

Suicide in Guam, 2022

TECHNICAL NOTE:

Population projections by age and sex based on Guam's 2020 census data are now available. However, the population projections by ethnicity have not yet been officially released. Thus, after consulting with SEOW and GBHWC colleagues and the Bureau of Statistics and Plans, we decided to use the 2010 population projections by ethnicity for this report, understanding that once the final population projections by ethnicity are issued, we will be re-calculating rates and issuing a revised version of this technical report.

INTRODUCTION

In 2022, Guam's State of Emergency because of the COVID-19 pandemic continued. However, despite the persistence of the COVID 19 virus with periodic surges in cases due to evolving variants of the virus, public perception and fear of the pandemic diminished as new treatments and vaccines were rolled out. The government continued its mobilization of financial, health and social safety nets to assist individuals, families and business entities impacted by the socioeconomic consequences of the prolonged health emergency. During this year, the new bivalent vaccine became available to the public. Restrictions on social gatherings and travel were eased back further as Guam's community risk level decreased.

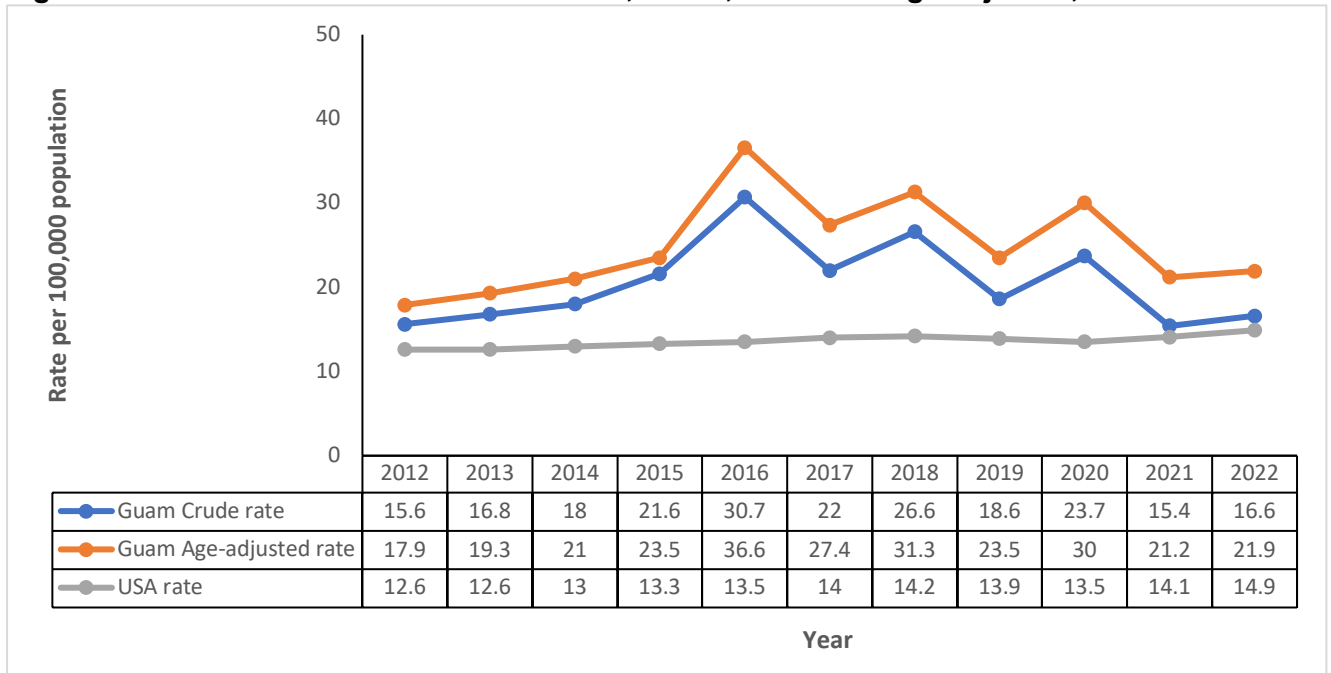
The Guam Behavioral Health and Wellness Center (GBHWC) in partnership with the Guam Police Department (GPD) and the Guam Fire Department (GFD) launched its Mobile Crisis Response Team (MRCT) in 2022. This team of behavioral health specialists assist emergency responders for calls that involve mental health crises. The first phase, implemented in June 2022, focused on responding to calls from active GBHWC clients 18 years and older. In September 2022, MRCT entered Phase 2, expanding responses to include all Guam residents 18 years and older. GBHWC transitioned its helpline to the 988 Lifeline on July 16, 2022.

Within this backdrop, this data brief summarizes the analysis of suicide data for 2022.

TREND and PRALENCE

In 2022, there were 28 suicide deaths in Guam, resulting in a crude suicide rate of 16.6 per 100,000. Age-adjustment to the US 2000 standard population raised the suicide rate to 21.9 per 100,000. This represents an increase from 2021 (Figure 1).

