



NATIONAL HEALTH SECURITY PREPAREDNESS INDEX



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**Suggested Updates to the
National Health Security Preparedness Index for 2017
Draft for Public Comment**

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BACKGROUND

The U.S. Centers for Disease Control and Prevention (CDC) established the National Health Security Preparedness Index in 2012 to create a platform for measuring the nation's progress in preparing for, responding to, and recovering from disasters and other large-scale emergencies that pose risks to health and wellbeing in the United States. As a measurement tool, the Index summarizes levels of preparedness achieved within individual states and for the nation as a whole, with the goal of disseminating and using this information for multiple purposes: (1) to enhance public awareness and understanding of national preparedness components and capabilities; (2) to encourage coordination and collaboration among the multiple sectors and stakeholders that contribute to preparedness capabilities; (3) to inform planning, policy development, and quality improvement activities across the preparedness field; and (4) to stimulate and guide future research on how to measure and improve preparedness and health security.

Supported by CDC, the Index was developed through a broad collaboration of stakeholders led by the Association of State and Territorial Health Officials (ASTHO), the Oak Ridge Associated Universities (ORAU), the University of Pittsburgh Medical Center's Center for Biosecurity, and Johns Hopkins University's Center for Public Health Preparedness. More than 30 organizations have contributed to development of the Index over time, including federal, state, and local public health agencies, emergency management agencies, health care organizations, research institutions, and professional associations. Developed as an annual measurement tool, the first release of the Index occurred in December 2013, and a second release followed in December 2014. Index results are released via the website www.nhspi.org.

In January 2015, responsibility for maintaining and improving the Index transitioned from CDC to the Robert Wood Johnson Foundation (RWJF). A substantial revision to the Index methodology and measurement set was undertaken during 2015, culminating with the third release of the Index in April 2016. This current, third release of the Index includes a total of 134 measures drawn from more than 50 data sources. The third release of the Index also included significant improvements in scaling, weighting, imputation, and confidence interval methodologies designed to improve the validity and reliability of Index results and to enable accurate tracking of progress over time through longitudinal comparisons of Index results. Index measures are aggregated into domain and subdomain composite measures, and further aggregated into an overall preparedness measure, based on conceptual framework of preparedness developed for the Index. Index values are computed for each calendar year period beginning with a baseline year of 2013, allowing for valid comparisons over time. More information about the 2016 revised Index methodology can be found [here](#). See [Appendix 1](#) to this document for a summary of the 134 measures used in the 2016 Index.

This report summarizes a set of suggested updates to the Index methodology and measures that have been submitted for possible inclusion in the 4th release of the Index to occur in 2017. Public comments about these suggestions will be solicited over a 30 day period after the release of this report. All comments received will be reviewed by the Index National Program Office based at the University of Kentucky, by the National Advisory Committee for the Index, and by RWJF. Final decisions about which suggestions will be incorporated as updates to the Index will be made based on assessments of their expected impact on (1) the validity, reliability, and comprehensiveness of preparedness measures reflected in the Index; (2) the accuracy and relevance of comparisons made across preparedness domains, subdomains, states, and years; (3) the usability and utility of the Index for key stakeholders in preparedness policy, practice and research; and (4) the feasibility of implementing improvements with the time, resources, data, and technology available for production of the 4th release of the Index. Suggestions deemed not to be feasible for incorporation into the 4th release of the Index may be considered for incorporation into subsequent

versions of the Index. Final decisions about updates to the Index will be made by RWJF in consultation with the National Advisory Committee and the National Program Office.

METHODS

Suggestions for updates and enhancements to the Index were solicited from a broad array of preparedness stakeholders and from the public at large, using several mechanisms during 2016:

- (1) Quarterly discussions with members of the National Advisory Committee for the Index, which includes federal, state, local, and nongovernmental representatives with diverse areas of scientific, professional, and community expertise.
- (2) Monthly discussions held with two standing workgroups established for the Index, including one workgroup focused on Index measures and analytic methodologies and a second workgroup focused on Index stakeholder engagement and communication strategies. Workgroup meetings are held via telephone and internet and are open to the public.
- (3) An Open Call for Measures announced publicly and solicited during September and October, 2016. See [Appendix 2](#) to this document for the response to the open call.
- (4) Comments received through the Index website and through communications with the Index National Program Office.
- (5) Briefings held with several stakeholder groups, including the Association of Public Health Laboratories, the Association of State and Territorial Health Officials, the U.S. Centers for Disease Control and Prevention, and the Office of the U.S. Assistant Secretary for Preparedness and Response.

The Index National Program Office conducted a preliminary assessment of suggestions for new or modified Index measures using seven key criteria:

1. **Importance:** the measure must reflect an activity, skill, resource or capability that contributes to improved preparedness for minimizing adverse health consequences caused by disasters, outbreaks, and/or other emergencies.
2. **Validity:** the measure must be tested for validity and reliability.
3. **Coverage:** data for the measure must be available for each U.S. state and the nation as a whole, with valid solutions available for resolving missing data problems.
4. **Periodicity:** data for the measure must be collected consistently over time at least once every 3 years.
5. **Timeliness:** the most recent year of data available for the measure must be no more than 3 years older than the Index release year (2017).
6. **Accessibility:** data for the measure must be in the public domain or agreements must be formed with owners to access data for inclusion in the Index.
7. **Parsimony:** the measure must add new or superior information to the Index compared to that of other measures included in the Index, and should not duplicate or compete with other measures.

Similarly, the National Program Office conducted a preliminary assessment of suggested changes to the Index computational methodologies based on feasibility and the potential to improve the validity, reliability, comparability, and utility of Index results. Nevertheless, the suggestions summarized in this document have not been endorsed by the National Program Office, the National Advisory Committee, RWJF, nor any of the collaborating and contributing organizations to the Index.

RESULTS: SUGGESTED UPDATES

Two types of suggestions are summarized in this report: (1) updates to individual measures used within the Index; and (2) updates to the computational methods used in constructing Index results.

1. Suggested Updates to Index Measures

1.1 Suggested New Measures

The following new measures have been suggested as possible additions to the Index:

- **P1—Percentage of one-person households in each state.** Specification: proportion of civilian, non-institutionalized residents 18 years of age or older who live alone. Rationale: As an indicator of social support and social capital, this measure may reflect the ability of individuals to rely on support from others for routine or emergency assistance.
- **P2—State participation in [Laboratory Response Network for Chemical Threats \(LRN-C\)](#).** Specification: whether the state has a Level 1 or Level 2 LRN-C Laboratory. Level 2 laboratories are staffed with chemists who are trained to detect exposure to a broad array of chemical agents. Level 1 laboratories provide surge-capacity testing for federal CDC laboratories and are able to detect exposure to an expanded number of chemical agents beyond the Level 1 testing capabilities. Rationale: State participation in LRN-C may enable faster detection of chemical exposures that are of public health concern.
- **P3—Participation in federally-supported Health Care Coalitions (HCCs).** Specification: percentage of {hospitals, emergency medical service agencies, emergency management agencies, and local health departments} that participate in Health Care Coalitions supported through the federal [Hospital Preparedness Program](#) of the Office of the Assistant Secretary for Preparedness and Response. (Note: Four separate item measures). Rationale: Broad participation in Health Care Coalitions may enhance communication, resource-sharing, and coordinated planning and response activities across sectors in the event of an emergency.
- **P4—Supply of environmental health specialists.** Specification: {number of} environmental health specialists {per 100,000 population}, using data from the Bureau of Labor Statistics Occupational Employment Statistics (BLS OES) 19-2041 Environmental Scientists and Specialists, Including Health. Rationale: States with a larger supply of environmental health specialists may have a superior ability to prevent, detect and contain health hazards related to air, water, food, housing, soil, climate, and other environmental conditions.
- **P5—First responder health and safety.** Specification: Occupational fatality rate among workers employed in the emergency responder occupations, using data from the Bureau of Labor Statistics (BLS) Census of Fatal Occupational Injuries (Police, Fire, Ambulance, Emergency & Relief Services). Rationale: Lower fatality rates may reflect superior health and safety practices and enhanced workforce capability to respond to emergencies.
- **P6—Adoption and meaningful use of electronic health records (EHR).** Specification: percentage of {hospitals and office-based physicians} that have demonstrated meaningful use of

certified health IT in the Centers for Medicare and Medicaid Services (CMS) Electronic Health Record (EHR) Incentive Program. Rationale: Adoption and use of EHRs may enhance continuity of clinical care operations when emergencies disrupt routine clinical transactions, and may enhance early detection of and response to hazards through electronic reporting and syndromic surveillance.

- **P7—Age of housing stock.** Specification: percentage of housing units built prior to 1970 or after 2000. Rationale: Housing age may reflect the degree of population vulnerability to environmental hazards such as lead paint exposure and extreme weather events.
- **P8—Housing stock construction resiliency.** Specification: percentage of housing units not manufactured or mobile homes. Rationale: Residents of housing units that are manufactured or mobile homes may be less resilient to health hazards associated with extreme weather events.
- **P9—Bridge structural integrity.** Specification: percentage of bridges that are not functionally obsolete or structurally deficient. Rationale: The structural integrity of bridges may be an indicator of the transportation system's resilience to natural disasters and its capacity for supporting emergency-related surges in utilization.
- **P10—Personal and household preparedness.** Specification: percent of U.S. residents who are aware of and comply with recommended household preparedness actions {knowing community risks, participating in drills, making a plan, maintaining supplies, volunteering in safety and planning activities}. Source: national data from the Federal Emergency Management Agency (FEMA) National Household Survey and the U.S. Department of Housing and Urban Development (HUD) American Household Survey. Rationale: Residents who undertake household preparedness actions may experience lower vulnerability to health hazards during emergencies, demonstrate increased compliance with evacuation and response orders, and present reduced risks for social contacts and first responders.
- **P11—State laboratory capacity for testing toxic agents in soil.** Specification: whether the state public health laboratory provides or assures testing soil samples for toxic agents, based on Association of Public Health Laboratories (APHL) Comprehensive Laboratory Services Survey (CLSS). Rationale: states with this laboratory capability may detect and contain soil-based hazards more rapidly, with potential benefits for vulnerable populations including children, agricultural, construction and mining workers, and populations living proximate to hazardous waste sites.

1.2 Suggested Modifications to Existing Measures

Based on consultation with APHL representatives, modifications to the following measures derived from APHL data sources are suggested:

- **M256—Does your state public health laboratory participate in the following federal surveillance programs? [Foodborne Diseases Active Surveillance Network ([FoodNet](#))?]** Specification: suggest replacing FoodNet with [PulseNet](#) participation for this measure. Rationale: Because FoodNet's participation is determined by CDC based on 12 established catchment areas, all states do not have the opportunity to participate in FoodNet.
- **M1314—Has your chemical terrorism/threat (CT) laboratory been certified or accredited by the College of American Pathologists (CAP) OR radiological terrorism/threat (RT) laboratory been certified or accredited by College of American Pathologists (CAP)? (1=Yes, 0=No).** Specification: suggest using Clinical Laboratory Improvement Amendments (CLIA) certification rather than CAP certification for this measure. Rationale: CAP is regulated under CLIA.

- **M8—Does your {state public health} laboratory have enough staffing capacity to work five 12-hour days for six to eight weeks in response to an infectious disease outbreak, such as novel influenza A (H1N1)?** Specification: suggest updating the wording of this measure to “Does your state public health laboratory have a plan to handle a significant surge in testing over a six- to eight-week period in response to an outbreak or other public health event?” Rationale: change in question wording on the APHL survey that captures updated data for this measure.
- **M211, M216, M276, and M272—Does your {state public health} laboratory provide or assure the following laboratory tests? <several tests listed>** Specification: currently these measures are scored as all or nothing, requiring labs to conduct all tests to receive a value of “1.” Suggest changing to a percentage that reflects the number of tests performed as a proportion of the total specified tests. Additionally, update measure to incorporate one new test for M211 and two new tests for M216 as specified on the APHL survey.
- **M197—Does your {state public health} laboratory provide or assure testing for radiologic agents in environmental samples?** Specification: suggest removing this measure, as it is redundant with measure M272.

