

Summer June 9, 2015

National Health Security Preparedness Index: Recommendations from the National Advisory Committee

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The National Health Security Preparedness Index:

National Advisory Committee Meeting



June 9, 2015
Washington, DC

National Advisory Committee Members | 2015

1. Tom Inglesby, (Chair) UPMC Center for Health Security
2. Robert Burhans, Emergency Management Consultant
3. Anita Chandra, RAND
4. Ana-Marie Jones, Collaborating Agencies Responding to Disasters
5. Eric Klinenberg, New York University
6. Jeff Levi, Trust for America's Health
7. Nicole Lurie, Assistant Secretary for Preparedness and Response
8. Stephanie Lynch, Caddo Parish (LA) Commissioner
9. Suzet McKinney, Chicago Department of Public Health
10. Stephen Redd, CDC Office of Public Health Preparedness & Response
11. Richard Reed, American Red Cross
12. Martin Jose Sepulveda, IBM Corporation
13. Claudia Thompson, NIH National Institute of Environmental Health Sci.
14. John Wiesman, Washington State Secretary of Health

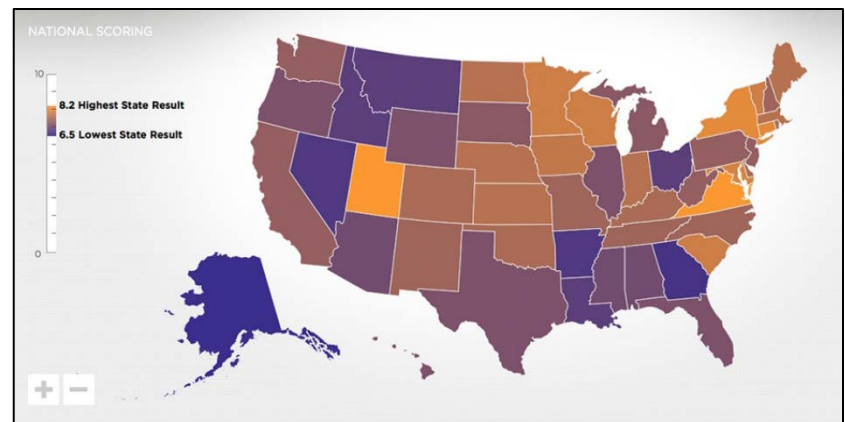


Meeting objective

Provide guidance on short-term and longer-run strategies for updating and enhancing the Index



NATIONAL HEALTH SECURITY PREPAREDNESS INDEX



Agenda

- 9:40A: Review of meeting objectives
- 10:00A: Clarification in Index goals and relationship to other measurement and reporting initiatives
- 11:00A: Recommendations on short-run Index enhancements
- 12:30P: Lunch
- 1:30P: Strategic planning on longer-run strategies for Index improvement
- 2:30P: Strategies for vetting and communicating Index improvements
- 3:00P: Conclusions and next steps



Agenda Item #1

Clarification in Index goals and relationship to other measurement and reporting initiatives



Overarching Goals for the Index

- Increase awareness & understanding
- Stimulate dialogue, debate & discussion
- Encourage coordination & collaboration
- Facilitate planning & policy development
- Support benchmarking & quality improvement
- Drive research & development



NATIONAL HEALTH SECURITY PREPAREDNESS INDEX

Guiding Principles for the Index

<http://www.nhspl.org/tools-resources/guiding-principles/>

- Health security is multifactorial
- Health security is a shared responsibility – all sectors
- Broad definition of preparedness from PPD-8
- Disaster risk reduction and primary prevention as core concepts
- Must be practical and value-added
- Build on existing data sources: low-burden
- Align with existing capabilities and frameworks
- Accurately and completely reflect state and national preparedness
- Use transparent development process that is stakeholder driven, continuously improving, based on real-world experience
- Value of composite information exceeds sum of the parts
- Advance the science of preparedness measurement



