



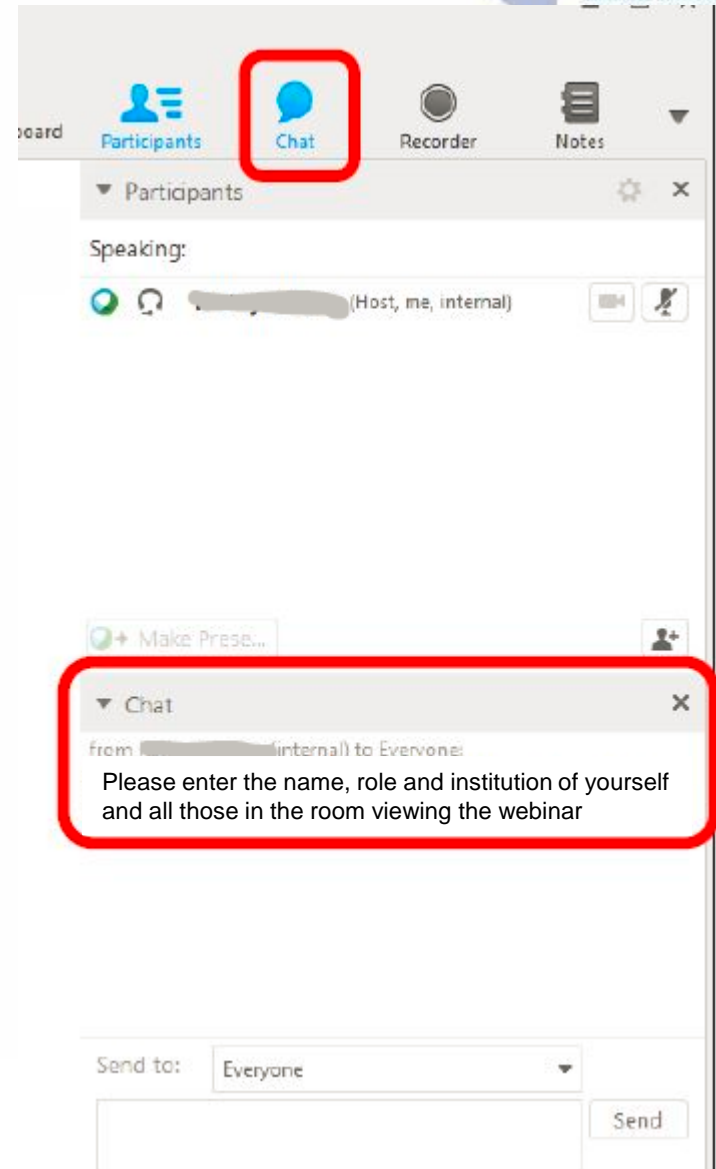
Severe Maternal Hypertension OB Teams Call

July 30, 2018

12:00 – 1:00 PM

Introductions

- Please enter for yourself and all those in the room with you viewing the webinar into the chat box your:
 - Name
 - Role
 - Institution
- If you are only on the phone line, please be sure to let us know so we can note your attendance



Tips for Adding WebEx to your Calendar

- You must manually add the meeting to your calendar
- WebEx is currently unable to add the meeting to your calendar if you are accepting the meeting on a mobile device

ILPQC Severe Hypertension OB Teams ↻

Monday, July 30, 2018 | 12:00 pm Central Daylight Time (GMT-05:00) | 1 hour | ● Not started

Recurrence: The last Monday of every 3 months, from Monday, July 30, 2018, to Monday, October 29, 2018

Host: Danielle Young [Add to my calendar](#)

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Meeting number: 801 008 503

Meeting password: ilpqc_htn

Meeting link: <https://northwestern.webex.com/northwestern/j.pl>

Video address: Dial 801008503@northwestern.webex.com
You can also dial 173.243.2.68 and enter your meeting number.

Audio connection: +1-415-655-0002 US Toll
[Global call-in numbers](#)
Access code: 801 008 503

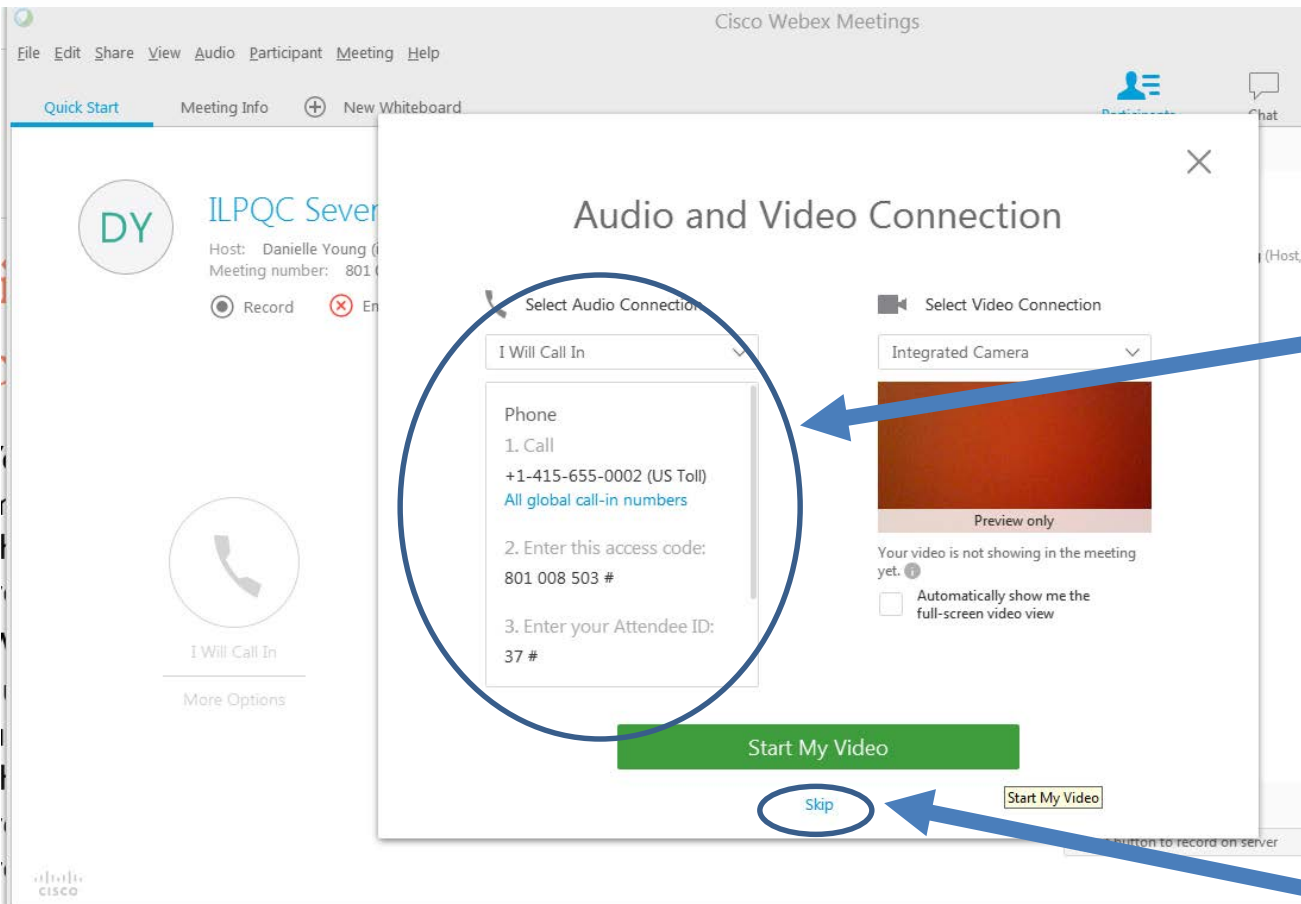
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Join

When it's time, join your meeting here.

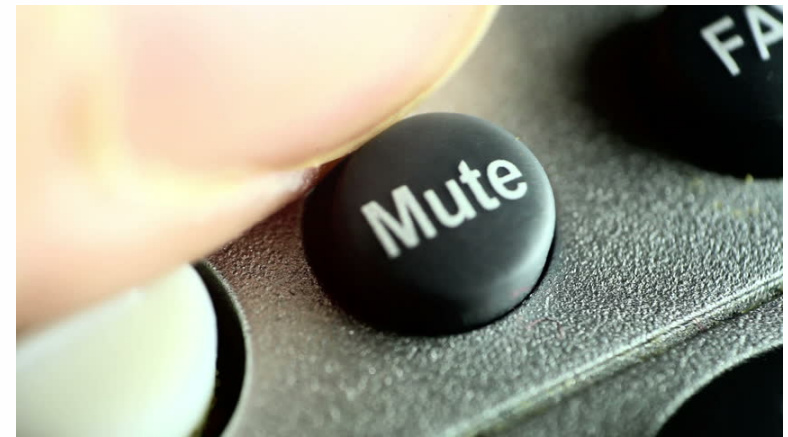
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- Please call-in from a phone (do not use your computer to call-in) for best sound quality.
- Please dial-in after opening the WebEx meeting and enter your attendee ID.
- Clicking the green “Start My Video” button will display video from the camera on your computer. If you do not want to connect to the webinar with you video, dial-in to the webinar, and click “skip.”
- The webinar content will then open up.

Conference Line Logistics

- Use the **MUTE** button on your phone or
- You can use *6 to place the call on **MUTE** and *6 to come off of **MUTE**
- Please do not place the call on hold!



Thank you!

Overview

- Hypertension Sustainability
- Review of magnesium sulfate administration
- Dr. Larry Shields – Dignity Health Experience with Hypertension and Mag Sulfate
- Team Talks – Magnesium sulfate administration
 - AMITA Health Alexian Brothers Women and Children's Hospital
 - University of Chicago

SUSTAINABILITY

Schedule a mid-year review of sustainability plans with your QI team – questions and key points to highlight are provide in the following slides.

