

Suicide in Guam, 2021

TECHNICAL NOTE:

Guam's 2020 preliminary census data indicate that the actual population is lower than the 2010 population projections. However, the actual data disaggregated by sex, age and ethnicity have not yet been officially released. Thus, after consulting with SEOW and GBHWC colleagues and the Bureau of Statistics and Plans, it was decided to use the 2010 population projections for this preliminary report, understanding that once the final population counts are issued, we will be re-calculating rates and issuing a revised version of this technical report.

INTRODUCTION

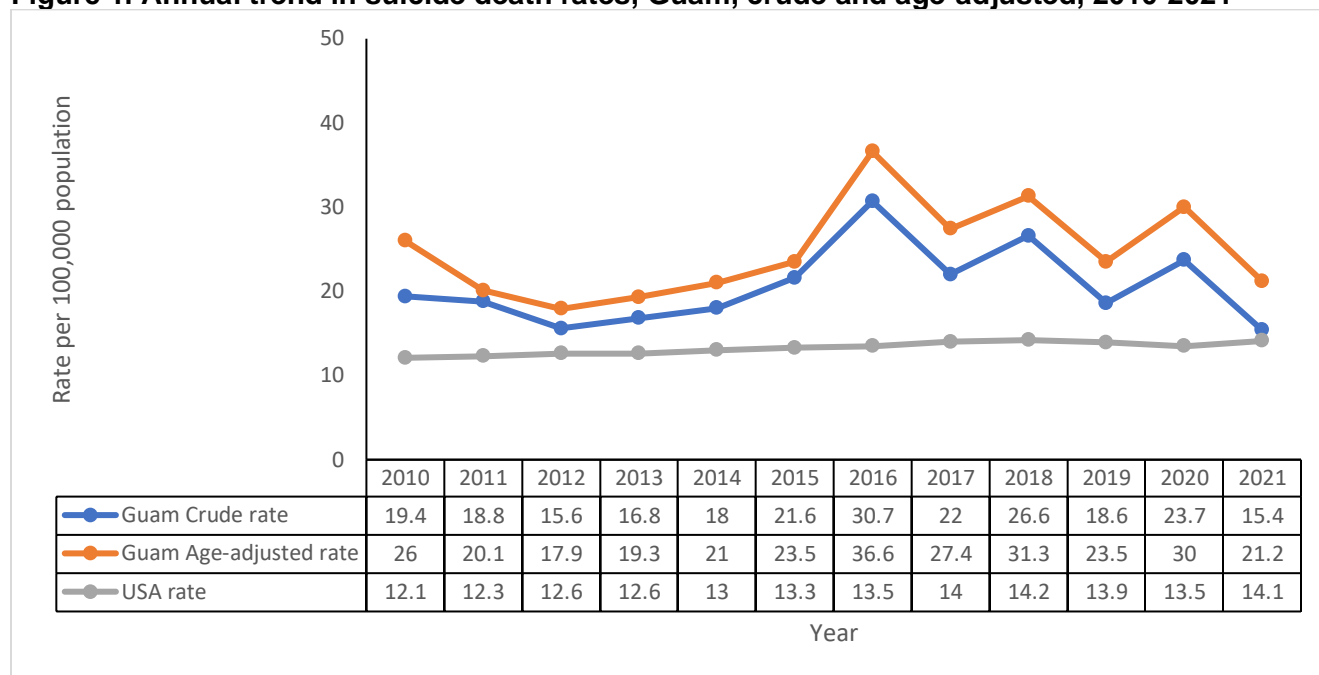
In 2021, Guam's State of Emergency continued, with the persistence of the COVID 19 pandemic, and periodic surges in cases due to evolving variants of the virus. The government mobilized financial, health and social safety nets to assist individuals, families and business entities impacted by the health and socioeconomic consequences of the prolonged health emergency. During this year, vaccination campaigns were rolled out to the public and a variety of treatments became available to lessen the severity of the virus' effects. Lockdowns and restrictions on social gatherings were gradually eased back as Guam's community risk level decreased.

