Evolving the Risk Assessment -
The Risk Identification and Site Criticality Tool
H R S A

June 27, 2024

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Learning Objectives

1. Explain the history and development of the RISC Tool as a user-informed, data-driven, objective risk assessment tool for the Healthcare and Public Health Sector.

2. Demonstrate the functionality and value of the RISC Tool from the developer and end-user perspective.

3. Invite you to join the evolution of HPH Sector risk assessments.

What is the RISC Tool?

The Risk Identification Site Criticality (RISC) Tool is an ecosystem developed to provide products and services for building objective, data-driven all-hazards risk assessments allowing Healthcare and Public Health (HPH) sector organizations to...

IDENTIFY THREATS AND HAZARDS

6 Intentional External Acts (e.g., active shooter, cyber crime)

7 Unintentional External Manmade events (e.g., aircraft crash, external radiation)

20 Natural Hazards (e.g., flood, hurricane, drought)

33 Internal Hazards (e.g., generator failure, bomb threat)

1 Influenza

ASSESS VULNERABILITIES

4 Resilience Management (e.g., business continuity, information sharing)

7 Physical Security Management (e.g., security training, physical access control)

9 Critical Dependencies (e.g., electricity, natural gas, water)

5 Cyber Security Management (e.g., identify, protect, detect, recovery)

DETERMINE CONSEQUENCES

Human Impact

Property Impact

Business Impact

DEFINE CRITICALITY

Role of a facility or asset to the functioning of the healthcare system

History of the RISC Tool

The Risk Identification and Site Criticality (RISC) Tool is an objective, data-driven all hazards risk assessment developed by ASPR's Division of Critical Infrastructure Protection (CIP) for use by public and private organizations within the Healthcare and Public Health (HPH) sector.

In 2018, the RISC Tool 1.0 was developed to help HPH Sector critical infrastructure owners and operators identify and address risk, by…

Providing an objective, user friendly, data-driven, and evidence-based approach to assessing risk

Enabling organizational users to identify threats and hazards, assess vulnerabilities to those threats and hazards, and determine the criticality of potential disruptions to infrastructure (e.g., power outages)

Informing organizational critical infrastructure emergency preparedness planning, risk management activities, and resource investments

RISC 1.0 was launched in 2018 and has been used by over 1,400 unique organizations across all 50 States, DC, Puerto Rico, and the U.S. Virgin Islands

In 2019, CIP started building the next generation of the RISC Tool (version 2.0) with input from HPH Sector partners with the following objectives:

Promote risk identification, planning, preparedness, mitigation and resilience to all-hazards, including infectious disease outbreaks

Enable public and private organizations to conduct repeatable, data-driven risk assessments and share their data and results in a secure environment

Enhance RISC Tool 2.0 functionality and ease of use, and to further expand its utility to the HPH sub-sectors (e.g., supply chain) beyond hospitals

Optimize the tool for a web-based platform with a focus on user experience, offering advanced tools for preparedness, analytics, reporting and dashboarding

RISC 2.0 was launched in November 2023 and is used by over 950 unique organizations across all 50 States, DC, Puerto Rico, and the U.S. Virgin Islands.

Solution Comparison and Assessment

	RISC 1.0	KP HVA[1]	PHRAT[2]	THIRA[3]	HCC[4]	RAMP[5]	HRAI[6]	hHAP[7]	CHVA[8]	ACEP[9]	IST[10]	FPHRAT[11]
Technology	Excel	Excel	Excel	PDF	Excel	www	PDF	Excel	Excel	Word	www	www
Risk Assessment Coverage		High	Medium	Low	Low	Medium	Medium	High	High	Low	Medium	Medium
Risk Assessment Methodology		Low	Medium	Medium	Medium	Medium	Medium	Low	Low	Medium	Medium	Medium
Configuration Management		Low	Low	Low	Low	Medium	Low	Low	Medium	Low	Low	Medium
Customizations		Low	Medium	Low	Low	Medium	Low	Low	Low	Medium	Medium	Low
Risk Assessment Data Collection		Medium	Low	Medium	Low	Medium	Low	Medium	Medium	Low	Medium	Medium
Activity Logging		Low	Low	-	Low	-	Low	Low	Low	Low	-	-
Reporting		Medium	Medium	Low	Low	Medium	Low	Medium	Medium	Low	Medium	Medium
Visualization		Low	Low	-	Low	Low	Low	Low	Medium	Low	Medium	Medium
Risk Assessment Data Sharing		Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	-
Extensibility		Low	Low	-	Low	-	Low	Low	Low	Low	-	-
User Type	Hospitals	Hospitals	Public Health	Emergency Managers	All Sectors Owners/Operators	All Sectors Owners/Operators	Public Health	Public Health	All HPH Sector	Hospitals	All Sectors Owners/Operators	All Sectors Owners/Operators

