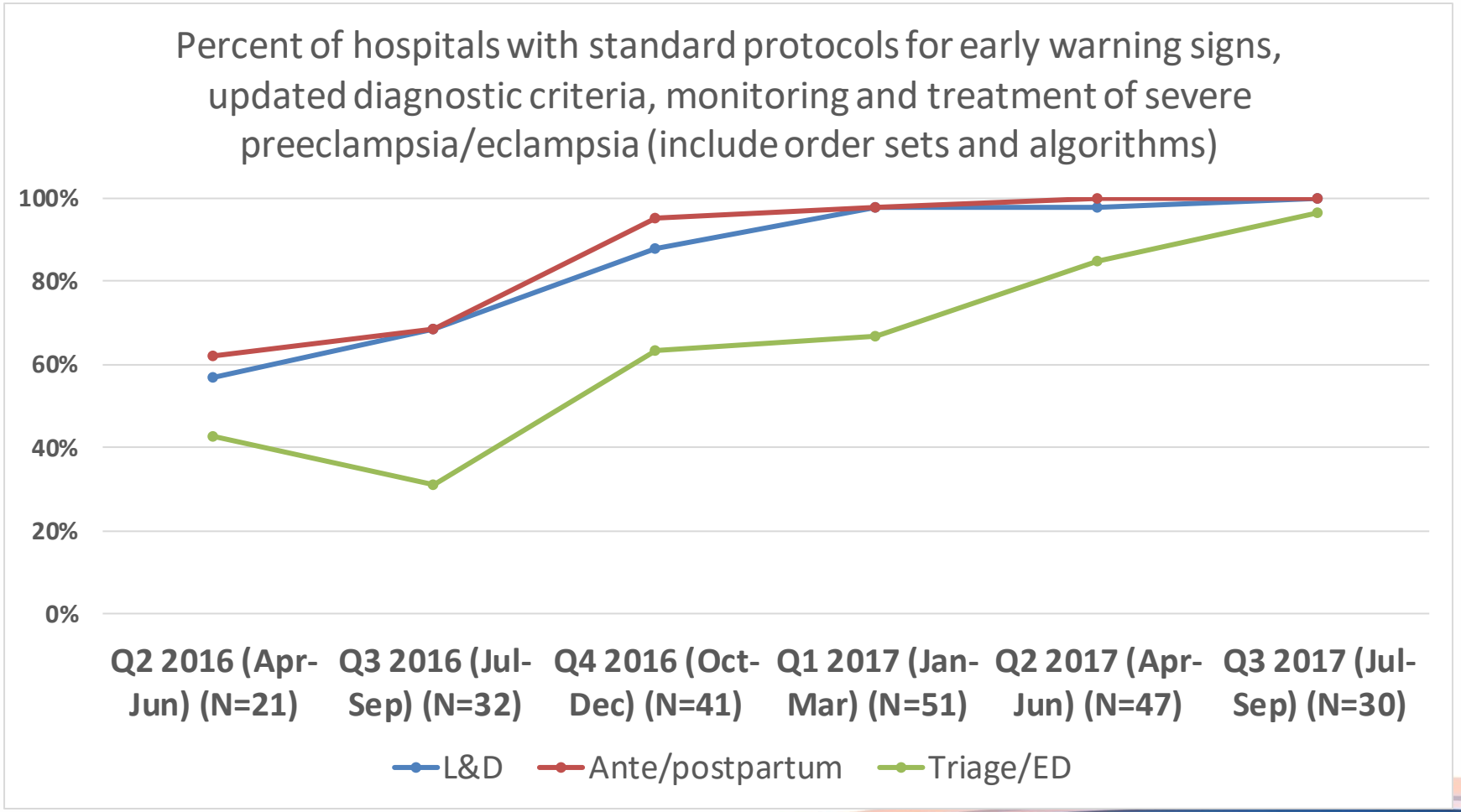
Hospital Teams collect data through monthly chart audit and real time data logs

Hospital Teams enter monthly outcome, balancing and process and quarterly structure measures into REDCap

Hospital Teams immediately access rapid response web based reports to compare data across time and to other IL hospitals

