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3 **OBJECTIVE 4: FOSTER INTEGRATED, SCALABLE HEALTH CARE DELIVERY**
4 **SYSTEMS**
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7 The delivery of health care in the United States involves a large and complex network of
8 private, public, and governmental entities which provide a wide array of health care
9 services¹. Every day, Americans rely upon a myriad of services to maintain health, treat
10 illness and injury, and improve their lives. The providers, professionals, and entities that
11 deliver care typically function in a competitive market that results in networks that vary
12 in response to market demand across each community. Under normal, day-to-day
13 operations these loosely connected networks strive to meet the needs of their
14 community population.

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16 Health care system resiliency is the capacity to maintain continuity of operations even in
17 the face of a threat, disaster or adversity². All health care entities must be able to
18 maintain the standard of care in response to fluctuations in demand, a concept known
19 as “surge capacity.” The first step in fostering resiliency is the ability of individual health
20 care entities to surge for short periods of time when challenged by short term and
21 modest increases in demand.

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23 Public health emergencies and disasters vary tremendously in cause, magnitude, and
24 duration, but have the capability to create large numbers of individuals in need of care
25 within a short period of time. In these cases, the demand for health care service can
26 quickly exceed any individual health care facility’s ability to safely surge. Separate and
27 independent health care entities that may not normally work together are quickly thrust
28 into a situation in which they must collaborate to ensure the public’s health and preserve
29 national health security. Not only must the health care entities meet the increased
30 health care needs during the crisis, it must continue to address the functional needs of
31 at-risk individuals³ within their community. Meeting this level of demand requires the
32 coordinated effort of all health care resources in a community. By working together,
33 health care entities can provide capacity well in excess of the sum of the efforts of the
34 same entities working independently and build health care system resiliency⁴.

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36 Preparing health care entities to function as a coordinated and effective system requires
37 planning, coordination and experience (e.g. incidents, exercises). It is essential that
38 each component of the health care delivery system be aware of the role it can play in
39 meeting their community’s demands for services during a public health emergency or

¹ Health care includes medical, behavioral, public health and applicable social services.

² Carafano JJ. Resiliency and Public-Private Partnerships to Enhance Homeland Security. The Heritage Foundation Web site.. <http://www.heritage.org/research/Homelanddefense/bg2150.cfm>. June 2008

³ Department of Health and Human Services. At Risk Individual Definition.
<http://www.phe.gov/Preparedness/planning/abc/Documents/AtRisk.pdf>

⁴ Knebel A, Phillips, S. “National Strategy for Health Care System Preparedness”. Disaster Medicine and Public Health Preparedness. S4 Vol.3/ SUPPL.1 2009.

40 disaster. The capacity and capability of individual health care entities and communities
41 will vary substantially due to differences in State and local laws and regulations, level of
42 planning, geographical diversity, market competition amongst private health care
43 entities, availability of medical resources and, the culture of the entity. Due to these
44 factors, a community is better served, by informed health care entities that are aware
45 and actively engaged in identifying ways to address potential barriers and protect the
46 continuity of health services in their communities.

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48 One strategy to enhance medical surge capacity and capability, at the community level,
49 is the fostering or development of health care coalitions. By working together, health
50 care entities can form health care coalitions that are able to collectively leverage
51 resources to increase the scale of the response to meet the needs of their community.
52 Health care coalitions at the community level and across all levels of government can
53 facilitate integration and are critical for building a prepared health care delivery system⁵.
54 Successful coalitions involve the participation of the entire continuum of health care⁶
55 acknowledging the important role that each health care entity and response partner
56 plays in a public health emergency or disaster. This is particularly important for entities
57 (e.g., primary care physician's offices, outpatient clinics, dialysis centers, home health
58 care agencies, federal qualified health centers, etc.) that have not traditionally been
59 involved in emergency preparedness and response, but nonetheless fulfill a critical role
60 or function within their community.