Relationship to other measurement and reporting systems

- CDC PHEP performance measures
- ASPR SHARPER performance measures
- TFAH Outbreaks Report
- America's Health Rankings
- County Health Rankings
- RWJF Culture of Health metrics



NATIONAL HEALTH SECURITY PREPAREDNESS INDEX

Agenda Item #2

Recommendations on short-run Index enhancements



Short-run Index improvements for 2016

Goal: enhance credibility & confidence in the Index as a measurement tool

- Validity and reliability of Index measures and composite scores
- Accuracy of comparisons across domains & states
- Accuracy of comparisons over time



Short-run Index improvements for 2016

Areas of concern for credibility & confidence

- Few validated and research-tested measures
- Large numbers of self-reported measures
- Redundancies in measurement
- Implicit weighting of measures
- Infrequent and irregular updates to data sources
- Longitudinally inconsistent measure specifications
- Imbalances in measures across preparedness sectors



Short-run Index improvements for 2016

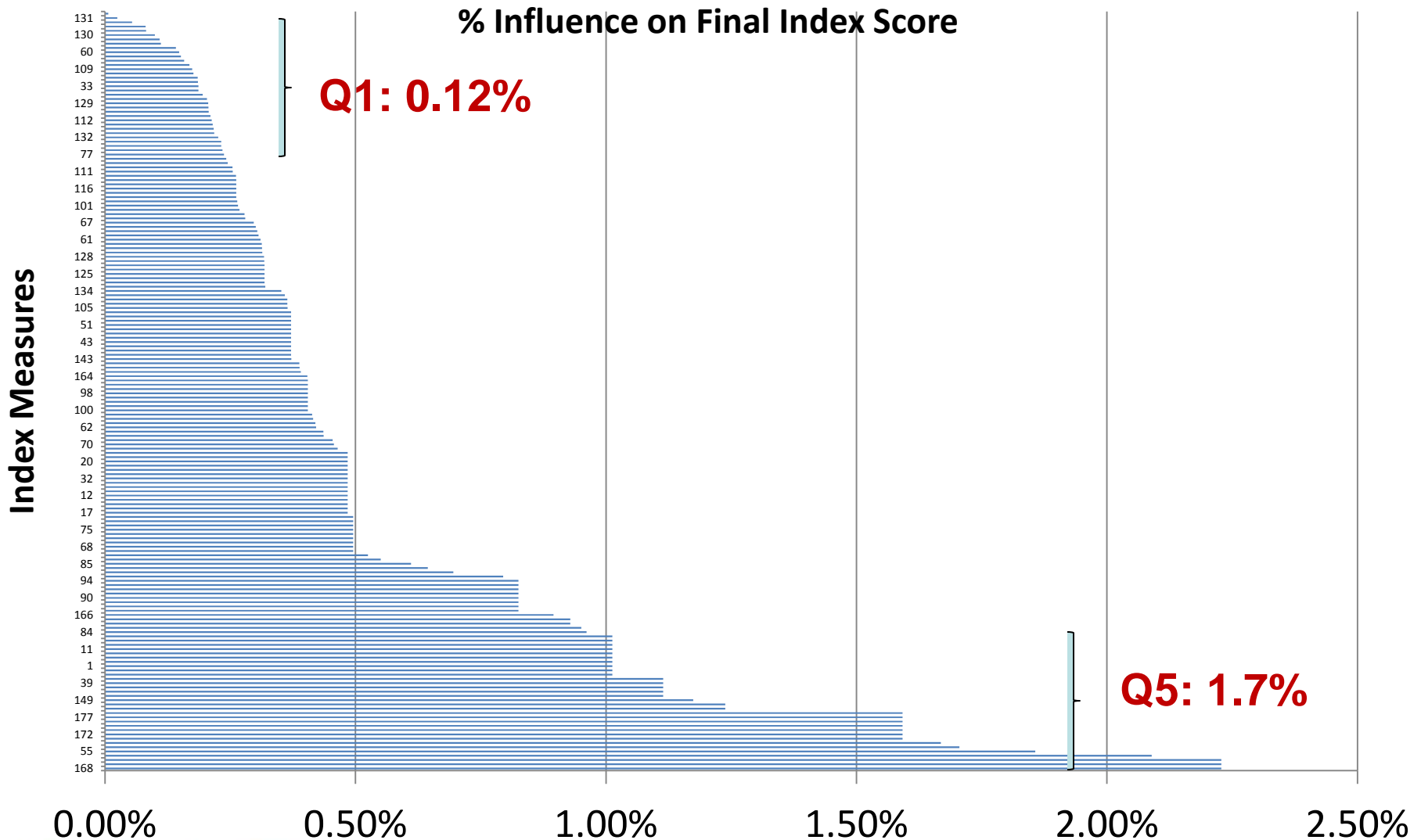
- **Consolidation:** reduce correlated, redundant & noisy measures
- **Breadth:** add new measures for under-represented constructs of preparedness & resiliency
- **Scaling:** reflect distributional properties
- **Grouping & weighting:** use empirical methods for internal consistency, discriminant power
- **Imputations:** address missing values accurately
- **Comparisons:** address accuracy and uncertainty



