Research on Pre-hospital Diagnostic Delay

Call for Proposals

Applicant Informational Webinar
February 2, 2023

Speakers

Michael Gluck, PhD, MPP
Vice President
AcademyHealth

Daniel Yang, MD
Program Director – Patient Care
Gordon and Betty Moore Foundation

Allison Isaacson, MPH
Senior Manager
AcademyHealth

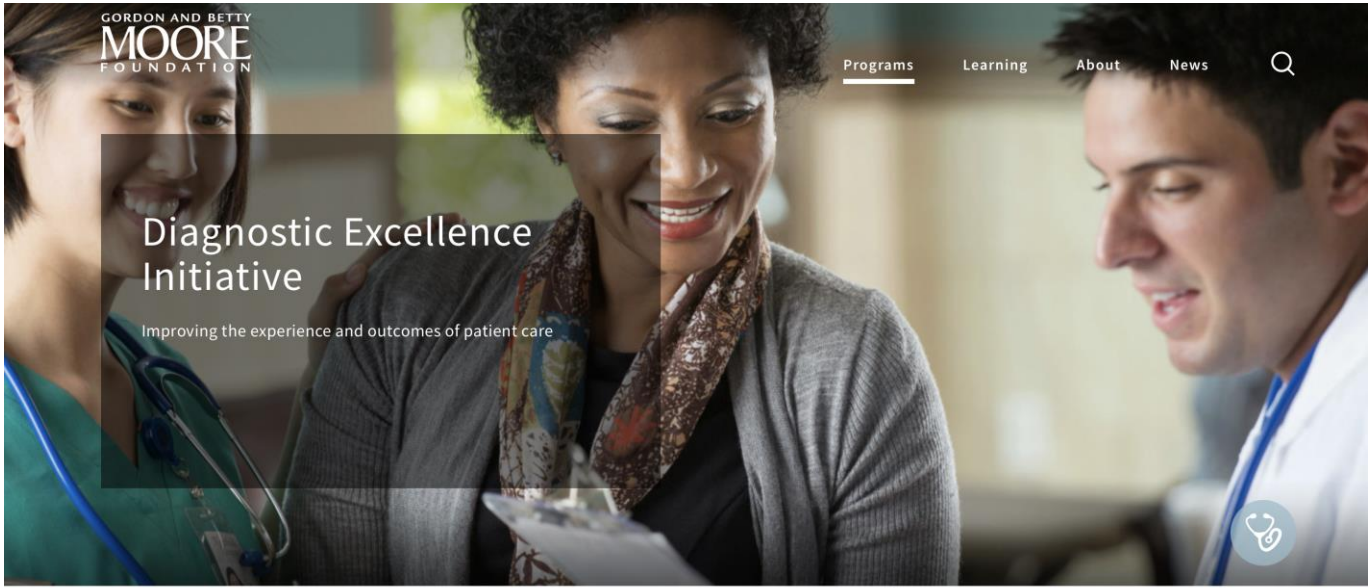
Today's Agenda

- Diagnostic Excellence at the Gordon & Betty Moore Foundation
- Call for Proposals: Research on Pre-hospital Diagnostic Delay
- The Application Process
- Q and A

Logistics

- Questions may be submitted using the Q&A box
- Webinar recording will be posted on AcademyHealth website at www.academyhealth.org/dxdelay
- For technical assistance, please contact Zoom Support at (888) 799-9666

Our Diagnostic Excellence Initiative



Diagnostic Excellence

- "Optimal Diagnosis"
- Balancing tensions between:
  - Accuracy
  - Timeliness
  - Patient preferences
  - Efficiency
  - Cost
  - Equity

Opinion

VIEWPOINT

DIAGNOSTIC EXCELLENCE

Diagnostic Excellence

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Viewpoint page 1907

Multimedia

Diagnosis is a fundamental part of clinical medicine and is a prerequisite for the delivery of high-quality, effective care. Despite its essential place in medical practice, diagnostic performance is understudied and unmeasured, excellence in diagnosis is assumed rather than demonstrated, and diagnostic acumen is often financially unrewarded. A nationwide survey in 2017 of 2536 US adults found that missed, incorrect, and delayed diagnoses were the most common cause of medical errors, accounting for 59% of errors experienced by more than 500 patients.[1] When diagnostic errors occur, they have the potential to cause harm, including death. Given its profound influence on patient outcomes, diagnosis deserves heightened attention as a field of study and as a priority for quality improvement.