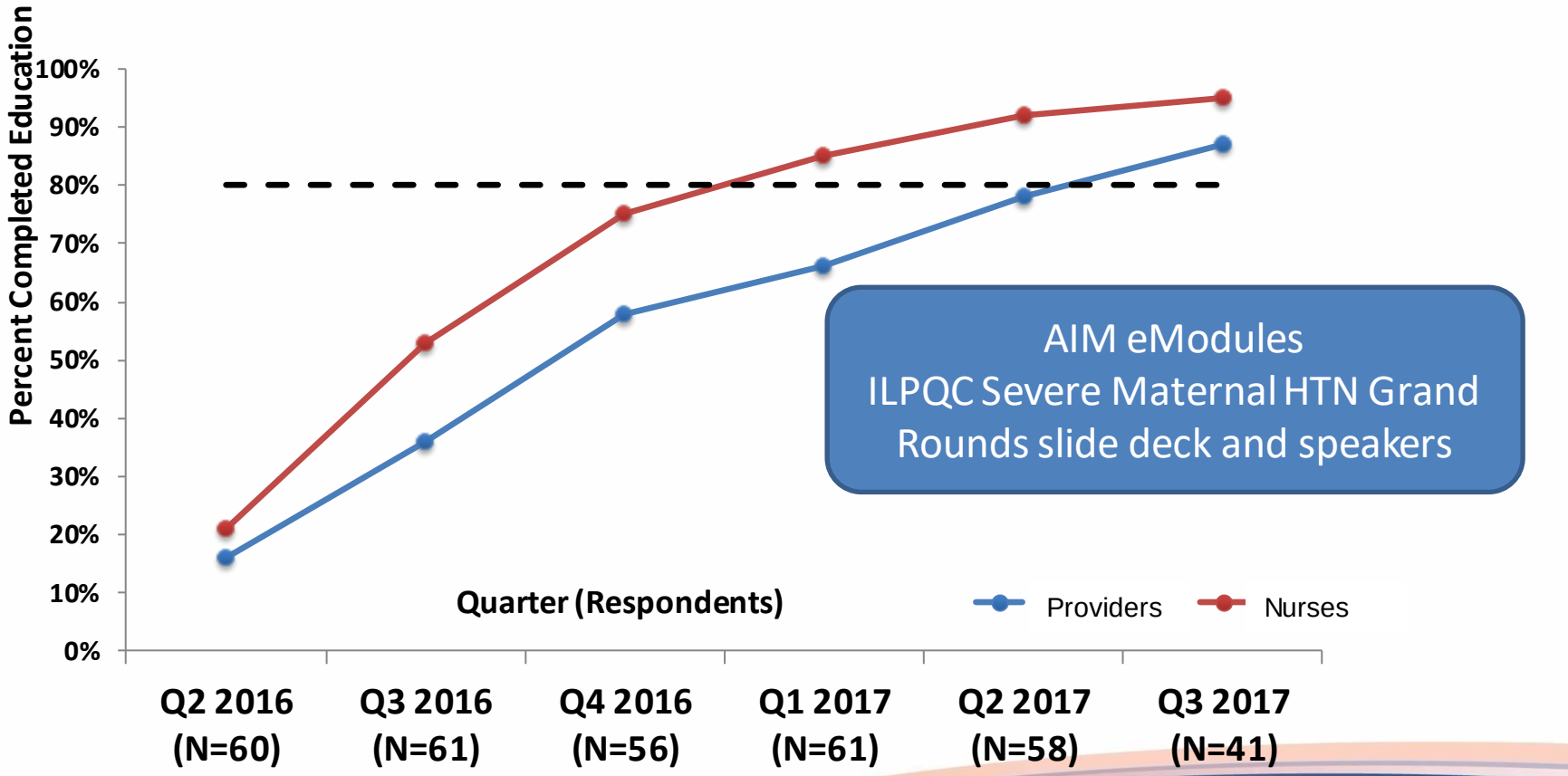


Structure Measure:
Standard Policies / Protocols Across Units



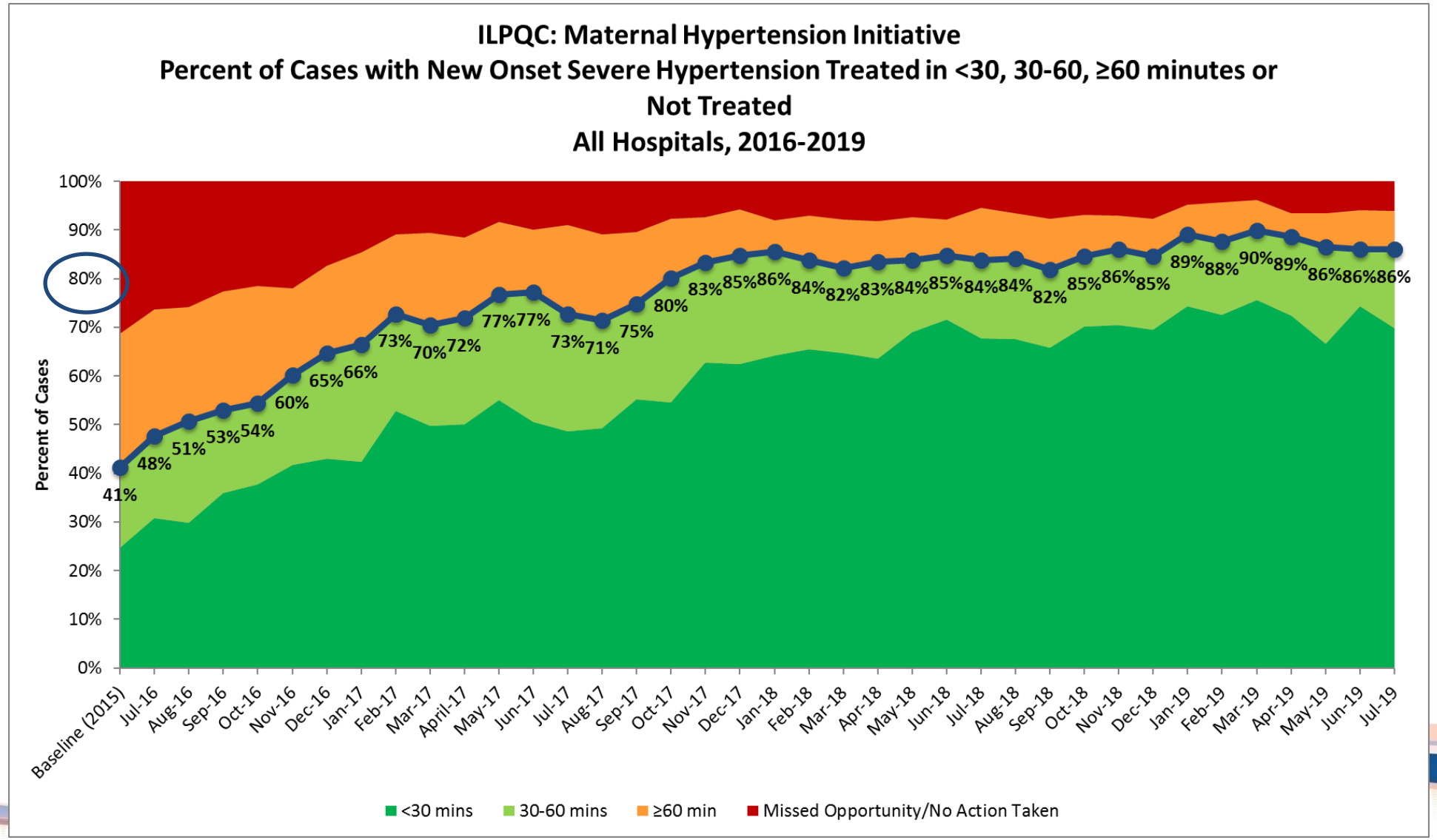
Structure Measure: Provider & Nurse Education

