Welcome!

- Please set up your storyboard by perinatal level
- Enjoy continental breakfast in the foyer
- There is one set of restrooms in the foyer just past the stairs, and another set in the main lobby just before the elevators.
- If you have team members here, please try to sit together

ONA-Disclosure Statement

This continuing nursing education activity was approved by the Ohio Nurses Association, an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation. (OBN00191)

This program has been awarded 5.0 contact hours.

All planners, content reviewers, faculty and presenters have declared no conflict of interest, nor have any disclosures for this program.

ONA-Criteria for Successful Completion

- In order to earn the contact hours, the participant must:
  - Sign in on the attendance sheet
  - Complete an evaluation form
  - Attend the entire program

ILPQC Obstetric Teams Hypertension Initiative Face to Face

May 18, 2017

10:00 am – 3:30 pm

Today's Participants

- 255+ participants registered
- 95 hospital teams represented
- Roll call: physicians, midwives, nurses, quality, public health
- Materials check:
  - Face to Face Folder
  - ACOG Order Set Pocket Guide—revised version
  - Preeclampsia Patient Education tear pads

Agenda

- 10:00 – 10:30 am — Goals for Today, Progress to Date of HTN Initiative (Ann Borders)
- 10:30 – 11:00 am — Acute Management of Hypertension Reduces Eclampsia (Larry Shields)
- 11:00 – 11:45 am — Team Storyboard Session
- 11:45 – 12:30 pm — Working Lunch – Teams/Table discussion of lessons learned from story boards
- 12:30 – 1:00 pm — Strategies to Improve Timely Treatment of Severe OB Hypertension (Arthur Ollendorff)
- 1:00 – 1:45 pm — Small group key topic discussions on implementation strategies (All participants)
- 1:45 – 2:00 pm — BREAK
- 2:00 – 2:30 pm — Debrief small group key topic discussions on implementation strategies (Teams)
- 2:30 – 3:15 pm — ILPQC Teams Panel on Testable Systems Changes (Kristen Farney, Jessica Cazares, Chris Lopian, Samantha Schoenfelder)
- 3:15 -- 3:30 pm — Summary and Evaluation

Today's Presenters

- Ann Borders, ILPQC OB Lead & Executive Director
- Larry Shields, Director of Maternal Fetal Medicine, Marian Regional Medical Center, Santa Maria, California
- Arthur Ollendorff, Director of Medical Education, Mountain Area Health Education Center in Asheville, NC, Clinical Lead for Maternal Projects for the Perinatal Quality Collaborative of North Carolina (PQCNC)
- Patti Lee King, ILPQC State Project Director

Today's Presenters

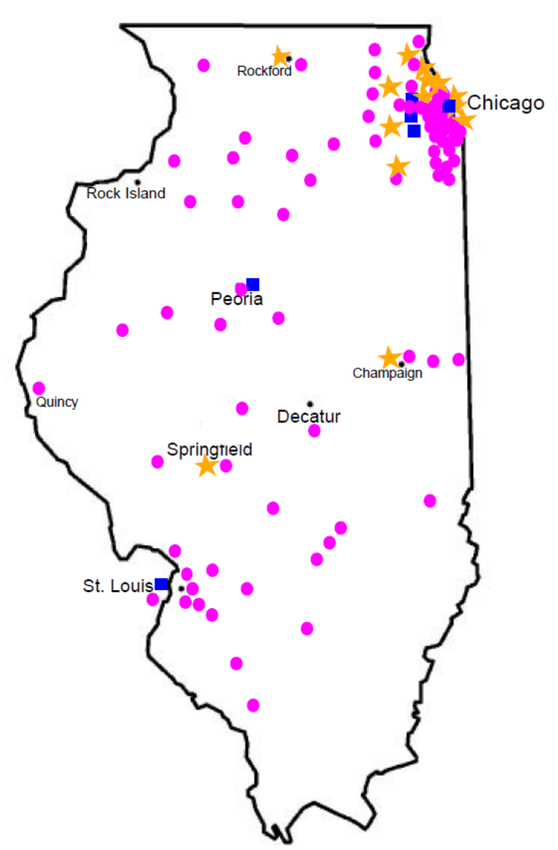
- Kristen Farney, Inpatient Nurse Supervisor for Labor and Delivery/High Risk Antepartum/ Maternal Transport, Carle Foundation Hospital, Urbana
- Jessica Cazares, Manager of Obstetric Units, Advocate Illinois Masonic Medical Center, Chicago
- Chris Lopian, Staff RN and Perinatal Coordinator at St. John's Hospital, Springfield
- Samantha Schoenfelder, Clinical Quality Leader for OB, MFM and Pediatrics at Northwestern Medicine Central DuPage Hospital, Winfield

ILPQC Vision

A statewide perinatal quality collaborative that involves all perinatal stakeholders; utilizes data-driven, evidence-based practices; improves perinatal quality resulting in improved birth outcomes, improved health for women and infants, and decreased costs; builds on Illinois' existing state-mandated Regionalized Perinatal System, and operates with long-term sustainable funding.

ILPQC: Working with IL Hospitals Across the State

- 112/120 IL birthing hospitals participating in one or more ILPQC Initiative
- 110 hospitals in OB Initiative
  - 99% of IL births covered by ILPQC
- 26 hospitals in Neonatal Initiative
  - 91% of IL NICU beds covered by ILPQC



HOW FAR WE'VE COME!
PROGRESS TOWARDS OUR GOALS

AIM: What are we trying to accomplish?

By December 2017, to reduce the rate of severe morbidities in women with preeclampsia, eclampsia, or preeclampsia superimposed on pre-existing hypertension by 20%

What processes are we focused on to accomplish our AIM?

ILPQC
Illinois Perinatal Quality Collaborative

AIM: Reduce preeclampsia maternal morbidity

IL Measure	Type	Goal
Severe Maternal Morbidity 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 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	100%
Discharge education and follow-up within 7-10 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.

What were our key strategies?

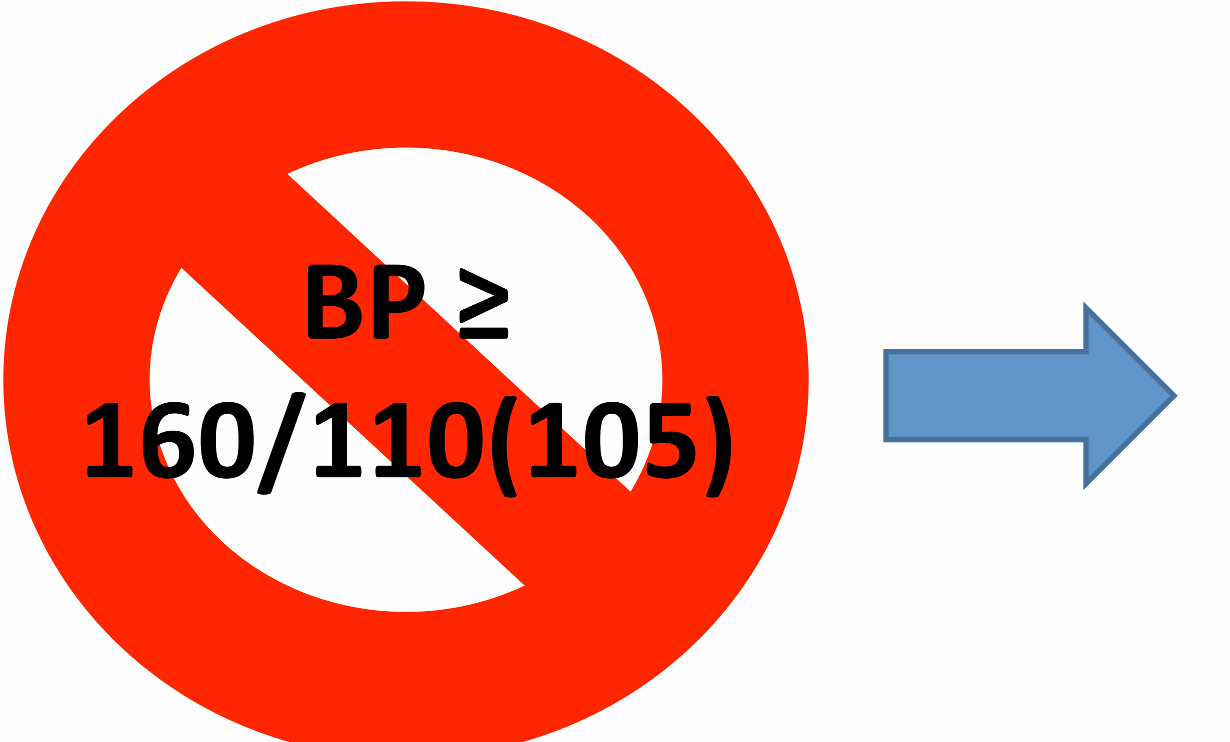
- Staff education and standardized BP measurement
- Rapid access to medications
- IV treatment of BP’s ≥ 160mmHg systolic or ≥ 110(105) mmHg diastolic within 1 hour
- Uniform policy for magnesium sulfate
- Early postpartum follow-up
- Standardized postpartum patient educational materials.

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

California Department of PublicHealth



Need To Treat*

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

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

Percent of Cases

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

Baseline (2015)	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	April-17
41.5%	47.8%	50.5%	53.1%	54.7%	60.5%	64.1%	66.3%	75.1%	71.6%	74.3%

<30 mins | 30-60 mins | 60-90 mins | >90 mins | Missed Opportunity | Overall % Treated in 60 Minutes

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

Month	Overall % Treated in 60 Mins
Baseline	41%
July	48%
August	51%
September	53%
October	55%
November	61%
December	64%
January	68%
February	75%
March	71%
April	74%

Legend:
- 75-100% of women treated within 60 minutes
- 1-74% of women treated within 60 minutes
- No women treated within 60 minutes
- Overall % Treated in 60 Mins

Y-axis: 0%, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, 100%

Maternal Hypertension Data: Patient Education

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

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

Baseline 37%
July 36%
August 44%
September 47%
October 63%
November 65%
December 64%
January 65%
February 70%
March 78%
April 70%

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

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

	Baseline	July	August	September	October	November	December	January	February	March	April
Overall % With Follow Up	53%	54%	54%	64%	70%	73%	67%	64%	73%	73%	71%

75-100% of women with follow up
1-74% of women with follow up
No women with follow up
Overall % With Follow Up

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

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

2%
11%
17%
24%
24%
28%
27%
29%
35%
34%
34%

Baseline
July
August
September
October
November
December
January
February
March
April

75-100% of cases debriefed
1-74% of cases debriefed
No cases debriefed
Overall % Cases Debriefed

Severe Hypertension Data Entry Status

	Total Records	# Teams with Data
Baseline (2015)	1619	87
July	578	75
August	637	83
September	567	85
October	448	73
November	548	81
December	552	75
January	503	75
February	458	74
March	478	70
April	295	61
Overall	**6620**	**100**

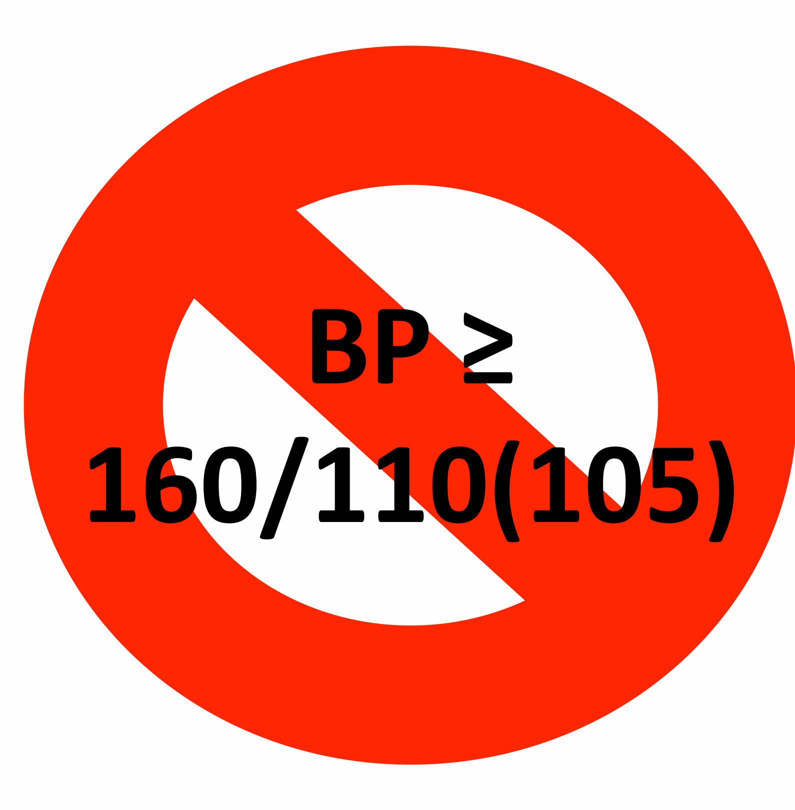
Reminder for April Data

WHERE WE GO FROM HERE? NEXT STEPS TO MEET OUR GOALS

Next Steps to Meet Our Goals

- Culture change in all units – how do you get there?
  - Post visual reminders
  - Educate *all* providers/nurses on protocols
  - Apply implementation checklist
  - Share your data: providers, staff, leadership
- Sustainability across all units
  - System changes build in optimal care: Every provider, every nurse, every unit, every patient, every time

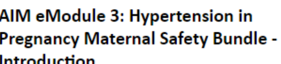
Lessons from Neonatal QI - Visual Reminder in Unit



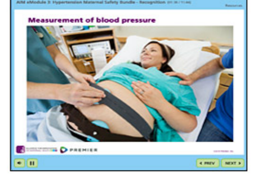
Number of days since we have had a missed opportunity or delay (> 60 min) in time to treat severe HTN: _____

Educate Providers and Nurses on Severe HTN Protocol: AIM eModules & ILPQC Grand Rounds Slides

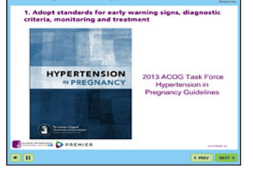
ILPQC Illinois Perinatal Quality Collaborative



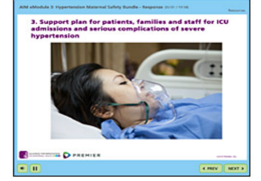
AIM eModule 3: Hypertension in Pregnancy Maternal Safety Bundle - Recognition



AIM eModule 3: Hypertension in Pregnancy Maternal Safety Bundle - Readiness



AIM eModule 3: Hypertension in Pregnancy Maternal Safety Bundle - Response



AIM eModule 3: Hypertension in Pregnancy Maternal Safety Bundle - Reporting

Illinois Maternal Hypertension Initiative Comprehensive Slide Set

Presented by:

AIM eModules	Severe Maternal HTN Grand Rounds
Available on AIM website. 5 modules range from 5 to 20 minutes long (approximately 1 hour) with quiz and certificate - can ask all providers/staff to submit certificate. View eModules here.	Available to download from ILPQC website (or click here). Speakers group available to provide Grand Rounds across the state. Email info@ilpqc.org for more information.