Working with the GBHWC Prevention and Training branch, the SEOW continued to utilize "teachable opportunities," adding new information and outreach products that frame our tobacco, alcohol, and mental health data within the perspective of the COVID19 pandemic. This data brief summarizes the analysis of suicide data for 2021.

TREND and PRALENCE

In 2021, there were 26 suicide deaths in Guam, resulting in a crude suicide rate of 15.4 per 100,000. Age-adjustment to the US 2000 standard population raised the suicide rate to 21.2 per 100,000. This represents a decrease from 2020 (Figure 1).

Figure 1. Annual trend in suicide death rates, Guam, crude and age-adjusted, 2010-2021



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, 2010-2021; 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 2021 data is provisional; 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, 2020-2021

	Guam 2020	Guam 2021	US 2020	US 2021
Deaths (number)	40	26	45,979	~48,000
Crude suicide death rate per 100,000	23.7	15.4		
Age-adjusted suicide death rate per 100,000	30.0	21.2	13.5	14.1

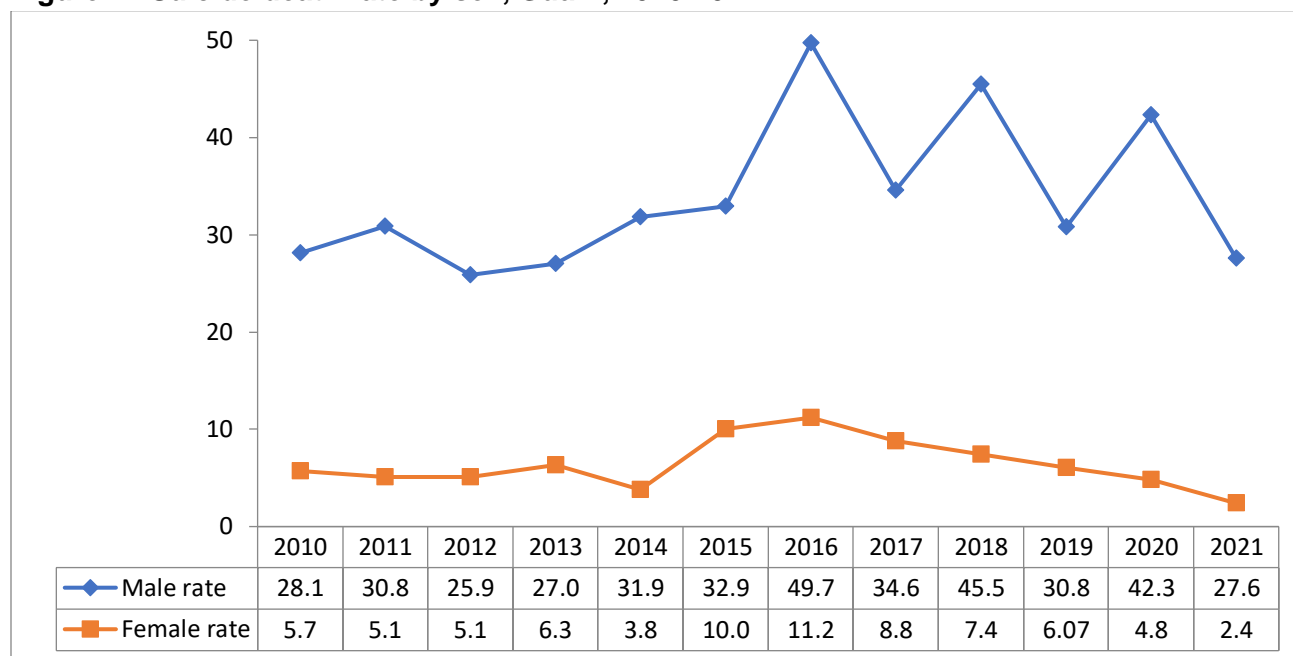
Source: Guam rates calculated based on data taken from the Office of the Chief Medical Examiner, and population projections for 2021 as published in the 2019 Guam Statistical Yearbook, Bureau of Statistics and Plans
 US statistics from US Centers for Disease Control and Prevention (CDC), National Vital Statistics System-Mortality Data (2020) via CDC WONDER, and National Institute of Mental Health at <https://www.nimh.nih.gov/health/statistics/suicide> (US 2021 data is provisional; official data not yet available.)