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62 Successful coalitions integrate health care entities from across the health care
63 continuum and across distinct sectors such as medical care, disaster behavioral health⁷,
64 public health, emergency management, law enforcement, emergency medical services
65 and fire service. Creating this type of integration may be challenging due to the sheer
66 number of different organizations involved, the differences in concerns and interests,
67 and the absence of a single entity with responsibility for the system as a whole.
68 However, the diversity of critical functions that these entities fulfill is essential and the
69 successful integration of each results in greater preparedness.

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71 Having health care coalitions in place promotes interaction among stakeholders and
72 creates the integration and coordination that is needed to quickly scale the local health
73 care response to meet the needs of the local population after a public health emergency
74 or disaster. When the scale of the incident exceeds the local community's ability to
75 meet the demand, further increases in scale can be achieved by connecting health care
76 coalitions within a region through the development or fostering of regional emergency
77 planning alliances (planning alliances). As each region is unique, and is comprised of
78 many communities, these planning alliances serve to establish a systematic process for

⁵ Center for Biosecurity of UPMC, 2010

⁶ The "continuum of health care" includes but is not limited to; 9-1-1, EMS, emergency departments, hospitals, ambulatory care, physician's offices, community health centers, specialized care (e.g., dialysis, laboratories, rehabilitation), behavioral health care (e.g., mental, substance abuse), long-term care (e.g., nursing homes, assisted living) and home health care and services (e.g., nursing, meals).

⁷ Disaster behavioral health is defined the provision of mental health, substance abuse, and stress management services to disaster survivors and responders. Department of Health and Human Services. <http://www.phe.gov/Preparedness/planning/abc/Pages/default.aspx>

79 integrating and coordinating local, tribal, territorial, State and Federal medical responses
80 that will support optimal surge capacity and capability while also protecting health care
81 staff, patients and health care security⁸. Planning alliances serve an important role in
82 fostering relationships between healthcare coalitions, providers and other emergency
83 response partners within their communities. Through their collaborative efforts,
84 planning processes, information management and other activities, mutual aid
85 agreements (e.g. EMAC) can be established to support timely and appropriate
86 integrated medical responses for incidents that impact their communities. This shared
87 understanding of roles, functions and community requirements can serve as a platform
88 for ensuring effective training of medical and emergency response personnel and
89 volunteers and, exercises from the community to the Federal level.

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91 Health care coalitions and regional emergency planning alliances facilitate planning and
92 preparation for public health emergencies and disasters and can be beneficial to daily
93 operations as well. The relationships that are developed among health care entities may
94 serve to better integrate routine services, identify community investment and
95 infrastructure needs, improve health outcomes and increase resilience.

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97 In some cases, despite all attempts to increase health care capacity and capabilities,
98 the magnitude of a public health emergency or disaster may exceed the resources (e.g.
99 staff, supplies, facilities) available within the health care, private sector and many other
100 critical infrastructure sectors. As resources become scarce, health care entities,
101 coalitions and communities may need to temporarily shift from normal “standards of
102 care” to the concept of “*crisis standards of care*”⁹. In these circumstances, difficult
103 decisions will have to be made regarding the allocation of scarce resources within the
104 impacted community. Creating a framework and processes through which ethical
105 decisions can be made is a necessary part of emergency preparedness and national
106 health security. Developing such a framework requires the active engagement of health
107 care providers, entities, coalitions and other partners to promote consistency while
108 similarly addressing the community’s unique values, needs and priorities.

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110 Finally, as a public health emergency or disaster subsides and the demand for health
111 care returns to normal levels, the community shifts its focus from response to recovery.
112 Advance planning by health care entities and coalitions will facilitate the return to normal
113 operations.
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⁸ Regional Emergency Planning Alliances or “Interstate Regional Response”. The CNA Corporation. Medical Surge Capacity and Capability: A Management System for Integrating Medical and Health Resources During Large-Scale Emergencies. September 2007. Prepared for the Department of Health and Human Services Contract Number 233-03-0028.