Implementation Checklist: Your Tool to Assess Bundle Implementation

ILPQC Illinois Perinatal Quality Collaborative

- Complete quarterly in REDCap to track your progress
- 14 item assessment of what bundle components - **systems changes** - you do or don't have in place at your hospital
- Available NOW! Use the Implementation Checklist in your folder:
  - Complete a hospital assessment now for discussion with your team and other teams
  - Take it back to your hospital to enter it into REDCap for 2017 Quarter 1

Implementation checklist adapted from the tool developed by IHI for implementation of the AIM bundles in Louisiana.

Readiness – Items for Every Unit

- Standard protocols for identification and treatment of severe HTN
- Unit education providers/staff on protocols
- Process for timely id, triage, and eval
- Rapid access to IV meds
- System plan for escalation and transport
- **Every unit = L&D, antepartum/ postpartum, & triage/ED**

Recognition & Prevention – Items For Every OB/Postpartum Patient

ILPQC Illinois Perinatal Quality Collaborative

- Standard protocols for measurement and assessment of BP
- Standard response to maternal early warning signs (MEWS algorithm / tool)
- Facility-wide standards for patient education on preeclampsia

Response – Items For Every Case of Severe HTN

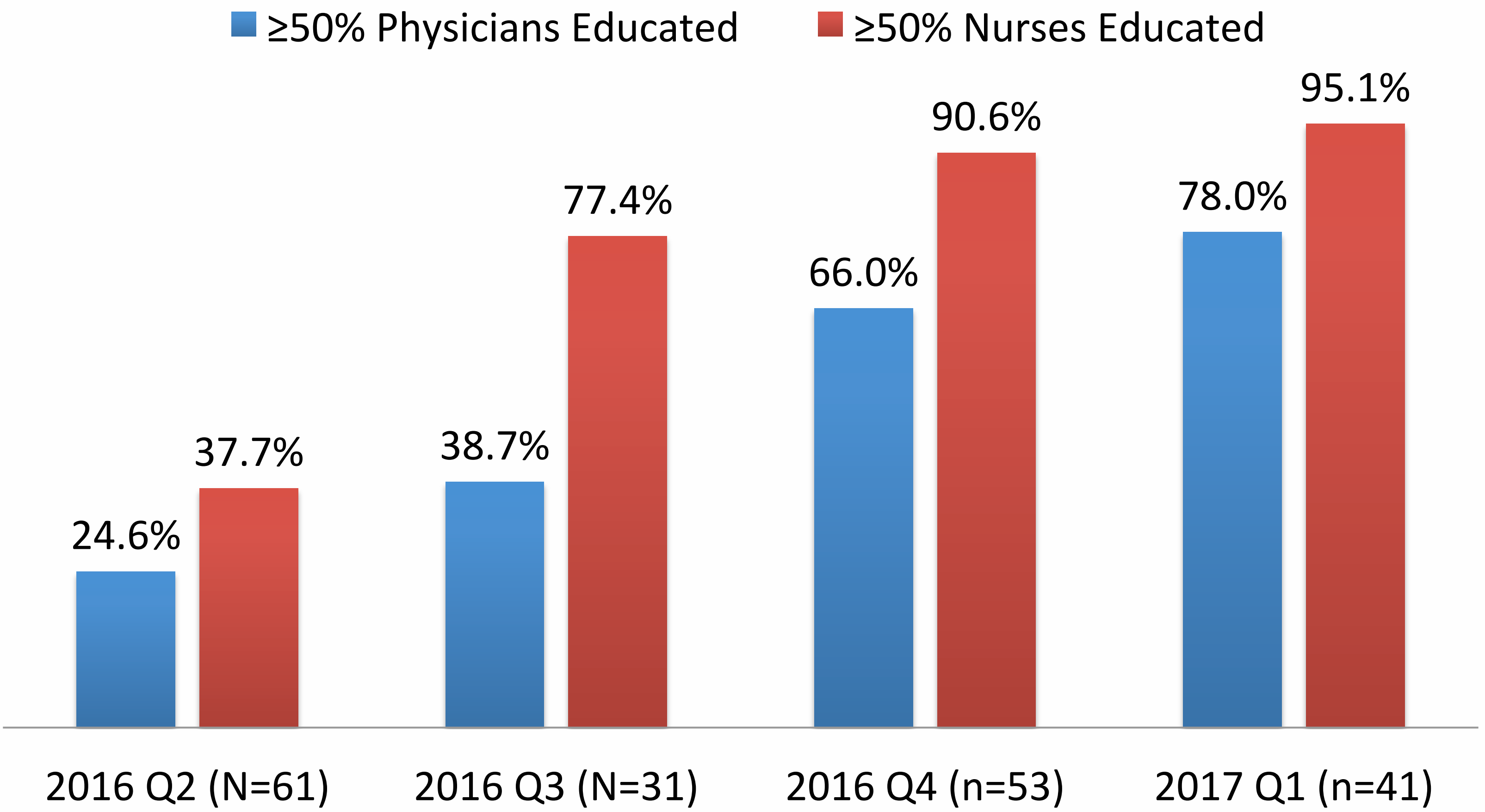
- Facility-wide standard protocols for management and treatment of severe HTN
- Support plan for patients, families, and staff for ICU admissions and serious complications of severe HTN

Reporting/System Learning – Items for Every Unit to Identify Opportunities for Improvement

- Culture of huddles and debriefs
- Multidisciplinary reviews of all cases admitted to ICU
- Monitoring of quality outcomes and process metrics

Maternal Hypertension Data: Physician and Nurse Education

ILPQC Illinois Perinatal Quality Collaborative



*Baseline data omitted due to inconsistency in sample size and evidence of misunderstanding the question

Maternal Hypertension Data: Access to Meds

*Baseline data omitted due to inconsistency in sample size and evidence of misunderstanding the question

Maternal Hypertension Data: Severe HTN Protocol

	2016 Q3 (n=30)	2016 Q4 (n=37)	2017 Q1 (n=41)
Severe HTN Protocol	62.1%	78.4%	87.5%

*Baseline data omitted due to inconsistency in sample size and evidence of misunderstanding the question

Timely Treatment of Severe HTN: Trends By Collaborative in AIM

HOW WE GET THERE: BACK TO THE BUNDLE

AIM Bundle Readiness Resources: Checklists

ILPQC
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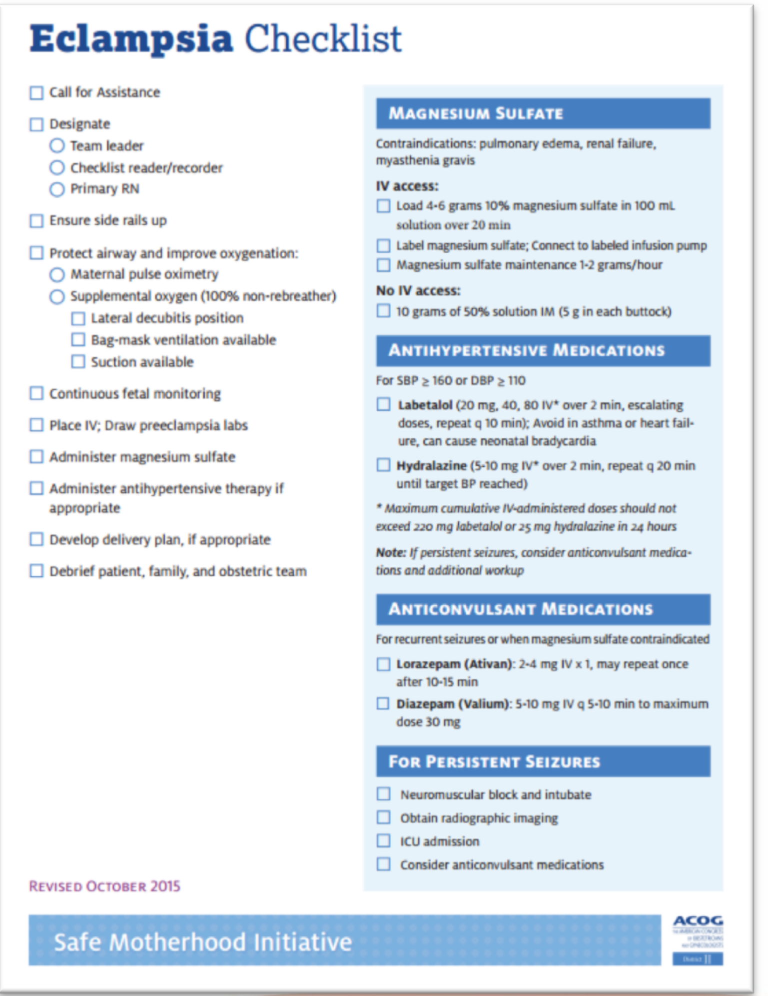
- Eclampsia checklist
- Hypertensive emergency checklist
- Postpartum preeclampsia checklist



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 decubitis position
    - ☐ Bag-mask ventilation available
    - ☐ Suction available
- ☐ Continuous fetal monitoring
- ☐ Place IV; Draw preeclampsia labs
- ☐ Administer magnesium sulfate
- ☐ Administer antihypertensive therapy if appropriate
- ☐ Develop delivery plan, if appropriate
- ☐ Debrief patient, family, and obstetric team

Magnesium Sulfate

Contraindications: pulmonary edema, renal failure, myasthenia gravis

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

- ☐ **Labetalol** (20 mg, 40, 80 IV* over 2 min, escalating doses, repeat q 10 min); Avoid in asthma or heart failure, can cause neonatal bradycardia
- ☐ **Hydralazine** (5-10 mg IV* over 2 min, repeat q 20 min until target BP reached)

** 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*

Anticonvulsant 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

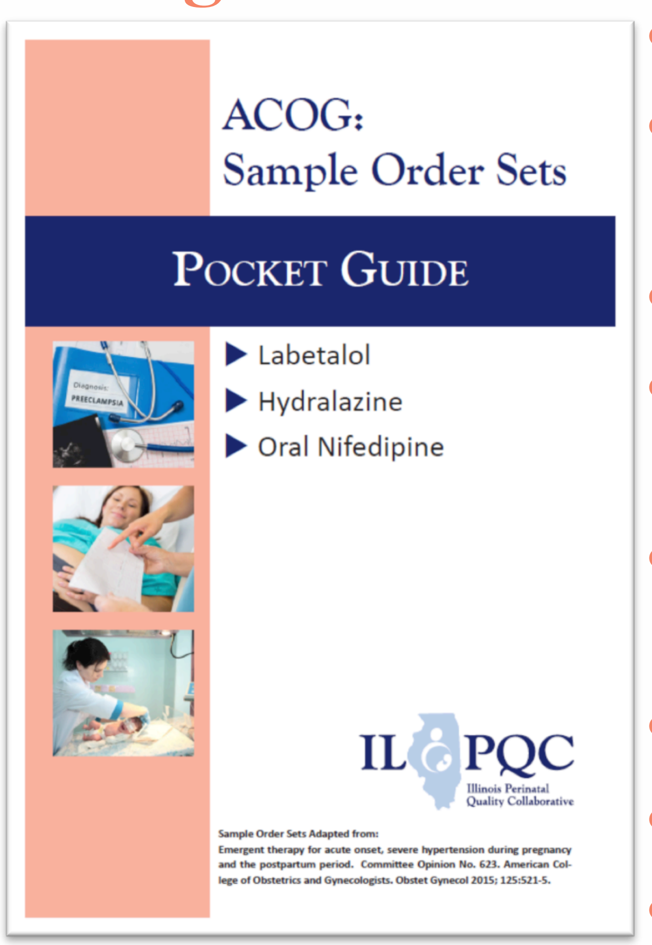
- ☐ Neuromuscular block and intubate
- ☐ Obtain radiographic imaging
- ☐ ICU admission
- ☐ Consider anticonvulsant medications

Revised October 2015

Safe Motherhood Initiative

ACOG

AIM Bundle Recognition & Prevention Resources: Early Recognition

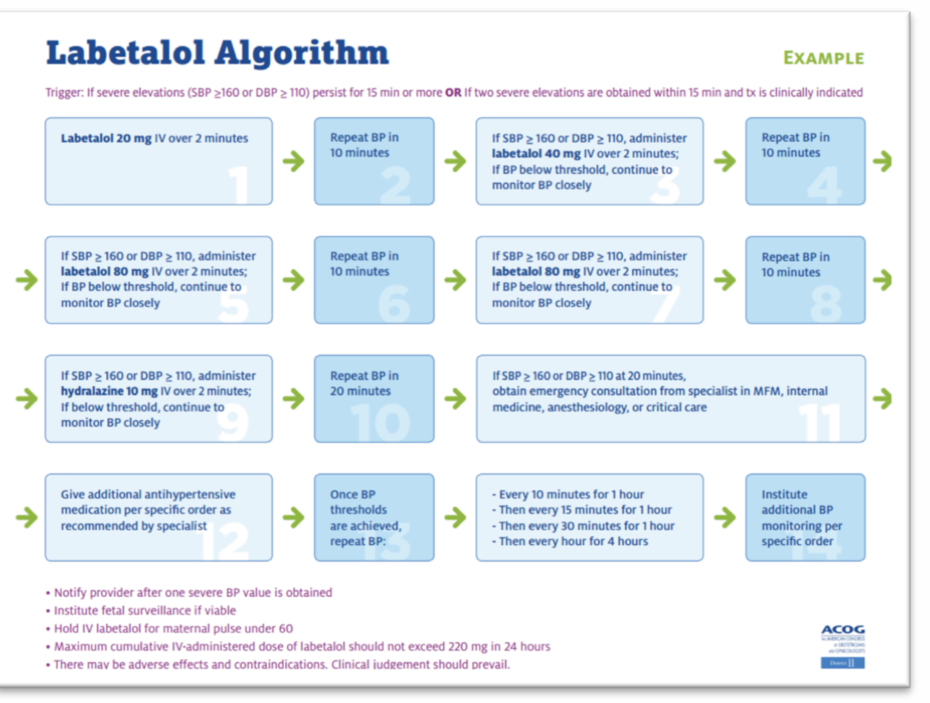


- Protocols and order sets
- ACOG DII Key Elements for Management of Hypertensive Crisis in Pregnancy
- CMQCC Accurate BP Measurement Guide
- CMQCC Preeclampsia Early Recognition Tool
- CMQCC Consultation Triggers in Severe Preeclampsia
- CMQCC Proteinuria
- CMQCC Nursing Assessment Frequency
- ACOG Sample Order Sets

AIM Bundle Recognition & Prevention Resources: Patient Education

- CMQCC Prenatal and Postpartum Patient Counselling or Education Guide
- FPQC Sample Discharge Instructions
- ACOG DII Preeclampsia Patient Education Handout
- Preeclampsia Foundation Patient Tear Pad

AIM Bundle Response Resources: Treatment Algorithms



- ACOG Committee Opinion 692
- CMQCC Sample Preeclampsia/ Elcampsia Medication Toolbox
- CMQCC Steps for Preparation, Storage, Ordering and Administration of Magnesium Sulfate
- ACOG Conservative Management of Preeclampsia
- ACOG DII Labetalol, Hydralazine, and Oral Nifedipine Algorithms

AIM Bundle Reporting/Systems Learning Resources:

Drills & Simulations

- CMQCC Role of Medical Simulation
- ACOG DII (New York) Eclampsia Scenario
- ACOG Simulation Eclampsia Formative Evaluation
- CMQCC Kaiser Evaluation Form for Drills

Team Communications

- AHRQ TeamSTEPPS Team Strategies & Tools to Enhance Performance and Patient Safety: Briefs, Debriefs, and Huddles
- CMQCC Teamwork and Communication

RESOURCES FOR BUNDLE IMPLEMENTATION

Key QI Tools

- Tools to Identify Opportunities for Change
  - Process Flow Diagram
  - Implementation Checklist
- Tool to test change
  - PDSA Cycle
- Tools to identify interventions and resources
  - MAP-IT
  - Key Driver Diagram
  - Toolkit Binder

The Model for Improvement

AIM
What are we trying to accomplish?

