The State of Public Health in 2024: Charting a path forward

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Mortality Rates Due to Certain Communicable Diseases, Michigan Residents, 1900-2021

- Tuberculosis
- Diphtheria
- Streptococcus/Scarlet Fever
- Typhoid / Fever
- Pertussis
- Measles
- Polio
- Syphilis
- AIDS

Death Rates Due to Certain Communicable Diseases (state.mi.us)
Some Priorities for 2024

- Opioid crisis
- Maternal and infant health
- Vaccine preventable diseases
- Changing epidemiology of STIs
- Community Violence

Racial disparities in health access and outcomes
The Opioid Crisis
Rise in Opioid Prescriptions

Rise in Heroin Use

Fentanyl Emergence

Rise in Opioid/Stimulant Co-Use

0 5 10 15 20 25 30 35
Death Rate (per 100,000)


*2023 data is a preliminary projection based on 6 months (January-June) of preliminary 2023 death data. 2023 data is subject to change as more data becomes available/data is finalized.
Mortality Rate of All Drug Overdose Fatalities per 100,000 MI Residents by Race and Ethnicity, 1999-2023
MI – Substance Use Vulnerability Index

2020 MI-SUVI County Results

Percentile Rank
- 0-25th
- 25th-50th
- 50th-75th
- 75th-100th

Least Vulnerable Most Vulnerable

Select MI-SUVI Component

MI-SUVI Score

View ZIP Code Map

Substance Use Burden
- Overdose Death Rate
- Nonfatal Overdose Emergency Healthcare Visit Rate
- Opioid Prescribing Rate
- Drug-Related Arrest Rate

Substance Use Resources
- Percent of Population within 30 Minute Drive of Treatment Center
- Percent of Population within 15 Minute Drive of SSP
- Buprenorphine Prescribing Rate

Social Vulnerability
- Modified Centers for Disease Control Social Vulnerability Index (CDC SVI)*

MI-SUVI

https://www.michigan.gov/opioids/category-data
Substance Use Response Framework (Goals)

**Primary Prevention**
- Prevent new substance misuse and addiction.
- Prevent inappropriate prescribing of drugs with addictive potential.
- Prevent generational trauma and addiction.

**Harm Reduction**
- Prevent drug overdoses.
- Reverse opioid overdoses.
- Decrease medical complications of drug use.
- Improve health outcomes for people who use drugs.

**Treatment**
- Expand access to treatment modalities for substance use.
- Improve quality of care and increase treatment retention.
- Bridge the gaps in transitions of care.

**Recovery Support**
- Increase access to all recovery pathways.
- Expand access to key economic supports for people in recovery.
- Improve health outcomes for people in recovery.

Prioritizing the needs of vulnerable populations: justice-involved, pregnant and parenting, etc.
Settlement funds allowed the NARCAN Direct Portal to distribute an additional 147,000 NARCAN kits to 404 unique organizations and 2,605 overdose reversals were reported.
FY23 Key Program Impacts: Harm Reduction

Fentanyl and Xylazine Test Strip Distribution by Michigan Syringe Service Programs, FY 2019 – FY 2023

FY23 Settlement funds covered the cost of 58,450 fentanyl test strips and 5,530 xylazine test strips through SSPs in Michigan.
Self-Reported Behavior Change Following Positive FTS Result Among SSP Participants 2021-2023, n=1,709

Responses are voluntarily self-reported at subsequent encounters and is not a requirement for SSP participation. Participants may use more than one strategy and responses are not mutually exclusive.

Data Source: Michigan SSP Utilization Platform

FTS = Fentanyl Test Strip, SSP = Syringe Service Program
Maternal and Infant Health
New Data Shows U.S. Maternal Mortality Rate Exceeds That in Other High-Income Countries

Deaths per 100,000 live births

Infant Mortality by Maternal Race and Ethnicity
Michigan, 2010-2020

Infant Mortality Rate per 1,000 Live Births

- White Non-Hispanic
- Black Non-Hispanic
- Hispanic
- Asian/Pacific Islander
Maternal Mortality by Race and Ethnicity
Michigan, 2015-2019

Pregnancy-Related Mortality

• Nationwide, Black women die from pregnancy-related causes at a much higher ratio compared to white women.

• From 2015-2019, black women were 2.8 times more likely to die from pregnancy-related causes in Michigan (29.8 and 10.7 per 100,000 live births, respectively) (Figure 9).

