



MICHIGAN SUICIDE PREVENTION COMMISSION PRELIMINARY REPORT

September 2020

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Preface

Governor Gretchen Whitmer initiated the Michigan Suicide Prevention Commission following the passage of Public Act 177 of 2019. The Commission was formed in March 2020. The Commission has been charged to work with state departments, nonprofit organizations and universities on researching the causes and possible underlying factors of suicide in the state. The research must focus on populations showing the highest suicide rates in this state in the decade immediately preceding the effective date of this act, and the highest growth in suicide rates during the same time.

Acknowledgements

The Commission would like to thank all the individuals and organizations who contributed to the Michigan Suicide Prevention Commission Preliminary Report. Their assistance came in many invaluable forms including providing supplementary articles, writing portions of the report, editing, and serving as subject matter experts.

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Executive Summary

Statistics regarding suicide are alarming. Suicide rates have increased significantly across the United States and Michigan over the past decade. In 2018, nearly 1,600 Michiganders lost their lives to suicide. Between 2009 and 2018, the rate of suicide among Michigan residents increased 28 percent from almost 12 deaths per 100,000 to 15 deaths per 100,000. Suicide and suicidal behaviors occur among all age groups and across all socioeconomic, racial, and ethnic backgrounds. Suicide is a critical public health issue that impacts individuals, families and communities. In the context of the COVID-19 pandemic there has been much discussion of its emotional toll, and the concerns about economic impact and other impacts that could lead to increased risk of suicide among all populations. A comprehensive public health approach is crucial to address the wide range of factors that can contribute to suicide in evolving societal contexts.

Causes of the pre-COVID-19 increases in suicide are complex and multifaceted. They include an array of biological, psychological, social, environmental, and cultural risk factors. These trends reflect the interconnectedness of suicide with economic and social challenges, mental health, and substance use problems. Acknowledging these trends, the Michigan Suicide Prevention Commission is actively working to identify opportunities to prevent these deaths. These opportunities demonstrate a need for new strategies and approaches in response to economic, social, and cultural factors.

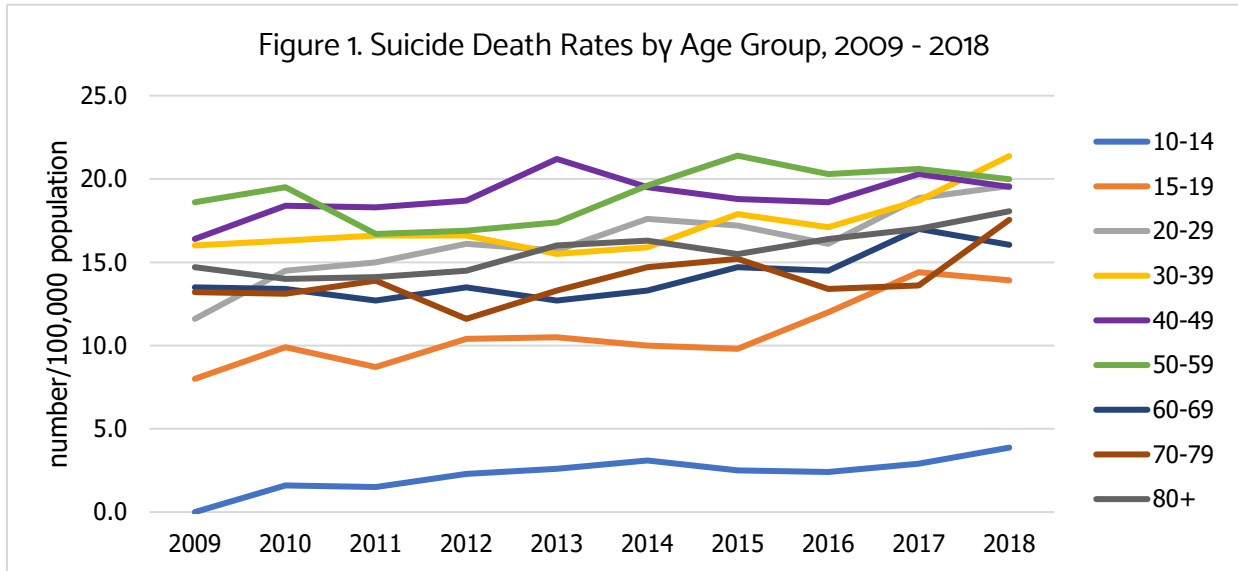
This Preliminary Report serves as the foundation of the statewide Suicide Prevention Plan and the blueprint for action at the local and State levels. As the Commission continues to uncover emerging practices and evidence-based programs and policies, this document will evolve to guide the work of policy makers, service providers and philanthropy. Future recommendations will bring systems together to better coordinate efforts and to enhance needed prevention and intervention services. These early insights affirm the need to engage a myriad of partners across Michigan in our missions to strengthen suicide prevention efforts and decrease suicide rates.