MEASURES
How will we know that a change is an improvement?

CHANGES
What changes can we make that will result in improvement?

© 2012 Associates in Process Improvement

Key Driver Diagram: Maternal Hypertension Initiative

GOAL: To reduce preeclampsia maternal morbidity in Illinois hospitals

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)

Key Data Tools to Monitor QI Progress

- **Monthly Severe Hypertension Data Form** collection when entered in REDCap show your monthly progress towards you goals to:
  - Reduce time to treatment
  - Increase use of debriefs
  - Increase patient discharge education and timely follow up
- **Quarterly Implementation Checklist** and **AIM Measures** provides insight on your progress toward implementation of bundle components
- Use these resources to drive the agenda of your monthly team meetings and PDSA cycles!

Tools to Engage Providers: MOC Part IV Credits

- ILPQC Maternal Hypertension Quality Improvement Initiative approved to meet ABOG Part IV Improvement in Medial Practice MOC Requirements through December 31, 2017.
- NEW: American Board of Medical Specialties' (ABMS) Multi-Spectiality Portfolio Program (MSPP) MOC Part IV
- See flyer in folder for more information

"The Last Person You'd Expect to Die in Childbirth"
Propublica/NPR May 12 2017

ILPQC Illinois Perinatal Quality Collaborative

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

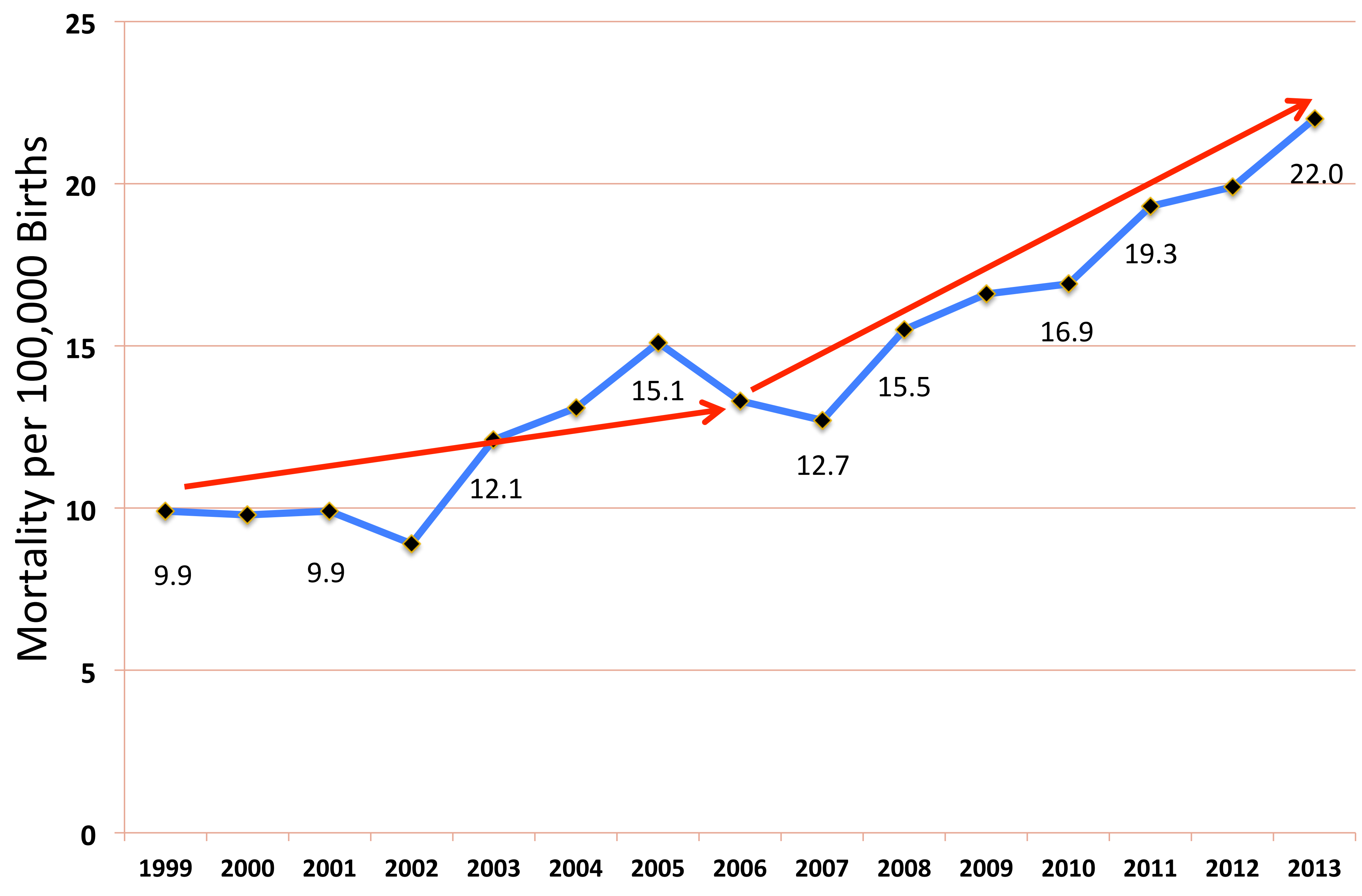
Quality Matters: every patient, every provider, every nurse, every unit every time.

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.

Reducing Maternal Morbidity In Patients With Preeclampsia

Larry Shields, MD
Medical Director for Perinatal Safety
Dignity Health

Maternal Mortality USA



Severe Maternal Morbidity: USA 1998-2013

1-5% of Deliveries

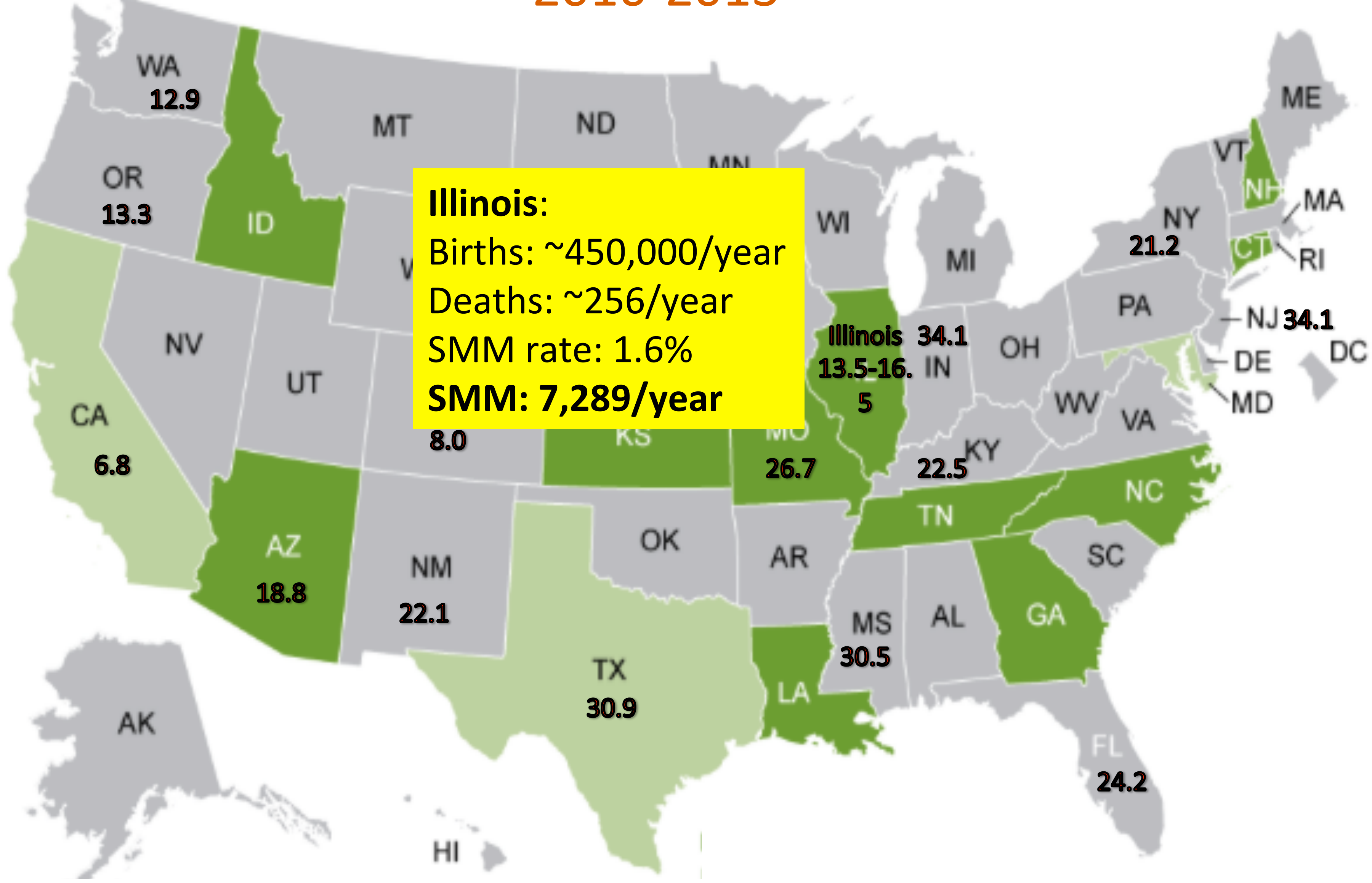
Rate per 10,000 Delivery Hospitalizations

200
180
160
140
120
100
80
60
40
20
0

1998-99
2000-01
2002-03
2004-05
2006-07
2008-09
2010-11
2012-13

J. Women's Health 2014;23:3-9

Selected Maternal Mortality Rates 2010-2013



Dignity Health

Illinois Maternal and Child Health Databook 2015

Mortality v. ICU Admission

	Mortality Ca PMAR	Mortality[3] Ill. PMAR	Morbidity[1] 2,970 ICU Admissions	Morbidity[2] N=97
Preeclampsia	17%	7%	30%	16%
Hemorrhage	11%	15%	19%	36%
Sepsis	7%	33%	33%	40%
Cardiovascular	19%	18%	19%	9%
DVT/PE*	10%		3%	N/A
AFE	10%			1%
Vascular (AFE, PE, CVA, CHTN)		29%		

1: Crit Care Med 2013 41;1844
2: Dignity Health
3: Ill. Mat Child Health databook

Mortality v. ICU Admission

	Mortality Ca PMAR	Mortality[3] Ill. PMAR	Morbidity[1] 2,970 ICU Admissions	Morbidity[2] N=97
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AFE	10%			1%
Vascular (AFE, PE, CVA, CHTN)		29%		

1: Crit Care Med 2013 41;1844
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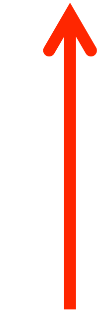
3: Ill. Mat Child Health databook

Critical Pathway to Poor Outcome

Maternal Death
1-3/10,000



Serious Morbidity
1-4/100

Table 1. **Severe maternal morbidity**[a] → Hypertension Related

Severe maternal morbidity indicator	*ICD-9-CM* codes
Acute myocardial infarction	410.xx
Acute renal failure	584.x, 669.3x
Adult respiratory distress syndrome	518.5, 518.81, 518.82, 518.84,799.1
Amniotic fluid embolism	673.1x
Aneurysm	441.xx
Cardiac arrest/ventricular fibrillation	427.41, 427.42, 427.5
Disseminated intravascular coagulation	286.6, 286.9, 666.3x
Eclampsia	642.6x
Heart failure during procedure or surgery	669.4x, 997.1
Internal injuries of thorax, abdomen, and pelvis	860.xx-869.xx
Intracranial injuries	800.xx, 801.xx, 803.xx, 804.xx, 851.xx-854.xx
Puerperal cerebrovascular disorders	430, 431, 432.x, 433.xx, 434.xx, 436, 437.x, 671.5x, 674.0x, 997.2, 999.2
Pulmonary edema	428.1, 518.4
Severe anesthesia complications	668.0x, 668.1x, 668.2x
Sepsis	038.xx, 995.91, 995.92
Shock	669.1x, 785.5x, 995.0, 995.4, 998.0
Sickle cell anemia with crisis	282.62, 282.64, 282.69
Thrombotic embolism	415.1x, 673.0x, 673.2x, 673.3x, 673.8x
Blood transfusion	99.0x
Cardio monitoring	89.6x
Conversion of cardiac rhythm	99.6x
Hysterectomy	68.3x-68.9
Operations on heart and pericardium	35.xx, 36.xx, 37.xx, 39.xx
Temporary tracheotomy	31.1
Ventilation	93.90, 96.01-96.05, 96.7x

Hypertension in Illinois

Percent of Illinois Women Ages 18-44 with Chronic Health Conditions; BRFSS 2013

Percent of Women 18-44

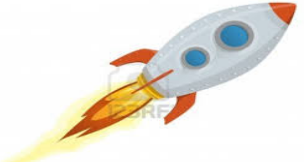
15
10
5
0

3.0
9.5
8.5

Diabetes
Hypertension
Asthma

Making an Impact in the Outcome for Patients with Preeclampsia

- ✓ Recognize and Don't Ignore Clinical Signs
- ✓ Treat and Control Blood Pressure
- ✓ Magnesium for Seizure Prophylaxis
- ✓ Delivery – 34, 37 weeks
- ✓ Postpartum Surveillance/Treatment



California PMAR – Healthcare Providers

Delayed response to clinical warning signs

Ineffective care

Misdiagnosis

Lack of continuity of care

Failure to consult

Percent of cases

100
80
60
40
20
0

Cardiovascular disease (n=49)

Preeclampsia or eclampsia (n=36)

Obstetric hemorrhage (n=20)

Venous thromboembolism (n=20)

Amniotic fluid embolism (n=18)

Pregnancy-related deaths due to healthcare provider factors

Obstet Gynecol 2015;125:938–47

Severe Hypertension in Pregnancy Treatment Algorithm

Antepartum, Intrapartum and Postpartum

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

↓

Notify Provider
Proceed below, per MD Orders

→ **IV Access**
Fetal Heart Rate monitoring
Obtain labs per order

↓

IV Antihypertensives
First Line Medications

↓

Labetalol or Hydralazine

Labetalol pathway	Hydralazine pathway
IV Labetalol * **20 mg** (over 2 min)	**IV Hydralazine** **5-10mg** (over 1-2 min)
Repeat BP in 10 minutes If elevated, administer **IV Labetalol 40 mg**	Repeat BP in 20 minutes If elevated, administer **IV Hydralazine 10 mg**
Repeat BP in 10 minutes If elevated, administer **IV Labetalol 80 mg**	Repeat BP in 20 minutes If elevated, administer **IV Labetalol 20 mg**
Repeat BP in 10 minutes If elevated, administer **IV Hydralazine 10 mg**	Repeat BP in 10 minutes If elevated, administer **IV Labetalol 40 mg** Obtain anesthesia
Repeat BP in 20 minutes If elevated, obtain anesthesia consult	

