NATIONAL QUALITY FORUM
Driving measurable health improvements together

Request for Proposal

Maternal Hypertension

Introduction

The National Quality Forum (NQF) Aligned Innovation initiative seeks to address the important issue of maternal hypertension and its associated poor outcomes through the development of a hypertension control measure focusing on the pregnancy and postpartum period. Current measures of hypertension control exclude pregnant people. However, uncontrolled hypertension represents a leading cause of maternal morbidity and mortality, and is a major driver of the disproportionately poor maternal outcomes among Black and American Indian/Alaska Native pregnant people of color.[1] This aligns with national priorities to address hypertension and will fill a high priority gap in our nation's portfolio of quality measures.

The United States is facing a maternal health crisis. An estimated 1,205 U.S. women died of pregnancy-related causes in 2021, representing a 40% increase in deaths since 2020[2]; this maternal mortality rate is over three times higher than that of other high-income countries.[3] Furthermore, significant disparities persist in maternal outcomes: the maternal mortality rate was 69.9 deaths per 100,000 live births among non-Hispanic Black women compared to 26.6 deaths per 100,000 live births among non-Hispanic White women.[2] Over 80% of these pregnancy-related deaths are preventable[4], and some of these are associated with hypertension. Hence, hypertension management presents an urgent opportunity for clinicians and the healthcare ecosystem to improve maternal care.

Hypertension is one of the most common pregnancy complications, and one of the leading causes of maternal mortality worldwide.[5] Hypertensive disorders in pregnancy affect approximately one in seven delivery hospitalizations within the U.S., with significantly elevated rates in Black women, women 35 and older, and women in rural areas.[6] Hypertensive disorders are linked with severe pregnancy-related conditions and complications such as preeclampsia, heart attack, kidney disease, stroke, and placental abruption in the mother; low birth weight in the child; and increased risk of preterm birth and Cesarean birth.[7] Additionally, the incidence of hypertensive disorders in pregnancy (HDP) in the U.S. is increasing.[8] However, hypertension can be identified as part of routine prenatal care and managed with interventions such as low-dose aspirin, preventing these severe outcomes.

The **Aligned Innovation Initiative** is driven by a multistakeholder Innovator Coalition ("Coalition") of private and public sector payers, purchasers, and providers committed to meaningful progress toward a next generation of healthcare performance measures that fill high priority gaps and represent outcomes that matter to patients and the clinicians who care for them. The initiative is different from traditional measure development in the following ways:

- **Genesis of the Measure Concepts:**
    - Public and private sector payers, providers, and purchasers ("Coalition") align on the highest priority gaps in our nation's portfolio of measures, particularly for value-based payment, population health and advancing health equity.
    - With the priority gap areas defined, patients with experiences relevant to these priority

gaps and clinicians who care for these patient populations identify outcomes that are most important to them. These become the **outcome measure concepts** for measure development.

- **Measure Development, Testing & Validation:**
  - A broad and diverse set of provider partners affiliated with Coalition members engage with a measure developer to develop and test a measure that is both clinically acceptable and operationally feasible.
  - Provider partners then implement the measure to generate broader, more diverse data on use of the measure in practice and for statistical/psychometric measure testing.
- **Multistakeholder Engagement:**
  - NQF engages a Multistakeholder Advisory Council (MAC) – comprised of public and private sector stakeholders representing end-users and enablers of the proposed measure – throughout the process to ensure that the measure is informed by their perspectives, supported by them, and positioned for broad adoption and use.
- **Timeline:**
  - The end-to-end process of Aligned innovation is 24-months, which is significantly shorter than traditional measure development timelines.

The Coalition identified maternal health as one of two highest priority gap areas in healthcare for measure development during this cycle, emphasizing the opportunity to address disparities in care. NQF conducted focus groups with clinicians and patients who experienced pregnancies that required management of risk factors for severe maternal morbidity. During the focus group discussions clinicians identified multiple conditions that can contribute to severe maternal morbidity and agreed that hypertension is one of the most important upstream risk factors to manage in pregnant patients; patients also shared their experience with complications resulting from risk factors including hypertension. The Coalition coalesced around the need to measure and incentivize control of hypertension during pregnancy due to the wide array of long-term issues high blood pressure can cause for both the mother and the baby. In considering a range of measurement targets for improving maternal outcomes, the Coalition concluded it would be most feasible and impactful to reduce risk through focusing on hypertension.