Culumative percent of OB providers and nurses completed (within the last 2 years) implementation education on the Severe HTN/Preeclampsia bundle elments and unit-standard protocol



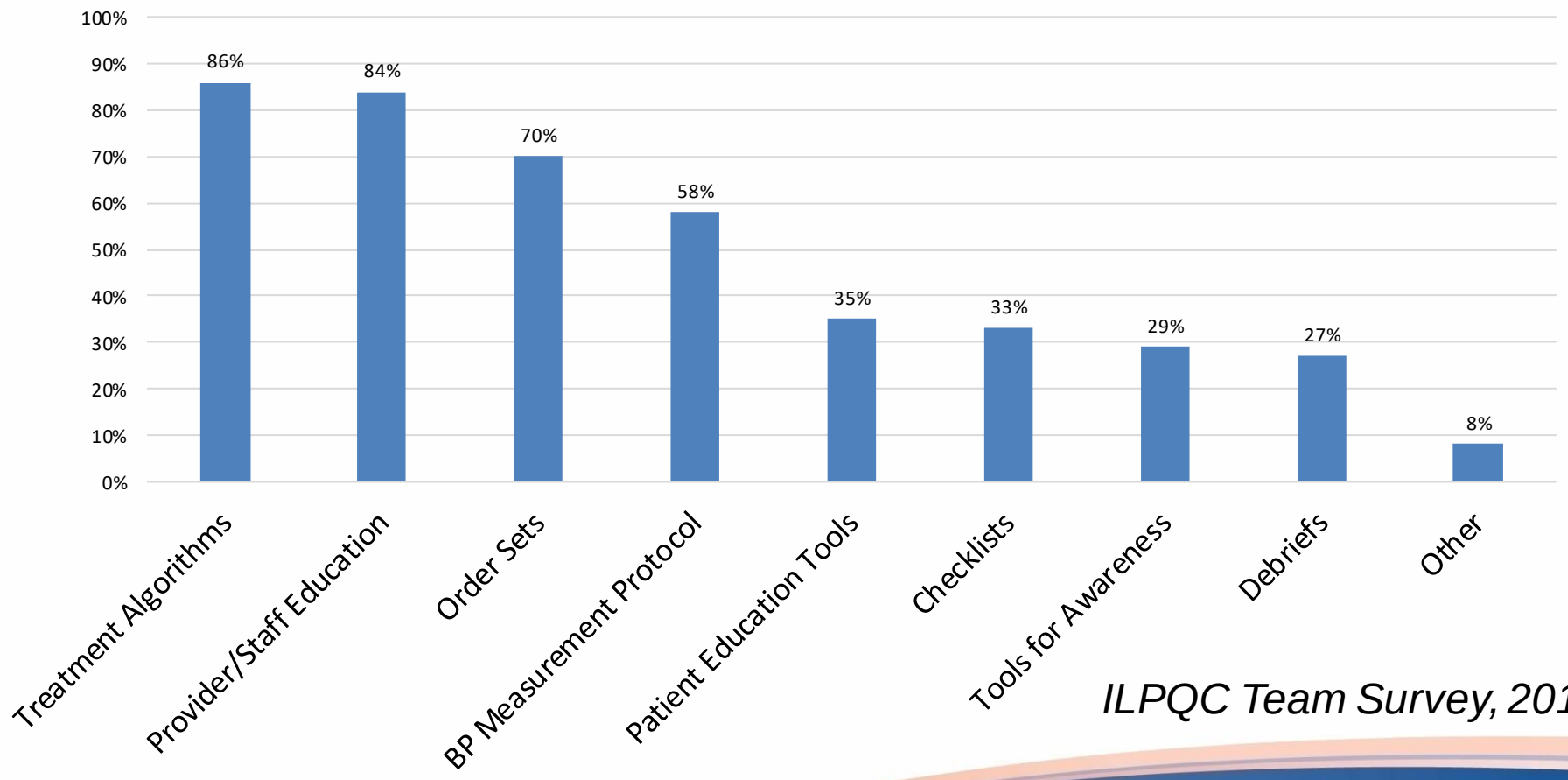
AIM eModules
ILPQC Severe Maternal HTN Grand Rounds slide deck and speakers