The following report summarizes findings from a comprehensive scan of Michigan's environment, national data sources, and academic literature. The scan encompasses information that reflects pre-pandemic times. Over time more research and data will be available regarding any changed trends. In the coming months, the Commission will draft recommendations to mobilize and align efforts to help prevent suicide through policy development. This plan will be informed by evolving state and national data, evidence-based approaches and lessons learned from current practice.

Suicide prevention must be a priority in our State. While there are many challenges in carrying out this work, there are also tremendous opportunities. This report will be used to provide recommendations and facilitate the necessary practices to reverse the trends we see in much of the data.

The Burden of Suicide in Michigan

Data gathered from prior to the COVID-19 pandemic shows that suicide is the 10th leading cause of injury death in Michigan. Between 2009 and 2019, the rate of suicide among Michigan residents increased 28 percent, from almost 12 deaths per 100,000 population to 15 deaths per 100,000. The average annual suicide rate has remained relatively flat for more than a decade but has been slowly on the rise since 2010.



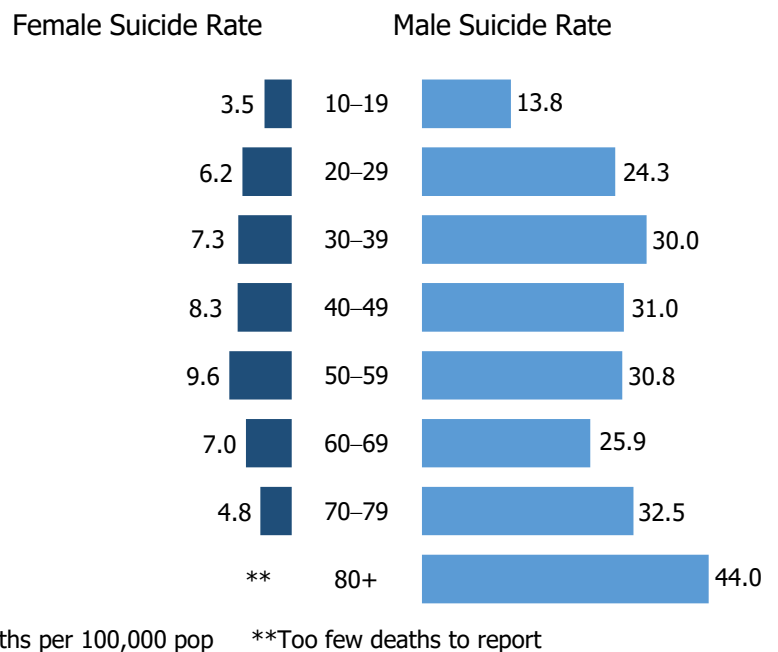
Source: CDC, WISQARS. *Fatal Injury Reports, National, Regional and State 1981-2018*

Demographics

Age and Gender

- Overall working adults ages 30-59 have the highest suicide rates.
- Males account for almost 8 out of 10 of the suicide deaths in Michigan.
- Men at every age are more likely to die by suicide than women because of the use of lethal means.
- The highest suicide rate per capita in 2018 (57.8 per 100,000) was among elderly aged 85 and older.
- While the death rate for men is greater than women, suicide attempts are more common among females than males.

Figure 2. Michigan Suicide Death Rates* by Sex, 2018

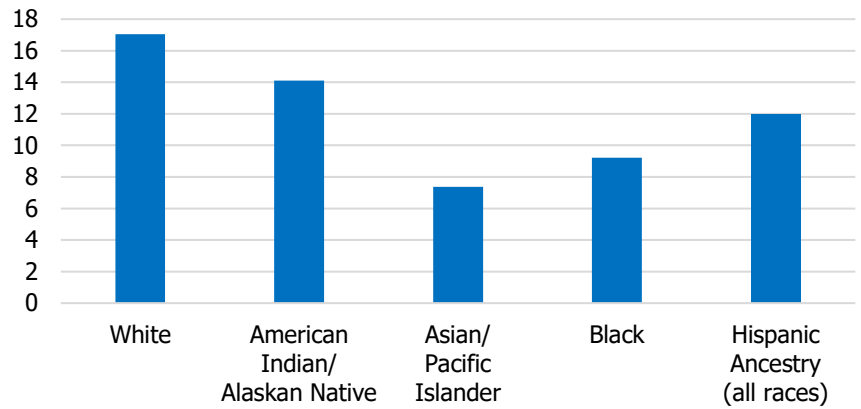


Source: CDC, WISQARS. *Fatal Injury Reports, National, Regional and State 1981-2018*

Race and Ethnicity

- The white population has the highest suicide rates of all racial groups.
- The highest number of deaths in the state is for White residents.
- From 2017 to 2018 their suicide death rate for Black residents jumped from 5.8/100,000 to 9.5/100,000, driven primarily by an increase in the suicide rate for Black males from 9.4 to 16.2/100,000.