Diagnosis is a process and an end point. A diagnosis may be transient or long-lasting, acute or chronic, inherited or acquired. Diagnostic classification serves many purposes, from determination of insurance coverage to the urgent assessment of a life-threatening event. Diagnosis is a moving target: an adequate diagnosis of breast cancer 20 years ago did not include assessment of *ERBB2* status; today, it is essential. Diagnostic information may emanate from any clinical interaction, examination, or test, including a patient's history, signs and symptoms, laboratory and imaging studies, biopsy and other procedures, and physiological and functional assessments. Diagnosis serves as a description of a patient's condition and as a guide to treatment and prognosis.

Diagnostic excellence refers to an optimal process to attain an accurate and precise explanation about a patient's condition. An optimal process would be timely, cost-effective, convenient, and understandable to the patient. An accurate and precise diagnosis gains clinical value insofar as it leads to better choices in treatment.

Many shortcomings in diagnostic excellence manifest as diagnostic errors. A 2015 report[2] from the Institute of Medicine (now the National Academy of Medicine) defined diagnostic error as "the failure to (a) establish an accurate and timely explanation of the patient's health problem(s) or (b) communicate that explanation to the patient." More generally, any gap between the optimal and the actual is a lapse in diagnostic excellence.

Diagnostic excellence embraces the 6 dimensions of quality enumerated by the Institute of Medicine in 2001[3]: care that is safe, effective, patient-centered, timely, efficient, and equitable.

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Safe

Concerns about the safety of medical care typically focus on harms produced in the process of care apart from the disease. With respect to diagnosis, 4 types of errors may impair safety: errors in strategy (failing to choose only and all the optimal tests and sequence); errors in execution (harm from the conduct of the test); errors in interpretation (overinterpreting, underinterpreting, and misinterpreting diagnostic information); and errors in communication. In each category, there can be errors of commission (an action that should have been avoided or done differently) and errors of omission (failure to take an action that is indicated at the time it should be taken). Apart from errors of execution, the harm done through diagnostic error depends on the nature and stage of disease. This tight dependence on the effects and progression of disease distinguishes diagnostic safety from many other forms of iatrogenic harm.

Effective

Diagnostic effectiveness involves the thoughtful acquisition and objective interpretation of available evidence to aid understanding of the patient's condition. Assessment of diagnostic effectiveness may refer to accurate and precise diagnosis in an individual patient or to overall performance in a group of patients. The focus may be on the diagnostician, on the diagnostic process, or on a particular diagnostic device, procedure, or test. In general, measures of accuracy require an independent standard of truth, whereas measures of consistency may be revealing even when an independent truth standard is unavailable. The predictive value of a diagnostic test or process, that is, the probability of a disease in a patient following a particular test result, depends on the sensitivity and specificity of the test and the pretest probability or prevalence of the disease in question.[4]

Patient-Centered

The patient, not the clinician, should be the prime focus in any clinical encounter. The patient can often provide insights into their condition that would otherwise elude the clinician. While the expertise of the clinician will guide the choice and interpretation of diagnostic tests and procedures, excellence in diagnosis requires

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Call for Proposals

Research on Pre-hospital Diagnostic Delay

Brief Proposal Applications Due March 21, 2023

Background

This call for proposals is part of a collaboration between AcademyHealth and the Gordon and Betty Moore Foundation to bolster our understanding of delays in diagnosis. The focus is on three particular conditions – sepsis, cancer, and acute cardiovascular events – and on delays that occur before a patient reaches the care setting where these conditions are ultimately diagnosed, which we refer to as pre-hospital delay.

