

Published May 2019

2013-2017 Trends in Suicide Rates in Wyandotte County

Unified Government Public Health Department
619 Ann Avenue, Kansas City, KS 66101
www.wycokck.org/health



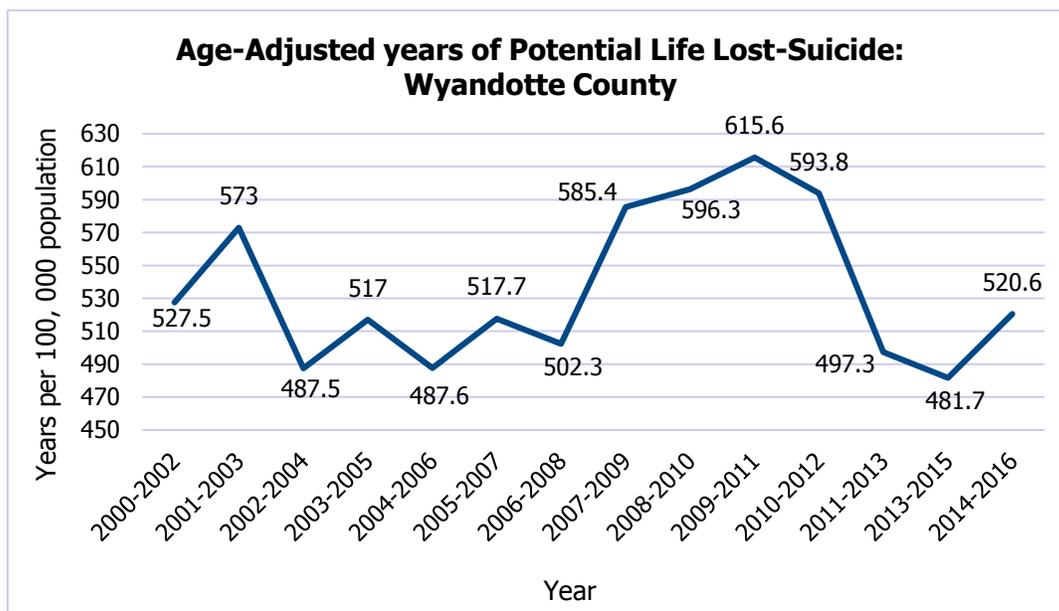
Public Health
Prevent. Promote. Protect.

Executive Summary

Abstract

Suicide remains a significant public health concern in Wyandotte County. The costs of suicide are widespread, and it affects individuals, families, and our community at large. At a societal level in Wyandotte County, suicides during 2013-2017 were resulted in 3,020 Years of Potential Life Lost (YPLL) ¹ (Figure 1.1). This measure represents the aggregate number of years that persons in Wyandotte County would have lived if they had not died prematurely by suicide. This loss of life translates to substantial productivity and monetary loss.

In 2017, suicide was the 11th leading cause of death in Wyandotte County.² Examining county-level trends in suicide can inform comprehensive suicide prevention planning for Wyandotte County. Thus, the intention of this report is to provide an overview of suicide trends and patterns during 2013-2017 in Wyandotte County using data available to the community, researchers, health professionals and other suicide prevention stakeholders. This report illustrates a clearer picture of the burden of suicide, population sub groups at risk, and the need for effective prevention efforts in Wyandotte County. In addition, this report also includes themes for suicide prevention based on the analysis of suicide data which may be incorporated into Wyandotte County's suicide prevention strategy.



¹ Years of Potential Life Lost (YPLL) is an estimate of premature mortality. It represents the number of years a person would have lived if he or she had not died before a predetermined age, in this case 75 years. On a population level, the measurement gives more weight to deaths occurring among younger people and therefore YPLL is an alternative measure to death rates. When applied to different specific causes of death, YPLL can measure of the relative impact of various diseases on the population and can be used to emphasize specific causes of death affecting younger age groups. YPLL is frequently used to quantify the social and economic losses due to premature death.

². Kansas Department of Health & Environment Bureau of Public Health Informatics. 2017. Wyandotte County Mortality Data from National Vital Statistics System. Available from Kansas Department of Health & Environment Bureau of Public Health Informatics. Unpublished data.

Methods

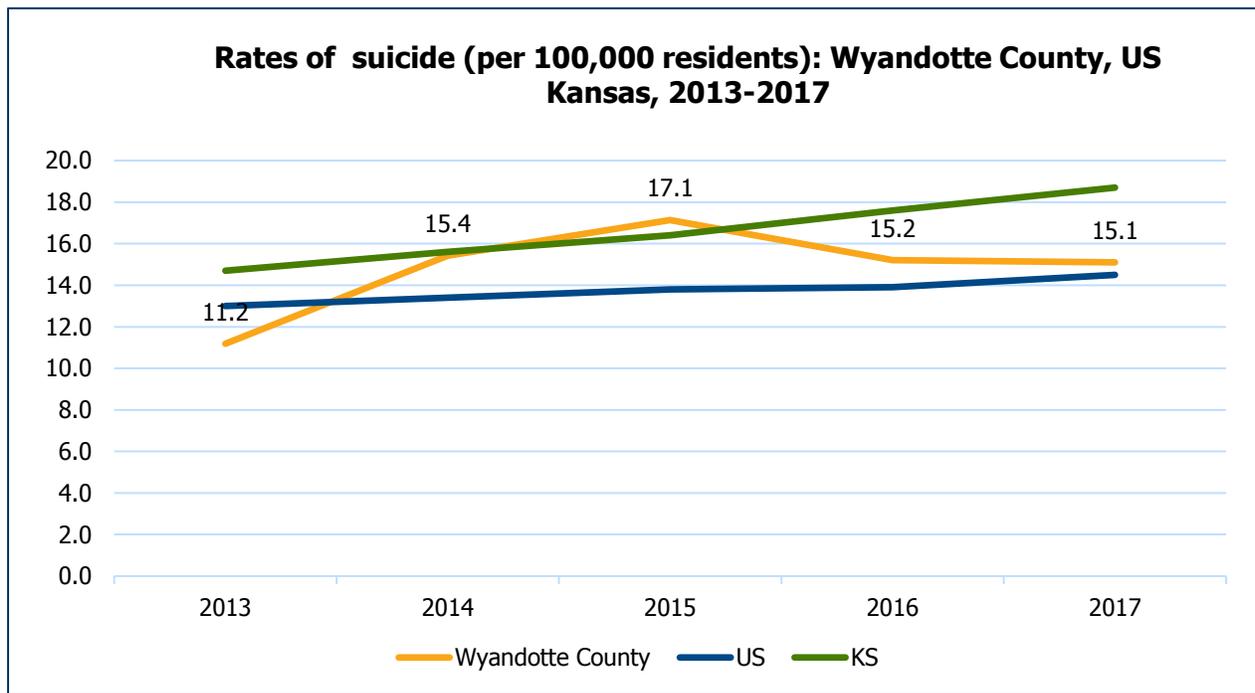
Trends in suicide by age, sex, race/ethnicity, education level, marital status, methods used and seasonality across a 5-year period (2013-2017) in Wyandotte County was assessed using the Mortality Data from National Vital Statistics System, available from Kansas Department of Health & Environment Bureau of Public Health Informatics. Suicide cases were identified from the mortality data by using the International Classification of Diseases, Tenth Revision underlying-cause-of death codes U03, X60–X84, and Y87.0.³ The main suicide trends in Wyandotte County were compared with Kansas and the US.