Maternal Hypertension Data: Time to Treatment



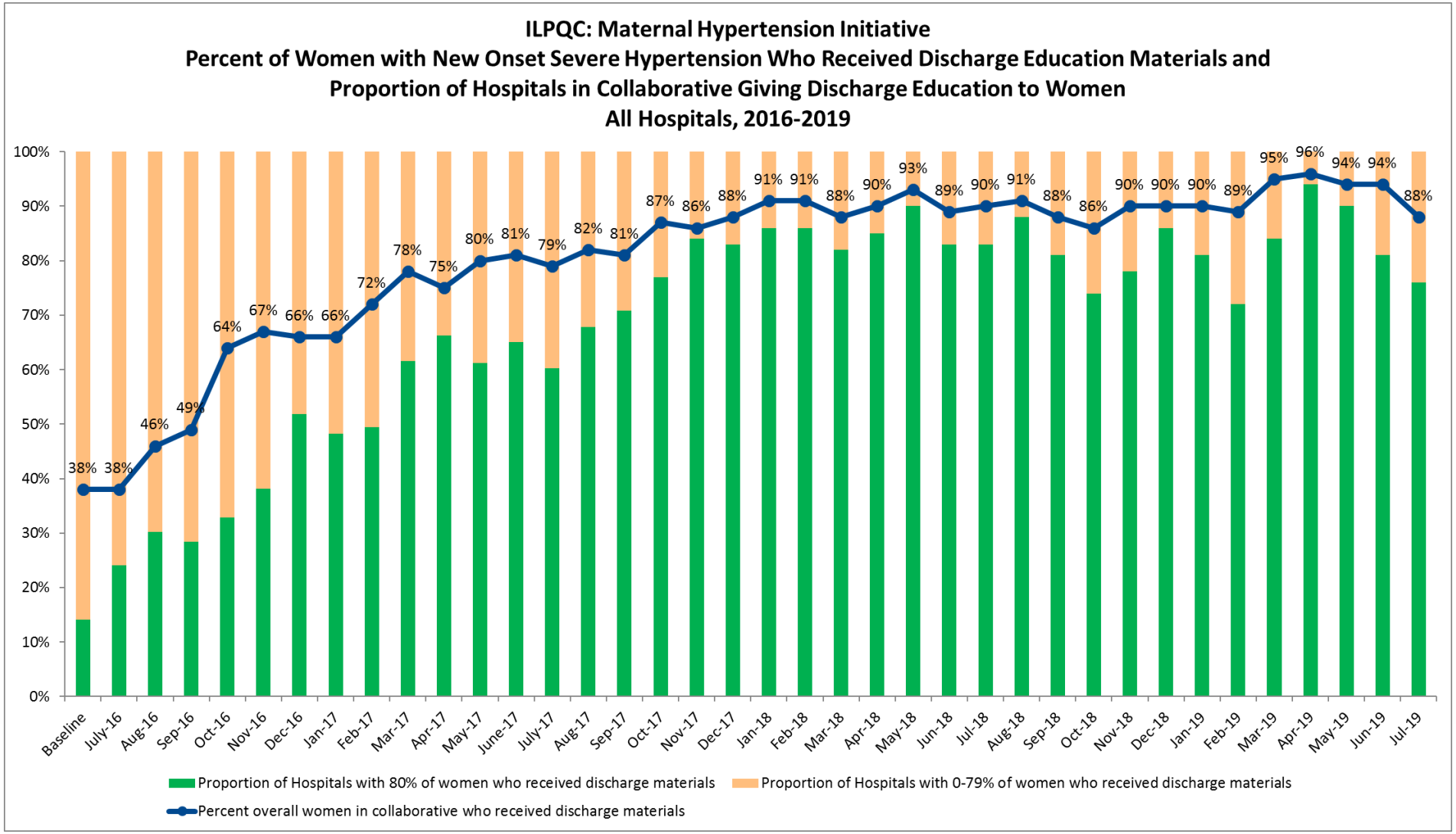
Reducing Time To Treatment

Elements of Maternal Hypertensive Bundle Most Effective in Reducing Time to Treatment