Sustainability Plans: Section-by-Section



Compliance Monitoring of key process measures:

1. Time to treatment for severe HTN <60 minutes
2. Magnesium provided ←
3. Early follow-up for BP check within 7-10 days
4. Patient discharge education
5. Demographic and basic descriptive information including BP

How will measures be collected? _____

Will you continue to track additional data internally? Yes No


Team member(s) in charge of reporting in REDCap: _____

How often will your QI team meet to review hospital data reports via REDCap and develop and implement PDSA cycles if compliance on measures starts to slip?:

Weekly Monthly Quarterly Other

NEW Compliance Data Form in REDCAP

proj-coordinator | My Profile | Log out



Home My Projects Request New Project Training Resources Help & FAQ Send-It

Listed below are the REDCap projects to which you currently have access. Click the project title to open the project. Newly created projects begin in **Development status** as you begin to build and design them. When you are ready to begin entering real data in the project, you may move it to **Production status** to designate the project as officially collecting data. When you are finished collecting data or if you wish to stop collection, the project may be set to **Inactive status**, although it may be brought back to Production status at any time when you are ready to begin collecting data again. Also listed is the project type, which designates if the project is in **classic** or **longitudinal** data collection format.

You last accessed the User Access Dashboard 243 days ago. It is recommended that you access the User Access Dashboard at least once a month to review which users still have access to your projects. [Go to User Access Dashboard](#)

Project Title	Records	Fields	Instruments	Type	Status
ILPQC Early Elective Delivery Initiative	Loading.	17	1 form		✓
ILPQC Birth Certificate Initiative	Loading.	28	1 form		✓
ILPQC Golden Hour	Loading.	35	1 survey		✗
ILPQC Severe Hypertension Data Form	Loading.	36	1 form		✗
ILPQC AIM Yearly Measures	Loading.	12	1 form		✓
ILPQC AIM Quarterly Measures	Loading.	11	1 form		✓
ILPQC Severe HTN Implementation Checklist	Loading.	32	1 form		✓
ILPQC Severe Maternal HTN Compliance Form	Loading.	23	1 form		✓
ILPQC MNO	Loading.	125	1 form		✎
ILPQC Golden Hour Sustainability	Loading.	13	1 survey		✓

No longer active

Use this form!

NEW Compliance Data Form Paper Version



REDCap Hospital ID: _____



SEVERE HYPERTENSION SUSTAINABILITY COMPLIANCE DATA FORM

Topic: Maternity service team review and document sequence of events, successes with and barriers to swift and coordinated response to preeclampsia with severe features.

Goal: Reduce time to treatment (< 60 minutes) for new onset severe hypertension (≥ 160 systolic OR ≥ 110 diastolic) with preeclampsia or eclampsia or chronic/gestational hypertension with superimposed preeclampsia (include patients from triage, L&D, Antepartum, PP, ED) in order to reduce preeclampsia morbidity in Illinois.

Instructions: Complete within 24 hrs. after all cases of new onset severe hypertension (≥ 160 systolic or ≥ 110 diastolic) event in pregnancy up to 6 wks postpartum. Debrief should include primary RN and primary MD to identify opportunities for improvement in identification and time to treatment of HTN.

Date of severe maternal HTN event: _____

HTN event occurred postpartum? YES NO

GA at HTN Event (weeks & days) OR # Days PP: _____

Maternal Race/Ethnicity (check all that apply): White Black Hispanic
 Asian Other _____

Diagnosis (select all that apply): Chronic HTN Gestational HTN Preeclampsia
 Superimposed Preeclampsia Postpartum Preeclampsia Other _____

Blood Pressure at initiation of antihypertensive treatment (SBP/DBP): _____

Record the confirmatory or repeat severe range BP measured prior to giving anti-HTN medications, if more than one confirmatory or repeat BP collected record the highest BP

How long after the BP reached systolic ≥ 160 and/or diastolic ≥ 110 and persistent for 15 minutes was first BP medication given? <30 minutes 30-59 minutes
 ≥ 60 minutes No action taken/ Missed opportunity

Was Magnesium Sulfate administered? YES NO

GA at Delivery (weeks & days): _____

PROCESS MEASURE - Discharge Management

Discharge Education: Education materials about preeclampsia given?

YES NO

Follow-up Appointment: Follow-up appt scheduled within 10 days (for all women with any severe range hypertension/preeclampsia)

YES NO

Adverse Maternal Outcome (check all that apply):

- OB Hemorrhage with transfusion of ≥ 4 units of blood products
- Intracranial Hemorrhage or Ischemic event
- Pulmonary Edema
- ICU admission
- HELLP Syndrome
- Oliguria
- Eclampsia
- DIC
- Renal failure
- Liver failure
- Ventilation
- Placental Abruption
- Other _____
- None

COMMENTS about Medical Management, Monitoring, Discharge



Compliance Monitoring

- How often are you reviewing your compliance data in the ILPQC Data and Reporting System?
- How is compliance data shared with other team members? With hospital administration?
- How can you overcome challenges to data entry during sustainability?
- Do you have a plan in place to implement PDSA cycles if performance on compliance measures falls below the goal?

Sustainability Plans: Section-by-Section



New Hire Education for all new hires

What education tool(s) will you use for new hires?

- AIM e-modules / webcast ILPQC Grand Rounds Slide Set ILPQC Severe Maternal HTN Toolkit Binder
- Other: _____

How will you incorporate Severe Maternal Hypertension education and hospital identification, treatment, and discharge workflows and protocols into hospital new hire education?

- What steps have you taken to incorporate Severe Maternal Hypertension education into new hire education?
- What are some barriers to training new hires on Severe Maternal Hypertension? How can these be overcome?

Sustainability Plans: Section-by-Section



Ongoing Education for all providers and nurses

What education tool(s) will you use for ongoing education for all nurses and providers?

Drills Simulations Laminated protocols Algorithms Active debrief AIM e-modules /webcast

Other: _____

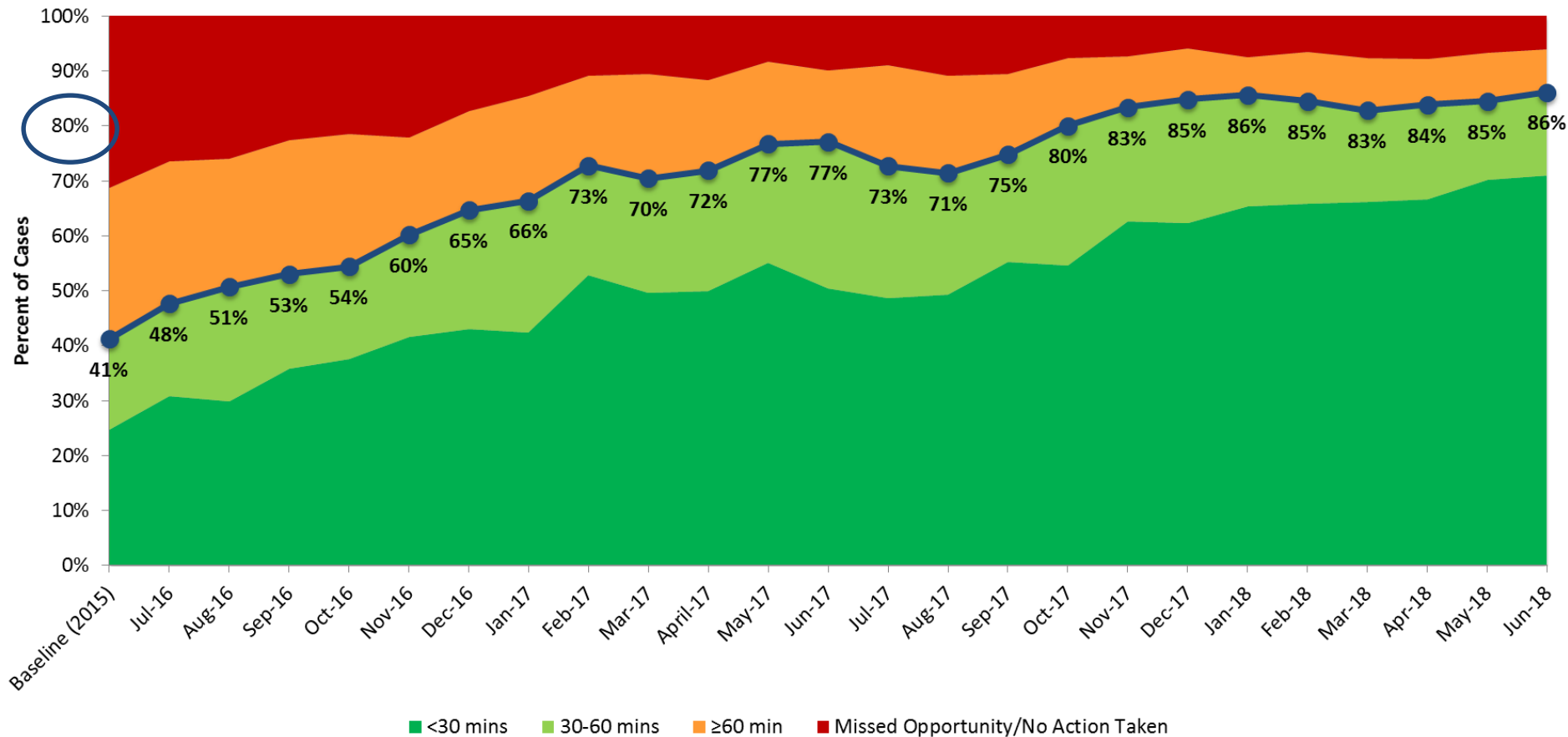
How will you incorporate Severe Maternal Hypertension education and hospital identification, treatment, and discharge workflows and protocols into ongoing education?