³ ICD-10 Version: 2016. Retrieved from <https://icd.who.int/browse10/2016/en#/P00.2>

Results

Suicide Rate

In 2017, Wyandotte County had a suicide rate of 15.1 per 100,000 people⁴, which although less than Kansas' suicide rate of 18.7 per 100,000, was higher than the US suicide rate of 14.5 per 100,000.⁵ During this period, Wyandotte County's suicide rate was the highest in 2015 at 17.1 per 100,000 individuals and it was the lowest in 2013 at 11.2 per 100,000 individuals (figure 1.1 and table 1.1). When compared with the US, Wyandotte County had higher suicide rates in all years except 2013. When compared with Kansas, Wyandotte County had lower suicide rates except for the year 2015.



Source: Data for Wyandotte County from Mortality Data from National Vital Statistics System, Kansas Department of Health & Environment Bureau of Public Health Informatics, for Kansas from KDHE Annual Summary (2013,2014,2015,2016,2017), and for the US from American Association of Suicidology (2018).

⁴ Kansas Department of Health & Environment Bureau of Public Health Informatics. 2017. Wyandotte County Mortality Data from Vital Statistics System. Available from Kansas Department of Health & Environment Bureau of Public Health Informatics. Unpublished data.

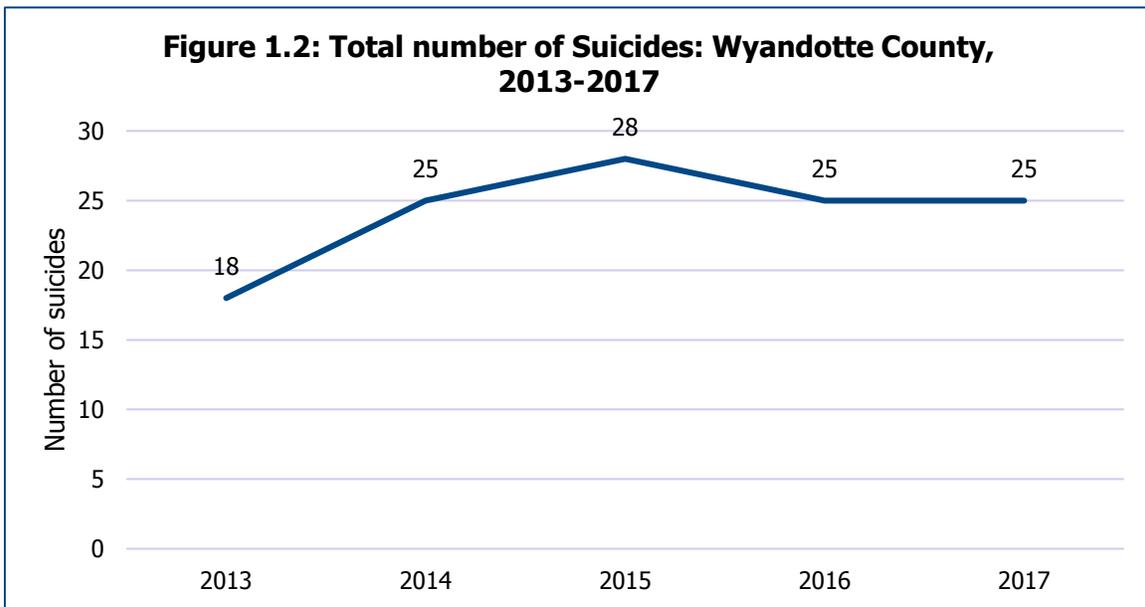
⁵ Drapeau, C. W., & McIntosh, J. L. (for the American Association of Suicidology). (2018). U.S.A. suicide 2017: Official final data. Washington, DC: American Association of Suicidology, dated December 10, 2018, downloaded from <http://www.suicidology.org>.

Table 1.1 Rates of suicide (per 100,000 residents): Wyandotte County, US, and Kansas, 2013-2017

Region	Year				
	2013	2014	2015	2016	2017
US	13.0	13.4	13.8	13.9	14.5
Wyandotte County	11.2	15.4	17.1	15.2	15.1
Kansas	14.7	15.6	16.4	17.6	18.7

Source: Data for Wyandotte County from Mortality Data from National Vital Statistics System, Kansas Department of Health & Environment Bureau of Public Health Informatics, for Kansas from KDHE Annual Summary of Vital Statistics (2013,2014,2015,2016,2017), and for the US from American Association of Suicidology (2018).

