

Attachment C: Capability Gap Statements

Medical Surge Management

The ability to carry out HPH functions under extraordinary circumstances requires an integrated approach to managing resources, infrastructure, operations, and patients. The research priorities under Medical Surge Management seek to address the complexities of developing an integrated approach that is sustainable (to the degree practicable), is predictive, and offers a scientific basis for sound decisionmaking. The HPH communities recognize that as circumstances escalate and the continuum of response functions is maximized, the ability to provide care will be stressed, requiring a reduction in services and limiting the options for applying optimal clinical standards. Research into Medical Surge must take into consideration the changing modes of disaster — response vs. recovery — reflecting a focus on sustainability. In addition, each of the core components of medical surge should be analyzed to expose inaccurate assumptions and potential failures in the application of surge management. Aspects such as command, control and communications, resource needs and availability, standards of care, monitoring of the healthcare infrastructure, understanding the risk posture across escalation intensities, and the transition of operations from steady-state to crisis-state, are uniquely important to an integrated surge framework. An understanding of the conditions under which each aspect would be employed will require significant modeling and analysis.

The study of surge has progressed in recent years as a result of incidents such as Hurricane Katrina, yet the science and quantitative data to support decisionmaking across varying disaster scenarios is lacking. Developing and testing planning documents requires data that enable predictive analysis to support incident command structures and decisionmaking at the local level. Situational awareness and a common operating picture will form the basis for reliable, consistent, and actionable decisions. As a scenario evolves, sustainability of services and infrastructure must be achievable. For example, the ability to extend the triage model (diverting patients along with identifying facility diversion) to facilitate surge capacity needs will require knowledge of how alternative sites of care will be identified, what process will be implemented for diverting patient flow to these facilities, and how that process will be facilitated. Methods for effecting medical surge will need to promote access to care (and the awareness), taking into consideration the role of public health, the needs of underprivileged populations, and the necessary technologies or capabilities required for accessing care. There exist many opportunities for advancement in medical surge management, all of which can be realized through security partner collaboration and rigorous analysis. The capability gap statements identified in this 2008 Sector Annual Report reflect only a subset of priorities recommended for further examination.

| Question | Response |
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| Capability Gap Statement Tracking and Priority Number | 2008-004–Healthcare and Public Health (HPH) |
| Is this submission an MS&A requirement? | No |
| Proposed Title of Requirement | Informatics: Secure Information Exchange for Medical Surge Capacity Management |
| Goal/Objective to which Requirement Responds | <p>Service Continuity Goals:</p> <ul style="list-style-type: none"> ▪ Assure continued provision of essential services (e.g., patient care, public health) <ul style="list-style-type: none"> – Facilitate essential response and recovery functions both during and following an event. – Maintain the availability of sector-specific resources required to support the core functions of the sector (e.g., physicians, nurses, allied providers, hospital beds, laboratory services, pharmaceutical & surgical supplies, personal protective clothing – i.e., gloves, masks, etc.). – Maintain the availability of generic supporting services and resources upon which the sector is also dependent (e.g., water, power, food, telecommunications, transportation, fuel, security). |
| Theme | Analysis and Decision Support Systems; Response, Recovery, and Reconstitution Tools; Emerging Threats and Vulnerabilities Analysis Aids; Advanced Infrastructure Architecture |
| Threat Identification | All hazards resulting in and including Medical Surge |
| Gaps of Existing Capabilities | <p>There are many ongoing, collaborative efforts on informatics and information sharing research and development, including broad initiatives for Health Information Exchange (HIE), Electronic Health Records (EHR), Biosurveillance, and Interoperable Communications. However, the data elements and business processes are generally focused on tools supporting the provision of healthcare under normal conditions, including the sharing of subsets of patient data for routine public health purposes or outbreak detection. The Healthcare and Public Health Sector lacks the tools and standardized framework to efficiently and effectively provide situational awareness (SA) and information exchange in support of surge management during a major health event that could disrupt normal supply chains and workflow models. Furthermore, most current activity surrounding biosurveillance is focused on detecting an event with adverse implications for population health, leaving a gap in tools intended to detect a threat to the healthcare system itself. A threat to the essential resources required by the healthcare system, such as an unexpected shortage of critical supplies, could have a serious negative impact on the ability of the Sector to continue to deliver services even under normal conditions.</p> <p>HPH does not have the required interoperable tools that can be leveraged to provide situational awareness and decision support during an event. Data elements necessary to develop decision support tools conforming to medical surge implications require standardization, common resource-typing, and interoperable systems to share SA data.</p> <p>1. Research is necessary to determine how to leverage existing and developmental electronic data sources for rapid information sharing during an event, with a particular focus on deriving requisite SA data elements from routinely collected and reported health information. Gaps in essential data that cannot be derived from what is currently available* must be identified, and research into the most appropriate mechanisms to gather such data within the context of the normal workflow must be</p> |

