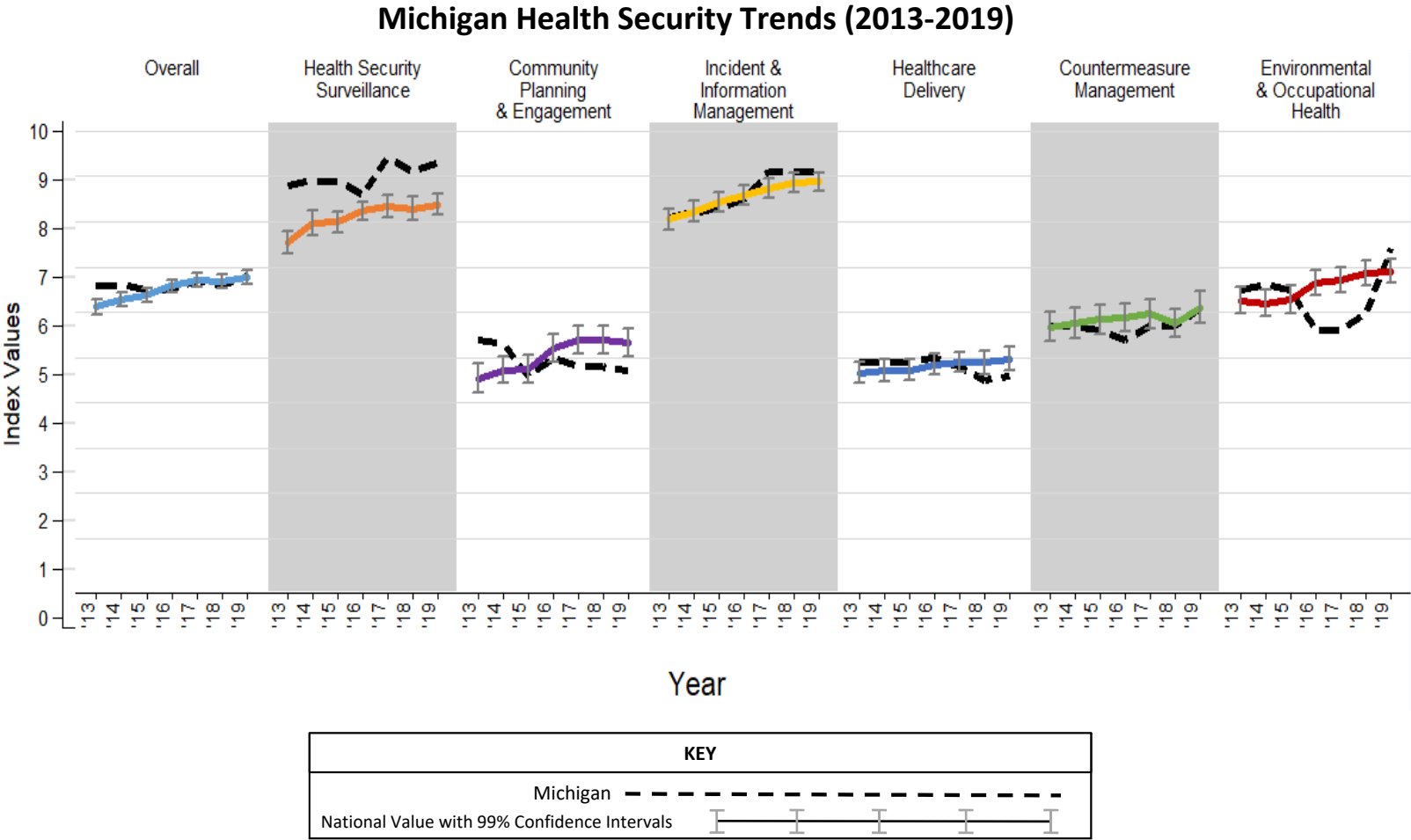
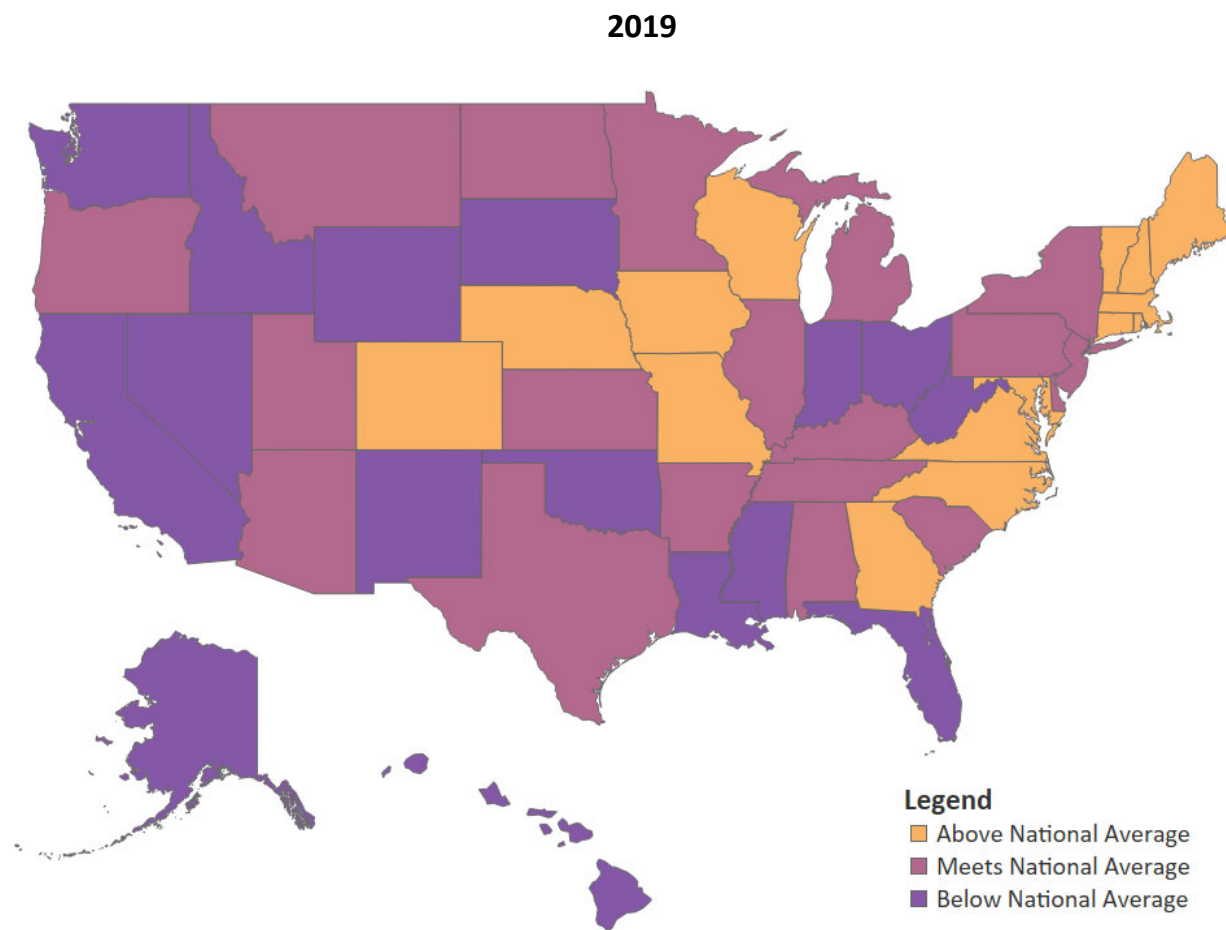