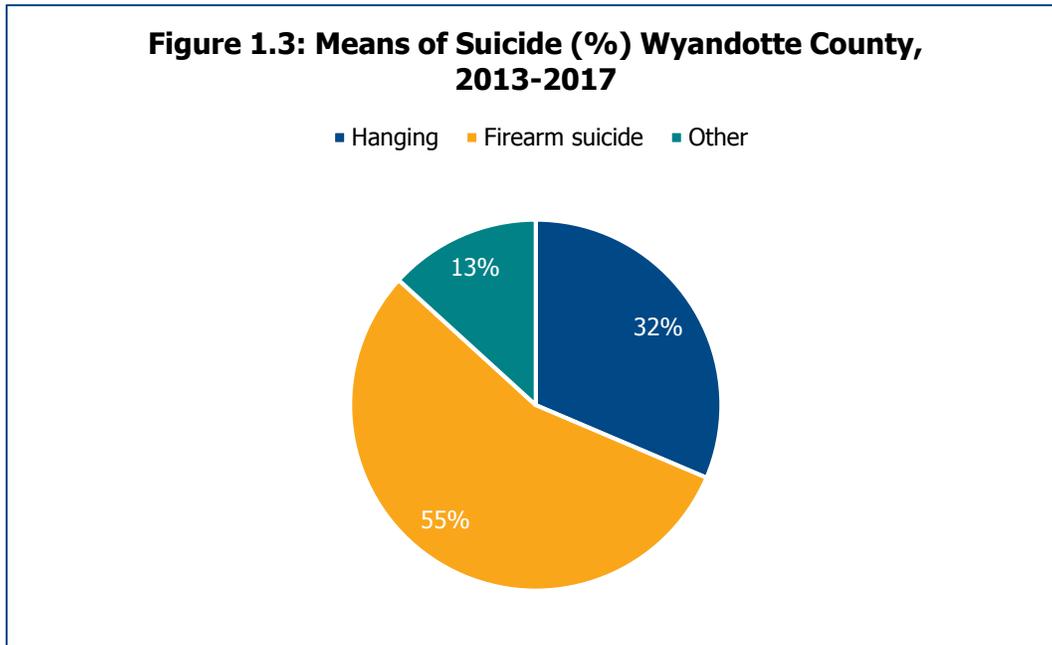
From 2013-2017 there were an average of 24 suicides per year in Wyandotte County. The year 2015 recorded the highest number of suicides (a total of 28) in Wyandotte County.



Source: Compiled from Wyandotte County Mortality Data from National Vital Statistics System, Kansas Department of Health & Environment Bureau of Public Health Informatics.

Means of Suicide

For suicide prevention it is important to understand how individuals die by suicide. During 2013-2017 the two-primary means of suicide in Wyandotte County were firearms (55%) and hanging/strangulation/suffocation (32%). Nationally and in Kansas the most common methods of suicide are firearms, hanging/strangulation/suffocation and poisoning.⁶⁷ Poisoning was not found to be a common method of suicide in Wyandotte County.



Source: Compiled from Wyandotte County Mortality Data from National Vital Statistics System, Kansas Department of Health & Environment Bureau of Public Health Informatics.

The primary means of suicide (firearm suicide) did not change drastically during 2013-2017, however for the first time in 2017, suicide by hanging (12 deaths) overtook firearm suicide (11 deaths) in Wyandotte County. This data highlights the importance of identifying people at risk for suicide and promoting safety regarding firearms and other highly fatal means.

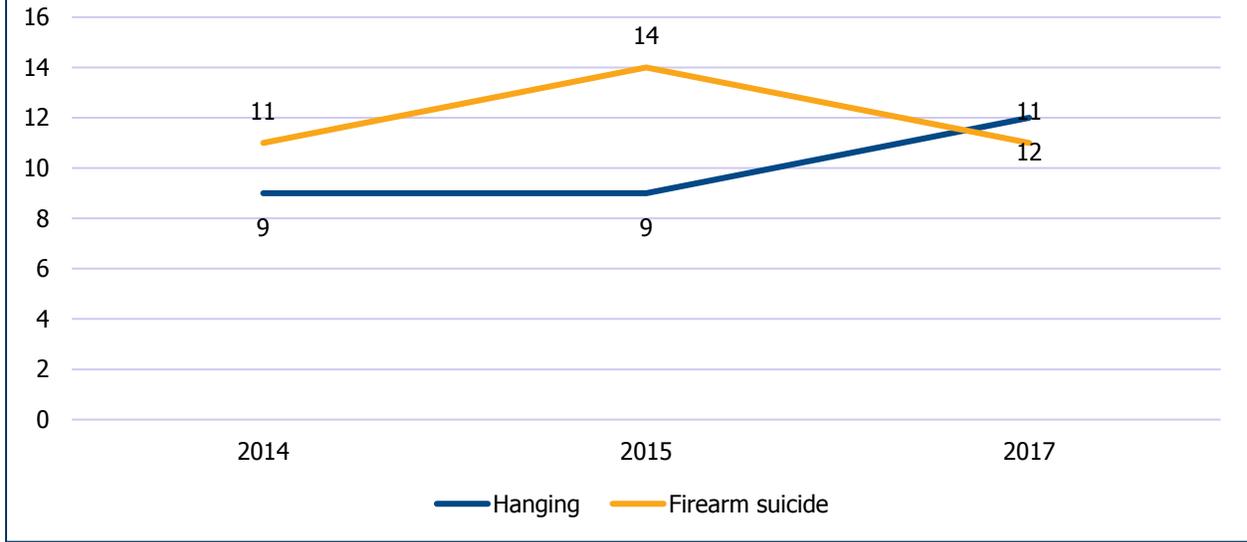
⁶ CDC. 2018. Vital Signs: Trends in State Suicide Rates — United States, 1999–2016 and Circumstances Contributing to Suicide — 27 States, 2015. Retrieved from

