



# Death by Suicide Ottawa County, MI 2010-2023

Ottawa County suicide data for deaths reported in 2023 is considered provisional while Vital Records data are finalized. Substantial changes to 2023 data in this report are not expected; however, data from recent years may vary slightly from previous reports due to updates and finalization of Vital Records data. At the time of publication, 2023 suicide data for Michigan and the United States were considered provisional.

This report contains small numbers. Because the number of events overall and within subgroups may change considerably from year to year, caution should be taken when interpreting this data and when using it to build and inform programming.

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# Overview: Suicide in Ottawa County

- In 2023, 26 Ottawa County residents died by suicide.
- Over the last 34 years, suicides in Ottawa County have been increasing, even after accounting for population increases; however, over the last 14 years the rate of suicide (per 100,000 people) has stabilized, and there is little evidence of a recent increase or decrease in the rate of suicide in Ottawa County.
- Since 2000, Ottawa County suicide rates have been consistently lower than Michigan and the United States.
- Groups of people in Ottawa County with higher suicide rates compared to Ottawa County overall are:
  - Military service members
  - Males
  - People 50 years and older
  - White, non-Hispanic people
  - Residents of the northeast, northwest and southwest quadrants of the County
- Military service member deaths by suicide in Ottawa County decreased from 2022 to 2023, from three to two deaths, respectively.
- From 2010-2023, most military service member suicides were among those 50 years and older.
- Since 2010, about three teen suicides occurred each year. In 2023, there were two teen suicides – both among teens 17-19 years of age.

# Overview: Suicide in the United States and Michigan

## Background

Suicide continues to be a serious public health problem in the United States and in Michigan, with a substantial social and financial impact on the community. The considerable impact of suicide has led the State of Michigan<sup>1</sup>, the Centers for Disease Control and Prevention (CDC)<sup>2</sup> and the World Health Organization (WHO)<sup>3</sup> to develop and implement strategies for addressing suicide. As a public health priority, Healthy People 2030 has set a goal to reduce suicide by 10% over the next decade.<sup>4</sup>

## Statistics

In the United States, suicide rates increased by 12.7% from 2012 to 2022, with slight declines in 2019 and 2020.<sup>5</sup> In 2022, suicide was among the top 10 leading causes of death for people aged 10-64 years. Suicide was the second leading cause of death for people 10-14 and 25-34 years of age.<sup>6</sup>

Similar to the United States, suicide rates in Michigan have also increased (up 14% between 2012-2022).<sup>7</sup> Suicide is the second leading cause of death among youth and young adult age groups (15-24 and 25-34 years old) in Michigan.<sup>1</sup>

## At-Risk Populations

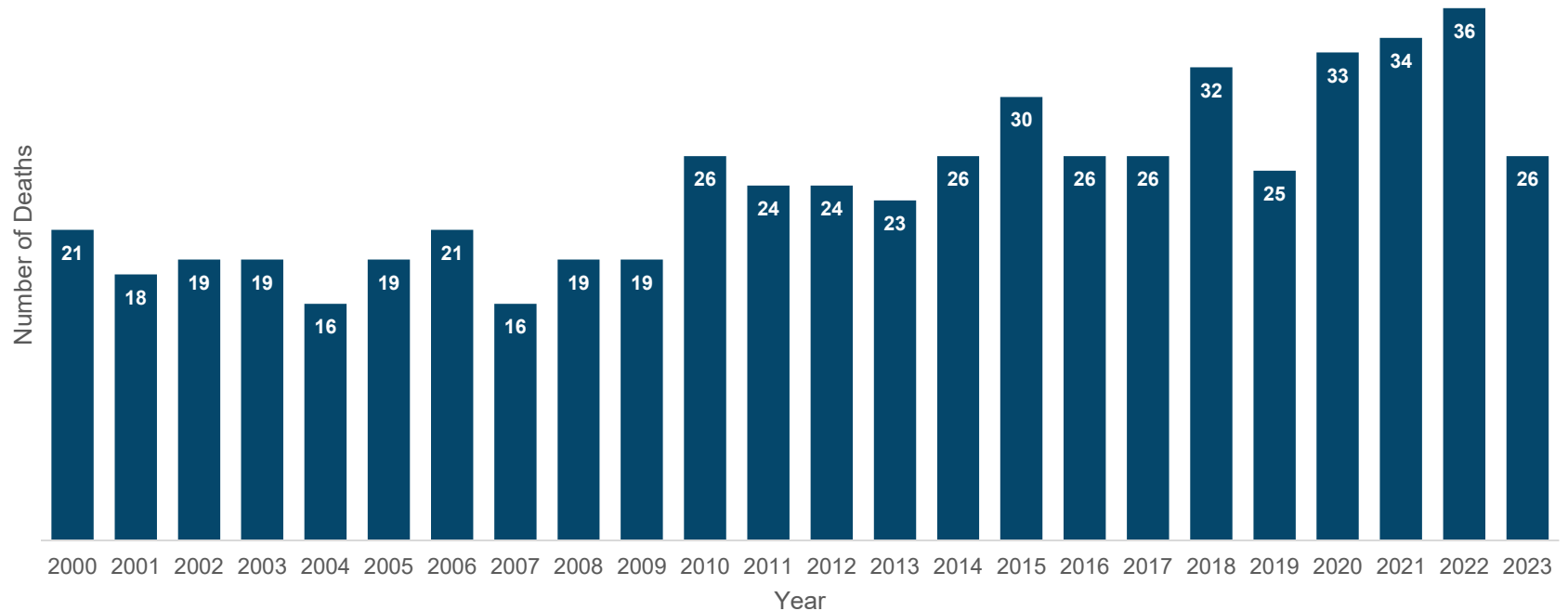
According to the CDC, veterans, people who live in rural areas, sexual and gender minorities, middle-aged adults, people of color, and tribal populations may be at higher risk for factors associated with suicide.<sup>8</sup>

Similar risk factors are noted in Michigan with males, adults aged 20-39 and 50-59 years of age, tribal populations, people of color, lesbian, gay, bisexual, transgender, and queer or questioning (LGBTQ) youth, and military connected individuals at increased risk of death by suicide.<sup>1</sup>

