



Maternal Hypertension Initiative Teams Call: Sustainability and System Changes

November 27, 2017

12:30 – 1:30 pm

Overview

- Updates (5 mins.)
- HTN Initiative and Data Updates (15 mins.)
- Heart Safe Motherhood: Quality Care and Convenience for Mothers with Hypertension in Pregnancy– Adi Hirshberg, MD MFM; Sindhu Srinivas, MD, MSCE, MFM, Director of Obstetrical Services(15 mins.)
- Team Talk – Joan Stout MSN, RNC-OB, NE-BC; Christen Edwards BSN, RNC-LRN; Centegra Health System McHenry and Huntly (10 mins.)
- Team Talk- Debbie Schy, RNC, MSN, IBCLC; Advocate Lutheran General Hospital (10 Min)
- Questions & Wrap Up (5 mins.)

ILPQC 5th Annual Conference

register now before spaces fill



Tuesday,
December 19, 2017

Westin Lombard

Check in and breakfast 7:30AM

Conference 8 AM – 5:15pm

Discuss HTN Sustainability and 2018 Initiatives

<https://www.eventbrite.com/e/illinois-perinatal-quality-collaborative-5th-annual-conference-tickets-39493819076>

Annual Conference Hotel Block Room Reservations

- <https://www.starwoodmeeting.com/events/start.action?id=1710035949&key=21CC118E>
- Group rate of \$139 single/double available until Nov 27, 2017
call **today!**



ILPQC Annual Conference



Register your team now before space fills!

- Invite your HTN QI Team, provider/ nurse champions
- Invite provider / nurse champions interested in the Maternal Opioid Initiative and Immediate Postpartum LARC Initiatives for next year
- Invite Patients / Patient Advisors they register for free

- National Speakers:
 - OB, Neonatal, and patient perspectives on opioids, including new ACOG Maternal Opioid Bundle
 - IP LARC Implementation
 - Panel of PQC Leaders: opioids, IP LARC, HTN, GH, 17-OHP
- Hospital QI Awards
- Hospital QI Teams Poster Session
- OB Teams Breakout Session
 - discuss HTN Initiative Sustainability Plan for 2018
 - 2018 Initiatives planning

TODAY STILL ACCEPTING Poster Session Abstracts for 5th AC

- We are asking **ALL ILPQC TEAMS** to submit an abstract on their teams work on the Maternal HTN initiative, share your data and include: challenges, successes and plans for sustainability / QI work in 2018
- Teams are welcome to submit additional abstracts regarding mothers / newborns affected by opioids, IPLARC, and patient & family engagement or other QI projects
- Submit brief abstracts through **TODAY** to be included in the program and receive a poster number



***Submit abstracts online:
https://www.surveymonkey.com/r/ILPQC_5th_ACAbstractSubmission***

2nd Annual Diaper Drive!



- Please bring a pack of diapers to the ILPQC 5th Annual Conference!
- Last year, we were able to collect 698 diapers! Let's double that number!
- [Illinois Baby Diaper Facts](#)
- [Diaper Need in the U.S. Infographic](#)

OB Teams End of Year Survey



- **Short survey response is needed from every ILPQC team!**
- **Make sure you confirm it has been completed for your team.** If not then get input from team and get it submitted ASAP. Perinatal network administrators receiving a list of teams who have not yet submitted.
- Helps ILPQC prepare for 2018 to best meet team needs
- Provides important information needed for the OB Teams Breakout session discussion at the Annual Conference
- Provide name and contact information of hospital administrator

<https://www.surveymonkey.com/r/OBTeams2017>

Physicians - Earn MOC Part IV for Participating in ILPQC HTN Initiative



For Obstetrician-Gynecologists (ABOG)

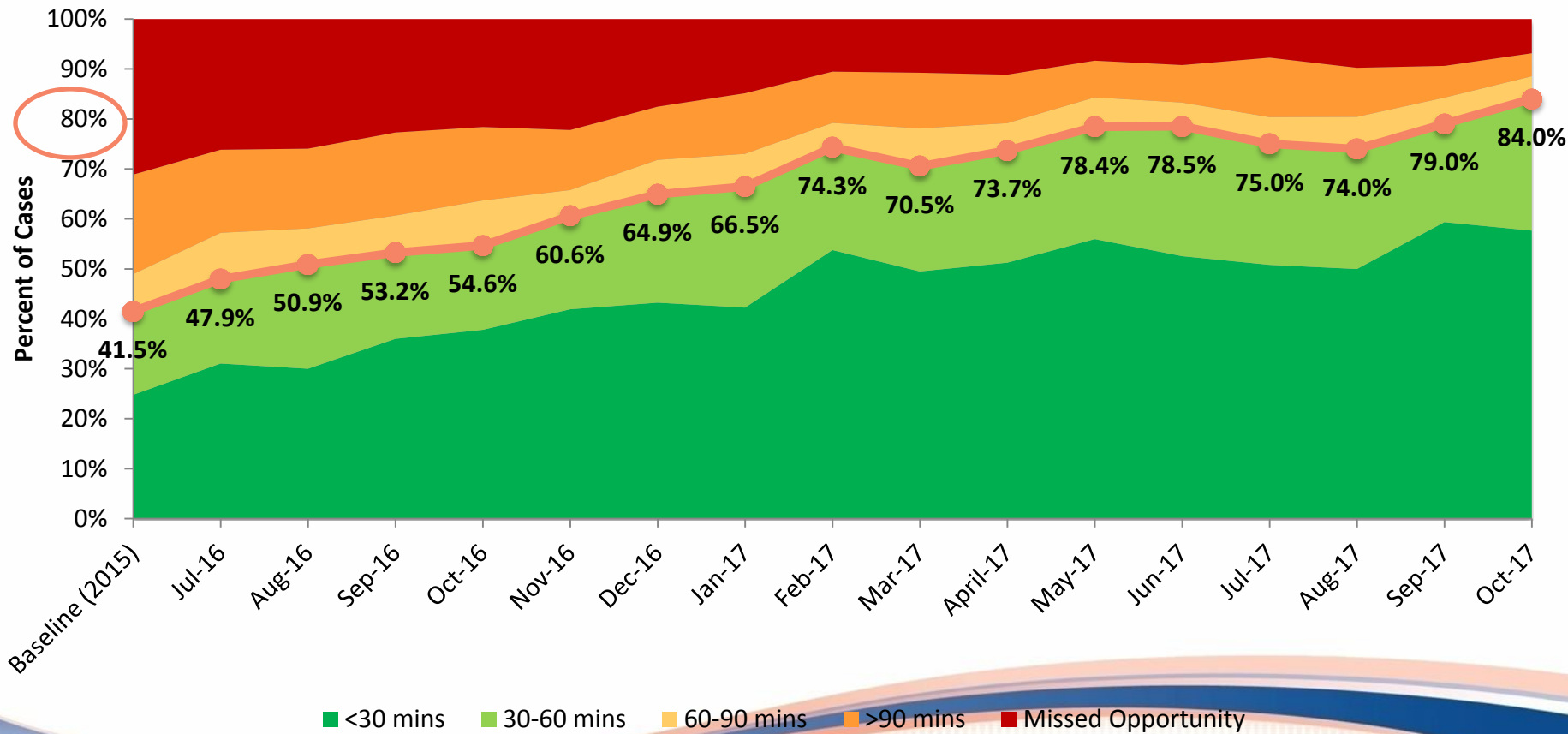
DUE: November 27, 2017- TODAY!!!

- **Both Provider and QI team lead [Respond to MOC Attestation Survey](#) via Survey Monkey**
- **<https://www.surveymonkey.com/r/ILPQCmoc>**
- **Just click on link here or contact us for link or look in last ILPQC newsletter email very easy to complete**
- **Make sure to let your OB Champions / *Team Members* know to complete this by the end of today!**

Maternal Hypertension Data: Time to Treatment



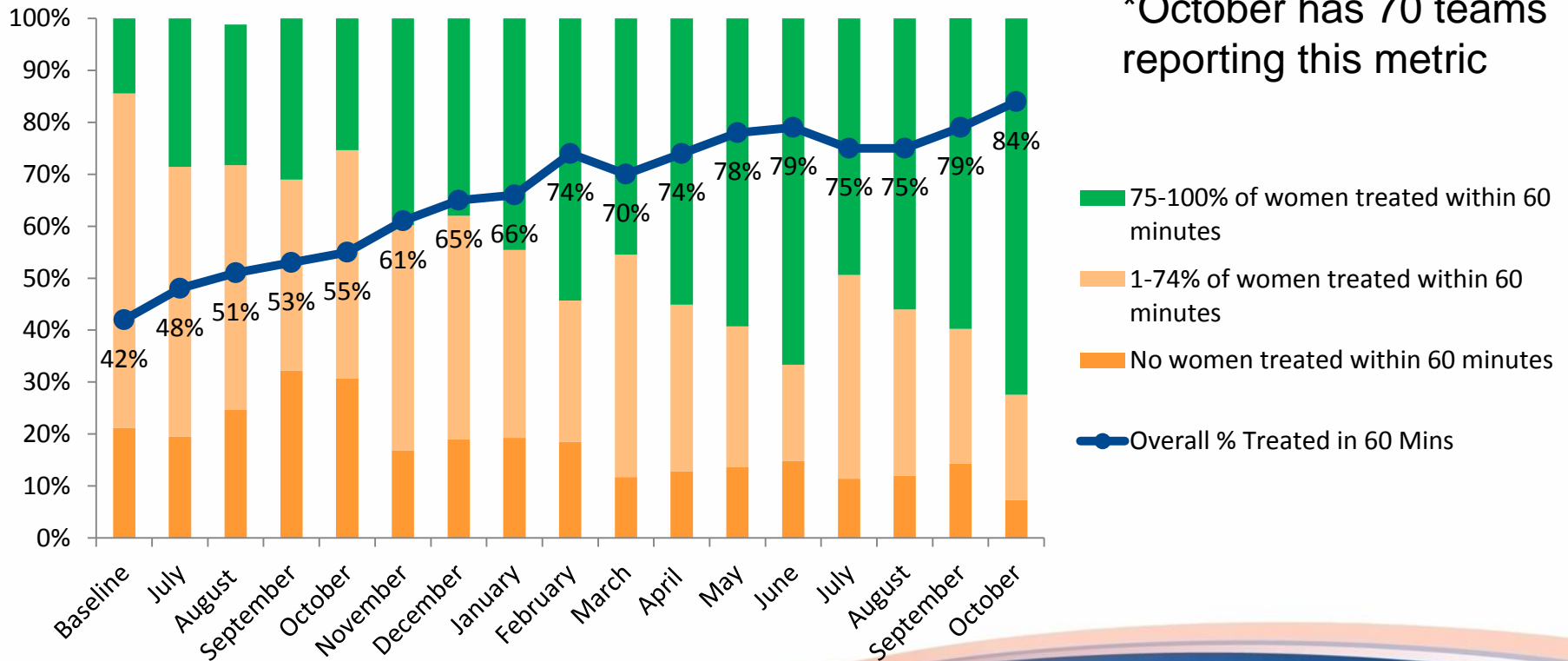
ILPQC: Maternal Hypertension Initiative
Percent of Cases with New Onset Severe Hypertension Treated in <30, 30-60, 60-90, >90 minutes or Not Treated
All Hospitals, 2016-2017



Maternal Hypertension Data: Time to Treatment



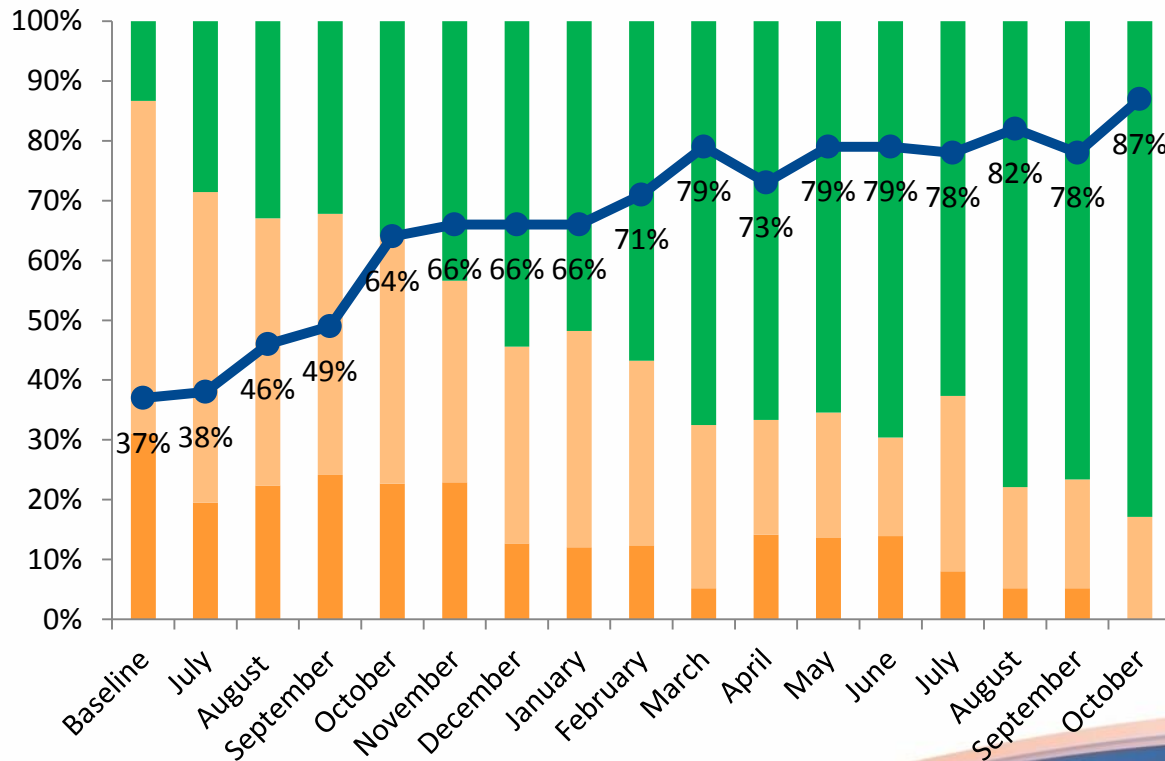
ILPQC: Maternal Hypertension Initiative
Percent of All Reporting Hospitals that Treated Cases with New Onset Severe Hypertension within 60 Minutes
All Hospitals, 2016-2017



Maternal Hypertension Data: Patient Education



ILPQC: Maternal Hypertension Initiative
Percent of All Reporting Hospitals Where Women Received Discharge Education Materials
All Hospitals, 2016-2017