***If the maternal HR is <60 bpm starting with hydralazine may be preferable**

Seizure Prophylaxis

↓

Magnesium Sulfate

↓

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

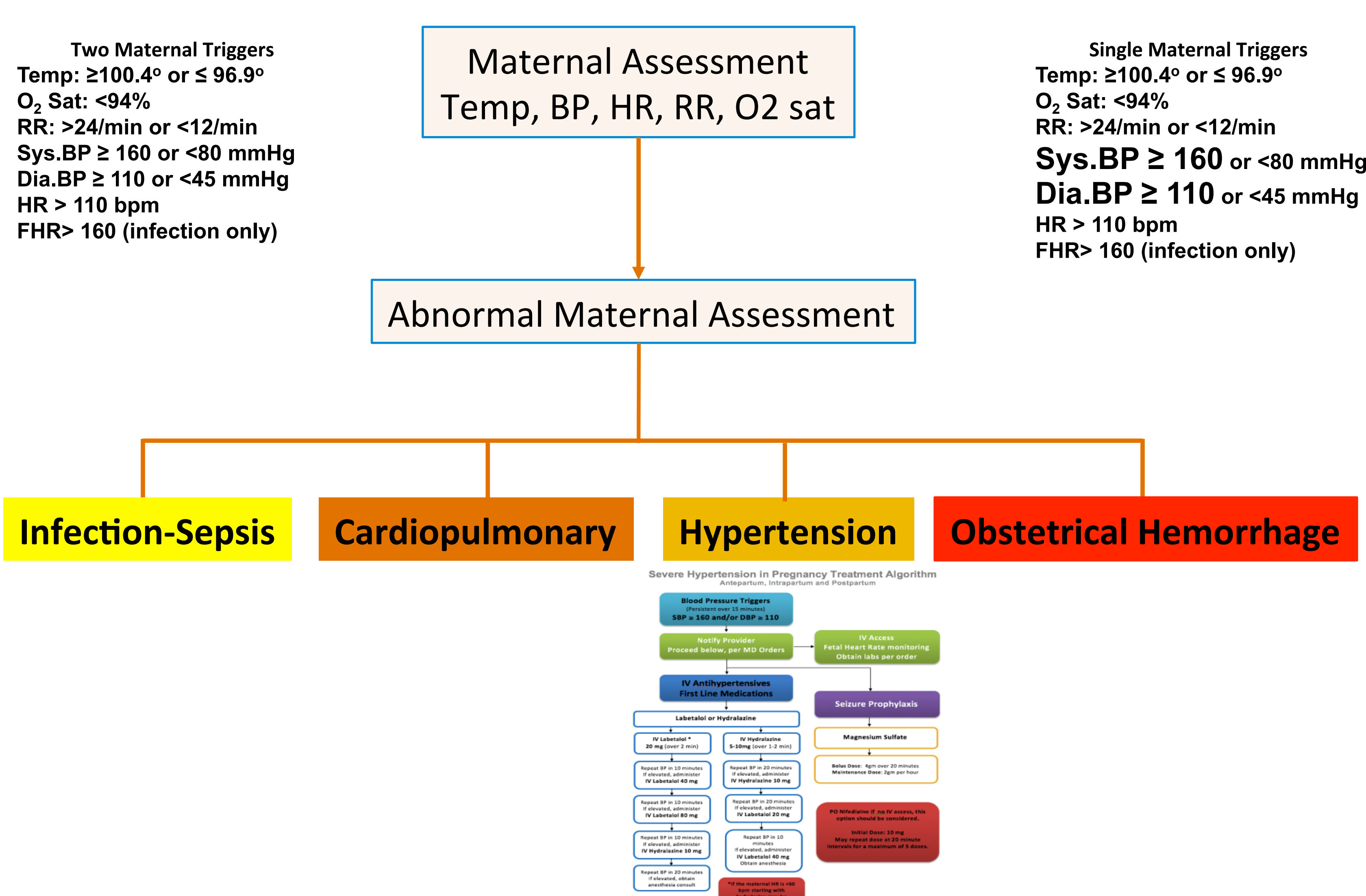
PO Nifedipine if no IV access, this option should be considered.

Initial Dose: 10 mg
May repeat dose at 20 minute intervals for a maximum of 5 doses.

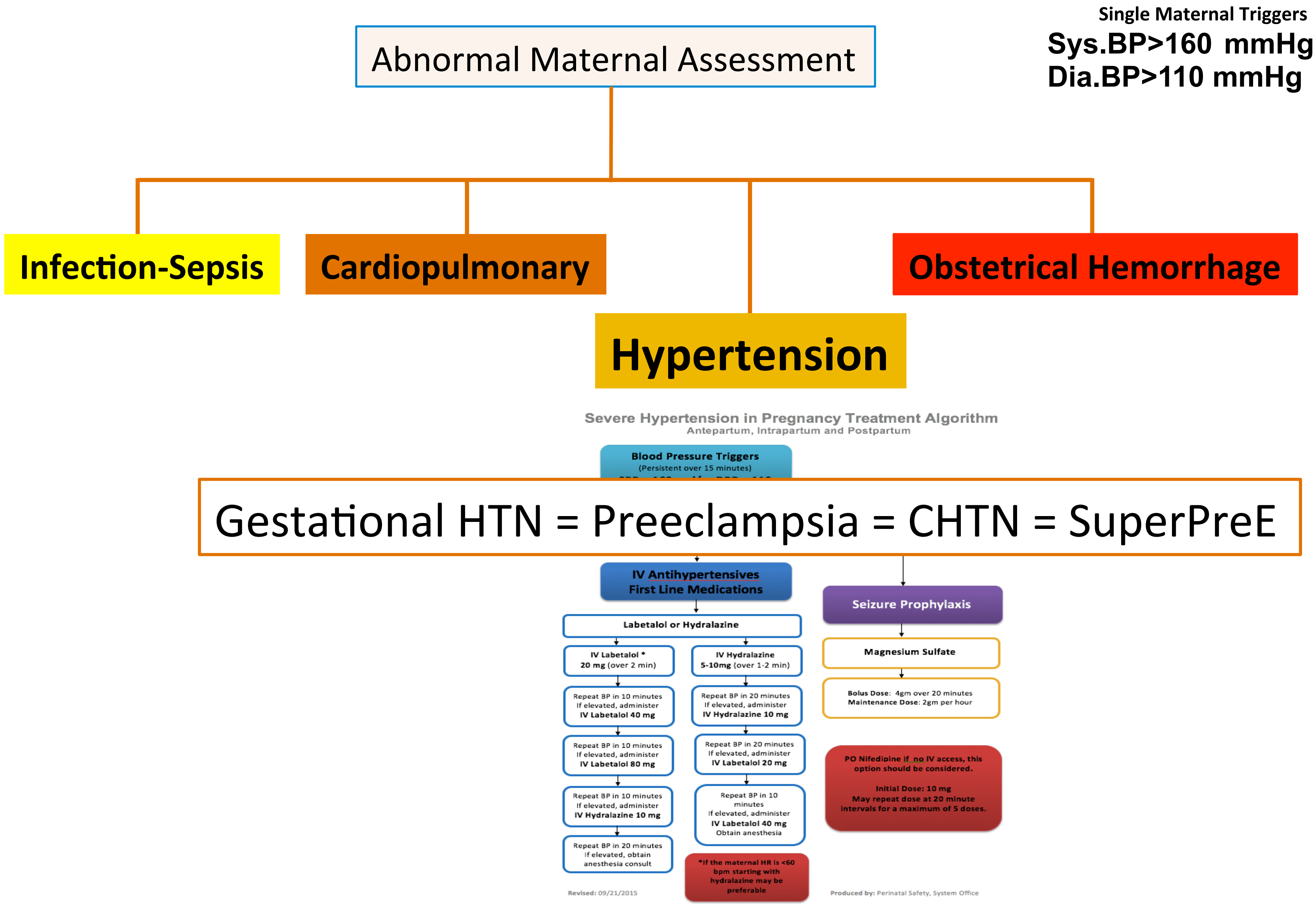
Revised: 09/21/2015

Produced by: Perinatal Safety, System Office

Maternal Early Warning Trigger Tool (MEWT)



Maternal Early Warning Trigger Tool (MEWT)



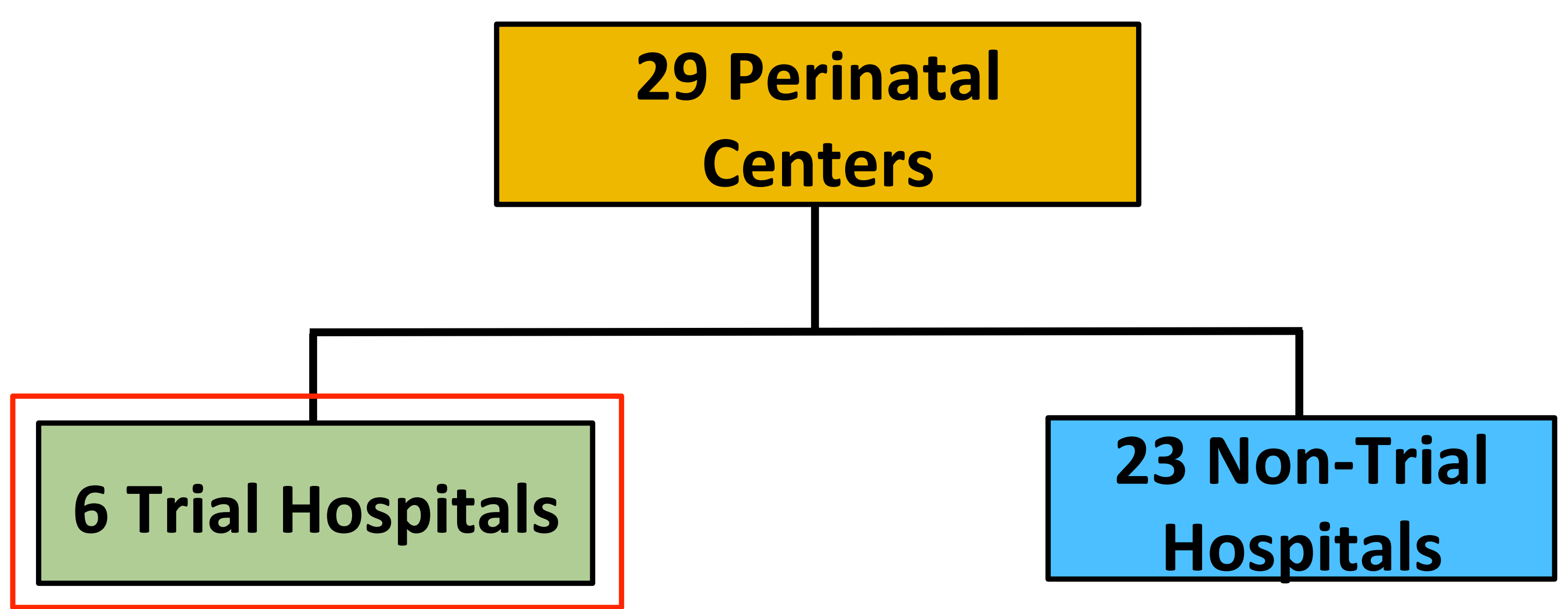


TABLE 2

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

	Pre-MEWT	Post-MEWT	Trend	*P* value	Prenonpilot	Postnonpilot	Trend	*P* value	Postpilot vs postnonpilot *P* 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

AJOG 2016;214:527 e.1-6

Preeclampsia Bundle Compliance:

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

Monthly Performance %

100
90
80
70
60
50
40

52.0
49.1
60.1
70.9
77.3
79.0
82.1
82.8
80.1
89.5
92.7
93.3
92.3

Baseline Jul14-Mar15
Jul 2015
Aug 2015
Sep 2015
Oct 2015
Nov 2015
Dec 2015
Jan 2016
Feb 2016
Mar 2016
Apr 2016
May 2016
Jun 2016

PREECLAMPSIA

Treatment Changes

Percent (%) Appropriately Treated

100
80
60
40
20
0

85%
57%
92%
79%
96%
90%

Delta 10.8%
p<0.01

Delta 33.2%
p<0.01

Baseline
Phase I
Phase II

Mag
BP Rx

AJOG. 2017 216:415.e1-5

Rate of Eclampsia/1000 births and SMM/100 births

2.5
2.0
1.5
1.0
0.5
0.0

2.4
2.1
1.9
1.16
0.82
0.62

Delta 20.1%
p<0.01

Delta 46.5%
P=0.02

Baseline
Phase I
Phase II

Eclampsia
SMM

23 Hospitals, N=69,449

AJOG. 2017 216:415.e1-5

Summary:

- Recommendations consistent with the new ACOG, CMQCC, and Council on Patient Safety in Women's Health
- Can be implemented relatively quickly
- Results in reduction in both:
  - Reduction in severe maternal morbidity (SMM)
  - Eclampsia

Treatment with Labetalol and Hydralazine

- Some can not give on PP floor/area
  - Allow single dose while arranging to move back to L&D
- If IV labetalol can not be given outside the ED or ICU
  - Work with pharmacy
  - Safe in OB patients
  - *Does not need to have "cardiac monitoring"
  - Caution with significant asthma cardiac disease

*ACOG Committee Opinion 692

Other Logistical Issues - Physicians:

- Physician "buy-in"
  - Should be better with data showing improved patient outcomes
- Reluctant to change ...
  - Individual probability of severe outcome low
  - Like to "do it" like they always have
  - Like to minimize to patients that there is a problem
  - May have limited experience with recommended medications
  - Many still believe Magnesium will treat the BP

Other Logistical Issues - Nursing:

- Nursing to physician notification
  - Clear guidelines improves communication
  - BPs repeated within 15 min for verification
  - Don't try minimize BP (left side, patient is in pain)
  - Should already have second verified BP prior to call
  - Presentation with elevated BP requires action at that time and maybe assistance to meet the treatment within 1 hour guideline
  - Many facilities have standing orders for first dose of BP medication

Other Logistical Issues - ED:

- ED does not recognize BPs of 160/110 as issue
- Preeclampsia patients with RUQ/epigastic pain:
  - Have gallbladder disease or GERD
  - Patients with elevated LFTs have hepatitis
  - Often do not recognize/know patient was recently pregnant
- Case review when delay
- What is common for OB is uncommon for them

Thank You and Questions?

Statewide QI Project for Hypertension in Pregnancy: The North Carolina Experience

Arthur Ollendorff, MD

Maternal Projects Lead

Perinatal Quality Collaborative of North Carolina (PQCNC)

Disclosures

- None

Objectives

- Provide an overview of the North Carolina hypertension project called CMOP
- Review ”lessons learned” from CMOP
- Share strategies and approaches to overcome challenges in improving care for women with hypertension in pregnancy

Making North Carolina the best place to give birth and be born!