Project Overview

NQF is soliciting proposals from quality measure development teams to develop, test and support the implementation of a quality measure that addresses optimal blood pressure control in pregnant populations to prevent complications during pregnancy, delivery, and the postpartum period, and to hold providers accountable for patient outcomes related to blood pressure control. Current endorsed measures of blood pressure control that are in widespread use in the U.S. (e.g., NQF #0018 *Controlling High Blood Pressure*) exclude pregnant patients. This request for proposals (RFP) describes the outcome measure concept for development and testing, the desired measure characteristics, and expectations related to testing and development within the Aligned Innovation infrastructure. NQF encourages applicants to use novel approaches to measure development and testing that promote efficiencies in the processes and associated budget. NQF has a robust set of resources in place to support the measure developer's success and reduce development costs. These include:

- Clinician leaders from diverse care settings who can inform clinical and operational concerns
- Diverse clinical sites for measure testing and implementation
- Maternal health subject matter experts (SMEs)

There are numerous ways to approach a measure of blood pressure control in pregnant patients to improve outcomes during pregnancy and the postpartum period. There is limited consensus on which blood pressure target in pregnant patients would signify good control as well as the direct effect that control would have on reducing severe maternal morbidities. The variability in guidelines, research results, and opportunities for improvement will require the awardee to understand and reflect the uncertainty in the science when defining the measure. Therefore, NQF is seeking developers who can work with the Coalition and other engaged stakeholders to identify the most acceptable and clinically sound approach to a measure that can be used to improve care and support accountability programs, given the evolving evidence.

The development team should bring deep expertise related to maternal hypertension and should propose at least one specific subject matter expert with relevant clinical or epidemiological knowledge. NQF is also able to provide several experts, facilitate stakeholder introductions, and facilitate conversations to support expedited consensus development. Experts and stakeholders of Aligned Innovation include sub-specialty leaders, academic researchers in the field of maternal health and leaders in the field of measure implementation.

The developer is expected to have access to a large and robust ambulatory EHR dataset to build the measure specifications as stipulated in this document. The data source, and its attributes, should be identified in the proposal. Once the measure has been built, it will be implemented and tested by Aligned Innovation Coalition provider partners using a variety of electronic health record (EHR) systems (at least two). The Coalition will bring a broad, heterogeneous group of providers from a range of delivery settings to engage with the measure developer and to surface clinical objections and operational constraints that could otherwise impede the measure's use as an electronic clinical quality measure (eCQM).

Project Population and Outcome of Interest

We are seeking proposals for measures that address hypertension in pregnant people. The measure denominator should reflect patients during a subset of time - a defined interval spanning pregnancy, childbirth, and the postpartum period as appropriate. The developer will need to determine how many blood pressure readings are required for each patient during the measurement period, the cadence of readings, whether in-office and/or home readings should be used, how the data would be obtained, and the threshold blood pressure levels that indicate adequate control. The developer may need to determine if it is more appropriate to score the measure based on trend and trajectory of blood pressure measurements over time, specific values of blood pressure measurements over time, and/or the specific value of a one-time blood pressure reading. The measure numerator should be defined as achievement of the blood pressure targets and a cadence identified by the developer. The developer should evaluate the need for risk adjustment, and if indicated, develop a risk-adjustment model. Final measure specifications must be supported by the literature and Aligned Innovation experts.

Throughout the development process, the measure developer is expected to consider health equity and integrate equity concerns in measure development, population definitions, risk-adjustment, and implementation. The measure will be used to quantify and address known disparities in care for pregnant patients and should be specified in a manner that stratifies by race.

Level of Measurement and Measure Format

This measure should be designed for use in clinical care delivery, quality improvement and accountability programs and serve as an impetus for clinicians to monitor and treat hypertension in pregnancy. It is envisioned to be specified at the clinician group level of measurement if feasible given current panel sizes among clinicians providing obstetric care; however, the developer should test measure score reliability at alternative levels of accountability (e.g., health plan or health system level) and identify those levels that adequate reliability ($\geq$ 0.70) at the recommended unit of measurement (I.e., clinician, practice group, health system, health plan).

The measure should be built as an eCQM using EHR data, although developers can consider incorporating additional data sources (e.g., health information exchanges, registry data) if they are high-quality, reliable, and accessible. As noted above and described in more detail below, measure developers will work with Coalition stakeholders and experts to operationalize the measure concept and will iteratively refine and test the measure details, such as the data definitions used, working with Coalition providers. Measure specifications should use the latest accepted versions of the following industry eCQM technical specifications: Health Quality Measure Format (HQMF), Quality Data Model (QDM), and Clinical Quality Language (CQL). Use of the QDM is to ensure its immediate applicability. In addition, the measure should be specified using Fast Healthcare Interoperability Resources (FHIR) standards, to ensure its continued use as the transition to digital measures moves forward.