https://www.cdc.gov/mmwr/volumes/67/wr/mm6722a1.htm?s_cid=mm6722a1

⁷ KDHE Annual Summary of Vital statistics. (2017). Retrieved from

http://www.kdheks.gov/phi/as/2017/Annual_Summary_2017.pdf

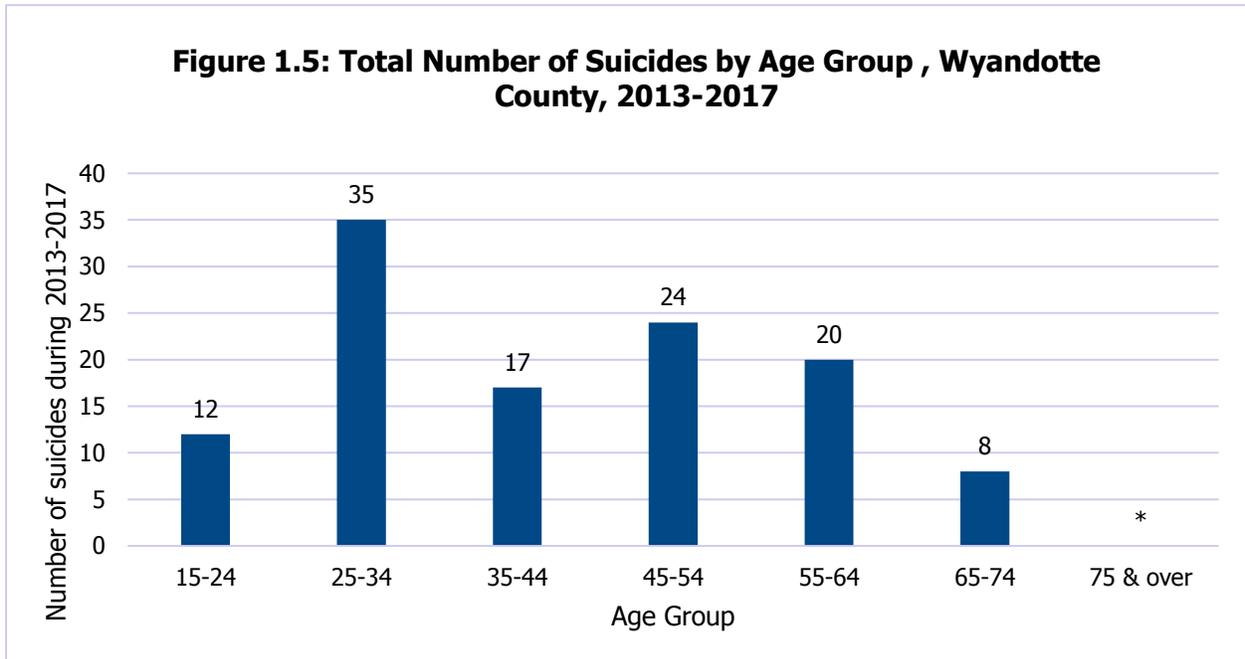
Figure 1.4: Total Number of Firearms & Hanging suicides, Wyandotte County, 2013-2017



*Source: Compiled from Wyandotte County Mortality Data from National Vital Statistics System, Kansas Department of Health & Environment Bureau of Public Health Informatics. *cell counts for 2013 and 2016 for hanging are too low to report.*

Age

Understanding how suicide affects people in different age groups can help stakeholders and policy makers to target high-risk population with age-appropriate prevention strategies. During the five-year period from 2013-2017 in Wyandotte county the three age groups with the largest number of suicide deaths were 25-34, 45-54 and 55-64 (Figure 1.5). In 2017, for Kansas the three age groups with the largest number of suicide deaths were 25-34, 35-44 and 45-54. Age group 45-44 had consistently high suicide deaths in Kansas during 2013-2015, age group 55-64 during 2013-2014 and age group 35-44 during 2016-2017.⁸



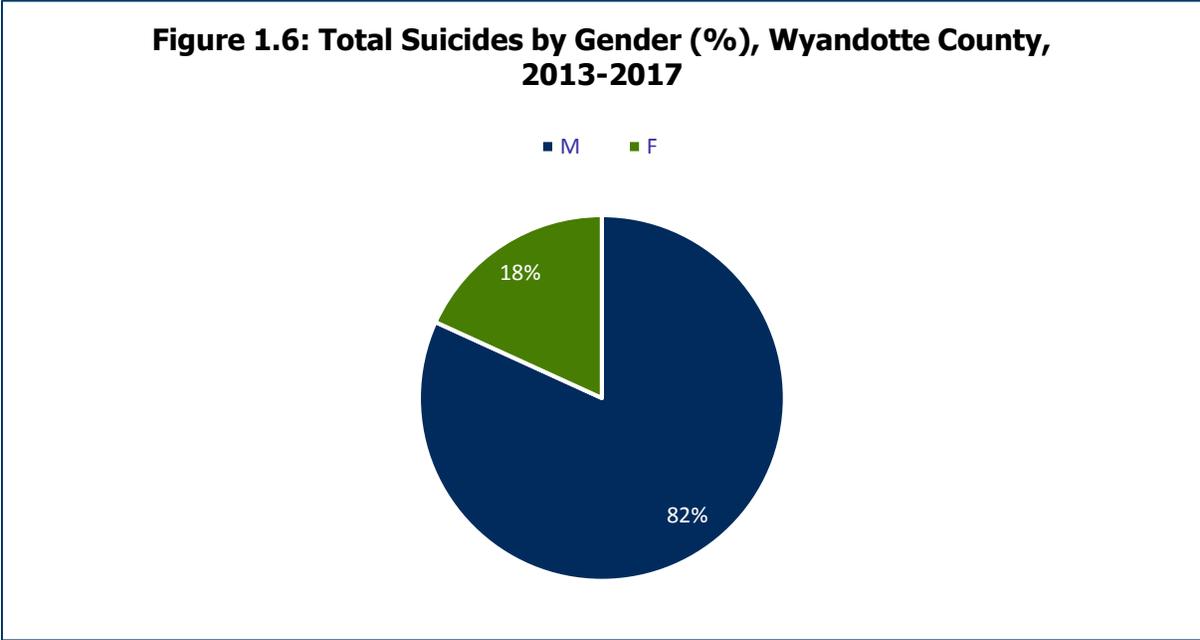
** Values for age 75 & over are suppressed*

Source: Compiled from Wyandotte County Mortality Data from National Vital Statistics System, Kansas Department of Health & Environment Bureau of Public Health Informatics.

⁸ KDHE Annual Summary of Vital statistics (2013,2014,2015,2016,2017).