1.3 Existing Measures Suggested for Removal

The following measures are suggested for removal from the 2017 Index due to lack of updated data sources:

- **Remove M311—{State average} nursing home staffing turnover.** Recommend deleting this measure. The current Index uses data from 2010 and 2013, and updated data are no longer being collected.
- **Remove M47—Is your state education agency a member of the state emergency planning committee?** The current Index uses data from 2012, and updated data are no longer being collected.

2. Suggested Updates to Computational Methods

Several additional geographic areas are suggested for inclusion in future releases of Index results:

- **CM1—District of Columbia.** Specification: report separate measures and Index results for D.C., and include D.C. results when calculating national Index results.
- **CM2—U.S. territories and major metropolitan areas.** Specification: where available, capture Index data for territories and metropolitan areas. Convene expert workgroups to explore options for Index computation for these geographic areas. For metropolitan area estimates, focus initially on municipalities that receive direct federal funding for preparedness activities.

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**APPENDIX 1: NATIONAL HEALTH SECURITY PREPAREDNESS INDEX MEASURES LIST:
APRIL 2016 RELEASE**

2015-16 Measure (ID) and Data Source	Data Date(s)
Domain 1: Health Security Surveillance	
Subdomain 1.1: Health Surveillance & Epidemiological Investigation	
M17 - State participates in the Behavioral Risk Factor Surveillance System (BRFSS) *	2012—2014
Source: Centers for Disease Control and Prevention (CDC), Behavioral Risk Factor Surveillance System Survey Questionnaire (BRFSS). Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. Survey data analyzed by PMO personnel.	
Limitations: The BRFSS has significant challenges related to acquiring data on a local scale. Not all states participate in the BRFSS at the same level.	
M18 - {Number of} epidemiologists {per 100,000 population}	2012—2014
Source: Bureau of Labor Statistics (BLS), Occupational Employment Statistics (OES)	
Limitations: This is not a measure of quality as epidemiologists can have varying levels of training and organizations may not always support sufficient continuing education. The measure does not include agency surge plans that can increase the number of epidemiologists available to respond to an event, nor mutual aid plans that can temporarily increase the number of epidemiologists.	
M19 - State participates in the Epidemic Information Exchange (Epi-X) System *	2013
Source: Centers for Disease Control and Prevention (CDC), The Epidemic Information Exchange (Epi-X) Program	
Limitations: Participation in the system is inferred from membership of staff and managers in a state, but it may not represent the actual level of attention the organization gives to alerts from the system.	
M20 - State participates in National Electronic Disease Surveillance System (NEDSS) *	2013—2015
Source: Centers for Disease Control and Prevention (CDC), Division of Health Informatics and Surveillance (DHIS), National Electronic Disease Surveillance System (NEDSS)	
Limitations: The measure only considers a state's participation in the National Electronic Disease Surveillance System (NEDSS). The measure does not consider the quality of a state's disease surveillance system.	
M22 - State health department has an electronic syndromic surveillance system that can report and exchange information	2012
Source: Association of State and Territorial Health Officials (ASTHO), ASTHO Profile of State Public Health: Volume Three	
Limitations: Syndromic surveillance systems are an important tool for the early detection of potential disease outbreaks and other events. They rely on traditional disease surveillance and environmental monitoring systems to confirm events.	
M217 - Has your {state public health} laboratory implemented the Laboratory Information Management System (LIMS) capability to electronically receive and report laboratory information (e.g., electronic test order and report with hospitals and clinical labs, surveillance data from public health laboratory to epidemiology)?	2012 & 2014
Source: Association of Public Health Laboratories (APHL), Comprehensive Laboratory Services Survey (CLSS)	
Limitations: Since the introduction of LIMS, newer technologies and standards have been introduced to laboratories, including policies requiring uptake of electronic laboratory reporting (ELR).	

Appendix 1: National Health Security Preparedness Index Measures List: April 2016 Release

2015-16 Measure (ID) and Data Source	Data Date(s)
<p>M220 - Does your state have any legal requirement for nongovernmental (e.g., clinical, hospital-based) laboratories within your state to send clinical isolates or specimens associated with reportable foodborne diseases to the state public health laboratory?</p> <p>Source: Association of Public Health Laboratories (APHL), Comprehensive Laboratory Services Survey (CLSS)</p> <p>Limitations: The measure does not collect data on what diseases are reportable. States also have requirements to submit the isolates of reportable diseases to public health laboratories.</p>	2012 & 2014
<p>M256 - Does your state public health laboratory participate in the following federal surveillance programs [Foodborne Diseases Active Surveillance Network (FoodNet)]?</p> <p>Source: Association of Public Health Laboratories (APHL), Comprehensive Laboratory Services Survey (CLSS)</p> <p>Limitations: Participation is a "yes" or "no" determination, though from state to state the scope and quality of participation can vary significantly.</p>	2012 & 2014
<p>M23 - {Proportion of} foodborne illness outbreaks reported to Centers for Disease Control and Prevention (CDC) for which an etiologic agent is confirmed</p> <p>Source: Centers for Disease Control and Prevention (CDC), Foodborne Online Outbreak Database (FOOD)</p> <p>Limitations: Certain states identify and report foodborne illness outbreaks more frequently than other states. This may increase the denominator and lower the state's percentage, creating a misleading view of the state's foodborne disease investigation program.</p>	2011—2013
<p>M289 - State health department participates in a broad prevention collaborative addressing HAIs (healthcare-associated infections) *</p> <p>Source: Centers for Disease Control and Prevention (CDC), National Healthcare Safety Network (NHSN), Prevention Status Reports</p> <p>Limitations: The measure indicates that the state health department is a participant in the prevention collaborative, but the measure does not describe the state's rates of various types of healthcare-associated infections or if the rates are in decline as a result of the prevention collaborative. The measure does not indicate the percentage of state hospitals participating in the prevention collaborative.</p>	2013
<p>M290 - State has a public health veterinarian</p> <p>Source: National Association of State Public Health Veterinarians (NASPHV), Designated and Acting State Public Health Veterinarians</p> <p>Limitations: A "yes" response indicates that this expert resource is present at the state level, but only implies that the state public health veterinarian is integrated into an animal response plan or is working in coordination with other animal-related resources such as a board of animal health or the state animal response team. The data source provides a list of contact information for each state's public health veterinarian, but no job description details or related material. Also, this source list is maintained for helping direct and develop uniform public health procedures involving zoonotic disease in the U.S. and its territories, so planning for animals in an emergency in the context of the Health Security Surveillance domain may only be a secondary consideration.</p>	2014 & 2015
<p>M265 - {State} uses an Electronic Death Registration System (EDRS)</p> <p>Source: National Association for Public Health Statistics and Information Systems (NAPHSIS), Electronic Death Registration Systems by Jurisdiction (State)</p>	2014 & 2015

Appendix 1: National Health Security Preparedness Index Measures List: April 2016 Release

2015-16 Measure (ID) and Data Source	Data Date(s)
Limitations: The measure does not account for the quality of the death registration system, nor the timeliness with which deaths can be recorded. It also does not capture any redundant systems that might need to be used in place of the EDRS for certain scenarios such as cyber-attack and power outages.	
M801 - {In which} of the following federal surveillance programs does your {state public health} laboratory participate? [Influenza Centers for Disease Control and Prevention (CDC)/World Health Organization (WHO) Surveillance Network] *	2012 & 2014
Source: Association of Public Health Laboratories (APHL), Comprehensive Laboratory Services Survey (CLSS)	
Limitations: Participation is a "yes" or "no" determination, though from state to state the scope and quality of participation can vary significantly.	

2015-16 Measure (ID) and Data Source	Data Date(s)
Domain 1: Health Security Surveillance	
Subdomain 1.2: Biological Monitoring & Laboratory Testing	
M1 - Ability of Public Health Emergency Preparedness (PHEP) Cooperative Agreement-funded Laboratory Response Network chemical (LRN-C) laboratories to collect, package, and ship samples properly during an LRN-C exercise *	2011—2013
Source: Centers for Disease Control and Prevention (CDC), Office of Public Health Preparedness and Response (OPHPR), National Snapshot of Public Health Preparedness	
Limitations: In the exercise, all of the samples are simulated and real-life confounding issues like mislabeled specimens or specimens arriving at the laboratory at different times are not included. The current exercise is at best a demonstration of capability although it may not mimic real-life conditions.	
M1314 - Has your chemical terrorism/threat (CT) laboratory OR radiological terrorism/threat (RT) laboratory been certified or accredited by College of American Pathologists (CAP)? (1=Yes, 0=No)	2013—2015
Source: Association of Public Health Laboratories (APHL), All-Hazards Laboratory Preparedness Survey	
Limitations: Certification can be difficult because there are only simulated samples—at least for chemical agents.	
M208 - Does your state public health laboratory have a USDA/APHIS (U.S. Department of Agriculture/Animal and Plant Health Inspection Service) permit for the importation and transportation of controlled materials, organisms, and vectors?	2012 & 2014
Source: Association of Public Health Laboratories (APHL), Comprehensive Laboratory Services Survey (CLSS)	
Limitations: The measure looks at a point in time. The permit must be renewed every year. Specific language is required on the permit; laboratories may not have entered all of the right information.	
M8 - Does your state public health laboratory have enough staffing capacity to work five 12-hour days for six to eight weeks in response to an infectious disease outbreak, such as novel influenza A (H1N1)?	2013—2015
Source: Association of Public Health Laboratories (APHL), All-Hazards Laboratory Preparedness Survey	

Appendix 1: National Health Security Preparedness Index Measures List: April 2016 Release

2015-16 Measure (ID) and Data Source	Data Date(s)
<p>Limitations: The measure specifically concerns how a laboratory must surge, or ramp up, their workforce in order to meet the testing demand of an infectious disease outbreak. Laboratories may have different ways of managing surge capacity.</p>	
<p>M9 - Does your {state public health} laboratory have a documented continuity of operations plan (COOP) consistent with National Incident Management System (NIMS) guidelines? Source: Association of Public Health Laboratories (APHL), All-Hazards Laboratory Preparedness Survey</p>	2013—2015
<p>Limitations: The measure does not determine if the COOP is laboratory-specific or part of an agency plan. The measure does not evaluate the quality or comprehensiveness of the COOP.</p>	
<p>M11 - Does your {state public health} laboratory have a plan in place to receive samples from a sentinel clinical laboratory during nonbusiness hours? Source: Association of Public Health Laboratories (APHL), All-Hazards Laboratory Preparedness Survey</p>	2013—2015
<p>Limitations: The measure may reflect that a laboratory has a plan in place, but does not reflect the frequency with which this plan may be used or tested. The ability to receive samples is only one step among many that result in rapid, accurate testing, which helps inform policy decisions in a response.</p>	
<p>M12 - Does your state public health laboratory currently have the capacity in place to assure the timely transportation (pick-up and delivery) of samples 24/7/365 days to the appropriate public health Laboratory Response Network (LRN) reference laboratory? Source: Association of Public Health Laboratories (APHL), All-Hazards Laboratory Preparedness Survey</p>	2013—2015
<p>Limitations: The measure does not evaluate the time between pick-up and delivery. The measure does not look at the percentage of sentinel labs (i.e., hospital-based labs that have direct contact with patients) that are covered by the transport system.</p>	
<p>M211 - Does your {state public health} laboratory provide or assure the following laboratory tests? [arbovirus serology, hepatitis C serology, Legionella serology, measles serology, mumps serology, Neisseria meningitides serotyping, Plasmodium identification, Salmonella serotyping, Shigella serotyping, Varicella serology] If a state performs ALL of the 10 tests, it receives a "1" on this measure, otherwise a "0." Source: Association of Public Health Laboratories (APHL), Comprehensive Laboratory Services Survey (CLSS)</p>	2012 & 2014
<p>Limitations: Laboratories will use a variety of methods to provide this testing, and it is not standard across all PHLs. Laboratories may have a difficult time answering the question, depending on how it is asked.</p> <p>M216 - Does your {state public health} laboratory provide or assure the following laboratory tests? [antimicrobial susceptibility testing confirmation for vancomycin resistant Staphylococcus aureus, Anaplasmosis (Anaplasma phagocytophilum), Babesiosis (Babesia sp.), botulinum toxin—mouse toxicity assay, Dengue Fever, Hantavirus serology, identification of unusual bacterial isolates, identification of fungal isolates, identification of parasites, Klebsiella pneumoniae Carbapenemase (blaKPC) by PCR, Legionella by culture or PCR, malaria by PCR, norovirus by PCR, Powassan virus, rabies] If a state performs ALL of the 15 tests, it receives a "1" on this measure, otherwise a "0."</p>	2012 & 2014
<p>Source: Association of Public Health Laboratories (APHL), Comprehensive Laboratory Services Survey (CLSS)</p>	

