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SMFM Special Statement

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Society for Maternal-Fetal Medicine Special Statement: A quality metric for evaluating timely treatment of severe hypertension

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Severe hypertension in pregnancy is a medical emergency. Although expeditious treatment within 30 to 60 minutes is recommended to reduce the risk of maternal death or severe morbidity, treatment is often delayed by >1 hour. In this statement, we propose a quality metric that facilities can use to track their rates of timely treatment of severe hypertension. We encourage facilities to adopt this metric so that future reports from different facilities will be based on a uniform definition of timely treatment.

Key words: antihypertensive treatment, chronic hypertension, gestational hypertension, hydralazine, labetalol, nifedipine, patient safety, preeclampsia, superimposed preeclampsia

Introduction

Hypertensive disorders of pregnancy are among the leading causes of pregnancy-related deaths in the United States[1] and globally.[2] In a recent California maternal mortality review report, 61% of preeclampsia-related deaths were attributed to stroke, and 96% of stroke cases were preceded by a systolic blood pressure >160 mm Hg.[3] Because delayed or inadequate treatment of severe hypertension (HTN) may lead to maternal death, stroke, or other serious complications,[3,4] acute-onset severe HTN is considered a medical emergency. The American College of Obstetricians and Gynecologists (ACOG) recommends that antihypertensive treatment for persistent severe HTN should be initiated as soon as reasonably possible, citing literature that suggests an interval of 30 to 60 minutes.[5,6] This recommendation applies to all acute-onset severe HTN, regardless of whether the underlying disorder is preeclampsia/eclampsia, gestational HTN,[5] or chronic HTN[6] and whether the severe HTN occurs antepartum, intrapartum, or postpartum.

Recent reports demonstrate a "quality gap" between the recommended expeditious treatment of severe HTN and the actual performance. In several studies, the treatment of severe HTN within 60 minutes was initiated in less than one-half of cases.[7–9] Delays in treatment are encountered more frequently in the following cases: if the initial blood pressure is not in the severe range, in patients of White race, in the presence of labor symptoms, in term gestations, and with severe HTN episodes that occur overnight.[7,8] A multihospital quality improvement project demonstrated that the rate of timely treatment of severe HTN could be increased to >90% from a baseline of 50% by implementing a standardized management algorithm.[9] Similar findings are reported by statewide quality collaboratives that have demonstrated that quality initiatives can improve the timely treatment of severe HTN from baseline rates of approximately 40% to approximately 80% with focused efforts.[10,11]

One barrier to quality improvement projects addressing the rate of timely treatment is that a labor-intensive manual chart review is often required to identify cases and correlate blood pressure measurements with pharmacologic treatments. Another barrier is the lack of a standardized metric for summarizing the rate of timely treatment of severe HTN. For example, although the goal of treatment within 60 minutes seems simple to measure, recent studies have used varying inclusion criteria and different methods for calculating the rate of timely treatment.[7–10,12]

A cooperative workshop was convened in 2016 by the Society for Maternal-Fetal Medicine (SMFM), the National Institute of Child Health and Human Development, and ACOG to evaluate a variety of potential quality measures for high-risk pregnancies.[13] Among the measures recommended for further consideration or development was a metric reflecting timely treatment of sustained and unresolved severe HTN in pregnancy. Such a metric has recently been developed and tested by several states participating in the multistate collaborative Alliance for Innovation on Maternal Health (AIM).

In the present paper, the SMFM Patient Safety and Quality Committee recommends adopting the AIM approach, yielding a uniform metric to summarize the rate of timely treatment of severe HTN. The metric can be automatically calculated on

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the basis of the blood pressure (BP) data merged with the pharmacy data stored in the electronic health records (EHR). Alternatively, facilities that do not have BP or pharmacy databases can calculate the metric manually. The metric is intended for use within a facility as a starting point for quality improvement projects designed to increase the rate of timely treatment of severe HTN. Using a standardized metric, each facility can track changes over time and compare performance with other facilities in a quality collaborative or with published reports that use the same metric.

Measure Description

The detailed specification for the proposed quality metric is given in Table 1. The metric is a simple rate—a numerator divided by a denominator, expressed as a percentage.