Scope of Work

Tasks

The measure developer team will conduct the following tasks:

- Task 1: Define preliminary specifications and methods, along with any additional questions and how they will be addressed during testing, including clinical parameters, with collaboration from SMEs.
    - Define a preliminary approach to key measure attributes, including: the numerator/outcome (blood pressure levels); the denominator (population included); inclusion/exclusion criteria; approach to stratification for assessing disparities; data sources; and threats to validity, including data quality.
        - NQF will host three to four meetings with the developer and maternal health experts in order to determine blood pressure parameter values in pregnancy and recommendations for cadence of blood pressure readings. Note: the goal of these discussions is not to establish new clinical guidelines, but rather to identify values and measurements that clinicians would agree are appropriate to help better understand patient outcomes, improve care, and support accountability programs.
    - In conjunction with the experts, identify questions to answer during testing including potential variations of the outcome definition and denominator inclusion/exclusion criteria, minimal sample size and best approach to equity assessment.
        - At a minimum, developers should consider factors including age, gender, race, ethnicity, urbanicity/rurality, poverty, social vulnerability, and frailty/disability as described in NQF's Risk Adjustment Technical Guidance Final Report.

        - Developers should also consider whether the measure should be stratified by or adjust for different clinical phenotypes of hypertension in pregnant patients (e.g., chronic hypertension, gestational hypertension, preeclampsia).
    - Prepare a draft briefing for the Coalition and their provider partners on the preliminary measure specifications and rationale **(*Deliverable 1*)**.
        - Pre-brief NQF staff and revise the briefing as needed.
- Task 2: Gain Coalition feedback on preliminary measure specifications
    - Present and discuss the initial approach with the Coalition and their provider partners for their feedback and support.
    - Adjust preliminary measure specifications to reflect input from the Coalition and their provider partners.
    - Document preliminary specifications and rationale in a Preliminary Methods Report **(*Deliverable 2*)**.
- Task 3: Develop Testing Plan to include the questions identified in Tasks 1 and 2 and the elements below **(*Deliverable 3*)**:
    - Face validity
    - Measure logic validity using Bonnie
    - Data element validity
    - eCQM feasibility: working with NQF/Coalition provided clinical test sites
    - Equity stratification or assessment testing
    - Measure score validity and reliability at the level of accountability recommended.
- Task 4: Test the measure and develop Draft Measure Specifications **(*Deliverable 4*)**.
    - The developer will have access to a large clinical EHR data set at the start of the project; developer should identify their data partner in their proposal.
        - The data set used for building the measure should support extrapolation to the national population and include the clinical, demographic, and specific sub-populations named in this RFP with sufficient representation to support stratification and/or risk adjustment analyses, and to assess numerator disparities by subgroup.
    - Using the test dataset, test and refine the measure specifications.
    - Specify the measure using eCQM standards.
        - Ensure standards conformance.
        - The developer will build the data model, expression logic, and the structure for the eCQM.
            - Use CMS Measure Authoring Tool (MAT), or similar tool, to construct QDM data elements in:
                - CQL/QDM for current standards
                - CQL/FHIR for future standard requirements
        - Use Bonnie to test and verify behavior of the eCQM logic.
        - Use Value Set Authority Center (nih.gov) for value sets used.
- Task 5: Prepare a briefing for the Coalition and their provider partners on the Draft Measure Specifications and Testing Results ***(Deliverable 5)***.
    - Pre-brief NQF staff and revise the briefing as needed.
    - Present and discuss the Draft Final Measure Specifications and Testing Results with the Coalition and their provider partners for their feedback and support.