Accomplishing the Mission

- Create value through *time limited* statewide perinatal QI projects
  - Best evidence, reduce variation
  - Partnership with patients and families
  - Resource optimization
- Projects developed and led by expert teams with members from multiple hospitals
- Work conducted by local Perinatal Quality Improvement Teams facilitated/supported by PQCNC core team

PQCNC Initiatives

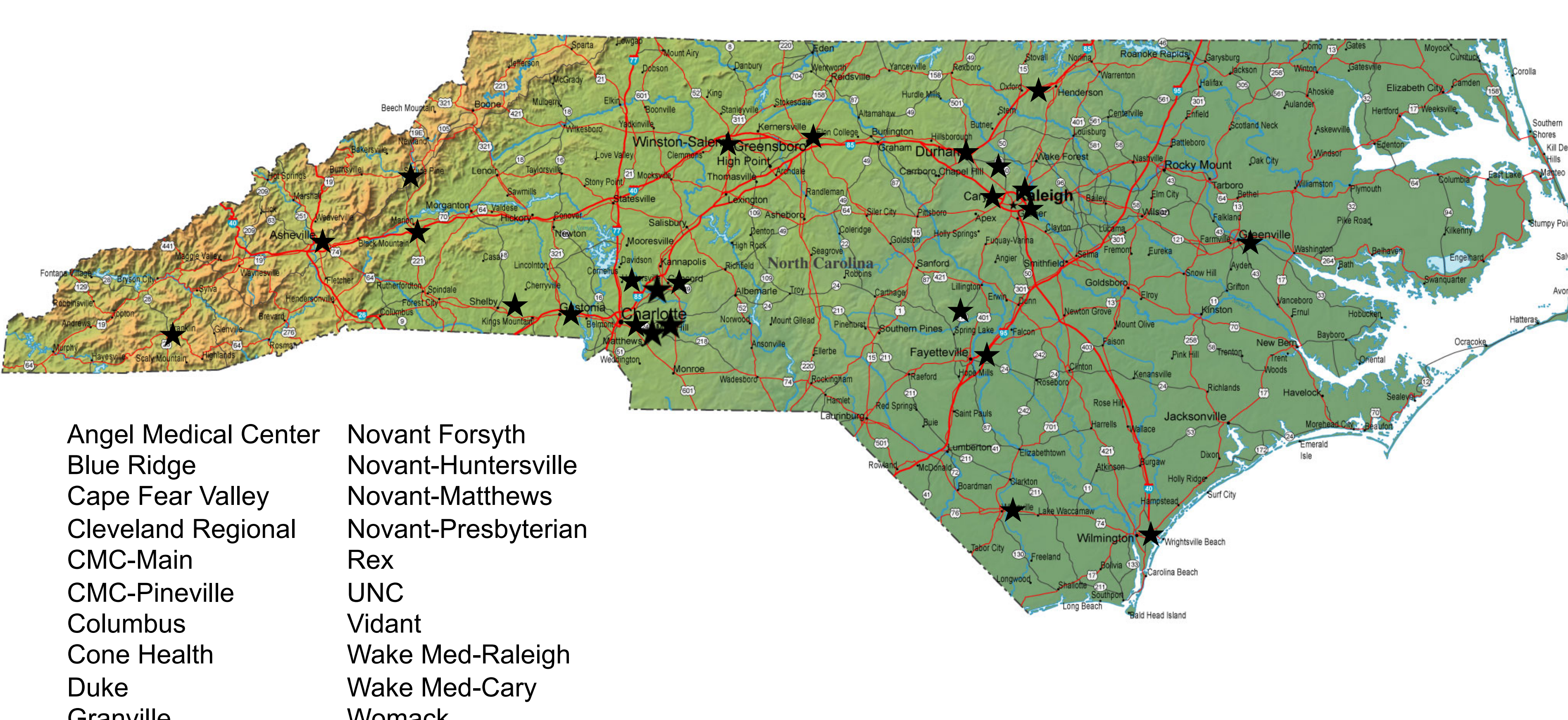
- Central-Line Associated Blood Stream Infections (CABSI)
- 39 weeks
- Study of Intended Vaginal Birth (SIVB)
- Patient-Family Engagement (PFE)
- Exclusive Breastmilk
- Conservative Management of Preeclampsia (CMOP)
- Neonatal Abstinence Syndrome (NAS)
- Screening for Critical Congenital Heart Disease (CCHD)
- Antibiotic Stewardship/Neonatal Sepsis (ASNS)
- AIM OB Hemorrhage (starts September 2017)

Current projects

The North Carolina HTN Journey **C**onservative **M**anagement **O**f **P**reeclampsia

- 22-25 hospitals participated (45-52% of deliveries in NC)
  - Pilot Phase (2014)
    - Focused on proper diagnosis and timing of delivery
    - Did not include chronic HTN diagnosis
  - Phase 1 (2015)
    - Focusing on timing of delivery and time to treatment of severe range BP
    - Included chronic HTN diagnoses
  - Phase 2/3 (2016-17)
    - Limited data collection to focus on timing of delivery, full course ANS and time to treatment of severe range BP
    - Focused on bedside engagement, steroid administration, sustainability and patient experience

CMOP Phase 1 Participating Sites



Angel Medical Center
Blue Ridge
Cape Fear Valley
Cleveland Regional
CMC-Main
CMC-Pineville
Columbus
Cone Health
Duke
Granville
McDowell
Mission
New Hanover
Novant Forsyth
Novant-Huntersville
Novant-Matthews
Novant-Presbyterian
Rex
UNC
Vidant
Wake Med-Raleigh
Wake Med-Cary
Womack

CMOP Has 3 Core Outcome Measures

- Improving Time to Treatment or Control (TTTC) of severe hypertension
- Eliminating deliveries before 37 weeks for the primary indication of gestational hypertension and preeclampsia without severe features
- Improving rates of complete antenatal corticosteroid course for women delivering prior to 34 weeks

CMOP Phase 1

- 45,406 total deliveries
- 6280 with any HTN diagnosis (13.8% HTN rate)
    - 2442 Cesarean deliveries (39% Cesarean Rate)
    - 1603 delivered < 37 weeks (26% PTD rate)
    - 108 potentially unindicated preterm deliveries
        - 52 delivered for gestational hypertension
        - 56 delivered for preeclampsia without severe features

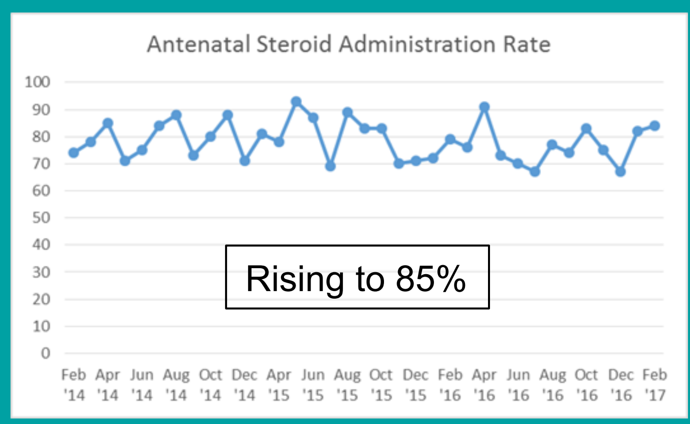
CMOP Pilot - Criteria for Severe Disease
(when single criteria present)

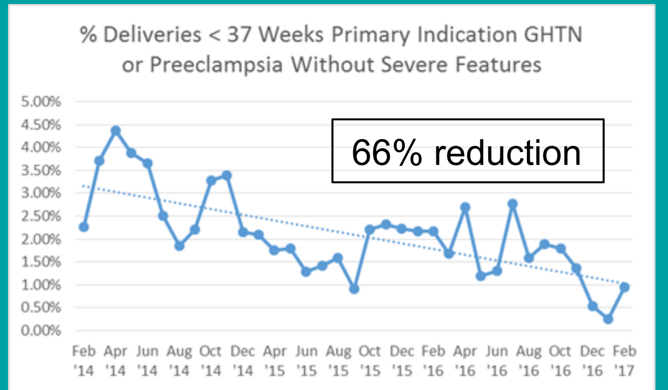
	BP	HA	Hepatic	Renal	Plt
FEB	57	8	5	4	1
MARCH	61	5	2	1	2
APRIL	39	17	2	1	1
MAY	59	12	1	0	2
JUNE	36	6	2	2	0
JULY	44	6	2	1	2
AUG	55	6	3	1	1
SEPT	72	17	2	3	1
OCT	80	4	3	0	0
NOV	83	5	1	1	3
DEC	48	7	1	1	1

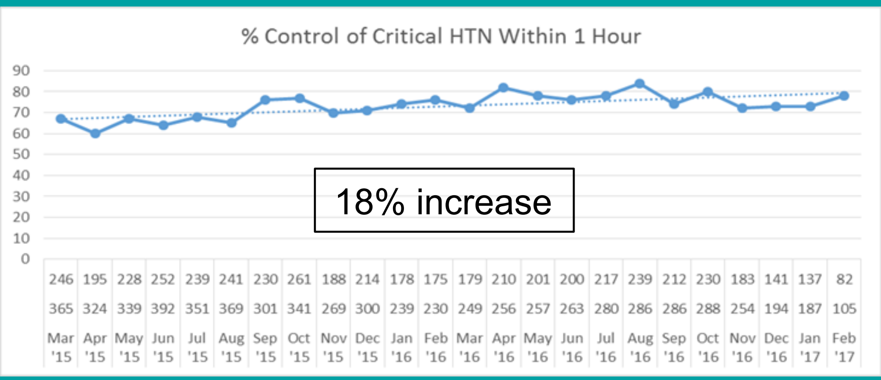
CMOP Phase 2

- Total Deliveries = 53,149
- Patients < 37 week with HTN = 1738
- Patients < 34 week with HTN = 670
  - Gestational HTN = 63
  - PreE without SF = 27
  - PreE with SF = 367
  - cHTN = 60
  - SIP without SF = 12
  - SIP with SF = 142

CMOP Phase 2 Overview







- Hospital cost avoidance $2,374,320 using Tricare calculator (infants 1500-2500 grams)
- Pro fees not included (estimate $474,866)
- Increasing use of ANS for infants requiring delivery at < 34 weeks (from 71% to 85%) impact on reducing RDS, IVH, and NEC.
- Increasing treatment of HTN moms within 1 hour from 68% to 80%...impact on stroke, abruption, ICU admits mothers

Audience Participation

- If you have a smartphone, tablet of laptop computer go to your web browser and go this website

  Respond.cc

- When asked for a session key enter

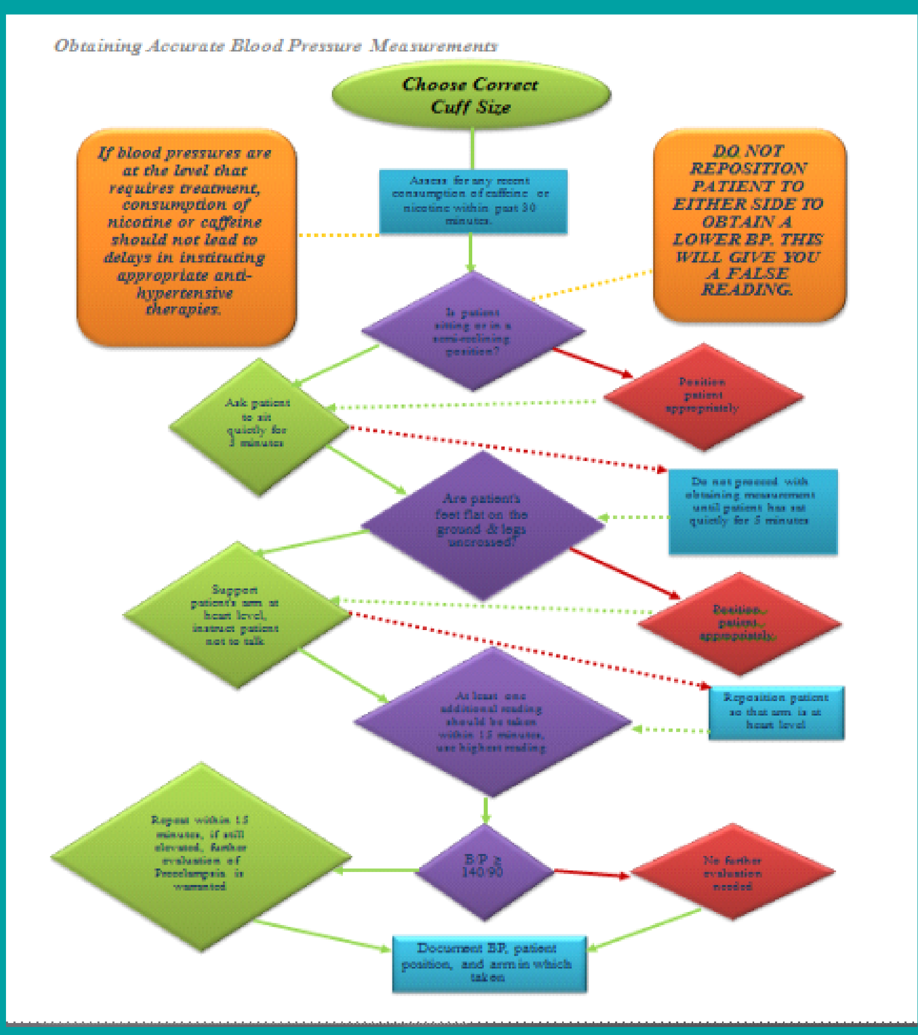
  117863

- Answer 4 questions to help direct our conversation

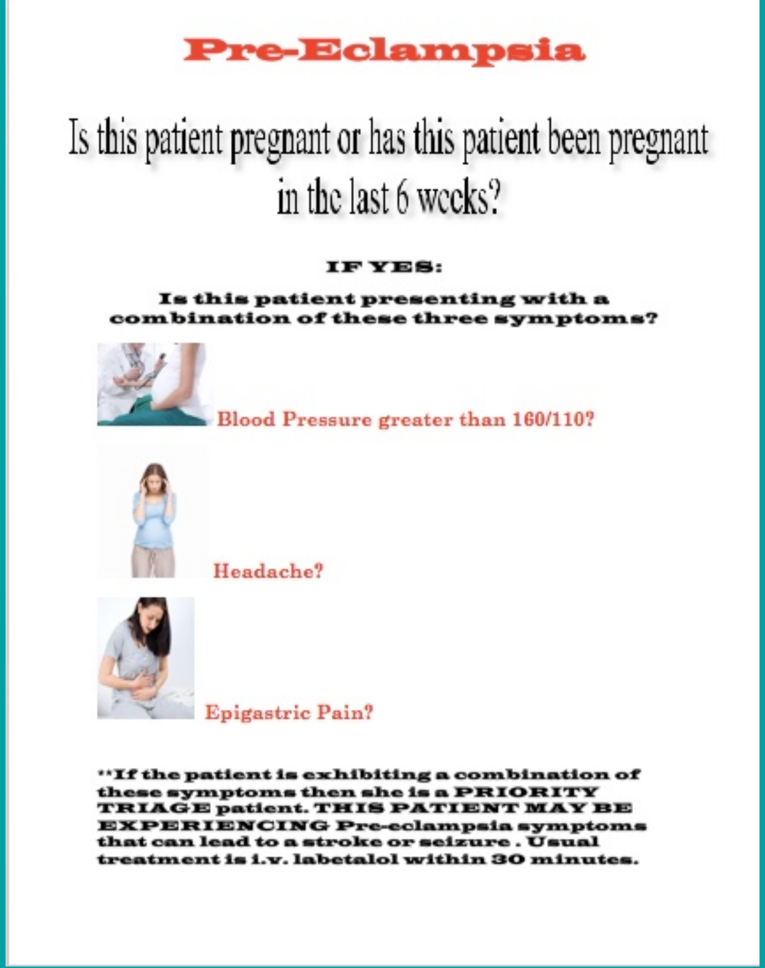
What North Carolina Hospitals Learned

- Proper BP measurement is critical
- Multidisciplinary teams are the most effective
- Patient/family engagement works
- You have to develop systems to support the work of providers and nurses

The Steps To Take a BP



Multidisciplinary Team Approach to Improve Throughput of Postpartum Patients Seen in ED


Pre-Eclampsia

Is this patient pregnant or has this patient been pregnant in the last 6 weeks?