Michigan Health Security Profile

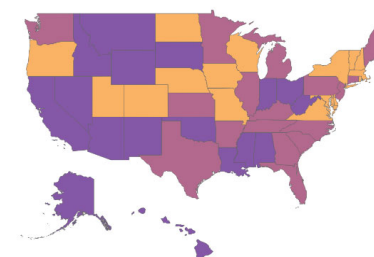
The National Health Security Preparedness Index tracks state and national progress in preparing for disasters, disease outbreaks, and other emergencies that pose risks to health and well-being. The Index measures changes in national and state health security capabilities over time, across a broad array of domains and sectors. The 2020 release of the Index is based on 130 measures organized into the six domains and 19 subdomains listed on page 3. The 2020 release includes annual results for seven years (2013-2019) and a comparison of Index values to hazards faced (page 4). Pages 5 to 13 display data for all measures included in the Index and the chart below shows health security trends from 2013-2019 overall, and across all domains.



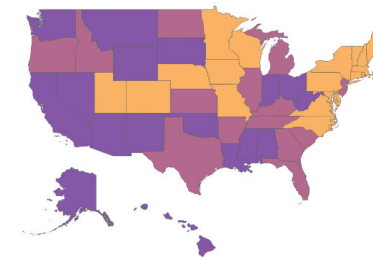
National Health Security Trends (2013-2019)



