QI Data Tools and Processes

Data Webinar #2

11/14/2024

FPQC

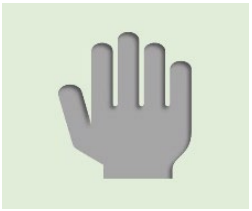
PREGNANCY-RELATED

PROMPT

OPTIMAL MANAGEMENT OF HYPERTENSION

WELCOME!

Please mute yourself



If you have a question, please enter it in the chat or raise your hand (Reactions)

This webinar is being recorded

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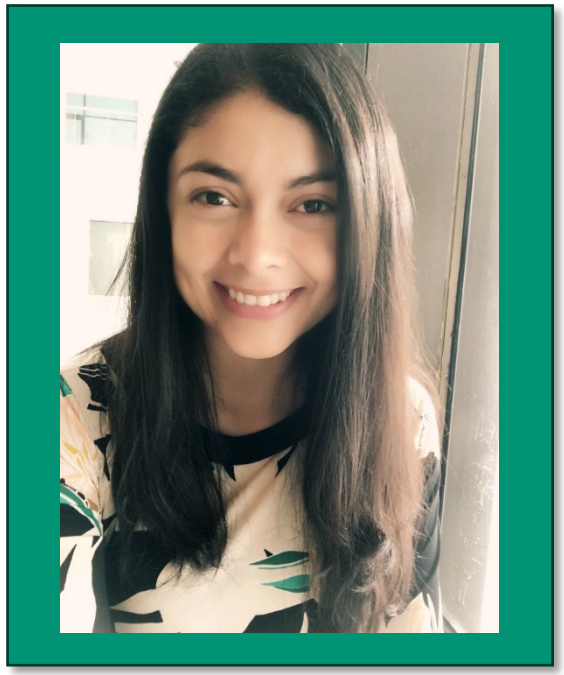
Meet the Data Team



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Review: Persistent Severe Hypertension Definition

Severe HTN: Systolic BP ≥ 160 mm Hg **or** diastolic BP ≥ 110 mm Hg, or both.

Persistent Severe HTN:

- One or more repeat severe HTN observations documented 15-60 minutes after episode onset – Severe BP values **do not need to be consecutive**!

OR

- BP is not documented to have decreased to nonsevere HTN within 15 minutes.

Severe HTN Measurement Considerations

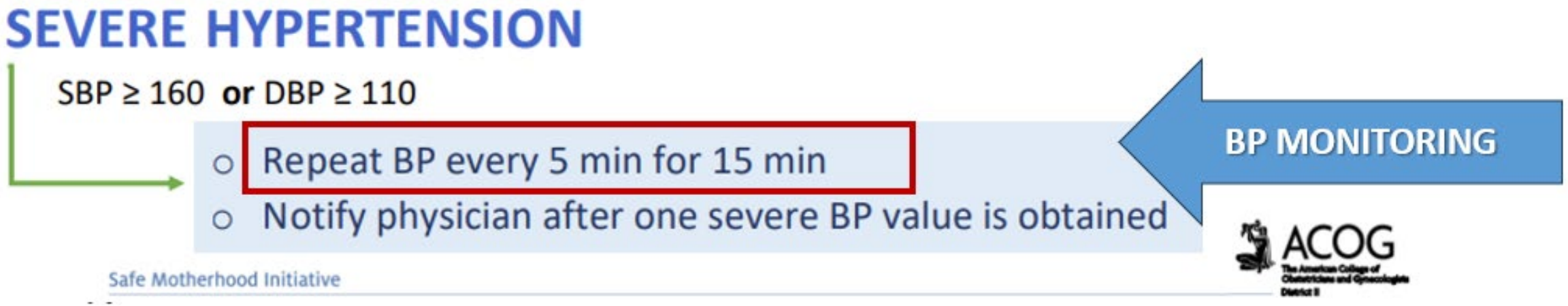
Population: Include patients who are pregnant at any gestational age or up to 42 days (6 weeks) postpartum with persistent severe hypertension

Event: Include only the **first severe episode** per admission

- Reduces chart review workload and prevents outliers from skewing results

Monitoring and Management

Two severe BP values 15-60 minutes apart confirm Persistent SHTN–> begin treatment ASAP;
Note: frequent BP monitoring is essential for patient safety



Poll Question – Persistent SHTN Review

Select all cases with Persistent Severe Hypertension:

min	0	5	10	15	20	25	30	35	40	45	50	55	60
A	Ⓢ			Ⓝ			Ⓢ			Ⓝ		Ⓢ	
B	Ⓢ			Ⓝ			Ⓝ		Ⓝ		Ⓝ		Ⓝ
C	Ⓢ			Ⓢ			Ⓝ		Ⓢ			Ⓝ	
D	Ⓢ				Ⓝ				Ⓝ			Ⓝ	