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2015-16 Measure (ID) and Data Source	Data Date(s)
<p>Limitations: Laboratories will use a variety of methods to provide this testing; it is not standard across all PHLs. Laboratories may have a difficult time answering the question, depending on how it is asked.</p>	
<p>M2 - Proportion of Laboratory Response Network biological (LRN-B) laboratory proficiency tests successfully passed by Public Health Emergency Preparedness (PHEP) Cooperative Agreement-funded laboratories</p>	2011—2013
<p>Source: Centers for Disease Control and Prevention (CDC), Office of Public Health Preparedness and Response (OPHPR), National Snapshot of Public Health Preparedness</p>	
<p>Limitations: Proficiency tests are at best a test of a laboratory's capability. Proficiency tests are administered only a few times annually. Laboratories will lack proficiency tests for several years for many of the assays they are capable of performing.</p>	
<p>M3 - Percentage of pulsed field gel electrophoresis (PFGE) subtyping data results for E. coli submitted to the PulseNet (PN) national database within four working days of receiving isolate at the PFGE laboratory</p>	2011—2013
<p>Source: Centers for Disease Control and Prevention (CDC), Office of Public Health Preparedness and Response (OPHPR), National Snapshot of Public Health Preparedness</p>	
<p>Limitations: The measure is limited to time to perform PFGE and upload data. The measure does not look at transport time or identification time. The measure is limited to foodborne agents that have PFGE subtyping.</p>	
<p>M5 - Proportion of agents correctly identified and quantified from unknown samples during unannounced proficiency testing {during the Laboratory Response Network (LRN) Emergency Response Pop Proficiency Test (PopPT) Exercise}</p>	2011—2013
<p>Source: Centers for Disease Control and Prevention (CDC), Office of Public Health Preparedness and Response (OPHPR), National Snapshot of Public Health Preparedness</p>	
<p>Limitations: A proficiency test is at best a demonstration of capability. The current proficiency testing does not measure the public health laboratory's ability to process a large number of samples.</p>	
<p>M7 - Number of additional chemical agent detection methods demonstrated by Laboratory Response Network chemical (LRN-C) Level 1/Level 2 laboratories</p>	2011—2013
<p>Source: Centers for Disease Control and Prevention (CDC), Office of Public Health Preparedness and Response (OPHPR), National Snapshot of Public Health Preparedness</p>	
<p>Limitations: The measure is only looking at additional methods and not all methods the laboratory is capable of testing. Proficiency testing is the best demonstration of capability.</p>	
<p>M286 - {Total number of} chemical threat and multi-hazards preparedness exercises {or drills} your state public health laboratory conducted or participated in {annually}</p>	2013—2015
<p>Source: Association of Public Health Laboratories (APHL), All-Hazards Laboratory Preparedness Survey</p>	
<p>Limitations: The measure includes all tabletop exercises, drills, functional exercises, and full-scale exercises for both chemical threats and multi-hazards (e.g., any combo of biological, chemical, and radiological threats).</p>	
<p>M287 - Percentage of pulsed field gel electrophoresis (PFGE) sub-typing data results for Listeria monocytogenes submitted to the PulseNet (PN) national database within four working days of receiving isolate at the PFGE laboratory</p>	2011—2013
<p>Source: Centers for Disease Control and Prevention (CDC), Office of Public Health Preparedness and Response (OPHPR), National Snapshot of Public Health Preparedness</p>	

Appendix 1: National Health Security Preparedness Index Measures List: April 2016 Release

2015-16 Measure (ID) and Data Source	Data Date(s)
<p>Limitations: The measure only evaluates the timeliness of identification and reporting of Listeria monocytogenes. The measure does not indicate how many samples are being processed per year, nor does it evaluate the quality of the PFGE results being submitted.</p>	
<p>M288 - Number of core methods (agents) demonstrated by Laboratory Response Network chemical (LRN-C) Level 1/Level 2 laboratories</p> <p>Source: Centers for Disease Control and Prevention (CDC), Office of Public Health Preparedness and Response (OPHPR), National Snapshot of Public Health Preparedness</p> <p>Limitations: The measure focuses on standard laboratory procedures and fundamental tasks that are critical to the accurate identification of chemical agents. Standards set under the Clinical Laboratory Improvement Amendments (CLIA) and the College of American Pathologists (CAP) accreditation program are critical components, as is success in achieving proficiency annually in the methods necessary to meet these capabilities.</p>	2011—2013

2015-16 Measure (ID) and Data Source	Data Date(s)
Domain 2: Community Planning & Engagement Coordination	
Subdomain 2.1: Cross-Sector / Community Collaboration	
<p>M47 - Is your state education agency a member of the state emergency planning committee?</p> <p>Source: Centers for Disease Control and Prevention (CDC), Division of Adolescent and School Health (DASH), School Health Policies and Programs Study (SHPPS)</p> <p>Limitations: Being a member of a state emergency planning committee may or may not reflect the level of participation of schools across a given state in emergency preparedness planning.</p>	2012
<p>M87 - Is the state-level health department accredited by the Public Health Accreditation Board (PHAB)?</p> <p>Source: Public Health Accreditation Board (PHAB), Health Departments in e-PHAB</p> <p>Limitations: Accreditation is still in the early stages and the preparedness component is still being refined. Health departments "in process" are not considered as accredited in this measure.</p>	2014 & 2015
<p>M501 - Percent of population served by a comprehensive public health system (scope of services and inter-organizational connectedness)</p> <p>Source: National Longitudinal Survey of Public Health Systems (NLSPHS), National Association of County and City Health Officials (NACCHO), and Area Resource File (ARF) data analyzed by PMO and affiliated personnel.</p> <p>Limitations: This measure is not easily estimated.</p>	2012 & 2014

2015-16 Measure (ID) and Data Source	Data Date(s)
Domain 2: Community Planning & Engagement Coordination	
Subdomain 2.2: Children & Other At-Risk Populations	
<p>M52 - {State requires all child care providers to have} a plan for children with disabilities and those with access and functional needs</p> <p>Source: Save the Children, U.S. Report Card on Children in Disasters</p> <p>Limitations: The measure does not include nonlicensed providers. The measure does not reflect whether the plan has been tested or reviewed in the past two years or whether there are effective partnerships underpinning the plan.</p>	2013—2015
<p>M53 - Hazard plan for all K-12 schools</p> <p>Source: Save the Children, U.S. Report Card on Children in Disasters</p>	2013—2015

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2015-16 Measure (ID) and Data Source	Data Date(s)
<p>Limitations: The measure does not reflect how comprehensively the plan may engage partners or truly indicate a state's ability to manage multiple hazards in a school environment for a more robust response. Also, possession of a state plan does not ensure that it has been used or tested within the past two years. There is a lack of definition around what entails "multiple types of hazards" and which may or may not be appropriate for a state to plan for (accounting for regional differences).</p>	
<p>M163 - {Number of} pediatricians, general {per 100,000 adolescent population}</p>	2012—2014
<p>Source: Bureau of Labor Statistics (BLS), Occupational Employment Statistics (OES)</p>	
<p>Limitations: The measure does not indicate how healthcare facilities and jurisdictions may have mutual aid plans in place to supplement the number of pediatricians in the event of an emergency.</p>	
<p>M164 - {Number of} obstetricians and gynecologists {per 100,000 female population}</p>	2012—2014
<p>Source: Bureau of Labor Statistics (BLS), Occupational Employment Statistics (OES)</p>	
<p>Limitations: Healthcare facilities and jurisdictions may have mutual aid plans in place to supplement the number of obstetricians and gynecologists in the event of an emergency.</p>	
<p>M170 - Proportion of a state's children 19 and younger who reside within 50 miles of a pediatric trauma center (including pediatric trauma centers from neighboring states)</p>	2011—2013
<p>Source: American Hospital Association (AHA), AHA Annual Survey of Hospitals data and U.S. Census population data analyzed by PMO personnel.</p>	
<p>Limitations: The measure reflects a population-adjusted number of pediatric trauma centers, but it does not indicate the number of available pediatric trauma beds or inpatient treatment beds for the care of pediatric patients.</p>	
<p>M50 - State requires that all childcare providers have a family-child reunification plan</p>	2013—2015
<p>Source: Save the Children, U.S. Report Card on Children in Disasters</p>	
<p>Limitations: There is a mix of templates/guidelines aimed at childcare centers/facility types and a variety of public website information intended for families. The target audience is not consistent and providing general information does not constitute having a family reunification plan in place.</p>	
<p>M51 - State requires that all childcare providers have a plan for evacuating and safely moving children to an alternate site</p>	2013—2015
<p>Source: Save the Children, U.S. Report Card on Children in Disasters</p>	
<p>Limitations: There is a mix of templates/guidelines aimed at childcare centers/facility types and a variety of public website information aimed at families. The target audience is not consistent and providing general information is not necessarily an indicator that the childcare facility preparedness plans have identified an adequate alternate site in the event of an emergency evacuation.</p>	
<p>Domain 2: Community Planning & Engagement Coordination</p>	
<p>Subdomain 2.3: Management of Volunteers during Emergencies</p>	
<p>M36 - State participates in Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP) Program {and has a state volunteer registry} *</p>	2014
<p>Source: Assistant Secretary for Preparedness and Response (ASPR), The Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)</p>	

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2015-16 Measure (ID) and Data Source	Data Date(s)
<p>Limitations: The measure reflects whether a mechanism for a state volunteer registry exists, but not whether it has been managed well (e.g., kept current), leveraged effectively, or used at all during exercises or responses. The measure also may or may not accurately reflect a state's capacity for volunteer surge during emergencies.</p>	
<p>M266 - Percent of a state's population who live in a county with a Community Emergency Response Teams (CERT)</p>	2012—2014
<p>Source: Federal Emergency Management Agency (FEMA), Citizen Corps Community Emergency Response Teams (CERT), and U.S. Census data analyzed by PMO personnel.</p>	
<p>Limitations: The success of volunteer efforts like Citizen Corps depends on strong leadership, support from local and governmental entities and agencies, and the engagement of multiple sectors. As such, the activity levels, outreach, breadth of training, and access to financial support for Citizen Corps efforts and councils will vary from location to location.</p>	
<p>M346 - Medical Reserve Corps members per 100,000</p>	2012—2014
<p>Source: Medical Reserve Corps (MRC), MRC Units Database and Census Bureau data analyzed by PMO personnel.</p>	
<p>Limitations: The MRC is not the only source of health and medical volunteers. Many states have alternate systems of registering, credentialing, and managing health and medical volunteers, including ESAR-VHP (Emergency System for the Advance Registration of Volunteer Health Professionals), and/or have other local, regional, or state-sponsored health and medical teams of volunteers not registered as MRCs. There may also be overlap or integration of these systems (e.g., MRC volunteers registered through ESAR-VHP systems). The measure may over-represent the number of active MRC volunteers and credentials. MRC units vary with regard to how current their registries of volunteers are, how many trainings or exercises volunteers have participated in, and how frequently credentials/licenses are verified.</p>	
<p>M176 - Proportion of MRC members who are physicians</p>	2015
<p>Source: Medical Reserve Corps (MRC), MRC Units Database and Census Bureau data analyzed by PMO personnel.</p>	
<p>Limitations: The measure may over-represent the number of active MRC volunteer physicians and credentials. MRC units vary with regard to how current their registries of volunteers are, how many trainings or exercises volunteers have participate in, and how frequently credentials/licenses are verified.</p>	
<p>M179 - Percentage of Medical Reserve Corps volunteers who are nurses or advanced practice nurses</p>	2015
<p>Source: Medical Reserve Corps (MRC), MRC Units Database and Census Bureau data analyzed by PMO personnel.</p>	
<p>Limitations: The measure may over-represent the number of active MRC nurses and their credentials. MRC units vary with regard to how current their registries of volunteers are, how many trainings or exercises their volunteers have participated in, and how frequently they verify volunteers' credentials/licenses.</p>	
<p>M186 - Percentage of Medical Reserve Corps volunteers who are other health professionals</p>	2015
<p>Source: Medical Reserve Corps (MRC), MRC Units Database and Census Bureau data analyzed by PMO personnel.</p>	