Figure 3. Suicide Rates by Race and Hispanic Ancestry, Michigan, 2018

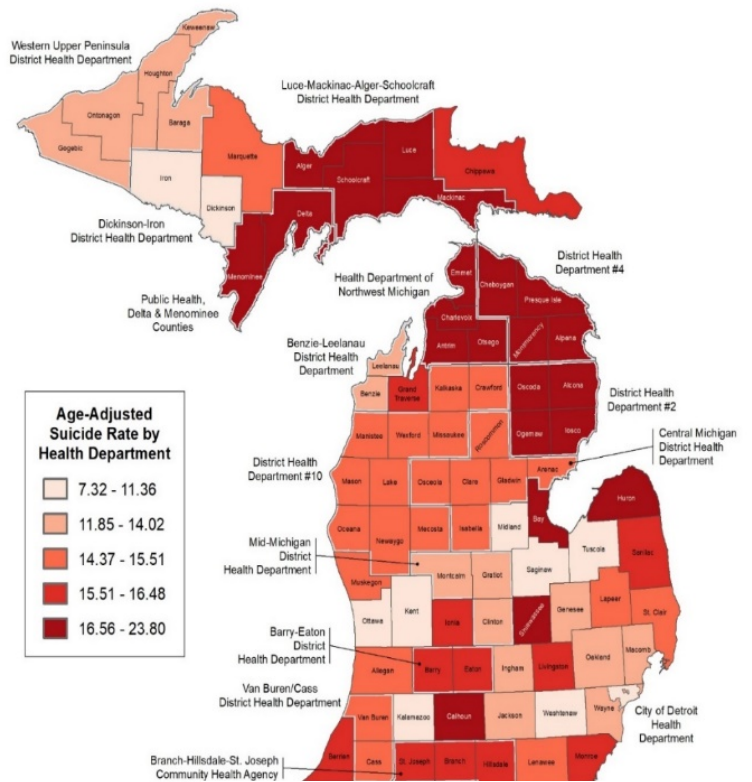


Source: CDC, WISQARS. *Fatal Injury Reports, National, Regional and State 1981-2018*

Geographical Distribution

- While the number of suicides is greater in more populous urban area; suicide rates are generally higher in more rural areas.
- The northeastern half of the Lower Peninsula and eastern portion of the Upper Peninsula have the highest age-adjusted suicide rates.

Figure 4. Geographical Distribution Map



Source: Michigan Violent Death Reporting System

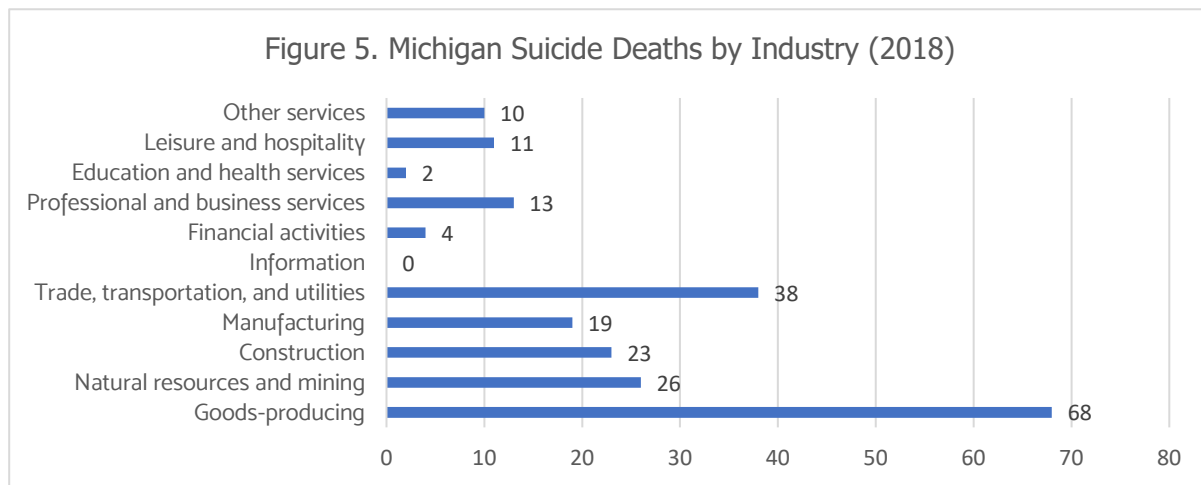
Occupation

While information is not consistently available on the current occupation of Michigan suicide decedents, death certifications do contain the field “usual occupation” which is typically used to capture the type of work the person performed during most of their working life. A second field captures the type of business or industry in which they worked.

Occupation	Number of Deaths
Transportation and material moving	32
Construction and extraction	24
Management	22
Installation, maintenance and repair	15
Production	12
Sales and related occupations	11
Farming, fishing, and forestry	9
Protective service	7
Office and administrative support	5
Building and grounds cleaning and maintenance	5
Food preparation and serving related occupations	4
Art, design, entertainment, sports and media occupations	3
Healthcare practitioners and technical occupations	1
Healthcare support	1

Source: Census of Fatal Occupational Injuries (CFOI), 2018

In Michigan, the highest number of suicides are women ages 19-64, those working in medical/healthcare related professions and homemakers. The highest number of suicides for men within the same age range held jobs in construction, automotive and food/hospitality related businesses.



