

A Framework for Measuring Hospital Participation in a Perinatal Quality Collaborative Quality Improvement Initiative

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Background

The high rates of maternal mortality and persistent racial/ethnic disparities in infant mortality in the United States have underscored a need to improve perinatal health care quality, safety, and equity. Perinatal quality collaboratives (PQC) are state or multistate networks of teams working to improve health outcomes for mothers and newborns through continuous quality improvement (QI).¹ The PQCs that currently exist in all 50 states and the District of Columbia vary considerably in their funding, infrastructure, staffing, partnerships, and stage of development. Some PQCs are relatively new with only some funding to conduct one of their first QI initiatives including hiring staff and developing data systems. Some PQCs have been operating for more than 10 years and are funded to offer three or more initiatives at one time with high functioning data systems and well-established, experienced staffing. Moreover, PQCs operate in differing state contexts, historical relationships, and health systems. Despite these differences, PQCs share a common goal of improving perinatal health care quality and health outcomes through the implementation of QI initiatives in their state or region.

PQCs engaging with maternity or delivery hospitals in their state or region is critical to having a population-level impact. Hospitals can engage with a PQC in many ways: participating in conferences, using QI initiative change packages or materials, recruiting for speakers, participating in their perinatal data systems, and seeking consultations. This framework focuses on one major aspect of hospital engagement with a PQC: hospital participation in a PQC's QI initiative. A PQC QI initiative is a multi-hospital collaborative effort to promote *systematic and continuous actions* across hospitals *that lead to measurable improvement in health care services and the health outcomes of targeted patient groups*.

From the very first U.S. PQC in 1997, PQCs have measured and tracked hospital participation. Centers for Medicare and Medicaid Services (CMS) implemented a new hospital reporting requirement beginning in 2022 to assess hospital participation in a structured statewide or national PQC.^{2,3} Additionally, the Centers for Disease Control and Prevention (CDC) currently provides support for 36 state-based PQCs,¹ and CDC-supported PQCs are required to report annually on a number of performance measures to monitor progress towards project goals, including the number of healthcare facilities participating with the PQC.⁴ Various ways to measure hospital participation in a PQC's QI initiative are emerging with no clear consensus on the best way. Of note, not all perinatal hospitals may be participating in a PQC QI initiative for differing reasons. First, not every QI initiative is appropriate or needed by every hospital. Second, many PQCs are not currently capable of supporting all maternity hospitals in their state or region in participating in one of their QI initiatives.

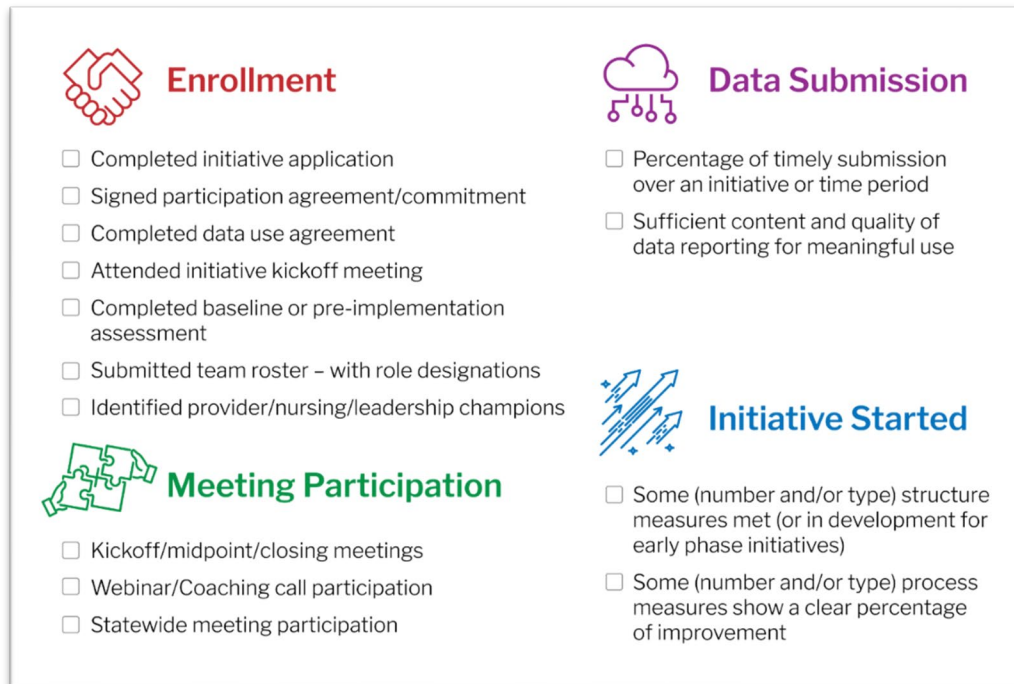
Given the important differences between states in context and PQC operations, establishing comparable standard participation measures that can be applied uniformly across all PQCs is challenging. The National Network of Perinatal Quality Collaboratives (NNPQC),⁵ along with state PQC leaders, have developed a flexible measurement framework for hospital participation in a PQC QI initiative that each PQC can adopt or adapt to their own context and structure to improve health care quality and health outcomes for the populations they serve.