## Prevention

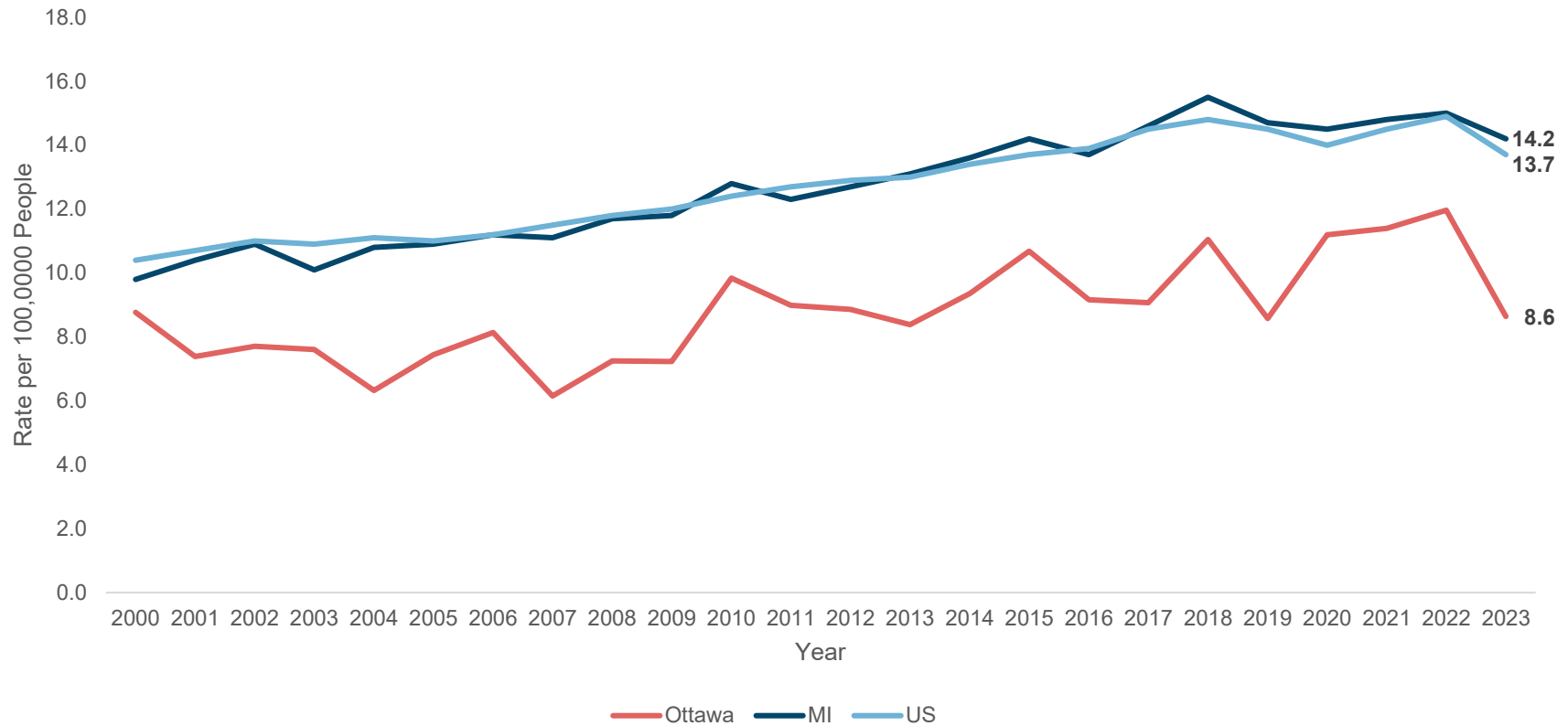
The CDC and State of Michigan have both provided strategic frameworks or recommendations for addressing suicide. Recommended prevention efforts from both organizations include comprehensive approaches, broad partnerships and collaboration, and prioritization of data and research.<sup>1,2</sup>

# Number of Deaths by Suicide, Ottawa County, 2000-2023



In 2023, 26 Ottawa County residents died by suicide, the lowest number observed since 2020. Over the last two decades the number of suicides has increased; however, the population of Ottawa County has also seen rapid and sustained growth.<sup>9</sup> To account for changes in population growth and to allow for comparison between groups, a suicide rate is used. The Ottawa County rate of suicide over time is illustrated on the next slide and includes comparisons to the United States and Michigan.

# Death by Suicide Rates from 2000-2023



**Note:** Prior to 2010, most years had fewer than 20 deaths by suicide reported among Ottawa County residents, which may reduce the stability of rates calculated for those years.

While the rate of death by suicide remains lower in Ottawa County than in Michigan and the United States, data indicate that, as of 2023, there was a statistically significant increase in the annual number of suicides in Ottawa County over the past 34 years (1990-1999 not displayed here). Although a long-term increasing trend exists, over the last 14 years, no upward or downward trend was detected, suggesting that the overall suicide rate has been stabilizing in Ottawa County.

Among the largest counties in Michigan, Ottawa County continues to be one of the fastest growing. From 2020-2023 Ottawa County experienced the largest percent growth (2.18%) of the top ten most populous counties in Michigan.<sup>10</sup> To account for population changes, it is best to utilize the rate of suicide, rather than the number of suicides, to monitor or detect changes over time.

Characteristics of People  
Who Died by Suicide (All Ages)  
Ottawa County, MI

2010-2023

# Characteristics of People Who Died by Suicide, 2023

Age Group	Count	%
<20	2	8%
20-29	4	15%
30-39	3	12%
40-49	3	12%
50-59	8	31%
60-69	4	15%
70-79	0	0%
80+	2	8%
TOTAL	26	100%

Race/Ethnicity	Count	%
White, non-Hispanic	24	92%
Hispanic	1	4%
Asian	0	0%
Black	0	0%
Other	1	4%
TOTAL	26	100%

Sex	Count	%
Male	19	73%
Female	7	27%
TOTAL	26	100%

Means	Count	%
Firearm	9	35%
Hanging	7	27%
OD/Poison	7	27%
Asphyxia	0	0%
Drowning	0	0%
Other	3	12%
TOTAL	26	100%

Marital Status	Count	%
Divorced	7	27%
Married	10	38%
Never Married	7	27%
Separated	0	0%
Widowed	2	8%
Unknown	0	0%
TOTAL	26	100%

Military Service	Count	%
Yes	2	8%
No	23	92%
Unknown	0	0%
TOTAL	25	100%

Month	Count	%
January	5	19%
February	1	4%
March	2	8%
April	0	0%
May	3	12%
June	3	12%
July	1	4%
August	6	23%
September	0	0%
October	1	4%
November	4	15%
December	0	0%
TOTAL	26	100%