• Races other than white and Black suppressed due to sample size less than six.

Figure 9. Pregnancy-Related Mortality by Race, 2015-2019
Addressing Maternal and Infant Health Disparities

- Home visiting programs
- Medicaid coverage for doula services
- Medicaid coverage for 12 months postpartum
Vaccine Preventable Diseases
Combined 7 Series Vaccination Coverage by Age 35 Months among Children Born in 2020, National Immunization Survey-Child

MI Compared to Other States
Statewide childhood vaccine series coverage

Children 19-35 months
4313314 Series: 4 DTaP, 3 Polio, 1 MMR, 3 Hib, 3 HepB, 1 Varicella, 4 PCV2, (2 HepA)
Childhood vaccine series coverage by county

Dark green counties have a coverage rate of 70% or lower (n=9)
Children 19-35 months
4313314 Series: 4 DTaP, 3 Polio, 1 MMR, 3 Hib, 3 HepB, 1 Varicella, 4 PCV2, (2 HepA)
Kindergarten and 7th grade vaccine* coverage

Required vaccines include DTP/DTaP/Tdap, polio, MMR (or documented immunity), Hepatitis B (or documented immunity), Varicella (or documented immunity).
PLUS Meningococcal for 7th graders
Racial Disparities in Routine Vaccine Uptake

Percent Vaccine Uptake* by Mother’s Race, June 2023

- AAPI: 75.8%
- White: 72.7%
- Black: 57.4%
- Unknown: 33.8%

* Children 19-35 months
4313314 Series: 4 DTaP, 3 Polio, 1 MMR, 3 Hib, 3 HepB, 1 Varicella, 4 PCV2, (2 HepA)
The changing epidemiology of syphilis
Critical Time: Primary and Secondary Syphilis On the Rise

Rate per 100,000 Population

2013: 493
2014: 431
2015: 397
2016: 375
2017: 480
2018: 654
2019: 683
2020: 782
2021: 980
2022: 972

See full trend report here.
Primary & Secondary Syphilis Increases Steepest Among Heterosexuals

By transmission risk, cases have been increasing most significantly among people who report only heterosexual sex (both males and females). Men who have sex with men remain at the highest risk of syphilis infection.
Each case of congenital syphilis is a failure

There were 37 reported cases of congenital syphilis in Michigan during 2022. Among the mothers, 69% had no or inadequate prenatal care. Common barriers to syphilis treatment were lack of prenatal care, substance use disorder, transportation, housing insecurity, domestic violence, and mental health challenges.
Cases among women have tripled in the past 5 years. Females remain less likely to be diagnosed with syphilis compared to men, but that risk difference is shrinking in recent years.
Geography of Syphilis in MI

2022 STIs and Trends in Michigan Overview

Five Local Health Jurisdictions with Highest Case Rate per 100,000

- Detroit City: 46.4
- Kalamazoo County: 16.8
- Muskegon County: 11.3
- Washtenaw County: 11.2
- Genesee County: 10.2
Addressing Congenital Syphilis

- Review of each case of congenital syphilis
- Increase opportunities for testing
- Raise awareness about changing epidemiology
- Wraparound services provided by public health
An FDA Approved, CLIA Waived dual rapid test for the detection of antibodies to HIV 1/2 and Treponema pallidum in fingerstick whole blood, venous whole blood, or plasma specimens.
Firearm Deaths are a Public Health Issue
Firearm deaths are increasing in MI and across the U.S.
The annual firearm-related mortality rate has been higher than the mortality rate for motor vehicle crashes.
Black Michiganders have higher rates of firearm-related injuries across all age groups.