Diagnostic errors account for almost 60 percent of all medical errors and an estimated 40,000-80,000 deaths per year. In its 2015 report Improving Diagnosis in Health Care, the National Academy of Medicine estimates that "nearly every American will experience a diagnostic error in their lifetime, sometimes with devastating consequences."[1] In November 2018, the Moore Foundation announced its **Diagnostic Excellence Initiative** with a focus on diagnostic performance improvement. The initiative aims to reduce harm from erroneous or delayed diagnoses, reduc
process, improve health c

rors that result in a malpractice claim shows that these conditions account for three-quarters of all serious harms, including death. Cancer and heart disease are the two most common causes of death in this country, claiming 700,000 each in 2020.[4] In addition, over 1.8 million people in the United States receive a cancer diagnosis each year.[5] Among acute cardiovascular events, heart attacks and strokes each affect over 800,000 people,[6] with another 900,000 diagnosed with venous thromboembolism.[7] Sepsis is responsible for 200,000 deaths, 750,000 hospitalizations, and 850,000 emergency department visits annually in the United States.[8]

The burden of these conditions falls disproportionately on communities of color and on populations in underserved urban and rural communities. These disparities manifest in worse outcomes and greater than average severity at the time of diagnosis for some populations,[9] suggesting that delays are also more common among these populations. Because cancer, acute cardiovascular events, and sepsis have relatively effective treatments when caught early

www.academyhealth.org/dxdelay

Research on Pre-hospital Diagnostic Delay (RPDD)

The purpose of the RPDD program is to expand the base of **rigorous, empirical evidence** about delays in diagnosis of sepsis, cancer, and acute cardiovascular events that occur **before** a patient reaches the care setting where their condition is diagnosed.

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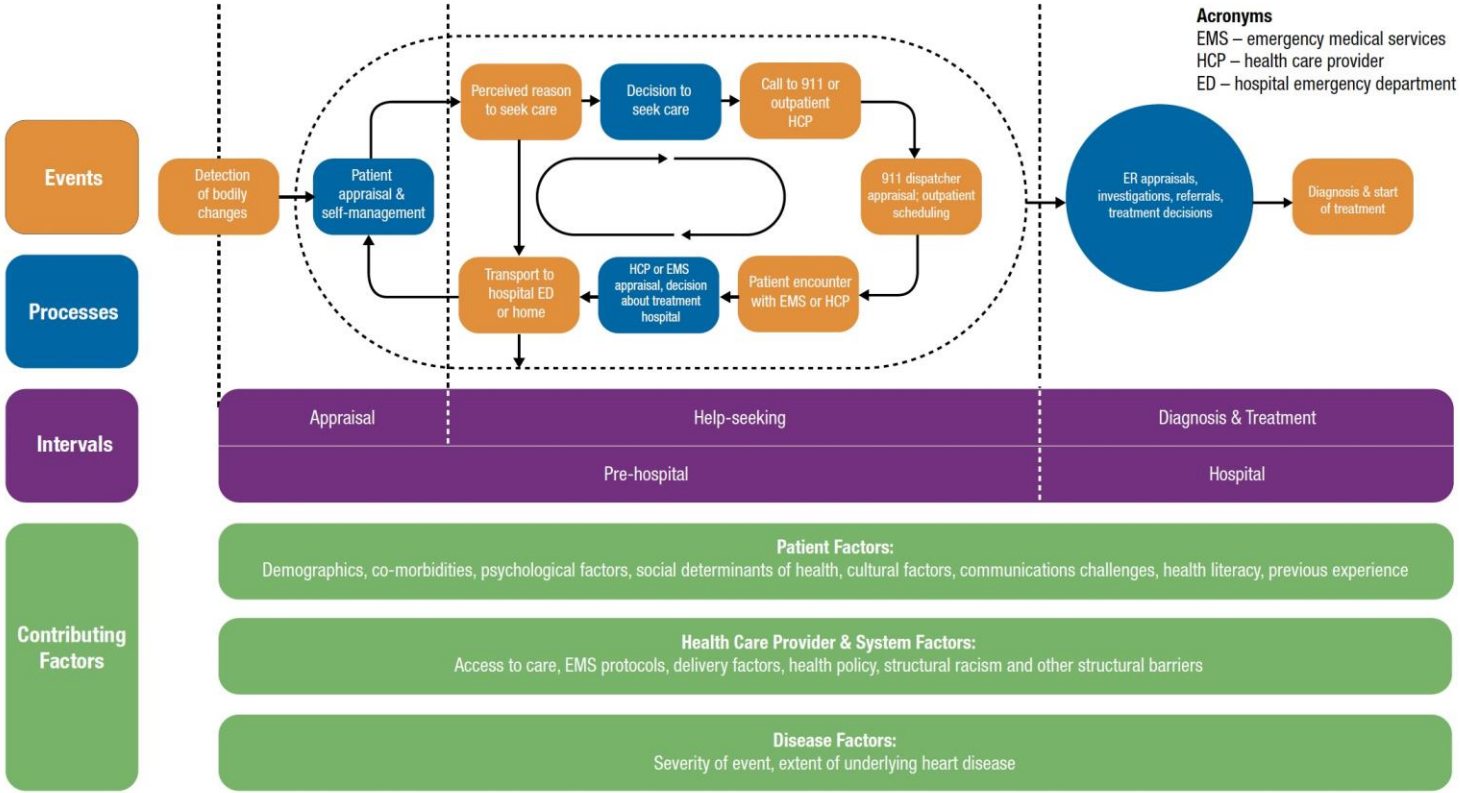
Figure 2: Pathways to Diagnosis and Treatment: Adaptation of Walter, 2012



