Obstetrics Breakout Session: Severe Maternal Hypertension Safety Bundle

2019 Texas Collaborative for Healthy Mothers and Babies Summit

January 29-30, 2019

Why we do this work

IL PQC
Illinois Perinatal Quality Collaborative

Severe Maternal Hypertension Preeclampsia:

4-10% US pregnancies

9% of maternal deaths in the United States

1/3 of severe obstetric complications

IUGR, oligohydramnios, placental abruption, NICU admission, stillbirth, neonatal death

6% of preterm births, and 19% of medically-indicated induced preterm births

Why we do this work

The New York Times | https://nyti.ms/2cShjiS

HEALTH

Maternal Mortality
Defying Global Tren

By SABRINA TAVERNISE SEPT. 21, 2016

The Washington Post

Wonkblog

Our maternal morta
is

By Christopher Ing

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Hemorrhage, Don't Clean Up':
From Mothers Who Almost Died

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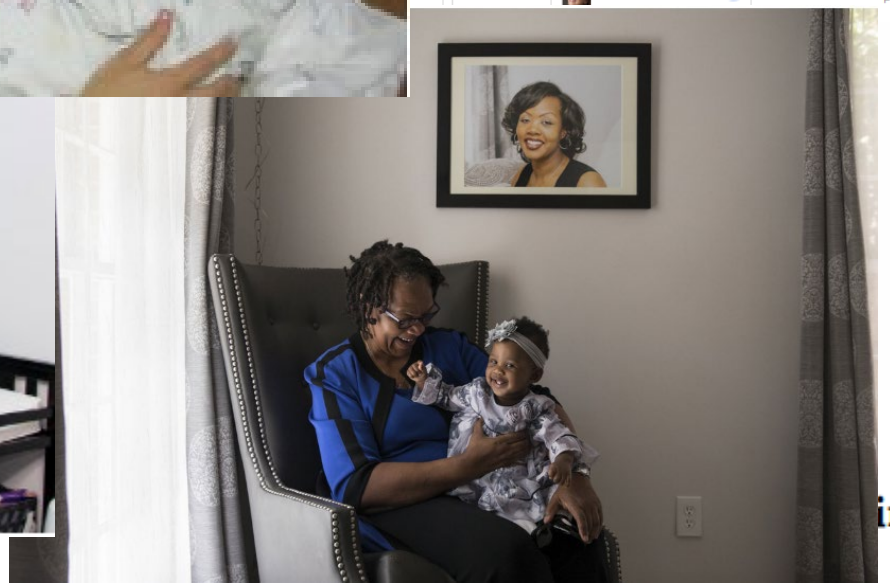


pr change station

SPECIAL SERIES
lost mother

Giving Birth. Shalon Irving's Story
Explains Why

December 7, 2017 · 7:51 PM ET
Heard on All Things Considered

NINA MARTIN RENEE MONTAGNE

irth

By ALEXANDRA SIFFERLIN September 27, 2016

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

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)

Project Aims

By December 2017, for all women with confirmed severe maternal HTN across participating hospitals:	Goal
Increase the proportion of women treated for severe HTN in < 60 minutes	≥ 80%
Increase the proportion of women receiving preeclampsia education at discharge	≥ 80%
Increase the proportion of women with follow-up appointments scheduled within 10 day of discharge	≥ 80%
Increase the proportion of cases with provider / nurse debriefs	≥ 50%
Reduce the rate of severe maternal morbidity (SMM)	↓20%

How do we improve care?

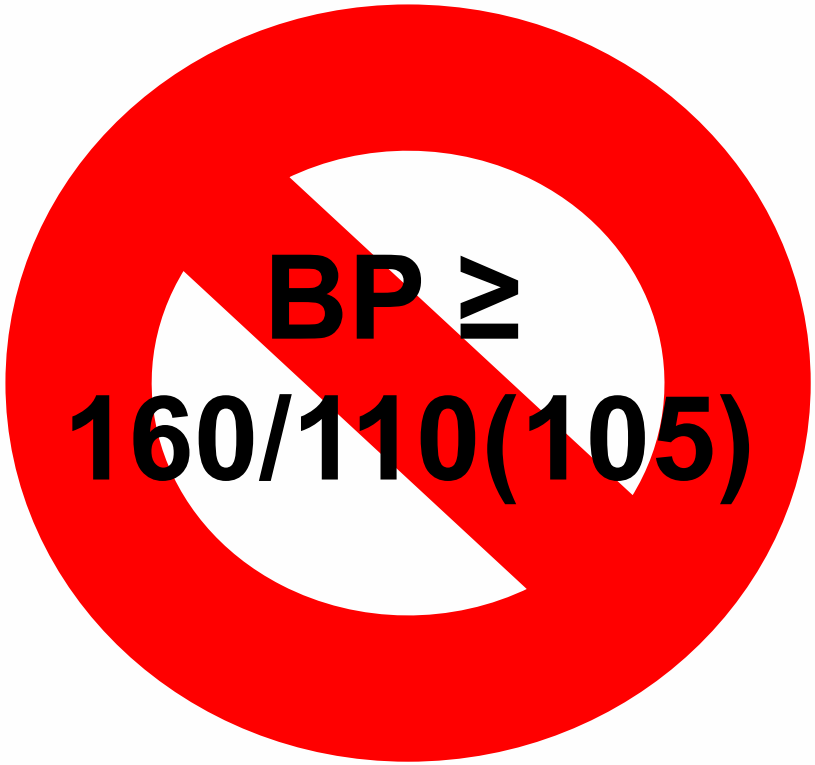
- Early recognition of hypertension and correct diagnosis during and after pregnancy
- Reduce time to treatment of severe range blood pressure, 160/110(105)
- Provide patient education and appropriately timed follow up
- Implementation of evidence based protocols for treatment and management of severe HTN / preeclampsia / eclampsia

Key Clinical Pearl: 160/110 vs. 160/105

Controlling blood pressure
is the optimal intervention
to prevent deaths due to stroke
in women with preeclampsia.

The critical initial step in decreasing maternal morbidity and mortality is to administer **anti-hypertensive** medications as soon as possible (< 60 minutes) of documentation of persistent (retested within 15 minutes) BP ≥160 systolic, and/or ≥105-110 diastolic

Clark SL, Hankins GD. Preventing maternal death: 10 clinical diamonds. Obstet Gynecol 2012;119:360–4.