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2015-16 Measure (ID) and Data Source	Data Date(s)
<p>Limitations: The measure may over-represent the number of active MRC volunteers and their credentials. MRC units vary with regard to how current their registries of volunteers are, how many trainings or exercises their volunteers have participated in, and how frequently they verify volunteers' credentials/licenses.</p>	

2015-16 Measure (ID) and Data Source	Data Date(s)
Domain 2: Community Planning & Engagement Coordination	
Subdomain 2.4: Social Capital & Cohesion	
<p>M172 - {Percentage of} residents doing favors for neighbors</p> <p>Source: Current Population Survey (CPS), Civic Engagement Supplement data analyzed by PMO personnel.</p> <p>Limitations: The measure is self-reported and may be subject to reporting bias; respondents may feel compelled to appear more connected to neighbors than they actually are.</p>	2011 & 2013
<p>M175 - Voting-eligible population highest office turnout rate</p> <p>Source: United States Election Project, General Election Turnout Rates</p> <p>Limitations: No noted limitations. The measure has been used repeatedly in multiple areas to assess social cohesion and, specifically, civic engagement.</p>	2012 & 2014
<p>M188 - {Annual adult} volunteer rate</p> <p>Source: Current Population Survey (CPS), Volunteer Supplement data analyzed by PMO personnel.</p> <p>Limitations: The measure may be subject to reporting bias; respondents may be inclined to over-report their rates of volunteerism. In addition, the measure doesn't reflect how often residents volunteer. The sustainability or regularity with which a person (or community) volunteers may translate into a stronger, more resilient community during and following a disaster.</p>	2012—2014
<p>M189 - Average volunteer hours per resident {per year} (15 Years Old and Older)</p> <p>Source: Current Population Survey (CPS), Volunteer Supplement data analyzed by PMO personnel.</p> <p>Limitations: The measure may be subject to reporting bias; respondents may be inclined to over-report the number of hours they perform volunteer work. Therefore, the benefits that extend to the rest of a community may not be accurate. In addition, this average may reflect lower numbers in certain communities that actually do have strong social cohesion, such as settings where both parents work full-time and may not have time to volunteer.</p>	2012—2014

2015-16 Measure (ID) and Data Source	Data Date(s)
Domain 3: Incident & Information Management	
Subdomain 3.1: Incident Management & Multi-Agency Coordination	
<p>M10 - Have you utilized a rapid method (e.g., Health Alert Network (HAN), blast e-mail or fax) to send messages to your sentinel clinical laboratories and other partners? *</p> <p>Source: Association of Public Health Laboratories (APHL), All-Hazards Laboratory Preparedness Survey</p> <p>Limitations: The measure does not reflect the frequency with which a rapid method may be used regularly and/or in emergencies or whether this function has been tested by a jurisdiction. It mainly reflects an existing capacity to communicate via a single medium (electronic) and in one direction (outward).</p>	2013—2015

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2015-16 Measure (ID) and Data Source	Data Date(s)
<p>M70 - Degree to which state has a dispensing prophylaxis plan in place that accounts for all operational elements of a local mass prophylaxis/dispensing plan</p> <p>Source: Centers for Disease Control and Prevention (CDC), Office of Public Health Preparedness and Response (OPHPR), Division of State and Local Readiness (DSLRL)</p> <p>Limitations: The measure focuses narrowly on operational coordination topics and does not include other items such as mutual aid and resource planning. The measure is also incident-specific.</p>	2012 & 2013
<p>M71 - Degree to which a state has a hospital and alternate care facilities coordination plan in place on how to procure emergency medical materiel</p> <p>Source: Centers for Disease Control and Prevention (CDC), Office of Public Health Preparedness and Response (OPHPR), Division of State and Local Readiness (DSLRL)</p> <p>Limitations: The measure only focuses on procurement of materiel and does not address additional multi-agency coordination facets such as information sharing between the public health and healthcare systems. Additionally, this measure is only a measure of the planning component of such coordination, not the implementation or quality of such a plan.</p>	2012 & 2013
<p>M84 - State is Emergency Management Accreditation Program (EMAP)-accredited</p> <p>Source: Emergency Management Accreditation Program (EMAP), Who Is Accredited?</p> <p>Limitations: Accreditation is voluntary. Some jurisdictions choose to not seek Emergency Management Accreditation Program (EMAP) accreditation for various state and local reasons. States with conditional accreditation are not considered as accredited for this measure.</p>	2014 & 2015
<p>M333 - State has an animal (livestock and pet) disaster preparedness plan</p> <p>Source: American Veterinary Medical Association (AVMA), Animal Disaster Plans and Resources by State</p> <p>Limitations: While a "yes" response regarding a state animal disaster preparedness plan indicates a commitment by the state to address the needs and other important considerations for animals during and following an emergency, the source data also captures additional information related to addressing animal needs that represent a commitment beyond a plan. This additional information varies from state to state and is not captured by "yes/no" responses; the information has the potential for a more quantifiable response.</p>	2014 & 2015
<p>M107 - Percentage of local health departments with an emergency preparedness coordinator {for states with local health departments, excludes Rhode Island and Hawaii}</p> <p>Source: National Association of County and City Health Officials (NACCHO), 2013 National Profile of Local Health Departments</p> <p>Limitations: The measure is collected less frequently than annually. Additionally, some states do not have local health departments and therefore no local health department emergency management coordinators. Lastly, leadership roles themselves do not determine the quality or robustness of an emergency management system.</p>	2013
<p>M222 - State health agency participates in the Water Information Sharing and Analysis Center (WaterISAC)</p> <p>Source: Water Information Sharing and Analysis Center (WaterISAC), State Agencies Participating in WaterISAC</p>	2013

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2015-16 Measure (ID) and Data Source	Data Date(s)
<p>Limitations: The measure itself focuses narrowly on information sharing pertaining to water-related incidents rather than intelligence information overall. The measure has no published target that specifically identifies that a state public health agency should participate. It does not take into account the other government or public/private water systems that participate in this program.</p>	
<p>M229 - In case of an emergency, does your {state public health} laboratory have a 24/7/365 contact system in place? *</p>	2012 & 2014
<p>Source: Association of Public Health Laboratories (APHL), Comprehensive Laboratory Services Survey (CLSS)</p>	
<p>Limitations: The measure narrowly focuses on a system only for the state public health laboratory and does not include the quality of the system in place.</p>	
<p>M150 - State participates in Hospital Available Beds for Emergencies and Disasters (HAvBED) Program *</p>	2012
<p>Source: Assistant Secretary for Preparedness and Response (ASPR), National Hospital Available Beds for Emergencies and Disasters (HAvBED) System</p>	
<p>Limitations: The measure requires data entry into the secure platform from existing state and local reporting systems used to measure bed counts during emergencies. The measure does not replace the need to evaluate state and local bed count system development and implementation.</p>	
<p>M334 - Does state have a climate change adaptation plan?</p>	2014 & 2015
<p>Source: Center for Climate and Energy Solutions (C2ES), State and Local Climate Adaptation</p>	
<p>Limitations: The measure is an indicator of state planning for climate change; however, it only indicates if a state has a plan. The quality of the plan is not evaluated. The degree to which the plan is being implemented is also not evaluated.</p>	
<p>M72 - {Degree to which} training, exercise, and evaluation plans are compliant with guidelines set forth by the Homeland Security Exercise and Evaluation Program</p>	2012 & 2013
<p>Source: Centers for Disease Control and Prevention (CDC), Office of Public Health Preparedness and Response (OPHPR), Division of State and Local Readiness (DSLRL)</p>	
<p>Limitations: The measure does not address if adequate preparedness plans are in place. It also does not determine the degree to which response plans are tested and evaluated.</p>	
<p>M335 - State has statewide and/or county animal response team(s)</p>	2013—2015
<p>Source: RedRover, Animal Response Teams</p>	
<p>Limitations: While a "yes" response indicates a state's commitment to addressing the issues that arise regarding animals and pets during and following an emergency, the extent to which a team is integrated into the overall state plan and activities is not clearly indicated, nor is the resource commitment toward this team and this issue. There may be some ambiguity when considering this measure. The title implies a yes/no with regard to "a state team," but the source listings include a mix of state, county, and local teams. In a few cases, it appears no state level team is indicated but one or more county teams are listed. A state that has answered "yes" should be interpreted to mean a state has any combination of state, regional, or county/local teams.</p>	
<p>M701 - Average number of minutes for state public health staff with incident management lead roles to report for immediate duty</p>	2011—2013
<p>Source: Centers for Disease Control and Prevention (CDC), Office of Public Health Preparedness and Response (OPHPR), National Snapshot of Public Health Preparedness</p>	

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2015-16 Measure (ID) and Data Source	Data Date(s)
Limitations: The measure has no apparent limitations.	

2015-16 Measure (ID) and Data Source	Data Date(s)
Domain 3: Incident & Information Management	
Subdomain 3.2: Emergency Public Information & Warning	
M64 - Degree to which a state has a public information and communication plan developed for a mass prophylaxis campaign *	2012 & 2013
Source: Centers for Disease Control and Prevention (CDC), Office of Public Health Preparedness and Response (OPHPR), Division of State and Local Readiness (DSLRL)	
Limitations: The measure only accounts for pre-event planning during a mass dispensing scenario and does not account for planning towards broader emergency scenarios. In addition, the measures does not account for emergent, response-driven public information and risk communication strategies or the implementation of previously developed frameworks.	
M228 - Percentage of households with broadband in the home	2012, 2013, & 2014
Source: American Community Survey (ACS), 1-year estimate (GCT2801) and Current Population Survey (CPS), Computer and Internet Supplement data analyzed by PMO personnel.	
Limitations: The measure itself only focuses on fixed connections and in the health security context therefore relies upon the assumption that during a public health emergency broadband remain operational.	