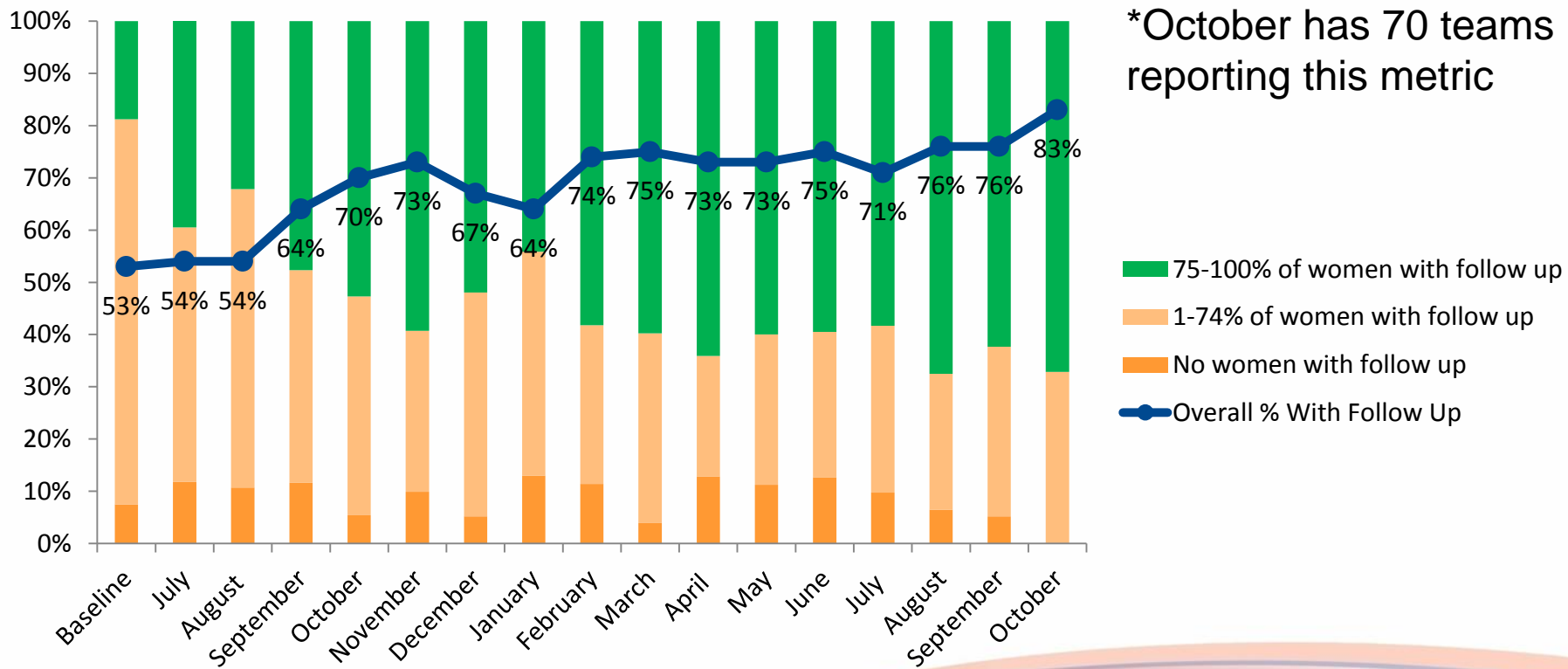
*October has 70 teams reporting this metric

- 75-100% of women received discharge materials
- 1-74% of women received discharge materials
- No women received discharge materials
- Overall % Received Materials at Discharge

Maternal Hypertension Data: Patient Follow-up



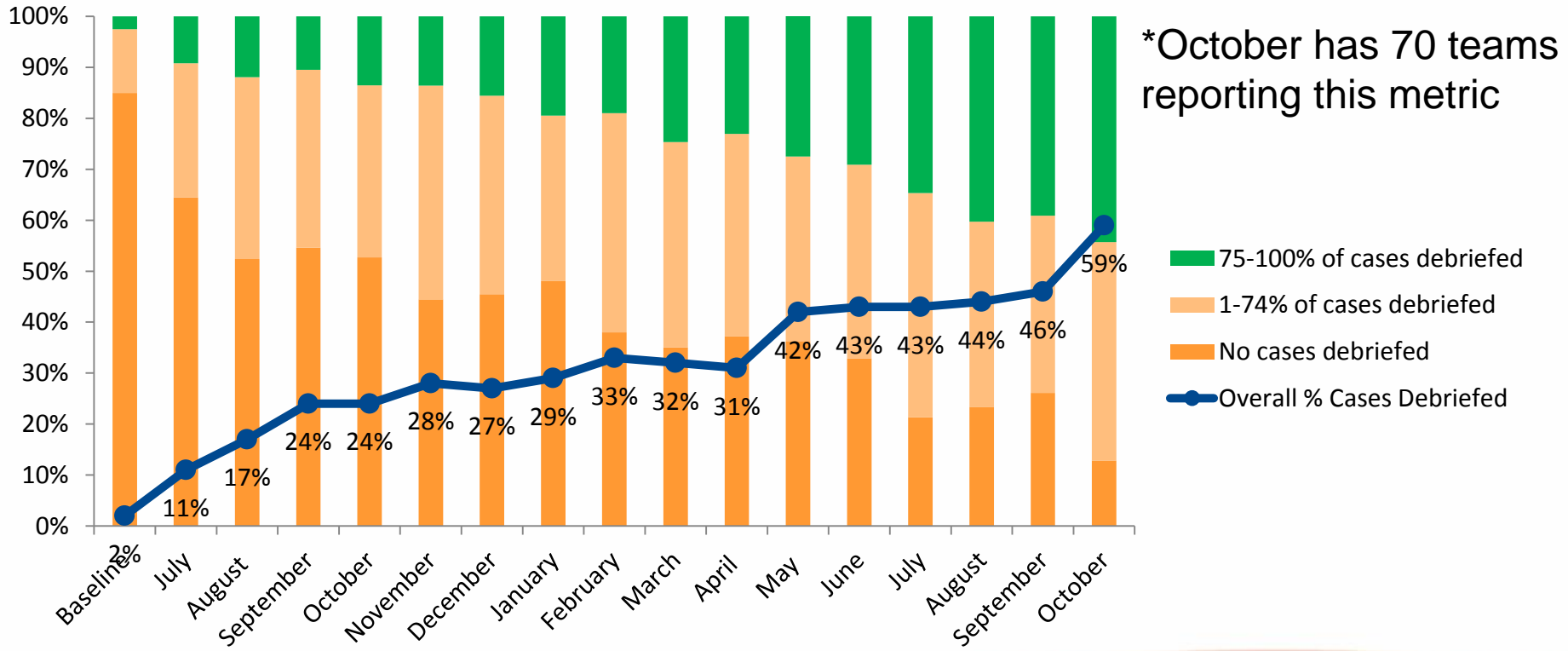
ILPQC: Maternal Hypertension Initiative Percent of All Reporting Hospitals Where Follow-up Appointments were Scheduled within 10 Days All Hospitals, 2016-2017



Maternal Hypertension Data: Debrief



ILPQC: Maternal Hypertension Initiative Percent of All Reporting Hospitals Where Cases of New Onset Severe Hypertension were Debriefed All Hospitals, 2016-2017



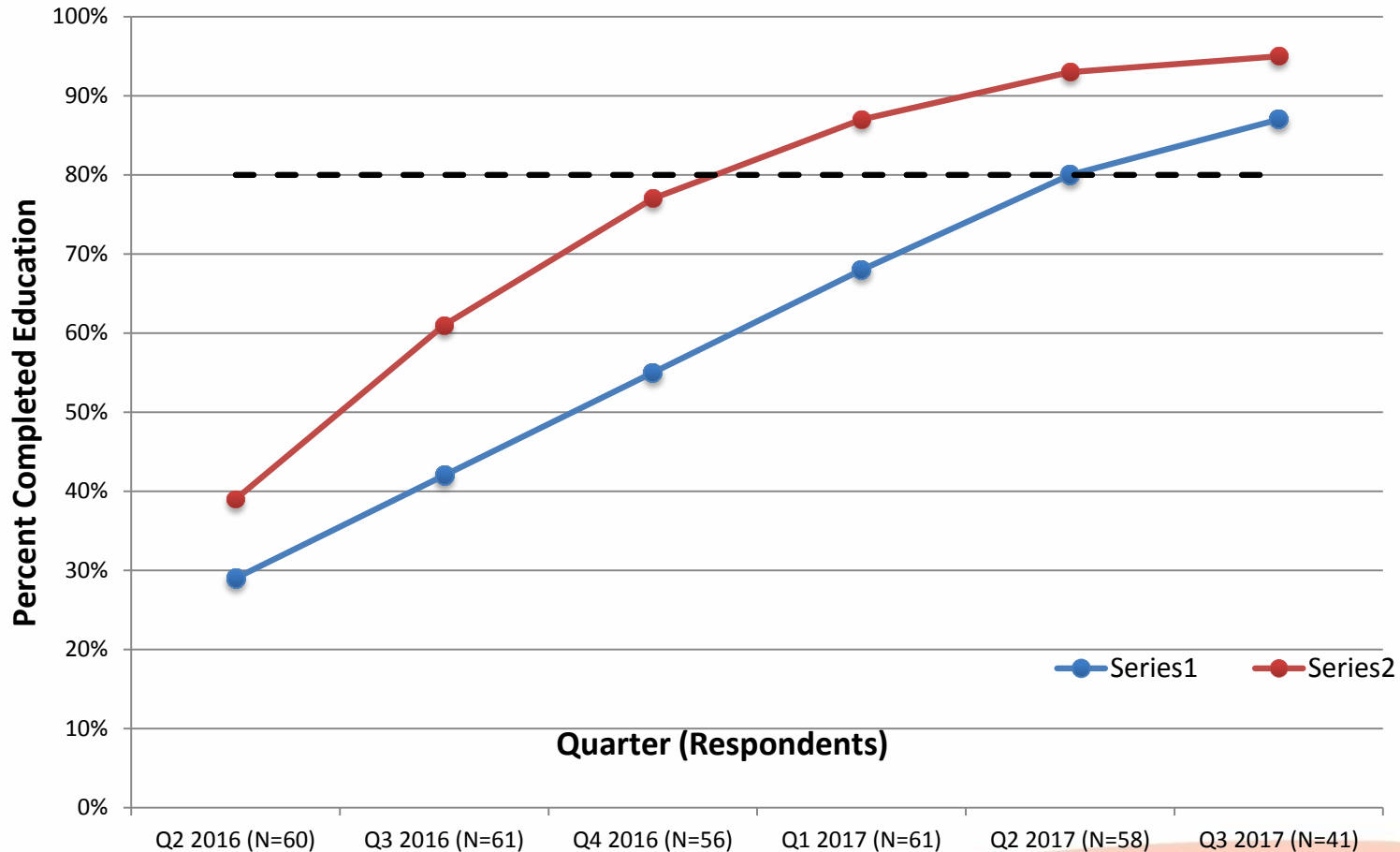
Severe Hypertension Data Entry Status



	Total Records	# Teams with Data
Baseline (2015)	1644	90
July	591	77
August	659	85
September	573	87
October	517	75
November	566	83
December	570	79
January	566	83
February	510	81
March	559	77
April	505	78
May	592	81
June	528	79
July	582	75
August	628	77
September	584	77
October	579	70
Overall	12530	105

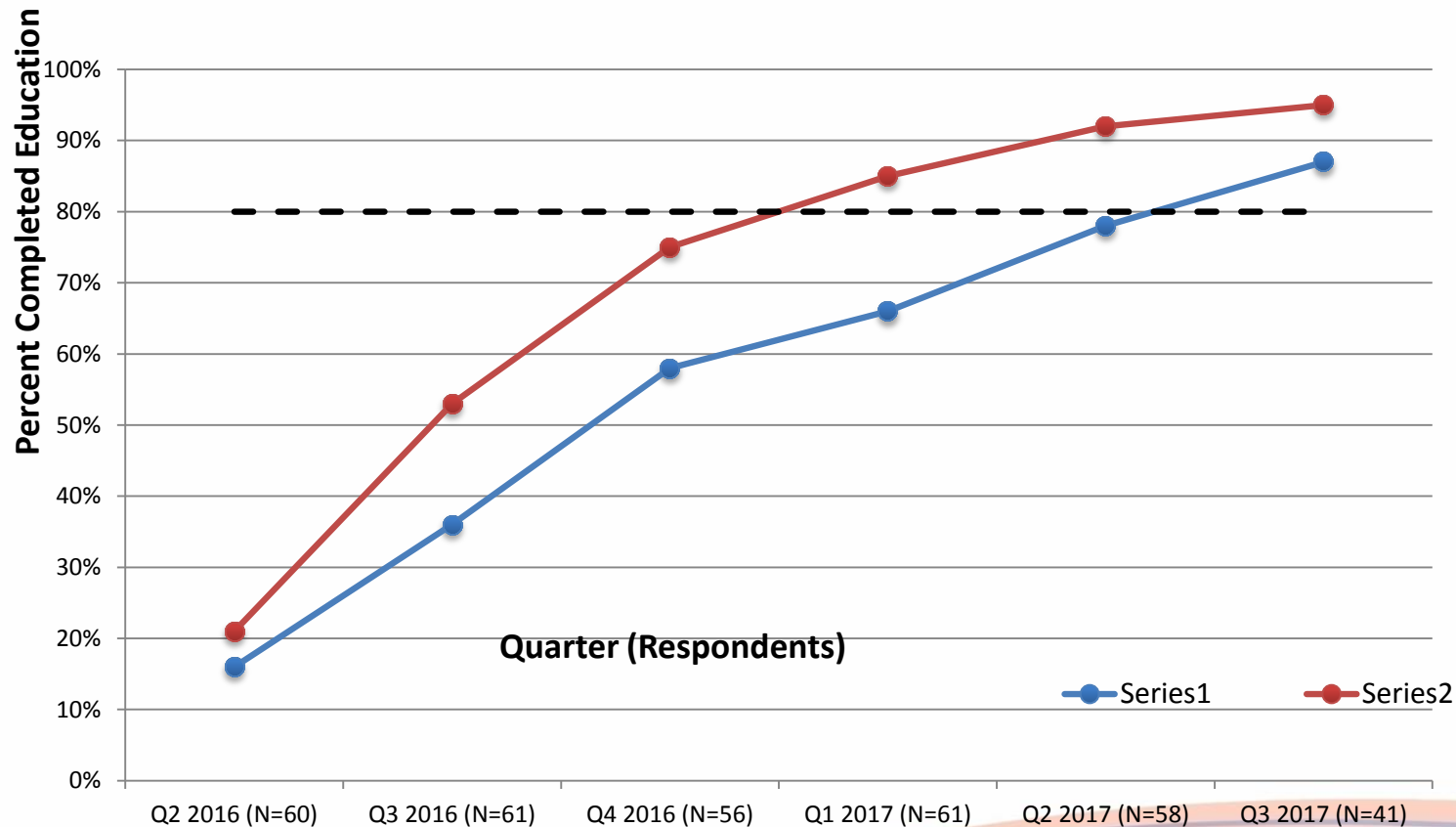
AIM Quarterly Measures: Provider & Nurse Education

Cumulative percent of OB providers and nurses completed (within last 2 years) clinical education on Severe HTN/Preeclampsia