Need To Treat*

*BP persistent 15 minutes, activate treatment algorithm with IV therapy ASAP, < 30-60 minutes

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

Quality Improvement Strategy

ILPQC facilitated:

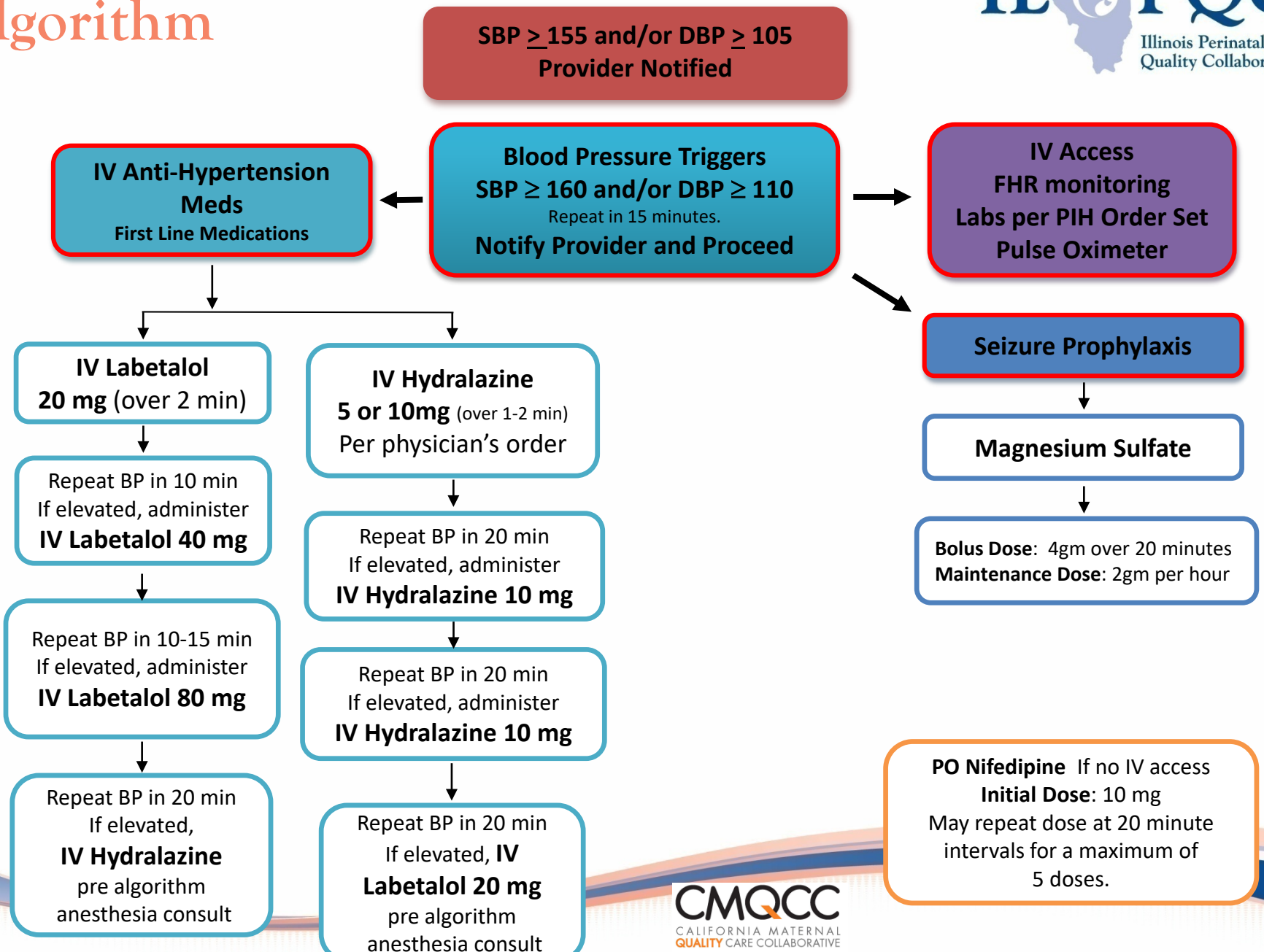
- Development of hospital-based QI teams by April 2016
- ***Collaborative learning*** through 4 in-person meetings, 21 monthly webinars, and 15 QI topic calls with teams
- ***Rapid-response data system*** for teams to compare data across time and to other hospitals
- ***QI support*** through a toolkit, 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

Severe Hypertension Treatment Algorithm



Illinois Perinatal Quality Collaborative

CMQCC California Maternal Quality Care Collaborative

Data Collection

- Process and outcome measures collected by ongoing monthly chart review by hospital teams
- Inclusion criteria
  - All first cases of severe maternal HTN during pregnancy through 6 weeks postpartum in participating hospitals
  - Severe Maternal HTN defined as BP ≥ 160/110 persistent for ≥ 15 minutes
- Timeline
  - Baseline: October – December 2015
  - Initiative Launch May 2016
  - Monthly data collection through December 2017
  - Monthly compliance data collection ongoing

Key Measures

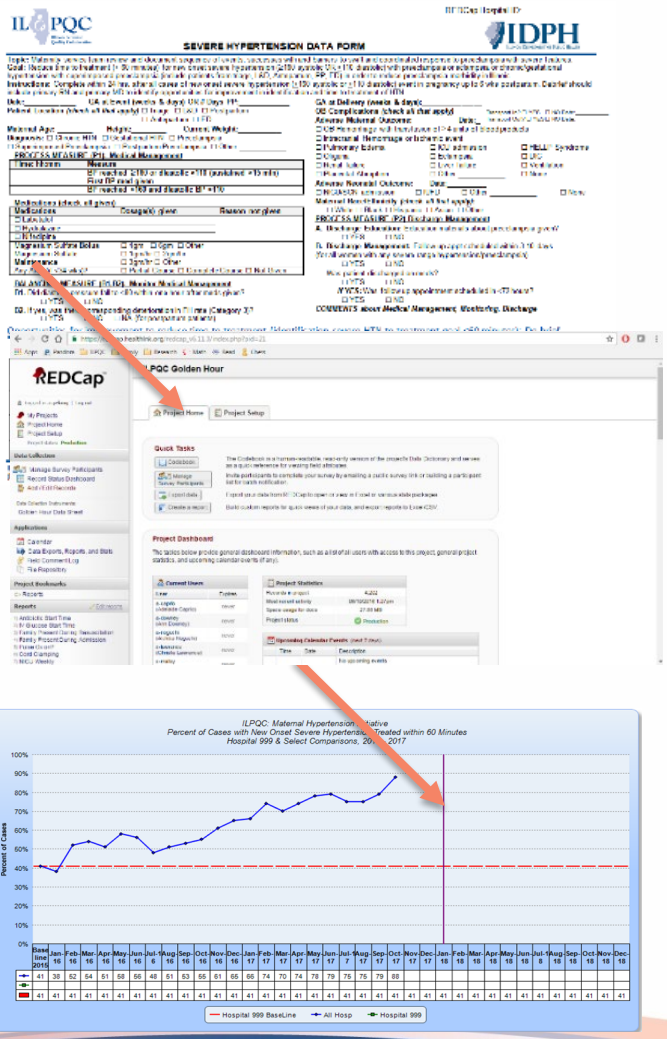
- **Outcome:** Severe Maternal Morbidity
- **Process:** Time to treatment, Patient discharge education, Patient follow up visit< 10 days, Debrief
- **Balancing:** Hypotension, Fetal heart rate
- **Structure:**
  - Facility-wide protocols for timely identification and treatment of severe maternal hypertension
  - Provider /nurse education on HTN protocols
  - Rapid access to IV medications
  - System plan for escalation of care
  - Facility-wide protocols for patient education

