NATIONAL QUALITY FORUM
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Meeting Summary

Attribution for Critical Illness and Injury - Web Meeting 5

The National Quality Forum (NQF) convened a web meeting for the Attribution for Critical Illness and Injury Committee on May 11, 2021.

Welcome, Introductions, and Review of Web Meeting Objectives

Dr. Nicolette Mehas, NQF Senior Director, welcomed the participants to the web meeting and thanked the co-chairs for their work on the project. Co-chair Dr. Brendan Carr provided opening remarks, urging the Committee members to use Web Meeting 5 to begin thinking about the next critical steps that can be taken to achieve a more concrete and refined methodology for addressing attribution. Co-chair Carol Raphael thanked the Committee members for their ongoing work, stating that this project is working to address attribution for critical illness and injury by building a bridge from other attribution work from different arenas to create a direction for large-scale, unplanned emergency events. Ms. Raphael stated next that this web meeting will be used to consider major themes that will be included in the final report, and that the project is working to gain consensus on meaningful steps that can be taken to move towards shared accountability through attribution models. Dr. Mehas reviewed the meeting agenda and informed the Committee that the two goals are to review quality measurement attribution considerations that were recommended during previous web meetings and continue the discussion of the use cases. Udara Perera, NQF Senior Manager, introduced the project staff and Kim Ibarra, the new Senior Managing Director on the project. Ms. Perera facilitated roll call of the Committee members and Federal Liaisons, invited the Centers for Medicare & Medicaid (CMS) representatives to introduce themselves, and introduced the web meeting objectives.

Web Meeting 4 Recap and Progress Update

Ms. Perera gave a brief overview of the previous web meeting. During Web Meeting 4, the Committee reviewed the public comments received on the draft environmental scan report and discussed their potential incorporation into the report. During the commenting period, NQF received ten comments from two organizations. Comments were elicited through the public commenting tool and additional organizational and external outreach. At the end of the commenting period, NQF categorized the comments into three themes: 1) defining scope; 2) attribution model design and approaches; and 3) editorial and organizational comments.

Further discussion included updating the report to include a working definition of attribution and clarifying the project scope in the report introduction. Attribution is a method used to assign patients and their outcomes to providers or entities for measuring quality of care or determining reimbursement. This work is intended to inform development of attribution approaches that encourage care coordination and strengthen accountability at the system level during large-scale emergency events to achieve the best possible outcomes. The report will include additional content within the introduction to clarify emergency care sensitive conditions, the spectrum of critical illness and injury, and mass casualty incidents (MCIs), as well as outline their relationship and unique considerations for measurement attribution.

The project staff and Committee members discussed updating the report to make key connections between themes from key informant interviews (KIIs) and Committee feedback, acknowledge the limited number of existing measures related to MCIs or public health emergencies (PHEs), add content related to bundled payment attribution models, and expand on how geographic regions for attribution may be defined. The Committee also reviewed KII progress and discussed the following thematic results: 1. Goal of the Attribution Methodology; 2. Defining the Population/ Geographic Regions; 3. Team-Based Attribution; 4. Timing of Attribution; and 5. Healthcare System Readiness.

Use Case Findings and Key Informant Interview (KII) Themes

Dr. Mehas presented the key themes from the KIIs and previous web meetings, introducing how each area should be further refined and incorporated within the final report. The key themes include the following:

- Goal of the attribution methodology
- Defining the population/geographic regions
- Timing of attribution
- Data challenges
- Patient role in decision-making during emergencies
- Team-based attribution
- Aspirational approaches
- Unintended consequences

Attribution Methodology Goal

Dr. Mehas shared that the goal of attribution methodology is to foster and promote shared accountability and the best possible outcomes. Attribution should also encourage proactive coordination and communication between healthcare providers, public health entities, and emergency medical services (EMS) and determine which population-level outcomes are desired based on previously identified gaps. Quality measurement should determine the entities involved and account for the roles of all the entities involved. Furthermore, attribution methodology should limit undue burden on patients or on those providing care during emergency situations.