⁹ “Crisis Standards of Care” is defined as a substantial change in usual health care operations and the level of care it is possible to deliver, which is made necessary by a pervasive (e.g. pandemic influenza) or catastrophic (e.g. earthquake, hurricane) disaster”. IOM (Institute of Medicine). Guidance for establishing crisis standards of care for use in disaster situations: A letter report. Washington, DC: The National Academies Press. 2009

115 The list below describes outcomes to be achieved in the next four years. The activities
116 listed under each outcome will support their achievement and can be initiated within
117 current budgets over the next two years.
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Four-Year Outcomes for Fostering Integrated, Scalable Health Care Delivery Systems

- Health care entities are integrated with community medical, public health, behavioral health, emergency management, public safety and other partners and are able to respond to a rapid, temporary increase in demand.
- States and local governments promote regional emergency planning alliances and health care coalitions that are prepared to respond and recover from public health emergencies and disasters that exceed the capabilities of individual healthcare entities.
- States and local governments actively engage regional emergency planning alliances and health care coalitions and, health care entities to consider and develop ethical processes for the allocation of scarce resources during a public health emergency or disaster.
- States and local governments actively engage regional planning alliances, health care coalitions and, health care entities to regularly exercise, measure and report (in a standardized manner) their ability to surge during public health emergencies and disasters.
- Barriers to health care integration are identified and solutions are promoted to allow States, locals, regions, health care coalitions, and health care entities to function effectively during public health emergencies and disasters

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121 **4.1 Health care entities are integrated with community medical, public health,**
122 **behavioral health, emergency management, public safety and other partners and**
123 **are able to respond to a rapid, temporary increase in demand.**
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125 In a prepared health care delivery system, each health care entity must have the ability
126 to increase its capacity quickly, at least to some extent, in response to an increase in
127 demand for care. This includes *all* care delivery settings across the entire continuum of
128 health care.
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130 In part, the ability of a health care entity to generate surge capacity in response to and
131 support recovery from a public health emergency or disaster is built on a foundation of
132 effective and efficient daily operations. Activities that improve daily operations, such as
133 implementing an effective and interoperable health IT system, also facilitate more
134 effective emergency response. In addition, health care entities can improve their surge
135 capabilities by developing emergency response plans and exercising them on a regular
136 basis. The lessons learned from these exercises, as well as from real incidents (e.g.,
137 Hurricane Katrina, Midwestern floods, H1N1 response), should be used to update and
138 improve the State, local, regional and health care coalition emergency response plans.

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The following activities will be undertaken during the next two years:

4.1.1 ASPR, HRSA, and CMS will work with health care entities (including, hospitals, primary care physicians, EMS agencies, long term care centers, community health centers/ FQHCs) to develop surge goals.

4.1.2 ASPR, CDC, HRSA and DHS will provide guidance, tools and templates for use by health care entities to improve their surge capacity.

4.1.3 ASPR, HRSA, CDC, AHRQ and CMS will work with professional and accreditation organizations to consider, address or develop standards for surge capacity for health care entities.

4.1.4 ASPR, CDC, ONC and DHS will work to enhance the role of IT in public health and medical emergency planning, response, and recovery activities (e.g. modeling tools for medical planning and response, bed-tracking systems, surveillance tools, etc).

4.1.5 ASPR, CDC, AHRQ, CMS, DHS and DOT will develop strategies to facilitate the delivery of the most safe and effective level of care during a public health emergency or disaster.

4.1.6 ASPR, CMS, ACF, DHS, DoT, DoD and other federal agencies will work to explore appropriate payment options for services provided in alternate care sites during public health emergencies or disasters.

4.2 States and local governments have regional emergency planning alliances and health care coalitions that are prepared to respond and recover from public health emergencies and disasters that exceed the capabilities of individual health care entities.

Public health emergencies and disasters vary in duration and magnitude. In some cases, individual health care entities are able to meet the demand for medical resources on their own. However, in other cases, the demand will exceed the ability of individual health care entities to surge and it will be necessary to increase the scale of the response. Scale-up requires collaboration and integration across a range of entities to effectively care for impacted individuals and manage local resources (e.g., staff, space, and supplies). Health care coalitions or entities may identify a need to modify service delivery (e.g. deferring elective care procedures, discharges, referrals to out-patient care, etc.) to meet the increased demand. Successful implementation of these practices requires an integrated and coordinated response, across local, regional and State areas, and has pre-established relationships and advance planning among health

182 care entities, across critical infrastructure sectors¹⁰, particularly the private sector, and
183 with other types of non-healthcare entities (e.g., pharmacies, professional associations,
184 medical equipment vendors, etc.).