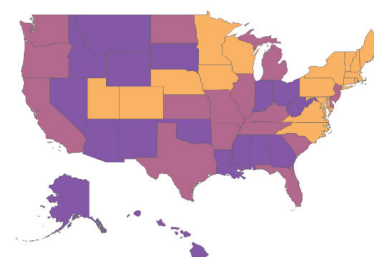
2018



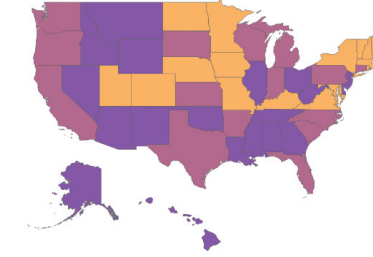
2017



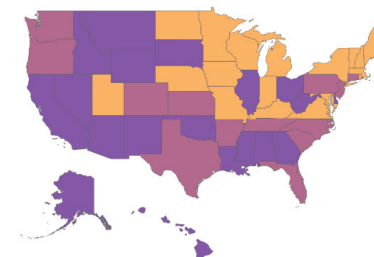
2016



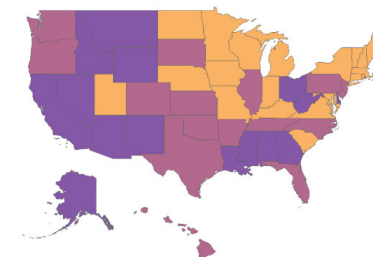
2015



2014



2013



Michigan Domain and Subdomain Summary

MEASURE	2019 Value	% Change since 2018	% Change since 2013
OVERALL INDEX VALUE*	6.8	3.0%	3.0%
DOMAIN 1: HEALTH SECURITY SURVEILLANCE	9.3	2.2%	5.7%
Subdomain 1.1: Health Surveillance & Epidemiological Investigation	8.3	0.0%	2.5%
Subdomain 1.2: Biological Monitoring & Laboratory Testing	9.8	3.2%	11.4%
DOMAIN 2: COMMUNITY PLANNING & ENGAGEMENT COORDINATION	4.7	-2.1%	-13.0%
Subdomain 2.1: Cross-Sector / Community Collaboration	5.7	0.0%	-12.3%
Subdomain 2.2: Children & Other At-Risk Populations	5.0	0.0%	-16.7%
Subdomain 2.3: Management of Volunteers during Emergencies	1.7	0.0%	-10.5%
Subdomain 2.4: Social Capital & Cohesion	3.5	-12.5%	-20.5%
DOMAIN 3: INCIDENT & INFORMATION MANAGEMENT	9.1	0.0%	12.3%
Subdomain 3.1: Incident Management & Multi-Agency Coordination	7.5	-1.3%	0.0%
Subdomain 3.2: Information Management	8.9	1.1%	147.2%
DOMAIN 4: HEALTHCARE DELIVERY	4.6	2.2%	-6.1%
Subdomain 4.1: Prehospital Care	2.6	0.0%	-48.0%
Subdomain 4.2: Hospital and Physician Services	5.9	5.4%	18.0%
Subdomain 4.3: Long-Term Care	4.9	2.1%	32.4%
Subdomain 4.4: Mental & Behavioral Healthcare	4.9	-2.0%	-5.8%
Subdomain 4.5: Home Care	5.7	0.0%	29.5%
DOMAIN 5: COUNTERMEASURE MANAGEMENT	6.1	7.0%	7.0%
Subdomain 5.1: Medical Materiel Management, Distribution, & Dispensing	5.3	-3.6%	-7.0%
Subdomain 5.2: Countermeasure Utilization & Effectiveness	5.6	36.6%	47.4%
DOMAIN 6: ENVIRONMENTAL & OCCUPATIONAL HEALTH	7.4	23.3%	13.8%
Subdomain 6.1: Food & Water Security	9.5	30.1%	6.7%
Subdomain 6.2: Environmental Monitoring	8.0	56.9%	15.9%
Subdomain 6.3: Physical Environment and Infrastructure	6.3	0.0%	50.0%
Subdomain 6.4: Workforce Resiliency	3.4	6.3%	0.0%

Above National Average
 Meets National Average
 Below National Average

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Acknowledgements: Support for the National Health Security Preparedness Index is provided by the Robert Wood Johnson Foundation. The views expressed here do not necessarily reflect the views of the Foundation.

The Index Program Office is based at the Colorado School of Public Health. For more information, contact: glen.mays@cuanschutz.edu

OVERALL
Michigan's overall health security level reached 6.8 out of 10 in 2019, a 3.0% increase from 2013.
The overall health security level in Michigan was in line with the national average health security level of 6.8 in 2019.
STRENGTHS
Michigan's largest improvement occurred in the Environmental & Occupational Health domain, which increased by 13.8% between 2013-19.
Health security levels in 2019 significantly exceeded the national average in 3 domains: Health Security Surveillance, Incident & Information Management, and Environmental & Occupational Health.
The state's highest health security level in 2019 occurred in the domain of Health Security Surveillance with a value of 9.3.
CHALLENGES
Health security levels in 2019 declined in 2 domains, with the largest decline of -13.0% occurring in Community Planning & Engagement.
Health security levels in 2019 were significantly below the national average in 2 domains: Community Planning & Engagement, and Healthcare Delivery.
The state's lowest health security level in 2019 occurred in Healthcare Delivery with a value of 4.6.

Michigan Health Security Hazards 2012-2018

Each state faces a unique combination of hazardous events. The table below shows the types of hazards that Michigan experienced between 2012 and 2018 and the aggregated effects of those hazards in terms of injuries, deaths, and economic damages. During those same years, hazardous events in the United States resulted in a total of 13,839 injuries, 3,522 deaths, and \$222 billion in property damage. Our research shows that states with higher levels of preparedness as measured by the Index experienced lower incidence of deaths and injuries attributable to hazardous events, after adjusting for the intensity of hazardous events in each state. (See Figure below).

Michigan Health Security Hazards 2012-2018

Hazard Type	Total Injuries	Total Deaths	Property Damage (\$ in 1000s)
Coastal Event	0	9	\$ -
Flooding	0	3	\$ 2,356,262.89
Fog	0	0	\$ -
Hail	0	0	\$ 95,769.05
Heat	288	0	\$ -
High Wind	8	8	\$ 683,345.49
Lightning	9	3	\$ 1,320.15
Severe Storm/Thunder Storm	7	2	\$ 33,669.80
Severe Winter Weather	1	2	\$ 95,967.41
Tornado	13	0	\$ 35,831.82
Tsunami/Seiche	0	0	\$ 4.12
Wildfire	0	0	\$ 13,144.95
Total	326	27	\$ 3,315,315.69

Totals may not equal the sum of columns due to rounding of imputed values.

Data on hazardous event injuries, deaths and economic losses were obtained from:

Center for Emergency Management and Homeland Security (2020). The Spatial Hazard Events and Losses Database for the United States, Version 18.0 [Online Database]. Phoenix, AZ: Arizona State University.

Available from <http://www.sheldus.org>

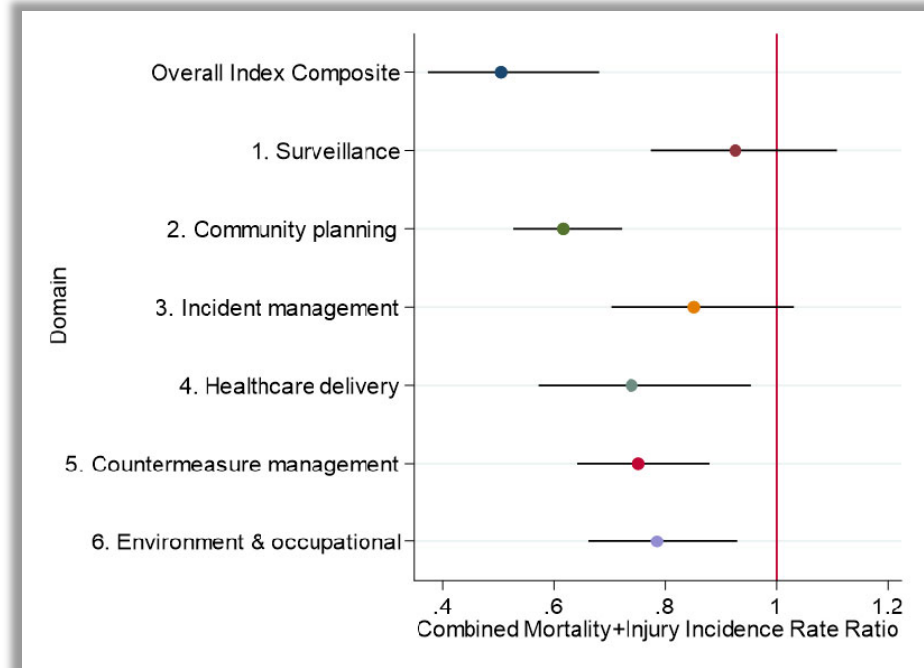


Figure: Changes in the Combined Annual Incidence of Hazardous Event Deaths and Injuries Associated with a 1 Unit Increase in Index Scores, 2013-2018.