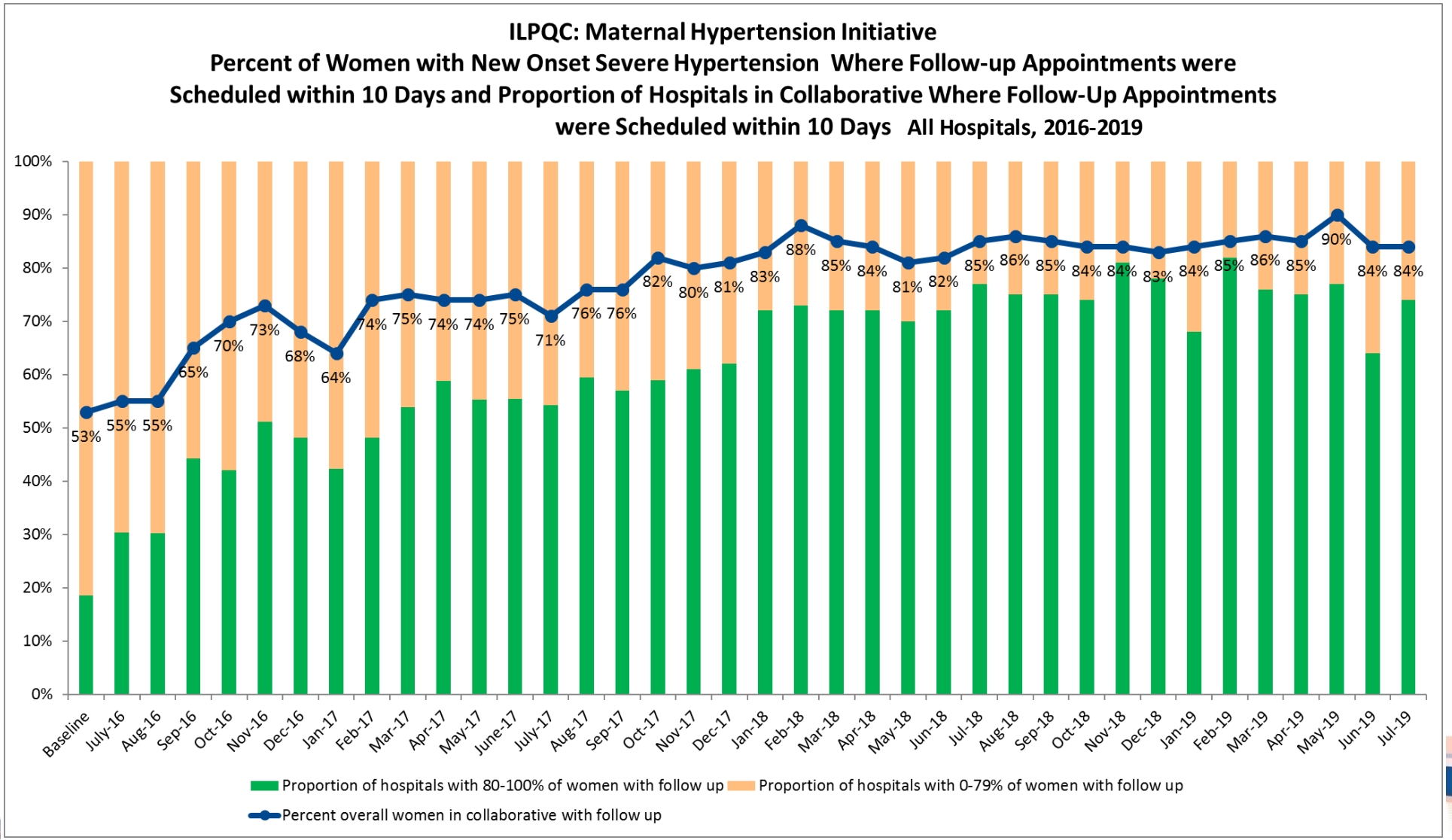


ILPQC Team Survey, 2017

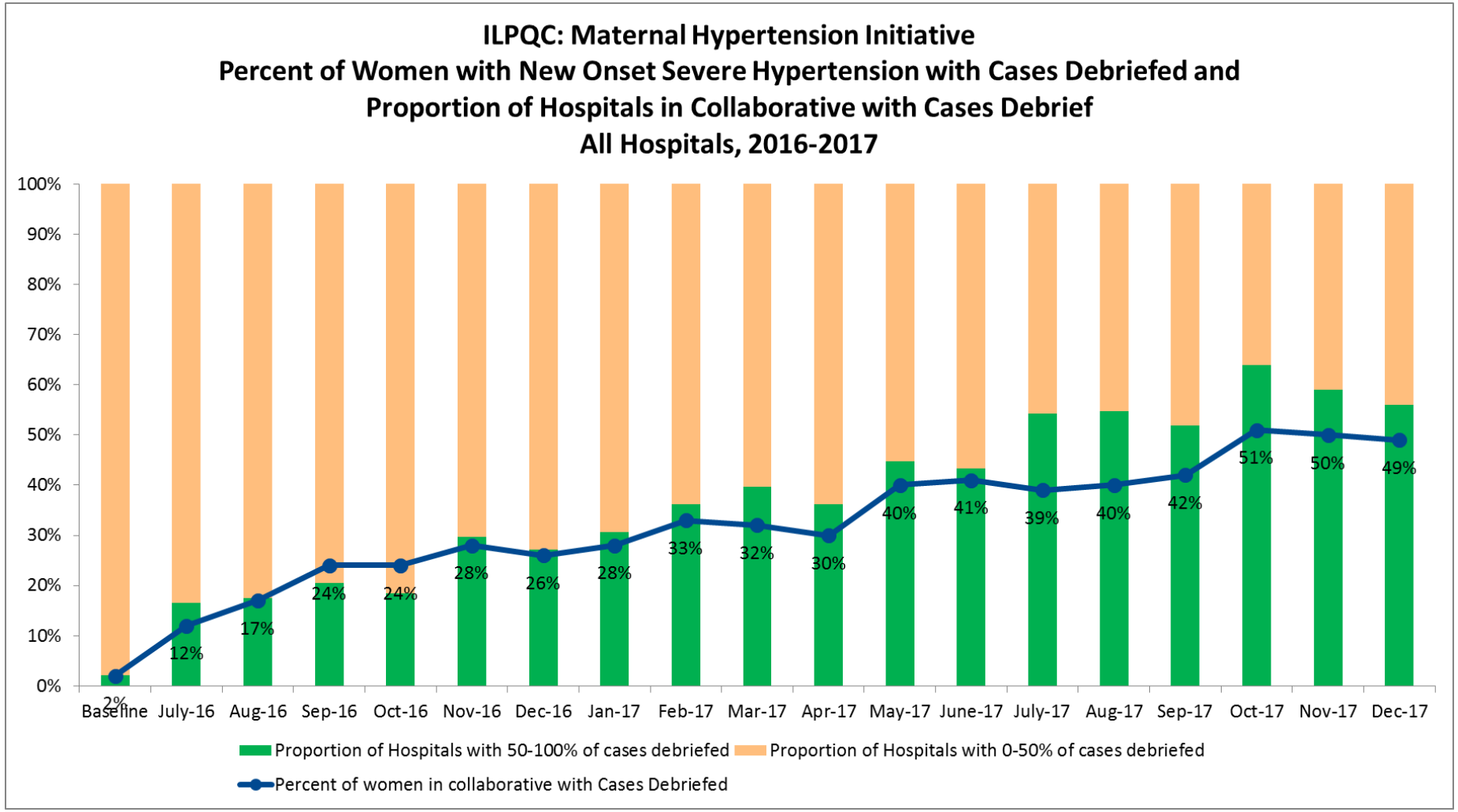
Maternal Hypertension Data: Patient Education