185 Effective coordination and integration result when all levels of government, regional
186 emergency planning alliances, health care coalitions and health care entities
187 understand their interdependent and integrated roles and how to quickly transition into
188 and out of these roles over the course of an incident. Through exercises, each of these
189 partners can collectively garner a greater awareness of how to integrate and identify
190 potential gaps, redundancies, lessons or opportunities for quality improvement.
191 Specifically, health care coalitions and their impact on health care system preparedness
192 will be strengthened by conducting exercises at the community level, developing metrics
193 for measuring coalition effectiveness, and incorporating coalition activities into normal
194 operations so they can be “turned on” more easily during a public health emergency or
195 disaster.

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197 The following activities will be undertaken during the next two years:

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199 **4.2.1** ASPR, CDC, HRSA, DOT and DHS will align public health and medical
200 preparedness activities through federal grants and cooperative agreements to
201 emphasize community approaches to health care (e.g. health care coalitions) that
202 represent the entire health care continuum, as a strategy to improve preparedness,
203 response, and recovery outcomes and provide surge capacity beyond that of any
204 individual entity.

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206 **4.2.2** ASPR, CDC, and DHS will work with State, local and territorial governments to
207 ensure that their plans include consideration for at-risk individuals and maintenance of
208 essential health care services for individuals requiring continuous health care outside of
209 a hospital setting.

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211 **4.2.3** ASPR, HRSA, FDA, CDC, IHS and CMS will work with State, local, territorial and
212 tribal governments to explore policy incentives that encourage health care entities to
213 participate in regional emergency planning alliances and health care coalitions.

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215 **4.2.4** ASPR, CDC, CMS, HRSA DHS and DoD will promote exercising at the Federal,
216 State, local, territorial, tribal and community levels and encourage regional planning
217 alliance and health care coalition participation.

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¹⁰ Critical infrastructure are the assets, systems, and networks, whether physical or virtual, so vital to the United States that their incapacitation or destruction would have a debilitating effect on security, national economic security, public health or safety, or any combination thereof.
http://www.dhs.gov/files/programs/gc_1189168948944.shtm

219 **4.2.5** ASPR will coordinate with governmental and private sector partners through the
220 critical infrastructure protection partnership framework to share information and identify
221 issues for collaborative problem solving.
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224 **4.3 States and local governments actively engage regional emergency planning**
225 **alliances and health care coalitions and, health care entities to consider and**
226 **develop ethical processes for the allocation of scarce resources during a public**
227 **health emergency or disaster**
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230 In situations where the demand for medical care resources exceeds the capacity of the
231 health care delivery system to meet each patient’s needs at the level expected under
232 normal circumstances, health care entities and coalitions must be prepared to
233 implement contingency plans to optimize resources. One of the key challenges is
234 identifying the triggers and processes for temporarily shifting from normal day-to-day
235 “standards of care” to “crisis standards of care and back again.

236

237 Optimizing resource allocation during a public health emergency or disaster requires an
238 ethical and multifaceted approach that includes strategies to minimize less urgent
239 demands for health care services, direct the supply of medical resources to those who
240 that require them most and, make difficult resource allocation decisions during these
241 incidences. The development and implementation of these strategies requires a
242 multidisciplinary dialogue that balances multiple considerations that may include but is
243 not limited to ethical, legal, financial and the functional needs of at-risk individuals. To
244 be successful, stakeholders in the health care provider community and the public must
245 be actively engaged in the process of developing and implementing crisis standards of
246 care¹¹. This will allow a meaningful dialogue about their values, priorities and needs
247 within their community.

248

249 Situations in which health care organizations allocate scarce resources differently
250 create inequities and confusion. Therefore, the development and implementation of
251 crisis standards of care requires coordination and dialogue between health care
252 providers, entities, coalitions, private sector partners, States and other partners to
253 ensure they are implemented consistently at the community level.