Gender

Suicides affect males and females differently. It is reported that males, both in Kansas and the US, have consistently higher suicide rates than females.⁹ During 2013-2017, Wyandotte County consistently experienced a higher number of suicides for males than females. More than three quarters (82%) of suicide victims were male during the 5-year period in Wyandotte County. This trend is similar to Kansas.

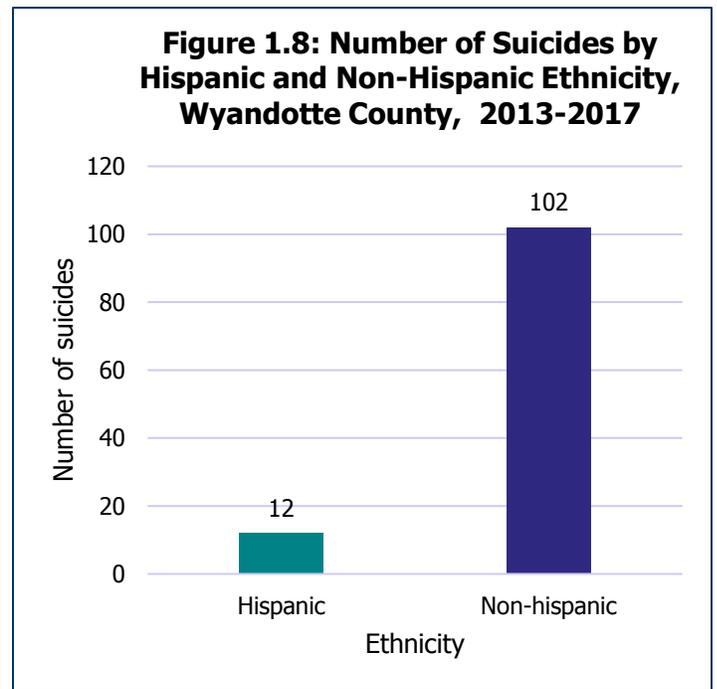
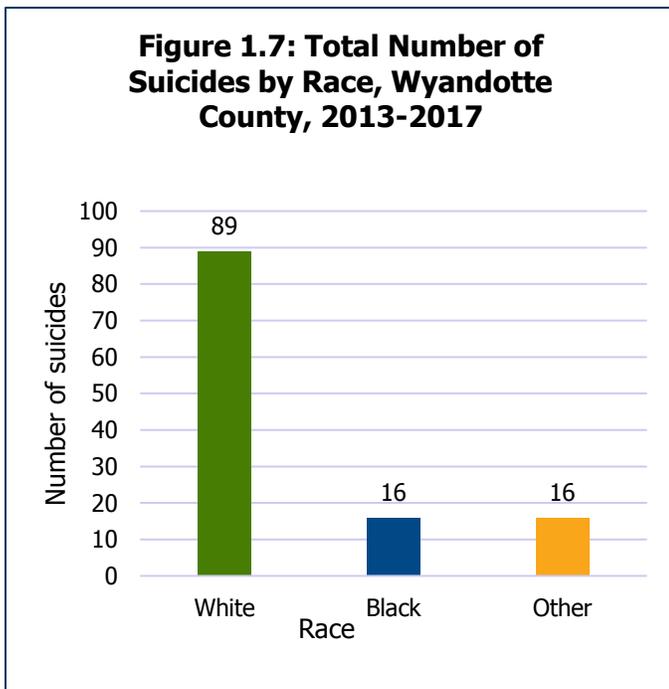


Source: Compiled from Wyandotte County Mortality Data from National Vital Statistics System, Kansas Department of Health & Environment Bureau of Public Health Informatics.

⁹ Kansas Health Institute. (2018). Deaths by Suicide: Disparities in the Sunflower State. Retrieved from https://www.khi.org/assets/uploads/news/14821/ib1809_suicide_final.pdf

Race and Ethnicity

Studies show that racial and ethnic disparities in health outcomes including disability, morbidity, and mortality are widely observed in the US.¹⁰ There are racial and ethnic disparities in suicide rates in Kansas.¹¹ Examining the role of race and ethnicity in suicide is important in knowing how it affects diverse populations in Wyandotte County. From 2013-2017 the number of suicide deaths was highest among Whites with 89 deaths (78% of suicide deaths), followed by Blacks (13%) and other races (13%) (Figure 1.7). Non-Hispanic ethnicity experienced the highest number of suicides during the 5-year period (Figure 1.8).



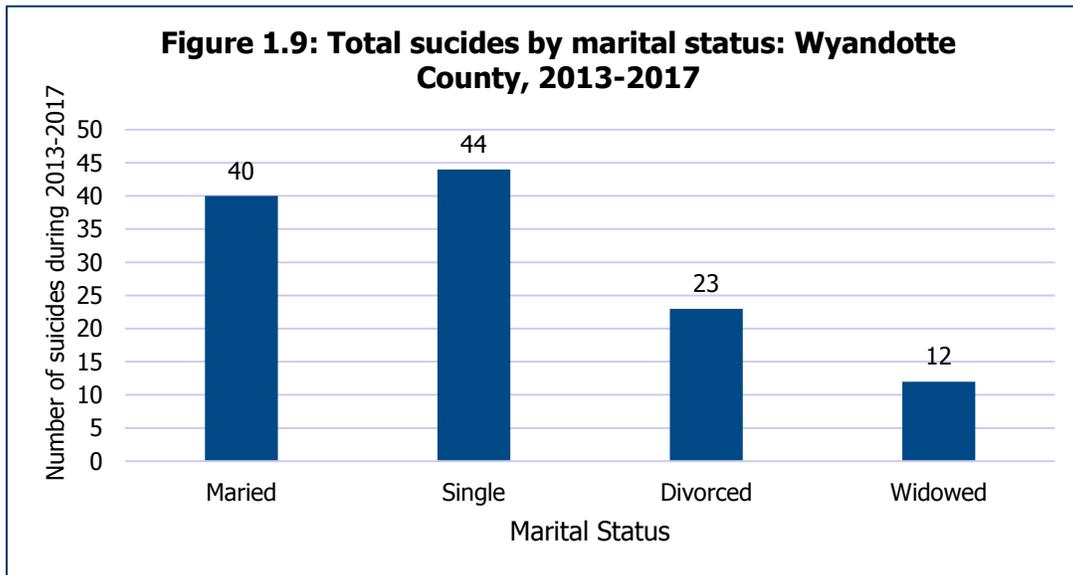
Source: Compiled from Wyandotte County Mortality Data from National Vital Statistics System, Kansas Department of Health & Environment Bureau of Public Health Informatics.