Figure 1. Annual trend in suicide death rates, Guam, crude and age-adjusted, 2012-2022



Source: Calculated based on data taken from the Office of the Chief Medical Examiner, DPHSS Office of Vital Statistics and Bureau of Statistics and Plans, 2012-2022; US statistics from US Centers for Disease Control and Prevention (CDC), National Vital Statistics System-Mortality Data (2020) via CDC WONDER, and National Institute of Mental Health at <https://www.nimh.nih.gov/health/statistics/suicide> (US 2022 official data not yet available.)

Note: Guam crude data was age-adjusted using direct standardization against the 2000 US Standard Population

Guam’s suicide mortality remains significantly higher than the US (Figure 1, Table 1), but the gap has decreased compared to 2020.

Table 1. Suicide death rate, Guam vs. US, 2020-2022

	Guam 2021	Guam 2022	US 2021	US 2022
Deaths (number)	26	28	48,183	49,449
Crude suicide death rate per 100,000	15.4	16.6	---	
Age-adjusted suicide death rate per 100,000	21.2	21.9	14.1	14.9

Source: Guam rates calculated based on data taken from the Office of the Chief Medical Examiner, and population projections for 2022 based on the 2020 Census, Bureau of Statistics and Plans

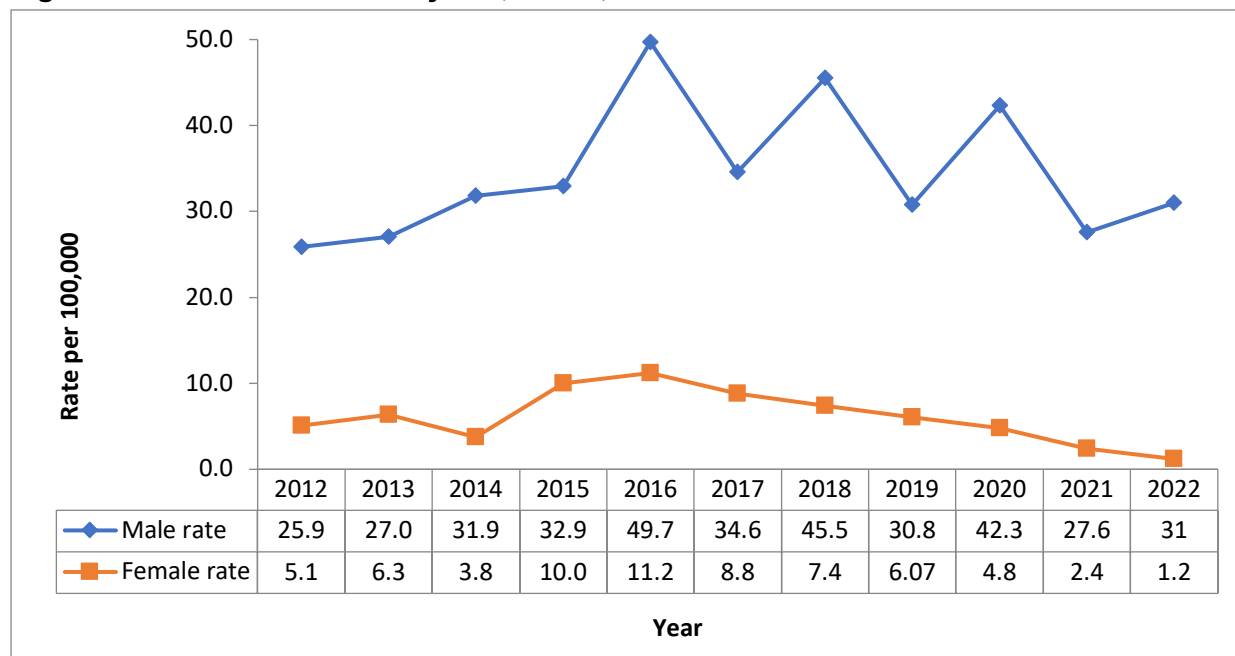
US statistics from US Centers for Disease Control and Prevention (CDC), at <https://www.cdc.gov/suicide/suicide-data-statistics.html> (US 2022 official data still provisional.)

CORRELATES OF SUICIDE MORTALITY

Sex

Suicide deaths in Guam occur predominantly among males, who consistently outnumber female suicide deaths. In 2022, the ratio of male to female suicide deaths was 26:1. Suicide rates decreased for females, but increased among males, widening the sex gap (Figure 2).