Short-run Index improvements for 2016

- Cull and regroup items based on validation studies
- Scale based on min/max transformation anchored on baseline 2013 data
- Item weighting based on Delphi panel, with option to reweight based on user-defined priorities
- Impute missing values using prior and concurrent data
- Use population-weighted state values to calculate national values
- Add retrospective longitudinal comparisons back to 2013 time point

Validation studies with 2014 Index



Validation studies with 2014 Index

Internal Consistency Reliability Estimates

Domain	Alpha
Health security surveillance	0.377
Community planning & engagement	0.382
Incident & information management	0.455
Healthcare delivery	0.354
Countermeasure management	0.231
Environmental/occupational health	0.546
Overall	0.311



Validation studies with 2014 Index

Item-to-Scale Validity Results

Domain	Poor	Strong Specific	Strong Non-specific	No Variation	Total Items
Surveillance	11	7	11	5	34
Comm planning/engagement	5	19	20	1	45
Incident/information mgt	3	8	15	4	30
Health care delivery	7	18	34	0	59
Countermeasures mgt	2	6	9	0	17
Environmental/occupational	3	7	1	1	12
Total items	31	65	90	11	197

Results from multi-trait scaling analysis (MTS) tests

Recommendations for New Measures

- Expand social, environmental economic indicators of preparedness & resilience
- Prior workgroup recommendations:
 - Pre-event community status
 - Federal contributions to preparedness
 - Congregate care
 - Fatality management
 - Outpatient care
 - Non-pharmaceutical interventions
 - Responder safety and health



Recommendations for New Measures

- JCAHO compliance rates with emergency management standards: hospitals, nursing homes, home health, behavioral health
- Infrastructure reliability: power, water, transportation, communication, housing, public facilities
- Workplace policies: PTO, telecommuting
- Cybersecurity measures
- Inter-sectoral & inter-jurisdictional collaboration measures
- Preparedness funding levels & distribution

Future Methodological Issues

- Incorporating sampling variability and uncertainty into the Index
- Confidence intervals for comparisons across domains, states, years



Future Methodological Issues

- Incorporating sampling variability and uncertainty into the Index
- Confidence intervals for comparisons across domains, states, years



Agenda Item #3

Lunch



Agenda Item #4

Strategic planning on longer-run Index improvements



Areas for longer-term improvements

- Enhancing conceptual framework based on theory, research and experience
- New preparedness and resiliency constructs for measurement
- Methodological enhancements: risk-based weighting, inter-dependencies and system dynamics
- Translation, visualization and communication strategies



Agenda Item #5

Communicating and vetting Index enhancements with stakeholders



Agenda Item #6

Conclusions and next steps



Appendix: Current Index Structure and Methodology



For More Information



National Program Office

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