Ⓢ Severe BP range Ⓝ Non-severe BP range

Poll Question – Persistent SHTN Review

Select all cases with Persistent Severe Hypertension:

min	0	5	10	15	20	25	30	35	40	45	50	55	60
✓ A	Ⓢ			Ⓝ			Ⓢ			Ⓝ		Ⓢ	
B	Ⓢ			Ⓝ			Ⓝ		Ⓝ		Ⓝ		Ⓝ
✓ C	Ⓢ			Ⓢ			Ⓝ		Ⓢ			Ⓝ	
✓ D	Ⓢ				Ⓝ				Ⓝ			Ⓝ	

Ⓢ Severe BP range Ⓝ Non-severe BP range

Data for Improvement

Why Do We Collect Data for QI?

- Informs progress and outcome of your work
- Identify areas of opportunity and strength

Data is for *learning,* not for judgment - Maximize learning

How to Use Your Data for Improvement

- Initial data points will be a surrogate baseline
- Review your data every month for evaluating and guiding improvement. Use it to prompt discussion and action!
- Create a system that can be maintained long after the project ends: check if you are holding your gains overtime!

Data need to be strong, detailed, and actionable!

Aims

By 6/2026, PROMPT hospitals will increase by 20% the percentage of patients receiving:

Timely treatment for persistent acute-onset severe hypertension within 1 hour from the first severe range BP reading

Appropriate discharge education and scheduled follow-up encounters within 3-7 days post-discharge.

* Patient level baseline will be established with the first quarter of hospital data

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Aim

By June 2026, PROMPT hospitals will increase by 20% the percentage of patients receiving:

- **Timely treatment for persistent acute-onset severe hypertension within 1 hour from the first severe range BP reading**
- **Appropriate discharge education and scheduled follow-up encounters within 3-7 days post-discharge.**

Respectful care is a universal component of every driver and activity

Primary Drivers

Readiness:
implementation of standard protocols/processes

Recognition:
early identification and assessment

Response:
management for every pregnant or PP patient w/acute severe HTN

Secondary Drivers

- Develop standard protocols/processes for identification, management, and treatment of severe HTN
- Ensure rapid access to severe HTN medication
- Integrate a patient advisor in your QI team*
- Assess and document if patient presenting is pregnant or has been within the past year in all care settings
- Ensure accurate blood pressure measurement & assessment
- Provide verbal and written HTN education to patients and support persons*
- Provide Interdisciplinary clinician team training for early recognition and treatment of OB hypertensive emergencies (ED, OB, Cardiology, ICU)*
- Implement standardized protocol for treatment of severe HTN
- Provide trauma-informed support for patients*
- Schedule postpartum encounter 3-7

Direction of causality

PROCESS PRECEDES OUTCOME

Data Collection: Types & Tools

How do we know the change was an improvement?

PROMPT Data Types

Patient Level Data – Monthly

Demographics, time to treatment, education, tools provided and appointments scheduled

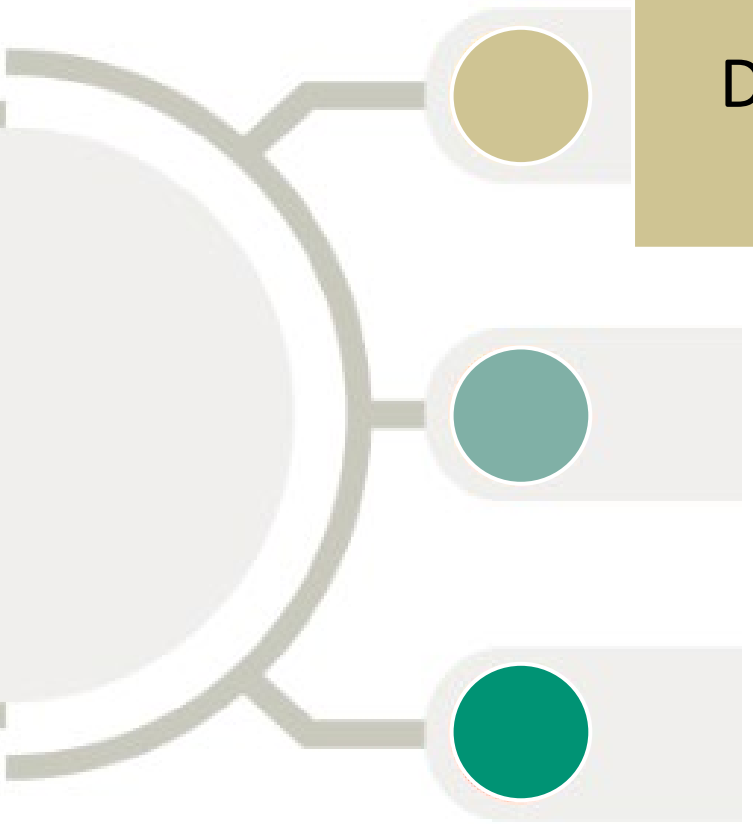
Patient Level Data – Quarterly

Aggregate Severe Maternal Morbidity

Hospital-Level Data – Quarterly

Policies/Guidelines/Procedures, staff education

PROMPT Data Types



Patient Level Data – Monthly

Demographics, time to treatment, education, tools provided and appointments scheduled