CORRELATES OF SUICIDE MORTALITY

Sex

Suicide deaths in Guam occur predominantly among males, who consistently outnumber female suicide deaths. In 2021, the ratio of male to female suicide deaths was 12:1. Suicide rates decreased for both sexes, but the proportional decrease was greater for females, maintaining the wide sex gap (Figure 2).

Figure 2. Suicide death rate by sex, Guam, 2010-2021



Sources: Calculated from data provided by the Office of the Chief Medical Examiner, 2010-2021 and 2021 population projections from the Bureau of Statistics and Plans

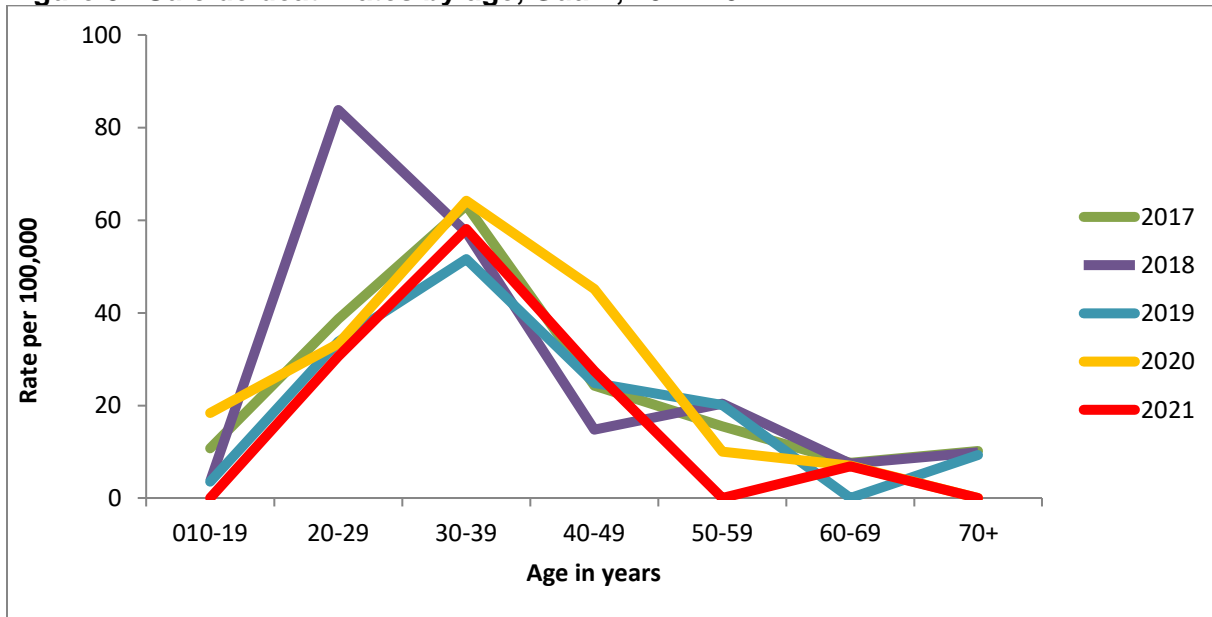
Age

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 past five years, the peak rate shifted from those aged 20-29 to those aged 30-39 years (Figure 3). The age range for suicide deaths in 2021 ranged from 21 to 66 years, with a mean age of 34 years.