- Does your team know where to find the AIM e-modules? Grand rounds slide deck?
- What steps have you taken to incorporate education on Severe Maternal HTN into ongoing nursing and physician education?
- How will you incorporate Severe Maternal HTN drills, simulations, and e-modules into ongoing unit education?

Maternal Hypertension Data: Time to Treatment



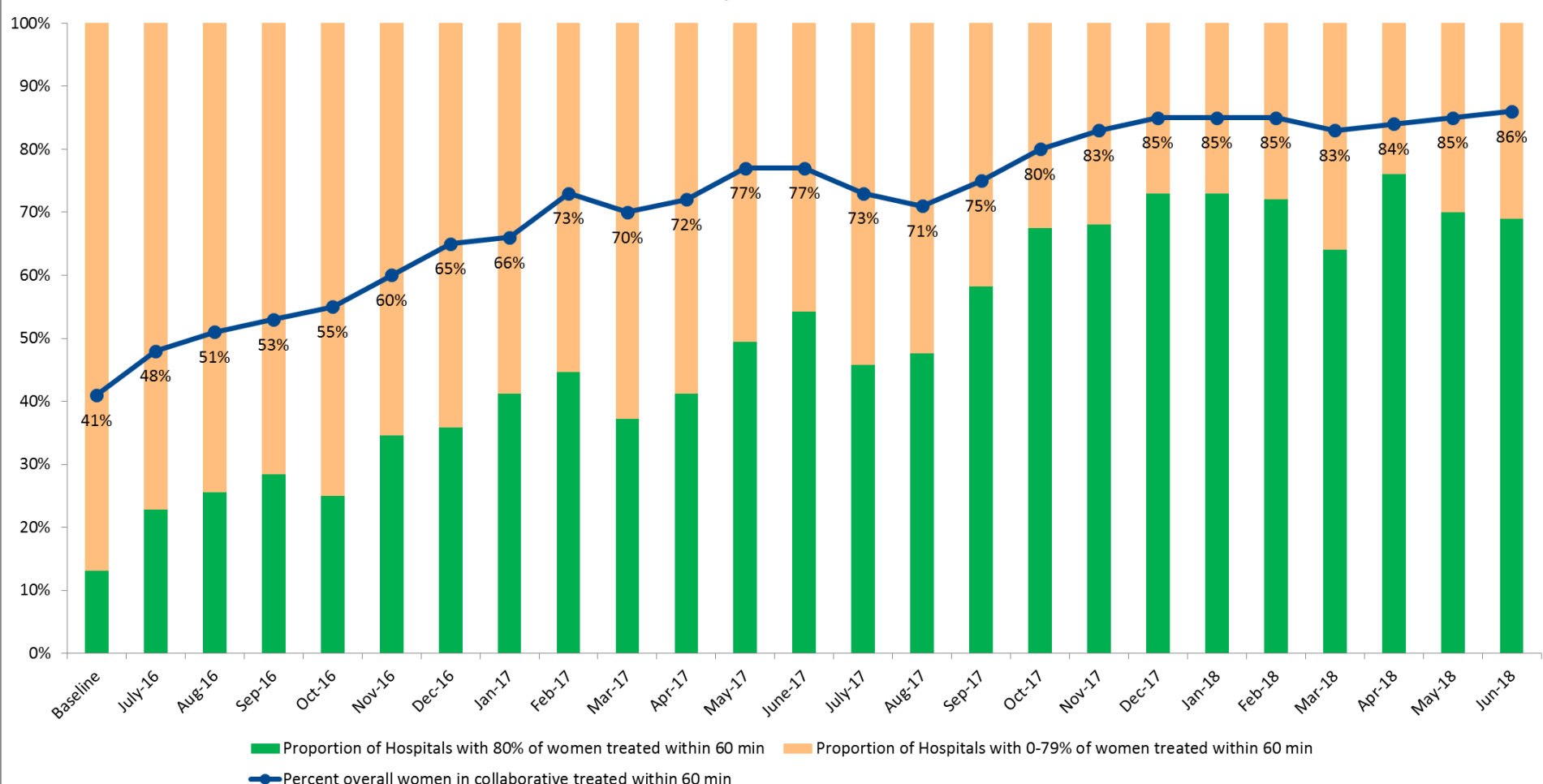
ILPQC: Maternal Hypertension Initiative
Percent of Cases with New Onset Severe Hypertension Treated in <30, 30-60, ≥60 minutes or Not Treated
All Hospitals, 2016-2018



Maternal Hypertension Data: Time to Treatment



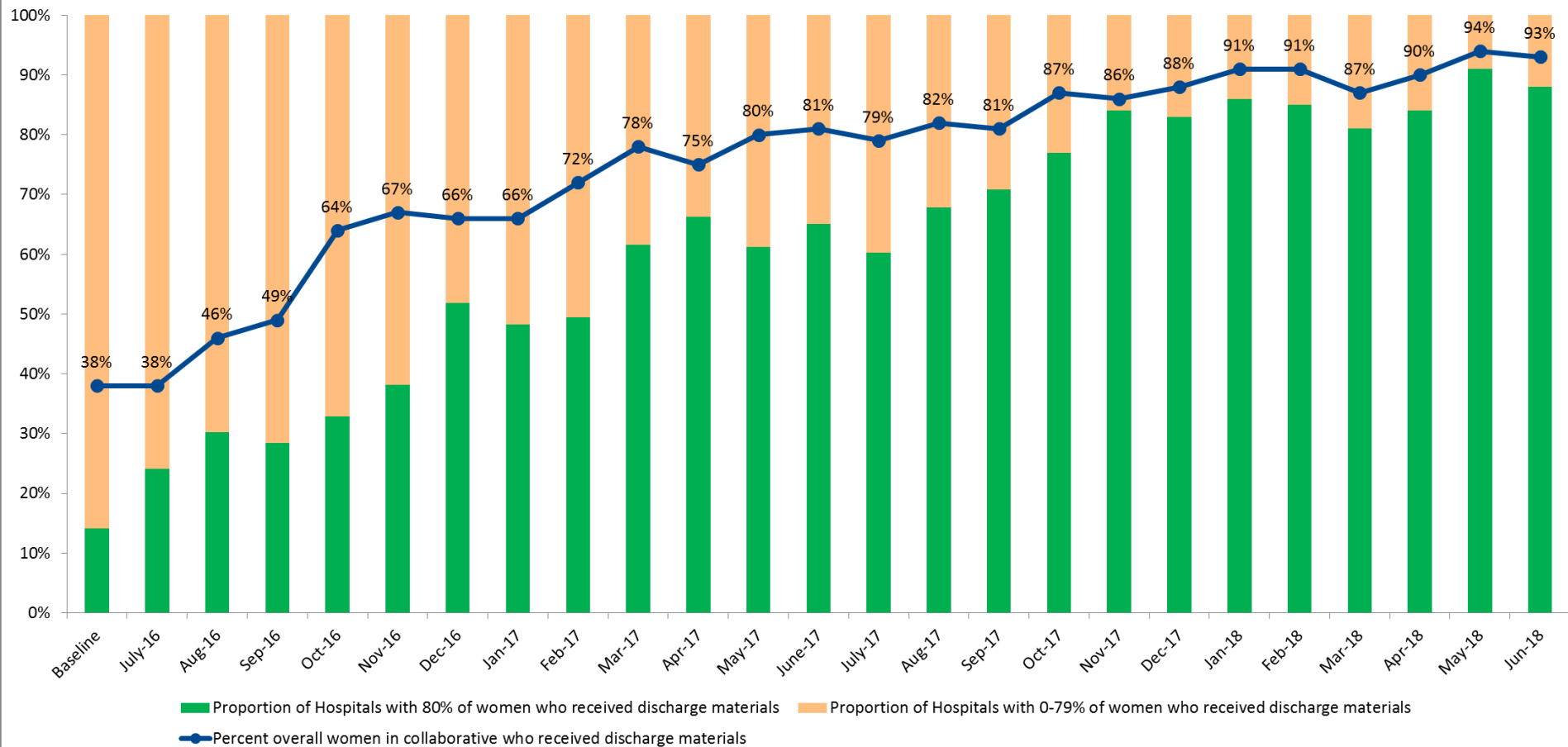
ILPQC: Maternal Hypertension Initiative
Percent of Women with New Onset Severe Hypertension Treated Within 60 Minutes and Proportion of Hospitals in Collaborative Treating Women Within 60 Minutes
All Hospitals, 2016-2018



Maternal Hypertension Data: Patient Education



ILPQC: Maternal Hypertension Initiative
Percent of Women with New Onset Severe Hypertension Who Received Discharge Education Materials and
Proportion of Hospitals in Collaborative Giving Discharge Education to Women
All Hospitals, 2016-2018