Key
- High (green)
- Medium (orange)
- Low (red)
- Public Health
- Hospitals
- All HPH Sector
- Emergency Managers
- All Sectors Owners/Operators

1 Kaiser Permanente HVA
2 Pennsylvania Public Health Risk Assessment
3 Threat and Hazard Identification and Risk
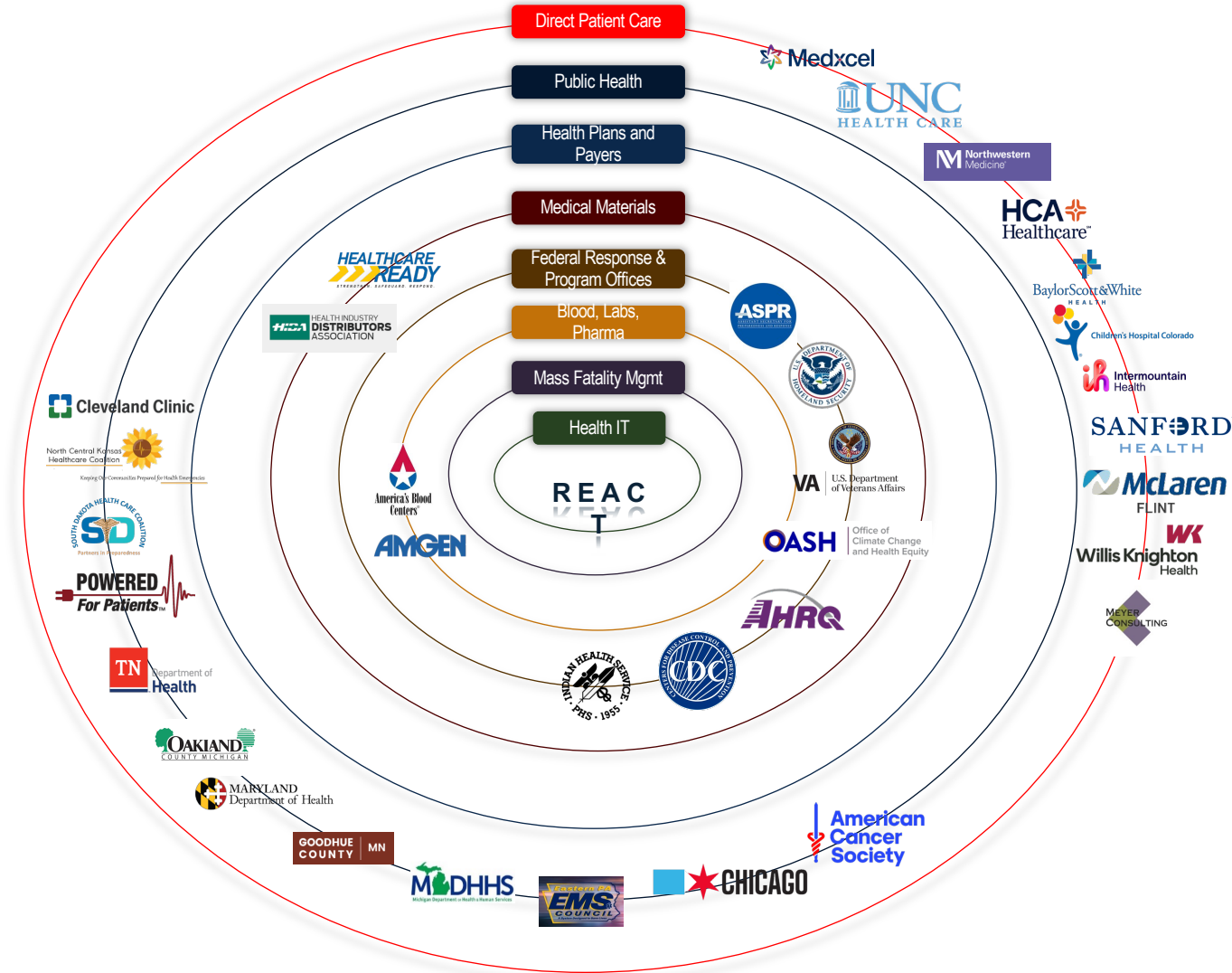4 Healthcare Coalition Resource and Gap Analysis