Purpose

This measure framework is intended to provide a simple and flexible way to measure hospital participation in a PQC QI initiative. The four recommended domains and suggested measures presented in Figure 1 are conceptualized to provide a broad perspective that can be adapted as appropriate across all state PQCs. Enrollment includes a series of suggested measures that can be used to assess whether a hospital is fully enrolled in an initiative. Participation in meetings, webinars, coaching sessions is essential to participating in and learning about a PQC QI initiative. Regular data

submission is essential to participating, guiding, and implementing a QI initiative. A participating hospital should demonstrate some hospital changes in their initiative measures if starting to implement an initiative. All four domains are essential, yet adaptable to PQC context, in assessing hospital participation in a PQC QI initiative. Supplemental Tables 1 through 4 provide a more detailed explanation with examples of suggested participation measures. These tables also provide additional notable participation measures that could be used as part of a PQC's participation measures or for recognizing hospitals for higher levels of initiative participation.

Figure 1 - A framework for measuring hospital participation in a PQC QI initiative, which includes four recommended domains and suggested measures that may be adapted



This framework is intended to serve as a starting point for PQCs to develop their respective participation measures. PQCs use participation measures to assess how well their PQC's initiative enlistment and implementation efforts are engaging their state perinatal hospitals. The way each state PQC operationalizes this framework should reflect their own situation. PQCs could use or adapt these participation measures for each domain using the recommended measures as a guide. For example, California's CMQCC has an established ongoing maternal data system that is used for their QI initiatives. In Florida's FPQC, each QI initiative has a specific data system in which hospitals submit initiative data. Therefore, the participation data measures used by these two states will be different because the same measures will not work well. Additional participation measures could be considered as needed by each PQC, given their context and situation.

Potential Uses of the Framework

Measures of PQC hospital participation can serve many purposes. From a hospital perspective, the measures could be used for public reporting, hospital recognition, and level of maternal or infant care designation. From a PQC perspective, the measures could be used to assess a PQC's outreach and support for their hospital QI initiatives. Notably, these measures are not designed for evaluating QI implementation or outcomes of a quality improvement initiative; those will require separate sets of measures.

References

1. Centers for Disease Control and Prevention. State Perinatal Quality Collaboratives. 2023; <https://www.cdc.gov/reproductivehealth/maternalinfanthealth/pqc-states.html>. Accessed February 8, 2024.
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3. Centers for Medicare and Medicaid Services. Maternal morbidity structural measure. <https://www.cms.gov/files/document/maternal-morbidity-structural-measure-specifications.pdf>. Accessed March 9, 2024.
4. United States Government Accountability Office. Maternal Health: HHS Should Improve Assessment Efforts to Address Worsening Outcomes. <https://www.gao.gov/products/gao-24-106271>. Accessed June 27, 2024.
5. National Institute for Children's Health Quality. National Network of Perinatal Quality Collaboratives (NNPQC). <https://nichq.org/project/national-network-perinatal-quality-collaboratives#map-pqcs>. Accessed March 10, 2024.

Supplemental Tables

These additional tables provide recommended domains, suggested measures, and other notable measures that a PQC can consider including in their measure of hospital participation in a perinatal quality collaborative (PQC) quality improvement (QI) initiative. Each table corresponds to one of four recommended domains of hospital participation in a PQC QI initiative: (1) Enrollment, (2) Meeting participation, (3) Data Submission, and (4) Initiative Started.

Table 1. Enrollment—Domain 1 of hospital participation in a PQC QI initiative: Suggested and other notable measures for PQCs to use in assessing hospital enrollment in a QI initiative.

Suggested Measures	
Measures	Examples
Completed the QI initiative application	Hospital initiative team submitted a completed hospital application to participate in a PQC QI initiative. (Yes/No)
Hospital leadership signed a participation agreement or commitment	Authorized hospital leadership and the PQC signed an agreement that specifies what the hospital and PQC are committing to perform during the QI initiative. (Yes/No)
Completed a data use agreement (DUA)	Authorized hospital leadership and the PQC signed an agreement that specifies what data is being provided as part of the QI initiative, how the data is being provided by the hospital to the PQC, how the data will be protected by the PQC, and how the data can be used by the PQC and hospital. (Yes/No)
Attended the QI initiative kickoff meeting	A specified number and/or type of hospital QI initiative team members participated in the initiative kickoff event or meeting. (Yes/No)
Completed hospital baseline or pre-implementation assessment	Hospital initiative team completed a hospital baseline or pre-implementation assessment that focuses on the new QI initiative. (Yes/No)
Submitted an initiative team roster with role designations	Hospital initiative team submitted a hospital initiative team roster that identifies team members and their team role(s). (Yes/No)
Identified provider, nurse and hospital leadership champions (not verified)	Hospital initiative team clearly specified the individuals that will serve as the QI initiative's provider, nurse and hospital leadership champions. (Yes/No)
Identified and verified provider, nurse and hospital leadership champions	Provider, nurse and hospital leadership champions on the hospital initiative team and their roles are verified by email, phone, virtual communication or meeting participation. (Yes/No)
Other Notable Measures	
Measures	Examples
Identified a family and/or community team partners (not verified)	Clearly specified a family representative(s) and/or community representative(s) participating on the hospital initiative team. (Yes/No)
Identified and verified patient and/or community team partners	Family representative(s) and/or community representative(s) on the hospital initiative team are verified by email, phone or virtual communication or meeting participation. (Yes/No)

