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Opportunities and Future Directions for the National Health Security Preparedness Index™

Glen P. Mays
University of Kentucky, glen.mays@uky.edu

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Opportunities and Future Directions for the National Health Security Preparedness Index™

Glen Mays, PhD, MPH
University of Kentucky
glen.mays@uky.edu
Creating health security and community resiliency is a collective action problem that must be solved by aligning and coordinating the actions of government, private institutions, and individuals in ways that prevent, protect against, prepare for, respond to, and recover from all types of possible adverse health threats.
An Index theory of action

Measurements
Comparisons
Public reporting

Should we do something?
What should be done?
Is it working?
What’s my role?
A brief history

**Collaborative Development**: Partnership led by ASTHO, CDC, and >25 collaborating organizations

- **December 2013**: Initial model structure and Index
  - 5 domains and 14 subdomains
  - 128 measures

- **December 2014**: Revised model and Index
  - 6 domains and 18 active subdomains
  - 119 retained + 75 new = 194 measures
  - 75% of retained measures have updated data

**Future Development**: Transition to RWJF, program management office at University of Kentucky
2015 Program Management Structure

- National Coordinating Center for Public Health Services & Systems Research
  - PBRNs
  - PHSSR Stakeholders
- NHSPPI Program Management Office (UK)
  - National Advisory Committee
  - Stakeholder Communications Workgroup
    - Messages, Uses, Tools, Applications
  - Model Design Workgroup
    - Frameworks, Domains, Constructs, Indicators
  - Methodology & Analysis Workgroup
    - Scaling, Weighting, Validation, Comparisons, Trends, Visualizations
- RWJF
  - UK Center for Business and Economic Research
  - UK Division of Risk Sciences
- RAND
- Consultants
- Homefront Communications
  - Communications

Stakeholders:
- PBRNs
- PHSSR

Frameworks:
- Model Design Workgroup
  - Frameworks, Domains, Constructs, Indicators

Methodology:
- Methodology & Analysis Workgroup
  - Scaling, Weighting, Validation, Comparisons, Trends, Visualizations
Directions for Expansion and Refinement

- **Consolidation**: reduce correlated, redundant & noisy measures
- **Composition**: expand social, environmental economic indicators of preparedness & resiliency
- **Alignment**: with established national frameworks
- **Grouping & weighting**: use empirical methods for internal consistency, discriminant power
- **Scaling**: reflect distributional properties
- **Comparisons**: address accuracy and uncertainty
- **Trending**: track changes via backward compatibility
Planned validation studies with 2014 Index

- **Internal Consistency Reliability (ICR):** testing at domain and subdomain levels

- **Multi-Trait Scaling Analysis (MTS):** item to scale comparisons for convergence and discrimination

- **Sensitivity analyses:** testing alternative scaling, weighting, imputation algorithms

- **Comparison and trend tests:** use Bayesian latent variable methods to address uncertainty
Preliminary 2015 Timeline

- 2014 Release
  - Call for new measures
  - Validation studies
  - Refine framework, constructs
  - Secure data sources
  - Refine measure set & specifications
  - Test new scaling, weighting, imputation
  - Test comparisons & trending
  - Sensitivity analysis/simulation

- 2015

- 2016 Release
  - Finalize index calcs
  - Update website
  - Messaging
Stakeholder engagement

- NAC provides overall scientific & strategic guidance
- Workgroups contain representatives from key scientific, policy, and operational sectors
- Solicit online comments and feedback from much larger groups of stakeholders
- Use iterative online Delphi ratings to inform key decisions on measures & methodology updates
- In-person workgroup meetings to make final decisions
- Monitor and evaluate utilization and utility
For More Information

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Glen P. Mays, Ph.D., M.P.H.
glen.mays@uky.edu

Email: publichealthPBRN@uky.edu
Web: www.publichealthsystems.org
Journal: www.FrontiersinPHSSR.org
Archive: works.bepress.com/glen_mays
Blog: publichealththeconomics.org