Quadrant*	Count	%
NW	5	19%
NE	6	23%
SW	7	27%
SE	8	31%
TOTAL	26	100%

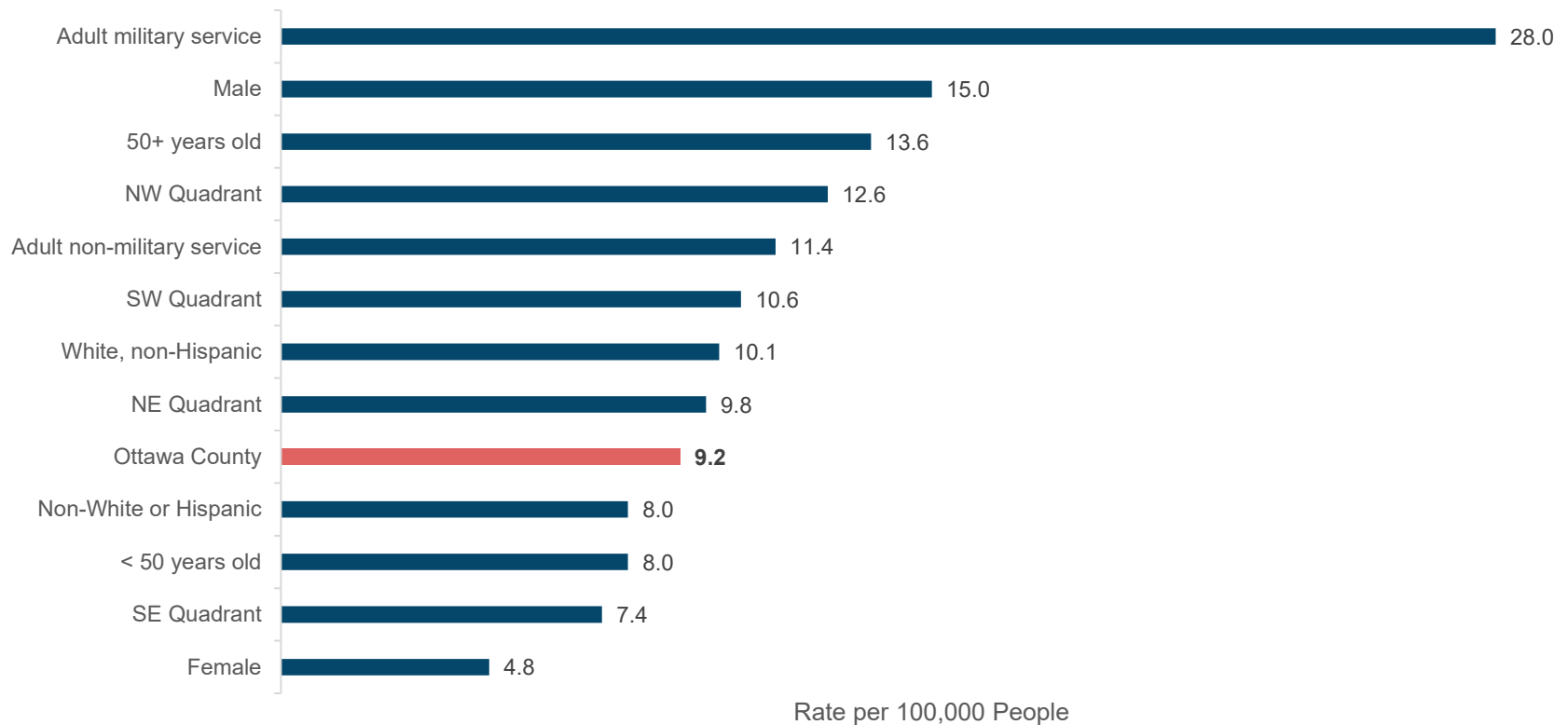
\*Of residence

In 2023, the majority of deaths by suicide were among people younger than 50 years of age, White, non-Hispanic people, and males. The most common death by suicide means was the use of a firearm, followed closely by hanging and overdose (OD) or poisoning. People that were married made up 38% of suicides. In 2023, Ottawa County saw two military service member deaths, lower than the three deaths recorded in 2022. The number of deaths by suicide varied each month, with the most deaths (6) occurring in August followed by January (5). Residents that lived in the southeast (SE) quadrant of Ottawa County experienced the highest proportion of suicides by quadrant.





# Groups With a Higher Burden of Death by Suicide, 2010-2023

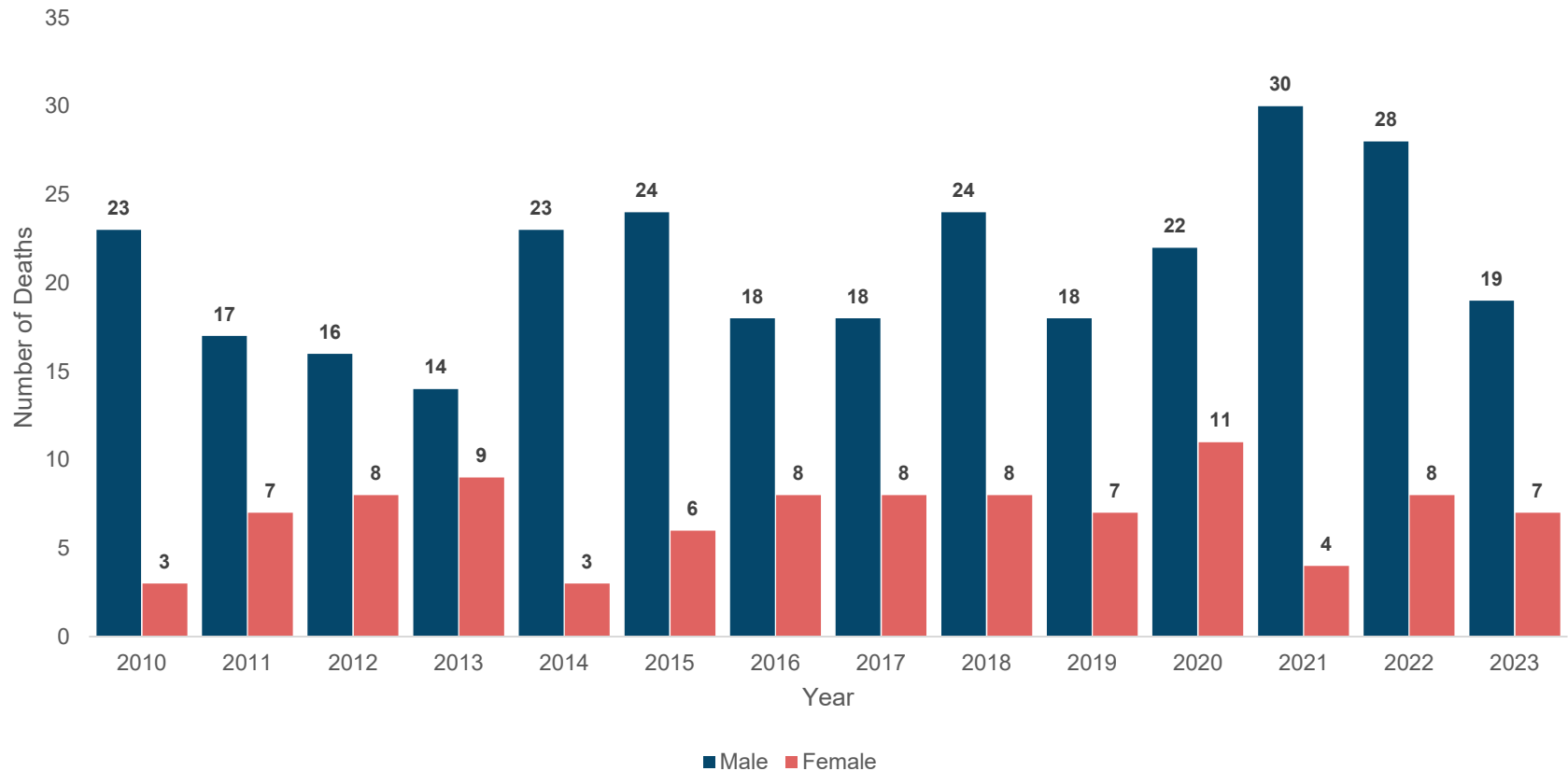


**Note:** Other racial minority groups are not displayed due to rate instability, a result of too few events to reach statistical stability.

Rates of deaths by suicide that occurred over the last 14 years are illustrated above to show which groups experienced more of the suicide burden compared to other groups and Ottawa County overall. Military service members had the highest rate of suicide compared to any other group (28.0 deaths per 100,000 people). The military service suicide rate in Ottawa County from 2010-2023 was lower than the 2021 national veteran suicide rate of 33.9 deaths per 100,000 people.<sup>12</sup> Other groups with higher rates of suicide compared to Ottawa County overall include males, people aged 50+, people living in the northwest (NW), northeast (NE) and southwest (SW) quadrants, and White, non-Hispanic people.

Suicide prevention programs tailored to these groups experiencing more of the suicide burden may have a larger impact on reducing suicide rates in Ottawa County.

# Sex of Persons Who Died by Suicide, 2010-2023



Most deaths by suicide (75%) among Ottawa County residents from 2010-2023 were among males, similar to Michigan and the United States.<sup>13,14</sup> The variation among sexes is likely due to males selecting more lethal means than females. Although more males *die* by suicide, in the United States both male and female adults report *suicidal ideation* at comparable rates.<sup>14</sup> In Ottawa County, teen girls report suicidal ideation at almost 1.5x the rate of teen boys.<sup>15</sup>