Committee discussion included focusing measurement attribution less on direct patient care during an MCI and more on proactive triage, coordination, and communication. A Committee member suggested explicitly listing “to improve care” as a goal of the attribution methodology. The Committee also stated that attribution models are usually developed after measures are selected, however, for the purposes of this project, the attribution model recommendations are being developed prior to specific measure selection. The Committee emphasized focusing on process and structure measures that regions should be accountable for rather than outcome measures.

Defining the Population/Geographic Regions

Dr. Mehas indicated that when creating a geographic attribution model, a key consideration is determining the appropriate granularity of geographical boundaries. Opportunities include creating a realistic radius developed by the probability of an emergency event and using data on existing patterns of healthcare receipt (e.g., Dartmouth Atlas’ hospital service areas or hospital referral regions, Assistant Secretary for Preparedness and Response’s (ASPR’s) Hospital Preparedness Program (HPP) Health Care Coalitions (HCCs). Another important consideration is which patient population should be included in an attribution model. The population may consider patients at risk of exposure to an MCI or only those patients that interact with the healthcare system (which is more reflective of current models). A potential limitation of this approach is that people who have not interacted with the healthcare system

may represent a considerable portion of the population in some regions. Additionally, it may exclude those who are uninsured and less likely to use healthcare services out of fear that they cannot afford them.

Considerations from the Committee include ensuring that the population/geographic region is reflective of what is the current state of response for MCIs, including coordination, resource utilization, and transfer patterns of patients throughout a geographic region. Foreseeability and approach during emergency events are important factors to consider when developing a methodology for attribution. For example, the attribution approach that is selected for an unpredictable nuclear bomb will differ from a more predictable event such as an accident at a high-risk nuclear power plant. A Committee member also stated that how transfers are managed in a rural vs urban region is another element to consider.

A Committee member also maintained that population is often used as a denominator term very loosely, as population can be defined as all people located within a geographic region. Based on how that geography is defined, it could be limited to a single EMS agency or hospital. If the goal is to promote care, communication, coordination, and a population-based approach in regions where hospitals are vaguely dispersed, horizonal and vertical population approaches could be implemented. The attribution approach would then consider if more than one hospital is needed (i.e., a horizontal approach), or if multiple vertical entities such as an EMS agency, a hospital, and a rehab facility are needed within a specific region. Geographical maps may make hospitals and other entities involved in care coordination an island, which eliminates geographic dependency beyond the adjacent geography.

Team-Based Attribution

Dr. Mehas presented considerations for team-based attribution models, stating that attribution to multiple entities should include providers during an MCI who would be expected to be a part of quality measurement or accountability. These providers should know they will be accountable ahead of time. Timing considerations and whether a weighting approach based on each entities' level of influence should be used were also discussed. A concept of this approach includes determining at a regional level the sphere of influence of each separate healthcare entity.

A Committee member suggested incorporating an equal attribution approach where every entity within the measure receives the same score. For example, every hospital and all involved entities within the same geographical region would receive the same score. It was further explained that though every hospital may not come in direct contact with the patients from a particular MCI, there may have been actions that were taken by that hospital that contributed to a patient's outcome (e.g., accepting non-MCI related overflow patients to help the affected hospitals treat more victims). The Committee member stated that a weighted model may not be appropriate for the goal of this project, as more granular weighted attribution models could lend themselves to emergency conditions that have some sort of empiric-based regulation as opposed to unexpected and rare emergency situations. The Committee member stated that equal weighting makes the most sense for these emergency situations, as it fosters proactive coordination and communication. Another Committee member stated that incorporating the equal weighting approach may run the risk of lack of accountability among all hospitals involved, whereas if one hospital is being heavily weighted during an emergency, that hospital may feel more inclined to coordinate the processes.

A Committee member pointed out that during an MCI, clinicians are focused on providing appropriate care and are less concerned about how their actions will be attributed to them or their institution. The Committee member encouraged considering this perspective while proactive processes are implemented prior to an event occurring.

Timing of Attribution

Dr. Mehas presented the considerations for attribution timing, including whether prospective, hybrid (i.e., an approach that includes components of both prospective and retrospective methods), or retrospective methods should be used. A prospective or a hybrid model is recommended to incentivize a multidisciplinary, coordinated response to emergencies while a retrospective model has the benefit of tracking patients and outcomes and can be best utilized for reviewing opportunities for improvement. A hybrid model would create sub-categories for certain high-acuity ECSCs and MCIs, use historical data to generalize the potential types of events to understand which structures and processes to have in place across these events, and would factor in different variables such as demographics. Another component of timing includes measurement duration, which varies depending on the type of MCI. Additional layers of accountability may develop over time and should be considered. The Committee agreed that a hybrid model was the best approach as a prospective model risks potentially excluding patients, specifically if it is based on claims-only data.