2015-16 Measure (ID) and Data Source	Data Date(s)
Domain 3: Incident & Information Management	
Subdomain 3.3: Legal & Administrative	
M338 - State requires facility reporting of healthcare-associated infections to the Centers for Disease Control and Prevention's (CDC's) National Health Safety Network (NHSN) or other systems *	2012 & 2013
Source: Centers for Disease Control and Prevention (CDC), National Healthcare Safety Network (NHSN), Healthcare—Associated Infections (HAI) Progress Report	
Limitations: The measure evaluates whether healthcare facilities are required to report healthcare associated infections to the NHSN. The measure does not evaluate the healthcare facilities' compliance with the reporting requirements.	
M340 - Who must report foodborne illness within the state? {Number out of the following reporting source types}: clinical laboratories, physicians, hospitals, nurses, physician assistants, and/or other healthcare provides (e.g., chiropractors, veterinarians)	2013
Source: Public Health Law Research (PHLR), Temple University. Robert Wood Johnson Foundation (RWJF), LawAtlas: State Foodborne Illness Reporting Laws Map	
Limitations: The measure is limited to if the state has a specific law that requires foodborne illnesses or related conditions be reported by these providers. The measure does not evaluate the completeness or timeliness of the disease reporting.	
M341 - State law include{s} a general provision regulating the release of personally identifiable information (PII) held by the health department *	2013
Source: Public Health Law Research (PHLR), Temple University. Robert Wood Johnson Foundation (RWJF), LawAtlas: State Foodborne Illness Reporting Laws Map	

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2015-16 Measure (ID) and Data Source	Data Date(s)
<p>Limitations: The measure only assesses whether or not a law is in place. It does not capture the scope of the authorization. It does not measure the infrastructure in place to implement investigation, control, and other response strategies.</p>	
<p>M342 - State law requires communicable diseases to be reported to a health department</p> <p>Source: Public Health Law Research (PHLR), Temple University. Robert Wood Johnson Foundation (RWJF), LawAtlas: State Foodborne Illness Reporting Laws Map *</p> <p>Limitations: The measure only evaluates whether a state requires communicable disease reporting to state or local health officials. The measure does not evaluate the timeliness or completeness of the required reporting, nor how effective the state is in monitoring and enforcing the requirements. It does not evaluate the ability of the health department to receive and use the reported information.</p>	2013
<p>M344 - State has adopted the Nurse Licensure Compact (NLC)</p> <p>Source: National Council of State Boards of Nursing (NCSBN), Nurse Licensure Compact (NLC) Member States</p> <p>Limitations: The measure covers only the reduced administrative burden states gain from membership in the Nurse Licensure Compact. It does not measure individual state capacity to incorporate out-of-state nurses into medical surge responses. Additionally, some states may have existing agreements in place, similar to but smaller in scope, than the Nurse Licensure Compact.</p>	2014 & 2015
<p>M345 - State has adopted Emergency Management Assistance Compact (EMAC) legislation *</p> <p>Source: National Emergency Management Association (NEMA), What is EMAC?</p> <p>Limitations: All states are signatory to the EMAC; therefore, this score cannot be improved.</p>	2014

2015-16 Measure (ID) and Data Source	Data Date(s)
Domain 4: Healthcare Delivery	
Subdomain 4.1: Prehospital Care	
<p>M140 - {Number of} emergency medical technicians (EMTs) and paramedics {per 100,000 population}</p> <p>Source: Bureau of Labor Statistics (BLS), Occupational Employment Statistics (OES)</p> <p>Limitations: The measure may not distinguish licensed EMTs and paramedics from those that are licensed, practicing, and affiliated.</p>	2012—2014
<p>M331 - What percentage of the state's local emergency medical services (EMS) agencies submit National EMS Information System (NEMSIS) compliant data to the state?</p> <p>Source: National Highway Traffic Safety Administration (NHTSA), State NEMIS Progress Reports: State & Territory Version 2 Information</p> <p>Limitations: Some states may collect local and regional EMS data that provide some of the data in the national data set. These states may have the capability to conduct limited quality improvement and process improvement activities, but will be unable to compare themselves to national data.</p>	2014 & 2015

2015-16 Measure (ID) and Data Source	Data Date(s)
Domain 4: Healthcare Delivery	
Subdomain 4.2: Inpatient Care	
<p>M147 - Median time {in minutes} from emergency department (ED) arrival to ED departure for admitted ED patients (identifier ED-1)</p>	2012—2014

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2015-16 Measure (ID) and Data Source	Data Date(s)
Source: Centers for Medicare & Medicaid Services (CMS), Timely and Effective Care—State	
Limitations: There is unknown information about the nature of treatment between emergency department arrival and discharge.	
M148 - Median admit decision time {in minutes} to emergency department (ED) departure time for admitted patients (identifier ED-2)	2012—2014
Source: Centers for Medicare & Medicaid Services (CMS), Timely and Effective Care—State	
Limitations: The measure describes the pre-event capability to move patients from the emergency department to inpatient care but it does not describe the hospital's capabilities during a mass casualty or other event.	
M149 - Number of staffed beds {per 100,000 population}	2013—2015
Source: American Hospital Directory (AHD), Inc. American Hospital Directory	
Limitations: The measure does not include the total licensed beds for which a healthcare facility maintains a license to operate. The measure also does not consider plans for creating additional beds through hospital surge plans.	
M152 - Percentage of a state's population who live within 50 miles of a trauma center (including trauma centers from neighboring states)	2011—2013
Source: American Hospital Association (AHA), AHA Annual Survey of Hospitals data and U.S. Census population data analyzed by PMO personnel.	
Limitations: The quality of care provided by the trauma centers is not considered in this measure.	
M160 - {Number of} physicians and surgeons {per 100,000 population}	2012—2014
Source: Bureau of Labor Statistics (BLS), Occupational Employment Statistics (OES)	
Limitations: This measure may not reflect that healthcare facilities and jurisdictions may have mutual aid plans in place to supplement the number of physicians and surgeons in the event of an emergency.	
M167 - Number of active registered nurse (RN) and licensed practical nurse (LPN) licenses {per 100,000 population}	2013—2015
Source: National Council of State Boards of Nursing (NCSBN), National Nursing Database	
Limitations: The measure may underrepresent the number of RNs or LPNs available to surge to provide care during an emergency. States that do not participate in the National Council of State Boards of Nursing include Alaska, Hawaii, and Oklahoma. Louisiana does not report data regarding PNs. Further, mutual aid protocols may exist to bring additional RNs and PNs into the jurisdiction to respond to an emergency requiring medical surge.	
M168 - Percent of population who live within 100 miles of a burn center (includes burn centers in other states)	2014
Source: American Burn Association (ABA) data on Burn Care Facilities analyzed by PMO personnel.	
Limitations: The measure may underrepresent the specialized resources needed for an emergency that requires mass care of burn patients.	
M296 - {Percentage of} hospital facilities {in the state} that provide geriatric services (includes general as well as specialized geriatric services, such as psychiatric geriatric services/Alzheimer care)	2011—2013
Source: American Hospital Association (AHA), Annual Survey of Hospitals	

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2015-16 Measure (ID) and Data Source	Data Date(s)
<p>Limitations: The measure considers geriatric services that are owned or provided by the hospital or by the hospital's health system (i.e., doesn't require a contractual agreement). Hospitals may provide competent care to geriatric patients without having a specialty care program.</p>	
<p>M297 - {Percentage of} hospital facilities {in the state} that provide palliative care programs (includes both palliative care program and/or palliative care inpatient unit, but excludes pain management program, patient-controlled analgesia, and hospice program)</p>	2011—2013
<p>Source: American Hospital Association (AHA), Annual Survey of Hospitals</p>	
<p>Limitations: The measure only evaluates whether or not a hospital provides the service. The quality of care and the capacity of the program to provide services during an emergency are not considered.</p>	
<p>M298 - Number of airborne infection isolation room (AIIR) beds {per 100,000 population} (including hospitals with AIIR rooms within 50 miles from neighboring states)</p>	2011—2013
<p>Source: American Hospital Association (AHA), Annual Survey of Hospitals</p>	
<p>Limitations: There are no obvious limitations to this measure.</p>	
<p>M299 - Risk-adjusted 30-day mortality among Medicare beneficiaries hospitalized for heart attack, heart failure, or pneumonia</p>	2008-11, 2009-12, 2010-13
<p>Source: The Commonwealth Fund, Aiming Higher: Results from a Scorecard on State health System Performance</p>	
<p>Limitations: Variations in state populations (e.g., obesity or smoking rates) may have a greater effect on this measure than public health programs, mitigating the measure's use for this purpose.</p>	
<p>M300 - Percentage of {grade} "A" hospitals {in a state} for Hospital Safety Score</p>	2013—2015
<p>Source: The Leapfrog Group, Hospital Safety Score (HSS)</p>	
<p>Limitations: More than 2,600 hospitals received a score. Hospitals excluded from receiving a score include critical access hospitals, specialty hospitals, pediatric hospitals, hospitals in Maryland, territories exempt from public reporting to CMS, and others.</p>	

Domain 4: Healthcare Delivery	
Subdomain 4.3: Long-Term Care	
<p>M303 - {State requires that} long-term care and nursing home facilities must have a written disaster plan</p>	2013
<p>Source: American College of Emergency Physicians (ACEP), America's Emergency Care Environment, A State-by-State Report Card</p>	
<p>Limitations: The measure does not evaluate the quality or feasibility of the emergency preparedness plan. Simply having a plan is not enough; it is the quality and detail of the plan and actively planning with the community that provides a deeper context.</p>	
<p>M308 - {State average} reported registered nurse (RN) staffing hours per resident per day</p>	2014 & 2015
<p>Source: Centers for Medicare & Medicaid Services (CMS), Nursing Home State Averages</p>	
<p>Limitations: The measure is an average that does not include more detail on the range/distribution, thus limiting its descriptive value. Data are collected during a specific two-week period; variations related to season, region, resident acuity, skill mix of other care providers, and other factors are not taken into account.</p>	

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M309 - {State average} reported certified nursing assistant (CNA) staffing hours per resident per day	2014 & 2015
Source: Centers for Medicare & Medicaid Services (CMS), Nursing Home State Averages	
Limitations: The CNA capacity in a state does not guarantee that they are available during a disaster. Those CNAs that are available also need to have disaster-specific education.	
M307 - Percent of long-stay residents assessed and appropriately given the seasonal influenza vaccine	2013—2015
Source: Centers for Medicare & Medicaid Services (CMS), Nursing Home State Averages	
Limitations: The additional protection gained and the reduced demand on the healthcare system is of some value but may be marginal in the context of a major disaster. Also, the effectiveness of the vaccine varies as a function of the accuracy in predicting the strains used to make each year's vaccine.	
M310 - {State average} reported licensed practical nurse (LPN) staffing hours per resident per day	2014 & 2015
Source: Centers for Medicare & Medicaid Services (CMS), Nursing Home State Averages	
Limitations: The measure is an average that does not include more detail on the range/distribution, thus limiting its descriptive value. Data are collected during a specific two-week period; variations related to season, region, resident acuity, skill mix of other care providers, and other factors are not taken into account.	
M311 - {State average} nursing home staffing turnover	2010 & 2013
Source: American Health Care Association (AHCA), Nursing Facility Staffing Survey	
Limitations: The state average nursing home staffing turnover is not useful in determining health resiliency.	
M312 - {Percentage of} long-stay nursing home residents hospitalized within a six-month period	2008—11, 2009—12, 2010—13, 2010, 2012
Source: The Commonwealth Fund, Aiming Higher: Results from a Scorecard on State health System Performance	
Limitations: The measure may indicate the quality of service; nursing homes with a low percentage may serve as stronger coalition partners in planning and response. However, multiple factors affect hospitalization rates from a given nursing home; the measure does not distinguish among variables that might be relevant in emergency preparedness.	
2015-16 Measure (ID) and Data Source	Data Date(s)
Domain 4: Healthcare Delivery	
Subdomain 4.4: Mental & Behavioral Healthcare	
M315 - {Percentage of} hospital facilities {in the state} that provide chaplaincy/pastoral care services	2011—2013
Source: American Hospital Association (AHA), Annual Survey of Hospitals	
Limitations: Chaplaincy/pastoral care services may not be available in adequate numbers to respond to a surge and services are not solely focused on fatalities.	
M316 - {Percentage of} hospital facilities {in the state} that provide psychiatric emergency services	2011—2013
Source: American Hospital Association (AHA), Annual Survey of Hospitals	

Appendix 1: National Health Security Preparedness Index Measures List: April 2016 Release