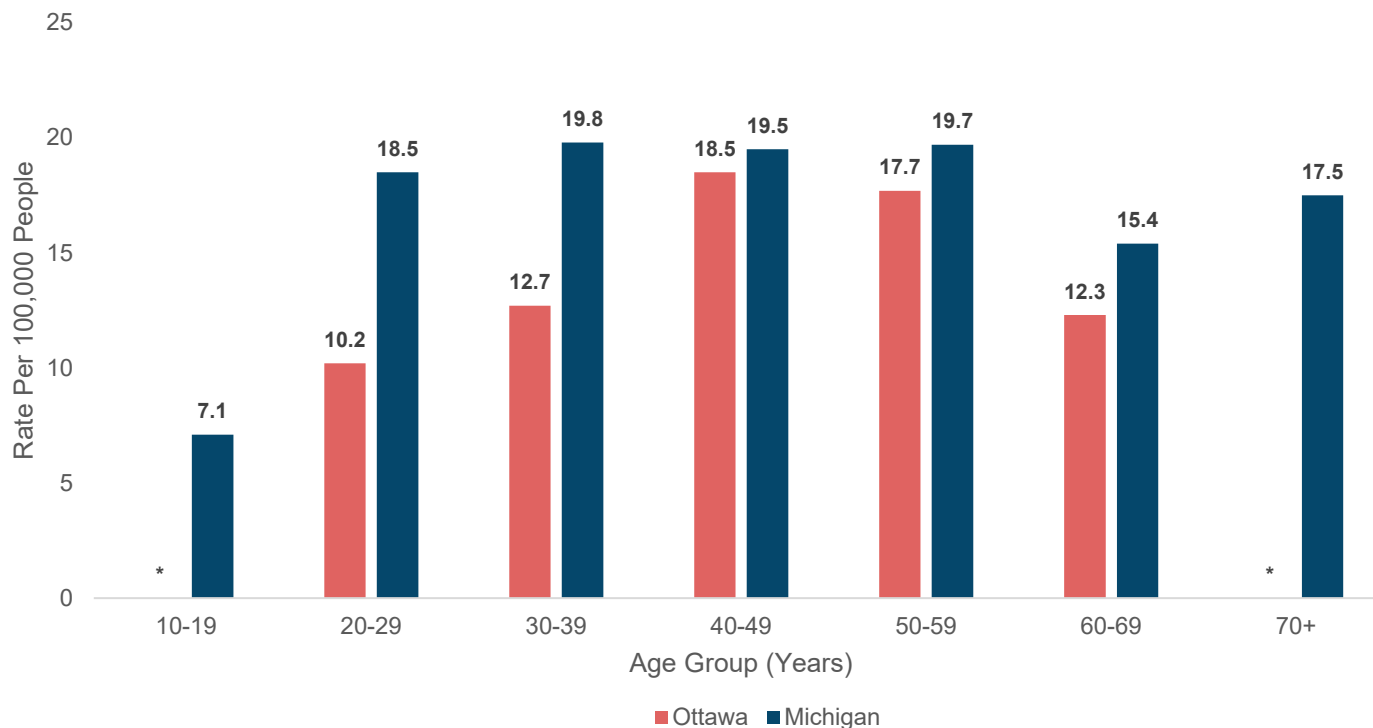
Since 2000, suicides in Ottawa County for both males and females have been increasing, even after accounting for population increases; however, over the last 15 years the rate of suicide has stabilized for both sexes. There is little evidence of a recent increase or decrease in the rate of suicide for either males or females in Ottawa County (data not displayed here). See methods section on page 28 for more details.

# Age of Persons Who Died by Suicide, 2010-2023

Year	<20	20-29	30-39	40-49	50-59	60-69	70-79	80+	Total
2010	1	5	1	6	8	3	1	1	26
2011	2	2	2	4	7	3	3	1	24
2012	1	7	2	5	6	2	0	1	24
2013	2	3	3	7	5	2	1	0	23
2014	3	6	3	4	8	1	0	1	26
2015	5	3	4	3	7	4	2	2	30
2016	4	4	3	3	6	4	2	0	26
2017	2	4	1	6	5	6	2	0	26
2018	6	6	4	8	4	2	1	1	32
2019	2	0	3	6	8	2	4	0	25
2020	3	6	2	4	7	7	3	1	33
2021	1	4	6	8	7	4	2	2	34
2022	3	7	8	6	5	7	0	0	36
2023	2	4	3	3	8	4	0	2	26
<b>Total</b>	<b>37</b>	<b>61</b>	<b>45</b>	<b>73</b>	<b>91</b>	<b>51</b>	<b>21</b>	<b>12</b>	<b>391</b>

In Ottawa County from 2010-2023, the 50-59 and 40-49 age groups experienced more suicide deaths than any other age group, contributing 91 and 73 deaths, respectively. Because the underlying population in each age group displayed on this slide varies, suicide rates should be used to account for population differences.

# Suicide Rates by Age, 2018-2022



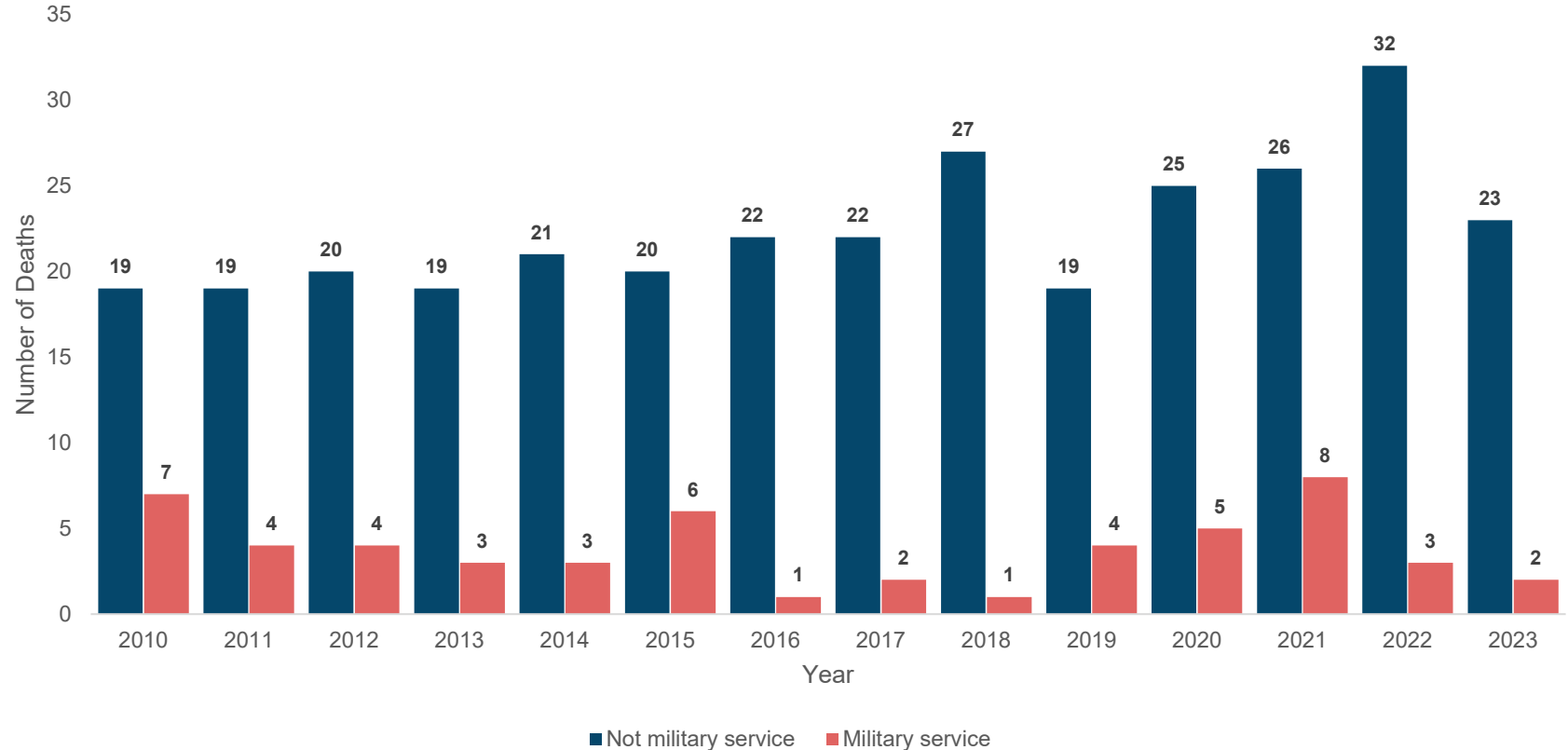
**Note:** To directly compare Ottawa County and Michigan, data was obtained from CDC Wonder, limiting the latest year of data to 2022.

\*Data suppressed due to confidentiality constraints, in order to protect personal privacy. Suppression standards are applied when counts are less than 10.

From 2018-2020, the highest rate of suicide in Ottawa County was among people aged 40-49 years of age, followed by those aged 50-59 years of age. Rates of suicide among Ottawa County residents aged 30-39, and 60-69 were similar, ranging from 12.3 to 12.7 deaths per 100,000 people. The lowest rate of suicide in Ottawa County was among people 20-29 years of age. Due to small numbers, Ottawa County rates for those aged 10-19 and 70+ years are not displayed. In Ottawa County, there were no deaths by suicide reported among people in the <10 age group.