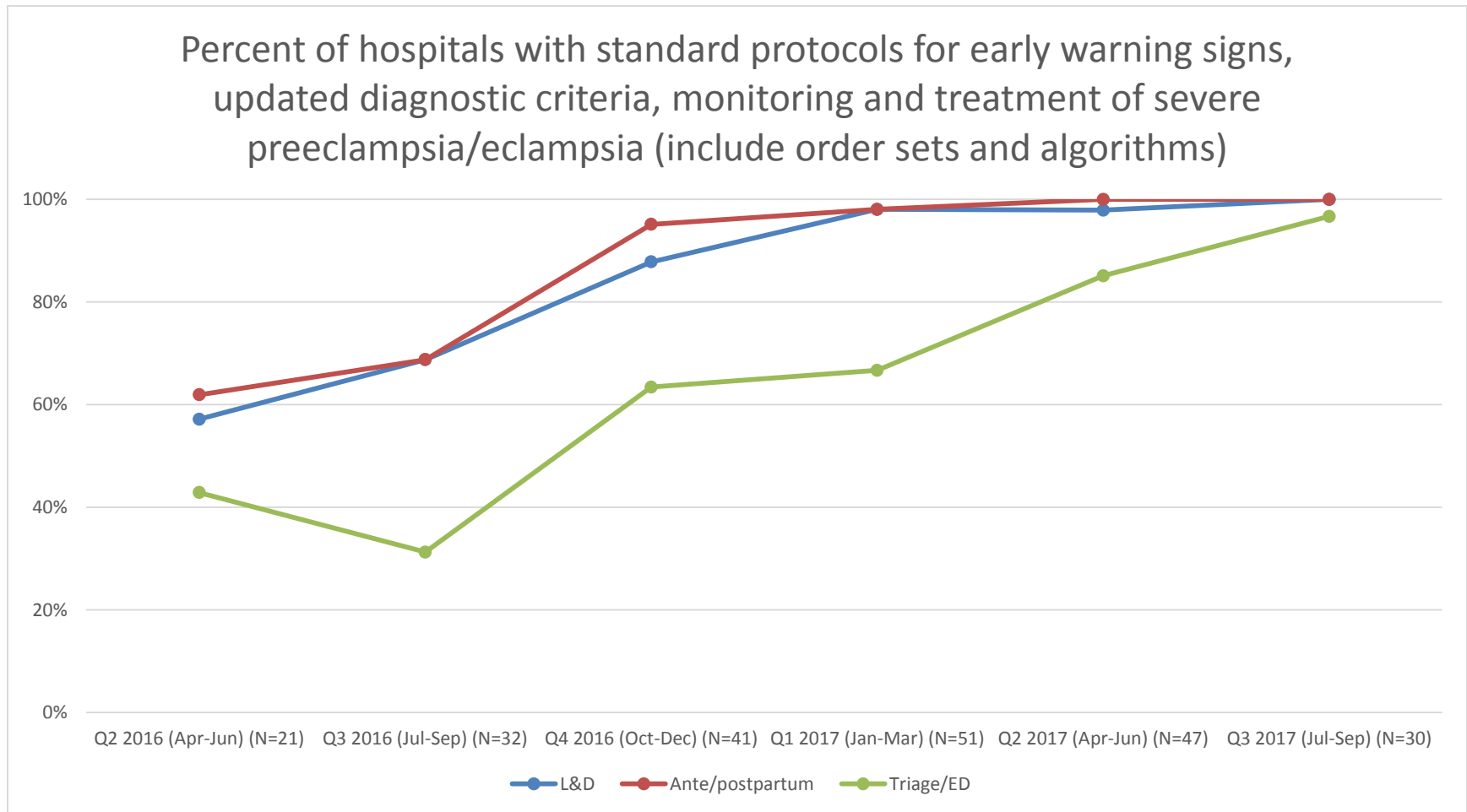


AIM Quarterly Measures: Provider & Nurse Education

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

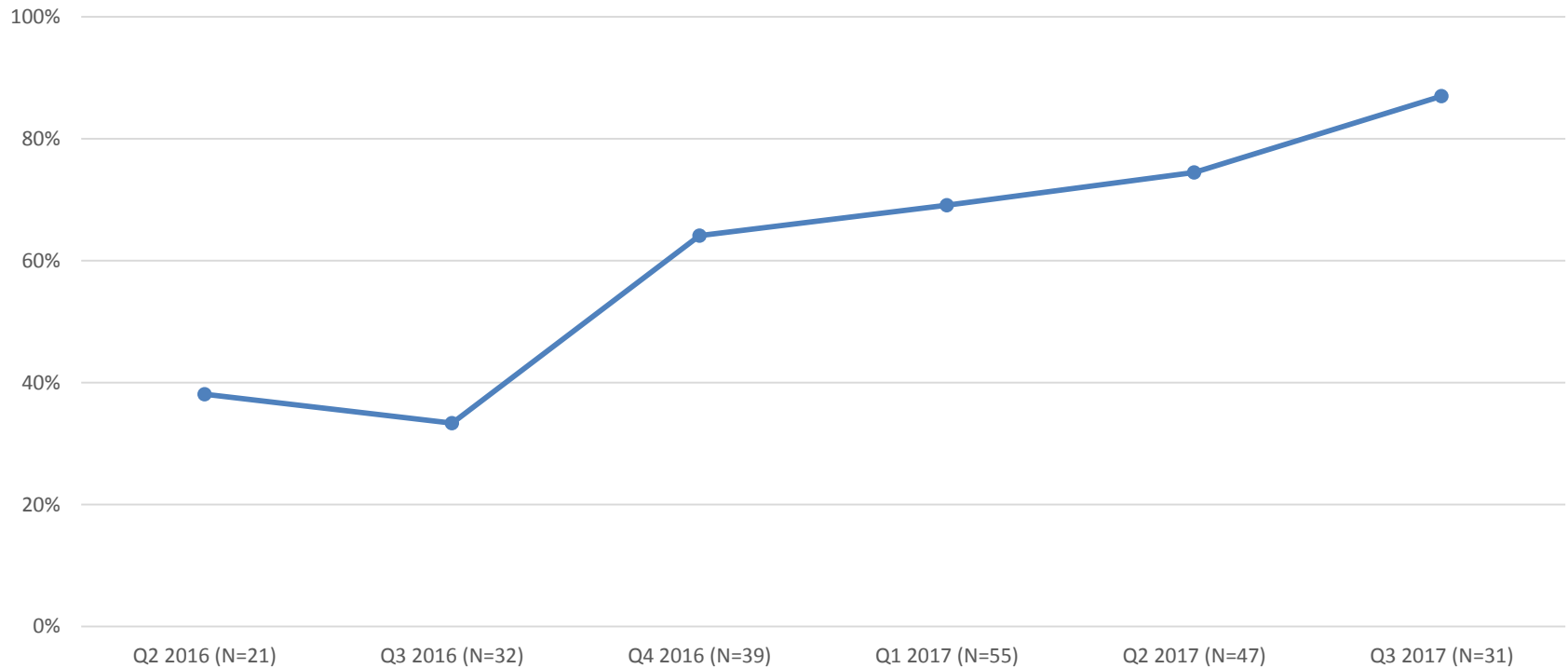


Implementation Checklist: Standard Policies / Protocols Across Units

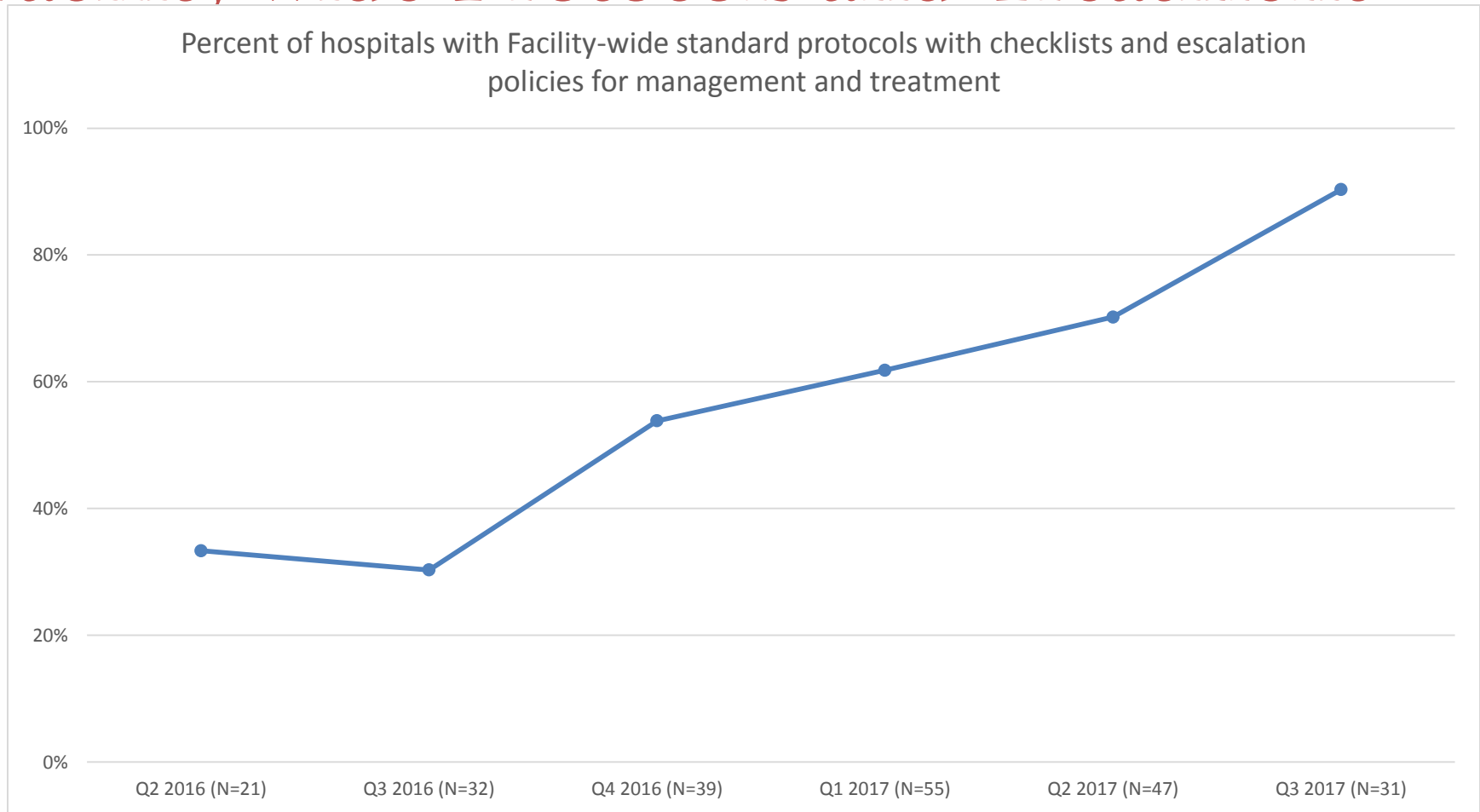


Implementation Checklist: Facility-wide Patient Education

Percent of hospitals with facility-wide standards for educating prenatal and postpartum women on signs and symptoms of preeclampsia and severe hypertension.

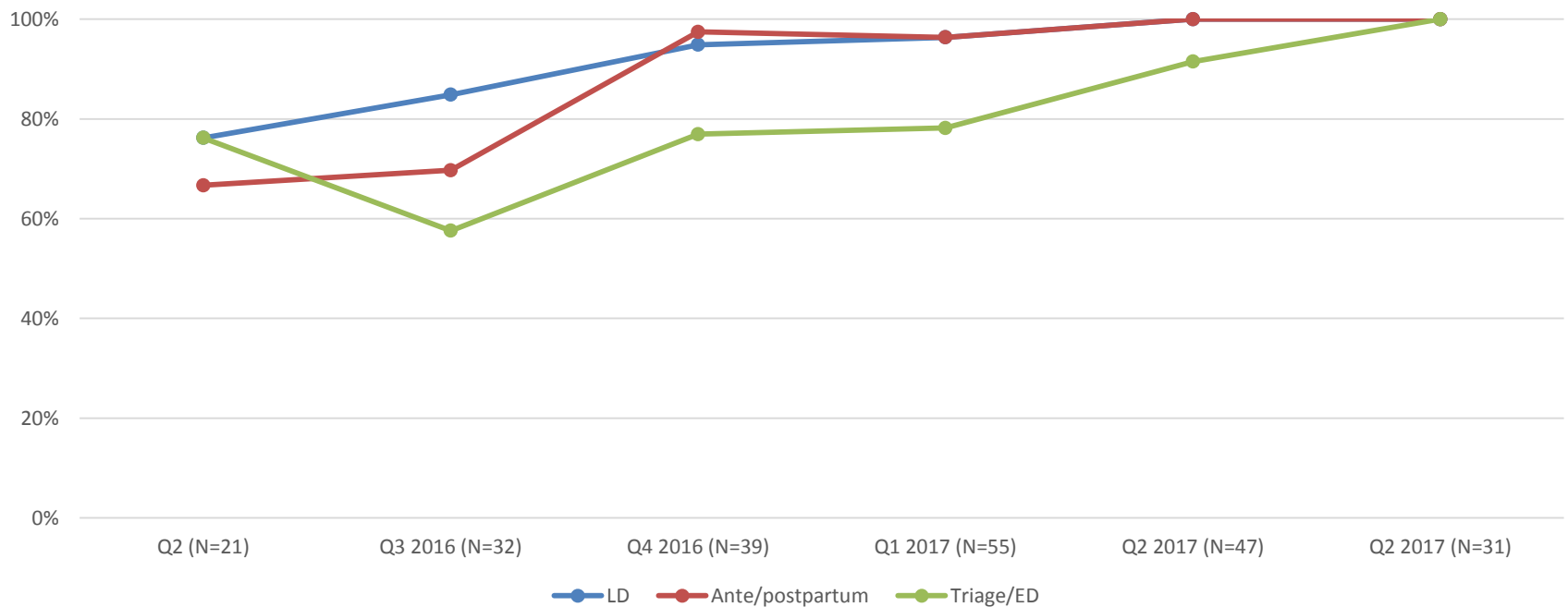


Implementation Checklist: Facility-wide Protocols and Treatment



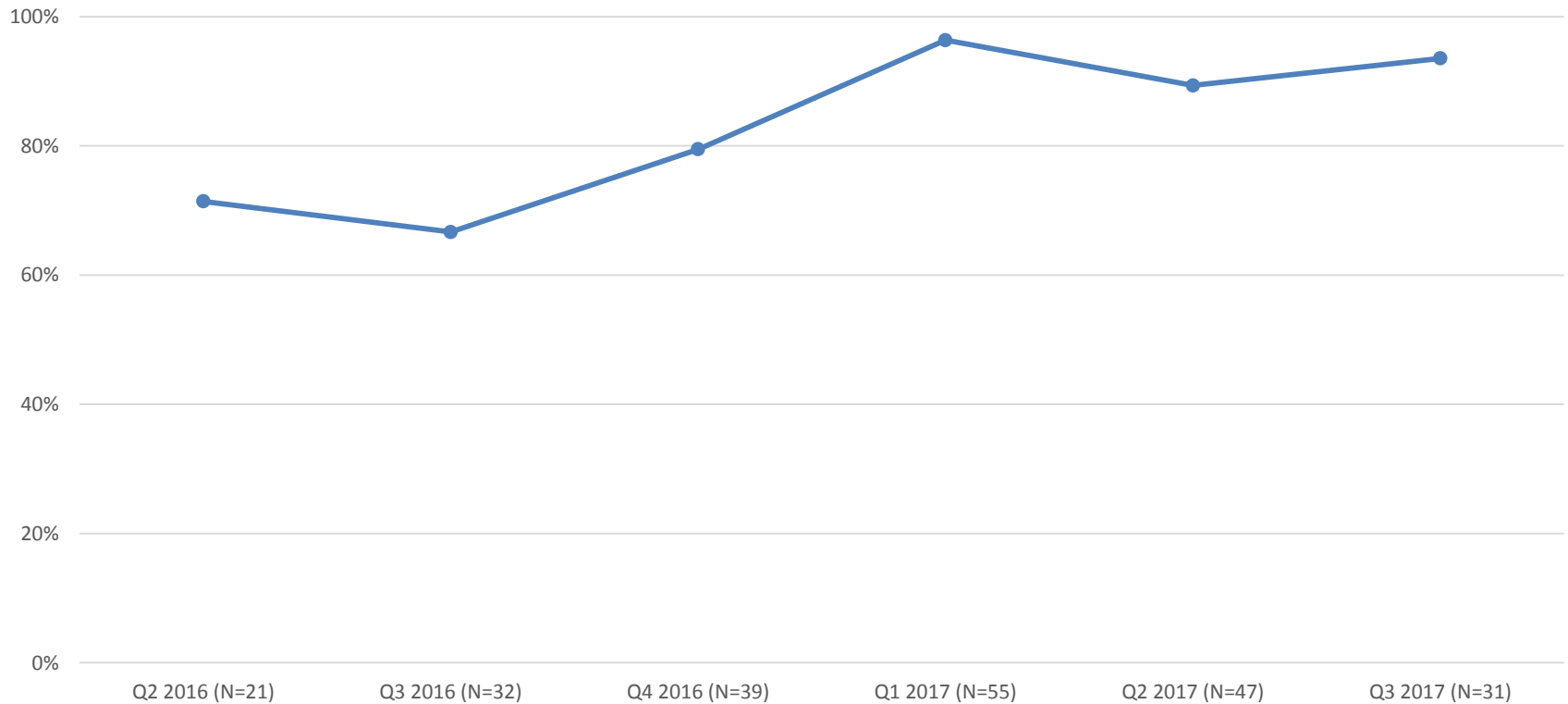
Implementation Checklist: Rapid Access to IV Medications

Percent of hospitals with rapid access to IV medications used for severe hypertension/eclampsia: Medications should be stocked and immediately available on L&D and in other areas where patients may be treated



Implementation Checklist: Response to Early Warning Signs

Percentage of hospitals with standard response to maternal early warning signs including listening to and appropriately investigating patient symptoms and assessment of labs (i.e. CBC with platelets, AST and ALT).