¹⁰ Rockett, IR, Samora JB, & Coben JH. (2006). The black-white suicide paradox: possible effects of misclassification. Retrieved from <https://www.sciencedirect.com/science/article/abs/pii/S0277953606002735?via%3Dihub>

¹¹ Kansas Health Institute. (2018). Deaths by Suicide: Disparities in the Sunflower State. Retrieved from https://www.khi.org/assets/uploads/news/14821/ib1809_suicide_final.pdf

Marital Status

Research studies in the US reveal that married people are less likely to die by suicide than never married, widowed, or divorced people.¹² Wyandotte County demonstrated the occurrence of this trend (Figure 1.9). During 2013-2017, people who were never married (single) constituted the largest proportion of those who committed suicide (37%, 44 deaths), followed by married (34%, 40 deaths), divorced (19%, 23 deaths) and widowed (10%, 12 deaths).



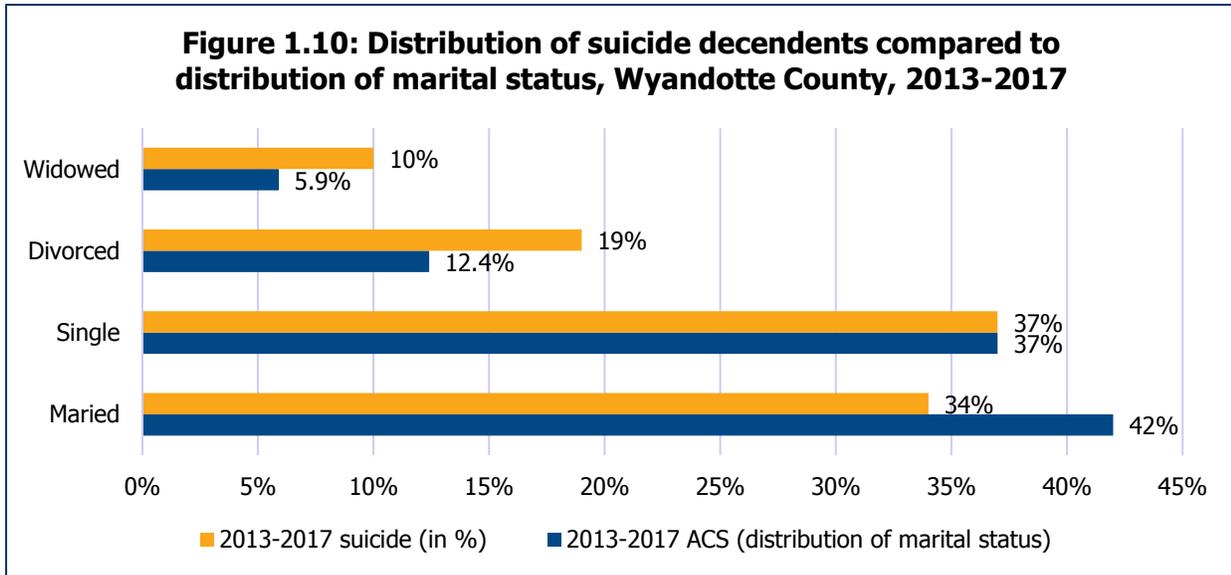
Source: Compiled from Wyandotte County Mortality Data from National Vital Statistics System, Kansas Department of Health & Environment Bureau of Public Health Informatics.

In order to compare the proportion of suicides by marital status to the proportion of Wyandotte County residents by marital status, American Community Survey (ACS) estimates from 2013-2017 were used (Figure 1.10). The higher percentage of Wyandotte County residents who were married (42%) relative to the lower percentage of those who committed suicide and were married (34%) indicates that married people are underrepresented in suicide decedents. Conversely, divorced individuals who accounted for only 12.5% of Wyandotte residents during 2013-2017 accounted for 19% of suicide decedents during the same period, indicating over-representation. Widowed people also appear to be over-represented while single people were neither under-represented or over-represented.¹³ This phenomenon can be explained by previous research studies which reported a link between marital status and suicide. Married persons experience lower suicides than single, divorced and widowed persons (Figure 1.11). Low suicide rates among married people shows that

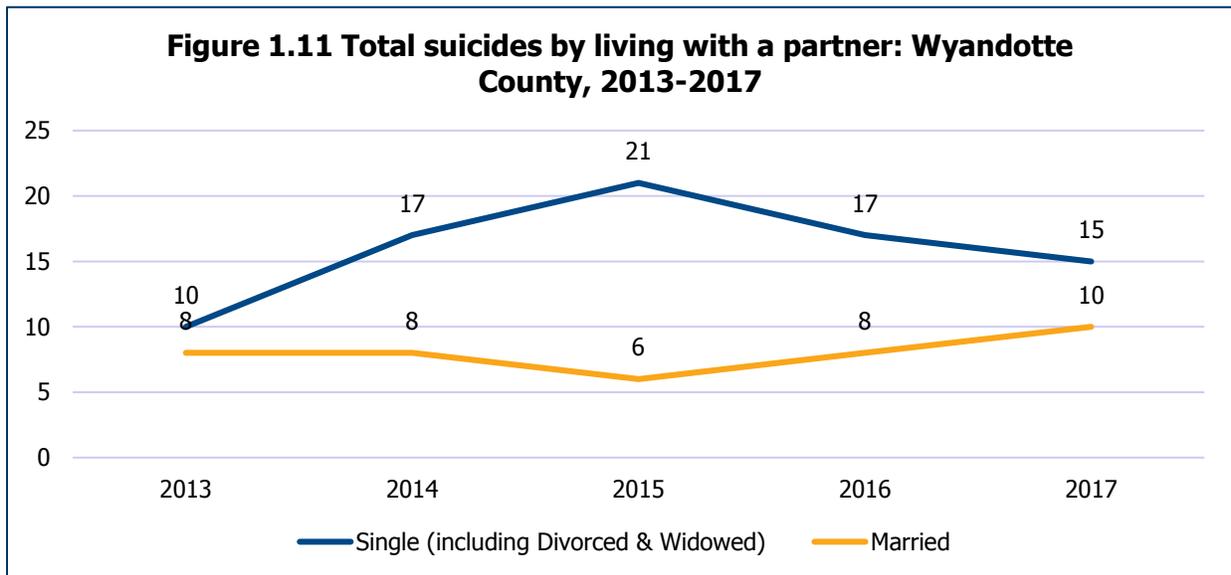
¹² Augustine J Kposowa. (2000). Marital status and suicide in the National Longitudinal Mortality Study. Retrieved from <https://jech.bmj.com/content/54/4/254>