IF YES:

Is this patient presenting with a combination of these three symptoms?

Blood Pressure greater than 160/110?

Headache?

Epigastric Pain?

**If the patient is exhibiting a combination of these symptoms then she is a PRIORITY TRIAGE patient. THIS PATIENT MAY BE EXPERIENCING Pre-eclampsia symptoms that can lead to a stroke or seizure . Usual treatment is i.v. labetalol within 30 minutes.

Patient Engagement for BP

Help us get an accurate blood pressure!

When lying down…

Recline in bed with legs uncrossed.

Tilt your belly so you're not flat on your back, but do not lie on your side.

Remain quiet while having your blood pressure taken.

When sitting…

Sit with back supported and arm at level of the heart.

Feet should be flat on the floor, not dangling or crossed.

Remain quiet while having your blood pressure taken.

Developing Systems

- Shared hypertensive order sets across EPIC domains (i.e. ED)
- Embedded order sets that allow nurses to treat confirmed BP above 160/110 in 10 minutes if no response from provider

Results from Our Polling

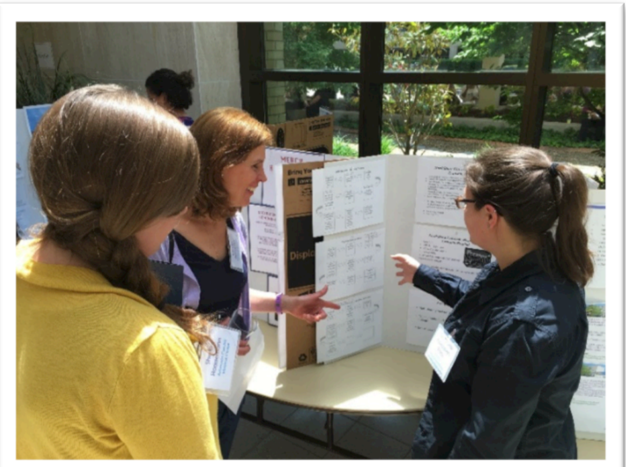
Other Discussion Points

- Staffing and support for more frequent blood pressure monitoring during and after antihypertensive treatment
- Ensuring subsequent occurrences of severe range BP get the same attention and quick treatment as the initial occurrence in a hospitalization
- Pharmacy resistance to ACOG recommendations
- ED engagement and ownership (engaging ED leadership, identification of pregnant/postpartum women, considering it an emergency)
- Ensuring follow-up appointments are available at discharge
- While having the evidence-based ACOG CO/Guidelines is an asset, hospitals are still facing physician challenges to protocol in the following areas: administer mag sulfate and wait and see, manage pain and wait and see, using a higher threshold for treatment for women with chronic hypertension with superimposed preeclampsia
- Physicians treating but jumping between order sets
- Making time for and getting buy in to complete debriefs

Thank You

Team Storyboard Viewing

- Tell your team's story from 11:00 – 11:45 am
- Learn what other teams are doing
- Understand other teams' process flow for identification and treatment of severe range blood pressure
- Share your ideas and thought with others
  - Opportunities for improvement
  - Change ideas
  - Strengths
  - Support needed
  - Different challenges across hospital units



Lunch and Networking

- Pick up box lunch in corridor and return to your table
- Discuss storyboards and complete worksheet during lunch from 12:00 – 12:30 pm
  - “Steal Shamelessly Share Seamlessly, Storyboard Worksheet” in folders
  - Use worksheet to discuss storyboards and record ideas from other teams

STAR Awards: Complete HTN, AIM, and Checklist Data Q1 2017

ILPQC Illinois Perinatal Quality Collaborative

- Evanston Hospital
- Northwestern Memorial Hospital
- Edward Hospital
- Carle Foundation Hospital
- Advocate Lutheran General Hospital
- Westlake Hospital
- Rush-Copley Medical Center
- Presence St. Joseph Medical Center - Joliet
- Northwestern Medicine Central DuPage Hospital
- Palos Community Hospital
- St. Mary's Hospital - Centralia
- Advocate Sherman
- Richland Memorial Hospital
- Northwestern Medicine DelNor Hospital
- CGH Medical Center
- Pekin Hospital
- AMITA Health Adventist Medical Center Hinsdale
- AMITA Health Adventist Medical Center, Bolingbrook
- Advocate BroMenn Medical Center

Complete HTN Data Q1 2017

- Northwest Community Hospital
- Evanston Hospital
- Advocate Condell Medical Center
- Silver Cross Hospital
- HSHS St. John's Hospital
- Northwestern Memorial Hospital
- OSF St. Francis Medical Center
- Rush University Medical Center
- Edward Hospital
- Carle Foundation Hospital
- Advocate Lutheran General Hospital
- Memorial Hospital - Belleville
- Presence Saint Joseph Hospital-Chicago
- Barnes-Jewish Hospital
- MetroSouth Medical Center
- Touchette Regional Hospital
- Westlake Hospital
- Centegra Hospital McHenry
- Rush-Copley Medical Center
- Mount Sinai
- Presence St. Joseph Medical Center - Joliet
- Advocate Good Shepherd
- Stroger Hospital
- Advocate Christ Medical Center
- Northwestern Medicine Central DuPage Hospital
- Abraham Lincoln Memorial Hospital
- Palos Community Hospital
- St. Mary's Hospital - Centralia
- Swedish Covenant Hospital
- Advocate Sherman
- Memorial Hospital of Carbondale
- Advocate Illinois Masonic Medical Center
- AMITA Health Adventist Glen Oaks Medical Center
- Richland Memorial Hospital
- Presence St. Francis - Evanston
- Alton Memorial
- Anderson Hospital
- Blessing Hospital
- Northwestern Medicine DelNor Hospital
- CGH Medical Center
- HSHS Holy Family Greenville (Greenville Regional Hospital)
- Katherine Shaw Bethea Hospital
- Memorial Medical Center
- Morris Hospital and Health Care Centers
- Northwestern Medicine Lake Forest Hospital
- Norwegian American Hospital
- Pekin Hospital
- Presence Resurrection Medical Center
- Presence United Samaritans Medical Center
- Riverside Medical Center
- Swedish American Hospital
- HSHS St. Elizabeth's Hospital
- UI Heath
- AMITA Health Adventist Medical Center Hinsdale
- AMITA Health Adventist Medical Center, Bolingbrook
- Little Company of Mary Hospital

Small Group Key Topics Discussions

- 1:00-1:05pm: Move to assigned area in the Conference Center
- 1:05-1:45pm: Discussion of barriers and opportunities for improvement topic – identify 3 takeaways to share with the larger group
- 1:45-2:00pm: Break
- 2:00-2:30pm: Debrief with all groups

Breakout Discussion Sessions: Topics and Locations

ILPQC Illinois Perinatal Quality Collaborative

- Group topics and room locations
  - Implementing and monitoring standardized blood pressure identification protocols
    - Horner
  - Implementing severe hypertension treatment protocols into the hospital's standard of practice
    - Presidential Ballroom, 2 sections
  - Lack of nursing/provider buy-in to adopting protocols, independent provider
    - Presidential Ballroom
  - Optimizing the use of debriefs to drive improvement
    - Altgeld
  - Implementing and sustaining team based communication to support a culture of safety and empower team members
    - Freeport B
  - ED Implementation
    - Yates
  - Simulation and Drills - How to optimize nurse/provider education and how to use simulation drills on a regular basis
    - Freeport A, Section 1
    - Freeport C, Section 2

Debrief with Large Group

- Debrief from small groups to large group 2:00 – 2:30 pm
- Facilitator share **top 3 take-aways** from group discussion

ILPQC Teams Panel on Testable Systems Changes

Kristen Farney, Inpatient Nurse Supervisor for Labor and Delivery/High Risk Antepartum/Maternal Transport, Carle Foundation Hospital, Urbana

Jessica Cazares, Manager of Obstetric Units, Advocate Illinois Masonic Medical Center, Chicago

Chris Lopian, Staff RN and Perinatal Coordinator at St. John's Medical Center, Springfield

Samantha Schoenfelder, Clinical Quality Leader for OB, MFM and Pediatrics at Northwestern Medicine, Central DuPage Hospital, Winfield

Carle Foundation Hospital

Urbana, Il.

Carle

Perinatal Care at Carle

- Labor & Delivery:
  - 7 Labor and delivery suites, 5 Triage rooms and 2 OR suites.
- High Risk Antepartum:
  - 9 Antepartum beds
- Post-partum Unit:
  - 26 private rooms
- Nursery:
  - 16 cribs, spaced per code
  - Overflow for NICU, 6 Level II beds
- NICU:
  - 28 beds, 25 Level III
- NICU Step-Down:
  - 14 Level II cribs

The Carle Hypertension Project Team

Jamie Fulfer, MD

Physician Champion

Ralph Kehl, MD

Maternal Fetal Medicine Physician

Melissa Tate, APN, MFM

Advance Practice Champion

Pam Unger, MSN,

Maternal/Child Director

Project Team Lead

Chantel Ellis, MSN, RNC

Labor and Delivery/High Risk Antepartum

Kristen Farney, BSN, RNC

Labor and Delivery/High Risk Antepartum Educator

Ashley Lingafelter, BSN, RNC

Labor and Delivery/High Risk Antepartum Educator

Jenn McBride, MSN, RNC

OB Quality Outcomes Coordinator

Debrief: The Change Process

- Debriefs are an opportunity for staff to have a voice in the change process
- Began the process of implementation through provider and staff education on the importance of debriefs, with an emphasis that the debrief process does not have to be a formal or prescheduled process.

Debriefs: Challenges

- Challenge: Keeping staff focused on the importance of debriefs
  - Solution:
    - Adding debrief discussion to
      - shift safety huddles
      - Monthly staff meetings
      - Monthly steering committee meetings
      - OB provider Meetings
      - One on one coaching with individual staff members

Debriefs: Sustaining Change

OB HTN Quality Report

- Patient Information
- Care Team Information
- Review of Care
- Discussion regarding Missed Opportunities, Barriers, and Successful Treatment

Carle OB HTN Quality report

Patient name	Admission Date	Date of Occurence	Patient location	Clinic #	Attending Physician	Attending RN

Criteria for Severe Blood Pressure Range Met	Administration of First Antihypertensive Goal is 30 minutes	Time Blood pressure Met Acceptable Range	Any Adverse Maternal or Neonatal Outcomes?	Debrief? Barriers?

Delivery Summary:

Onset:

Med:

Acceptable BP:

Debrief:

Met requirements of Initiative?

Medications:

Discharge education?

7-10 Day Follow Up Appointment?

Discharged on medication?

3 Day Follow up Appt?

ADVOCATE ILLINOIS MASONIC MEDICAL CENTER

Chicago, IL

essica Cazares, RNC-MNN, BSN
Clinical Operations Manager
Obstetric Units
May 18, 2017

Institution Background

Level III Co-Perinatal Center with Rush Medical Center

397 bed Teaching Hospital

Twice recognized for excellence in nursing care by the American Nurse Credentialing Center's (ANCC) Magnet Recognition Program®, 2008 to 2012 and 2012 to 2016