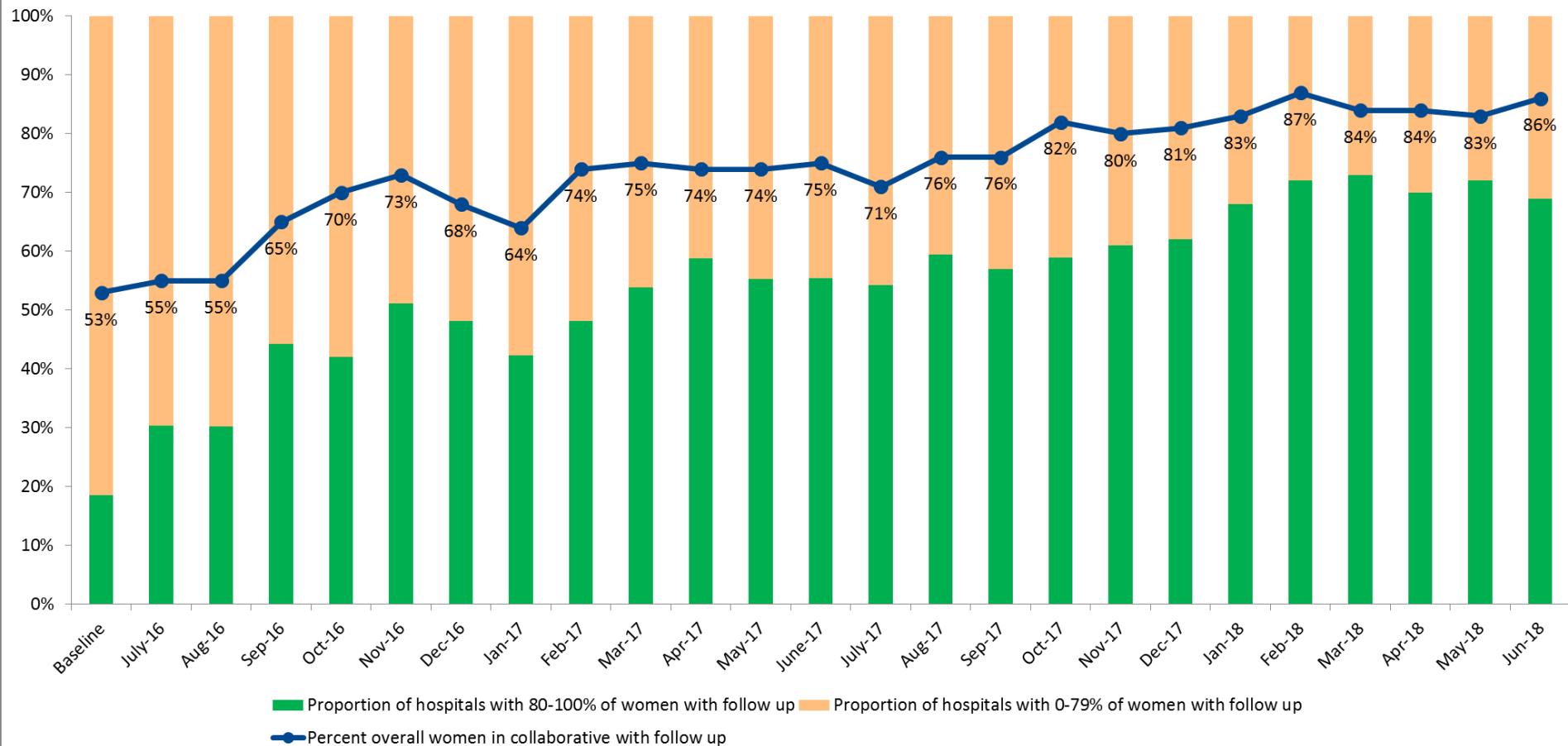


Maternal Hypertension Data: Patient Follow-up



ILPQC: Maternal Hypertension Initiative

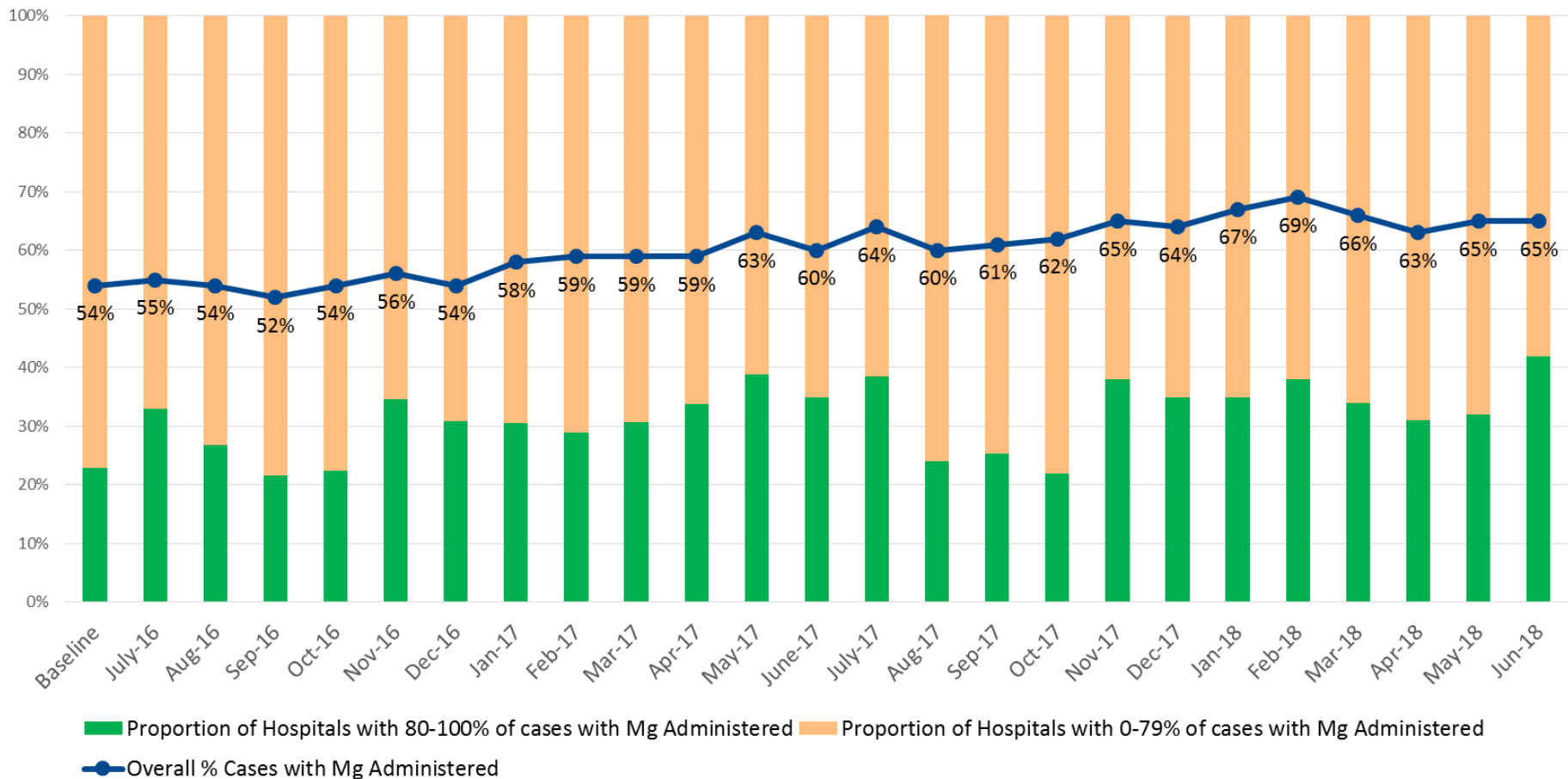
Percent of Women with New Onset Severe Hypertension Where Follow-up Appointments were Scheduled within 10 Days and Proportion of Hospitals in Collaborative Where Follow-up Appointments were Scheduled within 10 Days All Hospitals, 2016-2018



Maternal Hypertension Data: Magnesium Sulfate Administration



ILPQC: Maternal Hypertension Initiative
Percent of Cases with New Onset Severe Hypertension with Magnesium Sulfate Administered
All Hospitals, 2016-2018



Congratulations!

- **42 teams will receive letter of commendation and QI Excellence Certificate for completing 2017 data entry and reaching T2T treatment goal for Q4 2017**
- We review data quarterly and all teams who have not yet reached the T2T goal and who do so by the end of 2018 will be recognized!
- 7 additional teams will be recognized for meeting the T2T goal in Q1 2018



MAGNESIUM SULFATE ADMINISTRATION

Magnesium Therapy

- Magnesium sulfate therapy **for seizure prophylaxis (DOES NOT TREAT HTN)** should be administered to any patients with:
 - Preeclampsia ***with*** “severe features” i.e., subjective neurological symptoms (headache or blurry vision), abdominal pain, epigastric pain, OR **BP \geq 160/110**.
 - ***Do not need to wait for +protein or wait 6 hours for confirmation, if new onset severe HTN start Mag***
 - ***New onset severe HTN***
 - ***treat BP and start Magnesium for seizure prevention***
 - Eclampsia
 - ***Should be considered*** in patients with preeclampsia ***without*** severe features

Severe Hypertension Treatment Algorithm

**SBP \geq 155 and/or DBP \geq 105
Provider Notified**

**Blood Pressure Triggers
SBP \geq 160 and/or DBP \geq 110
Repeat in 15 minutes.
Notify Provider and Proceed**

**IV Anti-Hypertension
Meds
First Line Medications**

**IV Access
FHR monitoring
Labs per PIH Order Set
Pulse Oximeter**

**IV Labetalol
20 mg (over 2 min)**

**IV Hydralazine
5 or 10mg (over 1-2 min)
Per physician's order**

Seizure Prophylaxis

Repeat BP in 10 min
If elevated, administer
IV Labetalol 40 mg

Repeat BP in 20 min
If elevated, administer
IV Hydralazine 10 mg

Magnesium Sulfate

Repeat BP in 10-15 min
If elevated, administer
IV Labetalol 80 mg

Repeat BP in 20 min
If elevated, administer
IV Hydralazine 10 mg

**Bolus Dose: 4gm over 20 minutes
Maintenance Dose: 2gm per hour**

Repeat BP in 20 min
If elevated,
IV Hydralazine
pre algorithm
anesthesia consult

Repeat BP in 20 min
If elevated, **IV
Labetalol 20 mg**
pre algorithm
anesthesia consult

PO Nifedipine If no IV access
Initial Dose: 10 mg
May repeat dose at 20 minute
intervals for a maximum of
5 doses.