ILPQC Data System

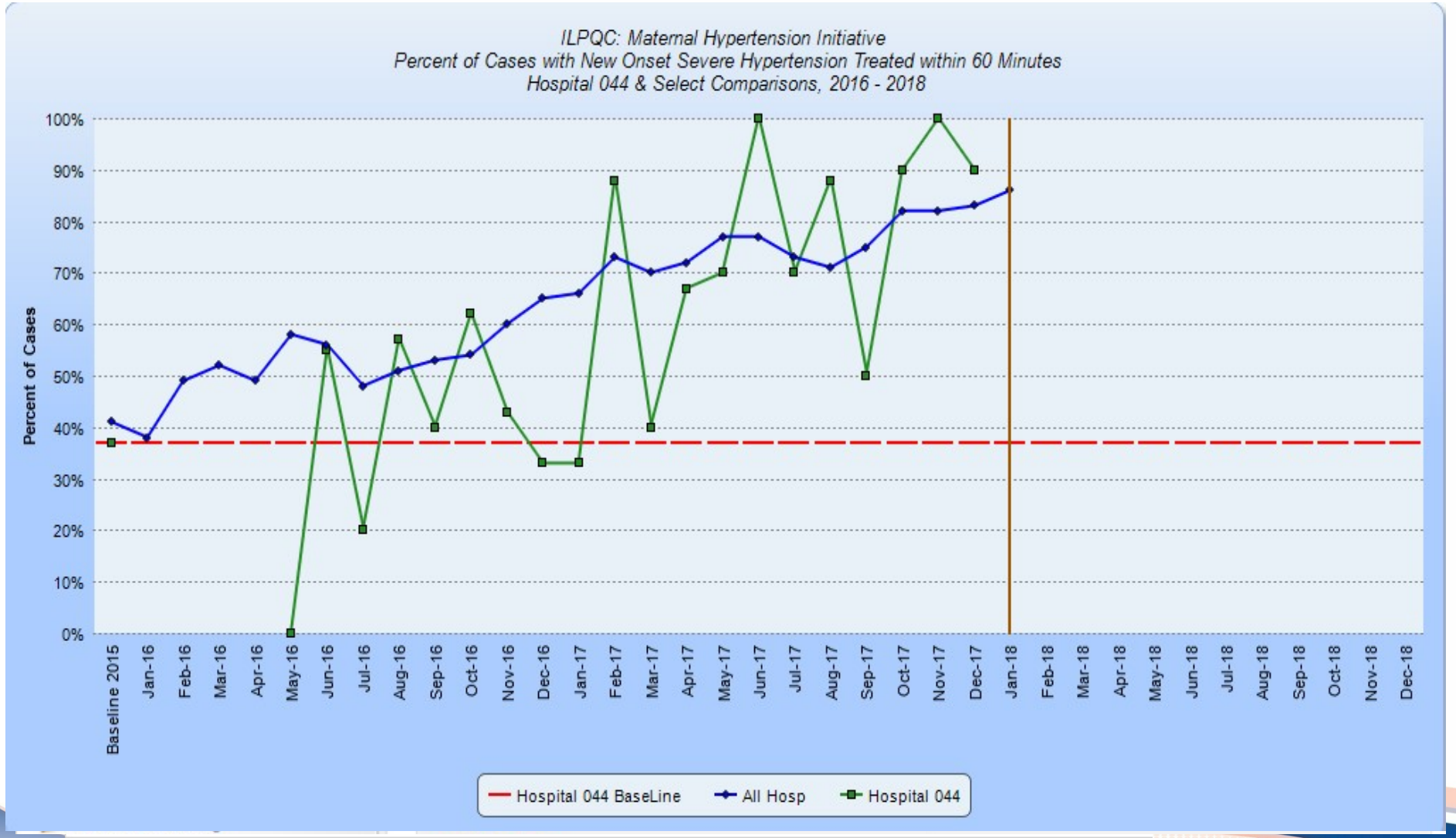
Hospital Teams collect data through chart audit and real time data logs

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

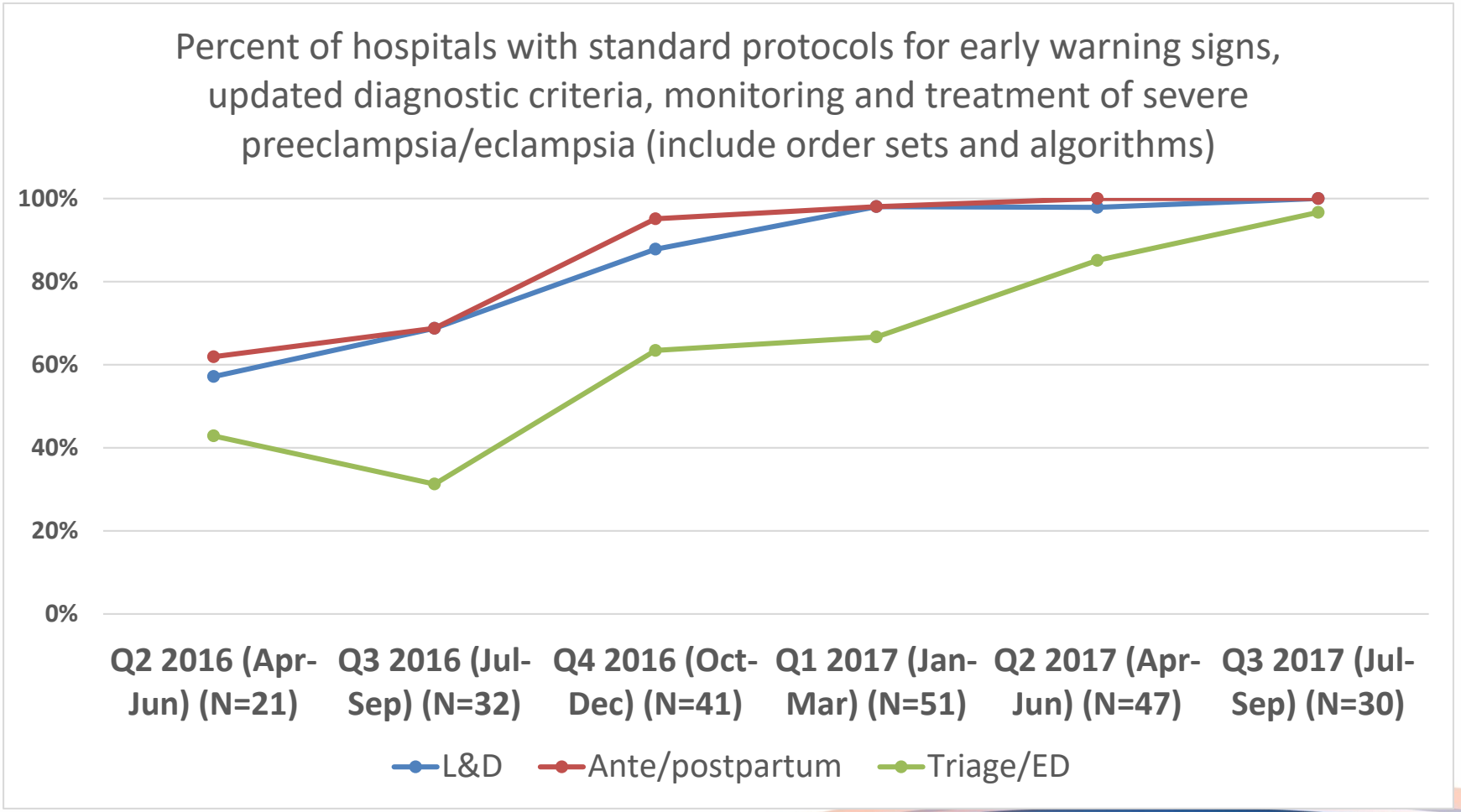
Hospital Teams immediately access rapid response web based reports to compare data across time and to other IL hospitals