5 Risk Assessment Mapping
6 UCLA Hazard Risk Assessment Instrument
7 Health Hazard Assessment & Prioritization
8 Community Hazard Vulnerability Assessment
9 American College of Emergency Physicians
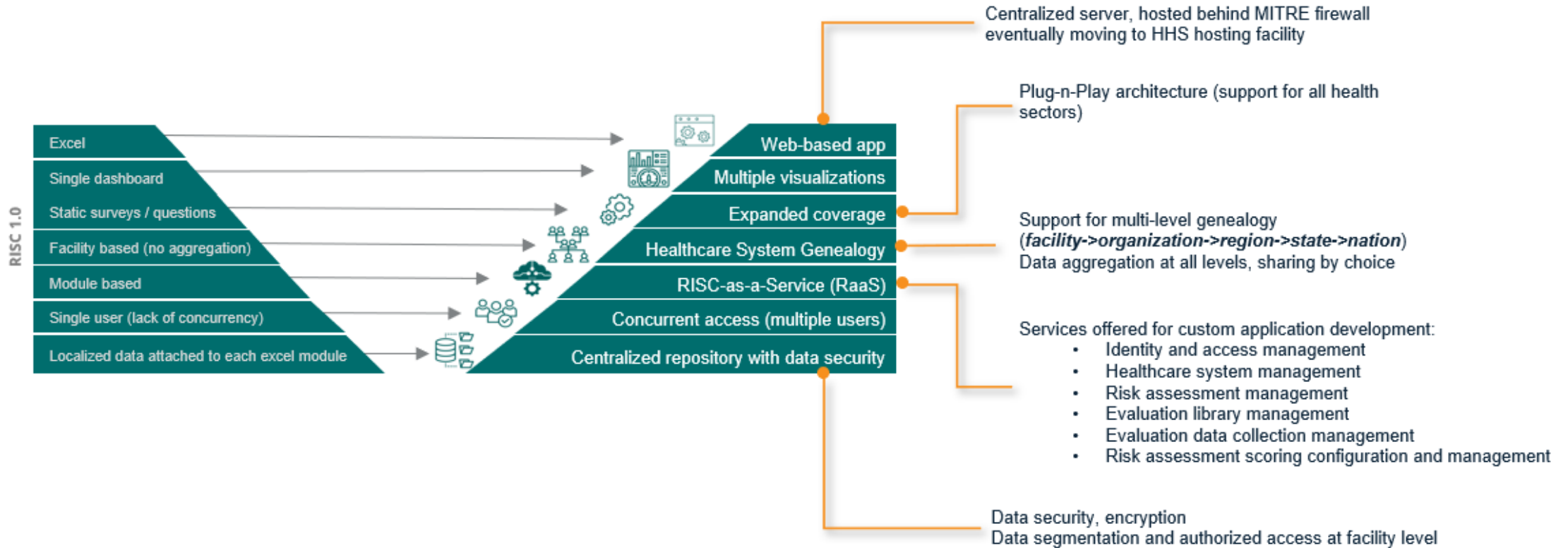10 DHS Infrastructure Survey Tool
11 FL Public Health Risk Assessment