Collectively, nearly half (47%) of all suicide deaths in Guam from 2010-2021 occurred in those younger than 30 years, and over a quarter (26%) happened among those aged 30-39 years (Figure 4). 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.

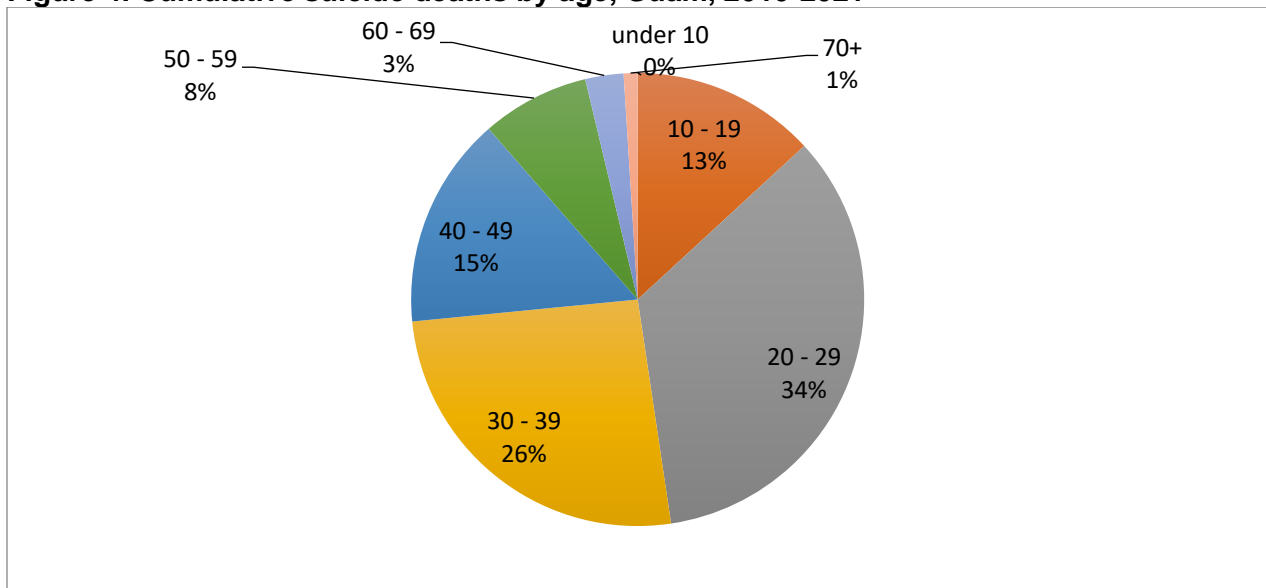
¹ Drapeau, C. W., & McIntosh, J. L. (2021). U.S.A. suicide: 2020 Official final data. Minneapolis, MN: Suicide Awareness Voices of Education (SAVE), dated December 24, 2021, downloaded from <https://save.org/about-suicide/suicidestatistics>.

Figure 3. Suicide death rates by age, Guam, 2017-2021



Sources: Calculated from data provided by the Office of the Chief Medical Examiner and Bureau of Statistics and Plans, 2017-2021