ILPQC Data System

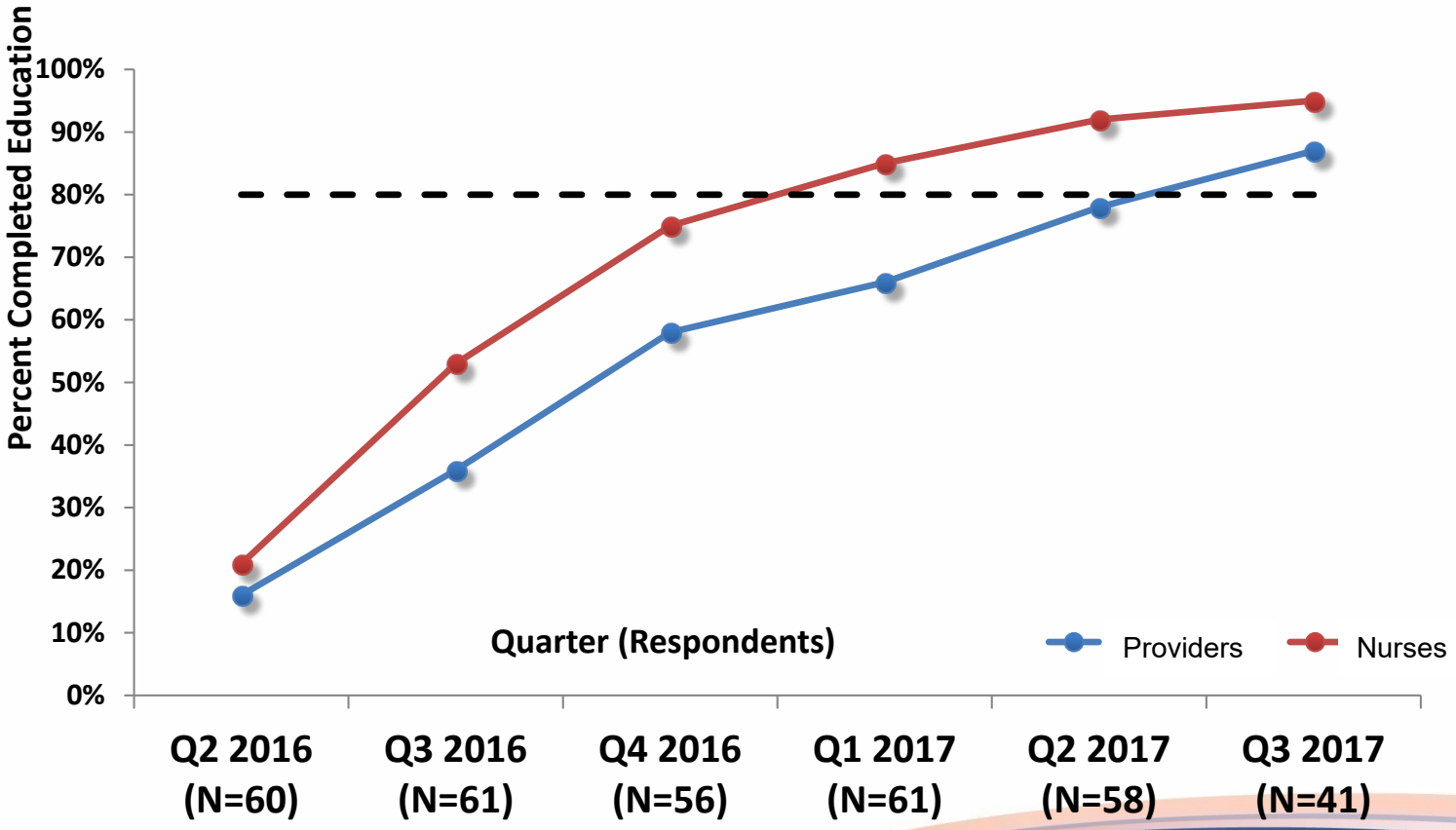


Structure Measure: Standard Policies / Protocols Across Units



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