Features

Improved Interface	Enhanced web-based user interface with significant process efficiencies
Objective Risk Assessment	Objective, evidence-based data and quantifiable risk results with supporting ranked lists of threats, vulnerabilities and consequences
Healthcare System Organization & Facility Comparison	Define and create custom organizations with data aggregation that allows comparing facilities across systems, coalitions and regions
FISMA Moderate Compliant	System and collected data protected per Federal standards
National-level Data Source and Analysis	Agile analytical program provides insights into trends in preparedness and resilience across the HPH sector as well as identifying critical infrastructure dependencies and interdependencies
Expanded Coverage	Plug-n-Play capability to include all public/private sectors beyond hospitals
Cost Savings	Single, centralized, secure interface for all health care sectors with common understanding and voluntary data sharing for shared benefits
Platform-as-a-Service	RISC-as-a-Service, risk assessment and emergency preparedness platform
Extensible	RISC-as-a-Service platform has been reused to integrate critical healthcare product manufacturing and storage facilities – individual, vendor, sub-contractor facilities

Stakeholder Input – RISC Enabled Assessments for Critical Threats (REACT) Working Group

RISC Tool Evolution

RISC 1.0
- Excel
- Single dashboard
- Static surveys / questions
- Facility based (no aggregation)
- Module based
- Single user (lack of concurrency)
- Localized data attached to each excel module

- Web-based app
- Multiple visualizations
- Expanded coverage
- Healthcare System Genealogy
- RISC-as-a-Service (RaaS)
- Concurrent access (multiple users)
- Centralized repository with data security

Centralized server, hosted behind MITRE firewall eventually moving to HHS hosting facility

Plug-n-Play architecture (support for all health sectors)

Support for multi-level genealogy (*facility->organization->region->state->nation*)
Data aggregation at all levels, sharing by choice

Services offered for custom application development:
- Identity and access management
- Healthcare system management
- Risk assessment management
- Evaluation library management
- Evaluation data collection management
- Risk assessment scoring configuration and management

Data security, encryption
Data segmentation and authorized access at facility level

Respondents liked the **objective, data-driven, evidence-based** approach to RISC 1.0
Found the tool burdensome, time consuming and lacking key features
RISC 2.0 addresses most of the challenges identified through multi-factor analysis of existing market options

The Risk Assessment

Health System Organization

Facility comparison heatmap highlights locations that are most vulnerable to certain hazards.
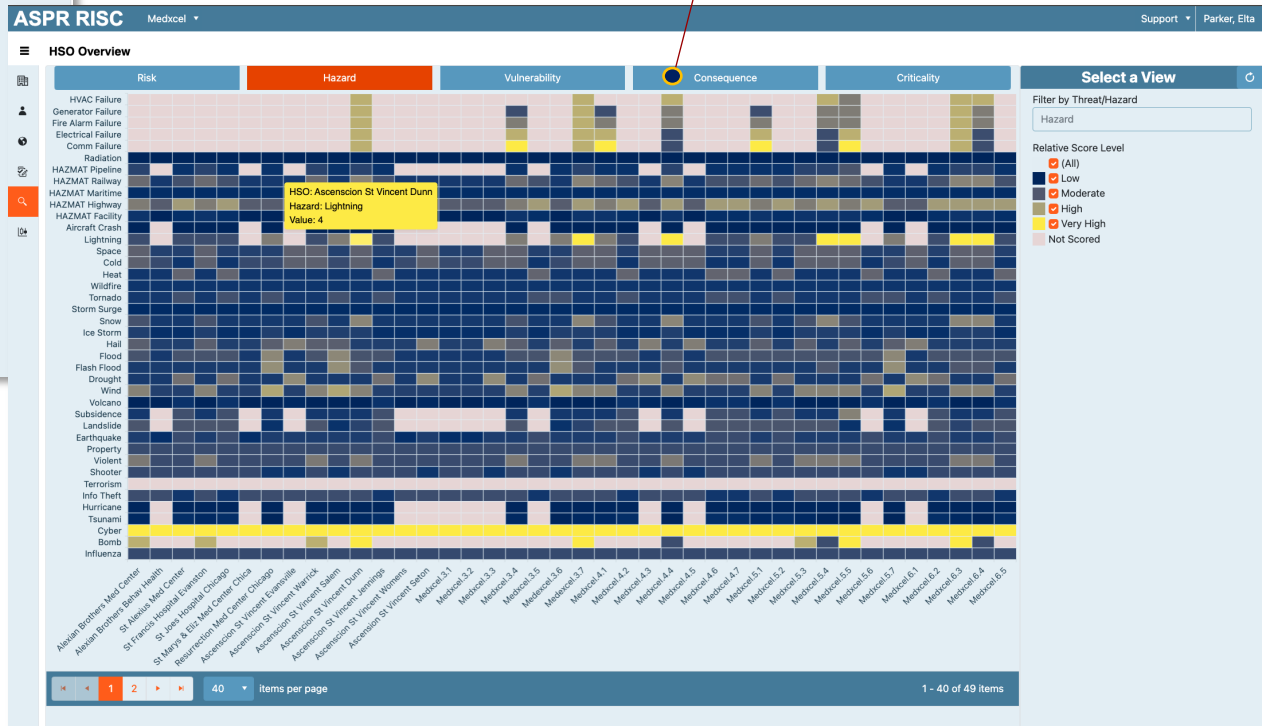
Health system organization can build their entire organizational hierarchy by inviting managed facilities or adding existing ones. User roles/permissions define access levels to data.

https://aspr.hhs.gov/risc