Figure 2. Suicide death rate by sex, Guam, 2012-2022



Sources: Calculated from data provided by the Office of the Chief Medical Examiner, 2012-2022 and 2022 population projections by sex based on the 2020 census provided by the Bureau of Statistics and Plans

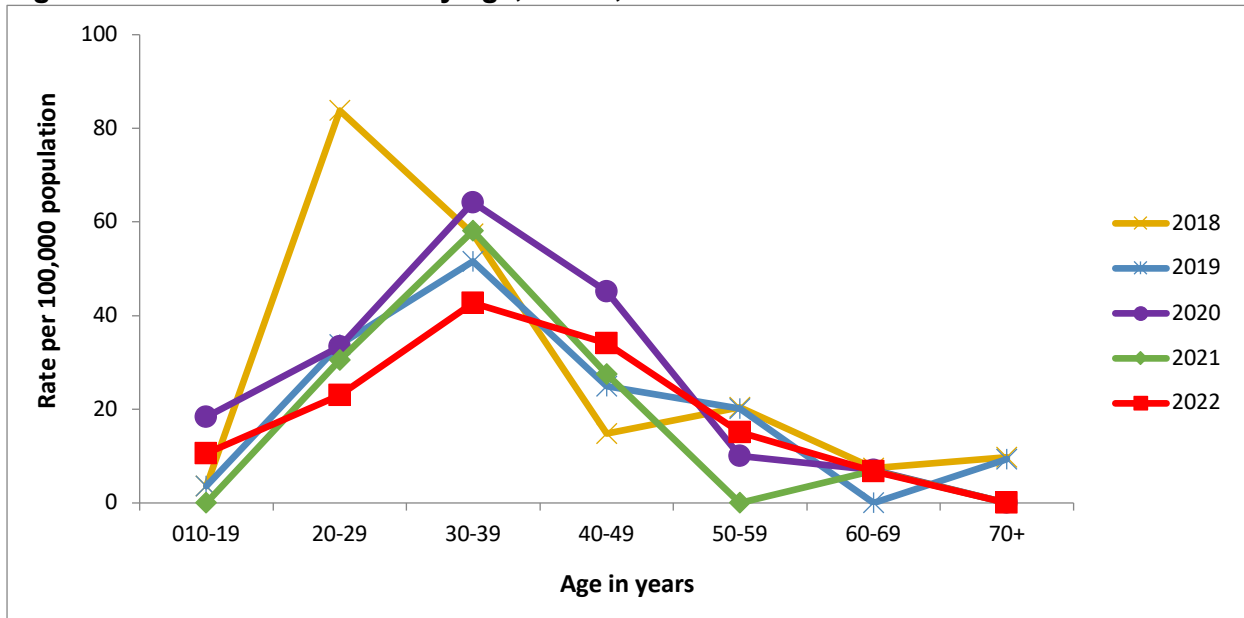
Age

In the US, suicide is highest among adults aged 85 and over (20.9 per 100,000).¹ In Guam, when suicide deaths are disaggregated by age, the majority are seen to occur in young adults aged 30-39 years. Over the recent past, the peak rate shifted from those aged 20-29 to those aged 30-39 years (Figure 3). The age range for suicide deaths in 2022 ranged from 14 to 62 years, with a mean age of 35.7 years.

Collectively, nearly half (45%) of all suicide deaths in Guam from 2012-2022 occurred in those younger than 30 years, and over a quarter (28%) happened among those aged 30-39 years (Figure 4). The proportion of suicide deaths is highest among those aged 30-39 years. Only 1% occurred in those 70 years old or older. Thus, deaths by suicide in Guam occur predominantly among young people, unlike in the US mainland. However, suicide rates in older age groups appear to be increasing over time, reducing the difference in rates between younger and older age groups.

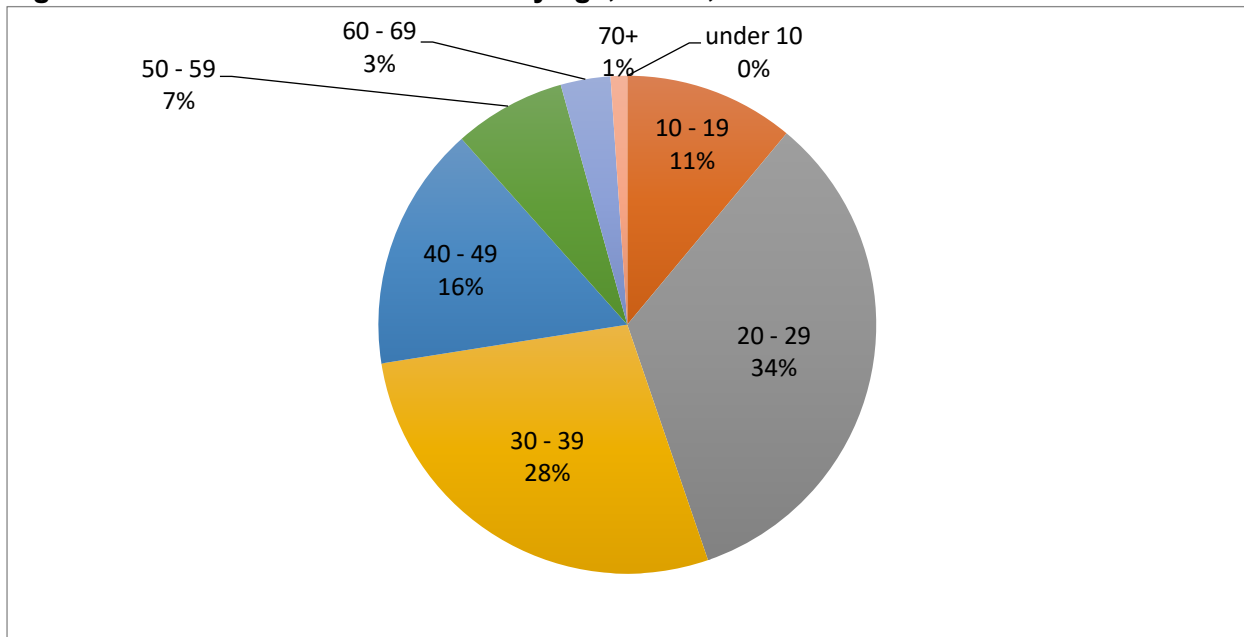
¹ Centers for Disease Control and Prevention (CDC) Data & Statistics Fatal Injury Report for 2021, as reported in American Foundation for Suicide Prevention Suicide Statistics, available at <https://afsp.org/suicide-statistics>