¹³ Augustine Kposowa. 2000. Marital status and suicide in the National Longitudinal Mortality Study. Retrieved from <https://jech.bmj.com/content/54/4/254>

marriage offers protection against suicide by providing social and community integration and reducing social isolation.¹⁴



Source: Compiled from Wyandotte County Mortality Data from National Vital Statistics System, Kansas Department of Health & Environment Bureau of Public Health Informatics and U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates, <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>

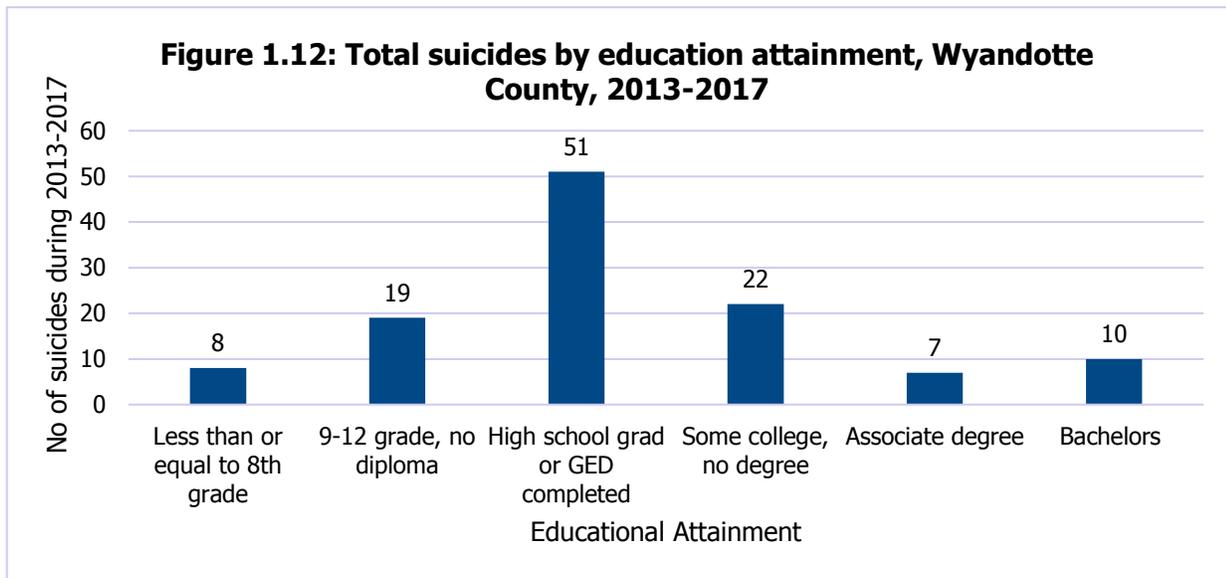


Source: Compiled from Wyandotte County Mortality Data from National Vital Statistics System, Kansas Department of Health & Environment Bureau of Public Health Informatics.

¹⁴ Augustine Kposowa. 2000. Marital status and suicide in the National Longitudinal Mortality Study. Retrieved from <https://jech.bmj.com/content/54/4/254>

Education

It is reported that disparities exist for suicides by level of education in Kansas and the US. Nationally, individuals with higher educational attainment have lower suicide rates than those with lower education attainment.¹⁵ During 2013-2017, Wyandotte County demonstrated a similar pattern with the highest number of suicides among high school graduates (51 deaths) and lowest suicide among people who completed a degree (Associate and Bachelors). There were no suicides reported among people who had master's and Doctorate degree during 2013-2017.

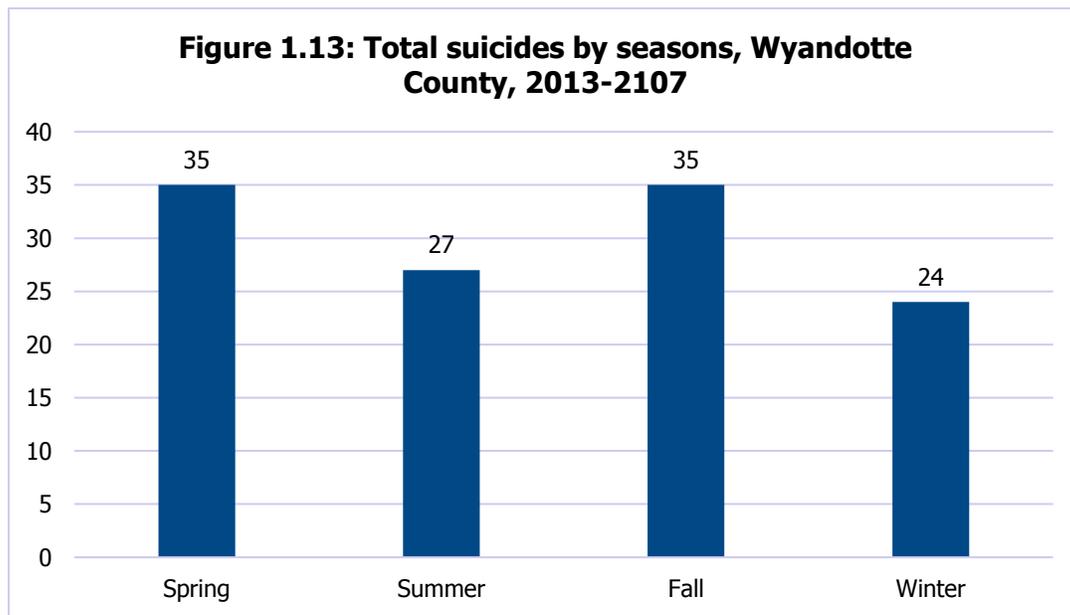


Source: Compiled from Wyandotte County Mortality Data from National Vital Statistics System, Kansas Department of Health & Environment Bureau of Public Health Informatics.