Maternal Hypertension Data: Time to Treatment

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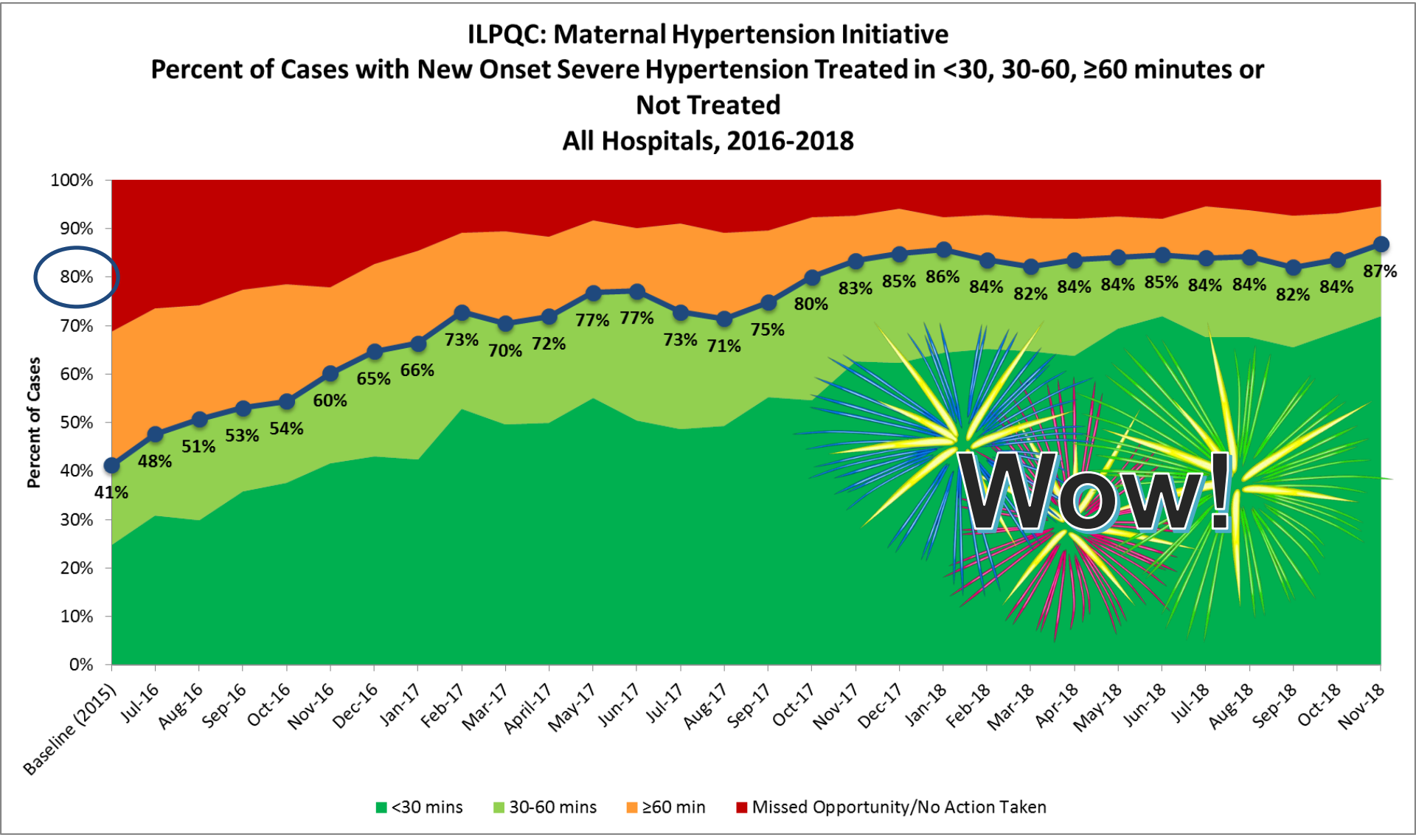
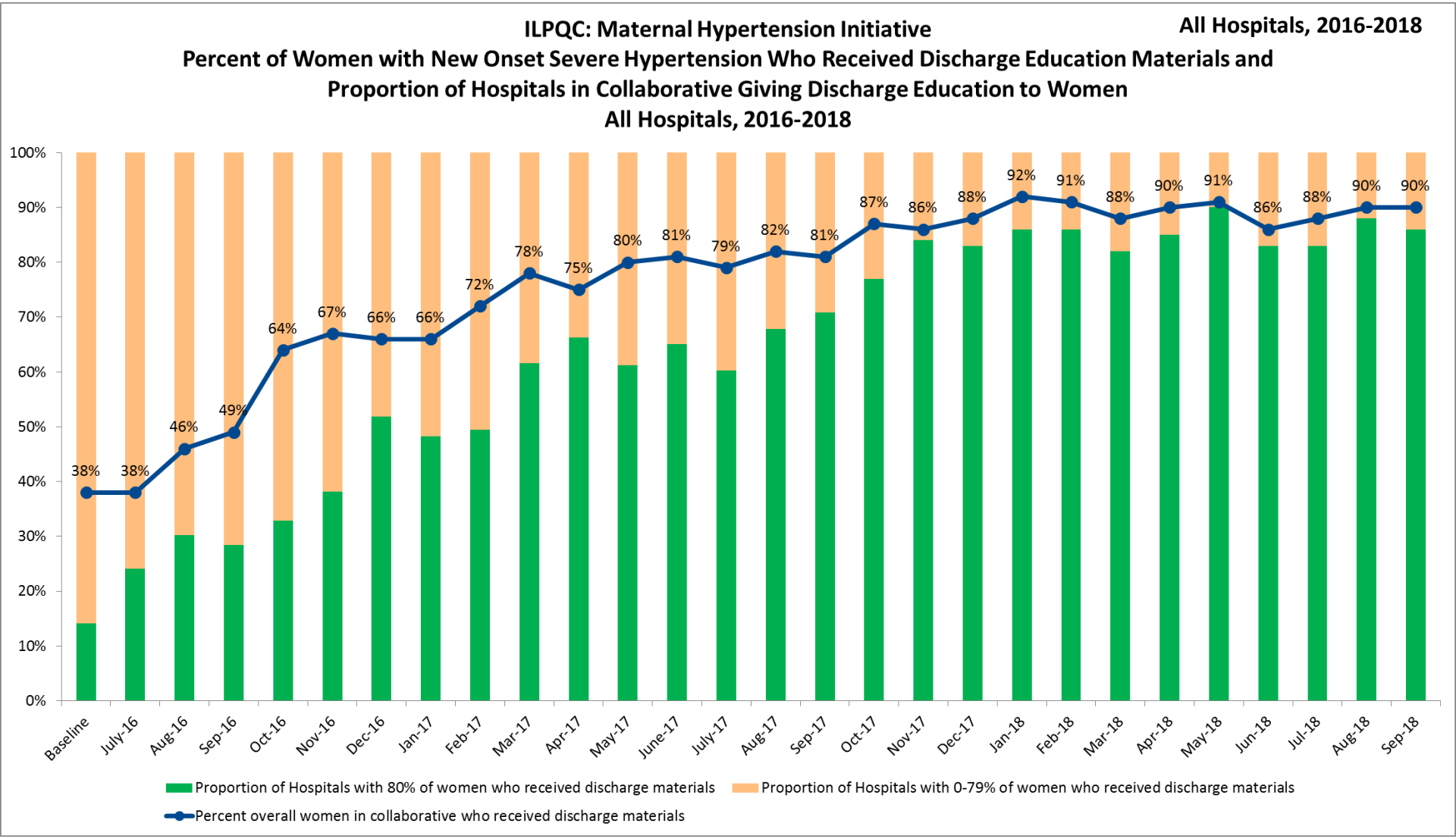
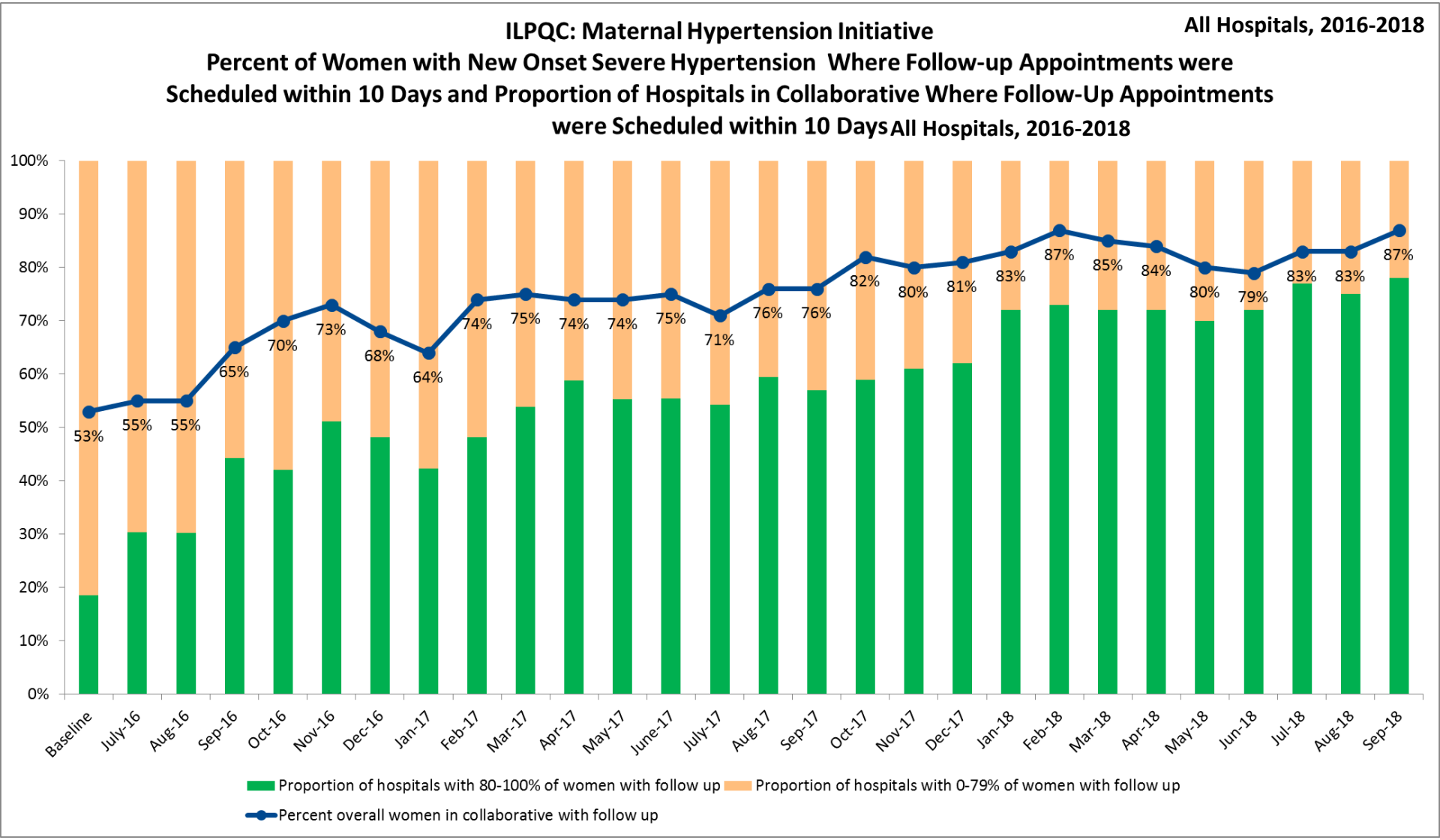