Data Availability and Capture

Dr. Mehas shared that major challenges to the data supporting attribution models include interoperability, data sharing, and timeliness of data collection and reporting. Dr. Mehas shared that there is also a need to account for EMS data and spontaneous patient load, and to standardize what data gets communicated and how. Healthcare entities' receiving capability, not just open hospital beds, is also a critical data point. Due to the limited shared data infrastructure, there should be a financial incentive to create a better data sharing system. Also discussed was the capacity of claims data to provide the information needed for developing attribution models for MCIs.

A Committee member inquired how claims data would be useful for providing quality measure results or information on patient outcomes, noting they may only provide information on which facilities patients visited during an MCI. Claims data may help to identify utilization and the location where care was received.

Patient Role in Decision-Making During Emergencies

Ms. Perera shared that MCIs require urgent clinical attention and saving lives is the top priority. Patients should always have a role in decision-making but there is a need to consider the urgency of the care and decision-making capacity of the patient at the time. Protocols that provide guidance on conditions under which seeking patient input is appropriate should be developed and may be used to inform attribution approaches. Systems should be organized proactively to ensure the best possible outcomes for patients if patient decision making is impaired due to the MCI.

A co-chair commented that the emergency care community may be less progressive on patient decision making than they should be, and there is more opportunity for considering the patient voice. The Committee suggested that attribution models may consider patients who refuse transport because of cost or another reason. However, this was deemed a minor consideration rather than a major factor to consider when developing attribution approaches. The Committee agreed on the principles of inclusion of the patient role but maintained that data capture does not exist and the tradeoff of having information on entity capacity is not in balance.

Aspirational Approaches

Ms. Perera shared that attribution approaches should recognize which entity or clinician provided care to have a full picture of the patient's journey and reimburse for providers' efforts. There is also a strong emphasis on utilizing telehealth capabilities as a future state, and the Committee recognized the impact that care delivered via telehealth can have during emergencies. Encouraging planning and providing

better information for entity response should be incorporated into attribution approaches, and entities should not be penalized for poor performance when responding to an MCI. Ms. Perera also shared the significance of providing coalitions the authority to act during MCIs. Also discussed were the need to prioritize time-sensitive metrics (e.g., promoting actions that should be taken quickly to save lives in an MCI) and minimize data collection burden; get buy-in on data sources, their accuracy, and real-time availability; and agree on the entities involved.

A Committee member suggested not only recognizing entities that provided care, but also entities who could have provided care. The Committee suggested aligning emergency response protocols and quality measurement approaches across agencies and networks (e.g., FEMA, Department of Health and Human Services (HHS), Stroke Network). Incentivizing the construction of collaborative emergency response systems within regions and then stress testing those networks was also suggested.

Unintended Consequences

Ms. Perera shared that penalties may disincentivize coordination and communication for outcomes that may not be immediately apparent (e.g., acute or chronic conditions that arise long after the MCI). Precaution should be taken about creating a system that is complicated and burdensome, especially on constrained organizations like safety net organizations. There is also uncertainty and hesitation around applying attribution for accountability purposes when responding to emergencies, and concerns about adding burden during these types of events.

The Committee provided no further suggestions for unintended consequences.

Measurement of Healthcare System Readiness and ECSCs

Teresa Brown, NQF Senior Manager, stated that the creation of important, valid, feasible, and useable measures for readiness such as structure and process measures is needed. Proactive coordination and communication and measurement of specific preparedness actions or resources (e.g., simulations, exercises, sufficient personal protective equipment [PPE]) should be encouraged.

The Committee recommended aligning with federal programs based on evidence of preparedness and response.

Use Case Discussion Breakout Rooms

NQF divided the Committee members, Federal Liaisons, and CMS representatives into three assigned breakout rooms to discuss each of the remaining use cases: burns (independent of trauma), a chemical attack, and a nuclear explosion. Members of the public stayed in the main meeting room, which discussed the chemical attack scenario. Each room discussed the following questions:

- What quality measures should be used in this scenario (current or concepts)?
- How should attribution models promote shared accountability for this scenario?