Figure 4. Cumulative suicide deaths by age, Guam, 2010-2021

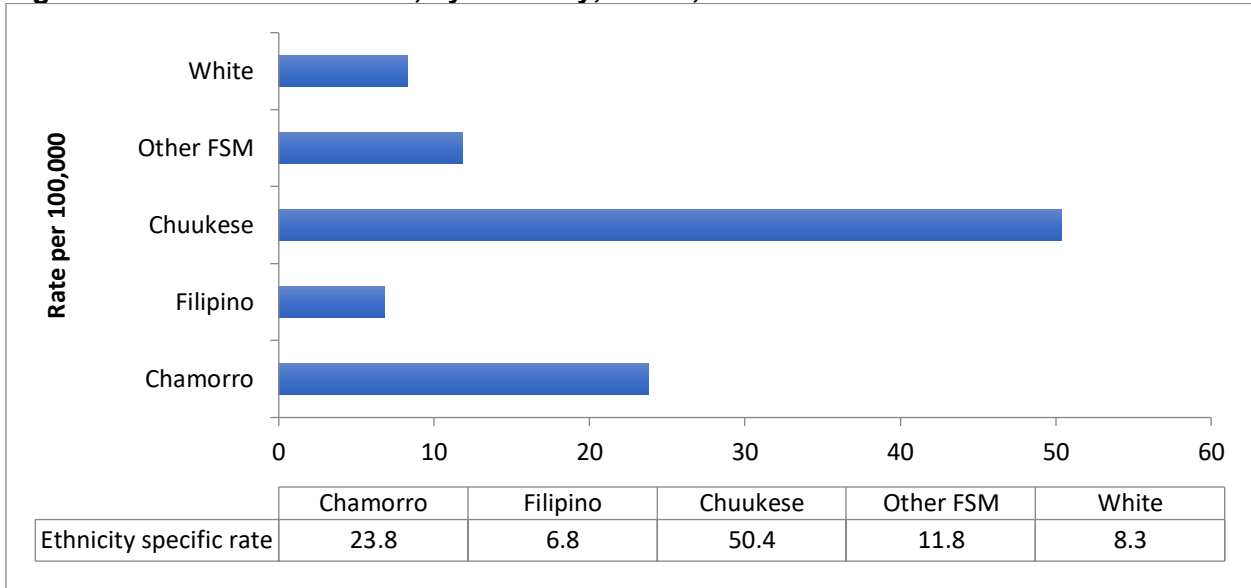


Sources: Calculated from data provided by the Office of the Chief Medical Examiner, 2010-2021

Ethnicity

In 2021, the greatest number of suicide deaths occur among CHamorus, followed by Chuukese. When these are corrected for the relative contribution of each ethnic group to the total population (Figure 5), Chuukese have the highest suicide death rates per 100,000, followed by CHamorus and other Micronesians. In contrast, in the US mainland, Pacific Islanders have the lowest suicide rates.