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255 The following activities will be undertaken during the next two years:

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257 **4.3.1** ASPR, CDC, FDA, ASH and IGA will identify current efforts by States, academia,
258 health care experts, biomedical ethicists, medico-legal experts, behavioral health
259 experts and others to develop frameworks and processes for allocating scarce
resources during large-scale incidents

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261 **4.3.2** ASPR, CDC HRSA and DHS will work with State, local, territorial and tribal
262 governments to foster the development of allocation of scarce resources frameworks
and processes through Federal grants and cooperative agreements.

¹¹ IOM, 2009, 2010b

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4.4 States and local governments actively engage regional planning alliances, health care coalitions, and health care entities to regularly exercise, measure and report (in a standardized manner) their ability to surge during public health emergencies and disasters.

Valid and reliable performance measures are critical for evaluation and quality improvement. The data derived from a set of standardized measures and a reporting process will help maintain accountability for public investments in improving surge capabilities. They provide a way to monitor and describe performance and to make comparisons both across units and within the same unit over time. In fact, the Pandemic and All Hazards Preparedness Act (PAHPA) of 2006 requires the Federal government to use this type of data to improve accountability by linking federal funding to States with their performance on evidence-based benchmarks.

In addition, performance measures are integral to conducting research to identify effective strategies. Promising practices can then be disseminated and used by other regions, health care coalitions, or health care entities to improve their surge capabilities. Similarly, valid and reliable surge-related performance measures are an important component of quality improvement activities.

The following activities will be undertaken during the next two years:

4.4.1 ASPR, AHRQ, CMS, HRSA, CDC, DHS, DOT and DoD will work with State and local governments to define terms to measure and assess a State’s capability to deliver medical care in response to a public health emergency or disaster.

4.4.2 ASPR, AHRQ, CMS and HRSA, in coordination with DHS and DOT, will work with State and local governments to define and disseminate terms and develop measures to assess a health care entity’s capability to deliver medical care in response to a public health emergency or disaster.

4.4.3 ASPR, AHRQ, CMS, CDC, in coordination with DHS and DOT, will work with States and local government to define terms to measure and assess a health care coalition’s capability to deliver medical care in response to a public health emergency or disaster.

4.4.4 ASPR, AHRQ, CDC CMS and HRSA, in coordination with DHS and DOT, will work with State and local governments to define terms to measure and assess a region’s capability to deliver medical care in response to a public health emergency or disaster.

4.5 Barriers to health care integration are identified and solutions are promoted to allow States, locals, regions, health care coalitions, and health care entities to function effectively during public health emergencies and disasters.

There may be barriers that States, regions, locals, health care entities, coalitions, and regions face in building and maintaining an integrated, scalable health care delivery

307 system. The urgency of a response will likely not allow a comprehensive analysis of the
308 barriers or the options for addressing them in real time. As a result, it is important to
309 take actions to identify and overcome possible barriers proactively. Barriers may be
310 identified in legal authorities, regulatory requirements, policies and processes (e.g.
311 operations, resources).

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313 The following activities will be undertaken during the next two years:

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315 **4.5.1** ASPR, CDC, FDA, ASH, ONC, and IGA will identify current efforts by states,
316 academia, legal experts, and others to address the barriers that may arise during large-
317 scale incidents; support a coordinated approach to addressing these issues and
318 develop clear and consistent guidelines for future incidents, as appropriate.

- 319 ○ Potential areas of review may include: ethical decision-making, billing and
320 reimbursement, health information sharing/privacy, organizational and
321 individual liability protections and, credentialing/ licensure issues.

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323 **4.5.2** ASPR, FDA, CDC and CMS will clarify the circumstances that trigger waivers to
324 existing federal laws and regulations and the process for initiating such waivers (e.g.
325 identify emergency situations where the absence of waivers can impede response and
326 recovery efforts, etc.)

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328 **4.5.3** ASPR and CMS, in coordination with DHS, DOT and DoD, will evaluate barriers
329 and identify processes to facilitate the reimbursement for transport and care of out-of-
330 state patients resulting from a public health emergency or disaster.

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