Source: Michigan Outpatient Database, Michigan Health and Hospital Association

1 ED Visits exclude events where patients are subsequently admitted to the hospital.
2 Nonfatal Firearm Injury events defined as an ED visit with a primary discharge diagnosis of firearm injury (ICD-10-CM=W32, W33, W34.00, W34.09, W34.10, W34.19, Y22, Y23, Y24.8, Y24.9, Y35.00-Y35.03, Y35.09) and the discharge disposition is not ‘deceased’. Includes all intents (unintentional, self-harm, assault, legal, and undetermined).
3 18% (1,185) of firearm-related ED visits had their race categorized as Other/Unknown. Rates for Asian, American Indian/Eskimo/Aleut and Native Hawaiian/Pacific Islander categories were suppressed due to low counts.
Firearm Mortality in Michigan (2012-2021) and Locations of U-M Firearm Prevention Research (2010-Current)
The Institute is committed to addressing firearm injury broadly across Michigan. Below is a map identifying Institute projects and programs addressing firearm injury in high-priority topic areas.
<table>
<thead>
<tr>
<th>Michigan</th>
<th>Foundational laws</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔ Background Check and/or Purchase Permit</td>
<td>Show details</td>
</tr>
<tr>
<td>Requires Background checks for handgun purchases at point of sale and/or for permit to purchase</td>
<td></td>
</tr>
<tr>
<td>✔ Concealed Carry Permit Required</td>
<td>Show details</td>
</tr>
<tr>
<td>Requires any person who carries a concealed firearm in public to first obtain a permit</td>
<td></td>
</tr>
<tr>
<td>✔ Extreme Risk Law</td>
<td>Show details</td>
</tr>
<tr>
<td>Allows law enforcement (and often family members) to petition for a court order to temporarily prevent someone in crisis from accessing guns.</td>
<td></td>
</tr>
<tr>
<td>❌ No Shoot First Law</td>
<td></td>
</tr>
<tr>
<td>Does not have a dangerous Shoot First law in place</td>
<td></td>
</tr>
<tr>
<td>✔ Secure Storage or Child Access Prevention Required</td>
<td>Show details</td>
</tr>
<tr>
<td>Requires that firearms be stored locked, unloaded, and separate from ammunition in certain circumstances</td>
<td></td>
</tr>
</tbody>
</table>
What are the most common circumstances for unintentional firearm injury deaths nationwide?

<table>
<thead>
<tr>
<th>Precipitating circumstance and incident characteristic</th>
<th>0-5</th>
<th>6-10</th>
<th>11-15</th>
<th>16-17</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precipitating circumstance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Playing with firearm, showing firearm to others</td>
<td>207 (66.6)</td>
<td>102 (65.4)</td>
<td>255 (67.1)</td>
<td>182 (66.7)</td>
<td>746 (66.6)</td>
</tr>
<tr>
<td>Unintentionally pulled trigger</td>
<td>61 (19.6)</td>
<td>29 (18.6)</td>
<td>88 (23.2)</td>
<td>60 (22.0)</td>
<td>238 (21.3)</td>
</tr>
<tr>
<td>Thought firearm was unloaded, safety engaged, or magazine disengaged</td>
<td>17 (5.5)</td>
<td>26 (16.7)</td>
<td>113 (29.7)</td>
<td>74 (27.1)</td>
<td>230 (20.5)</td>
</tr>
<tr>
<td>Firearm mistaken for a toy</td>
<td>87 (28.0)</td>
<td>24 (15.4)</td>
<td>7 (1.8)</td>
<td>1 (0.4)</td>
<td>119 (10.6)</td>
</tr>
<tr>
<td>Hunting or target shooting</td>
<td>3 (1.0)</td>
<td>16 (10.3)</td>
<td>46 (12.1)</td>
<td>20 (7.3)</td>
<td>85 (7.6)</td>
</tr>
<tr>
<td>Firearm was defective or malfunctioned or was fired when dropped, holstering, or operating safety lock</td>
<td>12 (3.9)</td>
<td>12 (7.7)</td>
<td>32 (8.4)</td>
<td>24 (8.8)</td>
<td>80 (7.1)</td>
</tr>
<tr>
<td>Firearm fired while loading, unloading, or cleaning</td>
<td>9 (2.9)</td>
<td>12 (7.7)</td>
<td>35 (9.2)</td>
<td>22 (8.1)</td>
<td>78 (7.0)</td>
</tr>
</tbody>
</table>

Source: Number and percentage* of unintentional firearm injury deaths of children and adolescents aged 0–17 years, by precipitating circumstances and incident characteristics (N = 1,262) — National Violent Death Reporting System, United States,† 2003–2021
What are the most common circumstances for unintentional firearm injury deaths nationwide?