Figure 3. Suicide death rates by age, Guam, 2018-2022



Sources: Calculated from data provided by the Office of the Chief Medical Examiner and Bureau of Statistics and Plans, 2018-2022, and population projections by age based on the 2020 census provided by the Bureau of Statistics and Plans

Figure 4. Cumulative suicide deaths by age, Guam, 2012-2022

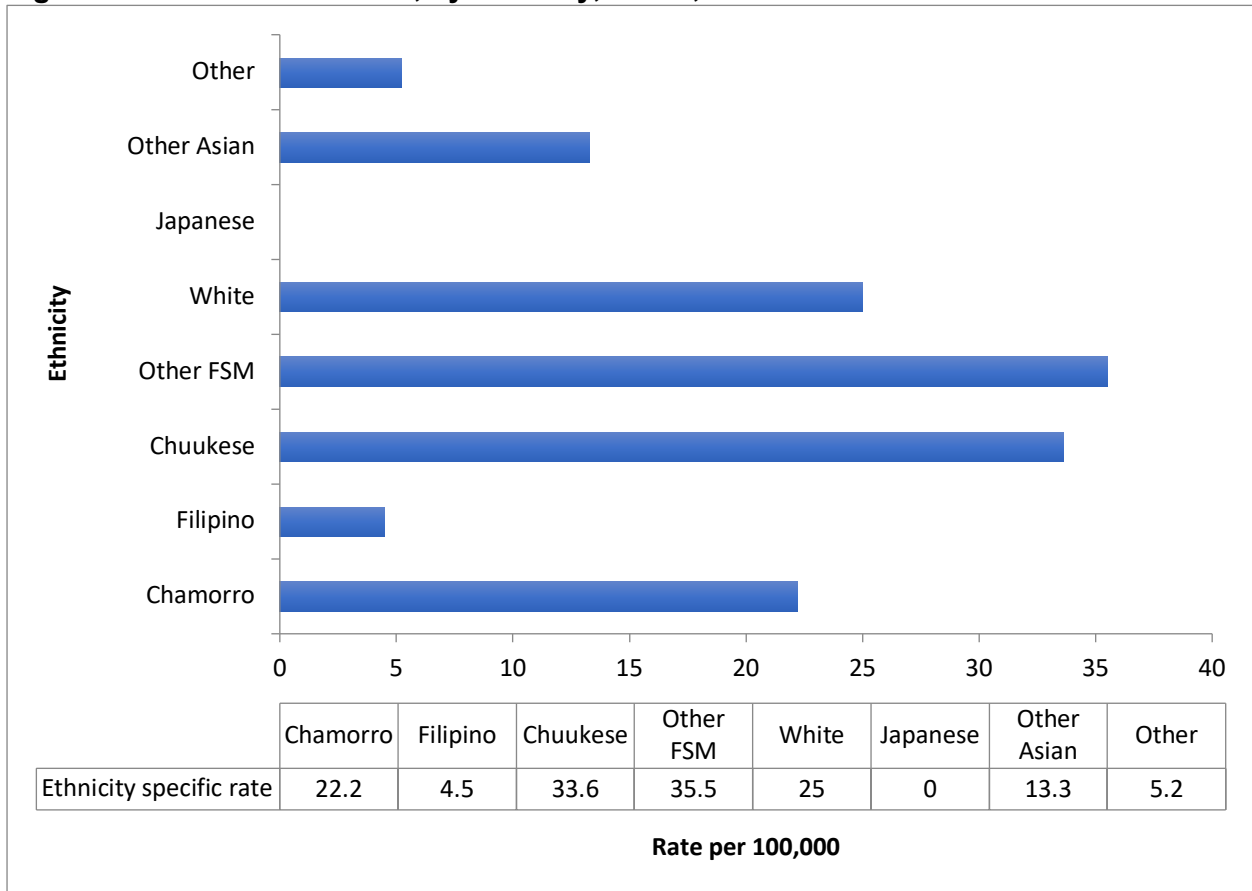


Sources: Calculated from data provided by the Office of the Chief Medical Examiner, 2012-2022