The denominator is the number of patients with 1 or more episode(s) of persistent severe HTN during a measurement period, not the number of severe HTN episodes. The denominator includes all obstetrical patients with a persistent severe HTN episode, regardless of gestational age, including patients up to 6 weeks postpartum. Severe HTN is defined as systolic BP $\geq$160 mm Hg, diastolic BP $\geq$110 mm Hg, or both. A severe HTN episode is defined as a series of consecutive BP measurements starting with the first severe HTN measurement on an obstetrical unit (labor and delivery, antepartum, or postpartum unit) and ending with the first subsequent BP measurement that is not severe HTN. A persistent severe HTN episode is defined as a severe HTN episode that has not been documented to have ended with a nonsevere HTN measurement within $\leq$15 minutes. Figure 1 shows several examples of severe HTN episodes, both persistent (yellow) and nonpersistent (green). These examples are crucial to understanding what defines a persistent severe HTN episode. A severe HTN episode that starts at time 0 and ends at 15 minutes with a nonsevere HTN BP is not a persistent severe HTN episode. A severe HTN episode that starts at time 0 and ends at 16 minutes with a nonsevere HTN BP is a persistent severe HTN episode because it is not documented to have ended within $\leq$15 minutes. Repeated severe HTN observations at 15 to 60 minutes after the first severe HTN observation are considered part of a single episode, even if they are interspersed with normal BPs or nonsevere hypertension measurement.

The numerator is the number of patients in the denominator who received appropriate antihypertensive treatment within 60 minutes of the onset of the first severe HTN episode. Appropriate antihypertensive treatment includes those medications listed by ACOG for expeditious treatment of hypertensive emergencies (labetalol 20−80 mg intravenously, hydralazine 5 or 10 mg, or rapid-acting nifedipine 10 or 20 mg orally). Appropriate treatment also includes severe HTN episodes in which the BP spontaneously improves to normal or nonsevere HTN without antihypertensive medications. Thus, if a severe HTN episode has ended with a normal or nonsevere HTN BP within 60 minutes, the episode is included in the numerator, whether medication was given or not.

We have not specified exclusions from the numerator or denominator, because we do not know of valid reasons to exclude episodes from consideration. Thus, the metric includes antepartum, intrapartum, and postpartum patients and those with live births and stillbirths. It includes patients with chronic hypertension, gestational hypertension, and preeclampsia, with and without other comorbidities. We have made no attempt to define the concept of "acute-onset" severe HTN mentioned in the ACOG recommendations.[5,6] Therefore, our metric includes all episodes of severe HTN.

Critique of the Measure

Several considerations about the proposed metric are summarized in Table 2. First, it is a process metric. As an alternative, we considered an outcome metric that would measure the percentage of episodes in which severe HTN was restored to nonsevere HTN (meaning either normal BP or mild hypertension) within 60 minutes. However, some patients are refractory to treatment, so one cannot expect to reach 100% on the outcome metric even with 100% performance on the process. In other words, caregivers can control what they do (the process) but cannot guarantee the BP response (the outcome).

It may seem surprising that a severe HTN episode can be considered persistent even if there is only one severe HTN observation in the episode. Examples D, F, and H in Figure 1 illustrate why we have defined persistence in this way. In these examples, there is a long delay in obtaining a follow-up BP measurement; it is conservative to consider that severe HTN may have persisted for the entire intervening time because there is no evidence to the contrary. In other words, the "burden of proof" is on providers to document that the BP has decreased to nonsevere HTN levels by 15 minutes. We have included these episodes in the denominator because the delay in obtaining the follow-up BP is a "gap" in patient safety that can be tracked and quantitated by including such episodes.

We considered another alternative metric, as proposed by the Workshop Conference,[13] that would require treatment within 30 minutes of a second, confirmatory severe HTN measurement rather than treatment within 60 minutes of the first severe HTN measurement. However, that metric would only lead to appropriate treatment if the second BP measurement was obtained in a timely manner. In Example G in Figure 1, a confirmation of severe HTN is not obtained until 70 minutes after episode onset, so treatment given within 100 minutes after the episode onset would meet the 30-minutes-after-confirmation requirement of this alternate metric; we do not consider this to be timely treatment. Because repeat BP is not always obtained promptly, it is crucial for the timing of treatment to be on the basis of the time after the first observation of severe HTN, not the second.