Source: Census of Fatal Occupational Injuries (CFOI), 2018

Socioeconomic Status

Research suggests that suicide attempts are associated primarily with greater socioeconomic disadvantage but not consistently (Burrows & Laflamme, 2009). Younger people are more likely to die by suicide in poverty-stricken areas.

One study looked at nearly 21,000 cases of suicide from 2007 to 2016 and found that children between the ages of 5 and 19 were 37 percent more likely to die by suicide if they were from communities where 20 percent or more lived below the federal poverty levels (Hoffman, Farrell, & Monuteaux, 2020).

“Kids that are poor are already at a disadvantage. That stress can be very overwhelming and can worsen underlying depression, bipolar disorder, or substance use, which can ultimately lead to unfortunate outcomes.”

Dr. A. Lee Lewis
Medical University of South Carolina

High Risk Populations: The Intersectionality of Suicide Across the Lifespan

The Michigan Suicide Prevention Commission identified several groups at a heightened risk for suicide and suicidal behaviors. These populations also reflect an increased risk at the national level. Limitations associated with the collection of suicide-related data can make it difficult to obtain reliable estimates for specific populations, and if collected, the information may not be readily available. In instances where Michigan-specific data is not available, the use of national data and trends are highlighted.

Active Military/Service Members¹

Nationally, there were 541 confirmed or pending suicide deaths for calendar year (CY) 2018. There were 325 suicide deaths among service members in the Active Component, 81 deaths in the Reserve, and 135 deaths in the National Guard, respectively (Department of Defense Under Secretary of Defense for Personnel and Readiness, Calendar Year 2018).

DOD Component/Service	CY 2016		CY 2017		CY 2018	
	Count	Rate	Count	Rate	Count	Rate
Active Component	280	21.5	285	21.9	325	34.8
Army	130	27.4	114	24.3	139	29.5
Marine Corps	37	20.1	43	23.4	58	31.4
Navy	52	15.9	65	20.1	68	20.7
Air Force	61	19.4	63	19.6	60	18.5
Reserve	80	22.0	93	25.7	81	22.9
Army Reserve	41	20.6	63	32.1	48	25.3
Marine Corps Reserve	19	--	10	--	19	--
Navy Reserve	10	--	9	--	11	--
Air Force Reserve	10	--	11	--	3	--
National Guard	122	27.1	133	29.8	135	30.6
Army National Guard	108	31.3	121	35.5	118	35.3
Air National Guard	14	--	12	--	17	--
All Components Total	482		511		541	

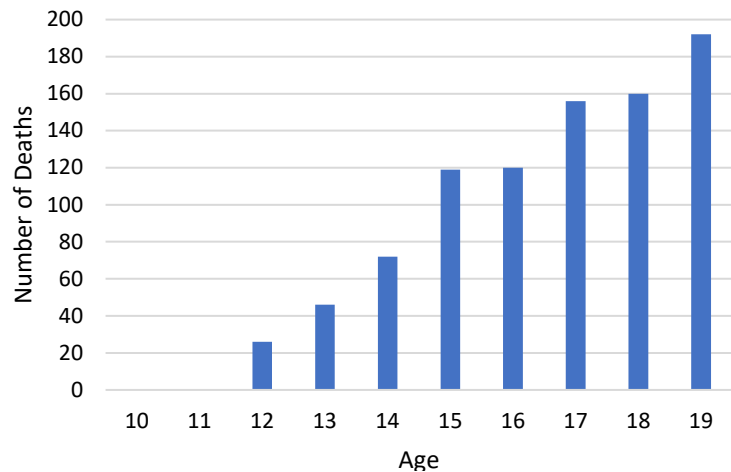
Source: Department of Defense Under Secretary of Defense for Personnel and Readiness, 2018

¹ Michigan does not have any Active Military Bases.

Children & Adolescents

- The 2017 Michigan Youth Risk Behavior Survey data found that 21 percent of Michigan’s 9th – 12th graders seriously considered attempting suicide.
- Almost one in every 10 students indicated they attempted suicide during that time.

Figure 6. Adolescent Suicide Deaths by Age, Michigan, 2009–2018



Source: CDC, WISQARS. *Fatal Injury Reports, National, Regional and State, 1981-2018*

Correction Officers

- Between 3 and 7 Michigan Department of Corrections (MDOC) employees died by suicide every year from 2016-2018. When comparing to the national average, MDOC’s average rate of 4.7 deaths per 12,281 employees per year is about 38.27 per 100,000 which is 2.45 times the national average (Desert Waters Correctional Outreach and Gallium Social Sciences, 2019).
- A recent study found that the suicide rate among Correctional Officers (COs) is twice as high as the suicide rate of police officers and the general population (New Jersey Police Suicide Task Force, 2009)
- One of the few studies of CO suicide presented by the Bureau of Labor Statistics (BLS) Census of Fatal Occupational Injuries, shows 38 percent of the intentional fatalities suffered by COs were suicides by self-inflicted gunshot wounds (Konda, Reichard, & Tiesman, 2012).