Ethnicity

In 2022, the greatest number of suicide deaths occurred among CHamorus, followed by Chuukese. When these are corrected for the relative contribution of each ethnic group to the total population (Figure 5), other Micronesians have the highest suicide death rates per 100,000, followed by Chuukese and Whites. In contrast, in the US mainland, Pacific Islanders have the lowest suicide rates.

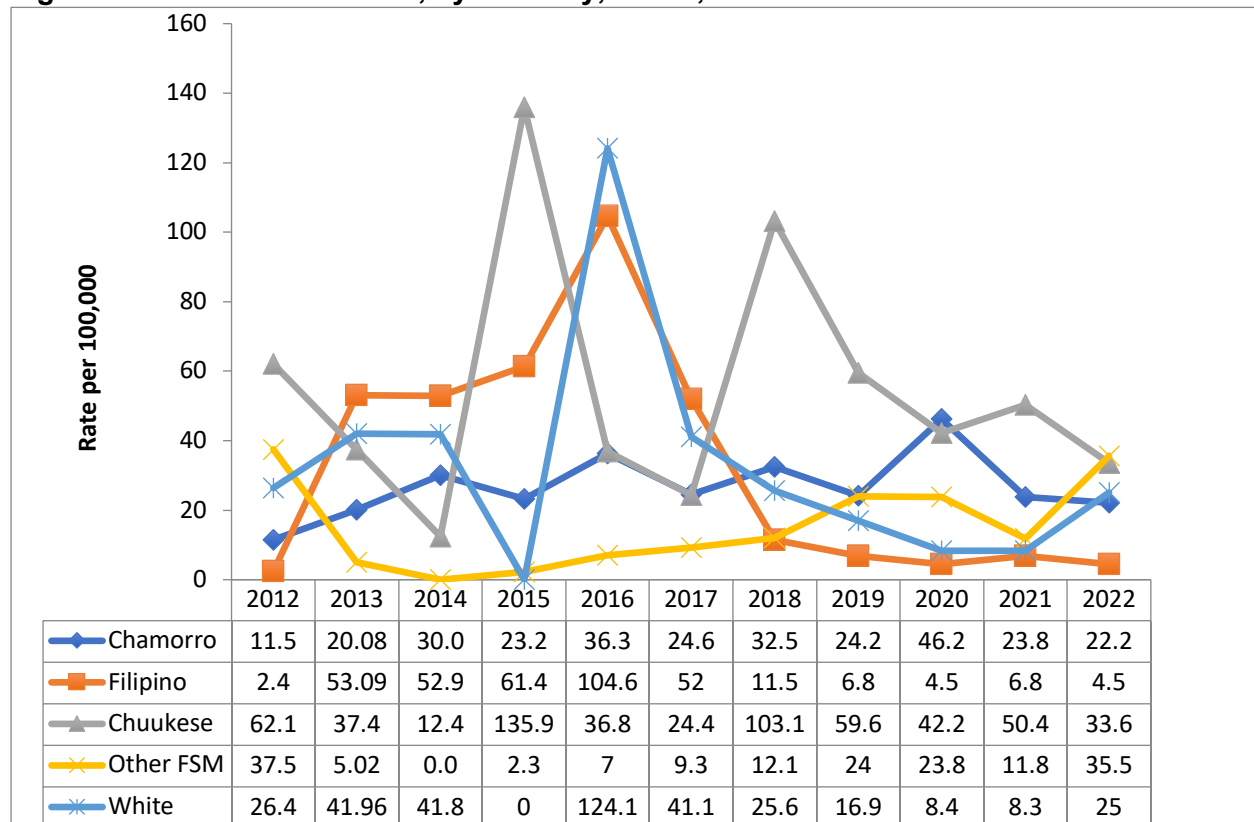
Figure 5. Suicide death rates, by ethnicity, Guam, 2022*



Source: Calculated from 2022 data provided by the Office of the Chief Medical Examiner and population projections published in the 2019 Guam Statistical Handbook (*Please see Technical Note at the beginning of this data brief.)
 Note: The actual numbers for each of these ethnicity categories are small; caution needed in interpretation; the CME database still uses the old spelling “Chamorro.”

In 2022 the suicide rate among other Micronesians and Whites increased compared to the previous year, while rates decreased among CHamorus and Chuukese (Figure 6).