Note: Coefficient estimates are indicated with filled circles, and 95% confidence intervals are noted with horizontal lines. Estimates were obtained from zero-inflated negative binomial models using generalized estimating equations with unstructured error correlation to account for repeated observations in each state over years 2013-18. Models were adjusted for the intensity of hazardous events using a measure of total property damage losses per state per year.

Michigan Measure Details 2013-2019*

Above National Average
 Meets National Average
 Below National Average

	2013	2014	2015	2016	2017	2018	2019
OVERALL INDEX VALUE (0-10)	6.6	6.6	6.5	6.5	6.7	6.6	6.8
Domain 1: Health Security Surveillance	8.8	8.9	8.9	8.6	9.4	9.1	9.3
<i>Subdomain 1.1: Health Surveillance & Epidemiological Investigation</i>	8.1	7.8	7.8	6.7	8.4	8.3	8.3
M18 – Number of Epidemiologists per 100,000 population in the state, by quintile (1=Lowest Quintile, 5=Highest Quintile) (Min=1, Max=5)	2.0	1.0	1.0	2.0	3.0	3.0	3.0
M22 – State health department has an electronic syndromic surveillance system that can report and exchange information	Yes	Yes	Yes	Yes	Yes	Yes	Yes
M217 – State public health laboratory has implemented the laboratory information management system (LIMS) to receive and report laboratory information electronically	Yes	Yes	Yes	Yes	Yes	Yes	
M220 – State has legal requirement for nongovernmental laboratories to send specimens associated with reportable foodborne diseases to the state public health laboratory	Yes	Yes	Yes	Yes	Yes	Yes	
M23 – Percent of foodborne illness outbreaks reported to CDC by state and local public health departments for which a causative infectious agent is confirmed (Min=0, Max=100)	32.3%	37.0%	34.4%	38.2%	33.3%	26.8%	25.0%
M290 – State has a public health veterinarian	Yes	Yes	Yes	Yes	Yes	Yes	Yes
M265 – State uses an Electronic Death Registration System	Yes	Yes	Yes	No	Yes	Yes	Yes
<i>Subdomain 1.2: Biological Monitoring & Laboratory Testing</i>	8.8	9.3	9.5	9.6	10.0	9.5	9.8
M1314 – State public health chemical OR radiological terrorism/threat laboratory is accredited or certified	Yes	Yes	Yes	Yes	Yes	Yes	Yes
M208 – State public health laboratory has a permit for the importation and transportation of materials, organisms, and vectors controlled by USDA Animal and Plant Health Inspection Service	Yes	Yes	Yes	Yes	Yes	Yes	
M8 – State public health laboratory has a plan for a 6-8 week surge in testing capacity to respond to an emergency	Yes	Yes	Yes	Yes	Yes	Yes	Yes
M9 – State public health laboratory has a continuity of operations plan consistent with national incident management guidelines	Yes	Yes	Yes	Yes	Yes	Yes	Yes
M11 – State public health laboratory has a plan to receive specimens from sentinel clinical laboratories during nonbusiness hours	No	Yes	Yes	Yes	Yes	Yes	Yes
M12 – State public health laboratory assures the timely transportation of samples to appropriate reference laboratories at all times	Yes	Yes	Yes	Yes	Yes	Yes	Yes
M211 – Percent of 10 tests for infectious diseases that the state public health laboratory provides or assures, including but not limited to measles, mumps, and hepatitis C (Min=10, Max=100)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

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Min and Max values represent minimum and maximum values for all states in all years.

Michigan Measure Details 2013-2019*

Above National Average
 Meets National Average
 Below National Average

	2013	2014	2015	2016	2017	2018	2019
OVERALL INDEX VALUE (0-10)	6.6	6.6	6.5	6.5	6.7	6.6	6.8
M216 – Percent of 15 to 21 tests for infectious diseases that the state public health laboratory provides or assures including but not limited to dengue fever, legionella, malaria, and rabies (Min=13.3, Max=100)	93.3%	100.0%	100.0%	100.0%	100.0%	100.0%	
M2 – Percent of Laboratory Response Network biological (LRN-B) proficiency tests successfully passed by laboratories in the state (Min=0, Max=100)	77.8%	71.4%	100.0%	100.0%	100.0%	50.0%	100.0%
M3 – Percent of e. coli-positive tests submitted by state and local public health laboratories to the CDC PulseNet national database within four working days of receiving samples from clinical laboratories (Min=0, Max=100)	97.0%	87.0%	86.0%	98.0%	100.0%	97.0%	98.0%
M5 – Percent of chemical agents correctly identified and quantified during unannounced proficiency testing during the state's Laboratory Response Network (LRN) Emergency Response Pop Proficiency Test (PopPT) Exercise (Min=33.3, Max=100)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
M7 – Number of additional chemical agent detection methods—beyond the core methods—demonstrated by Laboratory Response Network chemical (LRN-C) Level 1 or 2 laboratories in the state (Min=0, Max=4)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
M286 – Number of chemical threat and multi-hazards preparedness exercises the state public health laboratory conducts annually (Min=0, Max=32)	9.0	7.0	7.0	11.0	32.0	19.0	23.0
M287 – Percent of listeria-positive tests submitted by state and local public health laboratories to the CDC PulseNet national database within four working days of receiving samples from clinical laboratories (Min=0, Max=100)	96.0%	84.0%	82.0%	92.0%	94.0%	100.0%	100.0%
M288 – Number of core chemical agent detection methods demonstrated by Level 1 or 2 LRN-C laboratories in the state (Min=0, Max=9)	9.0	9.0	9.0	9.0	9.0	9.0	9.0
M911 – State public health laboratory provides or assures testing for soil	Yes	Yes	Yes	Yes	Yes	Yes	
M902 – State has a high-capability laboratory to detect chemical threats (Level 1 or 2 LRN-C laboratory)	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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Michigan Measure Details 2013-2019*