QUALITY IMPROVEMENT RECOGNITION AWARDS

ILPQC SEVERE MATERNAL HYPERTENSION INITIATIVE

GOLD

- ✓ Structure Measures
+
- ✓ **All 4** Process
Measure goals met

SILVER

- ✓ Structure Measures
+
- ✓ **3 of the 4** Process
Measure goals met

BRONZE

- ✓ Structure Measures
+
- ✓ **2 of the 4** Process
Measure goals met

DETERMINED BY DATA* FOR QUARTER 3 OF 2017**

TO BE AWARDED AT 5TH ANNUAL ILPQC CONFERENCE: DECEMBER 19, 2017

**SEVERE HTN DATA, AIM QUARTERLY MEASURES, & IMPLEMENTATION CHECKLIST*

***QUARTER 3 INCLUDES JULY, AUGUST, SEPTEMBER & OCTOBER 2017*

PROCESS MEASURES WILL BE EVALUATED BASED ON OCTOBER 2017 DATA

Award Criteria

Award Criteria for IL Maternal Hypertension Hospital Teams:

Structure Measures: MUST HAVE BOTH

Severe Maternal HTN Policies in place in all units (Implementation Checklist question 1 A-C)

- 🔔 Standard protocols for early warning signs, updated diagnostic criteria, monitoring and treatment of severe preeclampsia/eclampsia on L&D, Antepartum/Postpartum, Triage
- 🔔 *Provider & Nursing education: $\geq 80\%$ of providers and nurses educated (AIM Quarterly Measure question 1 a,b and 2 a, b)*

Process Measures: 4 / 4, 3 / 4, or 2 / 4 met **for Sept. or Oct. Data**

Time to treatment ≤ 60 minutes: $\geq 80\%$ of cases

- 🔔 Debrief: $\geq 30\%$ of cases
- 🔔 Discharge education: $\geq 70\%$ of cases
- 🔔 Follow-up appointments scheduled within 10 days of discharge: $\geq 70\%$ of cases

AIM Quarterly Measures

My Projects Organize

Project Title
ILPQC Early Elective Delivery Initiative
ILPQC Birth Certificate Initiative
ILPQC Golden Hour
ILPQC Severe Hypertension Data Form
ILPQC AIM Yearly Measures
ILPQC AIM Outcome Measures
ILPQC AIM Quarterly Measures
ILPQC Severe HTN Implementation Checklist

Aim Quarterly Measures Entry Form
Assign record to a Data Access Group? -- select a group --

Adding new Record ID 1

Record ID: 1

Hospital ID
* must provide value

Please select the time period for this quarterly data:
* must provide value

- Q2 2016 (April - June 2016)
- Q3 2016 (July - September 2016)
- Q4 2016 (October - December 2016)
- Q1 2017 (January - March 2017)
- Q2 2017 (April - June 2017)
- Q3 2017 (July - September 2017)
- Q4 2017 (October - December 2017)

Provider Education

1a. At the end of this quarter, what cumulative proportion of OB physicians and midwives has completed (within the last 2 years) an education program on Severe HTN/Preeclampsia* ?
*Question 1a focuses on clinical education related to severe HTN/Preeclampsia.

1b. At the end of this quarter, what cumulative proportion of OB physicians and midwives has completed (within the last 2 years) an education program on the Severe HTN/Preeclampsia bundle elements and the unit-standard protocol*?
*Question 1b focuses on implementation education related to severe HTN/Preeclampsia bundle (Readiness, Recognition & Prevention, Resources, Reporting/Systems Learning) with a focus on the 14 items on the implementation checklist.

Nursing Education

2a. At the end of this quarter, what cumulative proportion of OB nurses has completed (within the last 2 years) an education program on Severe HTN/Preeclampsia*?
*Question 2a focuses on clinical education related to severe HTN/Preeclampsia.

2b. At the end of this quarter, what cumulative proportion of OB nurses has completed (within the last 2 years) an education program on the Severe HTN/Preeclampsia bundle elements and the unit-standard protocol*?
*Question 2b focuses on implementation education related to severe HTN/Preeclampsia bundle (Readiness, Recognition & Prevention, Resources, Reporting/Systems Learning) with a focus on the 14 items on the implementation checklist.

Unit Drills

3. In this quarter, how many OB drills (In Situ and/or Sim Lab) were performed on your unit for any maternal safety topic?

4. What topics were covered in drills this quarter?

- Hemorrhage
- Severe Hypertension
- Maternal Code
- Crash Cesarean Birth
- Shoulder Dystocia
- Other

Select all that apply

Form Status

Complete?

Save Record
Save and Continue

- Open REDCap while on the call and click on 'My Projects'
 - Complete AIM Quarterly Measures for 2016 Q3 and Q4
 - Only 4 questions
 - **Q3 2017 due Nov 15th**

AIM Quarterly Measures

Complete
> 80%
education
for QI Award
banner

Aim Quarterly Measures Entry Form

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Severe Hypertension

Maternal Code

Crash Cesarean Birth

Shoulder Dystocia

Other

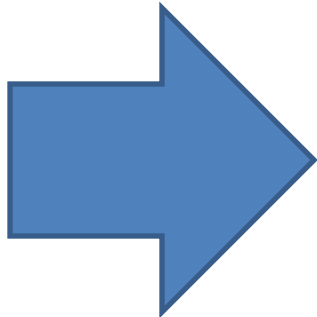
Select all that apply

Form Status

Complete?

Save Record

Save and Continue



Severe HTN Implementation Checklist

My Projects Organize

Project Title

- ILPQC Early Elective Delivery Initiative
- ILPQC Birth Certificate Initiative
- ILPQC Golden Hour
- ILPQC Severe Hypertension Data Form
- ILPQC AIM Yearly Measures
- ILPQC AIM Outcome Measures
- ILPQC AIM Quarterly Measures
- ILPQC Severe HTN Implementation Checklist**

Adding new Record ID 1

Record ID: 1

Hospital ID:

Please select the time period for this quarterly data:

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- Q4 2016 (October - December 2016)
- Q1 2017 (January - March 2017)
- Q2 2017 (April - June 2017)
- Q3 2017 (July - September 2017)
- Q4 2017 (October - December 2017)

Readiness - For every unit in your hospital do you have:

1. Standard protocols for early warning signs, updated diagnostic criteria, monitoring and treatment of severe preeclampsia/eclampsia (include order sets and algorithms).

a. L&D Yes No

b. Antepartum/Postpartum Yes No

c. Triage/ED Yes No

2. Unit education on protocols, unit-based drills or simulations (with post-drill debriefs).

a. L&D Yes No

b. Antepartum/Postpartum Yes No

c. Triage/ED Yes No

3. Process for timely identification, triage, and evaluation of pregnant and postpartum women with hypertension including ED and outpatient areas.

a. L&D Yes No

b. Antepartum/Postpartum Yes No

c. Triage/ED Yes No

4. Rapid access to IV medications used for severe hypertension/eclampsia: Medications should be stocked and immediately available on L&D and in other areas where patients may be treated. Include brief guide for administration and dosage.

a. L&D Yes No

b. Antepartum/Postpartum Yes No

c. Triage/ED Yes No

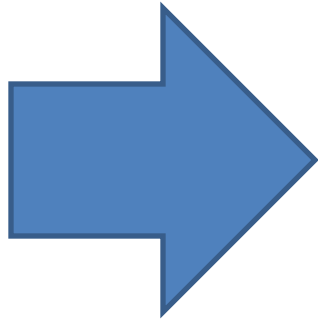
5. System plan for escalation, obtaining appropriate consultation and maternal transport, as needed for severe maternal hypertension, preeclampsia, and eclampsia.

a. L&D Yes No

- Open REDCap while on the call and click on 'My Projects'
 - Complete Severe HTN Implementation Checklist for 2016 Q3 and Q4
 - 14 easy yes/no questions
 - **Q3 2017 due Nov 15th**

Severe HTN Implementation Checklist

Complete HTN Protocols / Policies in place across units: L&D, antepartum/postpartum, ER / triage for QI Award banner



Adding new Record ID 1

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Hospital ID

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* must provide value

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Q4 2017 (October - December 2017)

reset

Readiness - For every unit in your hospital do you have:

1. Standard protocols for early warning signs, updated diagnostic criteria, monitoring and treatment of severe preeclampsia/eclampsia (include order sets and algorithms).

Yes

No

a. L&D

* must provide value

reset

b. Antepartum/Postpartum

* must provide value

Yes

No

reset

c. Triage/ED

* must provide value

Yes

No

reset

2. Unit education on protocols, unit-based drills or simulations (with post-drill debriefs).

Yes

No

a. L&D

* must provide value

reset

b. Antepartum/Postpartum

* must provide value

Yes

No

reset

c. Triage/ED

* must provide value

Yes

No

reset

3. Process for timely identification, triage, and evaluation of pregnant and postpartum women with hypertension including ED and outpatient areas.

Yes

No

* must provide value

reset

4. Rapid access to IV medications used for severe hypertension/eclampsia: Medications should be stocked and immediately available on L&D and in other areas where patients may be treated. Include brief guide for administration and dosage.

Yes

No

a. L&D

* must provide value

reset

b. Antepartum/Postpartum

* must provide value

Yes

No

reset

c. Triage/ED

* must provide value

Yes

No

reset

5. System plan for escalation, obtaining appropriate consultation and maternal transport, as needed for severe maternal hypertension, preeclampsia, and eclampsia.

Yes

No

a. L&D

* must provide value

reset

Easy to Complete HTN Education Resource for ALL Providers / Staff:

Great to
include in your
HTN
Sustainability
Plan!

EASY TO COMPLETE: AIM /ACOG HTN eModules:

- Includes 5 modules ranging from 5 – 20 min long (Approx. 1 hr total)
- Includes quiz and certificate, providers and staff can email on completion
 - eModules here: http://safehealthcareforeverywoman.org/aim-program/aim-emodules/#link_acc-1-5-d
 - HealthStream website (alternate site):
<http://hs.healthstream.com/l/152971/2016-12-05/b3751m%20>
- Additional excellent, short education option: AIM webinar and slide set: “Treating Maternal Hypertension,” by Drs. James Martin Jr., Laurence Shields, and Maurice Druzin:
<http://safehealthcareforeverywoman.org/aim-program/aim-resources/>

Meeting HTN Initiative Goals

- Focus on achieving Time to Treatment < 30-60 minutes over 80% of time for ALL TEAMS
 - Network administrators receiving list of network hospitals not yet achieved > 80% for time to treatment so that they can provide support
 - Patti follow up one on one QI calls with hospitals in bottom quartile for Time to Treatment
 - Push to have all teams complete provider / staff education using AIM / ACOG online e-modules
 - Extra push for teams not above 80% time to treatment for e-modules ALL providers / staff
 - Share your goals and data with providers / staff

Transition to Sustainability 2018

- Most teams ready to sustain gains
- Some teams still working to achieve > 80%
- **All teams should meet and develop Maternal HTN Sustainability Plan (3 components):**
 - 1) HTN Compliance monitoring – 4 key questions
 - 2) HTN education for new hires – AIM e-modules
 - 3) Incorporate HTN education into ongoing unit education for providers and staff: drills / simulations / e-modules and continue to protocols, active “debrief” = “how did we do on Time to Treatment?”
- Will discuss at OB Teams Breakout at AC

Compliance Monitoring 2018

- 2018 REDcap compliance data form will be available to track compliance *severe HTN*
 - Time to treatment severe HTN < 60 minutes(ASAP)
 - Magnesium provided
 - Early follow up for BP check within 7-10 days
 - Patient discharge education

Compliance Data Collection Form in REDCap:

Maternal Severe HTN Compliance Form

Assign record to a Data Access Group? -- select a group --

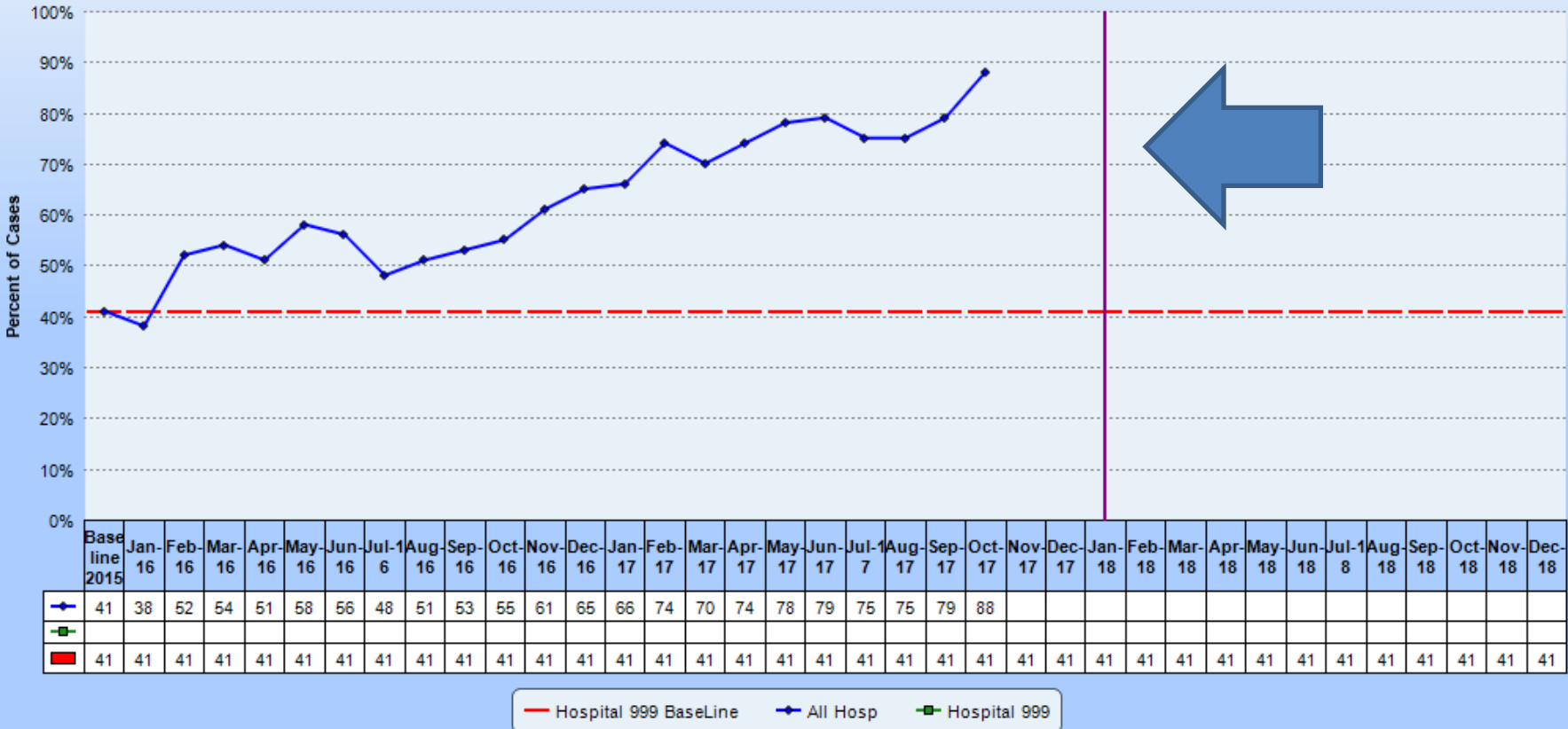
Adding new Record ID 4

Record ID	4
Hospital ID	<input type="text"/>
Date of Maternal severe HTN (BP systolic \geq 160 and/or diastolic \geq 110)	<input type="text"/> 31 Today M-D-Y
How long after the BP reached systolic \geq 160 and/or diastolic \geq 110 and persistent for 15 minutes was first BP medication given?	<input type="radio"/> < 30 mins <input type="radio"/> 30-59 mins <input type="radio"/> >60 mins <input type="radio"/> No action taken / Missed opportunity
Was Magnesium Sulfate administered?	<input type="radio"/> Yes <input type="radio"/> No
Discharge Management: Was a follow-up appointment scheduled for within 3-10 days (for all women with any severe range hypertension/preeclampsia)?	<input type="radio"/> Yes <input type="radio"/> No
Discharge Education: Were education materials about preeclampsia given?	<input type="radio"/> Yes <input type="radio"/> No
Form Status	
Complete?	<input type="text" value="Incomplete"/>
<input type="button" value="Save Record"/>	
<input type="button" value="Save and Continue"/>	
<input type="button" value="-- Cancel --"/>	