Population for Focus Population

- **Inclusion criteria**
  - Pregnant or postpartum women (up to 6 weeks) that present to ***Triage, ED, OBED, Antepartum, L&D and/or Postpartum unit*** at your hospital that have Persistent Severe Hypertension (SHTN)
  - Persistent SHTN Definition:
    - BP: ≥160 systolic and/or ≥110 diastolic **AND**
    - one or more repeat severe HTN observations documented 15-60 min after episode onset (values **do not need to be consecutive), OR** BP not documented to have decreased to nonsevere HTN within 15 min
- **Exclusion criteria**
  - Those patients without persistent severe hypertension

PREGNANCY-RELATED PROMPT OPTIMAL MANAGEMENT OF HYPERTENSION

SEVERE HYPERTENSION DATA FORM

Goal: Increase the percentage of pregnant and postpartum patients treated for persistent severe hypertension (SHTN) (≥160 systolic OR ≥110 diastolic) within 60 minutes.

Instructions: Document the following information for any persistent SHTN (≥160 systolic OR ≥110 diastolic) occurring during pregnancy or up to 6 weeks postpartum, including patients in triage, ED, OBED, antepartum, L&D, postpartum. OB unit includes OBED, antepartum, L&D and postpartum Units.

STUDY ID: _____

DEMOGRAPHICS

Discharge Month_____ Year____ Sat/Sun/Holiday discharge ☐ Yes ☐ No	Age _____	GA at event ____ wks OR # days PP at event ____		GA at delivery ____ wks ☐ N/A
Ethnicity ☐ Hispanic ☐ Non-Hispanic ☐ Pt. declined to answer ☐ Unknown	**1ry Language** ☐ English ☐ Spanish ☐ H.Creole ☐ Other____ ☐ Unknown	**Insurance** (check all that apply) ☐ Medicaid/Med plans ☐ Private ☐ Self-pay ☐ Other _____ ☐ Unknown	**Delivery type:** ☐ Vaginal ☐ Scheduled C/S ☐ Emergency C/S ☐ N/A	**Dx at Discharge** (check all that apply) ☐ Chronic HTN ☐ Gestational HTN ☐ Preeclampsia ☐ Superimposed Preeclampsia ☐ Eclampsia ☐ HELLP
Race (check all that apply) ☐ Asian ☐ Black ☐ White ☐ Other_____ ☐ Unknown ☐ Pt. declined to answer				

TIME TO TREAT

MEDICAL MANAGEMENT

Measure	Time Hh:mm 24h	Pt. location (mark one) T=Triage AP=antepartum PP=postpartum
BP reached ≥160 or diastolic ≥110		EMS ED OBED T AP L&D PP
Confirmatory BP ≥160 or diastolic ≥110		EMS ED OBED T AP L&D PP
First BP ≥160 or diastolic ≥110 in OB-unit		OBED T AP L&D PP
First BP med given		EMS ED OBED T AP L&D PP
BP reached <160 and diastolic BP <110		EMS ED OBED T AP L&D PP

Medications (check all given)	Followed protocol (dosage and timing)	Check First Medication Given
☐ Labetalol	Yes ☐ No ☐	☐
☐ Hydralazine	Yes ☐ No ☐	☐
☐ Nifedipine	Yes ☐ No ☐	☐
☐ Other antihypertensive_____	Yes ☐ No ☐	☐
☐ Magnesium Sulfate **Bolus**	Yes ☐ No ☐	
☐ Magnesium Sulfate **Maintenance**	Yes ☐ No ☐	

Reason antihypertensive and/or Magnesium were not given

☐ Clinical Judgement	☐ Patient declined
☐ BP not confirmed	☐ Patient left AMA
☐ BP normalized prior to starting meds	☐ Other _____
☐ Immediate delivery planned	☐ Not documented/unknown

ADVERSE EFFECTS

Did hypotension (systolic <90 and/or diastolic <50) occur within one hour of giving antihypertensive medication? ☐ YES ☐ NO

→ Was there corresponding deterioration in FHR? ☐ YES ☐ NO ☐ N/A

→ Were interventions for hypotension administered? ☐ YES ☐ NO

→ Was a cesarean performed due to hypotension? ☐ YES ☐ NO ☐ N/A

ADVERSE OUTCOMES

Adverse Maternal Outcome ***(check all that apply)*****:**

☐ OB hemorrhage with transfusion of ≥ 4 units of blood products

☐ Intracranial hemorrhage or ischemic event ☐ Placental abruption

☐ Pulmonary edema ☐ ICU admission ☐ Other _____

☐ Oliguria ☐ DIC ☐ Ventilation

☐ Renal failure ☐ Liver failure ☐ None

Adverse Neonatal Outcome:

☐ NICU/SCN admission ☐ IUFD ☐ Other _____ ☐ None ☐ N/A

Clinical Debrief/case Reviews

Did the **physician and RN debrief** this case for treatment improvement opportunities?