Hypertensive Emergency Checklist

HYPERTENSIVE EMERGENCY:

- Two severe BP values ($\geq 160/110$) taken 15-60 minutes apart. Values do not need to be consecutive.
- May treat within 15 minutes if clinically indicated

- Call for Assistance
- Designate:
 - Team leader
 - Checklist reader/recorder
 - Primary RN
- Ensure side rails up
- Ensure medications appropriate given patient history
- Administer seizure prophylaxis (magnesium sulfate first line agent, unless contraindicated)
- Antihypertensive therapy within 1 hour for persistent severe range BP
- Place IV; Draw preeclampsia labs
- Antenatal corticosteroids (if <34 weeks of gestation)
- Re-address VTE prophylaxis requirement
- Place indwelling urinary catheter
- Brain imaging if unremitting headache or neurological symptoms
- Debrief patient, family, and obstetric team

[†] "Active asthma" is defined as:

- Ⓐ symptoms at least once a week, or
- Ⓑ use of an inhaler, corticosteroids for asthma during the pregnancy, or
- Ⓒ any history of intubation or hospitalization for asthma.

REVISED JULY 2017

MAGNESIUM SULFATE

Contraindications: Myasthenia gravis; avoid with pulmonary edema, use caution with renal failure

IV access:

- Load 4-6 grams 10% magnesium sulfate in 100 mL solution over 20 min
- Label magnesium sulfate; Connect to labeled infusion pump
- Magnesium sulfate maintenance 1-2 grams/hour

No IV access:

- 10 grams of 50% solution IM (5 g in each buttock)

ANTIHYPERTENSIVE MEDICATIONS

For SBP ≥ 160 or DBP ≥ 110
 (See SMI algorithms for complete management when necessary to move to another agent after 2 doses.)

- Labetalol** (initial dose: 20mg); **Avoid parenteral labetalol with active asthma, heart disease, or congestive heart failure; use with caution with history of asthma**
- Hydralazine** (5-10 mg IV* over 2 min); **May increase risk of maternal hypotension**
- Oral Nifedipine** (10 mg capsules); Capsules should be administered orally, not punctured or otherwise administered sublingually

* Maximum cumulative IV-administered doses should not exceed 220 mg labetalol or 25 mg hydralazine in 24 hours

Note: If first line agents unsuccessful, emergency consult with specialist (MFM, internal medicine, OB anesthesiology, critical care) is recommended

ANTICONSULSANT MEDICATIONS

For recurrent seizures or when magnesium sulfate contraindicated

- Lorazepam (Ativan):** 2-4 mg IV x 1, may repeat once after 10-15 min
- Diazepam (Valium):** 5-10 mg IV q 5-10 min to maximum dose 30 mg

Eclampsia Checklist

- Call for Assistance
- Designate:
 - Team leader
 - Checklist reader/recorder
 - Primary RN
- Ensure side rails up
- Protect airway and improve oxygenation:
 - Maternal pulse oximetry
 - Supplemental oxygen (100% non-rebreather)
 - Lateral decubitus position
 - Bag-mask ventilation available
 - Suction available
- Continuous fetal monitoring
- Place IV; Draw preeclampsia labs
- Ensure medications appropriate given patient history
- Administer magnesium sulfate
- Develop delivery plan, if appropriate
- Debrief patient, family, and obstetric team

[†] "Active asthma" is defined as:
 Ⓐ symptoms at least once a week, or
 Ⓑ use of an inhaler, corticosteroids for asthma during the pregnancy, or
 Ⓒ any history of intubation or hospitalization for asthma.

REVISED JULY 2017



EMERGENCY DEPARTMENT

Postpartum Preeclampsia Checklist

IF PATIENT < 6 WEEKS POSTPARTUM WITH:

- BP $\geq 160/110$ or
- BP $\geq 140/90$ with unremitting headache, visual disturbances, epigastric pain

- Call for Assistance
- Designate:
 - Team leader
 - Checklist reader/recorder
 - Primary RN
- Ensure side rails up
- Call obstetric consult; Document call
- Place IV; Draw preeclampsia labs
 - CBC
 - Chemistry Panel
 - PT
 - Uric Acid
 - PTT
 - Hepatic Function
 - Fibrinogen
 - Type and Screen
- Ensure medications appropriate given patient history
- Administer seizure prophylaxis
- Administer antihypertensive therapy
 - Contact MFM or Critical Care for refractory blood pressure
- Consider indwelling urinary catheter
- Maintain strict I&O - patient at risk for pulmonary edema
- Brain imaging if unremitting headache or neurological symptoms

[†] "Active asthma" is defined as:
 Ⓐ symptoms at least once a week, or
 Ⓑ use of an inhaler, corticosteroids for asthma during the pregnancy, or
 Ⓒ any history of intubation or hospitalization for asthma.

REVISED JULY 2017

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- Label magnesium sulfate; Connect to labeled infusion pump
- Magnesium sulfate maintenance 1-2 grams/hour

No IV access:

- 10 grams of 50% solution IM (5 g in each buttock)

ANTIHYPERTENSIVE MEDICATIONS

For SBP > 160 or DBP > 110
 (See SMI algorithms for complete management when necessary to move to another agent after 2 doses.)

- Labetalol** (initial dose: 20mg); **Avoid parenteral labetalol with active asthma, heart disease, or congestive heart failure; use with caution with history of asthma**
- Hydralazine** (5-10 mg IV* over 2 min); **May increase risk of maternal hypotension**
- Oral Nifedipine** (10 mg capsules); Capsules should be administered orally, not punctured or otherwise administered sublingually

* Maximum cumulative IV-administered doses should not exceed 220 mg labetalol or 25 mg hydralazine in 24 hours

Note: If persistent seizures, consider anticonvulsant medications and additional workup

ANTICONSULSANT MEDICATIONS

For recurrent seizures or when magnesium sulfate contraindicated

- Lorazepam (Ativan):** 2-4 mg IV x 1, may repeat once after 10-15 min
- Diazepam (Valium):** 5-10 mg IV q 5-10 min to maximum dose 30 mg

FOR PERSISTENT SEIZURES

- Neuromuscular block and intubate
- Obtain radiographic imaging
- ICU admission
- Consider anticonvulsant medications

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Contraindications: Myasthenia gravis; avoid with pulmonary edema, use caution with renal failure

IV access:

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Implementation in your Network: Mag Sulfate Discussion Questions



- Have you reviewed your hospital's magnesium sulfate administration data in the ILPQC Data and Reporting System?
- What provider and nurse education is needed to increase the number of patients with sustained severe hypertension receiving magnesium sulfate?
- What changes can you make to your orders sets, protocols, and policies/procedures to increase the number of patients with sustained severe hypertension receiving magnesium sulfate?
- How will you incorporate monitoring of your magnesium sulfate administration in the ILPQC Data and Reporting System into your team's routine ILPQC data monitoring?

The Dignity Health Experience with Hypertension and Magnesium



Dignity Health™

Larry Shields, MD
Director Perinatal Safety Dignity Health

Dignity Health Guidelines for Management of Hypertension in Pregnancy

Management:

Monitored 3
items

- 1) Recognize Symptoms
- 2) ***BP control***
- 3) ***Seizure prevention***
- 4) Delivery- 34 wks, 37wks
- 5) ***Postpartum surveillance***

Meet BP criteria: CHTN = GHTN = PreE

Maternal Early Warning Trigger Tool (MEWT)

Six Trial Sites Oct'14- Oct '15

Maternal Assessment
Temp, BP, HR, RR, O2 sat

Two Maternal Triggers

- Temp: $\geq 100.4^\circ$ or $\leq 96.9^\circ$
- O₂ Sat: $< 94\%$
- RR: $> 24/\text{min}$ or $< 12/\text{min}$
- Sys.BP ≥ 160 or < 80 mmHg
- Dia.BP ≥ 110 or < 45 mmHg
- HR > 110 bpm
- FHR > 160 (infection only)

Single Maternal Triggers

- Temp: $\geq 100.4^\circ$ or $\leq 96.9^\circ$
- O₂ Sat: $< 94\%$
- RR: $> 24/\text{min}$ or $< 12/\text{min}$
- **Sys.BP ≥ 160** or < 80 mmHg
- **Dia.BP ≥ 110** or < 45 mmHg
- HR > 110 bpm
- FHR > 160 (infection only)

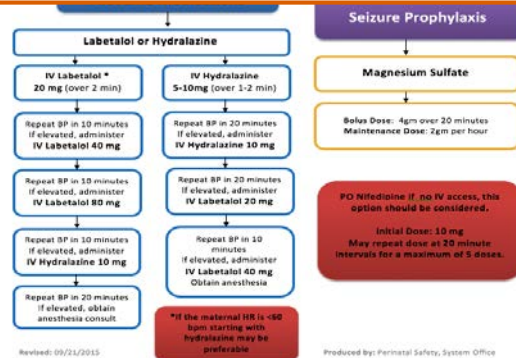


Hypertension

Severe Hypertension in Pregnancy Treatment Algorithm
Antepartum, Intrapartum and Postpartum