Figure 5. Suicide death rates, by ethnicity, Guam, 2021

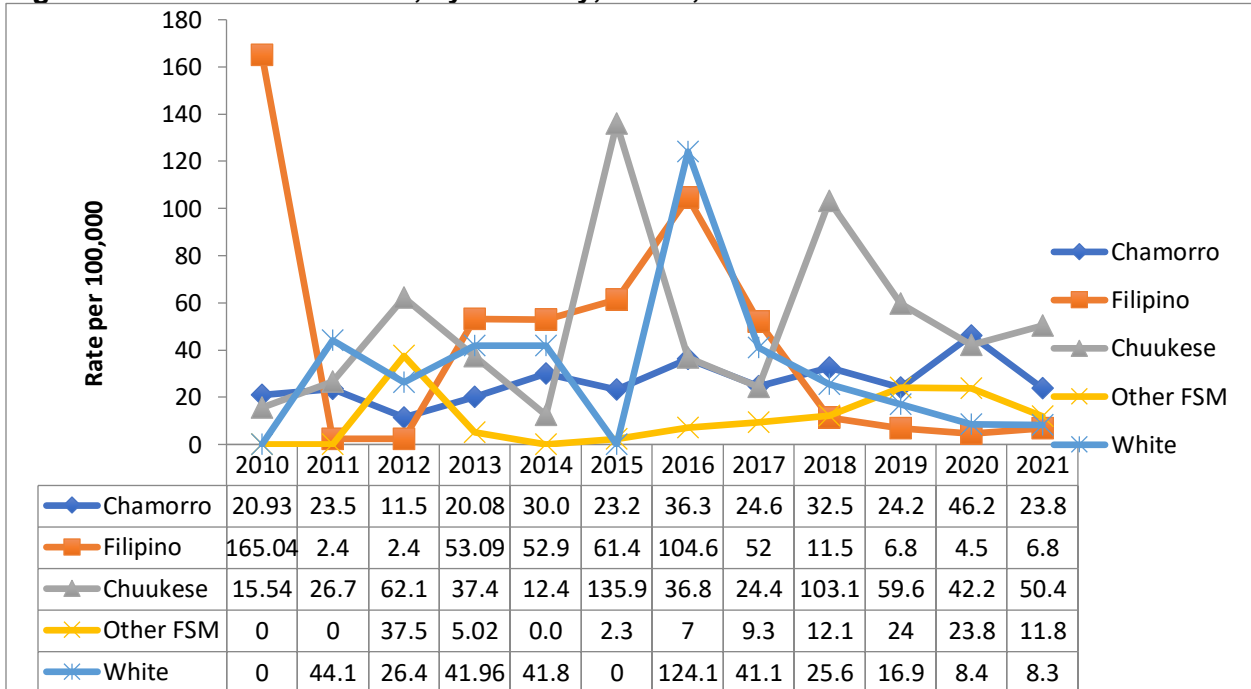


Source: Calculated from data provided by the Office of the Chief Medical Examiner, 2021, and population projections published in the 2019 Guam Statistical Handbook

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

In 2021 the suicide rate among Chuukese increased compared to the previous year, while rates decreased among CHamorus and other Micronesians (Figure 6).

Figure 6. Suicide death rates, by ethnicity, Guam, 2010-2021



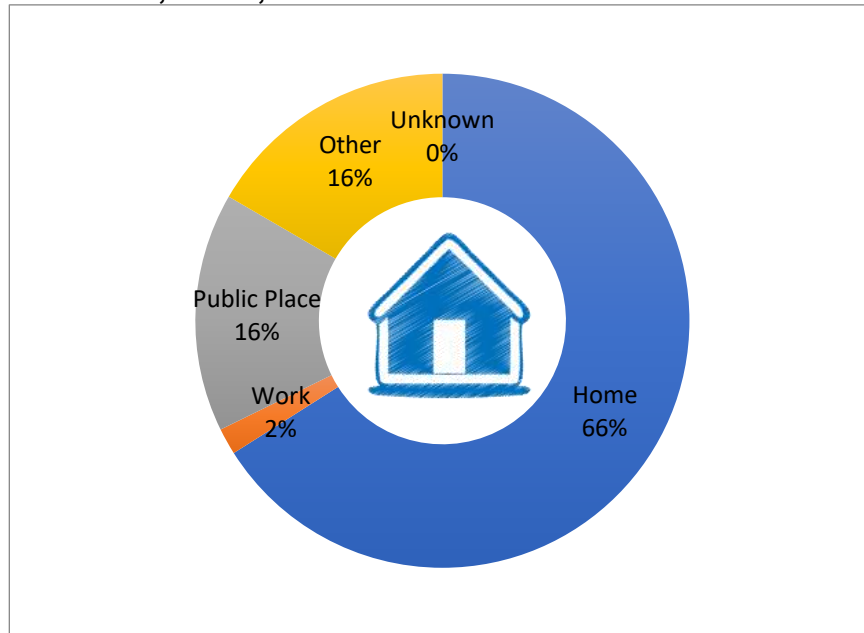
Source: Calculated from data provided by the Office of the Chief Medical Examiner, 2021, and population projections published in the 2019 Guam Statistical Handbook

Note: * = 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 2010-2021 show that majority (66%) of suicides occurred in the home. Only 16% occurred in a public place, and only 2% 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.