☐ Yes ☐ No

If an SMM case, was an interdisciplinary case review conducted? ☐ Yes ☐ No ☐ N/

DISCHARGE PROCESS

DISCHARGE MANAGEMENT

	Yes	No
Were verbal & written PP warning signs given?	☐	☐
Was pt. verbally briefed on her persistent SHTN before discharge?	☐	☐
Was the patient discharged on meds?	☐	☐
Were meds provided prior to discharge?	☐	☐
Did the patient have a BP cuff to take home prior to discharge?	☐	☐
Was a PP Discharge Assessment (vital signs and response) conducted just prior to discharge?	☐	☐

How many days after discharge were appointments scheduled? (check all that apply)	☐ BP and symptoms check within 3 days ☐ 4-7 days ☐ 8-14 days ☐ 15-21 days ☐ >21 days ☐ Pt. instructed/not scheduled

Adapted from ILPQC Data Form

v.10/17/2024

DEMOGRAPHICS

- **Assign Study ID # 001 to the first patient whose data will be submitted to FPQC**
- **Number consecutively all patients submitted to FPQC *throughout the initiative***

STUDY ID: _____

Discharge Month_____ Year____	Sat/Sun/Holiday discharge ☐ Yes ☐ No	Age _____	GA at event ____ wks OR # days PP at event ____		GA at delivery ____ wks ☐ N/A	
Ethnicity	☐ Hispanic ☐ Non-Hispanic ☐ Pt. declined to answer ☐ Unknown	**1ry Language** ☐ English ☐ Spanish ☐ H.Creole ☐ Other____ ☐ Unknown	**Insurance** (check all that apply) ☐ Medicaid/Med plans ☐ Private ☐ Self-pay ☐ Other _____ ☐ Unknown	**Delivery type:** ☐ Vaginal ☐ Scheduled C/S ☐ Emerg. C/S for FHR-Cat 3 ☐ Emerg. C/S other reason ☐ N/A	**Dx at Discharge** (check all that apply) ☐ Chronic HTN ☐ Gestational HTN ☐ Preeclampsia ☐ Superimposed Preeclampsia ☐ Eclampsia ☐ HELLP	
Race (check all that apply)	☐ Asian ☐ Black ☐ White ☐ Other_____ ☐ Unknown ☐ Pt. declined to answer					

- Inform case composition and track population change overtime
- Disaggregate measures to identify differences between population groups

Medical Management - Time to Treat

This section is for the **first SHTN event only**

MEDICAL MANAGEMENT – FIRST SHTN EVENT		
Measure	**Time** Hh:mm 24h	**Pt. location (mark one)** T=Triage AP=antepartum PP=postpartum
BP first reached ≥160 or diastolic ≥110		EMS ED OBED T AP L&D PP
Confirmatory BP ≥160 or diastolic ≥110		EMS ED OBED T AP L&D PP
First BP ≥160 or diastolic ≥110 in OB-unit		OBED T AP L&D PP
First BP med given		EMS ED OBED T AP L&D PP
BP reached <160 and diastolic BP <110		EMS ED OBED T AP L&D PP

If first SHTN happened in an OB unit, the first and third line will have the same information.

Time must be in 24 hour format!!!!

T = Triage
AP = Antepartum
PP = Postpartum

Medical Management - Medications

The protocol is established by your hospital/unit

Medications (check all given)	Followed protocol (dosage and timing)	Check First Medication Given
☐ Labetalol	Yes ☐ No ☐	☐
☐ Hydralazine	Yes ☐ No ☐	☐
☐ Nifedipine	Yes ☐ No ☐	☐
☐ Other antihypertensive_____	Yes ☐ No ☐	☐
☐ Magnesium Sulfate **Bolus**	Yes ☐ No ☐	
☐ Magnesium Sulfate **Maintenance**	Yes ☐ No ☐	

Reason medication not given	
☐ Clinical Judgement	☐ Patient declined
☐ BP not confirmed	☐ Patient left AMA
☐ BP normalized prior to starting meds	☐ Other _____
☐ Immediate delivery planned	☐ Not documented/unknown

This is the first medicine given (choose only one!)