Comparing Ottawa County and Michigan, Ottawa County suicide rates are lower among all age groups for which rates are available. Ottawa County suicide rates for people 30-39, 40-49, 50-59, and 60-69 years of age are similar to Michigan rates. The rate of suicide in the 20-29 age group was significantly lower than Michigan. See methods section on page 28 for more details.

# Military Status of Persons Who Died by Suicide, 2010-2023

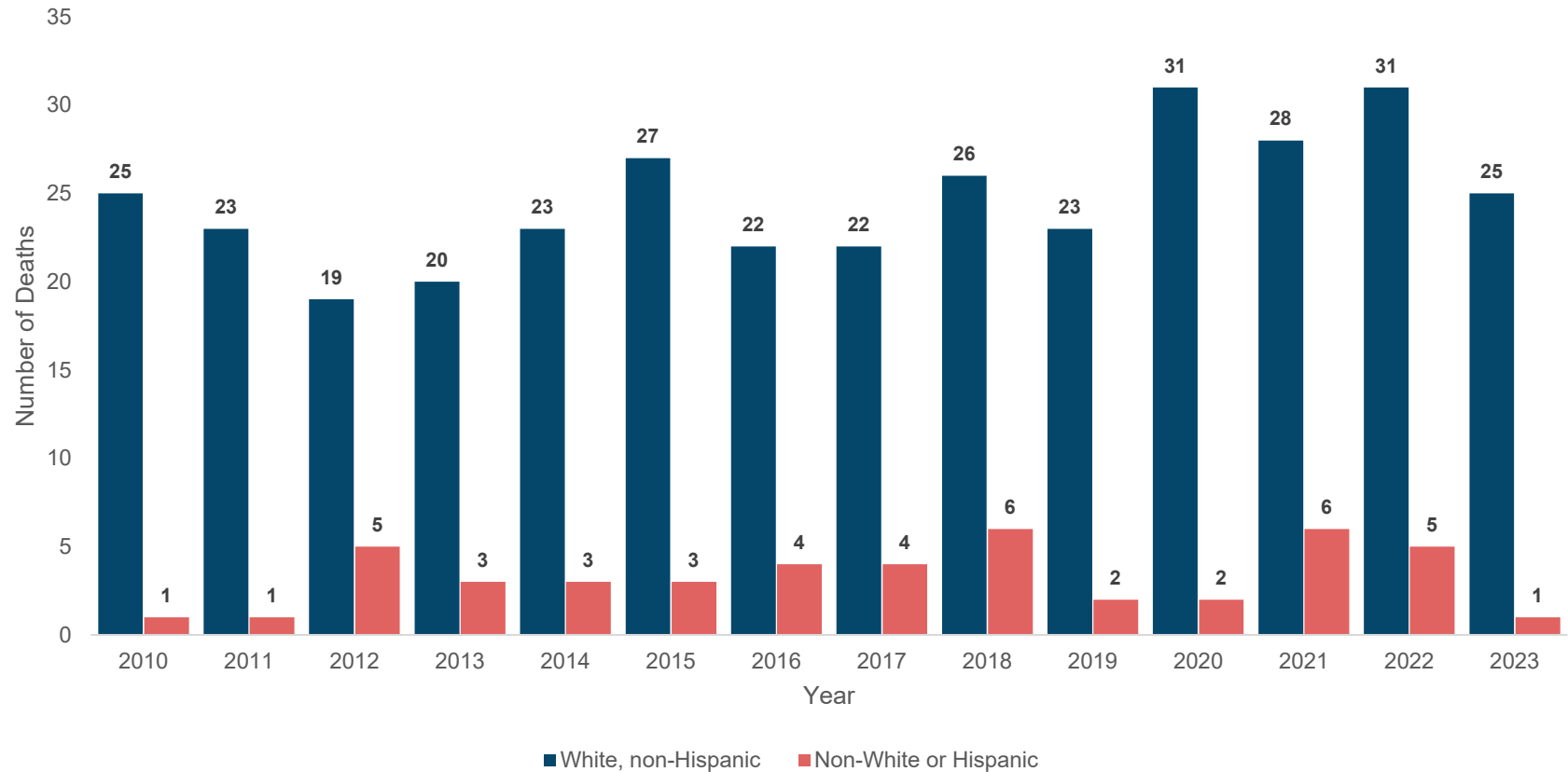


**Note:** Only decedents 18 years old and older were included in the figure above.

**In 2023, two military service members died by suicide in Ottawa County, a lower number than the three military service member suicides that occurred in 2022. About 11,790 veterans were living in Ottawa County in 2023, or 5.2% of the population; military service members accounted for 8% of all Ottawa County suicides in 2023, the same as in 2022.**

**Veterans are substantially affected by suicide at the national level. In the United States in 2021, about 18 veterans died each day by suicide.<sup>12</sup>**

# Race/Ethnicity of Those Who Died by Suicide, 2010-2023



Over the last 14 years most deaths by suicide occurred among White, non-Hispanic people. In 2023, there were fewer (1) deaths by suicide among racial or ethnic minority groups than in 2022 (5). The rate of suicide in White, non-Hispanic people is higher than the County overall and higher than non-White or Hispanic people (slide 10).

# Characteristics of Military Service Members Who Died by Suicide, 2010-2023

Age Group	Count	%	Month	Count	%
<20	0	0%	January	2	4%
20-29	4	8%	February	6	11%
30-39	4	8%	March	2	4%
40-49	6	11%	April	5	9%
50-59	10	19%	May	8	15%
60-69	12	23%	June	2	4%
70-79	10	19%	July	5	9%
80+	7	13%	August	6	11%
TOTAL	53	100%	September	5	9%
			October	4	8%
			November	4	8%
			December	4	8%
			TOTAL	53	100%
Sex	Count	%	Quadrant*	Count	%
Male	52	98%	NW	13	25%
Female	1	2%	NE	8	15%
TOTAL	53	100%	SW	20	38%
			SE	11	21%
			TOTAL	52	100%
Race/Ethnicity	Count	%	*Of residence		
White, non-Hispanic	51	96%			
Hispanic	1	2%			
Asian	0	0%			
Black	1	2%			
Other	0	0%			
TOTAL	53	100%			
Means	Count	%			
Firearm	31	58%			
All Other Means	22	42%			
TOTAL	53	100%			

\*One military service decedent was not assigned to a quadrant due to missing address.

**Note:** Only decedents 18 years old and older were included in the table above.

Most military service members who died by suicide from 2010-2023 were aged 50+, male, White, non-Hispanic, and used a firearm as the means of death by suicide. The Ottawa County data shown here also suggest that more military service members died by suicide in May compared to any other month over the last 14 years. Further review of Ottawa County military service members' dates of death in May and June found no evidence of clustering around Memorial Day. Many military service members who died by suicide lived in the southwest (SW) or northwest (NW) quadrants.