Figure 6. Suicide death rates, by ethnicity, Guam, 2012-2022



Source: Calculated from data provided by the Office of the Chief Medical Examiner, 2022, and population projections published in the 2019 Guam Statistical Handbook. (*Please see Technical Note at the beginning of this data brief.)

Note: The actual numbers for each of these ethnicity categories are small; caution needed in interpretation; the CME database still uses the old spelling “Chamorro”

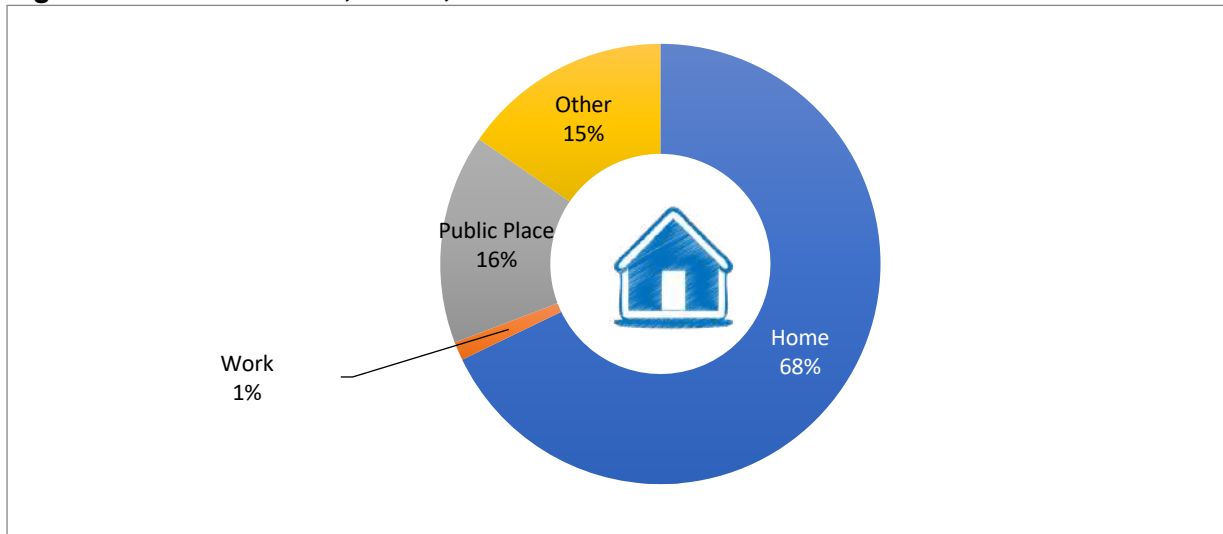
Site of suicide

Cumulative data from 2012-2022 show that majority (68%) of suicides occurred in the home. Only 16% occurred in a public place, and only 1% happened at the workplace (Figure 7). Suicide prevention outreach needs to involve families, to equip them to recognize suicide risk among family members and to intervene early to prevent suicide death.

Method of suicide

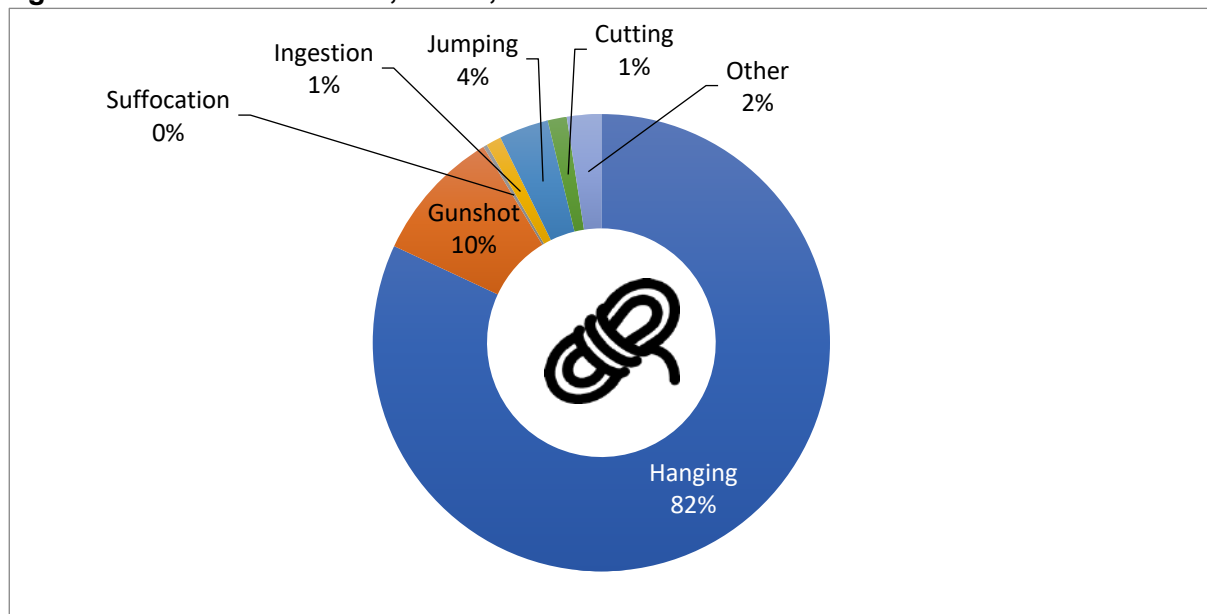
From 2012 to 2022, hanging was the predominant method of suicide, accounting for 82% of deaths. One-tenth (10%) were by the use of firearms (Figure 8). This contrasts markedly from the pattern in the US mainland, where suicide by firearms was the predominant method. From a prevention policy perspective, interventions that reduce access to lethal means other than firearms may have a limited impact in Guam. Gun control may help avert about a tenth of suicides.