Criminal Justice-Involved

- Between 2014 and 2017, of all suicides with known circumstances, 9.5 percent occurred within the context of a legal stressor.
- Nationally, individuals incarcerated in local jails have a rate of 50 suicide deaths per 100,000 in 2014 (Noonan, 2016).

Emerging Adults

- In the decade from 2009 through 2018, the suicide death rate for 18-25-year olds in Michigan increased 73 percent from 10.8 per 100,000 to 18.7 per 100,000.
- The U.S. suicide death rates for young adults 18 to 24 years old is 16.5 per 100,000 (Centers for Disease Control and Prevention. National Center for Injury Prevention and Control, 2020)

First Responders

- Nationwide, the risk of suicide among police officers is 54 percent greater than among American workers in general (Police Executive Research Forum, 2019).
- In Michigan, nine locals reported a total of twelve suicides since 2000 and 15 percent of fire fighters have attempted suicide (Michigan Professional Fire Fighers Union).

Health Care Contacts

- Eighty-three percent of those who die by suicide had a healthcare visit before their death, most in a primary care setting (Ahmedani, et al., 2014).
- White individuals are more likely to make visits to a healthcare provider before a suicide attempt (Ahmedani, et al., 2015).
- Across all levels of healthcare, including outpatient medical specialty and primary care, inpatient hospitals and emergency rooms, individuals who died by suicide were more likely to make a healthcare visit compared to matched controls (Ahmedani, et al., 2019).

Homeless

- Of all deaths by suicide in Michigan between 2014 and 2017, with known circumstances, 0.87 percent were among homeless individuals.
- Individuals experiencing homelessness have greater morbidity and mortality rates than the general population and experience more co-morbidities than their housed counterparts (Lebrun-Harris, Baggett, & Jenkins, 2012).
- Suicide rates among homeless populations are estimated at nine times that of the US general population (112.5 suicide deaths per 100,000 versus the U.S. national average of 12.5 per 100,000) (Centers for Disease Control and Prevention, 2014).

Table 3: 2014 Homeless Death by Suicide Counts

	Death Counts	Percentage
All	106	100
Male	92	86.7
Female	14	13.3

Source: National Healthcare for the Homeless Council, 2018

LGBTQ+ Youth

- An analysis of data from the 2015, 2017, and 2019 *Youth Risk Behavior Survey* found that LGB high school aged students consistently demonstrated higher suicide risk across all five indicators in the survey than their heterosexual peers (Johns, et al., 2020)
- The 2017 Youth Risk Behavior Survey found that sexual minority youth were significantly more likely than their heterosexual peers to report:
 - Experiencing persistent feelings of sadness or hopelessness.
 - Seriously considering making a suicide attempt.
 - Making a suicide plan.
 - Attempting suicide.
 - Requiring medical attention after a suicide attempt.

- The Trevor Project represents the experience of over 40,000 LGBTQ youth ages 13-24 across the U.S. (The Trevor Project, 2019). Their National Survey found:
 - Forty percent of LGBTQ respondents seriously considered attempting suicide in the twelve months prior to taking the survey, with more than half of transgender and nonbinary youth having seriously considered suicide.
 - Forty-eight percent of LGBTQ youth reported engaging in self-harm in the twelve months prior to taking the survey, including over 60 percent of transgender and nonbinary youth.

Loss Survivors

- Of the 18,764 suicides captured in the National Violent Death Reporting System (NVDRS) in 2015 (Stone, et al., 2018):
 - 1,497 (8.0%) experienced the death of a loved one.
 - 1,181 (6.3%) experienced a non-suicide death.
 - 379 (2.0%) experienced suicide of a family member or friend.

Middle Age Men

- In Michigan, high suicide rates exist among white male ages 55–59 (37.9/100,000), 75–79 (34.4/100,000), 50–54 (36.9/100,000), and 45–49 (35.5/100,000).
- Eighty percent of all deaths by suicide in the U.S. are among men aged 45-54 (SAMHSA, 2019).

Veterans

- Of suicides in Michigan, between 2014 and 2017 with known circumstances, 15.77 percent were among current or former military members (Centers for Disease Control and Prevention, 2020).

In 2017, the suicide rate for veterans in Michigan was not significantly different than the national veteran suicide rate but was significantly higher than the overall national suicide rate, which Michigan closely mirrors.