Continue monthly reporting on 4 key process measures in short form with access to graphs

Compliance Data Run Chart in REDCap:

ILPQC: Maternal Hypertension Initiative
 Percent of Cases with New Onset Severe Hypertension Treated within 60 Minutes
 Hospital 999 & Select Comparisons, 2016 - 2017

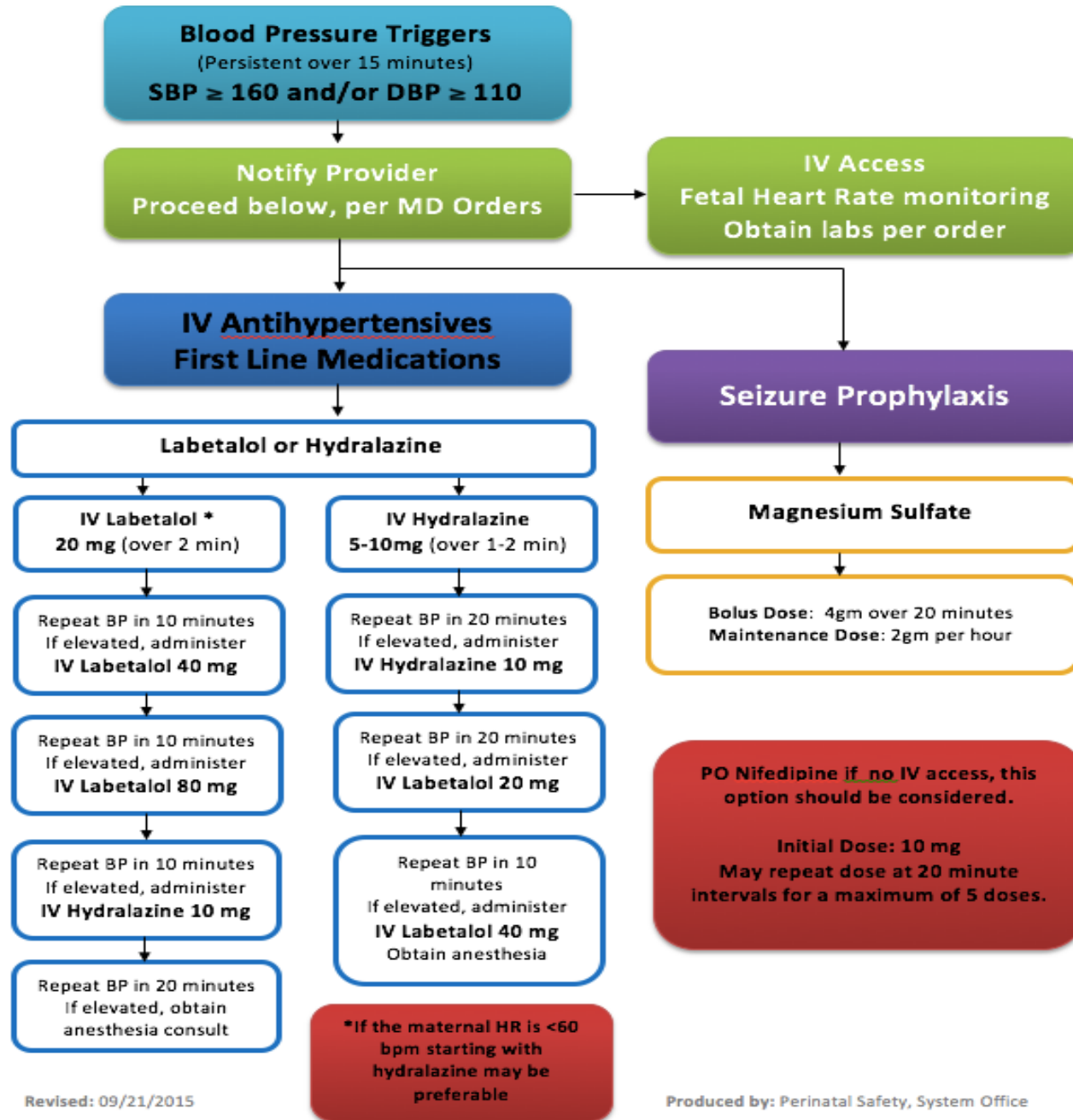


Magnesium Compliance Monitoring

- Each team should review Magnesium compliance data, all new onset severe HTN
- May need a PDSA cycle if not at goal, review missed opportunities
- Reminder from **ACOG Executive Summary on Hypertension In Pregnancy, Nov 2013:**
Proteinuria **is not** a requirement to diagnose preeclampsia with **new onset** severe hypertension.

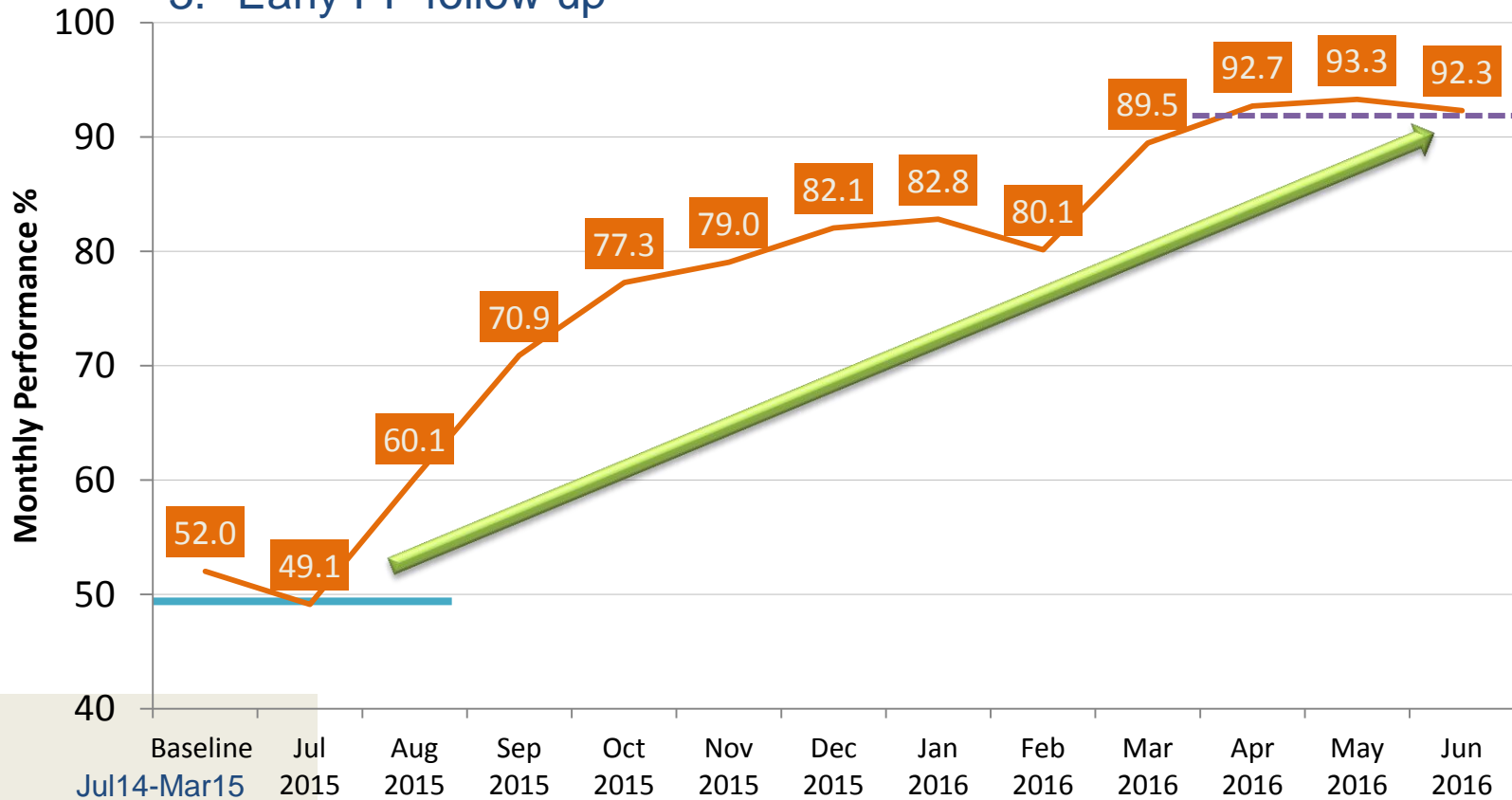
Severe Hypertension in Pregnancy Treatment Algorithm

Antepartum, Intrapartum and Postpartum



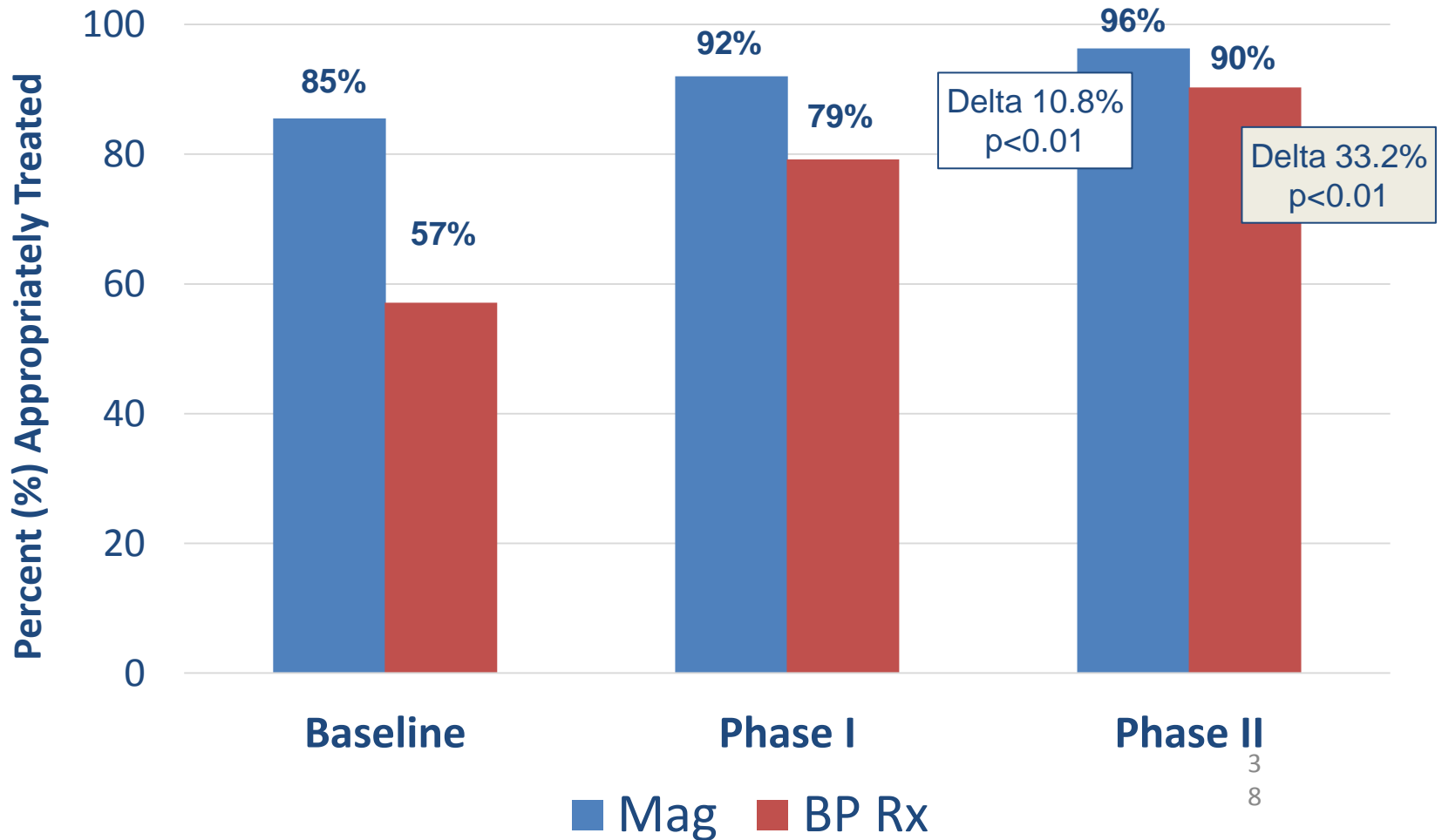
Preeclampsia Bundle Compliance:

