

ENDORSEMENT SUMMARY:

Regionalized Emergency Medical Care Framework

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Emergency Medical Care Systems and Performance Measurement

Emergency medical care systems across the nation, faced with increasing patient populations and limited resources, are under significant stress to provide effective, high-quality healthcare. Recognizing that care quality and resource use are inherently linked, the Institute of Medicine (IOM) called for an assessment of emergency medical care systems to determine strategies for improving care delivery and efficiency.

The concept of regionalization – described by IOM as an established network of resources that delivers specific care to a defined population of patients or within a defined geography – has been identified as a means of improving emergency medical care through more efficient resource use. While new models of regionalized care networks are under development, emergency care services such as trauma, neonatal care, and poison control have been coordinated across geographic areas for many years. More recently, care for patients experiencing time-sensitive emergency conditions – such as stroke and acute myocardial infarction – has been regionalized on a statewide basis. Yet as emergency care systems continue to expand in breadth and scope, these systems must ensure they are using resources efficiently to maximize patient outcomes and ultimately improve care quality.

Performance measurement is critical to improving care quality in emergency medical care systems. Accordingly, NQF sought to develop a measurement framework that could serve as a roadmap for future measure development within regionalized systems. To develop the framework, NQF convened a Steering Committee composed of national

experts on emergency care and regionalization to work in collaboration with the University of North Carolina–Department of Emergency Medicine. Together, these parties worked to:

- **Assess the regionalized emergency medical care system and identify quality improvement opportunities;**
- **Create a pathway for identifying measures, measure gaps, and measure concepts to guide future research, measure development, and measure endorsement; and**
- **Develop a comprehensive framework for measuring and evaluating regionalized emergency medical care systems.**

The resulting framework establishes a roadmap for systematically regionalizing emergency care services at the national, state, and regional level.

Key Elements of the Framework

The Regionalized Emergency Medical Care Systems (REMCS) framework, endorsed by NQF, includes several core components:

Key Terms and Definitions

The Steering Committee clearly outlined concepts associated with regionalized emergency medical care systems to ensure interested stakeholders fully comprehend the framework:

Regionalization refers to an established network of resources that delivers specific care – such as protocols, definitive procedures, higher-care levels, or care pathways – to a defined population of patients or within a defined geography.



Regionalized emergency medical care systems (REMCS) are deliberate and planned networks of both in- and out-of-hospital resources that deliver clinical services to a population of patients defined by having potentially life threatening acute illnesses or injuries.

A full set of related terms and concepts is available in the framework's glossary.

Episodes of Care Measurement Model

Given the complex nature of regionalized emergency medical systems, an Episodes of Care (EOC) model was utilized. The EOC model allows for care to be evaluated over time and across service units for a given episode. It takes into consideration the various settings and care providers within an episode, as well as the transitions between them as the patient moves through the delivery system.

The Steering Committee acknowledged that the EOC model has certain limitations. For example, measurement could be seen as focusing exclusively on an individual patient's care experience and not on the underlying emergency care and support systems. To address this concern, the committee recommended that a modified EOC model be developed to measure a system's preparedness, capability, and capacity to expand services in preparation for a clinical episode. The committee also agreed that the EOC model does not create comparisons among various organizations with similar systems and recommended that there should be specific emphasis on comparing episodes of care across institutions for similar clinical conditions. Such comparisons could then translate to other organizations or systems.

Essential Domains for Measurement

The Steering Committee established six key domains, or areas, considered critical to evaluating regionalized emergency medical care systems. These domains are:

DOMAIN 1: CAPABILITY, CAPACITY, ACCESS

A regionalized system's ability to provide for the emergency care needs of its population depends on what the system can do (capability), how much it can do (capacity), and who can enter the system and how they enter it (access). This

domain focuses on six specific areas, including:

- **a system's public health initiatives;**
- **pre-hospital capabilities;**
- **real-time capacity information;**
- **the categorization of participating agencies, organizations, and facilities;**
- **preparedness, monitoring, and data sharing; and**
- **legal and regulatory frameworks.**