Figure 7. Site of suicide, Guam, 2010-2021

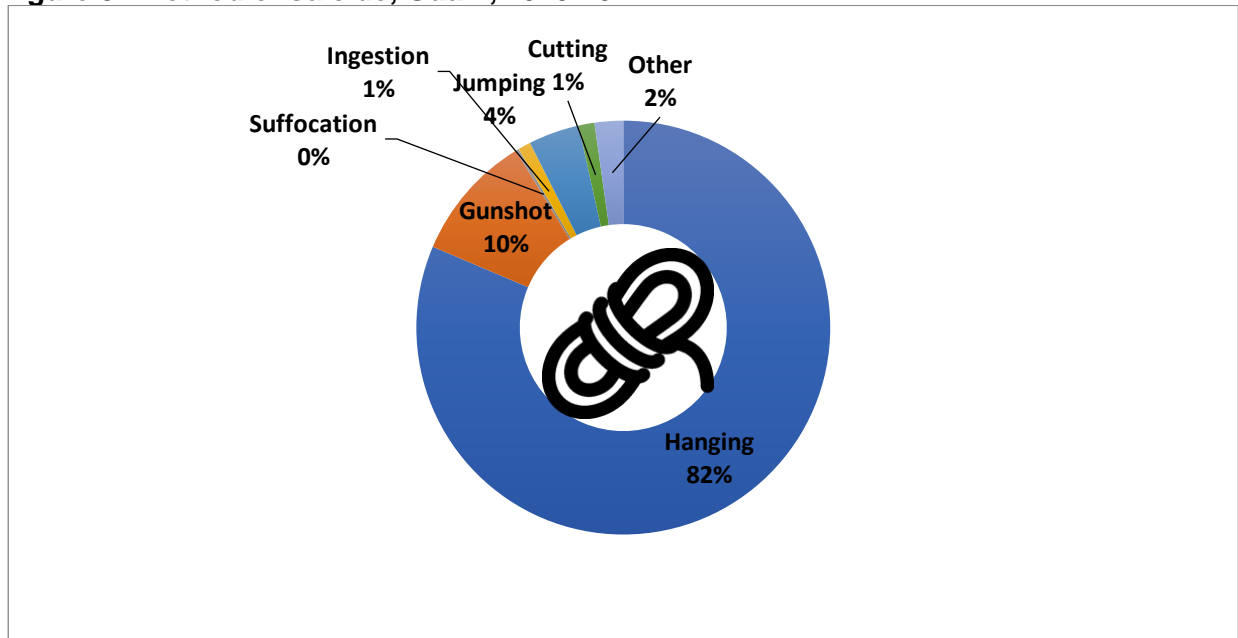


Source: Office of the Chief Medical Examiner, suicide data 2010-2021

Method of suicide

From 2010 to 2021, hanging was the predominant method of suicide, and 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 8. Method of suicide, Guam, 2010-2021



Source: Office of the Chief Medical Examiner, suicide data 2010-2021

Evidence of intention to die

In 2021, 12% of suicides left direct evidence of their suicide intent, and 15% had made previous attempts. A history of current or prior mental illness was noted for 23%. Two cases involved alcohol and one case involved drug use.

Cumulatively from 2010-2021, 13% of those who died of suicide left direct evidence (e.g., suicide note) of an intention to die by suicide. An additional 4% left indirect evidence of their intent. This highlights the need for community members to be better trained to pick up on suicide intentions and intervene early to reduce the risk of attempts.

Other correlates of suicide mortality

In Guam for the years 2010- 2021:



12% involved the use of alcohol*

3% involved the use of drugs*



14% 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.)

SUICIDE IDEATION AND ATTEMPTS AMONG GUAM HIGH SCHOOL YOUTH

The Youth Risk Behavior Surveillance System (YRBSS) did not conduct the YRBS in 2021, as most schools were still implementing distance learning through online platforms, hence we do not have 2021 youth data.

GBHWC CRISIS HELPLINE CALLS

In 2021, the GBHWC crisis helpline fielded a total of 8623 calls, of which 266 (3%) were suicide related. Suicide related calls increased from Q1 to Q4 (Figure 9). Several operational changes were made during the year 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, electronic logging of calls to the helpline began, making data capture and data retrieval more efficient.