<table>
<thead>
<tr>
<th>Location where shooter accessed firearm used in fatal event</th>
<th>0-5</th>
<th>6-10</th>
<th>11-15</th>
<th>16-17</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inside or on top of nightstand, under mattress or pillow, or on top of bed</td>
<td>70 (33.5)</td>
<td>15 (26.8)</td>
<td>22 (25.3)</td>
<td>6 (24.0)</td>
<td>113 (30.0)</td>
</tr>
<tr>
<td>On top of shelf or inside a closet</td>
<td>30 (14.4)</td>
<td>17 (30.4)</td>
<td>20 (23.0)</td>
<td>3 (12.0)</td>
<td>70 (18.6)</td>
</tr>
<tr>
<td>Inside a vehicle</td>
<td>25 (12.0)</td>
<td>6 (10.7)</td>
<td>9 (10.3)</td>
<td>7 (28.0)</td>
<td>47 (12.5)</td>
</tr>
<tr>
<td>Inside a handbag, backpack, gym bag, purse, or clothing</td>
<td>16 (7.7)</td>
<td>4 (7.1)</td>
<td>9 (10.3)</td>
<td>4 (16.0)</td>
<td>33 (8.8)</td>
</tr>
<tr>
<td>On top of coffee table, kitchen table, refrigerator, or inside kitchen drawer</td>
<td>20 (9.6)</td>
<td>3 (5.4)</td>
<td>7 (8.1)</td>
<td>2 (8.0)</td>
<td>32 (8.5)</td>
</tr>
<tr>
<td>Inside room in house (unspecified where in room, but firearm stored unlocked)</td>
<td>13 (6.2)</td>
<td>6 (10.7)</td>
<td>5 (5.8)</td>
<td>1 (4.0)</td>
<td>25 (6.6)</td>
</tr>
<tr>
<td>Under couch, chair, or couch pillow</td>
<td>17 (8.1)</td>
<td>1 (1.8)</td>
<td>1 (1.2)</td>
<td>0 (—)</td>
<td>19 (5.0)</td>
</tr>
<tr>
<td>Behind furniture or leaning against something</td>
<td>9 (4.3)</td>
<td>1 (1.8)</td>
<td>6 (6.9)</td>
<td>1 (4.0)</td>
<td>17 (4.5)</td>
</tr>
<tr>
<td>Other container (e.g., shoebox or Tupperware)</td>
<td>9 (4.3)</td>
<td>1 (1.8)</td>
<td>3 (3.5)</td>
<td>0 (—)</td>
<td>13 (3.5)</td>
</tr>
<tr>
<td>Other location (e.g., inside a shed)</td>
<td>0 (—)</td>
<td>2 (3.6)</td>
<td>5 (5.8)</td>
<td>1 (4.0)</td>
<td>8 (2.1)</td>
</tr>
</tbody>
</table>

Source: Number and percentage* of unintentional firearm injury deaths of children and adolescents aged 0-17 years, by precipitating circumstances and incident characteristics (N = 1,262) — National Violent Death Reporting System, United States,† 2003-2021
A public health approach to preventing motor vehicle fatalities

**Historical Perspective: Fatality Rate - Michigan Traffic Crash Facts**

- **1968** Federal law required all new cars to have seat belts
- **1970s** Air bags become mainstream and child car seats introduced
- **1985** Seat belt mandate went into effect in MI
- **1982** Mandate for child seats went into effect in MI
- **1960** MI's first drunk driving law
- **1956** First statewide speed limit in MI (70mph)
- **2003** Blood alcohol threshold lowered to 0.08
- **1983** Car companies push for seat belt laws
- Mass media and informational campaigns, policy enforcement, safer vehicles

**Michigan Fatality Rate Per 10,000 Registered Vehicles (1940-2022)**

- Yearly fatality rates from 1940 to 2022 with significant events noted along the timeline.

*Historical Perspective: Fatality Rate - Michigan Traffic Crash Facts*
Moving Forward
Rebuilding public health
Semi-structured interviews with:

- Local public health officers
- State legislators
- Health plan leaders
- Law enforcement
- Health care providers
- Advocacy organizations
Recommendations from the Public Health Advisory Council

Strengthen Public Health Infrastructure
- Financial Support
- Data systems
- Workforce

Strengthen Trust in Public Health Messaging
- Rebuild relationships with communities
- Partner with trusted messengers
- Keep messaging unified
- Learn how to communicate uncertainty
Recommendations from the Public Health Advisory Council

1. Improve connection of public health to the health care system.

2. Improve knowledge of public health among legislators.

3. Improve knowledge of what public health does among the public.

4. Improve public health data systems to better tell the story of public health in MI.

5. Enhance technical assistance and leadership training to local health departments.

6. Improve communications between state and local health departments.

7. Improve advocacy for more flexible funding for public health.
Join us!

- Public Health Grand Rounds
- Health Care Coalitions
- Clinician Newsletter
- Work with your local health department
- Be an advocate for public health