Figure 7. Site of suicide, Guam, 2012-2022



Source: Office of the Chief Medical Examiner, suicide data 2012-2022

Figure 8. Method of suicide, Guam, 2012-2022



Source: Office of the Chief Medical Examiner, suicide data 2012-2022

Evidence of intention to die

There was no record of evidence of intention to die in the 2022 CME data.

Other correlates of suicide mortality

One in three (32%) of suicides in 2022 had a history of drug use. 14% had a history of current or prior mental illness and 11% had made previous attempts.

In Guam for the years 2012- 2022:



10% involved the use of alcohol*

6% involved the use of drugs*



16% had a history of previous mental illness

13% had made a previous attempt



(*Note: These data were obtained by interviewing family and friends of the deceased, without toxicologic confirmation. Thus, these may under-estimate the true prevalence of these correlates.)

GBHWC CRISIS HELPLINE CALLS

In 2022, the GBHWC crisis helpline fielded a total of 9711 calls, of which 267 (2.7%) were suicide related. Suicide related calls increased from Q1 to Q4 in 2021, and in Q3 of 2022 (Figure 9). Several operational changes were made during these years to the crisis helpline, which may help explain the apparent rise in suicide-related calls. In May 2021, dedicated and trained Lifeline staff began systematic screening for suicide, in addition to using the C-SSRS instrument. In November 2021, electronic logging of calls to the helpline began, making data capture and data retrieval more efficient. In July 2022, the GBHWC helpline transitioned into the 988 Lifeline.

Figure 9. Calls to the GBHWC crisis helpline, total vs. suicide-related

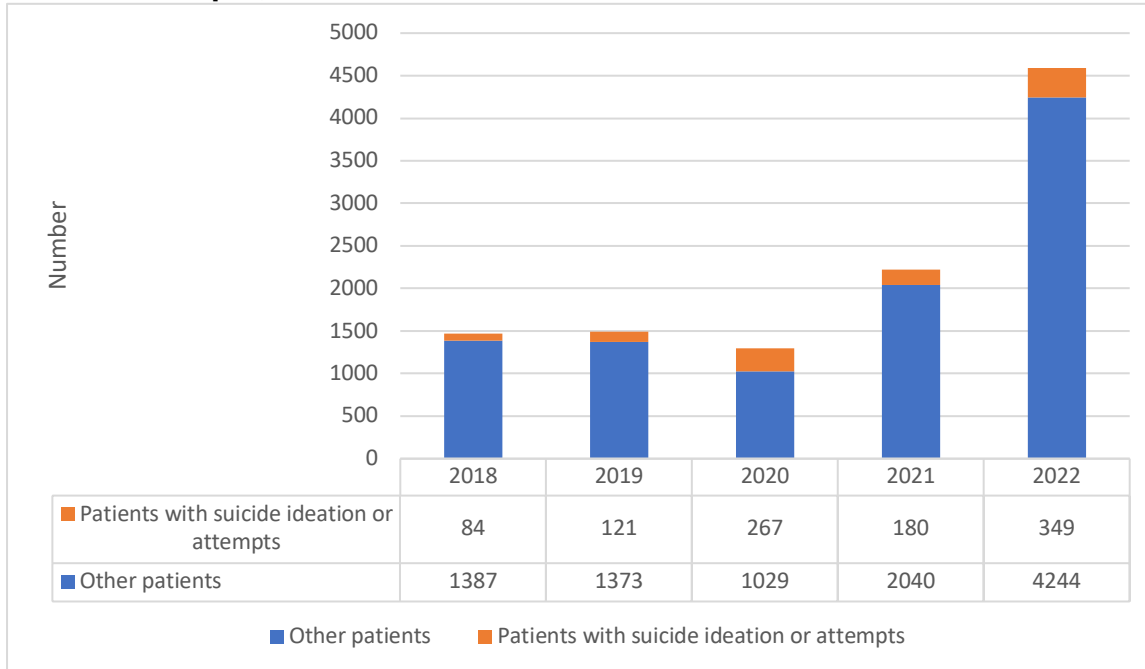
2021	Total calls	Suicide-related calls	% of total calls suicide-related	2022	Total calls	Suicide-related calls	% of total calls suicide-related
January	643			January	518		
February	597			February	463		
March	680			March	489		
Q1		25	1.3%	Q1		48	3.3%
April	620			April	537		
May	723			May	745		
June	823			June	802		
Q2		56	2.6%	Q2		76	3.6%
July	711			July	1249		
August	910			August	1008		
Sept	1028			Sept	738		
Q3		87	3.3%	Q3		92	3.1%
October	917			October	835		
November	556			November	1234		
December	415			December	1093		
Q4		98	5.2%	Q4		51	1.6%
Total	8623	266	3%	Total	9711	267	2.7%