Medical Management – Balancing Measures

Did hypotension (systolic <90 and or diastolic <50) occur within one hour of giving antihypertensive medication? ☐ YES ☐ NO

→ Was there corresponding deterioration in FHR? ☐ YES ☐ NO ☐ N/A

→ Were interventions for hypotension administered? ☐ YES ☐ NO

→ Was a cesarean performed due to hypotension? ☐ YES ☐ NO ☐ N/A

- **We want to track these measures to make sure the interventions are not causing harm.**
- **Hypotension after appropriate antihypertensive treatment is uncommon and rarely leads to fetal compromise requiring immediate delivery.**

Adverse Outcomes

Adverse Maternal Outcome *(check all that apply)*:

☐ OB hemorrhage with transfusion of ≥ 4 units of blood products

☐ Intracranial hemorrhage or ischemic event		☐ Placental abruption
☐ Pulmonary edema	☐ ICU admission	☐ Other _____
☐ Oliguria	☐ DIC	☐ Ventilation
☐ Renal failure	☐ Liver failure	☐ None

Adverse Neonatal Outcome:

☐ NICU/SCN admission ☐ IUFD ☐ Other _____ ☐ None ☐ Unknown ☐ N/A

Clinical Debrief/case Reviews

Did the **physician and RN debrief** this case for treatment improvement opportunities?

☐ Yes ☐ No

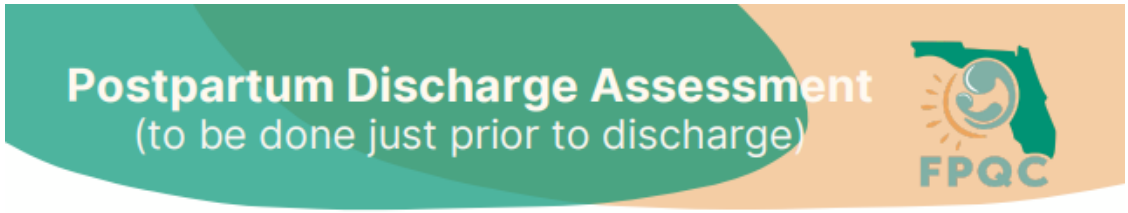
If an SMM case, was an interdisciplinary case review conducted? ☐ Yes ☐ No ☐ N/A

What other SMM event was this related to?

Discharge Process

DISCHARGE MANAGEMENT		
	Yes	No
Were verbal & written PP warning signs given?	☐	☐
Was pt. verbally briefed on their persistent SHTN before discharge?	☐	☐
Was the patient discharged on meds?	☐	☐
Were meds provided prior to discharge?	☐	☐
Did the patient have a BP cuff to take home prior to discharge?	☐	☐
Was a PP Discharge Assessment (vital signs and response) conducted just prior to discharge?	☐	☐
How many days after discharge were appointments scheduled? (check all that apply)	☐ BP and symptoms check within 3 days ☐ 4-7 days ☐ 8-14 days ☐ 15-21 days ☐ >21 days ☐ Pt. instructed/not scheduled	

Example PP Discharge Assessment from PACC



Vitals	If yes...	Checked
Is the most recent blood pressure ≥160/100?	Alert the provider and hold discharge	☐
Is the most recent pulse ≥120?	Alert the provider and hold discharge	☐
Is temperature ≥100.4F/38C?	Alert the provider and hold discharge	☐
Is the respiratory rate ≥30?	Alert the provider and hold discharge	☐

Steps for Data Collection And Abstraction

1. Implement the Severe HTN patient-level Data Form for ***all*** patients with new onset persistent severe HTN. *Use chart review to collect discharge and outcome data.

2. Use your EMR to identify all patients with new onset persistent severe HTN to ensure you've captured all cases.

Link to forms will be sent to the project and data lead once DUA is fully executed.

Chart Review

All Levels:

Retrospective chart review using:

- **ICD-10 codes** for Preeclampsia Diagnosis codes in L&D, ED, Triage, Antepartum, Postpartum
- **EMR searches**/reports using **keywords** for pregnant/postpartum patients such as: *chronic HTN, preeclampsia, eclampsia, superimposed preeclampsia, preeclampsia with severe features, systolic BP ≥ 160, diastolic BP ≥ 110, etc.*
- **Delivery logs**
- **Pharmacy records** for Labetalol, Hydralazine, Nifedipine, and Magnesium Sulfate