2015-16 Measure (ID) and Data Source	Data Date(s)
<p>Limitations: Respondents to the American Hospital Association (AHA) survey (the source for this measure) may have varying definitions of emergency psychiatric services covering a broad range. In effect, all hospitals that provide emergency medical services provide emergency psychiatric services. At the same time, fewer may have more complete, specialty-staffed, comprehensive psychiatric emergency services. Positive responses to this measure will cover a very wide range of capability. A negative may reflect the complete absence of emergency psychiatric services or the respondent's view that a positive response requires a separate, identifiable, comprehensive service when, in fact, some capacity exists. The measure does not indicate the extent of the hospital's or emergency psychiatric services integration with other disaster preparedness and response efforts (including health). It does not measure the type of services provided such as at hospital, mobile crisis response capacity, telephone-based crisis services, etc. In some cases, this measure may tend to duplicate and/or overlap with another measure that asks about licensing and certification of behavioral health and substance abuse providers.</p>	
<p>M317 - Percent of need met in mental health professional shortage areas {in the state}</p>	2014
<p>Source: The Henry J. Kaiser Family Foundation, Mental Health Care Health Professional Shortage Areas (HPSA)</p>	
<p>Limitations: This measure is based solely on the availability of psychiatrists. While psychiatrists often play an important role in the array of services provided following disasters, the vast majority of behavioral health services following disasters are provided by behavioral health professionals other than psychiatrists (e.g., psychologists, social workers, licensed counselors, pastoral counselors, psychiatric nurses). The extent to which this measure serves as a proxy for shortages in these other professional groups will likely vary across jurisdictions. The measure does not account for the ability of a state to temporarily move mental health resources within the state in times of disasters. For example, many states have established trained and certified crisis teams that can be activated and deployed to disaster zones, thus enabling rapid supplementation of local resources. The measure does not reflect the availability of existing resources (many providers have waiting lists and/or are legally and contractually obligated to serve particular populations and may not be available for alternative service in times of disasters). The measure does not reflect the status of skills and training necessary for optimal performance in disasters.</p>	
<p>M800 - Population (% of state total) living in a HRSA designated Mental Health Professional Shortage Area</p>	2015
<p>Source: U.S. Census Bureau and Health Resources & Services Administration (HRSA) data analyzed by PMO personnel.</p>	
<p>Limitations: While this measure has no apparent limitations, it can be difficult to estimate.</p>	

2015-16 Measure (ID) and Data Source	Data Date(s)
<p>Domain 4: Healthcare Delivery</p>	
<p>Subdomain 4.5: Home Care</p>	
<p>M291 - How often the home health team determined whether the patient received a flu shot for the current flu season {as an average percentage of home health episodes of care in the state}</p>	2013—2015
<p>Source: Centers for Medicare & Medicaid Services (CMS), Home Health Care-State by State Data</p>	

Appendix 1: National Health Security Preparedness Index Measures List: April 2016 Release

2015-16 Measure (ID) and Data Source	Data Date(s)
<p>Limitations: How often {average percentage of home health episodes of care in the state} the home health team determined whether the patient received a flu shot for the current flu season as an average percentage of home health episodes of care in the state is not in itself useful to determine population-level health resiliency.</p>	
<p>M292 - How often the home health team began their patients' care in a timely manner {as an average percentage of home health episodes of care in the state}</p>	2014 & 2015
<p>Source: Centers for Medicare & Medicaid Services (CMS), Home Health Care-State by State Data</p>	
<p>Limitations: The measure is a statewide average and does not indicate the lengths of delays, nor does it identify if this is a regional or statewide problem. These issues limit the usefulness of the measure.</p>	
<p>M293 - {Number of} home health and personal care aides per 1,000 population aged 65 or older</p>	2011—2013
<p>Source: American Community Survey (ACS), 1-year Public Use Microsample (PUMS) data analyzed by PMO personnel.</p>	
<p>Limitations: The number of home health and personal care aides per 1,000 population aged 65 and older gives an indication of the total capacity of home health aides available. However, that information in itself does not describe their availability during a health emergency or the number of providers that have emergency care plans for their clients.</p>	

2015-16 Measure (ID) and Data Source	Data Date(s)
Domain 5: Countermeasure Management	
Subdomain 5.1: Medical Materiel Management, Distribution, & Dispensing	
<p>M60 - Degree to which state has developed a plan including Strategic National Stockpile (SNS) elements *</p>	2012 & 2013
<p>Source: Centers for Disease Control and Prevention (CDC), Office of Public Health Preparedness and Response (OPHPR), Division of State and Local Readiness (DSLRL)</p>	
<p>Limitations: The measure only considers the content and adequacy of a written plan and does not evaluate if the state has the resources and ability to implement the plan in a timely and effective manner.</p>	
<p>M61 - Degree to which a state has demonstrated ability to manage the Strategic National Stockpile (SNS), including updated staffing, call-down exercises, Incident Command System (ICS) integration, testing, and notification of volunteers</p>	2012 & 2013
<p>Source: Centers for Disease Control and Prevention (CDC), Office of Public Health Preparedness and Response (OPHPR), Division of State and Local Readiness (DSLRL)</p>	
<p>Limitations: The measure considers a roster and notification protocol for key staff and volunteers needed to implement the state's SNS plan. It does not measure the number of staff or volunteers that would actually be available during an emergency.</p>	
<p>M62 - Level of completeness and utility of state plans and procedures in place for requesting Strategic National Stockpile (SNS) material from local authorities</p>	2012 & 2013
<p>Source: Centers for Disease Control and Prevention (CDC), Office of Public Health Preparedness and Response (OPHPR), Division of State and Local Readiness (DSLRL)</p>	
<p>Limitations: The measure considers the completeness of state plans to distribute SNS assets to local health departments but it does not measure if the state and local health departments have the capacity to implement the plan.</p>	

Appendix 1: National Health Security Preparedness Index Measures List: April 2016 Release

2015-16 Measure (ID) and Data Source	Data Date(s)
<p>M63 - Degree to which a state has communications plans in place for Strategic National Stockpile (SNS) usage</p> <p>Source: Centers for Disease Control and Prevention (CDC), Office of Public Health Preparedness and Response (OPHPR), Division of State and Local Readiness (DSLRL)</p> <p>Limitations: A limitation of the measure, which is a state-level score reported by the Centers for Disease Control and Prevention (CDC) after conducting technical assistance reviews with states, is that important variations in local readiness across the state may not be readily apparent. Additionally, the measure indicates the degree to which the state has completed a plan, but it does not address the quality of that the plan or whether it has been tested and improved.</p>	2012 & 2013
<p>M65 - Degree to which a state has completed security planning for coordination of medical countermeasures dispensing, management, and mass prophylaxis</p> <p>Source: Centers for Disease Control and Prevention (CDC), Office of Public Health Preparedness and Response (OPHPR), Division of State and Local Readiness (DSLRL)</p> <p>Limitations: The measure indicates the degree to which the state has completed a plan, but it does not address the quality of that the plan or whether it has been tested and improved.</p>	2012 & 2013
<p>M66 - Degree to which a state has demonstrated receipt, stage, and store (RSS) plans and procedures developed to coordinate all logistics concerning Strategic National Stockpile (SNS) materiel</p> <p>Source: Centers for Disease Control and Prevention (CDC), Office of Public Health Preparedness and Response (OPHPR), Division of State and Local Readiness (DSLRL)</p> <p>Limitations: The bulk of on-the-ground work to receive, stage, store, move, track, and keep secure SNS supplies happens at the local level and depends on people and technology in many different places throughout the state. A limitation of the measure, which is a state-level score reported by the Centers for Disease Control and Prevention (CDC) after conducting technical assistance reviews with states, is that important variations in local readiness across the state may not be readily apparent.</p>	2012 & 2013
<p>M67 - Degree to which state is observed to have a controlling inventory procedure in place, including an Inventory Management System (IMS) to track Strategic National Stockpile (SNS) materiel</p> <p>Source: Centers for Disease Control and Prevention (CDC), Office of Public Health Preparedness and Response (OPHPR), Division of State and Local Readiness (DSLRL)</p> <p>Limitations: The bulk of on-the-ground work to receive, stage, store, move, track, and keep secure SNS supplies happens at the local level and depends on people and technology in many different places throughout the state. A limitation of the measure, which is a state-level score reported by the Center for Disease Control and Prevention (CDC) after conducting technical assistance reviews with states, is that important variations in local readiness across the state may not be readily apparent.</p>	2012 & 2013
<p>M68 - Degree to which state has a repackaging procedure in place, particularly for bulk medications for public dispensing</p> <p>Source: Centers for Disease Control and Prevention (CDC), Office of Public Health Preparedness and Response (OPHPR), Division of State and Local Readiness (DSLRL)</p> <p>Limitations: The measure focuses on the completeness of a plan to repackage bulk medicines and does not measure the state's ability to implement the plan.</p>	2012 & 2013

Appendix 1: National Health Security Preparedness Index Measures List: April 2016 Release

2015-16 Measure (ID) and Data Source	Data Date(s)
<p>M69 - Degree to which state has distribution plans and procedures in place for physical delivery of Strategic National Stockpile (SNS) assets from the receipt, stage, and store (RSS) facility to sites</p> <p>Source: Centers for Disease Control and Prevention (CDC), Office of Public Health Preparedness and Response (OPHPR), Division of State and Local Readiness (DSLRL)</p> <p>Limitations: The bulk of on-the-ground work to receive, stage, store, move, track, and keep secure SNS supplies happens at the local level and depends on people and technology in many different places throughout the state. Although the measure addresses the state's responsibility to tackle the cross-jurisdictional challenges and barriers, a limitation is that it is a state-level score reported by the Centers for Disease Control and Prevention (CDC) after conducting technical assistance reviews with states and important variations in local readiness across the state may not be readily apparent.</p>	2012 & 2013
<p>M161 - {Number of} pharmacists {per 100,000 population}</p> <p>Source: Bureau of Labor Statistics (BLS), Occupational Employment Statistics (OES)</p> <p>Limitations: The measure may underrepresent the number of pharmacists available to respond during an emergency. The measure is a ratio of the number of pharmacists per 100,000 people in the state, not the total number. It does not account for any mutual aid arrangements with neighboring states that could boost the number of pharmacists available for disaster response.</p>	2012—2014
<p>M270 - {Percentage of} hospital facilities {in the state that} participate in a group purchasing arrangement</p> <p>Source: American Hospital Association (AHA), Annual Survey of Hospitals</p> <p>Limitations: There is no single factor that affects shortages of drugs and/or other medical supplies. There are combinations of economic and non-economic factors that create gaps in the supply chain.</p>	2011—2013

2015-16 Measure (ID) and Data Source	Data Date(s)
Domain 5: Countermeasure Management	
Subdomain 5.2: Countermeasure Utilization & Effectiveness	
<p>M24 - The average percentage of children ages 19-35 months who have received these individual vaccinations: four or more doses of diphtheria, tetanus, and pertussis vaccine, three or more doses of poliovirus vaccine, one or more doses of any measles-containing vaccine, and three or more doses of Hepatitis B vaccine</p> <p>Source: Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHC), National Immunization Survey (NIS)</p> <p>Limitations: The measure is for routine vaccine preventable disease in pre-school age children and may not reflect the vaccination rates for a severe emerging disease.</p>	2012—2015
<p>M32 - Senior seasonal flu vaccination rate</p> <p>Source: Centers for Disease Control and Prevention (CDC), National Immunization Survey (NIS) and the Behavioral Risk Surveillance System (BRFSS), FluVaxView State, Regional, and National Vaccination Report</p> <p>Limitations: The measure has no apparent limitations.</p>	2013—2015
<p>M33 - Senior pneumococcal vaccination rate</p> <p>Source: Centers for Disease Control and Prevention (CDC), Behavioral Risk Factor Surveillance System Survey Questionnaire (BRFSS). Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. Survey data analyzed by PMO personnel.</p>	2012—2014

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2015-16 Measure (ID) and Data Source	Data Date(s)
Limitations: The measure has no apparent limitations.	
M34 - Pediatric seasonal flu vaccination rate	2012—2015
Source: Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHC), National Immunization Survey (NIS)	
Limitations: This measure only includes children aged six months to four years old, so coverage of the pediatric population is incomplete. The measure is for routine seasonal influenza and may not reflect the coverage rates for a severe emerging disease.	
M35 - Adult seasonal flu vaccination rate	2013—2015
Source: Centers for Disease Control and Prevention (CDC), National Immunization Survey (NIS) and the Behavioral Risk Surveillance System (BRFSS), FluVaxView State, Regional, and National Vaccination Report	
Limitations: This measure is for routine seasonal influenza and may not reflect vaccination coverage rates for a severe emerging disease.	