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	2013	2014	2015	2016	2017	2018	2019
OVERALL INDEX VALUE (0-10)	6.6	6.6	6.5	6.5	6.7	6.6	6.8
Domain 2: Community Planning & Engagement Coordination	5.4	5.3	4.6	5.0	4.8	4.8	4.7
Subdomain 2.1: Cross-Sector / Community Collaboration	6.5	6.7	5.5	5.6	5.7	5.7	5.7
M87 – State health department is accredited by the Public Health Accreditation Board	No	No	No	No	No	No	No
M501 – Percent of the state’s population served by a comprehensive public health system, as determined through the National Longitudinal Survey of Public Health Systems (Min=7.9, Max=85.7)	32.2%	39.9%	39.9%	46.0%	46.0%	46.2%	46.2%
M9031 – Percent of hospitals in the state that participate in health care preparedness coalitions supported by ASPR and CDC (Min=0, Max=100)	100.0%	100.0%	100.0%	92.6%	89.9%	89.9%	89.9%
M9032 – Percent of emergency medical service agencies in the state that participate in health care preparedness coalitions supported by ASPR and CDC (Min=0, Max=100)	89.9%	89.9%	11.1%	12.5%	22.2%	22.2%	22.2%
M9033 – Percent of emergency management agencies in the state that participate in health care preparedness coalitions supported by ASPR and CDC (Min=0, Max=100)	65.5%	66.4%	70.9%	75.5%	75.5%	75.5%	75.5%
M9034 – Percent of local health departments in the state that participate in health care preparedness coalitions supported by ASPR and CDC (Min=0, Max=100)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Subdomain 2.2: Children & Other At-Risk Populations	6.0	6.0	5.5	5.8	5.0	5.0	5.0
M163 – Number of pediatricians per 100,000 population under 18 years old in the state (Min=23.6, Max=347.4)	64.8	65.5	65.0	67.5	68.0	68.4	71.0
M164 – Number of obstetricians and gynecologists per 100,000 female population in the state (Min=12.1, Max=57.4)	24.2	24.2	23.8	23.8	23.8	23.8	23.5
M170 – Percent of state children (0-18 years) who reside within 50 miles of a pediatric trauma center, including out-of-state centers (Min=16.2, Max=100)	93.7%	93.7%	93.7%	93.7%	94.0%	94.0%	94.0%
M53B – Percent of youth who missed one or more days of school in past month due to concerns about safety (reverse coded) (Min=3.4, Max=13.1)	5.3%	5.3%	6.8%	5.8%	8.2%	8.2%	8.2%
Subdomain 2.3: Management of Volunteers during Emergencies	1.9	2.0	2.0	1.8	1.8	1.7	1.7
M266 – Percent of the state’s population who live in a county with a Community Emergency Response Team (CERT) (Min=18.1, Max=100)	87.3%	87.3%	87.3%	79.9%	79.9%	79.9%	79.9%
M346 – Number of total Medical Reserve Corps members per 100,000 population in the state (Min=1.7, Max=427.7)	10.7	14.2	14.2	13.9	12.3	10.1	10.1
M176 – Number of Medical Reserve Corps (MRC) members who are physicians per 100,000 population in the state (Min=0, Max=32.6)	0.4	0.4	0.4	0.5	0.4	0.4	0.4

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Michigan Measure Details 2013-2019*

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	2013	2014	2015	2016	2017	2018	2019
OVERALL INDEX VALUE (0-10)	6.6	6.6	6.5	6.5	6.7	6.6	6.8
M179 – Number of Medical Reserve Corps (MRC) members who are nurses or advanced practice nurses per 100,000 population in the state (Min=0.1, Max=86.9)	2.3	5.1	5.1	4.9	3.8	3.3	3.3
M186 – Number of Medical Reserve Corps (MRC) members who are other health professionals per 100,000 population in the state (Min=0.5, Max=356.9)	8.0	8.6	8.6	8.5	8.2	6.4	6.4
Subdomain 2.4: Social Capital & Cohesion	4.4	2.9	2.2	3.9	4.0	4.0	3.5
M175 – Percent of voting-eligible population in the state participating in the highest office election (Min=27.8, Max=76)	64.7%	42.7%	42.7%	64.7%	64.7%	64.7%	56.6%
M188 – Percent of adults in the state who volunteer in their communities (Min=16.7, Max=51)	29.1%	28.4%	24.9%	26.5%	29.4%	29.4%	29.4%
M189 – Number of annual volunteer hours per state resident, 15 years and older (Min=15.9, Max=89.4)	30.5	31.6	25.0	25.2	22.7	22.7	22.7
Domain 3: Incident & Information Management	8.1	8.2	8.3	8.5	9.1	9.1	9.1
Subdomain 3.1: Incident Management	7.5	7.5	7.4	7.5	7.6	7.6	7.5
M84 – State all hazards emergency management program is accredited by the Emergency Management Accreditation Program (EMAP)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
M107 – Percent of local health departments in the state with an emergency preparedness coordinator (Min=25, Max=100)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
M701 – Average number of minutes for state health department staff with incident management lead roles to report for immediate emergency response duty (reverse coded) (Min=1, Max=780)	41.0	56.0	62.0	60.0	14.0	15.0	
M344 – State has adopted the Nurse Licensure Compact (NLC)	No	No	No	No	No	No	No
Subdomain 3.2: Information Management	3.6	4.2	4.8	5.7	8.6	8.8	8.9
M228 – Percent of households in the state with broadband in the home (Min=56.7, Max=90)	73.4%	70.7%	72.9%	79.9%	80.5%	82.8%	84.1%
M906 – Percent of hospitals in the state that have demonstrated meaningful use of certified electronic health record technology (CEHRT) (Min=61, Max=100)	89.0%	96.0%	98.0%	100.0%	100.0%	100.0%	100.0%
M907 – Percent of office-based medical doctors and doctors of osteopathy in the state that have demonstrated meaningful use of certified electronic health record technology (CEHRT) (Min=16, Max=93)	37.0%	51.0%	59.0%	70.0%	70.0%	70.0%	70.0%
M1001 – State has implemented Enhanced 911 (E911) call centers	No	No	No	No	Yes	Yes	Yes