A volunteer from each group then reported out key themes to the full Committee.

Burns (Independent of Trauma) Breakout Room

The breakout group discussed adequate fluid resuscitation for burn patients, a measure that could apply to this scenario. This measure would provide many of the building blocks in electronic measurement across the continuum of care to improve communication and data. The second measure proposed was a structure measure that assesses pre-hospital transfer protocols for burn patients and whether they are consistent and aligned across hospitals. Further discussion included considering outcome measures that

are specific to burns and whether a risk-adjusted survival measure should be used in this scenario. However, the Committee expressed concerns about the ability to develop a risk adjustment model due to the lack of suitable prior data. An additional outcome measure that was considered by the group was a three- to six-month patient-reported measure related to pain or disability (e.g., PROMIS). The group discussed that it would not be appropriate to attribute this type of measure all the way back to EMS.

Chemical Attack Breakout Room

The breakout group discussed attributable entities and quality measurement for a chemical attack. They stated that the first entity involved and that should be considered from an attribution perspective would be EMS. Next, the surrounding hospitals should be considered. Both EMS and hospitals could share similar quality measures, specifically, time to decontamination and the proportion of patients who are appropriately decontaminated prior to arriving at a care site. A preparedness activity that could be measured is holding an annual city- or state-wide drill, which would help prepare all entities for a mass chemical attack. A partnership between EMS and the healthcare system is critical for this scenario. EMS should be aware of which hospitals have ample decontamination rooms and isolated water systems to help them prioritize where patients should be taken in the event of an attack. Quality measures could assess proactive coordination for treating victims of a chemical attack. Coordination plans from regional healthcare coalitions, HHS, established trauma systems, or city or state health departments could provide additional levels of organization and treatment. Additionally, there should be an unaffiliated and over-arching authority to identify minimum standards to protect the community, serving as an intergovernmental model. This contrasts with the current disjointed system with siloed measures, as it would allow a consistent plan and measurement, regardless of which hospital a victim is sent to or whether a victim is decontaminated onsite or at the hospital so that the response (i.e., time to decontamination) can be assessed more globally. If used, an intergovernmental or similar model could be the first step in attribution during an MCI such as this scenario.

Nuclear Breakout Room

The breakout group discussed key healthcare issues that the use case addressed, including what the responsibilities of each of the hospitals are, whether they have practiced preparedness for nuclear or radiological emergencies, especially hospitals that are outside of a ten-mile radius of a nuclear reactor, and whether to attribute patients that transport themselves to the hospital. The group also discussed quality measurement for a nuclear power plant reactor meltdown and explosion. The group emphasized that attribution for this disaster scenario should incentivize entities in the zone around the nuclear reactor to prepare and act together for this event. Quality measure examples included decontamination, clinical quality for people exposed to radiation, and appropriate treatment at the point of care and follow-up. Accountability should not be at the individual provider level but rather at the system level, and EMS is important accountable entity to consider. It was noted that EMS in rural areas is composed of volunteers and may be coordinated by their local townships, not hospital entities. The collaboration with health systems and public health entities is also important to consider for this use case. The breakout group stated that quality measures for this scenario should include structure and outcome measures. Coordinated networks should also be established proactively for transferring patients as needed. The group noted that a geographic attribution model of shared accountability would be appropriate for this case.

Member and Public Comment

Dr. Mehas opened the web meeting to allow for public and NQF Member comment. No comments were offered.

Next Steps

Dr. Mehas presented the next steps. The Final Environmental Scan will be posted publicly on May 17, and the Final Report draft will be shared with the Committee for feedback on May 11. NQF requested Committee feedback by May 18. The Final Report draft will be posted for public comment from June 2 through July 1. Web Meeting 6 will be held on July 28, 2021, 1:00 pm – 3:00 pm ET. During the next web meeting, the Committee will discuss and adjudicate public comments on the Final Report and gather any final comments to refine the Final Report.

Adjourn

Dr. Mehas concluded the meeting by thanking the Committee members, Federal Liaisons, CMS partners, and NQF staff.