TABLE 1
Specification for proposed quality metric

Characteristic	Description
Brief title	The timely initiation of the treatment of severe hypertension (severe HTN) in obstetrical patients
Narrative description	The percentage of obstetrical patients with one or more persistent severe HTN episode(s) in which treatment with a standard antihypertensive agent is initiated within 60 minutes of the onset of the first episode or in which the first episode resolves within 60 minutes without such treatment.
Definitions	**Obstetrical patient:** A person who is pregnant at any gestational age or within 42 d (6 wk) postpartum **Severe hypertension (severe HTN):** A systolic BP of 160 mm Hg or more, or a diastolic BP of 110 or more, or both. **Severe HTN episode:** A set of consecutive BP measurements from a given patient in which both of the following criteria are met: • The first measurement and all subsequent measurements except the last measurement meet the definition of severe HTN, **AND** • Either the BP measurement immediately preceding the first severe HTN measurement was not severe HTN, **OR** no prior BP measurement was recorded A severe HTN episode starts with the first consecutive measurement of severe HTN on an obstetrical unit (labor & delivery, antepartum, or postpartum) and ends with the first subsequent BP measurement that is not severe HTN. An episode may have several severe HTN observations (see Figure 1, Examples B, E and G) or only 1 severe HTN observation (Examples A, F, and H). **Persistent severe HTN episode:** A severe HTN episode in which either: • BP is not documented to have decreased to nonsevere HTN within 15 min **OR** • One or more repeat severe HTN observation(s) are documented at 15–60 min after episode onset, even if interspersed with nonsevere HTN BPs **OR** • Both of the above **Standard antihypertensive agents:** Any of the following: • Labetalol 20, 40, or 80 mg intravenously • Hydralazine 5 or 10 mg intravenously • Nifedipine 10 or 20 mg orally (not an extended-release formulation)
Measure denominator	The number of obstetrical patients with 1 or more persistent severe HTN episodes at the facility
Measure numerator	The number of episodes in the denominator in which **EITHER:** • A standard antihypertensive agent was administered within 60 min of episode onset, **OR** • A BP that is not severe HTN is recorded and subsequent BPs are not in the severe range within 60 min of episode onset, **OR** • Both of the above
Measure calculation	Numerator divided by denominator, expressed as a percentage
Type of measure	Process
Ideal performance	100%
Improvement reflected by	Increasing percentage
Suggested measurement period	A calendar week for facilities with high obstetrical volume, otherwise a calendar month
Possible levels of evaluation	Hospital or birthing center
Exclusions from denominator	None
Exclusions from numerator	None
Data source for denominator	Electronic records of blood pressure measurements Additional cases for the denominator may be captured by searching for the ICD-10 discharge diagnosis codes: Severe preeclampsia: O14.10, O14.12, O14.13, O14.14, O14.15 Severe hypertension: I16.0, I16.1, I16.9 HELLP syndrome: O14.20, O14.22, O14.23, O14.24, O14.25 Eclampsia: O15.00, O15.02, O15.03, O15.1, O15.2, O15.9 Preexisting hypertension: O11.1, O11.2, O11.3, O11.4, O11.5, O11.9
Data source for numerator	Electronic pharmacy records

HELLP, hemolysis, elevated liver enzymes, low platelets; *HTN*, hypertension; *ICD-10*, International Classification of Diseases, Tenth Revision; min, minute(s).