1. Treat elevated BP
2. Give magnesium sulfate
3. Early PP follow-up

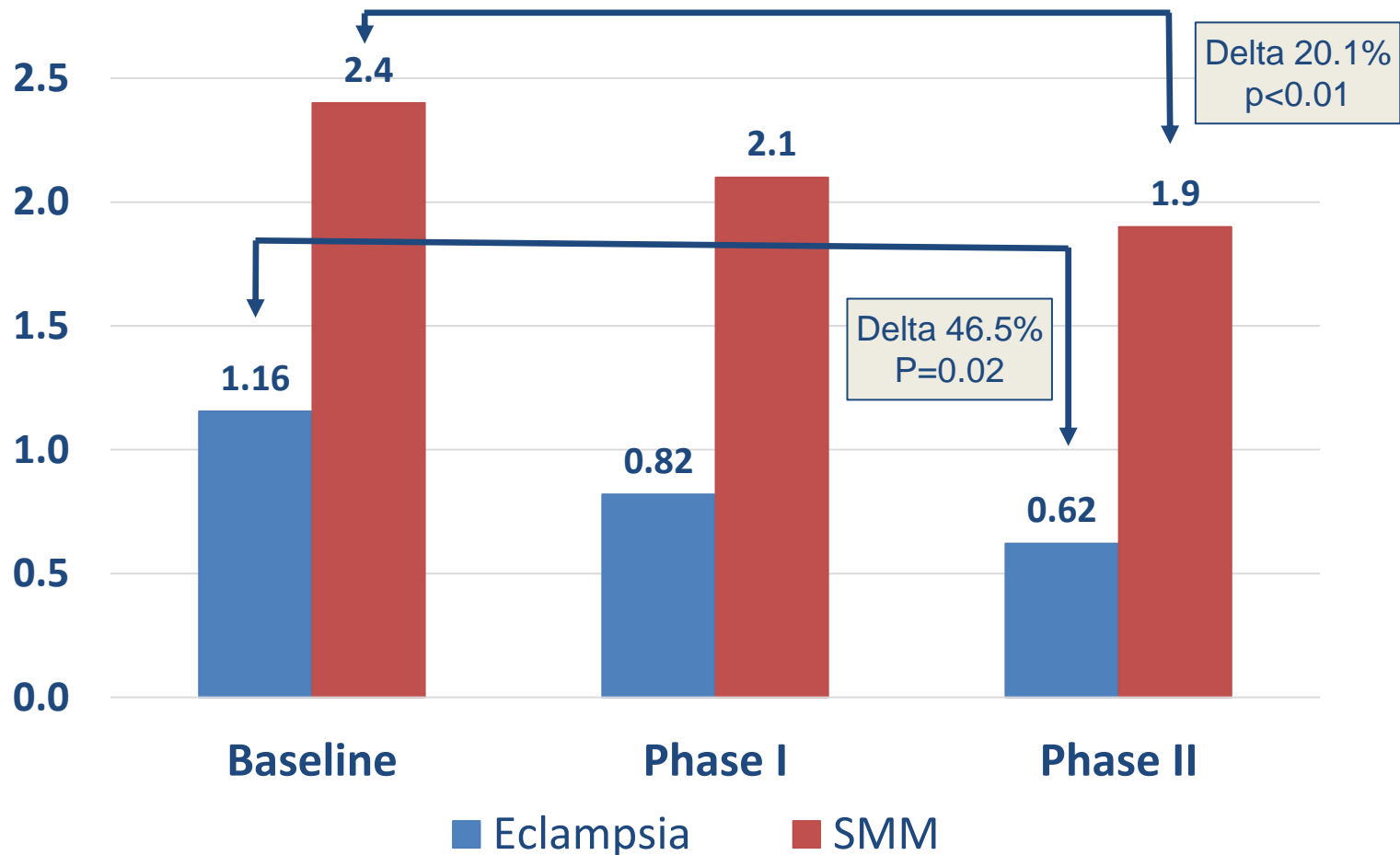


PREECLAMPSIA

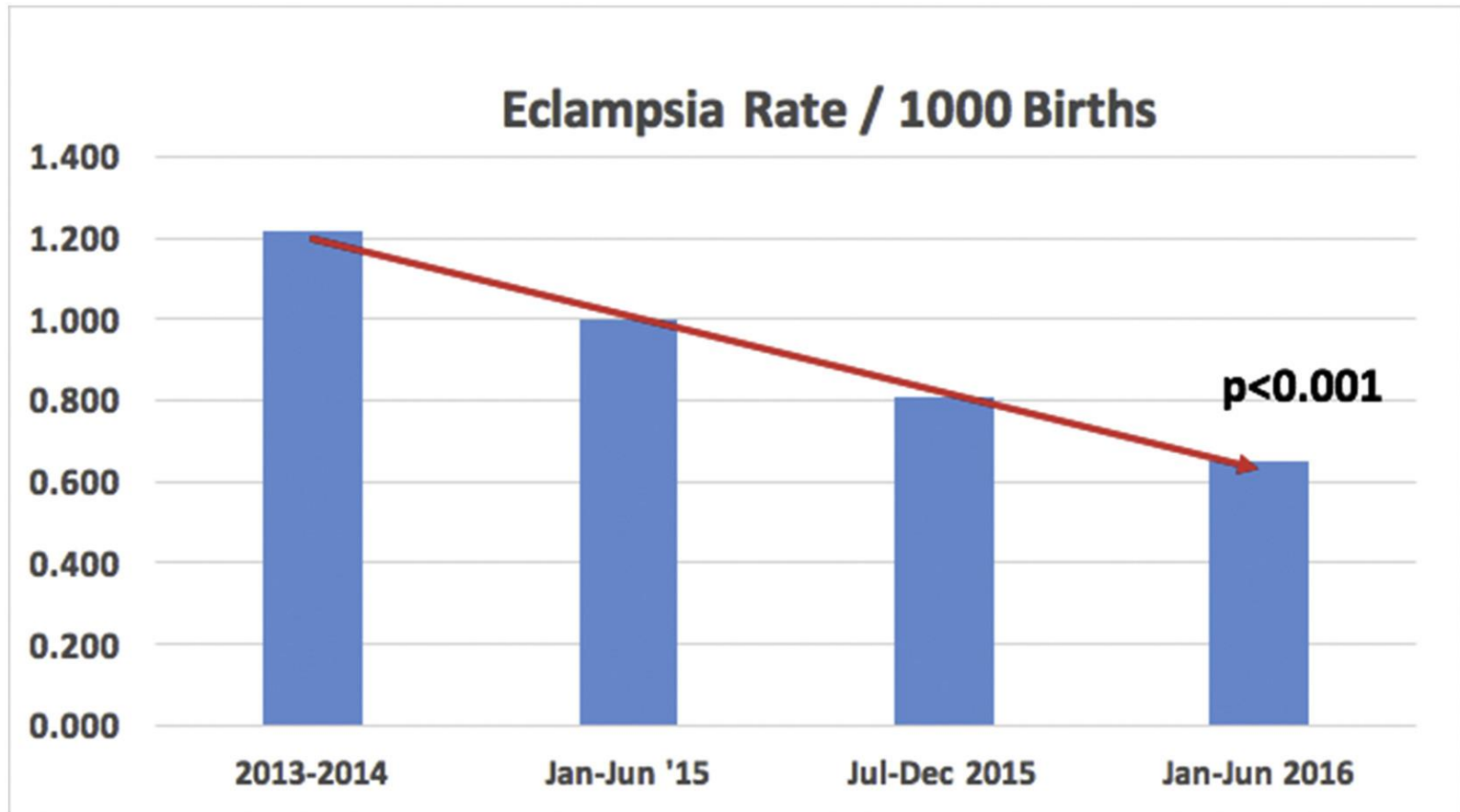
Treatment Changes



Rate of Eclampsia/1000 births and SMM/100 births



CMQCC Reduction Eclampsia Rate



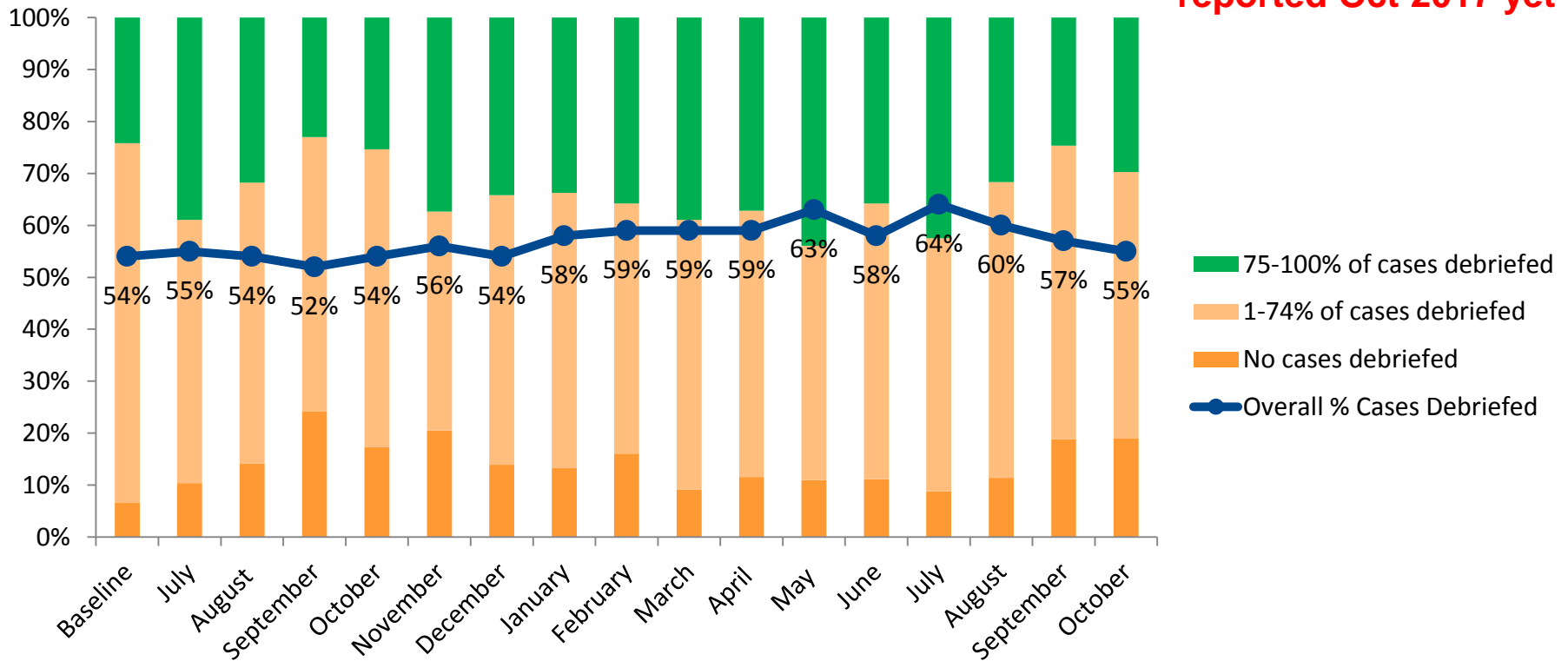
The rate of eclampsia decreased from 1.21/1000 at baseline to 0.65/1000 during 2016, $p < 0.001$.



Maternal Hypertension Data: Magnesium Sulfate Administered

ILPQC: Maternal Hypertension Initiative
Percent of Cases with New Onset Severe Hypertension with Magnesium Sulfate Administered
All Hospitals, 2016-2017

Not all teams have reported Oct 2017 yet



HTN Next Steps

- At your monthly team QI meeting
 - Review your monthly severe HTN data, review missed opportunities, what you need to accomplish to reach goals, >80% Time to Treatment?
 - Have you submitted October data, Quarter 3 data: AIM Quarterly form and HTN Implementation Checklist to REDCap: >80% education providers/staff, protocols in place across units.
- Confirm your team responded to **OB Teams End of Year Survey** <https://www.surveymonkey.com/r/OBTeams2017>
- Submit your **Annual Conference HTN Abstract** through the end of today: share challenges, successes, sustainability plan
- **Register your team for ILPQC Annual Meeting 12/19/17**
- Start work on your **HTN Sustainability Plan** for 2018 : consider compliance monitoring, new hire and ongoing education.
- Share your goals, share data and post what needs to be accomplished with your providers and staff!!

State-wide Initiatives Starting 2018 discuss at ILPQC Annual Conference!

- Mothers and Newborns Affected by Opioids (MNO)
 - Wave 1 teams: provide input on data collection, resources January – March
 - Wave 1 & 2 teams: Kick off webinar April, F2F May
- Immediate Postpartum Long Acting Reversible Contraception (LARC)
 - Wave 1 teams to start efforts spring 2018
 - Wave 2 teams late 2018 into 2019



Heart Safe Motherhood

Adi Hirshberg, MD

Maternal Fetal Medicine

Sindhu Srinivas, MD, MSCE

Maternal Fetal Medicine, Director of Obstetrical Services

Quality care
and convenience
for mothers with
hypertension in
pregnancy



Impact of Preeclampsia

Risks

Maternal seizures, organ damage, stroke, coma, death
Poor fetal growth

Maternal death



Readmissions



Diagnosed

400,000 women a year



Call to Action



72 hours and 7-10 days



High Risk Transition Clinic

- MFM fellow and resident
- every other week
- 30% show rate

Phone call and text reminders did not improve show rate

Many patients were readmitted prior to this appointment

Not meeting ACOG criteria



Answering the Challenge

- Small feasibility pilot of 32 women with hypertensive disorders of pregnancy
- Patients were asked to send in their blood pressures for seven days following discharge from the hospital via text
- MFM fellow acted as “fake back end” and responded to all text messages
- Seven rapid-cycle innovation pilots were performed with patient feedback at every level to improve process

Hirshberg et al, 2017, JCOM
Asch and Rosin, 2015, NEJM



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Perspective

Innovation as Discipline, Not Fad

David A. Asch, M.D., and Roy Rosin, M.B.A.

N Engl J Med 2015; 373:592-594 | August 13, 2015 | DOI: 10.1056/NEJMp1506311

To test a texting-based intervention to improve the care of low-income postpartum women with preeclampsia, a maternal–fetal medicine fellow acted as the automated system we might later develop. There was reason to think it might not work: previous attempts to engage this population had failed when patients didn't answer phone calls or show up for blood-pressure monitoring. But when women were sent home with a blood-pressure cuff and texted daily, the majority sent readings during the critical first postpartum week.



Heart Safe Motherhood

Front End Innovation

**Women who met
the ACOG guidelines
for hypertension
management**

0%

Before

vs

66%

Heart Safe Motherhood

**Women readmitted
for hypertension
within 7 days of
discharge**

5%

Before

vs

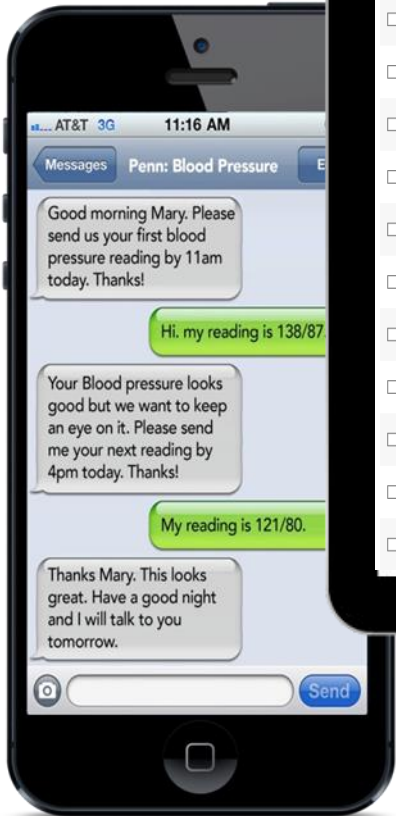
0%

Heart Safe Motherhood



Answering the Challenge

<input type="checkbox"/>	Participant	Status	Arm	Start Date	Notifications	Timestamp	Attached to Encounter	is_numeric	response_numeric	is_valid_choice	response_choice	from	message_id
<input type="checkbox"/>	1000000147	Started	1	2016/03/18	SMS	2016/03/25 04:41 pm	Afternoon Blood Pressure (#1)	No	128/90	No	-	+12156689454	SMeebf5934ca2a2804dfae
<input type="checkbox"/>	1000000146	Started	1	2016/03/18	SMS	2016/03/25 02:09 pm	Afternoon Blood Pressure (#1)	No	131/70	No	-	+12674440014	SM59c8e20e03960861bc
<input type="checkbox"/>	1000000147	Started	1	2016/03/18	SMS	2016/03/25 10:57 am	Morning Blood Pressure (#1)	No	139/87	No	-	+12156689454	SM8f59d9e1d303ae12b1
<input type="checkbox"/>	1000000146	Started	1	2016/03/18	SMS	2016/03/25 09:42 am	Morning Blood Pressure (#1)	No	132/76	No	-	+12674440014	SM1c291d5e67f599fa019
<input type="checkbox"/>	1000000146	Started	1	2016/03/18	SMS	2016/03/24 03:23 pm	Afternoon Blood Pressure (#7)	No	135/78	No	-	+12674440014	
<input type="checkbox"/>	1000000147	Started	1	2016/03/18	SMS	2016/03/24 03:13 pm	Afternoon Blood Pressure (#7)	No	133/94	No	-		
<input type="checkbox"/>	1000000147	Started	1	2016/03/18	SMS	2016/03/24 02:56 pm		No	128/101	No	-		
<input type="checkbox"/>	1000000146	Started	1	2016/03/18	SMS	2016/03/24 09:36 am	Morning Blood Pressure (#7)	No	134/74	No	-		
<input type="checkbox"/>	1000000139	Started	1	2016/03/16	SMS	2016/03/23 05:59 pm	Afternoon Blood Pressure (#1)	No	107/83	No	-		
<input type="checkbox"/>	1000000146	Started	1	2016/03/18	SMS	2016/03/23 03:28 pm	Afternoon Blood Pressure (#6)	No	131/72	No	-		
<input type="checkbox"/>	1000000147	Started	1	2016/03/18	SMS	2016/03/23 01:57 pm	Afternoon Blood Pressure (#6)	No	128/94	No	-		
<input type="checkbox"/>	1000000139	Started	1	2016/03/16	SMS	2016/03/23 11:07 am	Morning Blood Pressure (#1)	No	117/77	No	-		
<input type="checkbox"/>	1000000147	Started	1	2016/03/18	SMS	2016/03/23 08:30 am	Morning Blood Pressure (#6)	No	136/93	No	-		