¹⁵ Kansas Health Institute. (2018). Deaths by Suicide: Disparities in the Sunflower State. Retrieved from https://www.khi.org/assets/uploads/news/14821/ib1809_suicide_final.pdf

Seasons

According to CDC's National Center for Health Statistics the number of suicide deaths are the lowest in December and peaks in Spring and Fall.¹⁶ Wyandotte County data demonstrated the occurrence of this trend, Spring and Fall reported the highest number of suicides with 35 deaths in each season (29%) and Winters the lowest (24 deaths, 20%) during 2013-2017 (Figure 1.13). This finding debunks the holiday suicide myth that suicides rise during the holidays and concurs with CDC findings that Americans are less likely to commit suicide in November and December.¹⁷ The holiday suicide myth according to the CDC supports misinformation that might ultimately hamper suicide prevention strategies.¹⁸ Understanding the seasonal variation in suicide is important and could lead to better suicide prevention in general.



Source: Compiled from Wyandotte County Mortality Data from National Vital Statistics System, Kansas Department of Health & Environment Bureau of Public Health Informatics.

¹⁶ CDC.2013.Holiday Suicides: Fact or Myth?. Retrieved from <https://www.cdc.gov/violenceprevention/suicide/holiday.html>

¹⁷ Journalist's Resource. (2018). Journalists perpetuate myth about suicide during winter holidays. Retrieved from <https://journalistsresource.org/studies/society/news-media/suicide-holidays-news-myth/>

¹⁸ CDC.2013. Holiday Suicides: Fact or Myth?. Retrieved from <https://www.cdc.gov/violenceprevention/suicide/holiday.html>

Conclusion

The Wyandotte County suicide data shows that males, Whites, divorced people, young people aged 25-34 and high school graduates have the highest number of suicides. Firearms are the most commonly utilized means of suicide and Spring and Fall have the highest number of suicide deaths in Wyandotte County. Understanding these disparities in suicide deaths is an important step to support suicide prevention and resource allocation in Wyandotte County.

Implications: Preventing Suicide in Wyandotte County

The analysis of suicide data reveals that there are some populations in Wyandotte County that are disproportionately affected by suicide. Using primary and secondary prevention strategies may reduce the risk of suicide among these groups. The following are some recommendations for suicide prevention:

1. Men: The differences in suicide rates among men and women suggest a need to approach suicide prevention, screening and treatment in a manner that is tailored to each sex.
2. Age: Targeting age group 25-34, as they experience high number of suicide deaths in Wyandotte County.
3. Low Education: Promoting suicide prevention among individuals with high school and less education.
4. Marital status: Direct suicide prevention efforts in Wyandotte County to populations at heightened risk of suicide, such as divorced, widowed and single people.
5. Means of suicide: Implementing laws to reduce access to firearms for people who may be a threat to themselves. Identifying preventive approaches for hanging suicides.
6. Seasonal variation: Seasonal suicide patterns in Wyandotte County indicate rise in suicide deaths during Spring and Fall, and this finding could offer novel approaches to the timing and focus of prevention efforts.
7. Promotion of funding opportunities: According to Monica Kurz, director of the Kansas Suicide Prevention Resource Center, although suicide continues to be a significant problem in Kansas there is lack of resources for prevention programs.¹⁹ Promoting funding opportunities for suicide prevention is the need of the hour for both Kansas and Wyandotte County.
8. Suicide hotline: Promoting suicide prevention hotline across Wyandotte County.

¹⁹ Jonathan Shorman.2018. Kansas suicide rate up 45 percent since 1999, among the largest increases nationwide. Retrieved from <https://www.kansas.com/news/state/article212751354.html>

References

1. Augustine Kposowa. 2000. Marital status and suicide in the National Longitudinal Mortality Study. Retrieved from <https://jech.bmj.com/content/54/4/254>
2. CDC. 2018. Vital Signs: Trends in State Suicide Rates — United States, 1999–2016 and Circumstances Contributing to Suicide — 27 States, 2015. Retrieved from https://www.cdc.gov/mmwr/volumes/67/wr/mm6722a1.htm?s_cid=mm6722a1
3. CDC. 2013. Holiday Suicides: Fact or Myth? Retrieved from <https://www.cdc.gov/violenceprevention/suicide/holiday.html>
4. Drapeau, C. W., & McIntosh, J. L. (for the American Association of Suicidology). (2018). U.S.A. suicide 2017: Official final data. Washington, DC: American Association of Suicidology, dated December 10, 2018, downloaded from <http://www.suicidology.org>.
5. Jonathan Shorman.2018. Kansas suicide rate up 45 percent since 1999, among the largest increases nationwide. Retrieved from <https://www.kansas.com/news/state/article212751354.html>
6. Journalist’s Resource. (2018). Journalists perpetuate myth about suicide during winter holidays. Retrieved from <https://journalistsresource.org/studies/society/news-media/suicide-holidays-news-myth/>
7. Kansas Health Matters. Age-Adjusted Years of Potential Life Lost-Suicide (2014-2016). Retrieved from <http://www.kansashealthmatters.org/indicators/index/view?indicatorId=1353&localeId=1044>
8. Kansas Health Institute. (2018). Deaths by Suicide: Disparities in the Sunflower State. Retrieved from https://www.khi.org/assets/uploads/news/14821/ib1809_suicide_final.pdf
9. KDHE Annual Summary of Vital statistics. (2017). Retrieved from http://www.kdheks.gov/phi/as/2017/Annual_Summary_2017.pdf