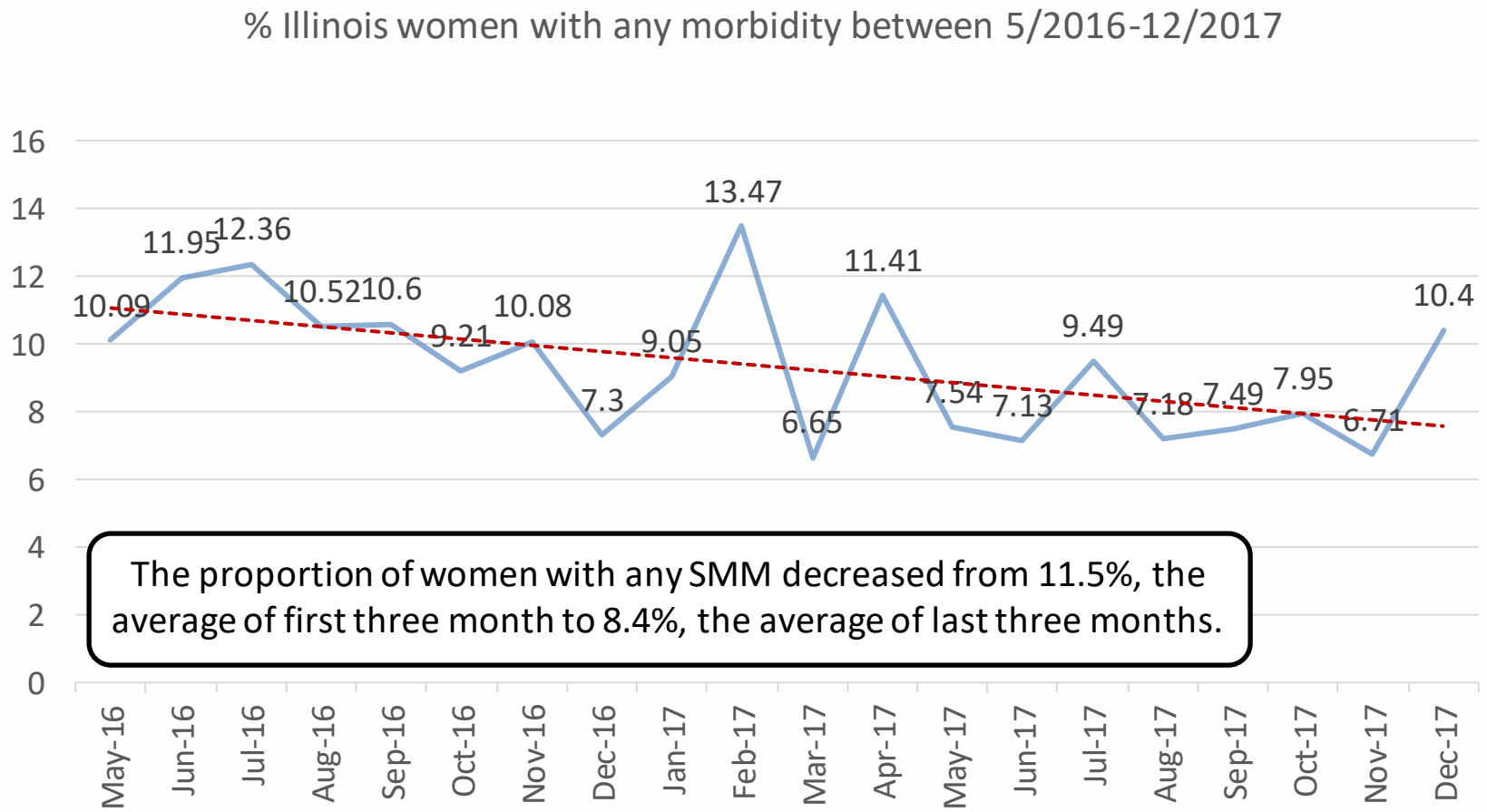
Maternal Hypertension Data: Patient Follow-up