2015-16 Measure (ID) and Data Source	Data Date(s)
Domain 5: Countermeasure Management	
Subdomain 5.3: Non-Pharmaceutical Intervention	
M530 - Percent of employed population with some type of paid time off (PTO) benefit	2012—2014
Source: Current Population Survey (CPS), Annual Social and Economic Supplement (ASEC) data analyzed by PMO personnel.	
Limitations: This is survey data and can require special skill to estimate and interpret.	
M531 - Percent of employed population engaging in some work from home by telecommuting	2011—2013
Source: Current Population Survey (CPS), Work Schedules Supplement data analyzed by PMO personnel.	
Limitations: This is survey data and can require special skill to estimate and interpret.	
M705 - Percent of employed (16 and older) who work from home	2012—2014
Source: American Community Survey (ACS), 1-year estimate (Table B08128)	
Limitations: This measure might not fully capture the number of individuals who can work at home on a "part-time" basis.	

2015-16 Measure (ID) and Data Source	Data Date(s)
Domain 6: Environmental & Occupational Health	
Subdomain 6.1: Food & Water Security	
M275_DW - Does your laboratory provide or assure testing for the following environmental matrices (Drinking water)?	2012 & 2014
Source: Association of Public Health Laboratories (APHL), Comprehensive Laboratory Services Survey (CLSS)	
Limitations: The measure only indicates whether the state public health laboratory has the capability to test water in various environments. The measure does not evaluate if OTHER state laboratories have this capability. For example, Delaware and Oklahoma informed the program management office that other labs in their states do have this capability. Finally, this measure does not indicate whether the public health laboratory has the capacity to test the amount of samples necessary to respond to a health security event.	
M275_PWW - Does your laboratory provide or assure testing for the following environmental matrices (Private well water)?	2012 & 2014

Appendix 1: National Health Security Preparedness Index Measures List: April 2016 Release

2015-16 Measure (ID) and Data Source	Data Date(s)
<p>Source: Association of Public Health Laboratories (APHL), Comprehensive Laboratory Services Survey (CLSS)</p>	
<p>Limitations: The measure only indicates whether the state public health laboratory has the capability to test water in various environments. The measure does not evaluate if OTHER state laboratories have this capability. For example, Delaware and Oklahoma informed the program management office that other labs in their states do have this capability. Finally, this measure does not indicate whether the public health laboratory has the capacity to test the amount of samples necessary to respond to a health security event.</p>	
<p>M275_REC - Does your laboratory provide or assure testing for the following environmental matrices (Recreational water)?</p>	2012 & 2014
<p>Source: Association of Public Health Laboratories (APHL), Comprehensive Laboratory Services Survey (CLSS)</p>	
<p>Limitations: The measure only indicates whether the state public health laboratory has the capability to test water in various environments. The measure does not evaluate if OTHER state laboratories have this capability. For example, Delaware and Oklahoma informed the program management office that other labs in their states do have this capability. Finally, this measure does not indicate whether the public health laboratory has the capacity to test the amount of samples necessary to respond to a health security event.</p>	
<p>M275_SUR - Does your laboratory provide or assure testing for the following environmental matrices (Surface water)?</p>	2012 & 2014
<p>Source: Association of Public Health Laboratories (APHL), Comprehensive Laboratory Services Survey (CLSS)</p>	
<p>Limitations: The measure only indicates whether the state public health laboratory has the capability to test water in various environments. The measure does not evaluate if OTHER state laboratories have this capability. For example, Delaware and Oklahoma informed the program management office that other labs in their states do have this capability. Finally, this measure does not indicate whether the public health laboratory has the capacity to test the amount of samples necessary to respond to a health security event.</p>	
<p>M275_UST - Does your laboratory provide or assure testing for the following environmental matrices (Underground storage tanks)?</p>	2012 & 2014
<p>Source: Association of Public Health Laboratories (APHL), Comprehensive Laboratory Services Survey (CLSS)</p>	
<p>Limitations: The measure only indicates whether the state public health laboratory has the capability to test water in various environments. The measure does not evaluate if OTHER state laboratories have this capability. For example, Delaware and Oklahoma informed the program management office that other labs in their states do have this capability. Finally, this measure does not indicate whether the public health laboratory has the capacity to test the amount of samples necessary to respond to a health security event.</p>	
<p>M275_WST - Does your laboratory provide or assure testing for the following environmental matrices (Waste water)?</p>	2012 & 2014
<p>Source: Association of Public Health Laboratories (APHL), Comprehensive Laboratory Services Survey (CLSS)</p>	

Appendix 1: National Health Security Preparedness Index Measures List: April 2016 Release

2015-16 Measure (ID) and Data Source	Data Date(s)
<p>Limitations: The measure only indicates whether the state public health laboratory has the capability to test water in various environments. The measure does not evaluate if OTHER state laboratories have this capability. For example, Delaware and Oklahoma informed the program management office that other labs in their states do have this capability. Finally, this measure does not indicate whether the public health laboratory has the capacity to test the amount of samples necessary to respond to a health security event.</p>	
<p>M276 - For which of the following organisms or their toxins does your {state public health} laboratory provide or assure testing for food and or water samples to assist with foodborne disease outbreak investigations: Bacillus cereus, Brucella sp., Campylobacter sp., Clostridium botulinum, Clostridium perfringens, Cryptosporidium sp., Cyclospora cayetanensis, Listeria monocytogenes, norovirus, Salmonella, Shigella, Staphylococcus aureus, STEC non-O157, STEC O157, Vibrio sp., Yersinia enterocolitica. If a state performs ALL of the 16 tests, it receives a "1" on this measure, otherwise a "0."</p>	2012 & 2014
<p>Source: Association of Public Health Laboratories (APHL), Comprehensive Laboratory Services Survey (CLSS)</p>	
<p>Limitations: The measure indicates that the state public health laboratory either has these testing capabilities or assures that the tests can be done by agreement with another laboratory. Agreement laboratories may not be located to facilitate rapid transport and timely testing.</p>	
<p>M195 - Percent of population {in the state} whose community water systems meet all applicable health-based standards through approaches that include effective treatment and source water protection</p>	2013 & 2014
<p>Source: Environmental Protection Agency (EPA), Safe Drinking Water Information System Federal (SDWIS/FED) Drinking Water Data</p>	
<p>Limitations: The measure does not cover drinking water supplies that are non-public (private) and does not directly provide information on community water supplies that were adversely affected by emergencies or disasters.</p>	

2015-16 Measure (ID) and Data Source	Data Date(s)
Domain 6: Environmental & Occupational Health	
Subdomain 6.2: Environmental Monitoring	
<p>M202 - Does your {state public health} laboratory provide or assure testing for air?</p>	2012 & 2014
<p>Source: Association of Public Health Laboratories (APHL), Comprehensive Laboratory Services Survey (CLSS)</p>	
<p>Limitations: The measure is limited to one environmental matrix and does not specify what kind of testing should be performed. The measure does not address how many of these types of samples could be tested.</p>	
<p>M257_AIHA - Does the American Industrial Hygiene Association (AIHA) provide certification or accreditation of your state public health laboratory?</p>	2012 & 2014
<p>Source: Association of Public Health Laboratories (APHL), Comprehensive Laboratory Services Survey (CLSS)</p>	
<p>Limitations: The measure has no apparent limitations.</p>	
<p>M257_EPA - Does the U.S. Environmental Protection Agency (EPA) provide certification or accreditation of your state public health laboratory?</p>	2012 & 2014

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2015-16 Measure (ID) and Data Source	Data Date(s)
<p>Source: Association of Public Health Laboratories (APHL), Comprehensive Laboratory Services Survey (CLSS)</p>	
<p>Limitations: The measure has no apparent limitations.</p>	
<p>M257_NELAC - Does the National Environmental Laboratory Accreditation Conference (NELAC) provide certification or accreditation of your state public health laboratory?</p>	2012 & 2014
<p>Source: Association of Public Health Laboratories (APHL), Comprehensive Laboratory Services Survey (CLSS)</p>	
<p>Limitations: The measure has no apparent limitations.</p>	
<p>M197 - Does your {state public health} laboratory provide or assure testing for radiologic agents in environmental samples?</p>	2012 & 2014
<p>Source: Association of Public Health Laboratories (APHL), Comprehensive Laboratory Services Survey (CLSS)</p>	
<p>Limitations: The measure only indicates if the state public health laboratory has the capability, or assures it through agreement with another laboratory. It does not measure the capacity of the laboratory to process the number of samples that would be required for a response. The measure does not indicate if the agreement laboratory is appropriately located to minimize sample transport time.</p>	
<p>M196 - Does your {state public health} laboratory provide or assure testing for environmental samples in the event of suspected chemical terrorism? *</p>	2012 & 2014
<p>Source: Association of Public Health Laboratories (APHL), Comprehensive Laboratory Services Survey (CLSS)</p>	
<p>Limitations: The measure is based on a response to the Comprehensive Laboratory Services Survey distributed to the 51 state laboratories represented by the Association of Public Health Laboratories (APHL), and the response is subject to the objectivity of the survey responder. The survey question asks if the laboratory provides or assures testing of environmental samples in the event of suspected chemical terrorism, which may or may not include air, food, and/or water.</p>	
<p>M272 - Does your {state public health} laboratory test for contaminants {in environmental samples}: asbestos, explosives, gross alpha and gross beta, inorganic compounds (e.g., nitrates), metals, microbial, lead, persistent organic pollutants, pesticides (including organophosphates), pharmaceuticals, radon, or volatile organic compounds? If the state performs all 12 tests, then it receives a "1," otherwise a "0."</p>	2012 & 2014
<p>Source: Association of Public Health Laboratories (APHL), Comprehensive Laboratory Services Survey (CLSS)</p>	
<p>Limitations: The measure only indicates that a state public health laboratory has the ability to test these contaminants. The measure does not indicate the quality of the testing or the through-put or capacity of the laboratory testing. Because this measure only evaluates state public health laboratories, another laboratory in a state may provide these testing services.</p>	
<p>M273 - Does your {state public health} laboratory provide or assure testing for hazardous waste?</p>	2012 & 2014
<p>Source: Association of Public Health Laboratories (APHL), Comprehensive Laboratory Services Survey (CLSS)</p>	
<p>Limitations: The measure only considers the ability to test for substances, not the overall capacity for timely response and characterization of the release of hazardous waste to the environment.</p>	

Appendix 1: National Health Security Preparedness Index Measures List: April 2016 Release

2015-16 Measure (ID) and Data Source	Data Date(s)
M274 - State participates in the National Plant Diagnostic Network (NPDN) *	2014
Source: National Plant Diagnostic Network (NPDN), National Plant Diagnostic website	
Limitations: A "yes" response to this measure indicates that a state is participating in the NPDN. The limitation is that there is no indication as to what level or how effectively the state is participating (i.e., how many resources has the state committed, or how successful the state is in meeting the goal of quickly detecting and identifying pathogens).	

- * Foundational Capability Measures: These 18 measures reflect activities that are firmly ingrained in practice in all U.S. states and therefore do not vary across states or over time. As such, these measures were evaluated for Index inclusion solely based on expert opinions of members of the Index National Advisory Committee. More information on the methodology used to incorporate these measures into the Preparedness Index is available [here](#).

APPENDIX 2: NATIONAL HEALTH SECURITY PREPAREDNESS INDEX FOR 2017, RESPONSE TO CALL FOR MEASURES, SEPTEMBER – OCTOBER 2016

Submitter			Recommendation	
Name	Title	Organization	Type	Measure Name
Mary Leinhos	Scientific Program Official	CDC (The Centers for Disease Control and Prevention)	New measure	Percentage of one-person households
Author and source of the measure (if different from Submitter):				
This was discussed at the Office of the Assistant Secretary for Preparedness and Response (ASPR) Hurricane Sandy Research meeting in August 2015. If there is interest in following this up, I can try to trace back to the source.				
Description of the measure:				
Percentage of households consisting of only one person. This is a measure of social ties and social capital, of the ability to rely directly and easily on other persons for routine or emergency assistance due to spatial and communication proximity of interpersonal relationship.				