ICD-10 Codes

AIM Severe Hypertension in Pregnancy ICD10 Codes List

Code	Definition
O111	Pre-existing hypertension with pre-eclampsia, first trimester
O112	Pre-existing hypertension with pre-eclampsia, second trimester
O113	Pre-existing hypertension with pre-eclampsia, third trimester
O114	Pre-existing hypertension with pre-eclampsia, complicating childbirth
O115	Pre-existing hypertension with pre-eclampsia, complicating the puerperium
O119	Pre-existing hypertension with pre-eclampsia, unspecified trimester
O1410	Severe pre-eclampsia, unspecified trimester
O1412	Severe pre-eclampsia, second trimester
O1413	Severe pre-eclampsia, third trimester
O1414	Severe pre-eclampsia complicating childbirth
O1415	Severe pre-eclampsia, complicating the puerperium
O1420	HELLP syndrome (HELLP), unspecified trimester
O1422	HELLP syndrome (HELLP), second trimester
O1423	HELLP syndrome (HELLP), third trimester
O1424	HELLP syndrome (HELLP), complicating childbirth
O1425	HELLP syndrome (HELLP), complicating the puerperium
O1500	Eclampsia complicating pregnancy, unspecified trimester
O1502	Eclampsia complicating pregnancy, second trimester
O1503	Eclampsia complicating pregnancy, third trimester
O151	Eclampsia complicating labor
O152	Eclampsia complicating the puerperium
O159	Eclampsia, unspecified as to time period

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Steps for Data Collection And Abstraction

1. Implement the Severe HTN patient-level Data Form for ***all*** patients with new onset persistent severe HTN. *Use chart review to collect discharge and outcome data.

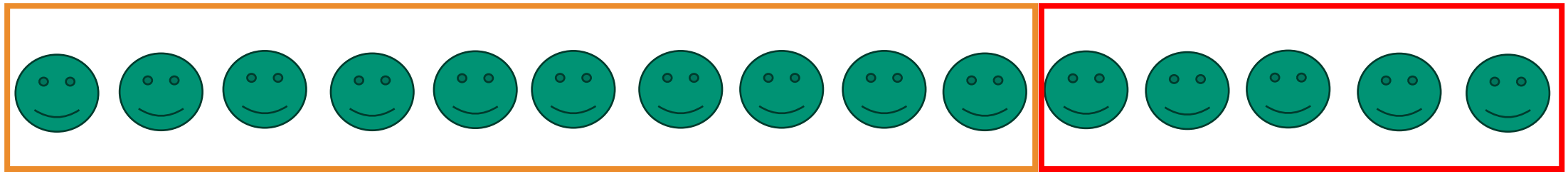
2. Use your EMR to identify all patients with new onset persistent severe HTN to ensure you've captured all cases.

3. **Find your sample of up to 15 patients.** If patient already has a form, submit to FPQC. If patient does not have a form use chart review to collect discharge and outcome data.

Link to forms will be sent to the project and data lead once DUA is fully executed.

INDIVIDUAL PATIENT-LEVEL DATA
Monthly

Report on ***up to*** 15 cases of pregnant and postpartum patients with persistent, severe hypertension that present to ED or obstetric unit.



Persistent SHTN (First 10 pts excluding those with SMM)

SMM among preeclampsia/eclampsia /HELLP (First 5 pts)

FPQC

Keep Track of Your Cases

Please keep a log of the patients whose data is submitted to FPQC.

Please keep for your records only. Never submit the patient's medical record to FPQC.

Medical Record #	Study ID #	Survey Return Code	Data lead name

Steps for Data Collection And Abstraction

1. Implement the Severe HTN patient-level Data Form for ***all*** patients with new onset persistent severe HTN. *Use chart review to collect discharge and outcome data.

2. Use your EMR to identify all patients with new onset persistent severe HTN to ensure you've captured all cases.

3. Find your sample of up to 15 patients. If patient already has a form, submit to FPQC. If patient does not have a form, use chart review to collect discharge and outcome data.

4. Enter monthly data into REDCap by the 15th of the following month (e.g. January data is due February 15th)

Link to forms will be sent to the project and data lead once DUA is fully executed.

Questions?