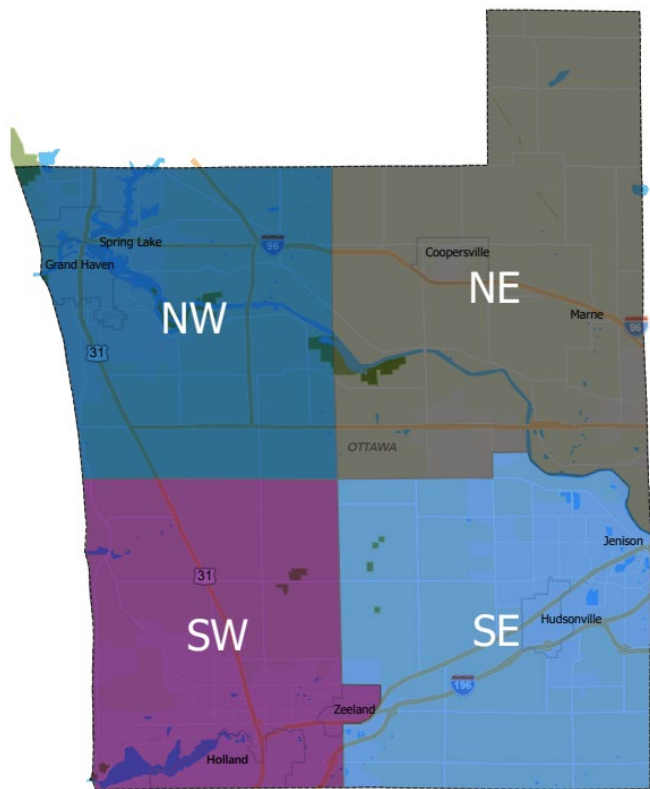
Research has found that spring months may be associated with higher rates of suicide.<sup>11</sup> The same finding may be true in Ottawa County among the general population and among military service members, highlighting spring as a potential time-period for more aggressive suicide prevention and promotion of mental health awareness.



Death by Suicide  
by County Quadrants  
Ottawa County, MI

2010-2023

# Death by Suicide Rates by County Quadrant, 2010-2023



Quadrant	Number of Deaths by Suicide	Percent of Deaths by Suicide (%)	Quadrant Percent of Population (%)	Crude Rate (per 100,000 people)
NW	98	25.3	19.9	12.6
NE	61	15.7	16.0	9.8
SW	144	37.1	34.8	10.6
SE	85	21.9	29.3	7.4
<b>Ottawa County</b>	<b>388</b>	<b>100.0</b>	<b>100.0</b>	<b>9.2</b>

Note: Three decedents were not assigned to a quadrant due to missing address information.

Combined, the NW and SW County quadrants contain about 55% of the Ottawa County population. However, from 2010 to 2023, 242 suicide deaths (62.4%) occurred in the NW (25.3%) and SW (37.1%) quadrants. The outsized number of suicides in the west County quadrants resulted in suicide rates of 12.6 per 100,000 in the NW quadrant and 10.6 per 100,000 in the SW quadrant, both slightly higher than the suicide rate for Ottawa County overall (9.2 per 100,000).

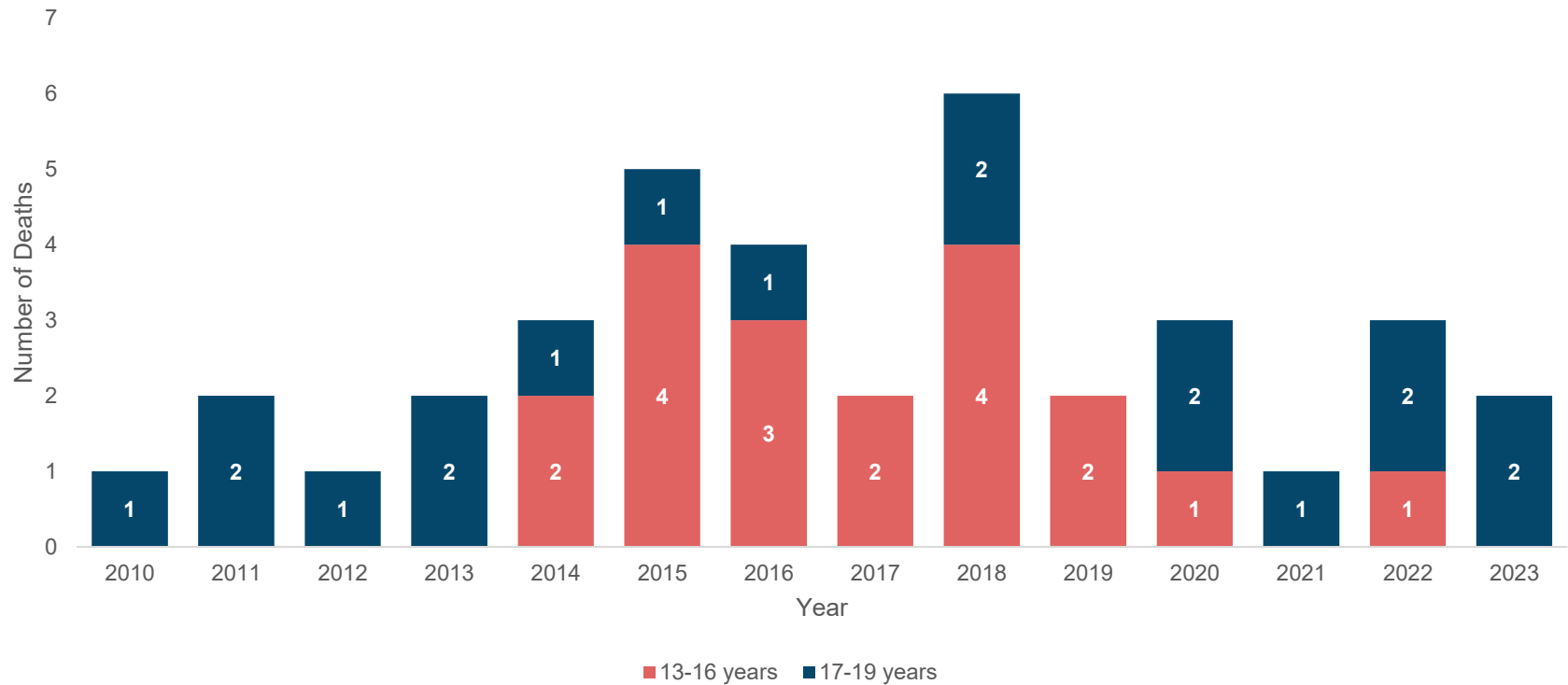
Over the last 14 years statistically significant upward or downward trends in the death by suicide rate were not detected in any of the four quadrants. Although not statistically significant, a recent (2018-2023) increase in suicide rates was observed in the NW, NE, and SE quadrants. Additionally, a recent (2018-2023) decrease in the suicide rate was observed in the SW quadrant.

# Teen Death by Suicide Ottawa County, MI

2010-2023

Teen is defined as a person 13-19 years of age.

# Death by Suicide Among Ottawa County Teens, 2010-2023



From 2010 to 2023, 37 deaths by suicide occurred among Ottawa County teens. Generally, the number of teen suicides increased each year from 2010 to 2017, peaking in 2018 with six deaths. Suicides in Ottawa County among teens 13-16 years of age occurred every year from 2014-2020 and in 2022. No suicide deaths among Ottawa County residents younger than 13 years of age were recorded in the last 14 years.

Ottawa County annual rates of teen suicide were not calculated due to small numbers that would result in rate instability. The rate of teen suicide in Michigan in 2023 was 10.7 per 100,000 persons, higher than the United States teen suicide rate of 8.4 per 100,000 persons.<sup>16</sup>

# Characteristics of Teens Who Died by Suicide, 2010-2023

Age Group	Count	%	Month	Count	%
13-16	19	51%	January	1	3%
17-19	18	49%	February	2	5%
TOTAL	37	100%	March	4	11%
			April	6	16%
			May	5	14%
			June	2	5%
			July	2	5%
			August	1	3%
			September	2	5%
			October	3	8%
			November	5	14%
			December	4	11%
			TOTAL	37	100%
Race/Ethnicity	Count	%	Quadrant*	Count	%
White, non-Hispanic	25	68%	NW	8	22%
Hispanic	6	16%	NE	9	24%
Asian	2	5%	SW	16	43%
Black	3	8%	SE	4	11%
Other	1	3%	TOTAL	37	100%
TOTAL	37	100%			
Sex	Count	%	*Of residence		
Male	21	57%			
Female	16	43%			
TOTAL	37	100%			
Means	Count	%			
Firearm	8	22%			
Hanging	19	51%			
OD/Poison	6	16%			
Asphyxia	0	0%			
Drowning	2	5%			
Other	2	5%			
TOTAL	37	100%			

From 2010-2023, most teen deaths by suicide were among White, non-Hispanic teens and those living in the southwest (SW) quadrant of Ottawa County.