Source: Data provided by MeShaun Bamba, GBHWC 988 Helpline

GBHWC PATIENT ENCOUNTERS INVOLVING SUICIDE IDEATION AND/OR ATTEMPTS

In 2022, a total of 349 clinical encounters at the GBHWC had suicide attempts or suicide ideation attached to the diagnoses, out of a total of 4244 clients served (8.2% of all encounters). This proportion is similar to 2021 (Figure 10). The number of clients served on 2022 more than doubled from the previous year.

Figure 10. Number and percent of GBHWC admissions with suicide ideation or suicide attempts, 2018-2022.



Source: GBHWC admissions data

CONCLUSION AND RECOMMENDATIONS

In 2020, the Covid-19 pandemic dominated the political, health socio-economic and psychological landscape. During this time, it was hypothesized that mental health disturbances across the global community would be significant. In Guam, the 2020 suicide rate increased from 2019 and was higher than the US rate.

However, in 2021, suicide deaths decreased in Guam, although the age-adjusted rate remained higher than that in the US mainland. One hypothesis for this reduction in suicide rate pertains to the attenuation of fear and mental distress from the COVID pandemic. In 2021, the availability of vaccines and therapeutic agents to combat SARS CoV-2 may have contributed to a lowered perception of danger from the pandemic and reduced mental anguish. GBHWC's proactive outreach and expanded services such as through the crisis helpline, may have helped to diminish the risk for mental suffering and suicide risk. Finally, the Government's efforts to mobilize financial and social safety nets, such as through the rental assistance program, financial support to poor households, expansion of eligibility for food assistance and medical coverage, assistance for small business owners, childcare benefits, etc., may have addressed those social determinants that underlie depression and substance and alcohol abuse, thereby contributing to lowered suicide risk by addressing root causes of emotional distress.

The decrease in suicides was not sustained in 2022. The suicide rate increased in 2022, although not to the 2020 level. Suicide increased in the US as well, but the Guam rate remains markedly higher than the national average.

The demographics of suicide in Guam differ from the US, with higher risk among younger persons, and those of CHamoru or Chuukese ethnicity. Previous suicide attempts, alcohol, and drug use, and/or a history of mental illness confer heightened risk. Hanging is by far the predominant method, and majority of suicides occur at home.

Suicide prevention remains a key public health priority, and the data point towards specific strategies to reduce suicide in Guam. These strategies include:

- Investing in suicide prevention efforts towards youth and young adults, especially CHamorus, Chuukese and other Micronesians.
- Strengthening community capacity to recognize the signs of impending or possible suicide and training families, community members and first responders to effectively intervene to bring individuals at risk of suicide to professional attention.
- Training emergency room personnel and other hospital personnel to do brief interventions and referral to GBHWC and other mental health treatment providers for all cases of attempted suicide.
- Ensuring access to continuing care and support for those who have made suicide attempts.
- Aggressively screening to recognize and treat mental illness and depression.
- Preventing and controlling alcohol and other drug abuse.
- Building a sustainable suicide prevention and treatment infrastructure.
- Incorporating mental health interventions and suicide prevention into emergency/crisis response and disaster preparedness.

The recent launch of the dedicated mental helpline – 988 – and the creation of new community initiatives to counter suicide risk, through community partners like Breaking Waves Theater Company, the Hagu Foundation, TU;MA, and the University of Guam (UOG) Press and Cooperative Extension, may help to expand Guam’s suicide prevention efforts. It is anticipated that these may reduce suicide rates further, as more members of the community are engaged in mental health promotion, early recognition of suicide risk and appropriate intervention.

Figure 15. Suicides, Guam 2022 vs. USA 2022



Source: Guam data from Office of the Chief Medical Examiner, suicide data 2010-2021 and DPHSS Vital Statistics; US data from CDC National Vital Statistics System-Mortality Data (2022) via CDC WONDER, as reported in <https://www.cdc.gov/nchs/fastats/suicide.htm>

Note: US data for 2022 is provisional.