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Michigan Measure Details 2013-2019*

Above National Average
 Meets National Average
 Below National Average

	2013	2014	2015	2016	2017	2018	2019
OVERALL INDEX VALUE (0-10)	6.6	6.6	6.5	6.5	6.7	6.6	6.8
Domain 4: Healthcare Delivery	4.9	4.9	4.9	5.0	4.8	4.5	4.6
Subdomain 4.1: Prehospital Care	5.0	5.0	5.0	4.9	4.9	2.6	2.6
M140 – Number of emergency medical technicians (EMTs) and paramedics per 100,000 population in the state (Min=32.8, Max=236.3)	70.0	69.5	66.8	65.5	66.2	68.8	71.0
M331 – Percent of local emergency medical services (EMS) agencies that submit National EMS Information System compliant data to the state (Min=0, Max=100)	87.3%	87.3%	87.3%	87.3%	87.3%	4.0%	4.0%
M349 – State has adopted EMS Personnel Licensure Interstate CompAct (REPLICA) legislation	No	No	No	No	No	No	No
M350U – The average length of time in minutes between EMS notification and arrival at a fatal motor vehicle crash (MVC) in urban areas (reverse coded) (Min=1, Max=30)	6.4	6.4	6.4	5.5	6.0	6.0	6.2
M350R – The average length of time in minutes between EMS notification and arrival at a fatal motor vehicle crash (MVC) in rural areas (reverse coded) (Min=5, Max=30)	8.6	8.6	8.6	10.3	10.9	10.9	10.1
Subdomain 4.2: Hospital and Physician Services	5.0	5.1	5.0	5.2	5.3	5.6	5.9
M147 – Median time in minutes from hospital emergency department (ED) arrival to ED departure for patients admitted to hospitals in the state (reverse coded) (Min=125, Max=536)	290.0	284.0	292.0	287.0	284.0	285.0	265.0
M148 – Median time in minutes from hospital admission decision to emergency department (ED) departure for patients admitted to hospitals in the state (reverse coded) (Min=18, Max=285)	103.0	100.0	102.0	100.0	100.0	99.0	88.0
M152 – Percent of the state's population who live within 50 miles of a trauma center, including out-of-state centers (Min=1.4, Max=100)	98.8%	98.9%	98.1%	98.2%	98.6%	98.9%	99.1%
M160 – Number of physicians per 100,000 population in the state (Min=57.8, Max=178.5)	94.0	95.3	95.3	95.5	94.6	95.2	95.0
M167 – Number of active registered nurse (RN) and licensed practical nurse (LPN) licenses per 100,000 population in the state (Min=1115.1, Max=4253.8)	1763.7	1725.6	1705.8	1770.0	1752.7	1747.6	1741.7
M168 – Percent of the state's population living within 100 miles of a burn center, including out-of-state centers (Min=1.7, Max=100)	92.9%	92.9%	92.9%	92.9%	92.9%	92.9%	92.9%
M296 – Percent of hospitals in the state providing geriatric services (Min=11.1, Max=84.8)	46.5%	46.5%	46.2%	46.4%	44.9%	61.8%	61.0%
M297 – Percent of hospitals in the state providing palliative care programs (Min=10.3, Max=66.2)	34.9%	34.3%	36.7%	35.7%	32.9%	53.9%	56.1%
M298 – Number of hospital airborne infection isolation room beds per 100,000 population in the state, including beds within 50 miles from neighboring states (Min=5.6, Max=244.5)	34.8	36.0	33.8	34.8	35.5	34.6	35.0
M299 – Risk-adjusted 30-day survival rate (percent) among Medicare beneficiaries hospitalized in the state for heart attack, heart failure, or pneumonia (Min=11.9, Max=15.7)	12.4%	12.8%	13.0%	13.0%	14.2%	13.9%	13.6%
M300 – Percent of hospitals in the state with a top quality ranking (Grade A) on the Hospital Safety Score (Min=0, Max=83.3)	29.0%	30.8%	23.8%	32.5%	24.7%	24.7%	41.0%

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Michigan Measure Details 2013-2019*