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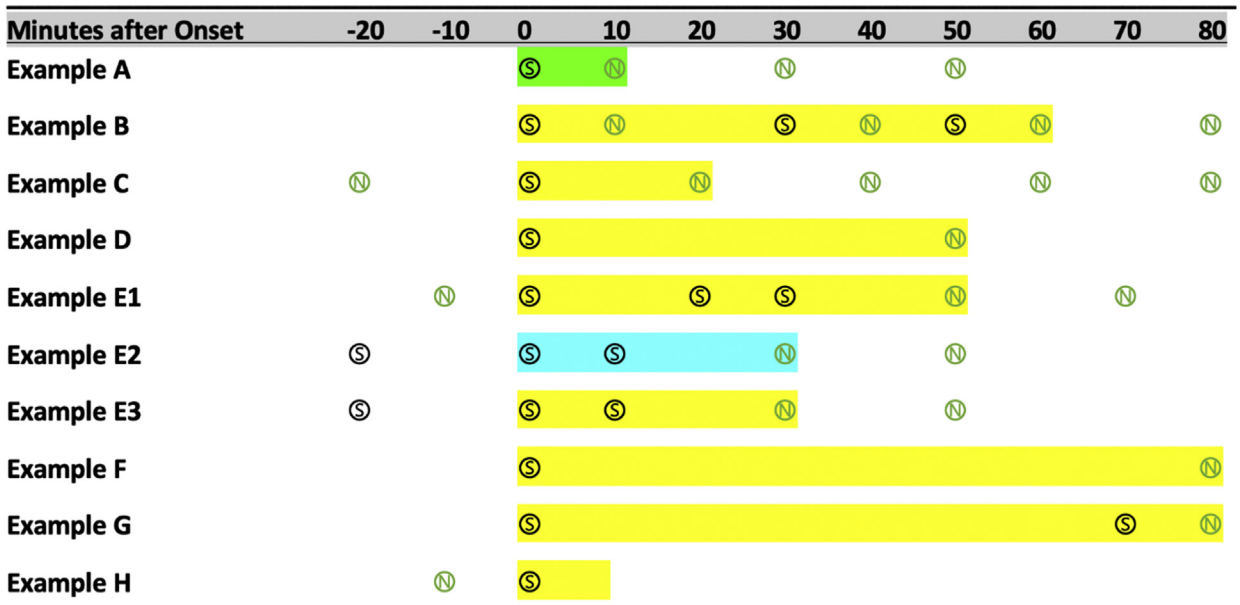
FIGURE 1
Examples of severe hypertension episodes



Notes:
Example A: SHTN episode, but not persistent SHTN
Example B: Multiple SHTN observations within 1 hour, none of them persisting more than 10 min
Example C: Persistent SHTN episode, resolved within 20 min
Example D: Persistent SHTN episode, resolved within 50 min
Example E1: Persistent SHTN episode
Example E2: Same observations as E1, shifted left by 20 min (the SHTN at 0 min in D1 is at minus 20 min in D2) This is not an SHTN episode because the SHTN at 0 min is not the first consecutive SHTN observation.
Example E3: Same observations as E2, but the SHTN at minus 20 min was observed in emergency department. Episode onset is defined as minute 0, the time of first SHTN on an obstetrical unit.
Example F: Persistent SHTN episode because there is no documentation of a non-SHTN blood pressure within 15 minutes of episode onset
Example G: Persistent SHTN episode
Example H: Patient Left Against Medical Advice at minute 10. This is a persistent SHTN episode because there is no documentation of a non-SHTN blood pressure within 15 min.

The definition of an episode does not depend on the treatment given, if any. The *green bar* represents a nonpersistent severe HTN episode; *yellow bars* represent persistent severe HTN episodes; the *blue bar* does not represent an episode because an episode must start with the first consecutive severe HTN measurement; Ⓢ (*black*), severe HTN BP measurement; Ⓝ (*green*), BP measurement that is not severe HTN, either nonsevere hypertension or normal BP.

BP, blood pressure; *min*, minute(s); *SHTN*, severe hypertension.

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We also considered an alternative metric with the numerator based on appropriate treatment within 30 minutes of episode onset rather than 60 minutes. This stricter standard would better fit the ACOG recommendation that treatment should be initiated as soon as reasonably possible.[5,6] However, the ACOG statements do not specify a strict 30-minute standard, citing literature that supports treatment within 30 to 60 minutes. Recent reports have consistently used a 60-minute standard to define adequate treatment[7–9] or a timely response to treatment.[12] Further, many facilities may struggle to meet the 60-minute standard at first, as reflected by the <50% rate of timely treatment found in previous studies.[7–9] We suggest a stepwise approach: a facility can set an initial target of 80% using the 60-minute metric; once that goal is achieved, the facility can then engage in continuous quality improvement efforts to

