

Updates to Measures and Methodologies National Health Security Preparedness Index, 2021 Release

This document describes important updates to the measures and methodologies used in the 2021 Release of the National Health Security Preparedness Index, as compared to previous Index releases. Although some aspects of the Index methodology are described in this document, please refer to the [2021 Index release Methodology](#) for a complete description of the Index’s structure, composition, and methodology.

CHANGES TO MEASURES

In total, the 2021 Index release uses 130 measures derived from 64 different sources. These measures are organized into six domains and 19 subdomains. Index values are calculated for eight years, 50 states, and the District of Columbia for each subdomain, domain, and an overall Index score.

Additional Year Added

The only change to the 2021 Index release is the addition of one year, bringing the total to eight years.

New Measures Added

The 2021 Index release has the same number of measures (130), domains (six), and subdomains (19) as the 2020 Index release.

Table 1. Measure Type and Count, 2020 and 2021 Index Releases		
	2020 Release	2021 Release
Standard Measures	111	111
Foundational Measures	19	19
Total Measures	130	130

Existing Measures Discontinued

No existing measures were discontinued from the Index in 2021.

Existing Measure Modified

No existing measures were modified.

CHANGES TO METHODOLOGY

There are no changes to the analytic methodologies used in computing Index values for the 2021 release, with the exception of rescaling that occurs each year (see next section). All methods used for the 2016, 2017, 2018, 2019, and 2020 Index releases have been continued in the 2021 release including:

- Normalization of each measure to a standard 10-point scale using min-max scaling;
- Weighting of each measure based on expert panel ratings of importance;
- Imputation for missing values;
- Longitudinal comparisons for measures across eight years of data (increased from seven years in 2020 Index); and
- Computation of confidence intervals for national summary measures.

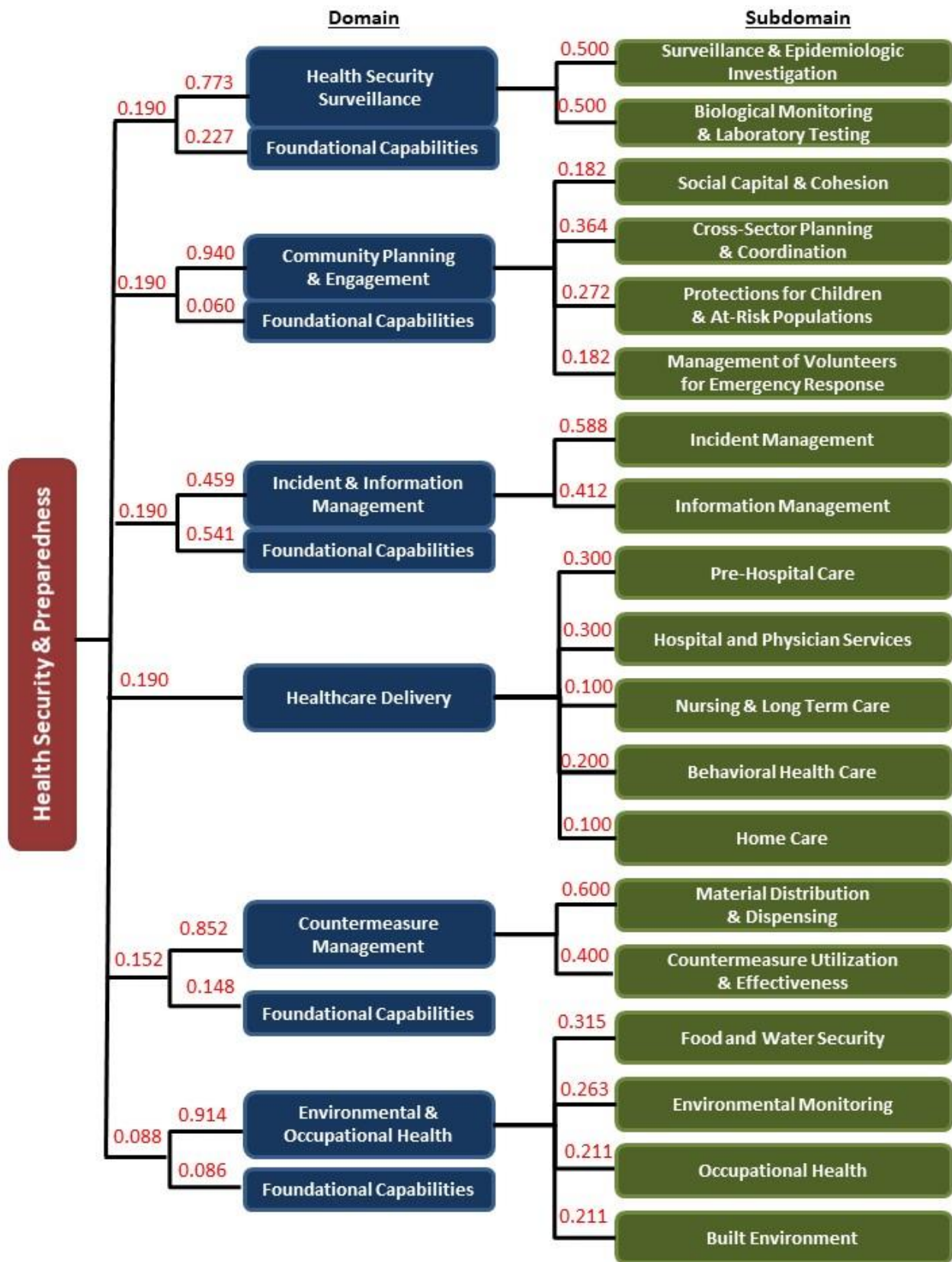
Measure Normalization and Scaling

Measures are rescaled each year based on updated global minimum and maximum values observed across all years of the data sources. A measure was rescaled in the 2021 release of the Index, compared to the prior year release, only if a new global minimum or maximum value was observed for that measure when adding the most recent year of the data source.

Index Weight Values

No index weights have been changed from the 2020 Index release. See figure below for information about the weights used.

Figure: Weights Assigned to Each Index Domain and Subdomain Based on Expert Panel Assessments of Importance



NOTE: numbers indicate Delphi expert panel weights