Above National Average
 Meets National Average
 Below National Average

	2013	2014	2015	2016	2017	2018	2019
OVERALL INDEX VALUE (0-10)	6.6	6.6	6.5	6.5	6.7	6.6	6.8
Subdomain 4.3: Long-Term Care	3.7	3.4	3.8	3.6	3.7	4.8	4.9
M308 – Average number of nurse (RN) staffing hours in nursing homes in the state—hours per resident per day (Min=0.3, Max=2.2)	0.9	0.9	0.9	0.9	0.9	0.8	0.8
M309 – Average number of nursing assistant (CNA) staffing hours in nursing homes in the state—hours per resident per day (Min=2, Max=4.7)	2.6	2.6	2.6	2.5	2.6	2.5	2.4
M307 – Percent of long-stay nursing home residents in the state given the seasonal influenza vaccine (Min=86.2, Max=98.3)	92.1%	90.8%	90.5%	92.2%	92.2%	92.6%	94.2%
M310 – Average number of licensed practical nurse (LPN) staffing hours in nursing homes in the state—hours per resident per day (Min=0.3, Max=1.2)	0.8	0.8	0.8	0.8	0.9	0.9	0.9
M303B – Number of nursing home deficiencies (evacuation plan deficiencies or emergency planning deficiencies) per 100 nursing homes in the state (1=Highest Quintile and 5=Lowest Quintile) (reverse coded) (Min=1, Max=5)	5.0	5.0	4.0	5.0	5.0	3.0	3.0
M23NH – Number of disease outbreaks in nursing homes or assisted living facilities per 10,000 certified nursing home residents in a state (reverse coded) (Min=0, Max=100.9)	1.0	6.6	5.1	9.2	6.7	2.6	7.0
M880 – Percentage of nursing home residents at facilities that did not have an infection control deficiency (Min=33.9, Max=93.1)	38.4%	38.4%	38.4%	38.4%	38.4%	44.5%	44.5%
Subdomain 4.4: Mental & Behavioral Healthcare	5.2	5.2	5.1	5.6	4.4	5.0	4.9
M316 – Percent of hospitals in the state providing psychiatric emergency services (Min=6.3, Max=71)	37.2%	37.2%	34.9%	35.1%	35.9%	52.7%	52.4%
M317 – Percent of need met for mental health care in health professional shortage areas (HPSA) in the state (Min=3.7, Max=100)	41.4%	41.4%	41.4%	55.6%	28.7%	23.9%	23.6%
M800 – Percent of the state's population not living in a HRSA Mental Health Professional Shortage Area (Min=0, Max=100)	69.8%	69.8%	69.8%	69.8%	61.6%	58.2%	57.2%
Subdomain 4.5: Home Care	4.4	4.6	4.5	4.9	5.4	5.7	5.7
M291 – Percent of home health visits in the state where the home health team determined whether their patient received a flu shot (Min=60, Max=87.3)	72.0%	74.0%	72.6%	74.3%	77.1%	78.6%	78.9%
M292 – Percent of home health visits in the state where the home health team began their patients' care in a timely manner (Min=76, Max=98.4)	87.0%	87.0%	87.6%	88.7%	89.6%	90.7%	91.4%
M293 – Number of home health and personal care aides per 1,000 population in the state aged 65 or older (Min=12.7, Max=78.9)	37.7	36.5	36.3	35.7	35.1	34.4	30.9

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Michigan Measure Details 2013-2019*

Above National Average
 Meets National Average
 Below National Average

	2013	2014	2015	2016	2017	2018	2019
OVERALL INDEX VALUE (0-10)	6.6	6.6	6.5	6.5	6.7	6.6	6.8
Domain 5: Countermeasure Management	5.7	5.7	5.6	5.4	5.7	5.7	6.1
Subdomain 5.1: Medical Materiel Management, Distribution, & Dispensing	5.7	5.4	5.1	4.8	5.1	5.5	5.3
M161 – Number of Pharmacists per 100,000 population in the state (Min=57, Max=158)	98.8	96.0	89.4	87.7	91.1	94.6	91.4
M270 – Percent of hospitals in the state participating in a group purchasing arrangement (Min=0, Max=96.8)	74.4%	71.5%	72.8%	69.0%	71.9%	75.8%	75.0%
Subdomain 5.2: Countermeasure Utilization & Effectiveness	3.8	4.3	4.4	4.4	4.7	4.1	5.6
M24 – Percent of children ages 19-35 months in the state receiving recommended routine childhood vaccinations (Min=57.1, Max=85.3)	70.5%	70.0%	65.0%	67.6%	70.2%	69.9%	71.0%
M32 – Percent of seniors age 65 and older in the state receiving a seasonal flu vaccination (Min=45.1, Max=78)	61.0%	62.7%	65.7%	59.5%	62.6%	56.3%	65.6%
M33 – Percent of seniors age 65 and older in the state receiving a pneumococcal vaccination (Min=60.5, Max=81.9)	66.8%	68.6%	69.3%	72.8%	71.8%	75.7%	74.2%
M34 – Percent of children aged 6 months to 4 years old in the state receiving a seasonal flu vaccination (Min=43.9, Max=92.7)	61.6%	65.7%	65.2%	68.1%	63.6%	59.0%	71.9%
M35 – Percent of adults aged 18 years and older in the state receiving a seasonal flu vaccination (Min=29.2, Max=58.1)	37.9%	39.5%	42.0%	38.5%	41.1%	35.5%	43.3%
Domain 6: Environmental & Occupational Health	6.5	6.6	6.5	5.6	5.6	6.0	7.4
Subdomain 6.1: Food & Water Security	8.9	9.1	9.0	7.2	7.2	7.3	9.5
M275_DW – State public health laboratory provides or assures testing for drinking water	Yes	Yes	Yes	No	No	No	
M275_PWW – State public health laboratory provides or assures testing for private well water	Yes	Yes	Yes	No	No	No	
M275_REC – State public health laboratory provides or assures testing for recreational water	Yes	Yes	Yes	No	No	No	
M275_SUR – State public health laboratory provides or assures testing for surface water	Yes	Yes	Yes	No	No	No	
M275_WST – State public health laboratory provides or assures testing for waste water	Yes	Yes	Yes	No	No	No	
M276 – Percent of 16 tests for different organisms or toxins that the state public health laboratory provides or assures to assist with foodborne disease outbreak investigations, including but not limited to listeria and salmonella (Min=0, Max=100)	75.0%	75.0%	75.0%	87.5%	87.5%	87.5%	
M195 – Percentage of community water systems in a state that meet all applicable health-based standards (Min=40, Max=100)	95.8%	95.8%	94.6%	95.4%	97.5%	97.9%	97.6%
M925 – Percentage of community water systems in a state that meet all applicable non-health-based standards (Min=15.4, Max=98.3)	85.5%	89.1%	91.8%	89.0%	86.5%	86.7%	83.2%