REDCap Demo: Monthly Patient Level Form

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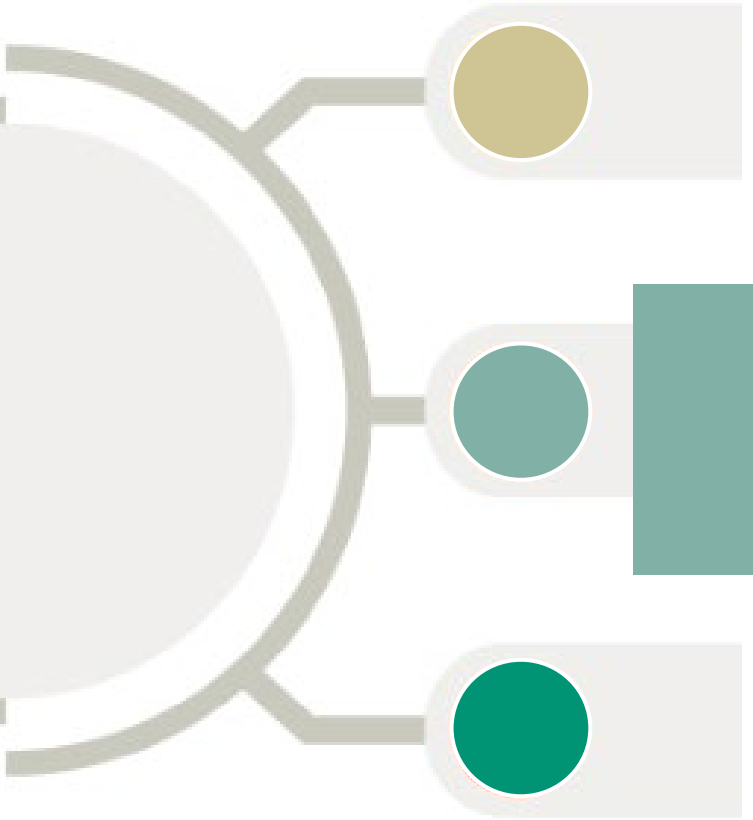
PROMPT Data Types



Patient Level Data – Quarterly

Aggregate Severe Maternal Morbidity

Aggregate Patient-Level Data

Submitted quarterly with your hospital-level data!

Aggregate Patient Data	
# of patients admitted for birth	
# of patients diagnosed with preeclampsia, eclampsia, or HELLP syndrome during birth admission	
# of patients with **SMM*** during birth admission *(excluding transfusion-only cases)*	
# of patients with **SMM*** *(excluding transfusion-only cases)* who were diagnosed with preeclampsia, eclampsia, or HELLP syndrome during their birth admission	

*As defined by the CDC (ICD-10 code list available)

PROMPT Data Types

Hospital-Level Data – Quarterly

Policies/Guidelines/Procedures, staff education

What are Structural Measures?

Structural Measures help us to assess where your facility is on implementation within our Initiative.

- Policies
- Procedures
- Guidelines
- Workflows

How are we measuring this?

Implement and/or reinforce key processes, guidelines, policies, and resources to support PROMPT.

Report as follows:

1. **Not started**
2. **Planning**
3. **Started Implementing** - started implementation in the last 3 months
4. **Implemented** - less than 80% compliance after at least 3 months of Implementation (Not routine practice)
5. **Fully Implemented** - at least 80% compliance after at least 3 months of Implementation (Routine practice)

HOSPITAL-LEVEL DATA
Quarterly

Pregnancy-Related Optimal Management of Hypertension (PROMPT)
Hospital-Level Data Collection Form

1 - Not Started
2 - Planning/Developing
3 - Started Implementing - Started implementing in the last 3 months
4 - Implemented - Less than 80% compliance after at least 3 months of implementation (not routine practice)
5 - Fully Implemented - At least 80% compliance after at least 3 months of implementation (routine practice)

To what extent has your hospital:	Not started 1	Planning/ Developing 2	Started to implement 3	Implemented 4	Fully Implemented 5
Established Emergency Department (ED) Screening for current or recent pregnancy	☐	☐	☐	☐	☐
Implemented a process to ensure accurate blood pressure measurement and assessment with confirmation after severe range	☐	☐	☐	☐	☐
Implemented a Severe Hypertension (SHTN)/preeclampsia policy, guideline, and/ or process (reviewed or updated within the last two years) that contains: treatment of SHTN/preeclampsia and the use of seizure prophylaxis, including for treatment of magnesium overdose	☐	☐	☐	☐	☐
Ensured ready reference to algorithms for identifying, assessing, and treating SHTN/preeclampsia on all units	☐	☐	☐	☐	☐
Implemented a system plan for level of care escalation, consultation, and maternal transport when needed	☐	☐	☐	☐	☐
Developed a workflow to ensure rapid access to SHTN medication	☐	☐	☐	☐	☐
Established a standardized process to conduct debriefs with patients after a severe event	☐	☐	☐	☐	☐
Established a process to perform interdisciplinary systems-level reviews of cases of severe maternal morbidity	☐	☐	☐	☐	☐
Held interprofessional and interdepartmental team-based drills with timely debriefs that include the use of simulated patients	☐	☐	☐	☐	☐
Implemented periodic education and engagement for ED physicians and staff about SHTN/preeclampsia	☐	☐	☐	☐	☐
Engaged a Patient Advisor in the QI team	☐	☐	☐	☐	☐