TABLE 2
Critique of proposed quality metric

Critique	Question or problem	Counterpoint
It is a process measure.	Why not use an outcome measure such as BP restored to nonsevere HTN range within 60 minutes?	Even with appropriate treatment, some patients are refractory to treatment, so we cannot reasonably expect that 100% of the episodes will be restored to nonsevere HTN within a given time. However, it is possible to have 100% compliance with the process.
An episode can be considered persistent even if there is only 1 severe HTN observation in the episode.	If the BP is not rechecked within 15 minutes, the episode is defined as persistent.	The burden of proof is on providers to document that the BP has declined to the nonsevere range. Failure to recheck the BP promptly is a quality gap that should be tracked and acted on.
The metric should be based on the time after confirmed persistent severe HTN, not the time after the first observation of severe HTN.	This metric was proposed by the Cooperative Workshop.	A long delay in repeating the BP measurement would result in delayed treatment that would not be captured if the metric was based on the time after repeat BP.
The metric should be based on treatment within 30 min of episode onset, not 60 min.	ACOG recommends antihypertensive treatment "as soon as reasonably possible" and cites literature suggesting "within 30—60 minutes."	The facilities are encouraged to adopt a stricter 30-minute standard for the numerator once they have achieved a reasonable rate using the 60-minute standard.
The metric should include all episodes of severe HTN, not just the first episode for each patient.	Tracking only the first episodes may give an incomplete picture. Personnel may become complacent about the timely treatment of repeated episodes.	Basing the metric on first episodes was a compromise intended to decrease the administrative burden of ascertaining the data. Facilities that could automate ascertainment are encouraged to track all episodes. The assumption that timely treatment of a first episode correlates with timely treatment of all episodes should be tested.
Episode onset time should be based on the first severe HTN observation wherever it occurs, even if it occurs on nonobstetrical units.	Exclusion of values obtained outside the obstetrical units will lead to missed opportunities to improve a timely response to severe HTN in the emergency department and the ICU.	Exclusion of outlying units was a compromise made because of difficulty in identifying obstetrical patients on those units and issues of interoperability of vital signs databases among different hospital units.
The list of included antihypertensive agents is too limited.	Clinicians may treat with different antihypertensive agents than those listed and achieve good BP control.	For their own tracking purposes, facilities can add agents to the list consistent with institutional protocols. However, we discourage individual providers from choosing agents based on idiosyncratic preferences, because such variation can be a source of miscommunication and other medical errors. Thus, each facility should have a limited number of agents to consider in tracking the metric.
Magnesium sulfate seizure prophylaxis is not included.	ACOG recommends magnesium sulfate for patients with severe HTN.	Although magnesium sulfate is recommended, it is not considered an antihypertensive agent and does not effectively restore the BP to nonsevere HTN levels.
Possible unintended adverse effects could occur.	Aggressive treatment of severe HTN may result in maternal hypotension, fetal heart rate decelerations, and an increased cesarean delivery rate.	Hypotension after appropriate antihypertensive treatment is uncommon and rarely leads to fetal compromise requiring immediate delivery. Balancing metrics such as rates of maternal hypotension and cesarean delivery for fetal indications can be tracked.

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(continued)