Submitter			Recommendation	
Name	Title	Organization	Type	Measure Name
Kyle Moppert	Medical Entomologist	The Louisiana Department of Health (LDH) Office of Public Health's (OPH)	New measure	Mosquito Control
Author and source of the measure (if different from Submitter):				
West Nile Virus in the United States: Guidelines for Surveillance, Prevention, and Control - 4th Revision, June 14, 2013 http://www.cdc.gov/westnile/resources/pdfs/wnvguidelines.pdf				
Description of the measure:				
Areas of state covered by surveillance based and non-surveillance based mosquito abatement; Number of Surveillance-based Mosquito Abatement Districts; State's Arboviral Lab's funding/capacity/normal utilization; Are State Surveillance Standards established yearly? If you are discussing West Nile, ZIKA or other Arboviruses, the State's ability to protect its population is a critical factor.				

Submitter			Recommendation	
Name	Title	Organization	Type	Measure Name
Sheri Hester	Project Manager	Oak Ridge Associated Universities (ORAU)	New measure	Human Needs Index
Author and source of the measure (if different from Submitter):				
The Salvation Army produces a Human Needs Index (HNI) quarterly at the national, regional, and state level: http://humanneedsindex.org/ .				
Description of the measure:				
The HNI provides the trends in poverty and vulnerability. In constructing the HNI, four key components (Food Security, Clothing Assistance, Health/Well-Being Services, Housing/Shelter Assistance) were identified that, taken together, allow the Salvation Army to measure dimensions of human need in a given geographic area.				

Appendix 2: National Health Security Preparedness Index for 2017, Response to Call for Measures, September – October 2016

Submitter			Recommendation	
Name	Title	Organization	Type	Measure Name
John R. Eubank	Inventor of the patent: Pat. No. 7612680	LifeSavingAdvice, LLC	New measure	Life Saving Advice
Description of the measure:				
<p>The constant updating and embedding of critical content into the memory on every electronic device. Much like a weather app, this native app on every electronic device would provide the needed and necessary geospatial info to increase one's success in the event of a disruption in service caused by a disaster, emergency, or simply overloading the network. In place of temperature, forecast of rain, wind, and humidity, our native app on every device would provide the location of, and directions to shelters, hospitals, evacuation routes and more. Every time this EM info was updated, a notification would be sent to the subscriber stating: their smartphone just got smarter with the info they never knew they'd need until they need it most.</p>				

Submitter			Recommendation	
Name	Title	Organization	Type	Measure Name
Sneha Patel	Acting Director of Evaluation	NYC Department of Health and Mental Hygiene	Modified measure	M501 Percent of population served by a comprehensive public health system (scope of services and inter-organizational connectedness)
Description of the measure:				
<p>Proposed modification: percent of vulnerable population served by a comprehensive public health system (scope of services and inter-organizational connectedness). Rationale: Disaggregation of data to account for vulnerable populations would allow for tracking of health equity. Identifying inequities would enable jurisdictions to allocate resources towards areas that face disproportionate risks and barriers to health security.</p>				

Submitter			Recommendation	
Name	Title	Organization	Type	Measure Name
Elizabeth Battaglia	Executive Vice President	TOMI Environmental Solutions	New measure	Does your (state public health) laboratory provide pre-positioned mobile chemical/biological decontamination technology to prepare and respond to disease outbreaks and chemical attacks and exposure events?
Author and source of the measure (if different from Submitter):				
<p>Dr. Halden Shane, Council of State and Territorial Epidemiologists (CTSE) member, CEO of TOMI Environmental Solutions, Inc.</p>				
Description of the measure:				
<p>Does your (state public health) laboratory provide pre-positioned mobile chemical/biological decontamination technology to prepare and respond to disease outbreaks and chemical attacks and exposure events? Prepositioning of biological/chemical response technology, either through purchase of equipment or service contract with a local provider, allows to state health laboratories to protect staff and materials and prevent spread in the event of a chemical attack or infectious disease outbreak. Portable equipment with confirmed efficacy against known and emerging pathogens, as well as chemical weapons can contain quickly respond to threats or confirmed outbreaks/events, to decontaminate equipment, ambulances, personal protective equipment (PPE) and spaces without need to precondition space to specific humidity/temperature, or to turn off heating, ventilation and air conditioning (HVAC). This measure is of critical importance as a positive response will mean the health agency is prepared and has the resources/capability to minimize adverse health consequences in the event of a chemical or biological incident or infectious disease outbreak. This measure can be applied equally across public health agencies in all US states and</p>				

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territories and does not duplicate any other measure in the index. Validated chemical/biological response technology is available in the marketplace and data would be open and accessible.

Submitter			Recommendation	
Name	Title	Organization	Type	Measure Name
Miguel A. Cruz	Public Health Emergency Operations Officer	CDC (The Centers for Disease Control and Prevention)	New measure	State health agency has at least a level 1- 2 designation to test for chemical threats
Author and source of the measure (if different from Submitter): CDC Website https://emergency.cdc.gov/lrn/chemical.asp				
Description of the measure: Having state capacity for testing of chemical threats allows a faster detection of a number of chemicals of public health concern				

Submitter			Recommendation	
Name	Title	Organization	Type	Measure Name
Francesca C. Music	Program Director, Health and Medical Policy	Department of Defense; OASD(Homeland Defense & Global Security)	Modified measure	IMAAC-Incident Management- Multiagency Coordination: Mass Fatality Management
Description of the measure: Degree to which State has a Mass Fatality Management plan in place that accounts for all operational elements of a local/State mass fatality management incident. Rationale: Officials who attended the Hidden Peril Table Top Exercise (2014), sponsored by Department of Defense (DoD) at the National Defense University, and attended by federal, state, and local representatives (e.g. Health and Human Services (HHS), The Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA), Veterans Affairs (VA), National Guard, State Emergency Management, and Public Health staff, local/city representatives, and fatality management subject matter experts (e.g., Medical Examiners/Coroners, funeral home directors) and professional associations (e.g., National Funeral Home Association), concluded mass fatality management preparedness, planning and response for all hazards is a national gap. State level plans that accommodate each state's perception of mass fatalities should be developed to coordinate multi-agency response and establish an understanding of available and needed response resources. Note: Fatality management was included in the Index about 1 year or so, ago, however, it was subsequently dropped, to our surprise. DoD thinks it is an important aspect of national preparedness (PPD-8; ESF-8 of the National Response Framework), and should be included as a specific measurement within the Index. Some states (e.g., New York) have mature plans; others do not. The Index could prompt states without plans, or immature plans, to develop them. In addition, federal response assets for mass fatality management are very limited and funding has not been made available for this.				

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Submitter			Recommendation	
Name	Title	Organization	Type	Measure Name
Robert Salesses	Deputy Assistant Secretary of Defense (Homeland Defense Integration and Defense Support of Civil Authorities)	Department of Defense, Office of the Assistant Secretary of Defense (Homeland Defense & Global Security)	New measure	Degree to which each State has a healthcare sector, critical infrastructure plan preparing and protecting them from cyber-attacks.
Author and source of the measure (if different from Submitter): Recent cyber events.				
Description of the measure: The healthcare sector is dependent on cyber/IT capabilities to share information (e.g., patient data, health/medical systems) and for direct patient care procedures (e.g., automated/IT equipment vital for patient care). Cyber-attacks on U.S. systems is increasing in number and could disrupt healthcare systems in local, State, and federal jurisdictions, and throughout regions or across the country (nationally). Cyber-attacks could also affect patient care; some medical equipment is automated and IT dependent. Other critical infrastructures (e.g., energy, water, supply systems, logistics/transportation) that affect healthcare can also experience cyber-attacks and disrupt the U.S. healthcare system. Cyber-attacks can affect the national health security and the national security of the United States. Recent cyber-attacks in the United States strengthen justification for including this as a NHSPI measure.				

Submitter			Recommendation	
Name	Title	Organization	Type	Measure Name
Marcy Barnett, REHS, CEM	Emergency Preparedness Liaison	California Department of Public Health Center for Environmental Health	New measure	{Number of} environmental health specialists {per 100,000 population}
Description of the measure: {Number of} environmental health specialists {per 100,000 population} More Environmental Health And Safety (EHS) in a community, the more health protection and preparedness expected.				

Submitter			Recommendation	
Name	Title	Organization	Type	Measure Name
Marcy Barnett, REHS, CEM	Emergency Preparedness Liaison	California Department of Public Health Center for Environmental Health	New measure	State has a written radiological emergency plan that includes activation of centers for screening and decontamination of survivors
Description of the measure: State has a written radiological emergency plan that includes activation of centers for screening and decontamination of survivors; this measure provides a gauge of preparedness for a radiological or nuclear incident.				

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Submitter			Recommendation	
Name	Title	Organization	Type	Measure Name
Juan Ruiz	Chief, Communicable Disease Emergency Response Program	California Department of Public Health	New measure	Adoption and meaningful use of electronic health records (EHR)
Description of the measure:				
The adoption of EHRs increases clinicians' awareness of potential medication errors and adverse interactions; improve the availability and timeliness of information to support treatment decisions; make it easier for clinicians to report safety issues and hazards; and give patients the opportunity to more efficiently provide input on data accuracy.				
Author and source of the measure (if different from Submitter):				
Office of the National Coordinator for Health Information Technology under the Department of Health and Human Services through the Health Information Technology for Economic and Clinical Health Act (HITECH). HITECH Act also provided economic incentives for eligible health care providers to adopt and meaningfully use certified EHR technology.				

Submitter			Recommendation	
Name	Title	Organization	Type	Measure Name
Jason Wilken	Epidemiologist	California Department of Public Health, Center for Chronic Disease Prevention and Health Promotion	New measure	Does the state have a standardized safety officer training and certification programs (e.g., National Fire Protection Association (NFPA) 1500; FEMA E954: All-Hazards Position Specific Safety Officer) for responders (fire, law, emergency medical services, hazmat, and public health).
Description of the measure:				
This measure intends to assess whether states have minimum requirements for training and certification of safety officers deployed during an incident for protection of fellow responders.				

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Submitter			Recommendation	
Name	Title	Organization	Type	Measure Name
Mitchell Berger	Public Health	Submitting in personal capacity	New measure	State adoption of for monitoring public health responders
Author and source of the measure (if different from Submitter):				
<p>CDC, Office of Public Health and Emergency Response CDC required Public Health Emergency Preparedness grantees to report this measure: 'Has a 'registry' and/or similar tracking system been developed and/or utilized at the state level for monitoring public health responders, particularly for long-term or chronic health effect.' See Public Health Emergency Preparedness (PHEP) cooperative agreement (Budget Period 2 Performance Measures Specifications and Implementation Guidance At-a-Glance Summary, http://www.cdc.gov/phpr/documents/phep_bp2_pm_at-a-glance_v1_1.pdf)</p>				
Description of the measure:				
<p>The hazards to which emergency responders are exposed, both physical and psychological have been well-documented. See (e.g., Jennifer Yip et. al., World Trade Center-related physical and mental health burden among New York City Fire Department emergency medical service workers, <i>Occupational and Environmental Medicine</i> 2016;73:13-20; B. Reinbold, Emergency Responder Health: What Have We Learned from Past Disasters?, <i>Environmental Health Perspective</i>. 2010 Aug; 118(8): A346-A350.</p> <p>Such responders increasingly include volunteers as well, such as local fire/rescue/EMS agencies, animal response teams, community emergency response teams. Some jurisdictions have established registries to track long-term physical and mental impacts of responders but it does not appear all states have done so. CDC asked states to report on this measure as part of its Public Health Emergency Preparedness grants (Measures Specifications and Implementation Guidance At-a-Glance Summary, http://www.cdc.gov/phpr/documents/phep_bp2_pm_at-a-glance_v1_1.pdf).</p> <p>Monitoring outcomes for public health responders allows earlier recognition of conditions that may impact responders on whom the community depends during an emergency, fostering resilience. In addition, data may allow development or adoption of training programs, personal protective equipment and response practices that can reduce or mitigate future injuries/illness.</p>				