Adapted from Walter F et al. The Andersen Model of Total Patient Delay: a systematic review of its applicatio in cancer diagnosis. J Health Serv Res Policy. April 2012. 17(2): 110-8.

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RPDD Call for Proposals

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- **S**tudies that:
  - Expand our understanding of the **causes** of pre-hospital diagnostic delays or
  - Provide evidence about **promising strategies** to reduce them.

- Studies should include a focus on **sepsis**, **cancer**, or **acute cardiovascular events**.

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RPDD Call for Proposals

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We are particularly interested in studies that:

- Use **innovative** methods and data.
- Explore differences among **subpopulations.**
- Draw on insights from **behavioral economics.**
- Make meaningful involvement of **patients or community-based organizations.**

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RPDD Call for Proposals

- Consistent with our commitment to diversity, equity, and inclusion, we are also particularly interested in supporting **individuals who will expand the perspectives and experiences brought to their research projects** and the initiative as a whole.

- Proposals should employ **equitable budgeting practices** that ensure non-academic partners are fairly compensated.

RPDD Call for Proposals

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Examples

- Does the use of wearable technologies that enable the detection of abnormalities in heart rhythm lead to reductions in pre-hospital diagnostic delays? How do these technologies impact a patient's decision to seek care? Does it result in change in care utilization patterns and health care costs?

- Does expanding insurance coverage to uninsured individuals or reducing health insurance cost-sharing lead to a reduction in pre-hospital delays for people experiences acute cardiovascular events, sepsis, or cancer?

- Do innovative approaches to improving communication between EMS personnel and ED clinicians (e.g. the use of interoperable health record systems that traverse both systems) result in improved time to diagnosis for acutely time-sensitive conditions like sepsis and acute cardiovascular events?

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RPDD CFP: Award Details and Eligibility

- Projects can be up to $150,000 in total costs and 12 months.
- Gordon and Betty Moore Foundation allows indirect costs up to 12.5%. https://www.moore.org/grants/grantee-resources
- Applicants must be based in the United States or territories.
- Preference may be given to public entities or nonprofit organizations.

RPDD CFP: Application Process

- Apply online through www.academyhealth.org/dxdelay beginning **February 7, 2023**.
- Phase 1: Four-page brief proposal narrative due **March 21, 2023 (3 P.M. ET)**
- Phase 2: Invited Phase 1 applicants submit a 10-page full proposal narrative by **June 30, 2023 (3 P.M. ET)**
- Grants begin **October 15, 2023**

RPDD CFP: Review Criteria

1. Potential to generate novel insights relevant to understanding or addressing pre-hospital diagnostic delays.
2. Project's innovativeness.
3. Potential impact on policy, practice, or the patient diagnostic experience.
4. Strength of research question and approach.
5. Rigor of proposed data and and methods.
6. Qualifications of the research team.
7. Feasibility of project within proposed budget and project length.

Tips for Preparing a Strong Brief Proposal

- Read the CFP in full.
- Make use of resources at www.academyhealth.org/dxdelay

Publications & Resources

PUBLICATION

AcademyHealth Issue Brief Lays Out the Challenges of Pre-hospital Diagnostic Delay and the Need for Further Research

In the issue brief, AcademyHealth outlines current and potential areas for future research on pre-hospital diagnostic delay. Diagnostic delays in the clinical setting are well-researched, but there is little understood about delays occurring before a patient enters the health care setting, which leads to worse and inequitable health outcomes.