Table 2. Meeting Participation—Domain 2 of hospital participation in a PQC QI initiative: Suggested and other notable measures for PQCs to assess hospital participation in meetings and events as part of a PQC QI initiative.

Suggested Measures	
Measures	Examples
Participation in key initiative-wide meetings including the kick-off, mid-initiative and closing meetings	Hospital had at least two members attend each of the following initiative-wide meetings: kick-off, mid-initiative and closing meetings. These could be separate events or part of a statewide meeting.
Participation in regular webinars and coaching calls	One hospital team member participated in at least 80.0% of the initiative's regular webinars and coaching sessions
Other Notable Measures	
Measures	Examples
Provider and nurse champions participation in initiative events, meetings or sessions	Nurse champions attend 80% and provider champions attend 50% of regular initiative webinars and coaching sessions. (Percentage)
Participating regularly in hospital-specific QI or technical assistance sessions	A majority of hospital team members attend hospital-specific initiative QI or technical assistance in-person, virtual or phone sessions. (Percentage)
Presenting a hospital-specific initiative overview presentation during an initiative session	A hospital team member gives a storyboard or other presentation about the hospital's initiative implementation and results using slides or a poster during an initiative session (yes/no)
Presenting during coaching calls/webinars	A hospital team member presents some aspect of their hospital's initiative on a specified percentage of regular initiative webinars or coaching calls. (Percentage)
Presenting at other meetings	A hospital team member gives a storyboard or other presentation about the hospital's initiative implementation and results using slides or a poster at a meeting to others who are not part of the initiative. (Yes/No)
Developing sharable initiative-wide resources	A hospital team member develops a policy, procedure, brochure or other resource for the initiative that can be used by other participating hospitals (Yes/No)
Serving as an initiative coach/mentor to other hospitals	A hospital team member serves as a coach or mentor to one or more hospitals participating in the initiative. (Yes/No)

Table 3. Data Submission—Domain 3 of hospital participation in a PQC QI initiative: Suggested and other notable measures for PQC's to assess hospital data submission during a PQC QI initiative as one component of hospital participation in the PQC QI initiative.

Suggested Measures	
Measures	Examples
Percentage of submission provided timely over an initiative or time period	The percentage of routine hospital initiative data submissions that are submitted to the PQC over a specified initiative time period. (Percentage)
Sufficient content and quality of data reporting for meaningful use	The percentage of hospital initiative data records that are submitted having appropriately completed all key initiative data elements over a specified initiative time period. (Percentage)
Other Notable Measures	
Measures	Examples
Submitted stratified data by population group	The percentage of hospital initiative data records that are submitted having appropriately completed initiative population characteristics such as race, ethnicity, language spoken, payor, etc. over a specified initiative time period, (Percentage)
Submitted all necessary data for the initiative	Initiative hospitals that have completed all hospital initiative assessments, surveys, evaluations and routine data submissions. (Yes/No)
Regularly shared data within the hospital	Initiative hospitals that have shared their hospital's initiative data at a specified percentage of departmental and/or staff meetings over a specified initiative time period. (Percentage)
Shared data with other hospitals in the initiative	Initiative hospitals that have shared their hospital's data during an initiative meeting, webinar or coaching session. (Yes/No)
Shared data with the community or community partner(s)	Initiative hospitals that have shared their hospital's data and results during a community meeting or in some fashion with community partners. (Yes/No)

Table 4. Initiative Started—Domain 4 of hospital participation in a PQC QI initiative: Suggested and other notable measures for PQCs to assess whether a hospital started to implement the QI initiative in their hospital.

Suggested Measures	
Measures	Examples
Some (number and/or type) structure measures met (or in development for early phase initiatives)	An initiative hospital has implemented 1 to 3 initiative structure measures, these are one-time long-term hospital changes such as a policy, procedure, practice, electronic medical records change, or such during the first specified months of the initiative. (Number)
Some (number and/or type) process measures show a clear percentage of improvement	An initiative hospital has demonstrated some consistent percentage of improvement in 1 to 3 process measures which suggests improvement in evidence-based or best practices. (Number)
Other Notable Measures	
Measures	Examples
Regularly submitting balancing measures	An initiative hospital routinely reports to the PQC a select number of balancing measures assessing for negative impacts of the initiative. (Yes/No)
Submitting a sustainability plan for when the active initiative ends	An initiative hospital submits to the PQC an appropriate initiative sustainability plan during the final months of the initiative. (Yes/No)