Way to Health



Heart Safe Motherhood

TextBP: A randomized control trial comparing standard office-based follow up to text-based remote monitoring in the management of postpartum hypertension



TextBP: METHODS

Standard Office-Based Surveillance

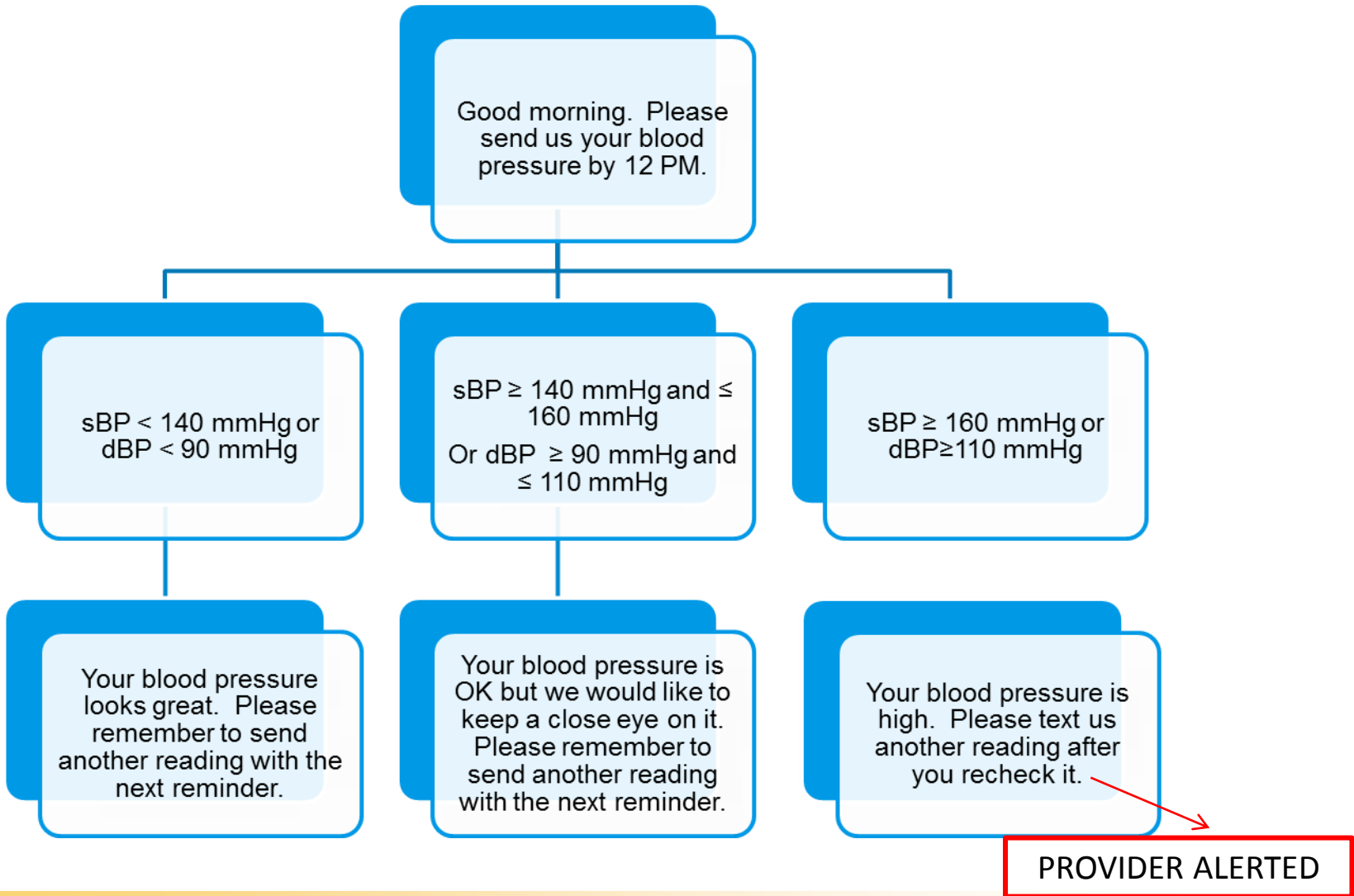
- Patients were instructed to follow up in the office where they received prenatal care 4-6 days postpartum for a nursing blood pressure visit
- Date and time of office BP check was specified in discharge document
- Nurses and physicians followed established clinical algorithm for escalation of care and initiation of antihypertensive medications

Text-Based Surveillance

- ◆ Patients were given an Omron blood pressure cuff and instructed on its use
- ◆ A starting text message was sent by the platform
- ◆ Patients received reminders to text in their blood pressures at 8 AM and 1 PM for two weeks postpartum
- ◆ Immediate feedback was provided to patients based on automated algorithm
- ◆ Provider alerted with severe range values and care escalated as needed



TextBP: ALGORITHM

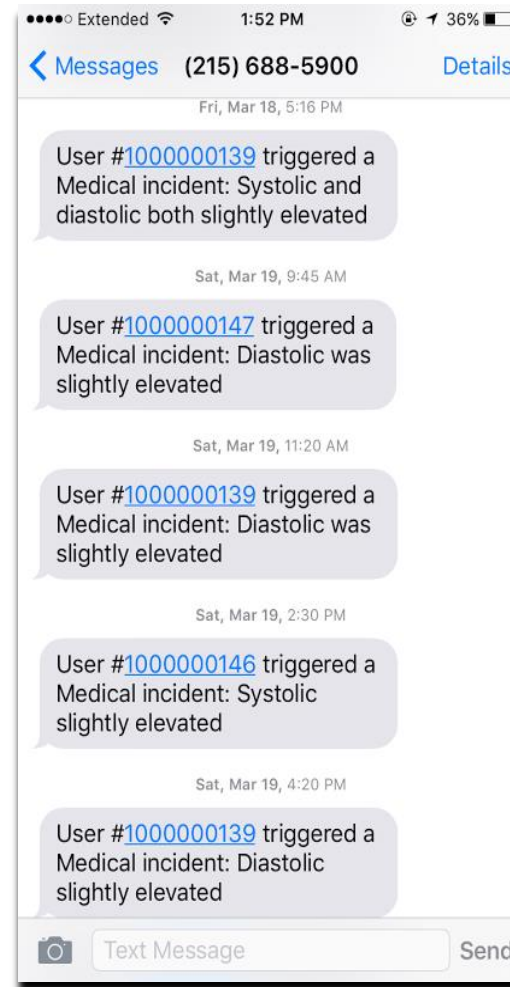


TextBP: TEXT INTERFACES

PATIENT
VIEW



PROVIDER
VIEW



Heart Safe Motherhood

TextBP: DAILY LOG

<input type="checkbox"/>	Participant	Status	Arm	Start Date	Notifications	Timestamp	Attached to Encounter	is_numeric	response_numeric	is_valid_choice	response_choice	from	message_id
<input type="checkbox"/>	1000000147	Started	1	2016/03/18	SMS	2016/03/25 04:41 pm	Afternoon Blood Pressure (#1)	No	128/90	No	-	+12156689454	SMeebf5934ca2a804dfae
<input type="checkbox"/>	1000000146	Started	1	2016/03/18	SMS	2016/03/25 02:09 pm	Afternoon Blood Pressure (#1)	No	131/70	No	-	+12674440014	SM59c8e20e03960861bc
<input type="checkbox"/>	1000000147	Started	1	2016/03/18	SMS	2016/03/25 10:57 am	Morning Blood Pressure (#1)	No	139/87	No	-	+12156689454	SM8f59d8e1d303ae12b1
<input type="checkbox"/>	1000000146	Started	1	2016/03/18	SMS	2016/03/25 09:42 am	Morning Blood Pressure (#1)	No	132/76	No	-	+12674440014	SM1c291d5e67f599fa019
<input type="checkbox"/>	1000000146	Started	1	2016/03/18	SMS	2016/03/24 03:23 pm	Afternoon Blood Pressure (#7)	No	135/78	No	-	+12674440014	SMea01e187f81902554c
<input type="checkbox"/>	1000000147	Started	1	2016/03/18	SMS	2016/03/24 03:13 pm	Afternoon Blood Pressure (#7)	No	133/94	No	-	+12156689454	SM009f7b7719a101ebc7
<input type="checkbox"/>	1000000147	Started	1	2016/03/18	SMS	2016/03/24 02:56 pm		No	128/101	No	-	+12156689454	SMdbcb7c3af1d8b59b57f
<input type="checkbox"/>	1000000146	Started	1	2016/03/18	SMS	2016/03/24 09:36 am	Morning Blood Pressure (#7)	No	134/74	No	-	+12674440014	SMA62ab77b6c600c101d
<input type="checkbox"/>	1000000139	Started	1	2016/03/16	SMS	2016/03/23 05:59 pm	Afternoon Blood Pressure (#1)	No	107/83	No	-	+12675971144	SMae73b7ef91f8ad21efdt
<input type="checkbox"/>	1000000146	Started	1	2016/03/18	SMS	2016/03/23 03:28 pm	Afternoon Blood Pressure (#6)	No	131/72	No	-	+12674440014	SMcab34a35b66429ed3d
<input type="checkbox"/>	1000000147	Started	1	2016/03/18	SMS	2016/03/23 01:57 pm	Afternoon Blood Pressure (#6)	No	128/94	No	-	+12156689454	SM0e2eedc4296fbc1b7
<input type="checkbox"/>	1000000139	Started	1	2016/03/16	SMS	2016/03/23 11:07 am	Morning Blood Pressure (#1)	No	117/77	No	-	+12675971144	SMe862cecfbcceac28bdb
<input type="checkbox"/>	1000000147	Started	1	2016/03/18	SMS	2016/03/23 08:30 am	Morning Blood Pressure (#6)	No	136/93	No	-	+12156689454	SM0e866b2c9422fe92ecc



TextBP: RESULTS

	Office	Text	p-value	aOR (95% CI)	p-value
BP obtained within 10 days	45 (43.7%)	95 (92.2%)	<0.001	58.2 (16.2-208.1)	<0.001

n(%)

Of the 8 women who did not send in a text message:

- 1 left the hospital without her cuff
- 2 gave the wrong phone number
- 2 withdrew



TextBP: RESULTS

**Women who met
the ACOG guidelines
for hypertension
management**

0%

vs

82%

Control

Heart Safe Motherhood

**Women readmitted
for hypertension
within 7 days of
discharge**

3%

vs

0%

Control

Heart Safe Motherhood



TextBP: RESULTS

TEXT ARM	
Easy to receive and read messages	5 (5-5)
Helped me pay more attention to BP	5 (4-5)
Helpful in checking my BP	5 (5-5)
Wished I received more text messages	2 (1-3)
Wished I received less text messages	1 (1-3)
Would recommend program to a friend of family member	5 (5-5)

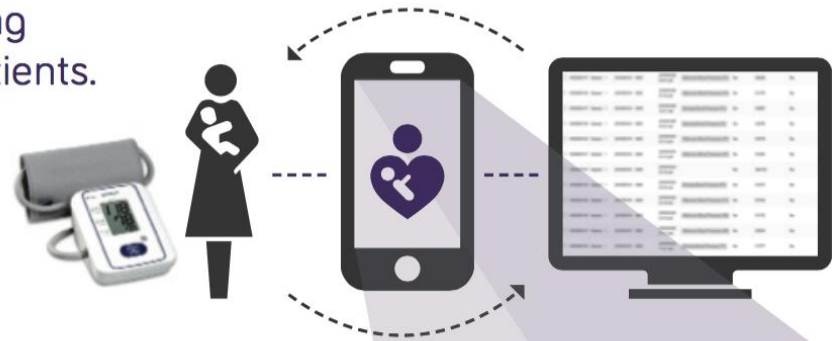
Reported as median (IQR)



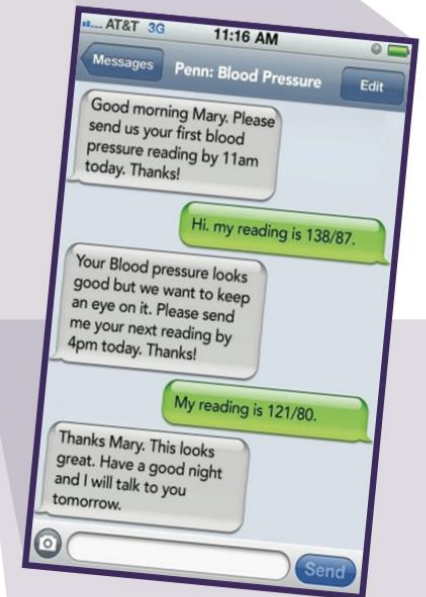
Answering the Challenge

Heart Safe Motherhood makes remote monitoring easy so that you can focus on caring for your patients.