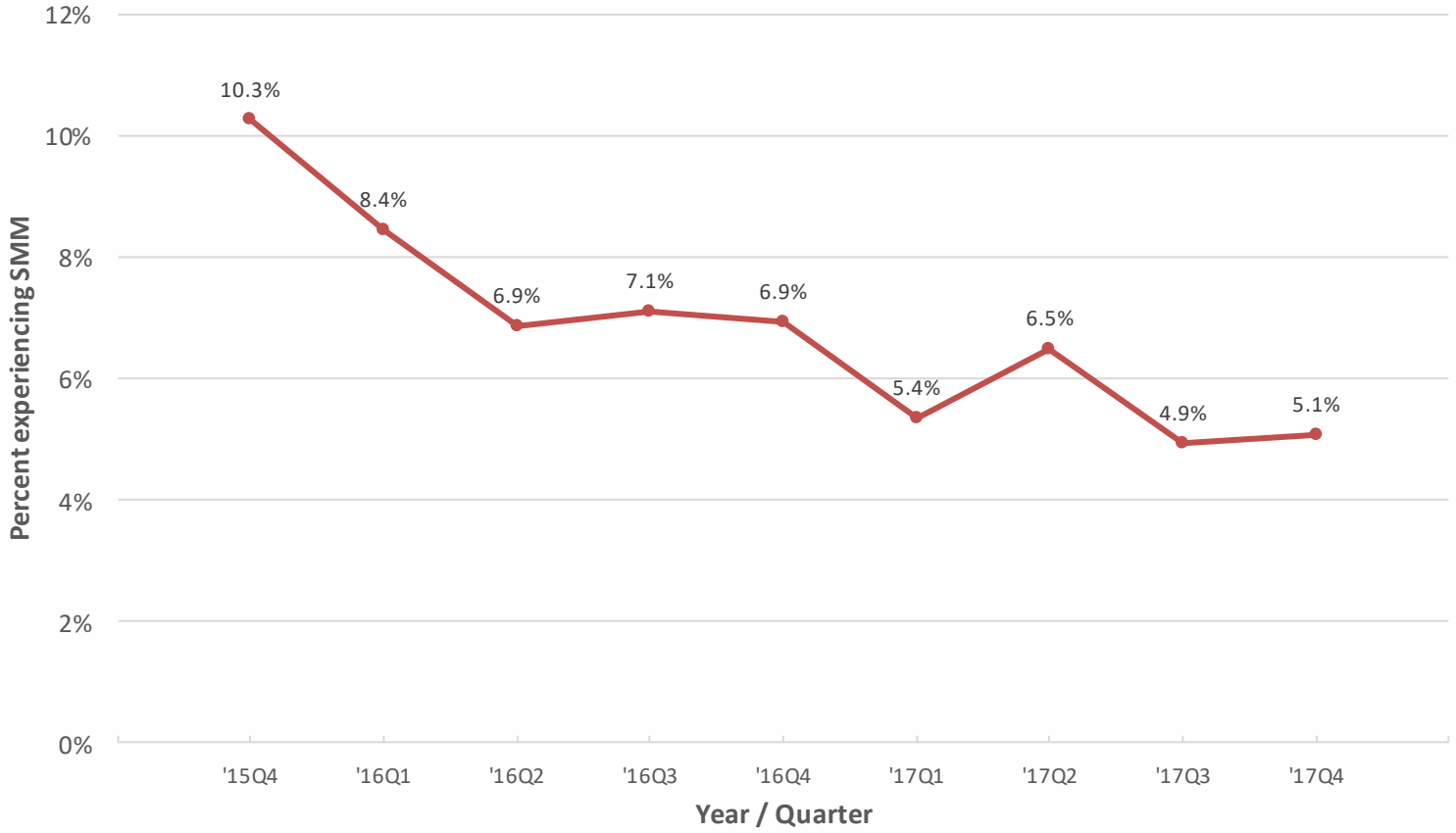
Maternal Hypertension Data: Debrief



Maternal Hypertension Outcome Data: Severe Maternal Morbidity



Severe Maternal Morbidity Rate Deliveries with Hypertension,
Hospital Discharge Data, All Illinois Hospitals



Between 2015-Q4 and 2017-Q4, the SMM rate among women experiencing hypertension at delivery was cut in half.

Role of Nurses and Staff

- Know best practices for accurate BP management
- Identify severe range BP ≥160/105-110, notify provider and repeat with in 15 minutes.
- If repeat BP remains elevated, notify provider of BP and **need to activate severe range BP treatment protocol for IV therapy**
- Have easy access to protocol / order set to ensure correct intervals for repeating BP and redose medications.
- Systems in place for easy rapid access to medications
- Follow protocols to start magnesium for seizure prevention
- Ensure all patients with hypertension have appropriate follow up with in 7-10 days, if home on meds f/u 72 hours for BP
- Ensure all patients are given standard education on postpartum preeclampsia (provided Preeclampsia Foundation resources)
- Remember to debrief “How did we do on Time to Treatment?”

Role of OB providers

- If notified of severe range BP
  - Follow ACOG treatment guidelines for IV therapy and BP reassessment and escalation of therapy (provided algorithms and order sets)
  - Goal is therapy ASAP within 30-60 minutes of confirmed elevated BP
  - Determine need for immediate evaluation
  - Provide magnesium for new onset severe range (do not wait for 6 hours or preeclampsia diagnosis)
  - Determine need for escalation of care
- Discharge Management with standardized preeclampsia education and early follow up

HTN Initiative: Engaging Providers in Clinical Culture Change

Share “time to treatment” data with clinical staff/providers

Provider/staff education campaign

Implement Brief Debriefs between nurse/provider for <u>every severe HTN case</u>

How did we do on TTT?

Strategies to make it easier for clinical team to get it right every time (order sets, algorithms, pocket cards, etc.)