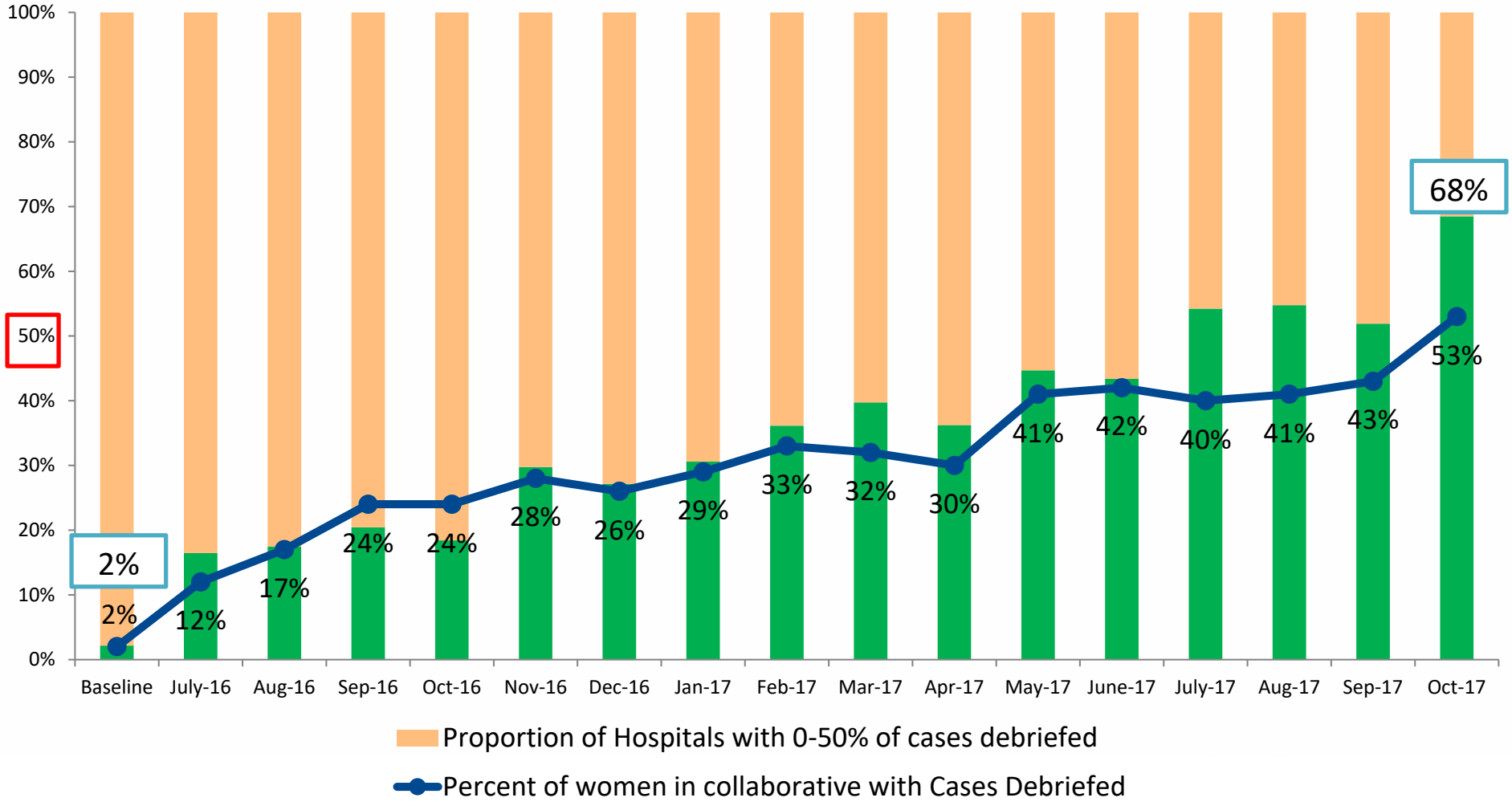
Maternal Hypertension Data: Patient Education