Baby Friendly Designation completed in October 2016

On average 200 deliveries/month

6 Bed Labor and Delivery, 2 operating rooms, 2 recovery rooms

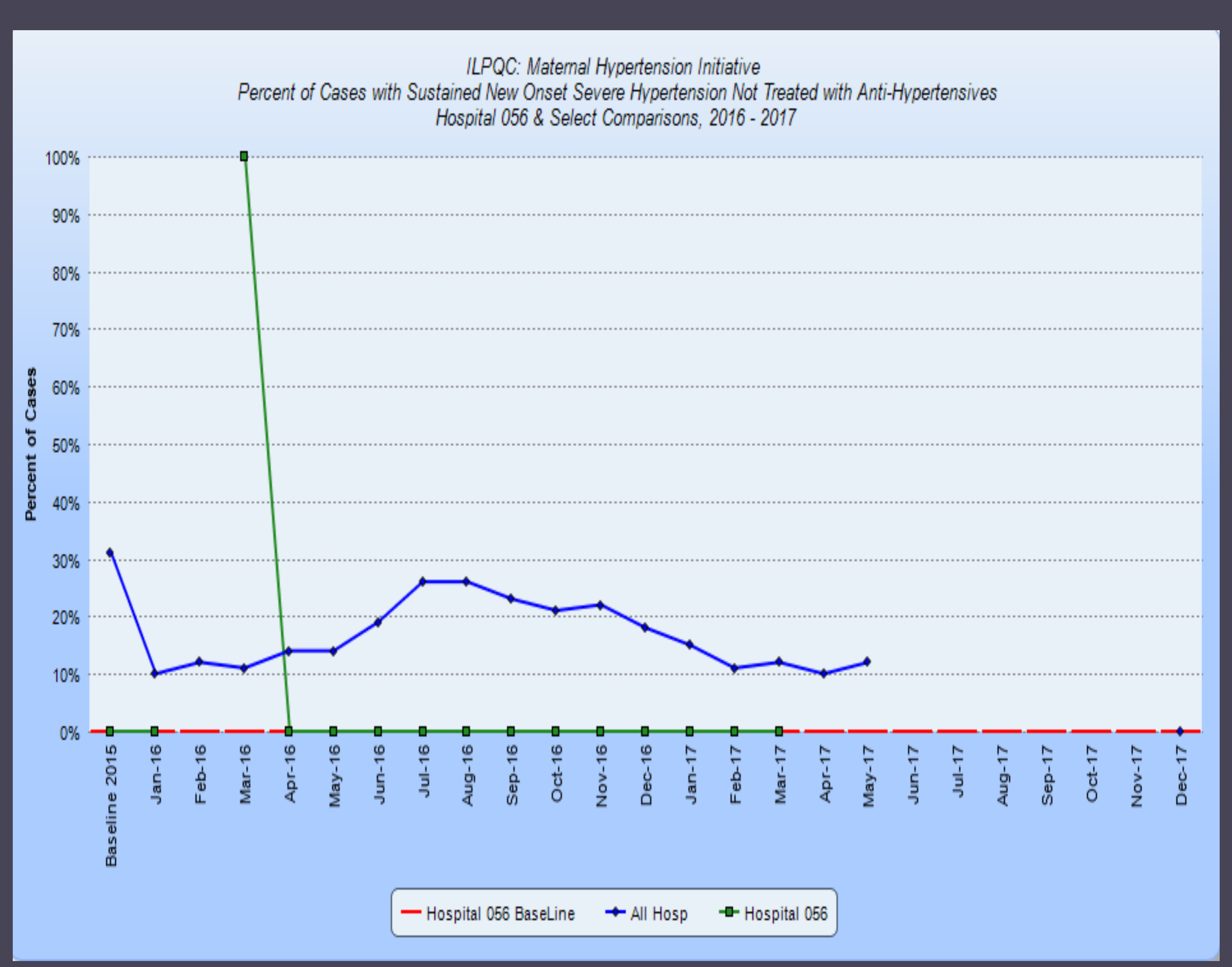
6 Bed High Risk Antepartum Unit

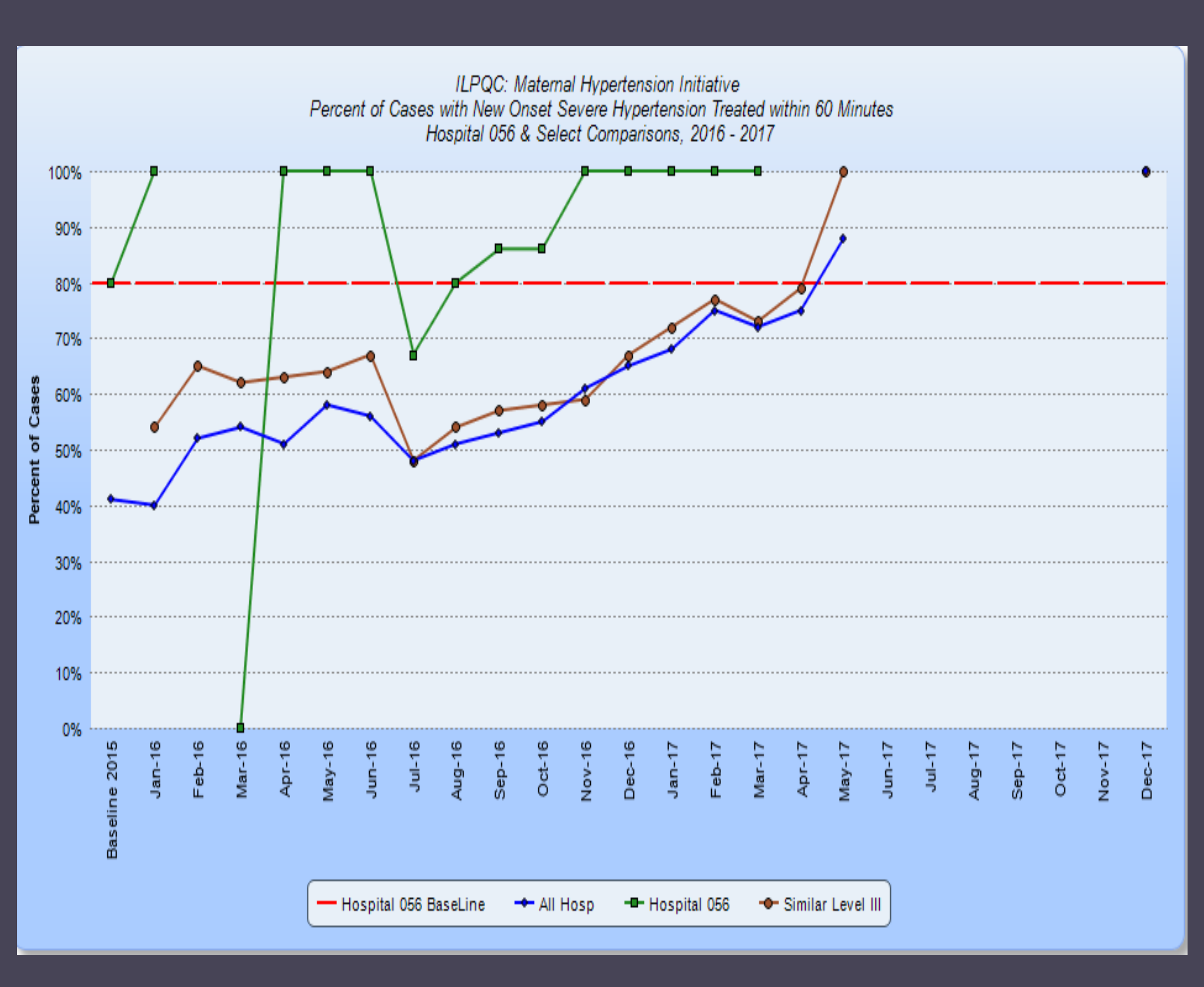
Obstetricians, Midwives, Maternal Fetal Medicine, Neonatology, Pediatric Surgery on staff

Overview of Implementation

Project began March 2016

- General nursing education
  - Reviewed in email communications, unit huddles, and at staff meetings
- OB resident education
- Monthly telepresence ILPQC talks
- Hospital team talks


ILPQC: Maternal Hypertension Initiative
Percent of Cases with Sustained New Onset Severe Hypertension Not Treated with Anti-Hypertensives
Hospital 056 & Select Comparisons, 2016 - 2017
Percent of Cases
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Baseline 2015
Jan-16
Feb-16
Mar-16
Apr-16
May-16
Jun-16
Jul-16
Aug-16
Sep-16
Oct-16
Nov-16
Dec-16
Jan-17
Feb-17
Mar-17
Apr-17
May-17
Jun-17
Jul-17
Aug-17
Sep-17
Oct-17
Nov-17
Dec-17
Hospital 056 BaseLine
All Hosp
Hospital 056


ILPQC: Maternal Hypertension Initiative
Percent of Cases with New Onset Severe Hypertension Treated within 60 Minutes
Hospital 056 & Select Comparisons, 2016 - 2017
Percent of Cases
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Baseline 2015
Jan-16
Feb-16
Mar-16
Apr-16
May-16
Jun-16
Jul-16
Aug-16
Sep-16
Oct-16
Nov-16
Dec-16
Jan-17
Feb-17
Mar-17
Apr-17
May-17
Jun-17
Jul-17
Aug-17
Sep-17
Oct-17
Nov-17
Dec-17
Hospital 056 BaseLine
All Hosp
Hospital 056
Similar Level III

Addressing Barriers

- Mandatory Nursing Education August 2016
  - All Labor and Delivery and Mother-Baby nurses and nursing support staff were required to attend a mandatory in-service held by Clinical Practice Partners
- Real time coaching with frontline staff to improve practice
- Monthly data report to review potential qualifying patients
- Implementation of OB Hypertension in Pregnancy PowerPlan
- Meeting with ED leadership
- Maintained Monthly Telepresence ILPQC talks
- Maintained Hospital Team talks

Continuing Communication Among Disciplines

- Pharmacy
- Physicians
- Nursing
  - Women and Children's Services Report Out
- ED

"*Culture does not change because we desire to change it. Culture changes when the organization is transformed; the culture reflects the realities of people working together every day.*" ***(Hesselbein , 1999, p.267)***

ILPQC: Maternal Hypertension Initiative
Percent of Cases with New Onset Severe Hypertension with Preeclampsia Education Given at Discharge
Hospital 056 & Select Comparisons, 2016 - 2017

Percent of Cases

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

Baseline 2015
Jan-16
Feb-16
Mar-16
Apr-16
May-16
Jun-16
Jul-16
Aug-16
Sep-16
Oct-16
Nov-16
Dec-16
Jan-17
Feb-17
Mar-17
Apr-17
May-17
Jun-17
Jul-17
Aug-17
Sep-17
Oct-17
Nov-17
Dec-17

Hospital 056 BaseLine
All Hosp
Hospital 056

ILPQC: Maternal Hypertension Initiative
Percent of Delivered Cases with New Onset Severe Hypertension with Follow-Up Appointment Scheduled within 3 - 10 Days
Hospital 056 & Select Comparisons, 2016 - 2017

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

Percent of Cases

Baseline 2015
Jan-16
Feb-16
Mar-16
Apr-16
May-16
Jun-16
Jul-16
Aug-16
Sep-16
Oct-16
Nov-16
Dec-16
Jan-17
Feb-17
Mar-17
Apr-17
May-17
Jun-17
Jul-17
Aug-17
Sep-17
Oct-17
Nov-17
Dec-17

Hospital 056 BaseLine
All Hosp
Hospital 056

Opportunities for Improvement and Sustainability

Goals for 2017:

- Continuation of education with on-boarding new nursing staff and incoming residents
- Maintenance of OB Hypertension in Pregnancy PowerPlan
- OB Leadership project focused on follow up appointments in OB Triage within 72 hrs
- Education tool focused for maternal hypertension population
- Partnering with patient advocate

ILPQC Hypertension Initiative Reducing Time to Treatment

HSHS ST. JOHN'S HOSPITAL

Springfield, Illinois

Level III Perinatal Center

- Serving 37-area counties
- 24/7 Board Certified Obstetrician
- 24/7 Board Certified Neonatologist
- 24/7 Maternal-Fetal Medicine
- Approx. 200 deliveries monthly
- 9 LDR rooms
- 12 Ante Partum rooms
- 17 Post Partum rooms
- 3 OB-ED rooms

TEAM BUILDING

HSHS ST. JOHN'S TEAM

- Physician Lead- Dr. Angelique Rettig, OB-GYN
- OB Physician Champion- Dr. Robert Abrams, Maternal Fetal Medicine and Director of Obstetrics
- Dr. Elizabeth Unal, Maternal Fetal Medicine
- Quality Lead- Kathy Nein, Administrative Assistant and

  Birth Center System Analyst
- Team Lead- Christine Lopian, BSN, RNC-OB-C-EFM
- Other team members
  - Kathy Chepulis- Quality Management Dept.
  - Brandi Strader-Pharmacy Clinical Manager

DATA COLLECTION PROCESS

- Retrospective chart review and data collection (Oct. 2015-February 2016)
- Real time data collection (March 2016-Present)
- Education provided on the ILPQC HTN Initiative and bedside HTN data collection tool
  - Staff meetings
  - Nursing shift huddle Q shift
  - One on One education
- Implementation of bedside HTN data collection tool and placed at all nurses desk in RED folders (March 2016)
- Folder with charge nurses to log pt. stickers who present with severe hypertension
- Daily admission log audit by Quality Lead (Kathy Nein)
- Bi-monthly pharmacy reports on pts. receiving Mag sulfate, Labetalol, Hydralazine, and Procardia in OB, ICU, and ED
- Monthly ICD-10 coding reports on pts. with hypertension

Barriers To Treatment

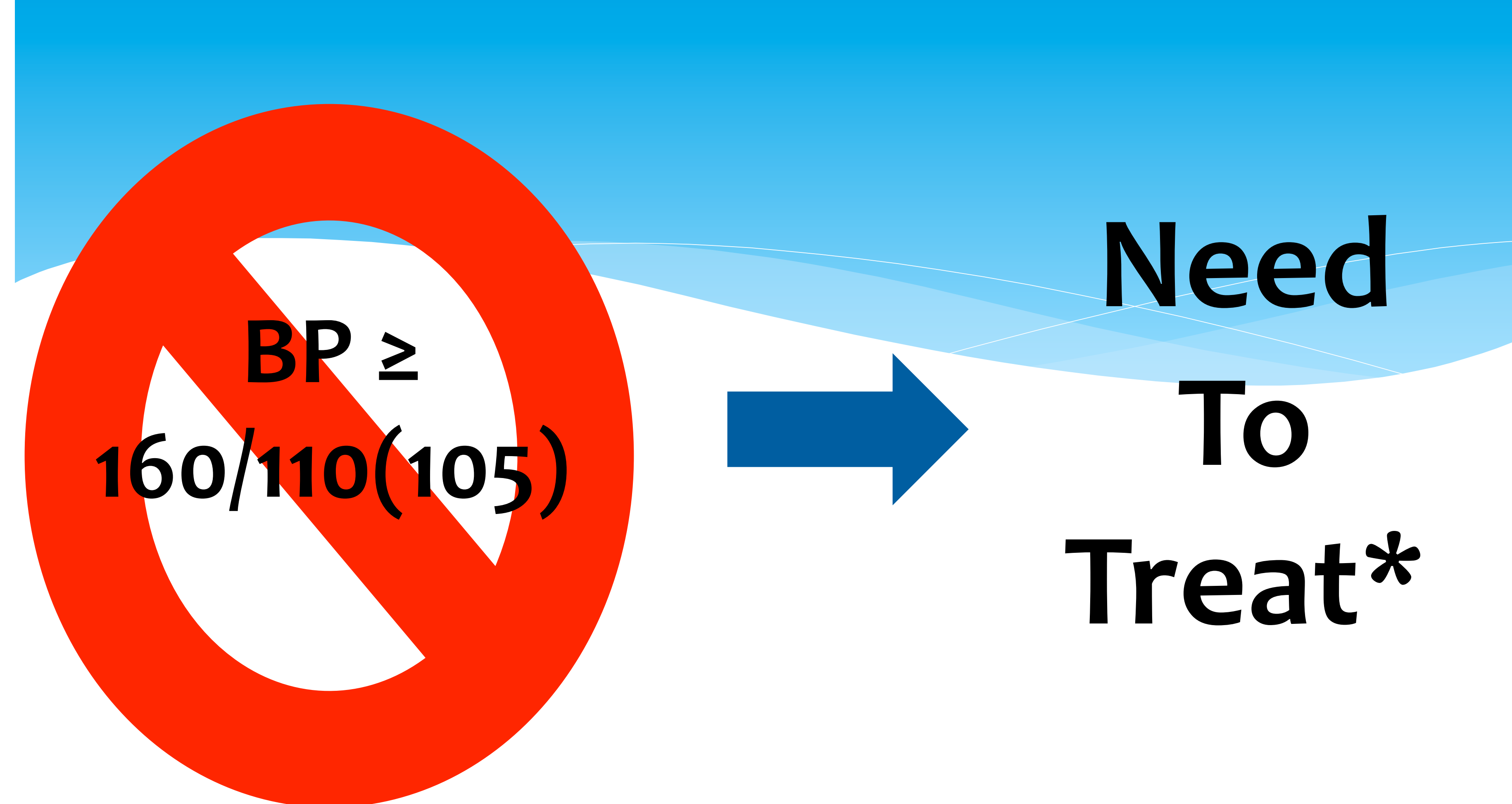
- Not all unit PYXIS loaded with HTN meds
- Staff buy-in
- Pt. inclusion unclear to staff
- Staff unclear of process for treatment
- ED participation and education

Solutions

- Added HTN meds to ALL PYXIS on unit
- All HTN meds removable on override from PYXIS
- Education on HTN data collection process and ILPQC initiative included in daily nursing huddle and with all residents and physicians
- One-on-One staff education on pt. inclusion
- HTN protocols reviewed with nursing and residents
- ED sending/notifying OB dept. of all pregnant or PP pts. (within 6 wks.)
- Meeting with ED leadership

Are you pregnant or have been
pregnant within the last 6 weeks?

Please alert the staff for prompt evaluation!