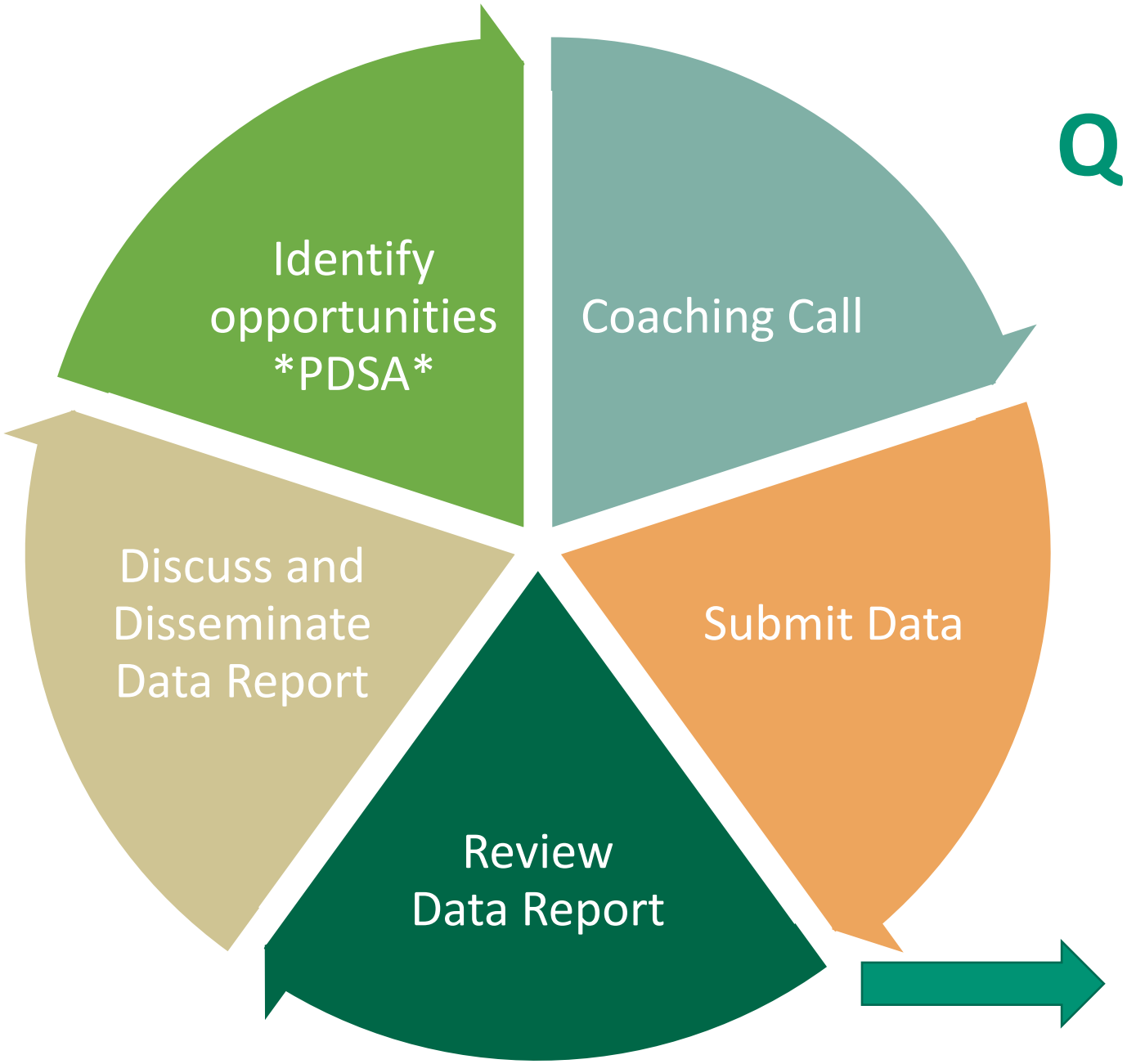
- ❑ Not started
- ❑ Planning
- ❑ Started to implement
- ❑ Implemented
- ❑ Fully Implemented

Staff Education

Report cumulative percent

Staff Education and Training		
Please add the percentage of staff, physicians, and midwives that are educated on the following topics:		
What percentage of your staff has received education on...	Nurses	Physicians & Midwives
Accurate blood pressure measurement and assessment?	%	%
Severe hypertension/preeclampsia policy, guidelines or procedures?	%	%
Respectful Care and commitment to Respectful Care practices?	%	%

QI MONTHLY CYCLE



QI REPORTS

- Aim
- Run Charts
- Tracks Process, Structural and Outcome Measures
- Add your PDSAs

Important Requests & Dates

- ❑ Track completion of your hospital's Data Use Agreement
  - ❑ 25 DUAs completed. 66 need to submit DUAs
- ❑ Let us know of any changes in your PROMPT team
- ❑ Submit your Hospital-Level Data in **December**
- ❑ **Patient-level data collection starts in January** – (January data is due February 15th)

Questions?

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fpqc@usf.edu

www.fpqc.org

“To improve the health and health care of all Florida mothers & babies”

YouTube

FPQC