Age Group	# Veteran Suicides	Veteran Suicide Rate/100,000	General Population Suicide Rate/100,000
Total	170	28.9	18.0
18-34	27	64.3	17.1
35-54	41	31.8	19.7
55-74	73	26.6	17.2
75+	29	20.3	17.0

Source: US Department of Veterans Affairs, 2019

“Any suicide is one too many. There’s no reason that we can’t change the reality of the statistics that we see”

Anna Mueller
University of Chicago Illinois

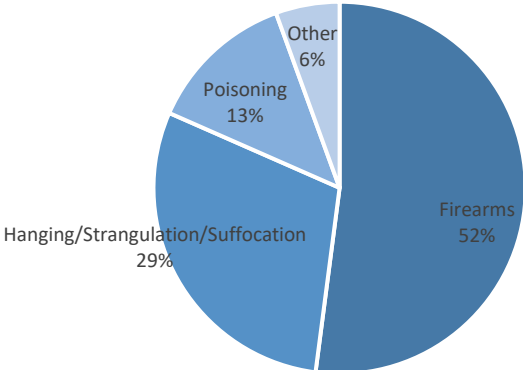
Identified Causes for Increase in Rates

Causes of suicide are complex and vary among individuals and across age, cultural, racial, and ethnic groups. The risk of suicide is influenced by an array of biological, psychological, social, environmental, and cultural risk factors.

Access to Means

- In the United States, more than half of all suicide deaths are the result of firearms and are the leading cause of suicide death in Michigan (Weir, 2019).
- Persons employed in occupations with access to firearms, medicines or drugs and carbon monoxide, more frequently use their access to said lethal means to end their lives than those without access (Milner, Witt, Maheen, & LaMontagne, 2017).

Figure 7: Lethal Means Used in Suicide Deaths, Michigan, 2018



Source: CDC, WISQARS. *Fatal Injury Reports, National, Regional and State, 1981-2018*

Alcohol and Drug Use

- In one study, of 13,317 suicide deaths 9,913 tested positive for ≥ 1 substances when toxicology testing was conducted (Stone, et al., 2018):

Substance Detected	Total Tested	Total Positive	% Positive
Alcohol	10,950	4,442	40.6
Opioids	8,554	2,279	26.6
Benzodiazepines	8,124	2,464	30.3
Cocaine	7,978	499	6.3
Amphetamines	7,615	736	9.7
Marijuana	6,569	1471	22.4
Antidepressants	5,425	2,214	40.8

Source: Stone, D. M. et. Al Vital Signs: Trends in State Suicide Rates - United States, 1999-2016 and Circumstances Contributing to Suicide - 27 States, 2015. *Centers for Disease Control and Prevention: Morbidity and Mortality Weekly Report, 67(22)*.

Chronic Medical Conditions

- Of the suicides in Michigan, between 2014 and 2017, with known circumstances, 24.68 percent had a co-occurring physical health problem (Centers for Disease Control and Prevention, 2020).
- Most physical health conditions are associated with increased risk of suicide, several increase risk even after adjusting for mental health conditions (Ahmedani, et al., 2017).
- People with multiple chronic conditions have greater risk for suicide (Ahmedani, et al., 2017).

History of Suicide Attempts

- Of the suicides in Michigan between 2014 and 2017 with known circumstances, 19.81 percent had a history of suicide attempts and 23.74 percent had a history of suicidal thoughts or plans (Centers for Disease Control and Prevention, 2020).
- A prior history of attempted suicide is the strongest single predictive factor of suicide (World Health Organization, 2014).
- It is estimated there are 10 to 40 nonfatal suicide attempts for every completed suicide (Goldsmith, Pellmar, Kleinman, & Bunney, 2002).
- The NVDRS found from 27 states – including Michigan (Stone, et al., 2018):
 - 5,990 (31.9%) had a history of ideation
 - 3,732 (19.9%) had a history of attempts
- One of every 100 suicide attempt survivors will die by suicide within one year of their first admission to an emergency unit, a risk approximately 100 times that of the general population (Hawton, 1992).

Economic Climate

- When indicators of national economic performance are poor there is typically an associated rise in the suicide rate and suicide rates have often fallen when living conditions have improved (Weir, 2019).
- The NVDRS found from 27 states – including Michigan 2,941 individuals (16.2%) who died by suicide experienced job/financial problems

Mental Illness

- According to one study, approximately half of people have a mental health diagnosis before they die by suicide (Ahmedani, et al., 2014).
- The same study found approximately 33 percent have a behavioral health visit before they die by suicide (Ahmedani, et al., 2014).
- Feelings of hopelessness and an inability to make positive changes in one’s life are to consistent psychological precursors to suicidal behaviors (American Foundation for Suicide Prevention, 2020).

Characteristic	Total No.	%
Depression/Dysthymia	7076	75.2
Anxiety disorder	1579	16.8
Bipolar disorder	1431	15.2
Schizophrenia	509	5.4
PTSD	424	4.5
ADD/ADHD	226	2.4
Not specified	760	8.1
Current depressed mood	3,962	42.1

Source: Stone, D. M. et. Al Vital Signs: Trends in State Suicide Rates - United States, 1999-2016 and Circumstances Contributing to Suicide - 27 States, 2015. *Centers for Disease Control and Prevention: Morbidity and Mortality Weekly Report, 67(22)*.

“At the individual level, there is never a single cause of suicide. There are always multiple risk factors.