- ✓ **Enrollment is quick and easy**
- ✓ **Obstetrician-developed algorithm manages BP results**
- ✓ **Provider alerts for critical values**
- ✓ **Reduces need for in-person visits**



“ Even though I felt great, I knew the bottom numbers were getting a little high and it was good to know someone was paying attention. In the end I needed to start medicine, but I always felt great. ”



Heart Safe Motherhood at Penn-Full scale implementation August 2017

222 patients enrolled in 8 weeks

**92% with at
least one BP
texted**

**85%
meeting
ACOG
criteria**



**16
patients
started on
meds**

**3
readmissions
for persistent
HTN**



Heart Safe Motherhood at Penn-Full scale implementation EMR Integration

Zzztesttwo, Donna
 Pref Name: None
 Female, 34 y.o., 10/11/1983
 MRN, CSN: 641647367, 300000172

Encounter Type: None
 Curr Loc: None

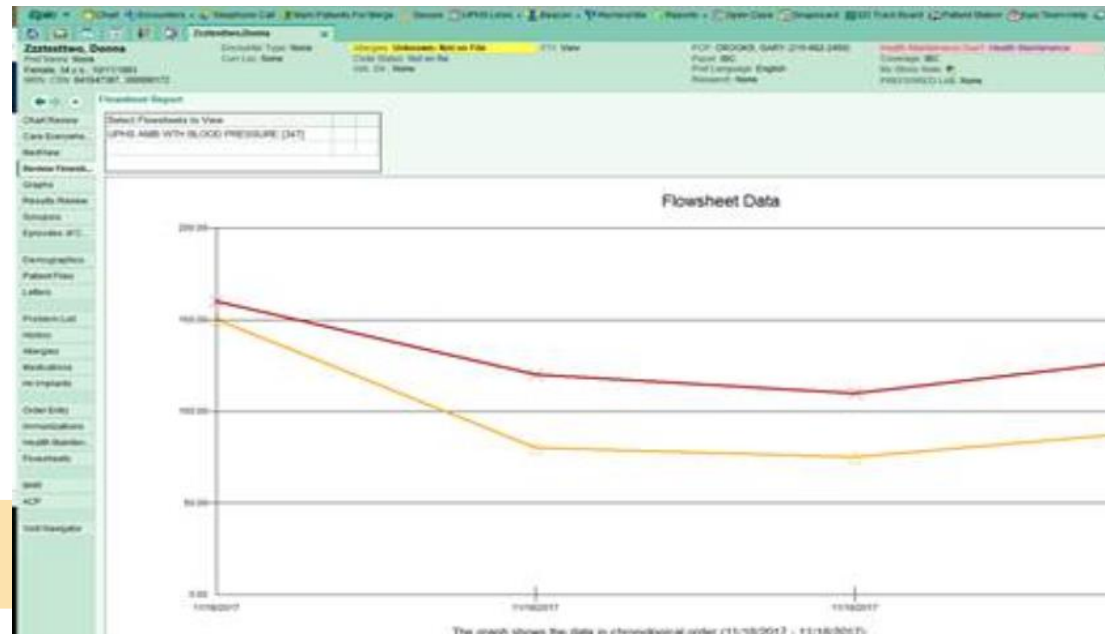
Allergies: Unknown: Not on File
 Code Status: Not on file
 Adv. Dir.: None

Flowsheet Report

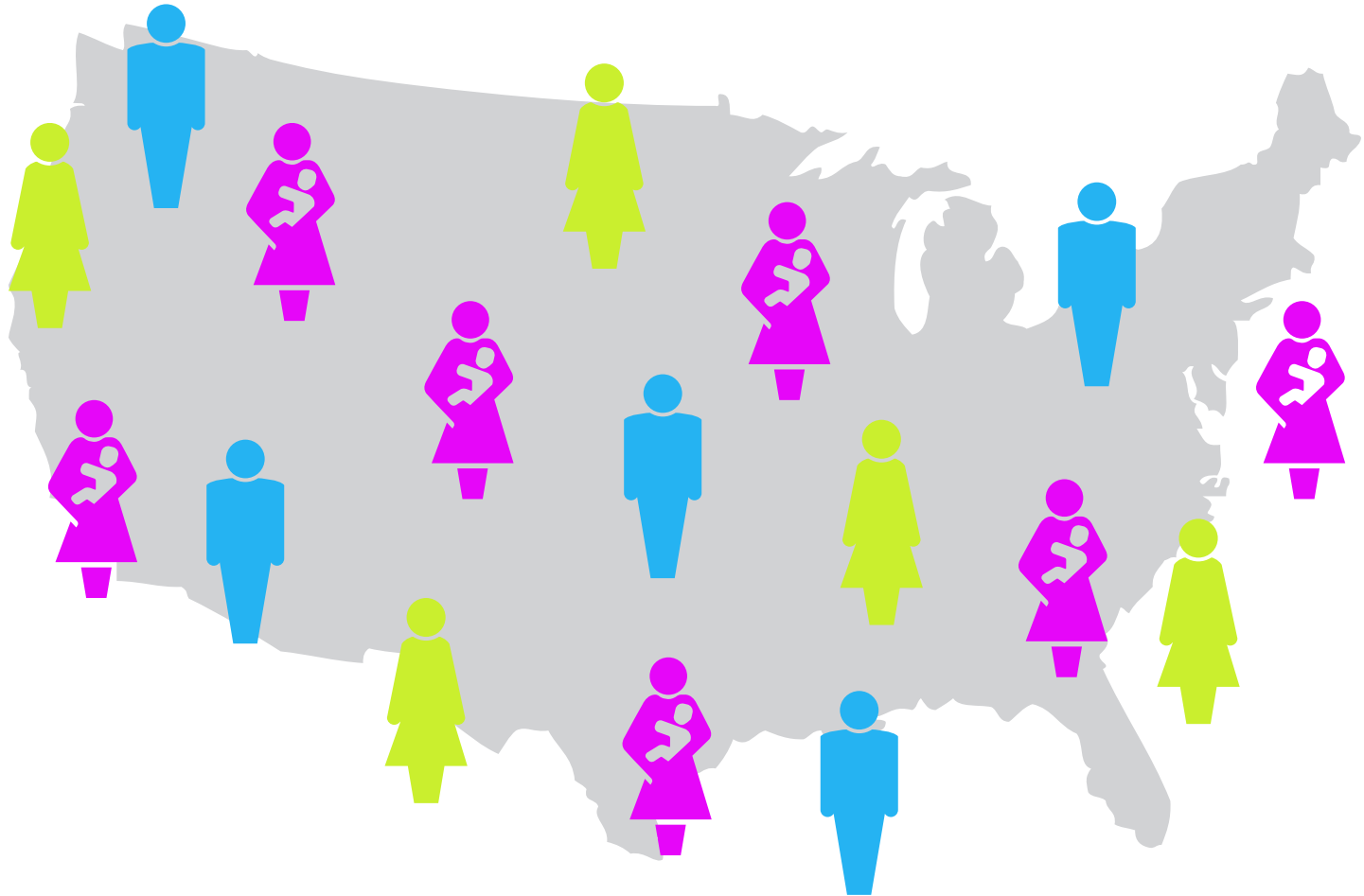
Select Flowsheets to View

UPHS AMB WITH BLOOD PRESSURE [347]				
------------------------------------	--	--	--	--

Way to Health: Blood Pressure	11/18/2017	11/18/2017	11/18/2017	11/18/2017
Blood Pressure	160/150	120/80	110/75	130/90
Systolic Blood Pressure	160	120	110	130
Diastolic Blood Pressure	150	80	75	90



Our Future



**Centegra Health System
McHenry and Huntley, IL**

**Joan Stout MSN, RNC-OB, NE-BC
Assistant Director Women's Services**

**Christen Edwards BSN, RNC-LRN
OB Nurse Educator**

Utilize Simulations to provide on going Education and create Sustainability

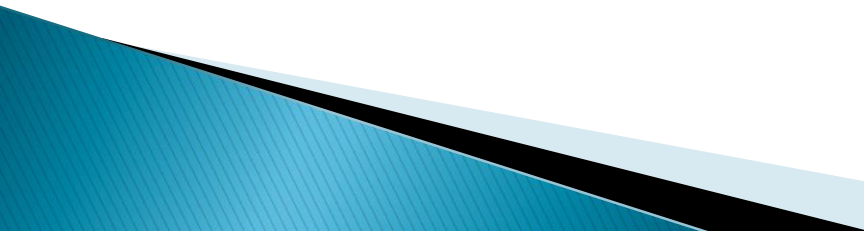
- ▶ In October and November, we held 15 sessions of Severe HTN multidisciplinary simulations
- ▶ These offerings are held each Spring and Fall centered around low occurrence, high morbidity/mortality obstetrical events
- ▶ We invite OB Providers, all OB RNs and ED RNs to participate
- ▶ The scenario from the IPLQC Toolkit; Appendix K: Sever Preeclampsia/Eclampsia in LDR was utilized
- ▶ We simulate everything from correct manual blood pressure technique to writing an SBAR before calling the MD; to entering an order for labetalol into the computer (utilizing the order sets) to setting up the Alaris pump for Magnesium Sulfate administration.



Our Simulation Lab

The lab allows us to focus on our workflows without the daily distractions encountered on a busy unit.

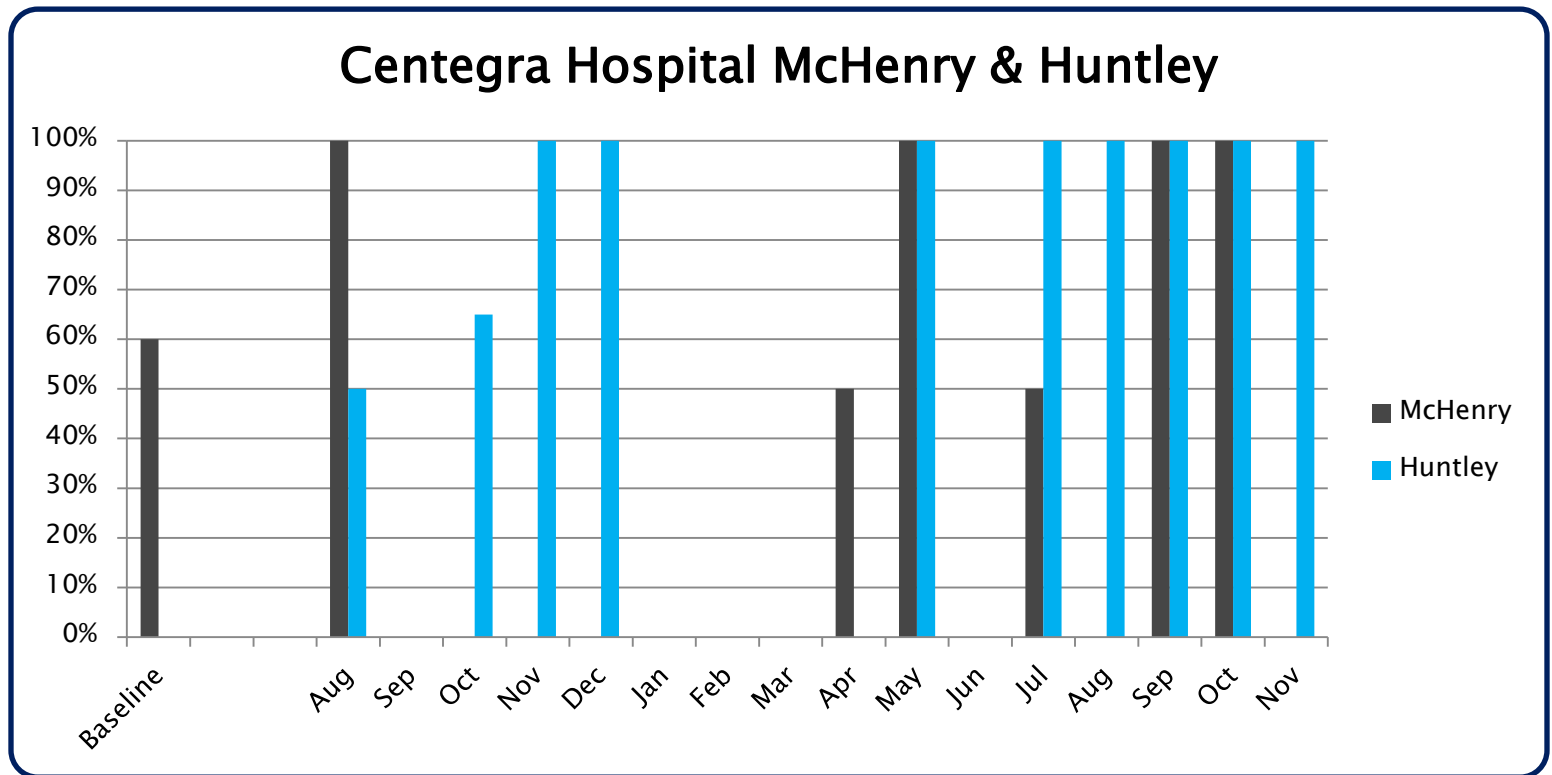
Other considerations to create Sustainability

- ▶ Incorporate Severe HTN education into our new hire orientation checklists.
 - ▶ Compliance monitoring consists of continued data collection utilizing the ILPQC long form. Opportunities are reviewed at our Unit Based Nursing Professional Governance Council and at MD QA/QI.
 - ▶ Safety huddles identifying current Severe HTN patients are held twice daily at shift change.
 - ▶ Continue with multidisciplinary simulations that include MDs and the ED team utilizing scenarios from the tool kit and from real life events.
- 

Centegra Hospital McHenry & Huntley HTN Initiative

Performance Goal: New Onset Severe Hypertension Treated within 60 mins.

- ▶ Our goal is 90% time to treatment with monthly tracking (below) shared at staff meetings and OB MD department meetings.



Baseline 2015

Performance Period
2016-2017

Training Paramedic Students

November 27, 2017

Debbie Schy, RNC, MSN, IBCLC



Inspiring medicine. Changing lives.

Paramedic Training



Baby Lyla and mom

Paramedic Training Classes

- ALGH provides 1 training class per year
 - May – February
- Classes consist of 16-18 students
 - Requirements
 - Current IDPH EMT License
 - EMT experience or
 - 40 hours of ambulance ride time
 - » Or
 - Successful completion of an EMT to P Bridge program/Seminar
 - Written assessment tests and practical skills testing
 - Oral interview process
 - Placed on the eligibility list and final acceptance

Paramedic Training

- Training hours
 - 950 hours of training including field internship, clinical and didactic
 - Some of these hours are spent on various units within the hospital
 - State and national licensure by exam
 - Renewal for paramedics is 100 hours every 4 years

Paramedic Training

- Renewal for paramedics is 100 hours every 4 years

Core Content	II. Recommended Hours
Preparatory	8 hours
Airway Management & Ventilation	12 hours
Patient Assessment	8 hours
Trauma	12 hours
Cardiology	16 hours
Medical	20 hours
Special considerations (Neonatology, Pediatrics, Gynecology, Obstetrics)	16 hours
Geriatrics	4 hours
Operations	4 hours
Total	100 hours/4 year

OB Curriculum

- Soup to Nuts
 - Terminology
 - Fetal development
 - Physiologic changes in pregnancy
 - Physical examination of the pregnant woman
 - Pregnancy complications
 - Normal childbirth
 - Complications after delivery
 - Emergency situations for the pregnant or postpartum woman

Paramedic Continuing Education

- Coordinators for each EMS system
 - Provide monthly continuing education for paramedics
 - Every 4 years paramedics need 16 hours of continuing education on special considerations which includes obstetric
 - Share ILPQC information on severe hypertension and AIM emodules with the EMS system coordinator
 - Sustainability includes all personnel that identify severe hypertension and many times paramedics are 1st line responders



Baby Jules

Paramedic Training

- Paramedic training in Illinois
 - <https://www.paramedictrainingspot.com/paramedic-schools-in-illinois/>
- Paramedic licensure
 - <https://www.healthcarepathway.com/become-a-paramedic/illinois-paramedic.html>

“The Last Person You’d Expect to Die in Childbirth”

ProPublica/NPR May 12 2017

<https://www.propublica.org/article/die-in-childbirth-maternal-death-rate-health-care-system>

Quality Matters: every patient, every provider, every nurse, every unit every time.



Lauren Bloomstein: 33 year old healthy NICU nurse, wife, mom, severe HTN in labor, preeclampsia not diagnosed, severe HTN not treated, stroked and support withdrawn 20 hours after delivery.

Q&A

- Ways to ask questions:
 - Raise your hand on Adobe Connect to ask your question by phone
 - Post a question in the Adobe Connect chat box

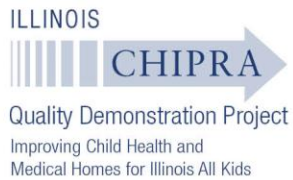


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