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

Severe HTN Order Set

* Collaborated with Dr. Unal and Dr. Abrams to write a Severe HTN order set for our department based on the ACOG hypertensive medication protocols and algorithms
* Posted Labetalol, Hydralazine, and Nifedipine algorithms on the unit for nursing reference
* Dr. Abrams facilitated education to resident staff on HTN treatment algorithms

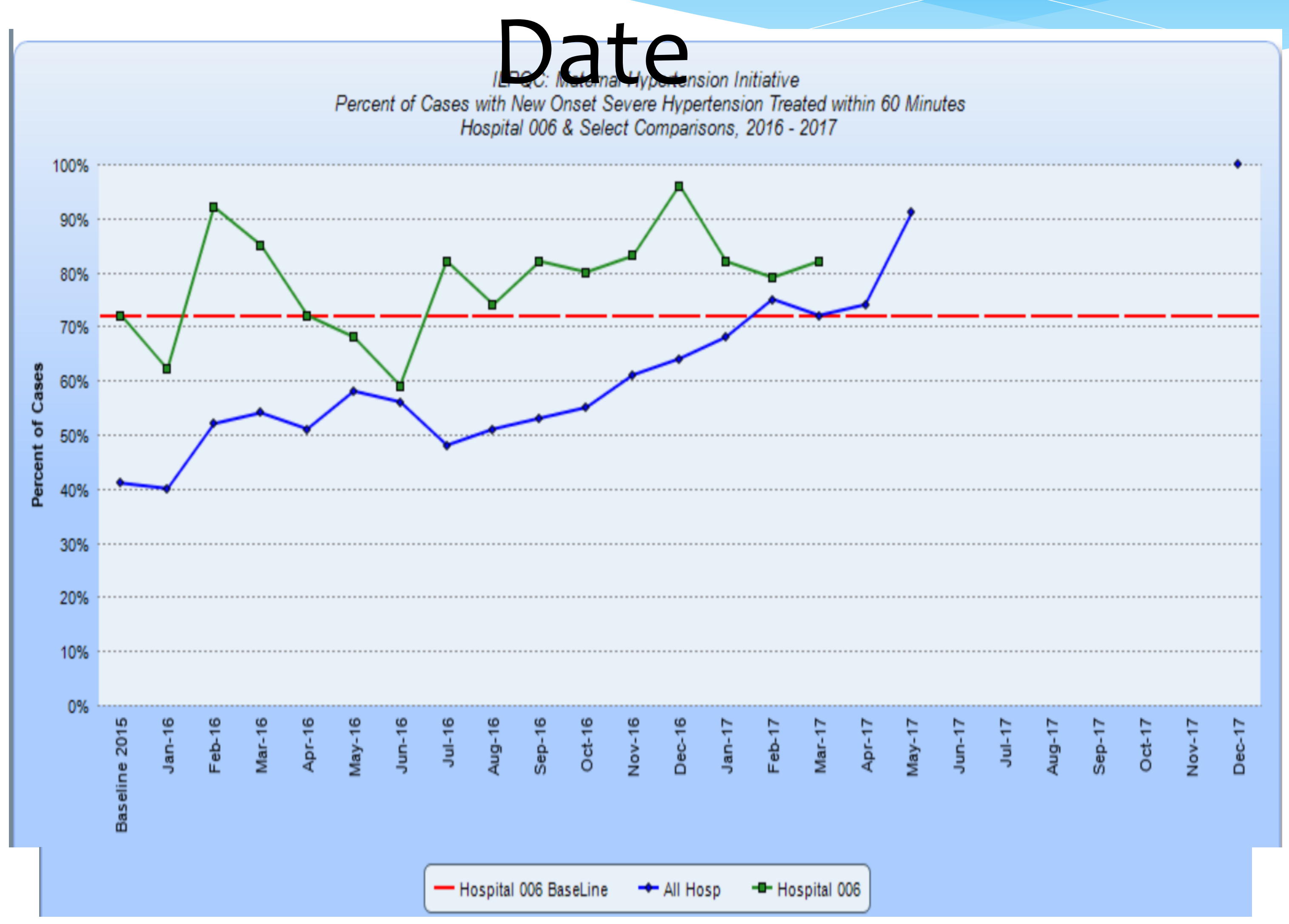
Severe Hypertension Tool for Nursing

BLOOD PRESSURE	MED GIVEN	DOSE	DATE	TIME

NIFEDIPINE	HYDRALAZINE	LABETALOL
BP PERSISTS MORE THAN 15 MINUTES	BP PERSISTS MORE THAN 15 MINUTES	BP PERSISTS MORE THAN 15 MINUTES
↓	↓	↓
10MG ORALLY	5MG OR 10MG IVP	20 MG IVP
↓	↓	↓
REPEAT BP IN 20 MINUTES	REPEAT BP IN 20 MINUTES	REPEAT BP IN 10 MINUTES
↓	↓	↓
BP EXCEEDS LIMITS	BP EXCEEDS LIMITS	BP EXCEEDS LIMITS
↓	↓	↓
20 MG ORALLY	10 MG IVP	40 MG IVP
↓	↓	↓
REPEAT BP IN 20 MINUTES	REPEAT BP IN 20 MINUTES	REPEAT BP IN 10 MINUTES
↓	↓	↓
BP EXCEEDS LIMITS	BP EXCEEDS LIMITS	80 MG IVP
↓	↓	↓
20 MG ORALLY	**LABETALOL** 20 MG IVP	REPEAT BP IN 10 MINUTES
↓	↓	↓
REPEAT BP IN 20 MINUTES	REPEAT BP IN 10 MINUTES	BP EXCEEDS LIMITS
↓	↓	↓
BP EXCEEDS LIMITS	**LABETALOL** 40 MG IVP	**HYDRALAZINE** 10 MG IVP
↓		↓
LABETALOL 40MG IVP OVER 2 MIN		REPEAT BP IN 20 MINUTES

ONCE THE BP THRESHOLDS ARE ACHIEVED, REPEAT BLOOD PRESSURE:
EVERY 10 MINUTES FOR 1 HOUR
EVERY 15 MINUTES FOR 1 HOUR
EVERY 30 MINUTES FOR 1 HOUR
EVERY HOUR FOR 4 HOURS

HSHS-SJS ILPQC Data to Date



Maternal Hypertension: Patient Education Improvements

Northwestern Medicine Central DuPage Hospital

Presented to: ILPQC Maternal Hypertension Face-to-Face Meeting

Presented on: May 18, 2017

Presented by: Samantha Schoenfelder, Clinical Quality Leader, RNC, MSN

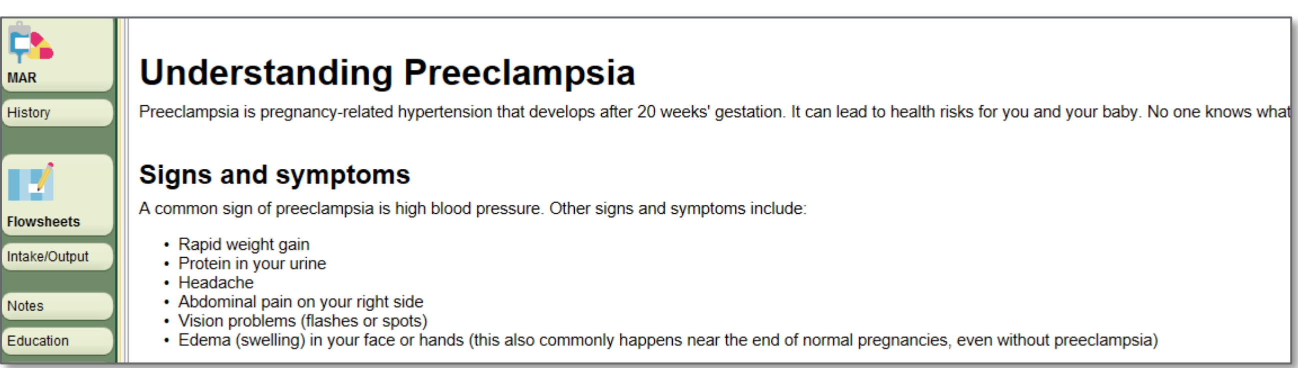
Central DuPage Hospital

- Large community hospital located in Winfield (West Chicago suburb)
- Level III Perinatal Hospital
- 379 bed facility
  - 19 L&D beds (11 LDR, 5 AP, 3 triage)
  - 41 M/B beds (5 AP, 36 PP)
  - 23 NICU beds
- Approximately 3,000 deliveries/year
- 24 obstetricians (3 groups, 4 independent)
  - Employed MFM practice

Patient Education

Defining the Problem

- Baseline data
  - 17.5% of patients received discharge education
- Patient Education materials were available in the EMR
  - RNs had to manually add to the discharge after visit summary (AVS)
  - Information was not up to date
- Preeclampsia Foundation flyers added to D/C packets
  - Not sustainable – limited supply
  - Easily missed in antepartum or triage patient discharges
  - Not consistently documented in the EMR



Patient Education

Finding the Solution

GOAL: Embed Preeclampsia Education into every AVS printed on patients >8 years old discharged from L&D or Mother Baby units

- Obtained licensing to electronic formats of Preeclampsia Foundation flyers
  - Legal contract – took some time
  - Small annual fee
- Add electronic flyers to education resources
  - Unable to embed in EMR (Epic)
- Added preeclampsia flyer text to every AVS printed on obstetric patients
  - Exclude newborns

Preeclampsia Information for all Pregnant and Postpartum Patients

Preeclampsia
Ask Your Doctor or Midwife

What is it?

Preeclampsia is a serious disease related to high blood pressure. It can happen to any pregnant woman during the second half of her pregnancy, or up to 6 weeks after delivery.

Risks to You:

* Seizures
* Stroke
* Organ damage
* Death

Risks To Your Baby:

* Premature birth
* Death

Patient Education Given at Discharge

NM CDH – At 100% since January 2017!

ILPQC: Maternal Hypertension Initiative

Percent of Cases with New Onset Severe Hypertension with Preeclampsia Education Given at Discharge

NM CDH *& Select Comparisons, 2016 - 2017*

Percent of Cases

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

Baseline 2015, Jan-16, Feb-16, Mar-16, Apr-16, May-16, Jun-16, Jul-16, Aug-16, Sep-16, Oct-16, Nov-16, Dec-16, Jan-17, Feb-17, Mar-17, Apr-17, May-17, Jun-17, Jul-17, Aug-17, Sep-17, Oct-17, Nov-17, Dec-17

Hospital 044 BaseLine | All Hosp | NM CDH | Similar Level III

Patient Education

Successes and Opportunities

Successes

- **Preeclampsia patient education on the AVS went live 12/13/16!**
- ILPQC patient education metric at **100%** since go-live
- Updated/corrected the inaccurate patient education information flyer in the EMR clinical resources
- Gave extra paper Preeclampsia Foundation flyers to the RMG physician office
- Increased # of patients returning for preeclampsia symptoms (14 readmissions since Dec 2016)

Opportunities

- Improve the information on the AVS
  - Add graphics
  - Import the entire Preeclampsia Foundation flyer

Thank You

Contact Samantha.Schoenfelder@nm.org with Questions

Panel Q&A

- If you had to specify the most important thing that you did to implement system changes, what would that be?
- What was a mis-step, challenge you had to overcome to achieve improvement?
- How do you plan to sustain these improvements in the future?

Panel Q&A

- If you had to specify the most important thing that you did to implement system changes, what would that be?
- What was a mis-step, challenge you had to overcome to achieve improvement?
- How do you plan to sustain these improvements in the future?

NEXT STEPS

Use the ILPQC Data & Reporting System to Inform Your QI Work

ILPQC Illinois Perinatal Quality Collaborative

- Collect monthly data and enter May data into REDCap by June 15 (monthly data entered by the 15th of the month for the previous month)
- Enter AIM and implementation checklist for Q1 (quarterly data entered by the 15th of the month following the end of the quarter, e.g. April 15 for 2017 Q1)
- Share your data broadly: team, providers, staff
- Contact ILPQC or your PNA with any questions

Attend OB Monthly Team Calls to Share Strategies

- June 26, 12:30-1:30pm
- July 24, 12:30-1:30pm
- August 28, 12:30-1:30pm
- September 25, 12:30-1:30pm
- October 23, 12:30-1:30pm

OB Teams Monthly Calls: Back to the Bundle

Call Date	Topic
June 26 12:30 – 2:30 pm	Readiness - Implementing Provider / Staff Education across units and Checklists
July 24 12:30 – 1:30 pm	Recognition & Prevention – Implementing Early Recognition Protocols (MEWS) and Patient Education
August 28 12:30 – 1:30 pm	Response - BP Medication and Treatment Algorithms
September 25 12:30 – 1:30 pm	Reports/System Learning – Drills, Simulations, and Team Communications
October 23 12:30 – 1:30 pm	Sustainablity Planning

ANNOUNCING:

ILPQC Illinois Perinatal Quality Collaborative

QUALITY IMPROVEMENT RECOGNITION AWARDS

ILPQC SEVERE MATERNAL HYPERTENSION INITIATIVE

GOLD

- ✓ Structure Measures
  +
- ✓ **<u>All 4</u>** Process Measure goals met

SILVER

- ✓ Structure Measures
  +
- ✓ **<u>3 of the 4</u>** Process Measure goals met

BRONZE

- ✓ Structure Measures
  +
- ✓ **<u>2 of the 4</u>** Process Measure goals met

DETERMINED BY DATA* FOR QUARTER 3 OF 2017

TO BE AWARDED AT 5TH ANNUAL ILPQC CONFERENCE: NOVEMBER 2017

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

Award Criteria

Award Criteria for IL Maternal Hypertension Hospital Teams:

Structure Measures:

- Severe Maternal HTN Policies in place in all units (Implementation Checklist question 1 A-C)
- Provider & Nursing education: ≥80% of providers and nurses educated

Process Measures:

- Time to treatment ≤60 minutes: ≥80% of cases
- Debrief: ≥30% of cases
- Discharge education: ≥70% of cases
- Follow-up appointments scheduled within 10 days of discharge: ≥70% of cases

Questions & Wrap-up

May is Preeclampsia Awareness Month

More information at

https://www.preeclampsia.org/get-involved/advocacy-efforts

"Know the Symptoms" video --

https://www.preeclampsia.org/the-news/videos/video/7-symptoms-every-pregnant-woman-should-know

Thank You!

- ILPQC HTN Leadership Team
- ILPQC OB Advisory Workgroup
- Face to Face Planning Subcommittee
- Perinatal Network Administrators and Educators and State Quality Committee
- All Breakout Facilitators
- All volunteers who made today possible!!

ILPQC Administrative Team

Ann Borders
ILPQC Executive Director, OB Lead

Leslie Caldarelli
Neonatal Lead

Patricia Lee King
State Project Director

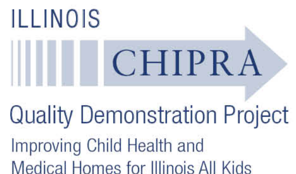
Now Accepting Applications
Project Coordinator

Email us at info@ilpqc.org
Website: www.ilpqc.org

ILPQC

Illinois Perinatal Quality Collaborative

THANKS TO OUR SPONSORS



IDPH