Dr. Christine Moutier
American Foundation for Suicide Prevention

COVID-19 and Behavioral Health

In spring 2020, Michigan had one of the highest rates of COVID-19 nationally, ranking seventh in the country for most cases and third for most deaths (DesOreanu, 2020). Governor Gretchen Whitmer issued executive orders to decrease spread of the disease, but the pandemic has continued to impact the state on many levels. As of September 16, 2020, the state had greater than 114,000 confirmed COVID-19 cases and over 6,600 confirmed deaths (State of Michigan, 2020). During the pandemic, behavioral health services have quickly transitioned to the use of virtual and telephonic technologies, to connect with those in treatment in homes and other residential settings. For some, behavioral healthcare was provided in clinical settings if they could not be reasonably performed telephonically or through virtual methods. Although it is too early to confirm an increase in suicide deaths or attempts in the COVID-19 context, it is an area of concern of this Commission and is being closely monitored by the Michigan Department of Health and Human Services.

In August 2020, the CDC Morbidity and Mortality Weekly Report examining national survey responses between June 24-30, 2020, regarding the mental health of Americans showed important findings relevant to the Commission's focus (Czeisler, Lane, & Petrosky, 2020). In that study, 11% of adults over 18 reported having seriously considered suicide within the last 30 days, a figure estimated to be twice as many who reported similarly in 2018. Stratification across particular groups in that study was also noteworthy, with younger adults, racial/ethnic minorities, essential workers and unpaid adult caregivers reporting greater mental health symptoms. Although some of the data requires further analysis and is not entirely comparable to pre-COVID-19 information, with the anticipated behavioral health impact of the pandemic and its shifting landscape, the Michigan Department of Health and Human Services has taken additional steps to provide mental health, substance use services and emotional support resources during the COVID-19 pandemic.

MDHHS has launched the [Stay Well](#) website offering information and mental health resources including videos with tips to manage stress, find balance, and cope with COVID-19. The department established a crisis and emotional support counseling text line, as well as a peer warmline that connects Michiganders living with persistent mental health and substance use conditions to certified peer support specialists. Confidential emotional support counseling is available 24/7 at no cost to Michigan residents who call the state's COVID-19 hotline.

Efforts will continue to establish resources and streamline access to services, with an understanding that they will need to be sustained throughout the pandemic and beyond.

References

- AAP Council on Community Pediatrics. (2016). Poverty and child health in the United States. *Pediatrics, 137*(4).
- Ahmedani, B. K., Simon, G. E., Stewart, C., Beck, A., Waitzfelder, B. E., Rossom, R., . . . Solberg, L. I. (2014). Healthcare contacts in the year before suicide death. *Journal of General Internal Medicine, 29*(6), 870-877.
- Ahmedani, B. K., Stewart, C., Simon, G. E., Lynch, F., Lu, C. Y., Waitzfelder, B. E., . . . Williams, K. (2015). Racial/ethnic differences in health care visits made before suicide attempt across the United States. *Medical Care, 53*(5), 430-435.
- Ahmedani, B. K., Westphal, J., Autio, K., Elsis, F., Peterson, E. L., Beck, A., . . . Simon, G. (2019). Variation in patterns of health care before suicide: A population case-control study. *Prevention Medicine, 127*.
- Ahmedani, B., Peterson, E. L., Hu, Y., Rossom, R. C., Lynch, F., Lu, C. Y., . . . Simon, G. (2017). Major physical health conditions and risk of suicide. *American Journal of Preventive Medicine, 53*(3), 308-315.
- American Foundation for Suicide Prevention. (2020, August). *Risk factors and warning signs*. Retrieved from American Foundation for Suicide Prevention Web site: <https://afsp.org/risk-factors-and-warning-signs>
- Burrows, S., & Laflamme, L. (2009). Socioeconomic disparities and attempted suicide: state of knowledge and implications for research and prevention. *International Journal of Injury Control and Safety Promotion, 17*(1), 23-40.
- Centers for Disease Control and Prevention (CDC). (2014). *Mortality in the United States. NCHS data brief*. Hyattsville: Centers for Disease Control and Prevention (CDC).
- Centers for Disease Control and Prevention. (2020). *National Violent Death Reporting System (NVDRS) Query*. Retrieved August 5, 2020, from <https://wisqars.cdc.gov:8443/nvdrs/nvdrsDisplay.jsp>
- Centers for Disease Control and Prevention. National Center for Injury Prevention and Control. (2020, August 14). *Web-based Injury Statistics Query and Reporting System (WISQARS)*. Retrieved from Centers for Disease Control and Prevention Web site: <https://webappa.cdc.gov/cgi-bin/broker.exe>
- Czeisler, M. E., Lane, R. I., & Petrosky, E. (2020, June 24-30). Mental Health, Substance Use, and Suicidal Ideation During the COVID-19 Pandemic. *MMWR Morb Mortal Wkly, 69*, pp. 1049-1057. doi:<http://dx.doi.org/10.15585/mmwr.mm6932a1>external icon
- Desert Waters Correctional Outreach and Gallium Social Sciences. (2019). *Descriptive study of Michigan Department of Corrections Staff Well-being: Contributing Factors, Outcomes,*

and Actionable Solutions. Desert Waters Correctional Outreach and Gallium Social Sciences.