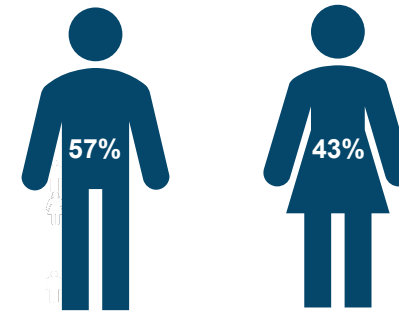
A larger proportion of teen suicides occurred in the spring months of March, April, and May and in the winter months of November and December. Teen suicides are less common in the summer.

# Summary of Teens Who Died by Suicide, 2010-2023

Proportion of Ottawa County Suicides Occurring in Teens, 2010-2023



Teen Suicides by Sex, 2010-2023



**Means of Death Among Teen Suicide Decedents, Ottawa County 2010-2023**

	Females %	Males %	Total %
<b>Means of Death</b>			
Hanging	62.5	42.9	51.4
Firearm	6.3	33.3	21.6
OD/Poison	18.8	14.3	16.2
Other	12.5	9.5	10.8

Generally, the percentage of Ottawa County suicides in teens has decreased since 2018, with teens making up 8% of all suicides in 2023. Since 2010, male teens accounted for 57% of teen suicides and females have accounted for 43%. The most common means of death by suicide for both male and female teens is hanging, but males tend to use a firearm more often than females, and females tend to use overdose (OD/poison) more often than males.

# Depression and Suicidal Behaviors Reported by Teens

	Ottawa County 2023	Michigan 2021*	United States 2023
I stopped doing some usual activities during the past 12 months because I felt so sad or hopeless almost everyday for two weeks or more in a row	26.7%	40.3%	40.0%
During the past 12 months, I have seriously thought about attempting suicide	14.9%	19.0%	20.0%
During the past 12 months, I have made a plan about how to attempt suicide	10.7%	16.9%	16.0%
I attempted suicide one or more times in the past 12 months	6.3%	9.0%	9.0%

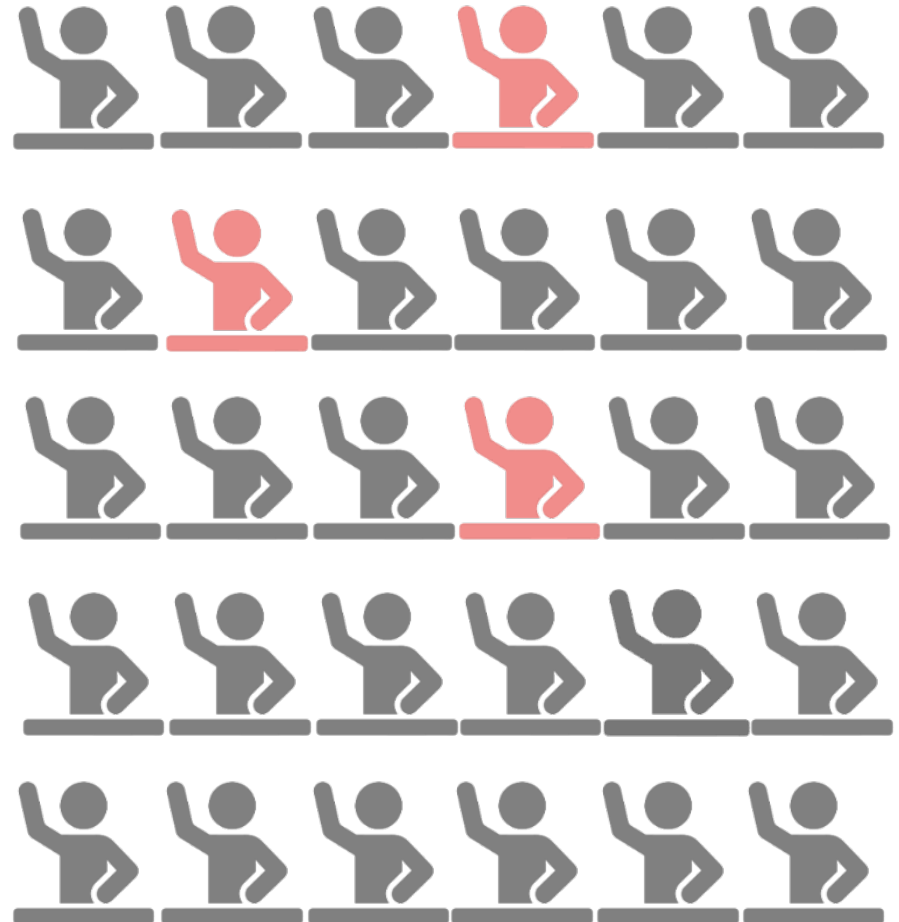
\*At the time of publication, 2023 YRBSS data for Michigan was unavailable.

The proportion of Ottawa County teens reporting feeling depressed, seriously thinking about suicide, or making a plan to attempt suicide in the past 12 months has been increasing since 2007. In 2023, the percent of teens reporting these outcomes declined for the first time in many years. A decline in suicide attempt was also noted in 2023.<sup>15</sup> Compared to Michigan teens (2021)<sup>17</sup> and teens at the national level (2023)<sup>18</sup>, a lower proportion of Ottawa County teens reported depression, suicidal ideation, making a plan to attempt suicide, and suicide attempt.

# In each classroom of 30 students...

**3**  
made a plan  
to  
**take their own  
life\***

And about **2** tried  
to take their own life\*



\*Source: 2023 Ottawa County Youth Assessment Survey, "Q54: During the past 12 months, did you make a plan about how you would attempt suicide?"  
"Q55: During the past 12 months, how many times did you attempt suicide?"



# References

1. [https://sprc.org/wp-content/uploads/Michigan-Suicide-Prevention-Plan-2024-2027\\_FINAL.pdf](https://sprc.org/wp-content/uploads/Michigan-Suicide-Prevention-Plan-2024-2027_FINAL.pdf)
2. <https://www.hhs.gov/sites/default/files/national-strategy-suicide-prevention.pdf>
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14. <https://www.nimh.nih.gov/health/statistics/suicide>
15. <https://ottawacountyyouth.org/wp-content/uploads/2024/05/YAS-Report-2023.pdf>
16. <https://wonder.cdc.gov/>
17. <https://nccd.cdc.gov/Youthonline/App/Results.aspx?TT=A&OUT=0&SID=HS&QID=QQ&LID=XX&YID=2021&LID2=&YID2=&COL=S&ROW1=N&ROW2=N&HT=QQ&LCT=LL&FS=S1&FR=R1&FG=G1&FA=A1&FI=I1&FP=P1&FSL=S1&FRL=R1&FGL=G1&FAL=A1&FIL=I1&FPL=P1&PV=&TST=False&C1=&C2=&QP=G&DP=1&VA=CI&CS=Y&SYID=&EYID=&SC=DEFAULT&SO=ASC>
18. <https://www.cdc.gov/yrbs/dstr/index.html>

**Note:** References displayed on this page link to third party data that could become unavailable in the future. OCDPH is not responsible for content found at these links.

# Methods

## Definitions

- Suicides are deaths with the manner of death listed as suicide on the death certificate.
- Teen suicide is defined as any death by suicide among a person aged 13-19 years.
- County quadrants are used in this report to highlight geographical differences in suicide rates. The boundaries for each quadrant are generally 96<sup>th</sup> Avenue (north to south) and Fillmore Avenue (east to west). Quadrant boundaries deviate slightly in Zeeland, where the city is placed in the SW quadrant, and in Georgetown, where the area north of the Grand River but south of Fillmore (if Fillmore extended directly east) is included in the NE quadrant. This method has two purposes: 1) it utilizes natural recognizable boundaries such as city limits and rivers, and 2) it incorporates census tract boundaries which can be used to determine an underlying population and calculate a rate. Those that died by suicide were assigned a quadrant based on residence. See slide 17 for a map of quadrant boundaries.