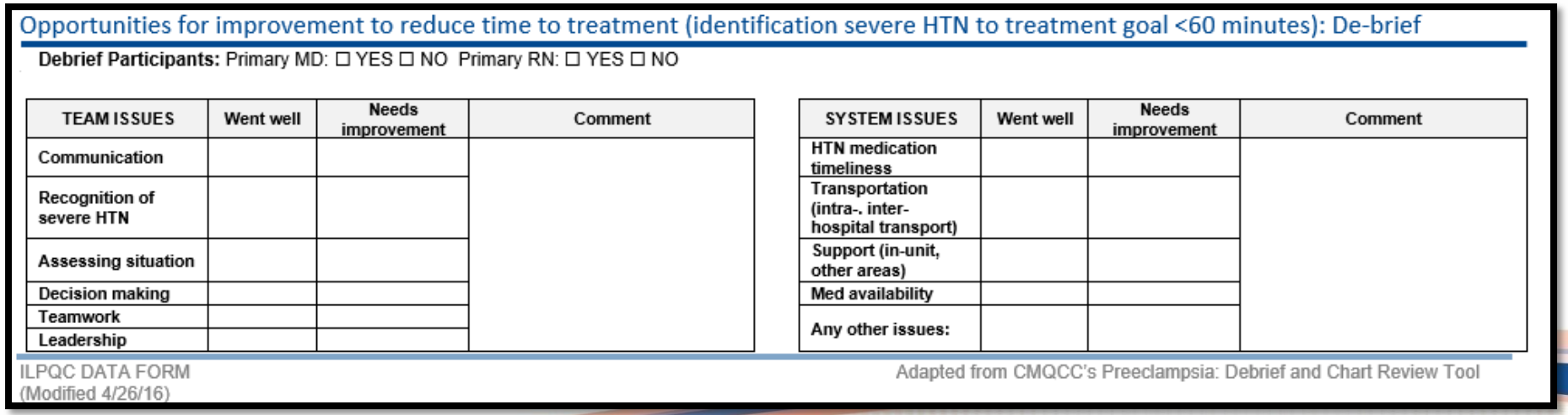
Missed Opportunities Review

QI team identify every patient with severe range blood pressure not treated in <60 min

Review and give provider/nurse feedback

Linking Debriefs/Missed Opportunities Review to PDSA cycle

1. Use your HTN Debrief Data to drive QI and improve Time to Treatment
   - Review debrief data at QI team meetings to identify any challenges & barriers to drive PDSA
2. Set a goal to increase % severe HTN patients debriefed
   - Use PDSA cycle to improve debriefs / create a culture of debriefs with nurses/providers
   - What systems changes could help improve active debriefs?
3. Review Missed Opportunities – all HTN patients not treated < 30-60 min
   - Daily, weekly or Monthly review depending on hospital and identify barriers
   - Provide feedback to providers/nurses / aides who provided care that they had a Fallout/Missed Opportunity and provide Severe HTN algorithm and any other appropriate training materials.



Opportunities for improvement to reduce time to treatment (identification severe HTN to treatment goal <60 minutes): De-brief

Debrief Participants: Primary MD: ☐ YES ☐ NO Primary RN: ☐ YES ☐ NO

TEAM ISSUES	Went well	Needs improvement	Comment
Communication			
Recognition of severe HTN			
Assessing situation			
Decision making			
Teamwork			
Leadership			

SYSTEM ISSUES	Went well	Needs improvement	Comment
HTN medication timeliness			
Transportation (intra-, inter-hospital transport)			
Support (in-unit, other areas)			
Med availability			
Any other issues:			

ILPQC DATA FORM
(Modified 4/26/16)

Adapted from CMQCC's Preeclampsia: Debrief and Chart Review Tool

HTN Initiative
Sustainability Plan

1. Compliance Monitoring
2. New Hire Education
3. Ongoing Staff/Provider Education

Email us at info@ilpqc.org of visit us at www.ilpqc.org

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THANKS TO OUR

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ALLIANCE FOR INNOVATION ON MATERNAL HEALTH AIM

MARCH OF DIMES

Institute for Healthcare Improvement (IHI)

Catherine Mather, MA

Director

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Recognition and Prevention

Every Patient

Change Concept	Change Idea	Key Resources and Tools
Ensure accurate measurement and assessment of blood pressure for every pregnant and postpartum patient.	Conduct and document a severe hypertension/preeclampsia risk assessment at initial prenatal visit and co-design a care plan that takes that risk into consideration and identifies when to re-assess	CMQCC Preeclampsia Early Recognition Tool (PERT)[13]
	Complete baseline labs at initial prenatal visit for those with elevated risk of hypertensive disease in pregnancy. Include at minimum platelets, AST, ALT, creatinine, 24 hour urine for protein or PCR	The assessment of blood pressure in pregnant women: pitfalls and novel approaches[35]
	Document the patient's risk assessment, treatments, and baseline labs in electronic health record	
	Assist patients in acquiring a home blood pressure monitoring device *Consider whether a patient's insurance covers the costs or whether there are community-based resources the patient could connect with* ◊ *	Penn Medicine Heart Safe Motherhood Home Monitoring Program[36]
	Support patients in documenting and tracking their blood pressure over time using whichever tool is easiest for that person to use (e.g., in an Excel sheet, on a paper log, or in a tracking app that syncs with a blood pressure cuff) ◊ Make sure patients know when to call their provider or 911. *Consider how far a patient lives from the hospital when informing them of when they should call in blood pressure information* ◊	Example: Blood Pressure Log (included in Appendix B) Patient perceptions, opinions and satisfaction of telehealth with remote blood pressure monitoring postpartum[37]

Reminders and Next Steps

- The next QI COL webinar will be held in: July 13, 2022. The topic will be Care for Pregnant and Postpartum People with Substance Use Disorder: Sharing Successes and Guidance
- If you have not done so already, register for all QI COL sessions and download them to your calendar: https://nichq.zoom.us/meeting/register/tJckcOGorDoiHdXJ27vnCTcEZC8iuE39ucS6
- You can still sign up for TA! Complete this TA request form to set up a session with Jane or Sue when you're ready! One person from your state should fill this out. https://survey.alchemer.com/s3/6707471/QI-Community-of-Learning-TA-Form

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Thank you!

THANK YOU