Maternal Hypertension Data: Patient Follow-up



Severe Maternal Hypertension Time To Treatment Debriefed



Maternal Hypertension Outcome Data: Severe Maternal Morbidity

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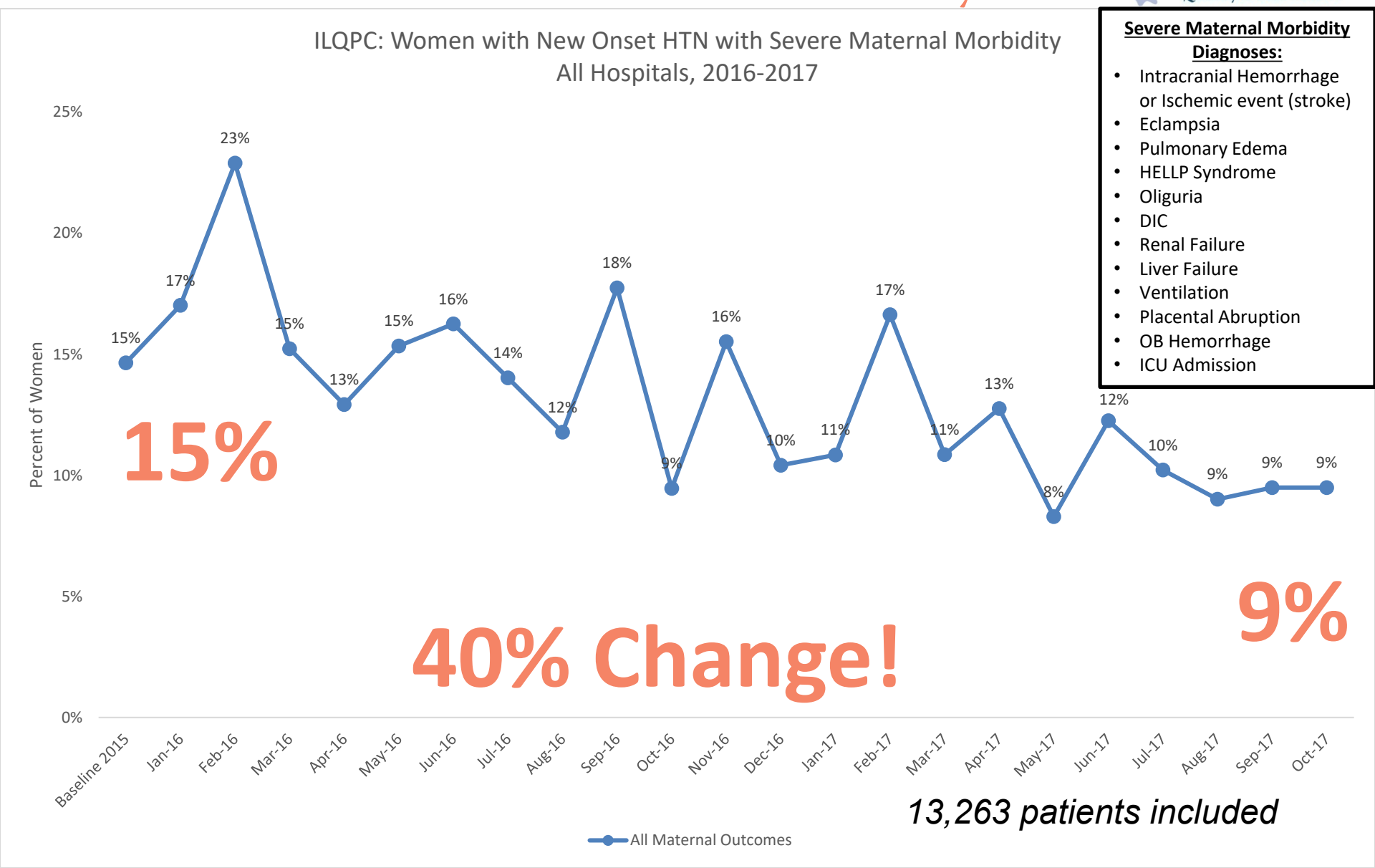
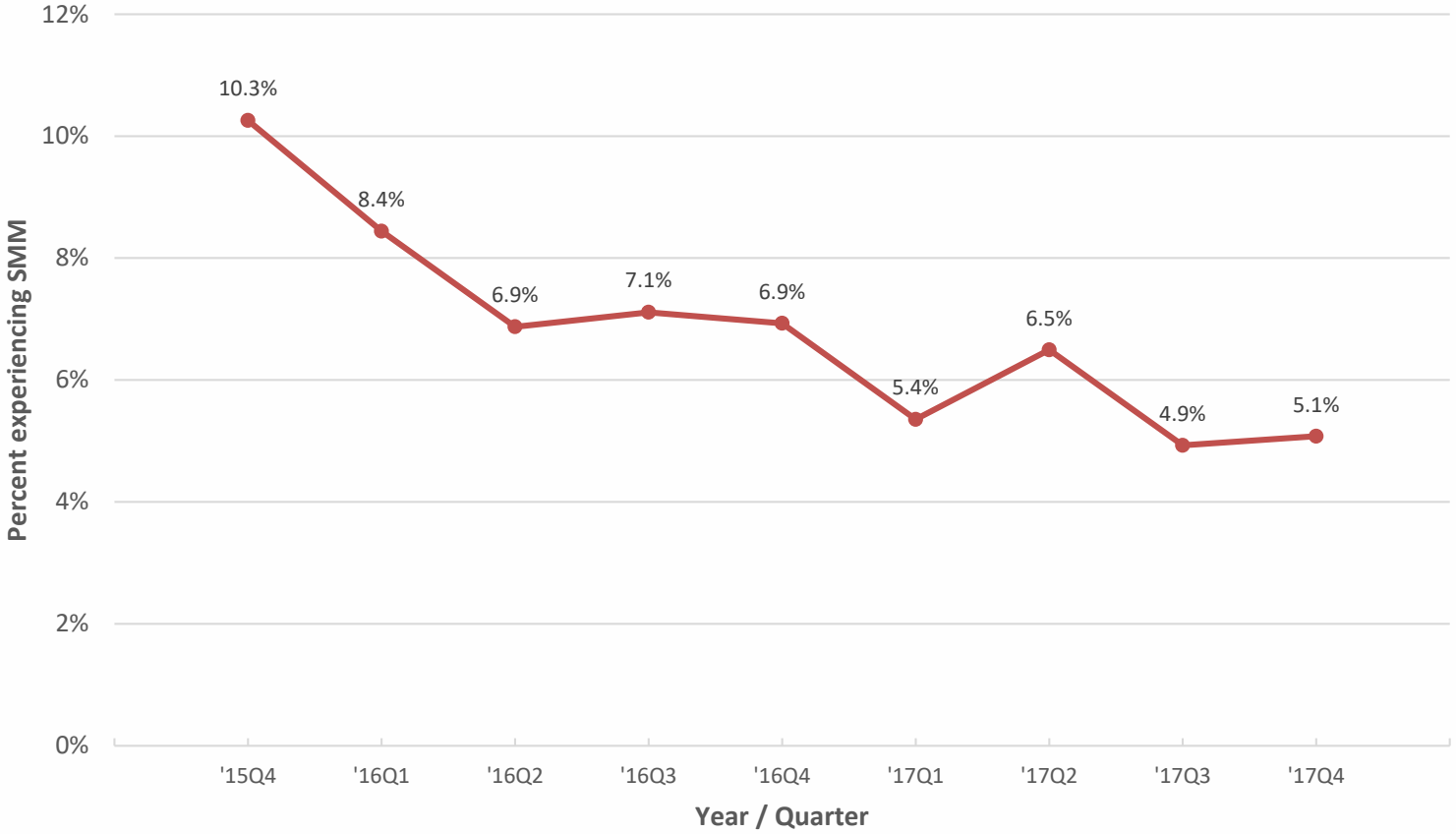