POSTED Jan 20, 2023

Access to Care | Building Healthy Communities | Health Equity

PUBLICATION

Meeting Presents Possible Causes and Contributing Factors to Pre-hospital Diagnostic Delay

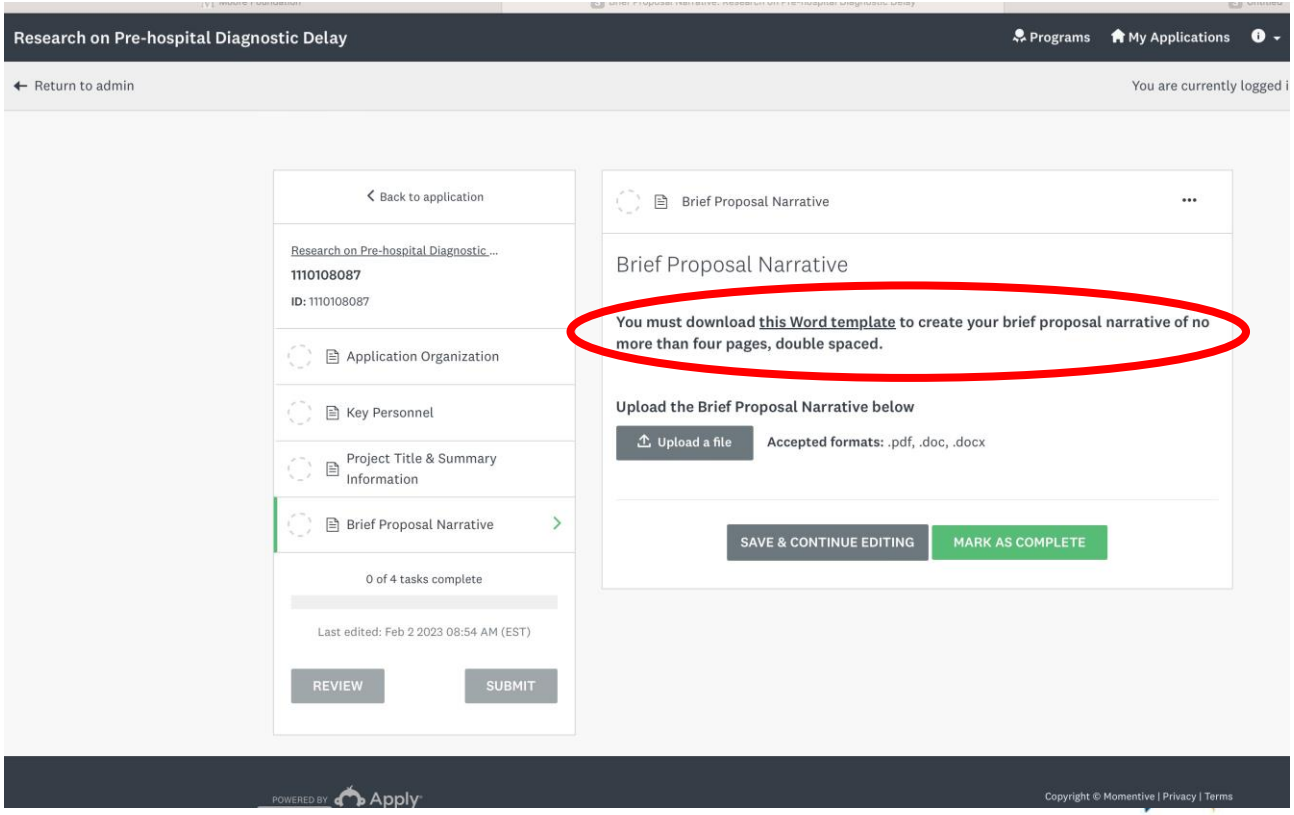
AcademyHealth, in collaboration with the Gordon and Betty Moore Foundation, hosted a meeting with clinical experts, researchers, patients and other stakeholders

Commissioned Papers

- America's Emergency Medical Service System
  By: Emily B. Brant, M.D., M.S.
- Prehospital Delay in Sepsis Diagnosis: Current Evidence and Future Research Directions
  By: Jordan A. Kempker, M.D., M.Sc. and Kristina E. Rudd, M.D., M.P.H.
- Pre-Hospital Delay in the Diagnosis of Acute Cardiovascular Events: What Do We Know?
  By: Sameed Ahmed M. Khatana, M.D., M.P.H.
- Pre-Hospital Diagnostic Interval in Cancer Diagnosis: What Do We Know?
  By: Lesleigh A. Kowalski and Matthew J. Thompson
- How Could "Real World Data" Help Us Better Understand Pre-hospital Diagnostic Delay?
  By: Elaine O. Nsoesie
- Role of Behavioral Economics in Pre-Hospital Diagnostic Delay
  By: Patrycja Sleboda,Ph.D. and Michael Sobolev, Ph.D.