Blood Pressure Triggers
(Persistent over 15 minutes)
SBP ≥ 160 and/or DBP ≥ 110

Gestational HTN = Preeclampsia = CHTN = SuperPreE



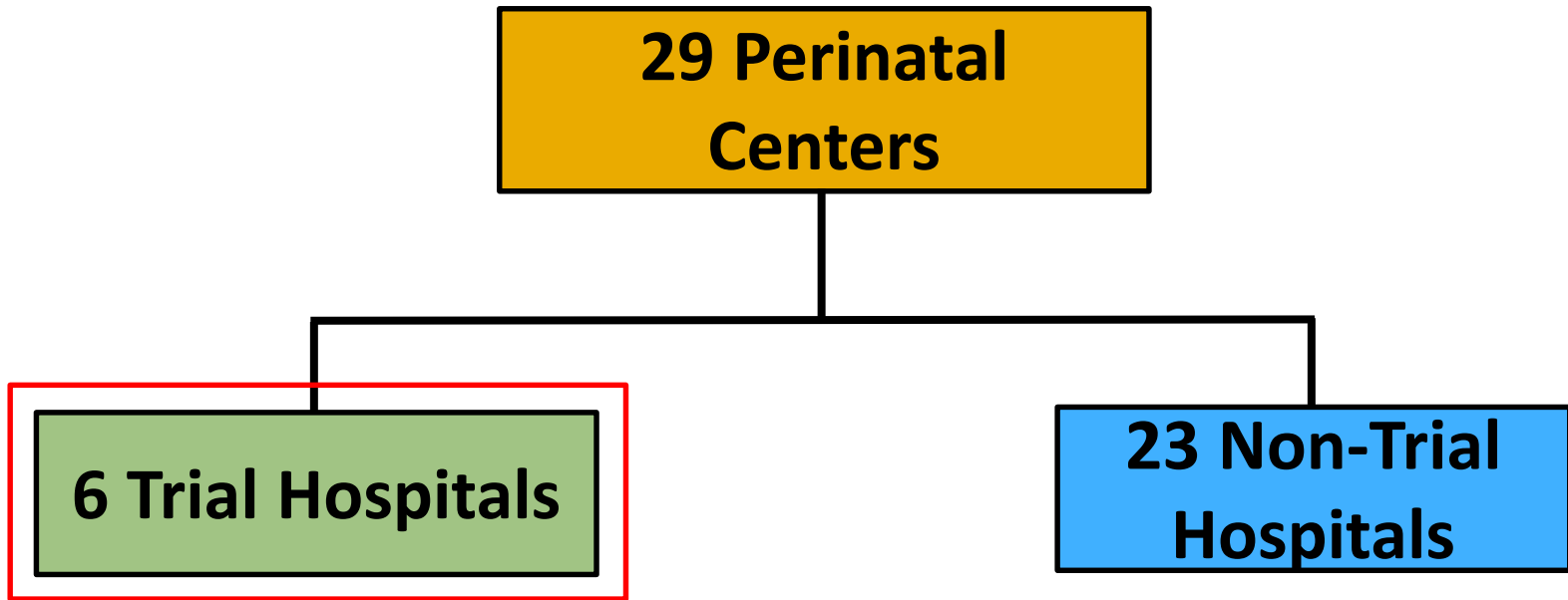


TABLE 2
Results from pre- and post-Maternal Early Warning Trigger time periods

	Pre-MEWT	Post-MEWT	Trend	<i>P</i> value	Prenonpilot	Postnonpilot	Trend	<i>P</i> value	Postpilot vs postnonpilot <i>P</i> value
Deliveries	24221	12611			95,718	50,641			
CDC-SMM	2.0%	1.6%	↓	<.01	2.4%	2.4%	→	.9	<.01
Composite morbidity	5.9%	5.1%	↓	<.01	6.2%	6.2%	→	.9	<.01
Eclampsia/1000 ^a	2.0	0.4	↓	<.01	1.1	1.1	→	.9	.02

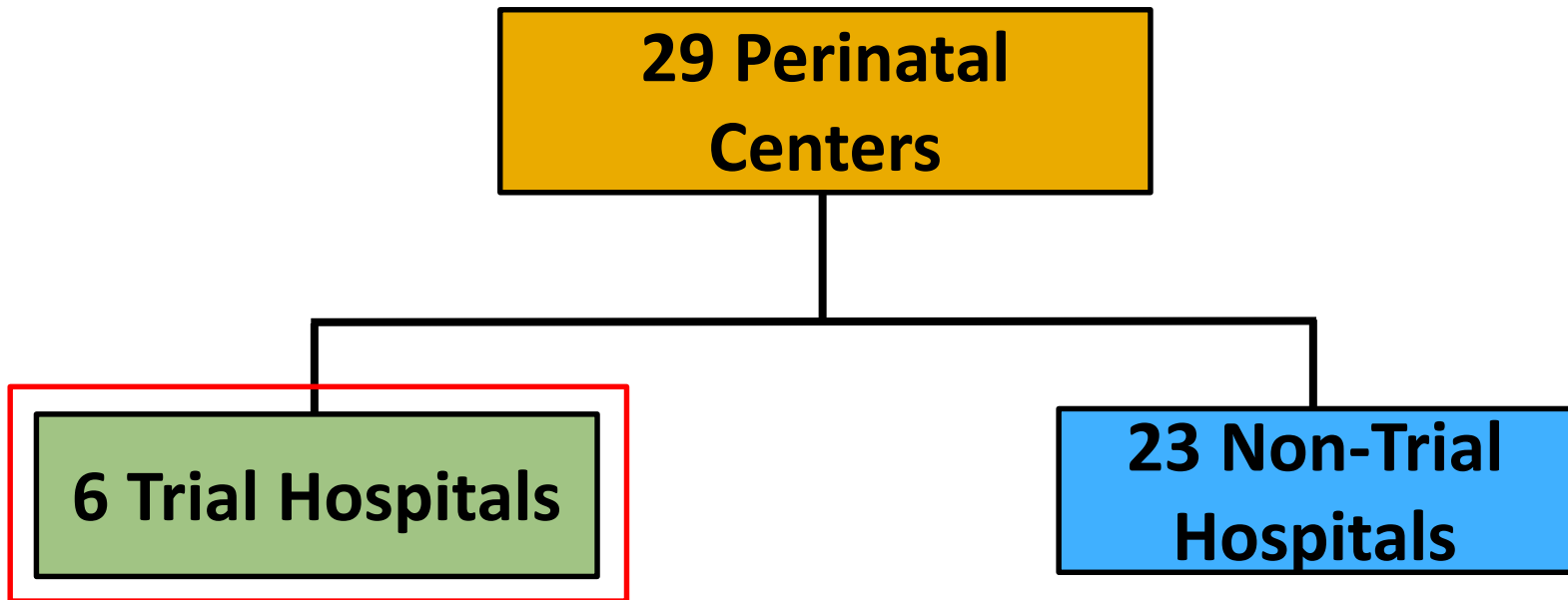


TABLE 2

Results from pre- and post-Maternal Early Warning Trigger time periods

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Deliveries	24221	12611			95,718	50,641			
CDC-SMM	2.0%	1.6%	↓	<.01	2.4%	2.4%	→	.9	<.01
Composite morbidity	5.9%	5.1%	↓	<.01	6.2%	6.2%	→	.9	<.01
Eclampsia/1000 ^a	2.0	0.4	↓	<.01	1.1	1.1	→	.9	.02

23 Perinatal Centers

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graph TD; A[23 Perinatal Centers] --> B[Pre-Intervention]; A --> C[Post-Intervention];
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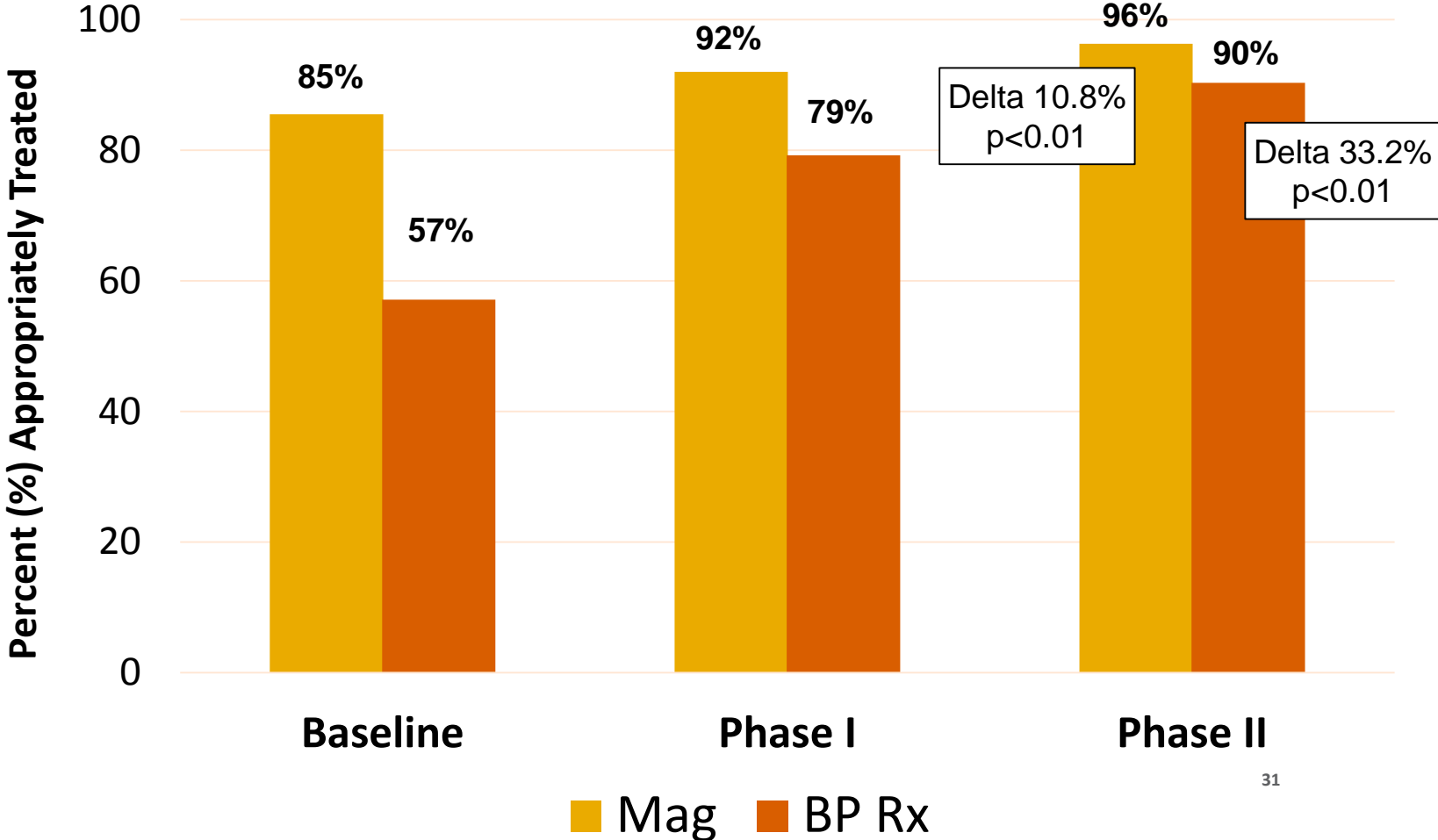
Pre-Intervention