- Task 6: Partner with testing sites (provided by NQF) to implement and test feasibility and face validity of the measure.
    - NQF and Coalition will identify and facilitate working with a group of test sites with a variety of certified EHR technology (CEHRT) systems and across inpatient and outpatient care settings.
    - Meet with testing sites and EHR vendors to incorporate the eCQM into EHRs.
        - Plan for four meetings – sites grouped by EHR vendor
    - Solicit feedback from testing sites on any workflow challenges and suggested modifications to refine the eCQM specifications.
    - Refine and revise the eCQM resolving operational concerns to improve feasibility and face validity.
- Task 7: Finalize measure specifications.
    - Incorporate feedback from test sites and Coalition.
    - Build final measure specifications for the data model, expression logic, and the structure for the eCQM:
        - CQL/QDM for current standards
        - CQL/FHIR for future standard requirements
    - Ensure standards conformance validation of extensible markup language (XML).
        - All value sets and data elements used should be in the Value Set Authority Center to increase harmonization with existing quality measure landscape.
- Task 8: Summarize measure development methods, testing results, draft final measure specifications, equity assessment or risk stratification methodology, in a presentation to the Coalition for feedback **(*Deliverable 6*)**.
    - NQF to preview content and provide feedback prior to Coalition.
- Task 9: Incorporate feedback from Coalition meeting and document measure development methods, testing results, final measure specifications, and equity assessment or risk stratification methodology, in a final report that includes ***(Deliverable 7)****:*
    - Packaged final measure specifications (a human-readable document that can be viewed in a web browser; HQMF XML containing metadata, terminology, data elements, and specific population definitions respective to the measure; a CQL file which contains the terminology and expression logic used by the measure; an ELM XML export that is a computer-readable version of the CQL file, and a JSON export which is a serialized format of the ELM file).
    - Summary of testing results, a written stratified equity analysis, and any final recommendations for implementation and use.
- Task 10: Provide NQF with monthly project status updates, including work completed and in progress, problems and proposed solution(s), and upcoming activities ***(Deliverable 8)****.*

Deliverables

- **Deliverable 1:** Coalition briefing: Preliminary approach and rationale
- **Deliverable 2:** Preliminary Methods Report
- **Deliverable 3:** Testing Plan
- **Deliverable 4:** Draft eCQM specifications and testing results
- **Deliverable 5:** Coalition briefing: Draft eCQM specifications and testing results
- **Deliverable 6:** Coalition briefing of eCQM draft results report
- **Deliverable 7:** Final eCQM specifications and results report
- **Deliverable 8:** Monthly project status updates

Timeline

The end-to-end process is intended to take no more than 12 months and NQF encourages innovative approaches that promote process and timeline efficiencies.

Key Stakeholders and Roles

- **The Aligned Innovation Coalition:** A group of public and private sector organizations that are the drivers and key customers for this measure. They are the final decision makers and are interested in building this measure for use in accountability or quality programs at the national level.
- **Provider Partners:** The Coalition will bring provider partners at clinical sites across the country to collaborate with the measure developer in testing and implementing the eCQM within their EHR systems.
- **NQF Staff:** NQF will facilitate all convenings and communication between the developer and stakeholders and provide suggestions and opportunities for efficiencies.
- **Multistakeholder Advisory Council (MAC):** The MAC is a broad and diverse set of organizations that represent important end-users and enablers of measures whose input, advice, and involvement are sought throughout the Aligned Innovation process. The MAC will review the measure specifications, stratification approach(es), and testing plan. Subject matter expert members of the MAC will be available throughout the development process to provide input and advice to the measure developers.
- **Specialty Societies:** Relevant Specialty Societies are engaged for expertise and participation of clinical experts.

Proposal Requirements

Responses to the RFP **must not exceed 10 single spaced pages** in length (excluding resumes, appendices, estimated budget, and references).

Applicants should submit a **technical proposal** including the following information:

- **High-level Work Plan:** This should outline your proposed approach for each task. The work plan should address the methods, processes, procedures, and protocols necessary for effective and efficient completion of all measure development and testing activities and associated tasks and deliverables. Testing activities include feasibility, reliability, and validity testing and risk stratification (or risk adjustment) and equity methodology, as appropriate. Acquired or proposed dataset should be identified. There should be sufficient description so that NQF staff can evaluate the appropriateness and sufficiency of the proposed approach.
- **Project timeline:** This should outline the key project milestones and dates for each task, with the intent to take no more than 12 months. Include your rationale for a timeline extending beyond 12 months. The proposed project timeline should include each task, with key milestones and dates.
- **Project Management**: This should describe how you will manage the work throughout the project period, including how you will monitor the quality of the work and stay within the timeline and budget. You should also include how you will communicate your progress, risks, and any additional needs.
- **Project Staff:** Proposed team members should include at least one methodologist or statistician, data analyst, project manager and maternal health expert with established history for successful

development of quality outcome measures. Please include resumes for proposed staff (limit to four pages).
- **Experience:** Include examples of previous measure development with an emphasis on eCQMs**.**

Applicants should submit a **business proposal** including an **estimated budget** for each task with justification, including estimated hours by labor category and fees for each task.

Note: NQF recommends that the developer reference the eCQI Resource Center as a guide when crafting proposal responses and workplans.