## Analytical Methods

- Deaths counted in this report are by residence of the decedent, not location of death.
- Rates are unadjusted (crude); the unit for rates in this report is the number of events per 100,000 people.
- Because death by suicide is a relatively rare event each year in Ottawa County, multiple years are often combined to improve statistical stability, particularly for rates over time.
- Ottawa County data for deaths occurring prior to 2010 was obtained from CDC Wonder.
- Because detailed demographic data prior to 2010 were not available when developing this report, many figures and illustrations included herein show detailed data from 2010-2023.
- Michigan and United States suicide rate data was obtained from CDC Wonder.
- Population data evaluating age and sex categories from 1990 – 2020 were obtained from CDC Wonder. These estimates are bridged-race populations estimates of the July 1 resident population from 1990-1999 bridged-race intercensal population estimates (released by NCHS on 7/26/2004); revised bridged-race 2000-2009 intercensal population estimates (released by NCHS on 10/26/2012); and bridged-race Vintage 2020 (2010-2020) postcensal population estimates (released by NCHS on 9/22/2021). Available on CDC WONDER Online Database. Accessed at <http://wonder.cdc.gov/bridged-race-v2020.html>.
- Population data when evaluating age and sex categories from 2021 - 2023 were obtained from CDC Wonder. Single-race Population Estimates, United States, 2020-2022. The 2020-2022 postcensal series of estimates of the July 1 resident population are based on the modified Blended Base produced by the US Census Bureau in lieu of the April 1, 2020 decennial population count, released by the Census Bureau on June 22, 2023. Accessed at <http://wonder.cdc.gov/single-race-v2022.html>.

# Methods (continued)

## Analytical Methods (continued)

- Population data when evaluating county rates and quadrant rates utilized American Community Survey (ACS) 5-year estimates.
- Decedents with “Yes” listed on the death certificate for “Ever in the U.S. Armed Forces” were classified as Military Service members and may also be referred to as Veterans within this report. Only those decedents that were 18 years old or older at the time of death were classified as a Military Service member or not.
- Veteran population data (slide 14) utilized American Community Survey (ACS) 5-year estimates [S2101: Veteran Status - Census Bureau Table](#).
- The p-value was compared to an alpha level of 0.05 to determine statistical significance for all statistical tests and trend analyses.
- Suicide rates from 2018-2022 were compared to Michigan suicide rates to determine if Ottawa County rates by age decade were higher, lower or similar to the State for the given time period (slide 13). This was done by obtaining 95% confidence intervals (CI) for Ottawa County and Michigan by age decade from CDC Wonder and comparing the 95% CIs for each age group to assess if Ottawa County’s 95% CI was higher, lower, or overlapping (indicating no difference) with the 95% CI for Michigan.
- Decedents with Hispanic origin listed on the death certificate were classified as Hispanic. Decedents without Hispanic origin listed on the death certificate were classified under the race listed on the death certificate.

## Trend Analysis

**Overall (1990-2023):** Ottawa County death by suicide trend was assessed from 1990-2023 using Poisson regression with annual population offset to accommodate for population changes. Year was associated with a positive increase in the annual number of suicides ( $p < .001$ ). Joinpoint regression analysis was also conducted to assess Ottawa County annual suicide rates from 1990-2023. Joinpoint regression analysis results were consistent with Poisson regression methods, showing a statistically significant increase in the rate of suicide over the time-period of interest ( $p < .001$ ).

## Trends for Different Time Periods

**2000-2023:** Using the Poisson regression method referenced above, but limiting to 2000-2023, Year was significantly associated with an annual increase in the number of suicides ( $p < .001$ ).

**2010-2023:** Using the Poisson regression method referenced above, but limiting to 2010-2023, Year was not significantly associated with an annual increase in the number of suicides ( $p = .100$ ).

**2019-2023:** Using the Poisson regression method referenced above, but limiting to 2019-2023, Year was not significantly associated with an annual increase in the number of suicides ( $p = .886$ ).

# Methods (continued)

## Trend Analysis (continued)

### Sex

**Male Overall (2000-2023):** Ottawa County death by suicide trend was assessed from 2000-2023 using joinpoint regression analysis. Deaths by suicide were grouped into three-year time periods to accommodate for small numbers.

- The final joinpoint model selected for male included zero joinpoints which indicated that year was significantly associated with an annual increase in the number of suicides ( $p = .015$ ).

**Male Recent (2009-2023):** Ottawa County death by suicide trend was assessed from 2009-2023 using joinpoint regression analysis. Deaths by suicide were grouped into three-year time periods to accommodate for small numbers.

- The final joinpoint model selected for male included zero joinpoints which indicated that year was not significantly associated with an annual increase or decrease in the number of suicides ( $p = .074$ ).

**Female Overall (2000-2023):** Ottawa County death by suicide trend was assessed from 2000-2023 using joinpoint regression analysis deaths by suicide were grouped into three-year time periods to accommodate for small numbers.

- The final joinpoint model selected for female included zero joinpoints which indicated that year was significantly associated with an annual increase in the number of suicides ( $p = .036$ ).

**Female Recent (2009-2023):** Ottawa County death by suicide trend was assessed from 2009-2023 using joinpoint regression analysis deaths by suicide were grouped into three-year time periods to accommodate for small numbers.

- The final joinpoint model selected for female included zero joinpoints which indicated that year was not significantly associated with an annual increase or decrease in the number of suicides ( $p = .680$ ).

**Quadrant:** Ottawa County death by suicide trend was assessed from 2010-2023 analyzing quadrant of residence using joinpoint regression analysis. Deaths by suicide were grouped into two-year time periods to accommodate for small numbers. Decedents were assigned to a specific quadrant based on the census tract they resided in at the time of death.

- The final joinpoint model selected for the NE quadrant included zero joinpoints indicating that year was not significantly associated with an annual increase/decrease in number of suicides ( $p = .245$ ).
- The final joinpoint model selected for the NW quadrant included one joinpoint indicating that year was not significantly associated with an annual increase/decrease in number of suicides from 2010-2019 ( $p = .150$ ) and year was not significantly associated with an annual increase/decrease in number of suicides from 2019-2023 ( $p = .151$ ).
- The final joinpoint model selected for the SE quadrant included zero joinpoints indicating that year was not significantly associated with an annual increase/decrease in number of suicides ( $p = .860$ ).
- The final joinpoint model selected for the SW quadrant included one joinpoint indicating that year was not significantly associated with an annual increase/decrease in number of suicides from 2010-2019 ( $p = .056$ ) and year was not significantly associated with an annual increase/decrease in number of suicides from 2019-2023 ( $p = .088$ ).

# Resources

If you need help for yourself or someone else, please contact:

## **Ottawa County Community Mental Health Crisis Line**

Talk: **866-512-4357** or TTY **711**

## **National Suicide Prevention Lifeline**

Talk or Text: **988**

Chat: <https://988lifeline.org/>

## **Veterans Crisis Line**

Talk: **DIAL 988 then PRESS 1**

Text: **838255**

**211**

Call: **211**

Online at: <https://mi211.org/>

# Resources (continued)

For more Information about the  
Ottawa County Suicide Prevention Coalition,  
please visit the following websites:

## **Ottawa County Suicide Prevention Website:**

[https://www.miottawa.org/Health/OCHD/suicide\\_prevention.htm](https://www.miottawa.org/Health/OCHD/suicide_prevention.htm)

## **2023 Ottawa County Suicide Prevention Coalition Strategic Plan:**

<https://www.miottawa.org/Health/OCHD/pdf/Suicide-Prevention-Coalition-Strategic-Plan-2023.pdf>



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Ottawa County Community Mental Health Crisis Line 866-512-4357  
National Suicide Prevention Lifeline - Dial 988  
Crisis Text Line - Text START to 741 - 741

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[www.miottawa.org/SuicidePrevention](http://www.miottawa.org/SuicidePrevention)