Post-Intervention

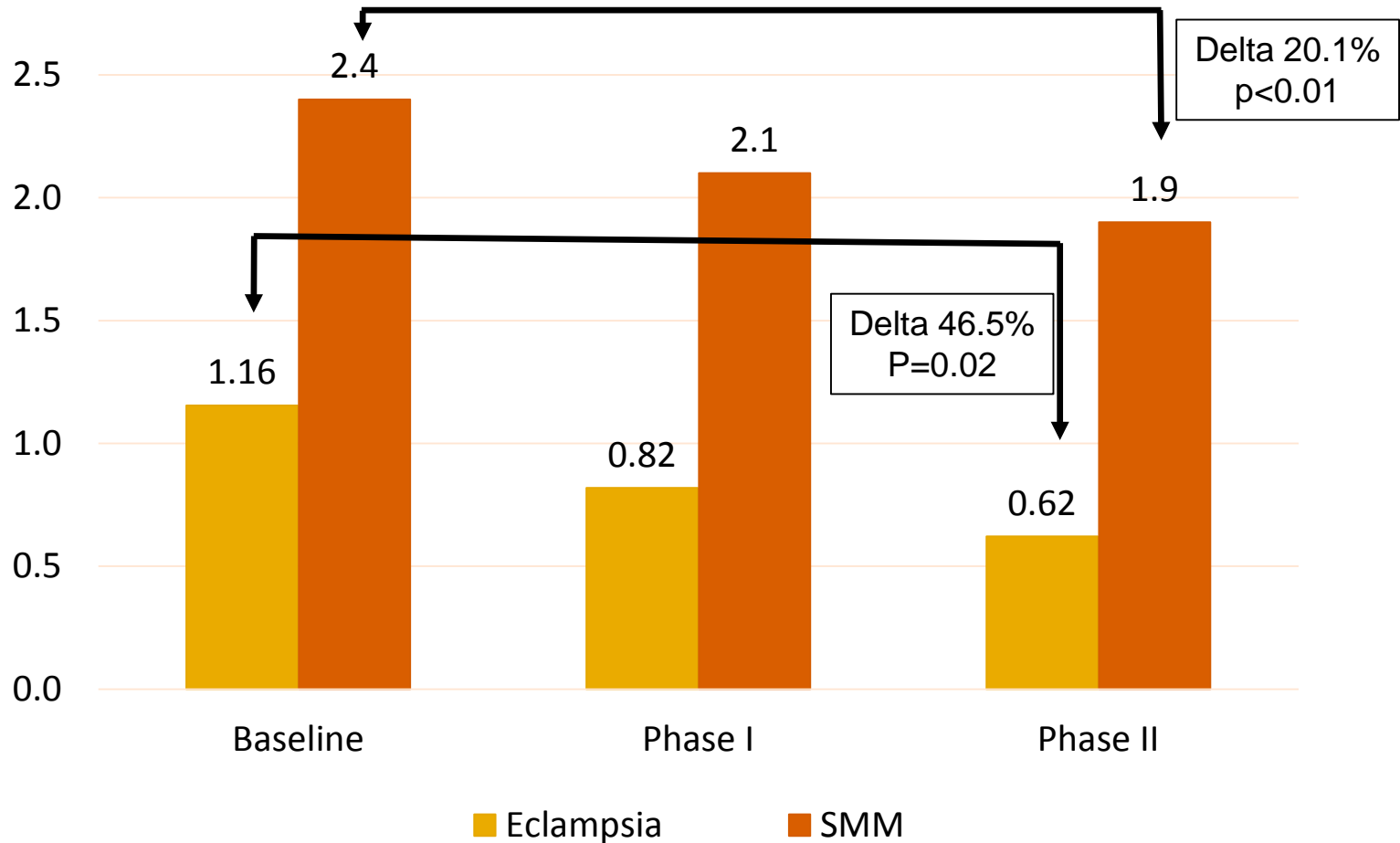
Gestational HTN = Preeclampsia = CHTN = SuperPreE

IV Labetalol or Hydralazine *or* PO Nifedipine
+ Magnesium

Magnesium and BP Treatment Changes



Rates of Eclampsia/1000 births and SMM/100 births



Who Should Get Magnesium ?

ACOG 33: there is no unanimity of opinion regarding the prophylactic use of magnesium sulfate for prevention of seizure in women with gestational hypertension or mild preeclampsia

- *Should be considered: **NNT = 109 for mild,**
NNT =63 for severe*

Who Should Get Magnesium ?

ACOG 33: there is no unanimity of opinion regarding the prophylactic use of magnesium sulfate for prevention of seizure in women with gestational hypertension or mild preeclampsia

- *Should be considered: **NNT = 109 for mild,**
NNT =63 for severe*

Who is Safer on your L&D unit ?
The patient on Magnesium Sulfate
Or
The patient having a Seizure ?

Patient Improvement With New Guidelines

- MEWT Trial: specific BP and Magnesium treatment guidelines:
 - 20% reduction in SMM
 - 80% reduction in Eclampsia
- Hypertension In Pregnancy Trial: BP and Mag guidelines:
 - 20% reduction in SMM
 - 46% reduction in Eclampsia
 - Reduction in eclampsia greater than expected from the increase in the use of magnesium sulfate

TEAM TALKS

Administration of Magnesium Sulfate for Maternal Hypertension



AMITA HEALTH[®]

In sickness and in health™

ON-GOING EVALUATION

About Us

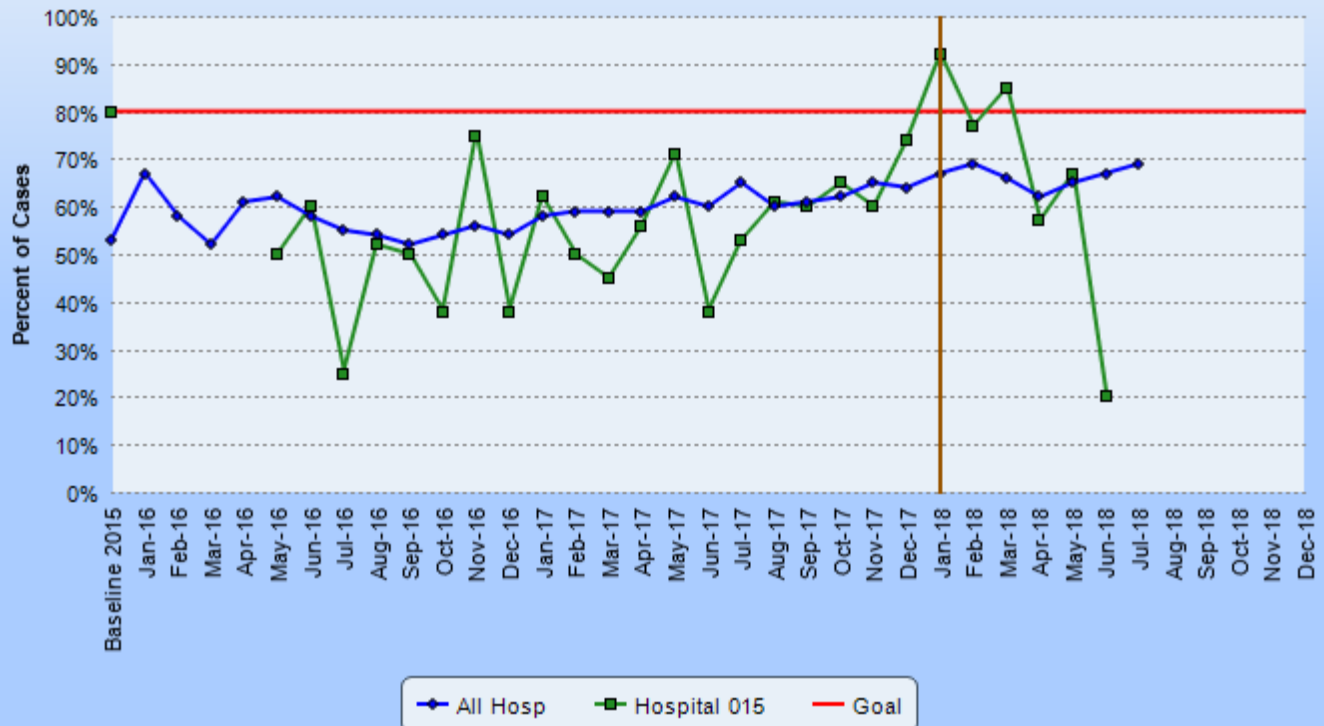
- The facility does approximately 300 deliveries per month
- We have 14 LDR's, 3 OR's, 2 Recovery bays, 6 OB/ED beds, and 8 ante beds
- The NICU has 26 private suite
- The Mother Baby unit has 32 beds