TABLE 2
Critique of proposed quality metric *(continued)*

Critique	Question or problem	Counterpoint
Administrative efforts to capture data and calculate a rate are burdensome.	Quality metrics that require manual chart review and manual calculation are viewed with disfavor.	The metric is designed to work with a database that includes all consecutive blood pressures on all obstetrical patients during a measurement period. A computer programmer can write a program to calculate the metric automatically.
The definition of persistent severe HTN episode is complex.	A computer programmer must set up all the possible definitions and variations regarding what is and what is not persistent severe HTN. Not all facilities have the resources to accomplish this programming.	The programming need only be done once; then it can apply to all subsequent measurement periods with no additional work.
The BP data must be merged with the pharmacy data.	The BP measurements are in 1 data stream in the electronic record and the medication records are in another.	Merging the 2 data streams is a fairly straightforward database management function.
Can the metric be stratified by race, ethnicity, and other demographic characteristics?	There is a high rate of maternal mortality among Black and African-American people. The existing evidence suggests that the timely treatment of severe HTN is less likely in White people.	The metric is readily stratified by race, ethnicity, and other characteristics as long as these data are captured in the EHR and extracted for analysis.
The metric should be tracked at the level of individual providers or provider groups rather than the entire facility.	The identification of outlier individuals can be a step in driving performance improvement.	The number of cases attributable to individual providers is likely too low for meaningful comparisons. Facilities often find that system-wide improvements are more effective than provider-level change.
Payors cannot track this metric based on claims data.	The claims data are based on the date of service and do not contain the detailed time-of-day information needed to ascertain the numerator and denominator.	The metric is not intended to be used by payors as a part of pay-for-performance or value-based reimbursement programs. It is intended to help facilities evaluate and improve their care.
Can knowledge of this metric be used to motivate and track quality improvement projects?	There is a paucity of published experience to demonstrate that the rate of timely treatment can be improved.	Unpublished experience from AIM and some state quality collaboratives suggests that improvement is achievable.

ACOG, American College of Obstetricians and Gynecologists; *AIM*, Alliance for Innovation on Maternal Health; *BP*, blood pressure; *HTN*, hypertension; *ICU*, intensive care unit.

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further improve the timeliness of treatment by setting a stricter 30-minute standard.

The metric captures only the first episode for each patient, because the experience of the AIM participants has been that individual patients may have repeated episodes, and it is sometimes arbitrary to distinguish one episode from the next. Further, limiting the focus to the first episode for each patient reduces the burden of chart review and the chance that suboptimal care of 1 or 2 patients may dominate the hospital results for the entire measurement period. Alternatively, if a facility has an automated method to capture the data, we encourage them to track a complete all-episodes metric in addition to the simpler first-episode metric, because the complete metric may be better for internal quality improvement purposes.

The exclusion of BP measurements obtained on non-obstetrical units is a compromise based on the experience of the AIM participants involved in the initial measure development. They found that it was often difficult to systematically identify obstetrical patients on other units (eg, emergency department or intensive care unit). Further, it may be difficult to track BP measurements on other units, because they may have different electronic systems for recording and charting vital signs. Thus, we define the episode start as the first severe HTN measurement on an obstetrical unit (Example E3 in Figure 1). Even though we have excluded outlying units from the metric, we still strongly recommend that patients with severe HTN be treated expeditiously on all hospital units and that quality improvement processes should be used in parallel to ensure timely treatment in the outlying units.

A limitation of the metric is the limited choice of antihypertensive agents that qualify a case for the numerator, specifically the following that are listed as "commonly used" by ACOG[5,6]: intravenous hydralazine, intravenous labetalol, and oral nifedipine. Other antihypertensive agents might be

considered appropriate for an obstetrical severe HTN protocol. If a facility has a protocol listing other agents in this setting, it would be appropriate for that facility to include those agents as qualifying a case for the numerator. However, we discourage facilities from using a nonspecific qualifier such as "any antihypertensive agent." Reducing variation in the agents used should reduce prescribing errors and communication errors. Magnesium sulfate is recommended for seizure prophylaxis but does not qualify a case for the numerator, because it is not an antihypertensive agent.[5,6] Similarly, pain and other possible contributors to severe HTN should be treated, but such treatment should not delay antihypertensive therapy.

The possibility of unintended adverse effects is an important consideration when adopting a new quality metric. It is possible, for example, that aggressive antihypertensive treatment may produce maternal hypotension, resulting in end-organ ischemia. However, this complication has not been reported at any meaningful frequency in pregnancy using the agents and doses outlined here. Maternal hypotension may also trigger fetal heart rate decelerations and ultimately result in cesarean delivery. For example, a recent study found that 10% of women treated with intravenous labetalol or hydralazine had transient reductions in their systolic BP by >30%, and 16% developed fetal heart rate abnormalities. However, none developed a Category III fetal heart rate tracing, and none required emergent delivery for fetal indications.[14] Thus, concern about potential transient maternal hypotension should not delay the treatment of severe HTN, which carries far more morbid risks of maternal stroke or death. One way to evaluate the potential adverse effects of a quality metric is to track balancing measures.[15] In this case, good balancing measures might include the rates of maternal hypotension-related complications and cesarean delivery for fetal indications.