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Michigan Measure Details 2013-2019*

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OVERALL INDEX VALUE (0-10)	6.6	6.6	6.5	6.5	6.7	6.6	6.8
M23PC – Number of foodborne illness outbreaks reported to CDC by state and local public health departments for which a causative infectious agent is confirmed (per 1 million population) (reverse coded) (Min=0, Max=922.9)	68.3	17.7	63.7	35.3	59.8	33.1	29.5
Subdomain 6.2: Environmental Monitoring	6.9	6.9	6.9	5.1	5.1	5.1	8.0
M202 – State public health laboratory provides or assures testing for air samples	Yes	Yes	Yes	Yes	Yes	Yes	
M257_AIHA – State public health laboratory is certified or accredited by the American Industrial Hygiene Association (AIHA)	Yes	Yes	Yes	Yes	Yes	Yes	
M257_EPA – State public health laboratory is certified or accredited by the Environmental Protection Agency (EPA)	No	No	No	No	No	No	
M257_NELAC – State public health laboratory is certified or accredited by the National Environmental Laboratory Accreditation Conference (NELAC)	No	No	No	No	No	No	
M272 – Percent of 10 tests for different contaminants in environmental samples that the state public health laboratory provides or assures, including but not limited to asbestos, lead, and radon (Min=0, Max=100)	70.0%	70.0%	70.0%	60.0%	60.0%	60.0%	
M273 – State public health laboratory provides or assures testing for hazardous waste	Yes	Yes	Yes	No	No	No	
M904 – Number of environmental scientists and specialists per 100,000 population in the state (Min=6.3, Max=237.6)	13.4	15.5	19.1	21.6	21.5	25.6	27.8
M23A – Number of disease outbreaks in a state due to animal contact per 1 million population (reverse coded) (Min=0, Max=5.2)	0.0	0.2	0.1	0.1	0.2	0.1	0.1
Subdomain 6.3: Physical Environment and Infrastructure	4.2	4.2	4.2	4.2	4.2	6.3	6.3
M922 – Transportation Structural Integrity, percent of bridges that are in good or fair condition (not poor) (Min=75.1, Max=98.8)	88.0%	88.5%	88.6%	88.5%	89.2%	89.7%	89.3%
M923 – Surface Water Control Structural Integrity, percent of High-Hazard Potential Dams that are in Fair or Satisfactory condition (Min=2, Max=100)	70.6%	70.6%	70.6%	70.6%	70.6%	73.8%	73.8%
M928 – Housing Mitigation for Flood Hazards, population living in a community participating in the FEMA Community Rating System (communities with a CRS of 1 through 9) as a percent of all communities participating in the National Flood Insurance Program (Min=0, Max=100)	68.7%	68.7%	68.7%	68.7%	68.7%	68.8%	68.8%
M929 – Flood Insurance Coverage, FEMA National Flood Insurance Policies (NFIP) in-force as a percentage of total housing units located in 100- and 500-year floodplains (Min=1.8, Max=100)	13.6%	13.0%	12.8%	12.1%	11.3%	10.8%	10.8%
M334 – State has a climate change adaptation plan	No	No	No	No	No	Yes	Yes

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OVERALL INDEX VALUE (0-10)	6.6	6.6	6.5	6.5	6.7	6.6	6.8
<i>Subdomain 6.4: Workforce Resiliency</i>	3.4	3.4	3.2	3.3	3.4	3.2	3.4
M530 – Percent of employed workers in the state who used some type of paid time off (PTO) benefit. (Min=41.8, Max=69.9)	57.3%	57.2%	53.7%	50.2%	49.7%	47.9%	49.4%
M531 – Percent of employed population in the state engaging in some work from home by telecommuting (Min=3.7, Max=43.9)	8.2%	7.3%	12.9%	21.7%	21.7%	21.6%	21.6%
M705 – Percent of employed population in the state who work from home (Min=1.9, Max=8.6)	3.7%	3.8%	3.7%	3.6%	4.0%	4.2%	4.1%

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About the Index

The National Health Security Preparedness Index is a program of the Robert Wood Johnson Foundation. The Program Office for the Index is based at the Colorado School of Public Health and staffed through a collaboration between the Department of Health Systems, Management and Policy, Colorado School of Public Health, Anschutz Medical Campus, and the Center for Business and Economic Research, Gatton College of Business and Economics, University of Kentucky. The Program Office is directed by Glen P. Mays, Ph.D., Professor and Chair, Department of Health Systems, Management and Policy, at the Colorado School of Public Health.

Additional Resources

Report of Key Findings:

https://nhspi.org/wp-content/uploads/2020/05/NHSPI_2020_Key_Findings.pdf

List of Measures:

https://nhspi.org/wp-content/uploads/2020/05/NHSPI_2020_Measures.pdf

Index Methodology:

https://nhspi.org/wp-content/uploads/2020/05/NHSPI_2020_Methodology.pdf

Summary of Key Index Changes:

https://nhspi.org/wp-content/uploads/2020/05/NHSPI_2020_Key_Changes.pdf

Index Data Explorer Tool:

https://nhspi.org/wp-content/uploads/2020/05/NHSPI_2020_Data_Download.xlsx

Innovator's Guide to Index Use:

https://nhspi.org/wp-content/uploads/2017/05/Innovators-Guide_24Apr2018.pdf

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