SITUATION

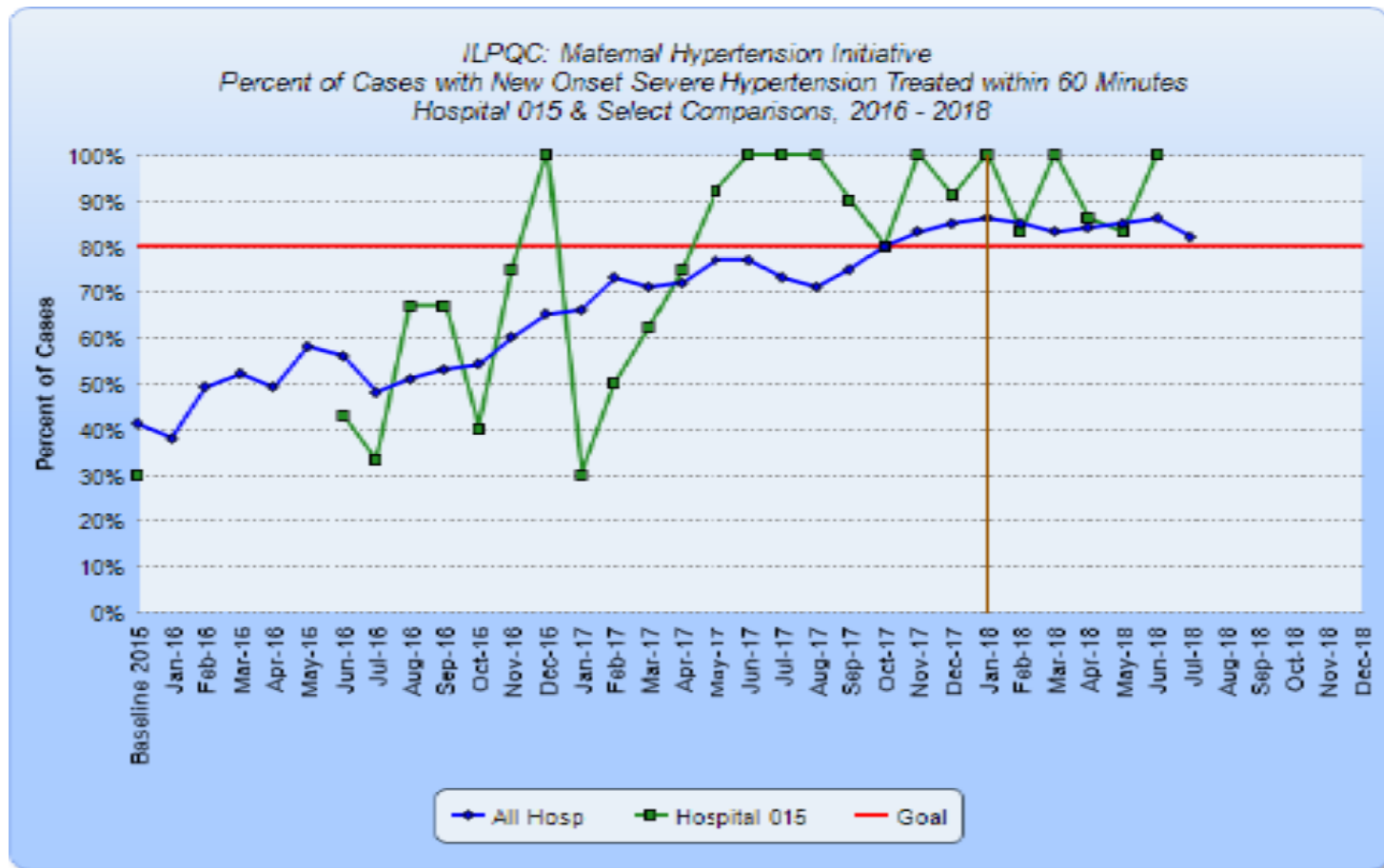
- We had 2 events where MgSO₄ was not appropriately started that lead eclampsia
- Worked with physicians to improve order sets
- New documentation system/system wide order sets do not promote the use of MgSO₄

Data

*ILPQC: Maternal Hypertension Initiative
Percent of Cases with New Onset Severe Hypertension with Magnesium Sulfate Administered
Hospital 015 & Select Comparisons, 2016 - 2018*



Data



ASSESSMENT

- Still have physicians who prefer to give an epidural for pain relief before they will treat
- Physicians unclear when to treat with MgSO₄
- Physicians reluctant to start MgSO₄ early
 - Prefer to wait until they have lab values to confirm diagnosis
- With new EMR system, vital signs must be carried over. They no longer automatically appear

Read-Back

- Mandatory simulation training on HTN for all nursing staff. Training is offered on a monthly basis
- Incorporated scripted SBAR that is being taught during mandatory simulation training for nursing staff to use when giving report to physicians.
- Ongoing Auditing and reporting
- Re-Education as needed based off of auditing findings
- Included algorithm on auditing form to ensure it was easily accessible to all nurses

QUESTIONS?

THANK YOU



AT THE FOREFRONT
UChicago
Medicine

Family
Birth
Center

Macaria Solache RNC-OB
Labor and Delivery Team Lead

Magnesium Sulfate Therapy

When to Use

- Seizure prophylaxis
- Preeclampsia with severe features (new ACOG recommendation)
- Eclampsia episode
- Used during labor and/or 24hrs postpartum

Severe Features of Preeclampsia

BOX E-1. Severe Features of Preeclampsia (Any of these findings) ⇐

- Systolic blood pressure of 160 mm Hg or higher, or diastolic blood pressure of 110 mm Hg or higher on two occasions at least 4 hours apart while the patient is on bed rest (unless antihypertensive therapy is initiated before this time)
- Thrombocytopenia (platelet count less than 100,000/microliter)
- Impaired liver function as indicated by abnormally elevated blood concentrations of liver enzymes (to twice normal concentration), severe persistent right upper quadrant or epigastric pain unresponsive to medication and not accounted for by alternative diagnoses, or both
- Progressive renal insufficiency (serum creatinine concentration greater than 1.1 mg/dL or a doubling of the serum creatinine concentration in the absence of other renal disease)
- Pulmonary edema
- New-onset cerebral or visual disturbances

Magnesium Sulfate Therapy

o LD: 4grams given over 30min

The 4 gram loading dose of magnesium sulfate will be achieved by administering: 2 grams in 50 ml sterile water x 15 minutes, followed by 2 grams in 50 ml sterile water x 15 minutes.

o MD: 2grams/hr

Concentration - 20g:500cc Water

Rate- 50ml/hr using pharmacy department specific hospital pump

o Preprogramed pump

o Second RN sign off

Magnesium Sulfate Order set

- Loading Dose: 4g
- Maintenance dose: 2g/hr
- Calcium Gluconate 1gram IVP (Magnesium sulfate toxicity)

Bolus + Infusion + Calcium Gluconate

Documentation and Assessments

- o The RN will remain in the room during the infusion of the bolus.
- o The following is assessed every 15 minutes for the 1st hour of the maintenance drip, then every 30 minutes for the 2nd hour, and hourly thereafter for the duration of the continuous infusion:
 - o Temperature
 - o Pulse
 - o Respiratory rate(RR) and breath sounds
 - o Blood pressure :Notify the physician of a systolic > 160 or diastolic > 100
 - o Hourly I&O
 - o Oxygen saturation
 - o Level of consciousness
 - o Deep tendon reflexes(DTRs) and clonus
 - o Signs/symptoms of magnesium toxicity (absent DTRs, RR < 14/min., oxygen saturation <95%, decreased level of consciousness) or of central nervous system excitation (brisk DTRs 3+/4+, clonus, unremitting headache) will be reported to the physician.
 - o Fetal heart rate if the patient is undelivered (continue assessment every 30 minutes)
 - o Uterine activity if the patient is undelivered (continue assessments every 30 minutes)

Challenges

- Magnesium Sulfate shortage
- Switching to premixed bags
- Maintaining stock in our Omni Cell at all times
- Preeclampsia and additional comorbidities
- Readmissions and ICU transfers

Opportunities

- o Educate ER and other departments on Severe HTN/preeclampsia signs and symptoms, magnesium therapy, medication algorithm and immediate OB consults
- o Incorporate Epic to flag potential Postpartum Preeclampsia (“Are you or have you been pregnant in the last 8 weeks?”) with triaging

SMM Resources



- ILPQC abstract presented at the Society for Maternal Fetal Medicine (SMFM) 38th Annual Pregnancy Meeting: [Reducing time to treatment for severe maternal hypertension through statewide quality improvement.](#)
 - Congratulations to all teams for their hard work to reduce time to treatment!
- [Black Mamas Matter Alliance](#) – resources for promoting reproductive justice and reducing health disparities
- [Report from Nine MMRCs](#) (Maternal Mortality Review Committees). This report provides analysis of maternal mortality, prevention, and recommendations.

Buprenorphine Training

- 4 hour online course + 4 hour in-person led by an addiction medicine specialist & OB/GYN for physicians
 - MOC Part IV credits
 - CME for 8 hours credit (via ASAM)
- 4 hours in-person + 20 hours of online-training for NPs and APNs
 - Contact hours (via ASAM)
- Working with ACOG to host 2 in-person maternal-focused Buprenorphine Trainings for physicians, nurse practitioners and APNs in Illinois
- Initiates buprenorphine waiver process
 - National waiver from DEA and added to MD prescribing number

SAVE THE DATE!

- **September 14, Springfield, IL OR**
- **October 22, Chicago, IL**

Recent survey
showing a
shortage of
providers certified
to prescribe
buprenorphine

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