We recognize that there are many possible variations in the definition of a severe HTN episode as shown in Figure 1. These variations not only add complexity to the actual ascertainment of the numerator and denominator but they also reflect real-world variations seen in the timing of repeat BP measurement. Automated computation with a detailed software program that works with a merged database of consecutive BP measurements and pharmacy data stored in the EHR can be used to handle this complexity. Writing the initial program requires a computer programmer, but once it is written and debugged, it should be possible to run it automatically in each measurement period with virtually no manual input. The potential to track the metric with minimal manual work and without individual chart review is a key advantage of the proposed metric. However, the facilities participating in the AIM collaborative have found that the computerized records can contain spurious values, so manual chart review is still recommended. This is especially for the cases where the numerator criteria are not met, ie, those with failure to treat severe HTN within 60 minutes. A thorough review of those cases may reveal barriers to timely treatment that can be addressed as a part of the performance improvement effort.

Potential Uses of the Metric

We envision that a possible use of the proposed metric will be to track the progress in quality improvement projects within a given facility or multihospital system. Hospitals are encouraged to join existing collaboratives such as AIM or their state's Perinatal Quality Collaborative. The SMFM Maternal Mortality Scorecard has state-by-state Perinatal Quality Collaborative contact information and a listing of states that participate in AIM.[16] These collaboratives have a variety of support and troubleshooting resources to help facilities implement and maintain quality improvement projects.

Although we propose that the unit of measure should be an entire hospital or birth center, there are reasons why a facility might want to "drill down" to the level of individual hospital units (such as Labor and Delivery, Antepartum, Postpartum, or Emergency Department) or even individual providers. Identifying outlier units or providers is likely to be an early step in identifying the quality gaps and selecting the initial targets for improvement efforts.

We do not envision that payors could use the proposed metric as a part of pay-for-performance or value-based reimbursement arrangements. Payors generally prefer metrics that they can calculate directly from the billing codes in claims submitted. The billing claims are based on the date of service and do not have the detailed time-of-day data needed to calculate this metric.

However, accreditation organizations such as the Joint Commission or reporting organizations such as the Leapfrog group might consider incorporating this metric into the suite of measures that they ask facilities to report. These organizations do not limit their metrics to only those that can be calculated from the claims data. The fact that this metric can be calculated directly from the existing EHR data with minimal administrative burden may make it more attractive to such organizations.

The proposed metric does not introduce a new standard of care but simply gives a standardized operational definition to help facilities assess their rate of compliance with the existing ACOG recommendations.[5,6]

Next Steps

There is a paucity of published data regarding the timely treatment of severe HTN. Effective January 2021, the Joint Commission has new maternal safety standards focused on the treatment of severe HTN.[17] These standards have sparked intense interest in timely treatment, which we anticipate will result in several new publications on the topic. Ideally, if future studies use a common operational definition of the timely treatment of severe HTN, their findings can be compared in a meaningful way.

The SMFM Informatics Committee has been working with the vendors of large EHR systems to integrate SMFM guidelines and checklists into their platforms. It would be useful for vendors to incorporate this metric into their systems so that individual facilities will not need to solve the programming issues or face burdensome manual calculations.

Ultimately, we would like to see this metric endorsed by the National Quality Forum. Before endorsement, the forum assesses potential metrics based on the specific measure evaluation criteria,[18] including importance, scientific acceptability, feasibility, usability and use, and the existence of any related or competing measures. Of critical importance are usability and use criteria, which reflect the extent to which the facilities use the metric for performance improvement activities, progress, and demonstrated benefits. The AIM experience provides an initial foundation regarding usability and benefits. We are hopeful that other facilities will adopt the metric and report their experiences as well.

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The Alliance for Innovation on Maternal Health (AIM) is a cooperative agreement between the American College of Obstetricians and Gynecologists (ACOG) and the Maternal Child Health Bureau of the United States Health Resources and Services Administration. AIM seeks to provide standardized approaches to address the drivers of maternal mortality and severe maternal morbidity in the United States. E.M. is a Consulting Quality Improvement Director for AIM. I.T. and C.A. are ACOG staff for the AIM program.

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