- DesOremau, T. (2020, April 30). *Michigan still 3rd in US for most coronavirus deaths with nearly 3,800.* Retrieved from MLIVE: <https://www.mlive.com/public-interest/2020/04/michigan-still-3rd-in-us-for-most-coronavirus-deaths-with-nearly-3800.html>
- DeYoung, M., Mancuso, A., Eastburg, M., Rollings, H., Edwards, E., VanDeen Toorn, A., & Halstead, S. (2020). *Preparing Michigan for the behavioral health impact of COVID-19.* Grand Rapids: Pine Rest Christian Mental Health Services. Retrieved from <https://www.pinerest.org/media/Preparing-Michigan-for-the-Behavioral-Health-Impact-of-COVID-19-Report.pdf>
- Goldsmith, S. K., Pellmar, T. C., Kleinman, A. M., & Bunney, W. E. (2002). *Reducing suicide: A national imperative.* Washington, DC: Institute of Medicine National Academies Press.
- Hawton, K. (1992). Suicide and attempted suicide. In E. S. Pankel, *Handbook of Affective Disorders* (p. 635). New York: Guilford.
- Hoffman, J. A., Farrell, C. A., & Monuteaux, M. C. (2020). Association of Pediatric Suicide with County-Level Poverty in the United States, 2007-2016. *JAMA*, *174*(3), 287-294.
- Johns, M. M., Lowry, R., Haderxhanj, L. T., Rasberry, C. N., Robin, L., Scales, L., . . . Suarez, N. (2020). Trends in Violence Victimization and Suicide Risk by Sexual Identity Among High School Students - Youth Risk Behavior Survey. *MMWR Suppl*, 19-27.
- Konda, S., Reichard, A., & Tiesman, H. (2012). Occupational injuries among U.S. Correctional Officers. *Journal of Safety Research*, *43*, 181-186.
- Lebrun-Harris, L. A., Baggett, T. P., & Jenkins, D. M. (2012). Health status and health care experiences among homeless patients in federally supported health centers: Findings from the 2009 patient survey. *Health Services Research*, 992-1017.
- Michigan Professional Fire Fighters Union. (n.d.).
- Milner, A., Witt, K., Maheen, H., & LaMontagne, A. D. (2017). Access to means of suicide, occupation and the risk of suicide: a national study over 12 years of coronial data. *BMC Psychiatry*, *17*(125).
- National Health Care for the Homeless Council. (2018). *Suicide and Homelessness: Data Trends in Suicide and Mental Health Among Homeless Populations.*
- New Jersey Police Suicide Task Force. (2009). *New Jersey Police Suicide Task Force Report.* Trenton. Retrieved from [http://www.nj.gov/lps/library/NJPoliceSuicideTaskForceReport-January-30-2009-Final\(r2.3.09\).pdf](http://www.nj.gov/lps/library/NJPoliceSuicideTaskForceReport-January-30-2009-Final(r2.3.09).pdf)

- Noonan, M. (2016). *Mortality in state prisons, 2001-2014-statistical tables*. Washington, DC: U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics.
- Police Executive Research Forum. (2019). *An occupational risk: What every police agency should do to prevent suicide among its officers*. Washington, DC: Police Executive Research Forum.
- SAMHSA. (2019). *People at Greater Risk of Suicide*. Retrieved from SAMHSA Web Site: <https://www.samhsa.gov/suicide/at-risk>
- State of Michigan. (2020, August 18). *Coronavirus*. Retrieved from www.michigan.gov/coronavirus
- Stone, D. M., Simon, T. R., Fowler, K. A., Kegler, S. R., Yuan, K., Holland, K. M., . . . Crosby, A. E. (2018, June 8). Vital Signs: Trends in State Suicide Rates - United States, 1999-2016 and Circumstances Contributing to Suicide - 27 States, 2015. *Centers for Disease Control and Prevention: Morbidity and Mortality Weekly Report*, 67(22).
- The Trevor Project. (2019). *The Trevor Project National Survey on LGBTQ Youth Mental Health*. West Hollywood: The Trevor Project.
- U.S. Bureau of Labor Statistics. (2018, December 17). *Census of Fatal Occupational Injuries (CFOI) - Current and Revised Data*. Retrieved from U.S. Bureau of Labor Statistics Web Site: <https://www.bls.gov/iif/oshcfoi.htm#2018>
- U.S. Department of Veterans Affairs. (2020, June 22). *Mental Health*. Retrieved from U.S. Department of Veterans Affairs Web site: https://www.mentalhealth.va.gov/suicide_prevention/
- Weir, K. (2019, March). Worrying trends in US suicide rates. *Monitor on Psychology*, 50(3), p. 24.
- World Health Organization. (2014). *Preventing Suicide: A Global Imperative*. Geneva. Retrieved from www.who.int