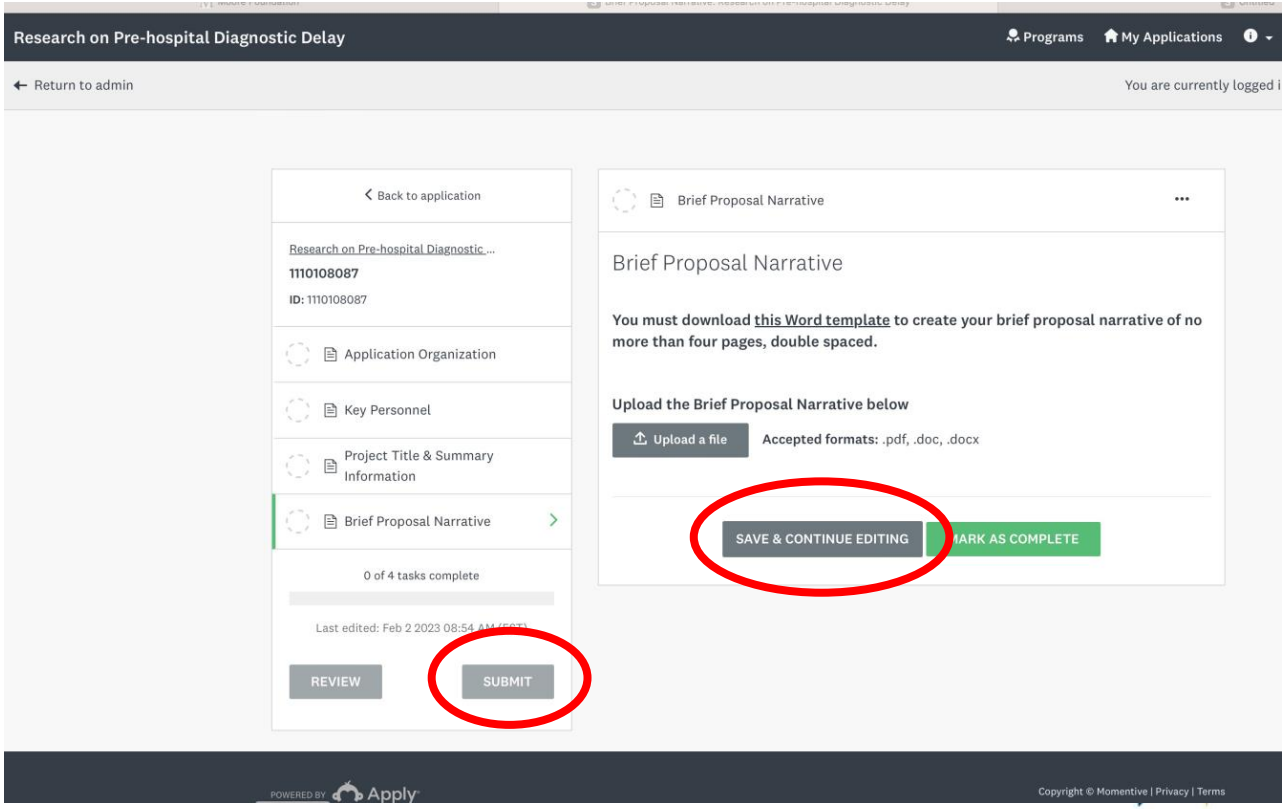
Tips for Preparing a Strong Brief Proposal

- Familiarize yourself with online application portal and download template/instructions for brief proposal narrative.
- Clearly describe the study topic, research questions, methods and day, potential impact, key audiences, and dissemination strategy.



Tips for Preparing a Strong Brief Proposal

- You can save your work and return to it later.
- When you click “submit,” proposal status will show as “submitted” and you will receive an email confirmation.
- Submit early to avoid unforeseen last-minute technical problems. **Late submissions will not be accepted for any reason.**



Questions?

Contact: dxdelay@academyhealth.org

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