Severe Maternal Morbidity Rate Deliveries with Hypertension, Hospital Discharge Data, All Illinois Hospitals



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

Building HTN Sustainability Post-Initiative:

All teams submit a Severe HTN Sustainability Plan

1. Compliance tracking for all cases severe HTN in ILPQC Data System, plan for monitoring & response
   - Time to treatment severe HTN under an hour
   - Magnesium provided
   - Early follow up for BP check within 7-10 days
   - Patient education at discharge
2. Ongoing education for providers and nurses (drills, simulations, e-modules)
3. Education plan for new hires

Reducing Time To Treatment

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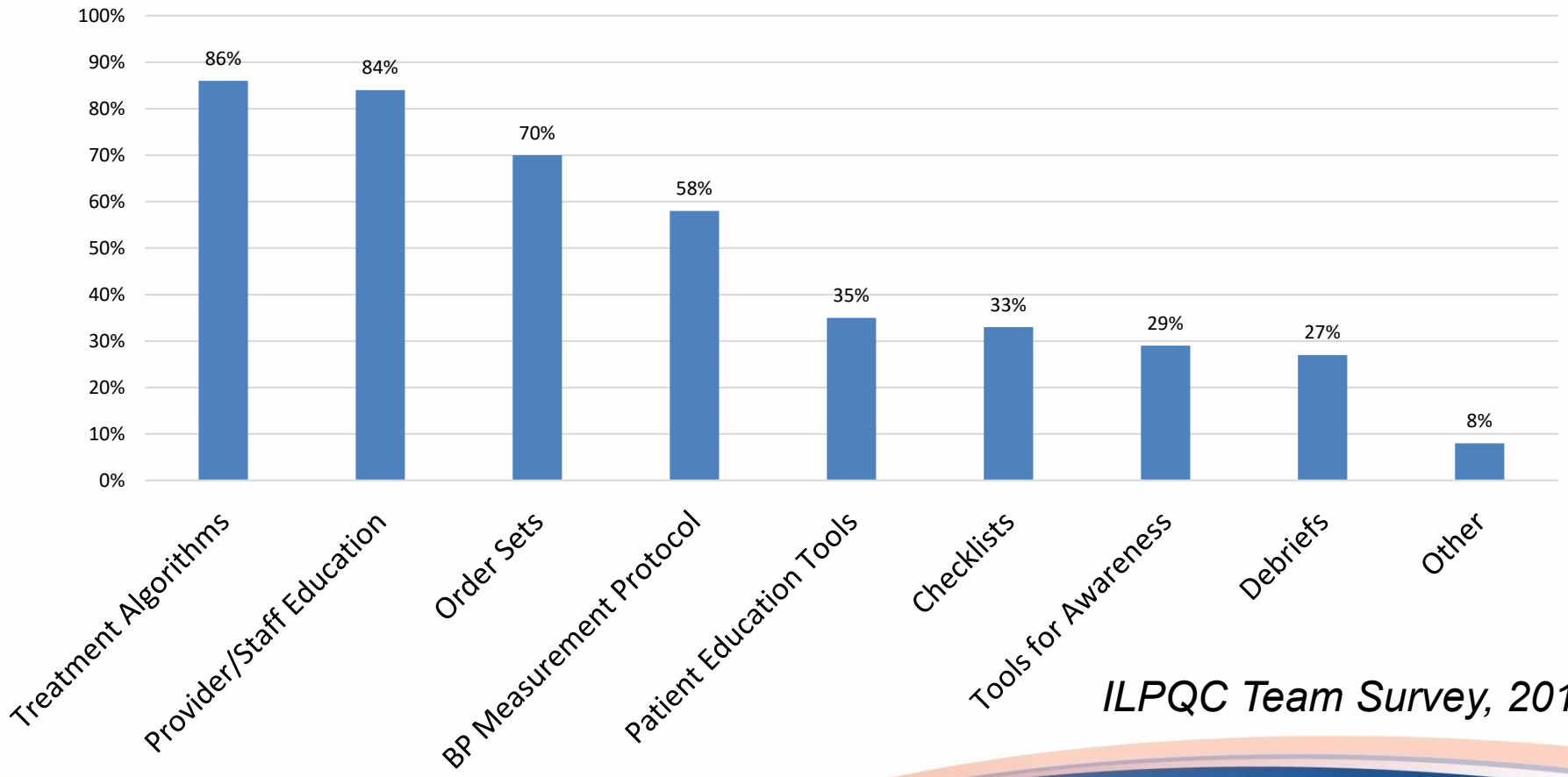
Elements of Maternal Hypertensive Bundle Most Effective in Reducing Time to Treatment



ILPQC Team Survey, 2017

HTN Goals in 2019

- Every hospital maintain Time to Treatment above goal – benchmark and review data
- Maintain sustainability plan
  - Continue compliance monitoring
  - New hire education
  - Continued education
- Review missed opportunities with providers/staff
- ILPQC will maintain RedCap Data Reports
- Propose 2 HTN calls in 2019
- Continue to support discussions at Perinatal Network meetings

Questions?

Email: info@ilpqc.org

Website: www.ilpqc.org

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