DOMAIN 2: RECOGNITION AND DIAGNOSIS

Evaluating how an episode of care is initially recognized is essential to measuring regionalized emergency care. This domain focuses on four specific areas, including:

- **community awareness;**
- **training;**
- **technology; and**
- **evidence-based approaches.**

DOMAIN 3: RESOURCE MATCHING AND USE

At its most basic level, regionalization focuses on matching resources to patients, or getting the right resource to the right patient at the right time. This domain focuses on the structural and process components of regionalized care, including:

- **guidelines and evidence-based triage and protocols;**
- **Tele-health, or electronic communications; and**
- **efficiency and overuse.**

DOMAIN 4: MEDICAL CARE

Within an episode of care, patients should be receiving care that is timely and in accordance with broadly accepted standards and protocols for a given emergency medical condition. This domain is broken down into sub-categories, based on where and to whom care is provided, including:

- **care provided by bystanders;**
- **pre-hospital and EMS-provider care;**
- **emergency department care;**

- **inpatient care; and**
- **care of special populations.**

DOMAIN 5: COORDINATION OF CARE

Regionalized emergency medical care systems are composed of many components that must interact efficiently and effectively to best serve patient needs. This domain focuses on those components, including:

- **governance and shared accountability;**
- **handoffs and transitions; and**
- **communication.**

DOMAIN 6: OUTCOMES

Measuring patient-oriented outcomes of an episode of care is an important part of evaluating the effectiveness of a system. This domain focuses on the factors that determine patient-oriented outcomes, including:

- **access to data;**
- **data linkage across settings of care; and**
- **feedback.**

Guiding Principles

The Steering Committee developed seven principles intended to guide the framework's implementation and development of measures with regionalized emergency medical care systems. They are:

1. Regionalization of emergency care is a method of matching resources to patient needs in a timely fashion with the goal of improving patient-oriented care outcomes and population health.
2. The effective delivery of regionalized emergency medical care requires ongoing measuring and monitoring of system capabilities and capacity to ensure that the appropriate resources and workforce (including appropriate specialty care) are available.
3. Identifying and evaluating measures of entire systems of emergency care is difficult, but essential.
4. System evaluation should promote transparency and shared accountability

for the system's successes and failures across units of service within the system.

5. The development of regionalized emergency medical care systems is an ongoing process with flexible and adaptive structural and process elements.
6. Regionalized emergency care systems should exist for the public good and should fully integrate with each other in a transparent, shared model with a common oversight structure (taking into consideration federal, state, and local regulations) regardless of geopolitical boundaries to provide optimal care for a population.

7. Measurement should be data driven.

For further explanation of the guiding principles, please see the technical report.

The Future of Regionalized Emergency Medical Care

This framework assesses the current state of regionalized emergency medical care services' measurement, and through the identification of measure gaps, aims to guide future measure development. The framework is meant to help inform future efforts to identify and evaluate performance standards for measuring and reporting the quality of emergency services at the national, state, and regional levels.

The framework also identified areas where further research is needed, touching on topics such as:

- **The need for developing new measures or adapting existing measures to ensure patient-oriented measurement of systems, not merely isolated elements of systems;**
- **A focus on measuring transitions and communication between service units within regionalized systems;**
- **Further evaluation of concepts of system capability, capacity, and access on the use and growth of regionalized emergency care systems. The effectiveness and capacity of regionalized emergency care systems are inextricably linked to the increasing challenges of such systems to provide unscheduled, episodic care to other patients at the same time in the same systems and locations;**

- A focus on communication between service units emphasizing electronic technology and industrial engineering concepts to improve system efficiency and preparedness for system strain and surge;
- Identification of measures or measure concepts that support effective and efficient continued development of healthcare delivery systems; and
- Identification of measures or measure concepts to evaluate care in areas where there are current measurement gaps, such as critical care medicine, toxicology, and psychiatric care. Gaps include areas where measures exist but are not sufficient, areas where measures require development to ensure they are valid indicators of system performance, and areas where no measures exist at all.



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