Evaluation of Responses

Responses will be evaluated based on the following criteria:

- **Overall Suitability:** Proposed dataset, development, implementation, and testing approach(es) must meet the scope and needs outlined above and be presented in a clear and organized manner.
- **Value and Cost:** Respondents will be evaluated on the timeline and cost of their approach(es) based on the work to be performed in accordance with the scope of this project.
- **Experience/Qualifications:** Respondents will be evaluated based on their experience as it pertains to the scope of this project. Respondents must provide descriptions and documentation of assigned key personnel's technical expertise and experience.
- **Efficiency:** Proposed development and testing approaches will be evaluated for their ability to provide efficient and cost-effective measure development and testing, and ability to effectively partner with experts, provider test sites, and other diverse stakeholders involved in the Aligned Innovation model of engagement.

Terms and Conditions

- **Intellectual Property**: All deliverables developed under the awarded contract will be owned by NQF, its successors and assigns.
- **Costs of Preparing Responses**: NQF will not pay any vendor costs associated with preparing responses to this RFP.
- **Responses Materials**: Materials submitted in response to this RFP will not be returned.
- **RFP Amendments/Cancellation/Reissue/Reopen**: NQF reserves the right to change the RFP Schedule or issue amendments to this RFP at any time. NQF also reserves the right to cancel, reissue, or reopen this RFP.
- **Type of Contract**: NQF intends to contract with the selected vendor(s) via a Time and Materials agreement, Not To Exceed (NTE).
- **No Obligation to Enter a Contract**:
    - The release of this RFP does not compel NQF to enter any contract.
    - NQF reserves the right to refrain from contracting with any vendor that has responded to this RFP, whether or not the vendor's response has been evaluated and whether or not vendor has been determined to be qualified. Exercise of this reserved right does not affect NQF's right to contract with any other applicant.
    - NQF reserves the right to request an interview with any vendor prior to entering into a contract with that vendor. If a vendor declines the request for an interview or demonstration for any reason, the vendor may be eliminated from further consideration.
- **Multiple Contracts**: NQF reserves the right to enter into contracts with more than one vendor as

a result of this RFP.

- **Confidentiality**: All proposals and accompanying materials will be treated as confidential and used solely for the purpose of evaluation.
- **Non-Endorsement**: The selection of a vendor pursuant to this RFP does not constitute an endorsement of the vendor's services. Vendor agrees to make no reference to NQF or the Coalition in any literature, promotional material, brochures, sales presentations, or the like without the express written consent of NQF and the Coalition.

Submission Instructions

Responses should be submitted via email to alignedinnovation@qualityforum.org by 5:00 PM ET on **October 5, 2023**, and decisions will be made by **November 30, 2023**.

Please submit any questions related to the RFP to alignedinnovation@qualityforum.org by 5:00 PM ET on **August 30, 2023.** We will post questions and answers to the Aligned Innovation webpage.

Although not required, applicants are strongly encouraged to submit a non-binding e-mail letter of intent to apply for this funding opportunity. This letter of intent will assist NQF in planning for the application review process. The letter of intent is requested by **August 30, 2023**. Interested organizations can send the letter of intent to alignedinnovation@qualityforum.org. Please identify the name of the applicant organization, the city and state in which the applicant organization is located, and the title of the RFP you intend to apply for.

References

1. KFF. Racial Disparities in Maternal and Infant Health: Current Status and Efforts to Address Them. 2022. Available at: https://www.kff.org/racial-equity-and-health-policy/issue-brief/racial-disparities-in-maternal-and-infant-health-current-status-and-efforts-to-address-them/. Accessed August 8, 2023.
2. Hoyert DL. Maternal Mortality Rates in the United States, 2021. 2023. Available at: https://www.cdc.gov/nchs/data/hestat/maternal-mortality/2021/maternal-mortality-rates-2021.htm. Accessed May 18, 2023.
3. Gunja MZ, Gumas ED, Williams II RD. *The U.S. Maternal Mortality Crisis Continues to Worsen: An International Comparison*; 2022.
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6. Ford ND, Cox S, Ko JY, et al. Hypertensive Disorders in Pregnancy and Mortality at Delivery Hospitalization - United States, 2017-2019. *MMWR. Morbidity and mortality weekly report*. 2022;71(17):585-591.
7. American College of Obstetricians and Gynecologists (ACOG). Preeclampsia and High Blood Pressure During Pregnancy. 2023. Available at: https://www.acog.org/womens-health/faqs/preeclampsia-and-high-blood-pressure-during-pregnancy. Accessed May 19, 2023.
8. Garovic VD, Dechend R, Easterling T, et al. Hypertension in Pregnancy: Diagnosis, Blood Pressure Goals, and Pharmacotherapy: A Scientific Statement From the American Heart Association. *Hypertension (Dallas, Tex. : 1979)*. 2022;79(2):e21-e41.