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

2021	Total calls	Suicide-related calls	% of total calls suicide-related
January	643		
February	597		
March	680		
Q1		25	1.3%
April	620		
May	723		
June	823		
Q2		56	2.6%
July	711		
August	910		
September	1028		
Q3		87	3.3%
October	917		
November	556		
December	415		
Q4		98	5.2%
Total	8623	266	3%

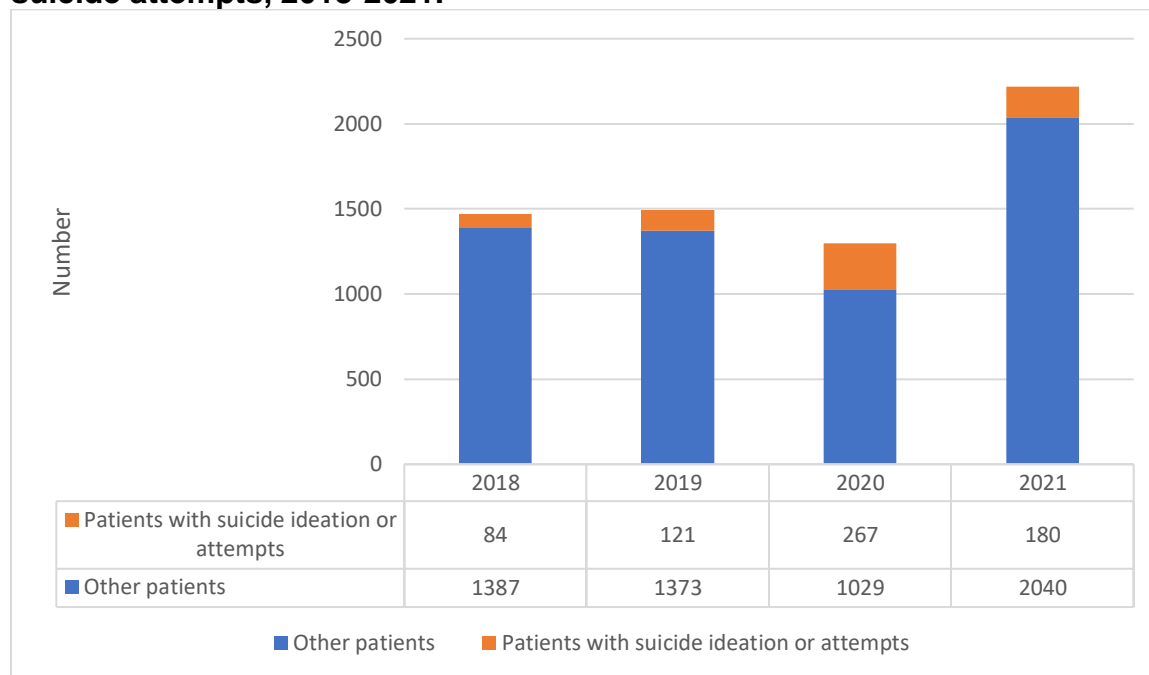
Source: Data provided by MeShaun Bamba, GBHWC 988 Helpline

GBHWC PATIENT ENCOUNTERS INVOLVING SUICIDE IDEATION AND/OR ATTEMPTS

In 2021, a total of 180 consumers at the GBHWC had suicide attempts or suicide ideation attached to their diagnoses, out of a total of 2,040 admissions (8.8% of all encounters). This represents a decrease from 2020 (Figure 10), both in absolute number and proportion of consumers.

Overall, the number of consumers in 2021 increased from previous years. However, the percentage of consumers admitted to GBHWC with suicide ideation/attempts in their diagnosis list decreased from 21% in 2020 to 8.8% in 2021. This decline occurred despite the rise in admissions for various mental health issues during the continuation of the Covid-19 pandemic, and supports the observation of an overall decrease in the suicide rate for 2021.

Figure 10. Number and percent of GBHWC admissions with suicide ideation or suicide attempts, 2018-2021.



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 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.

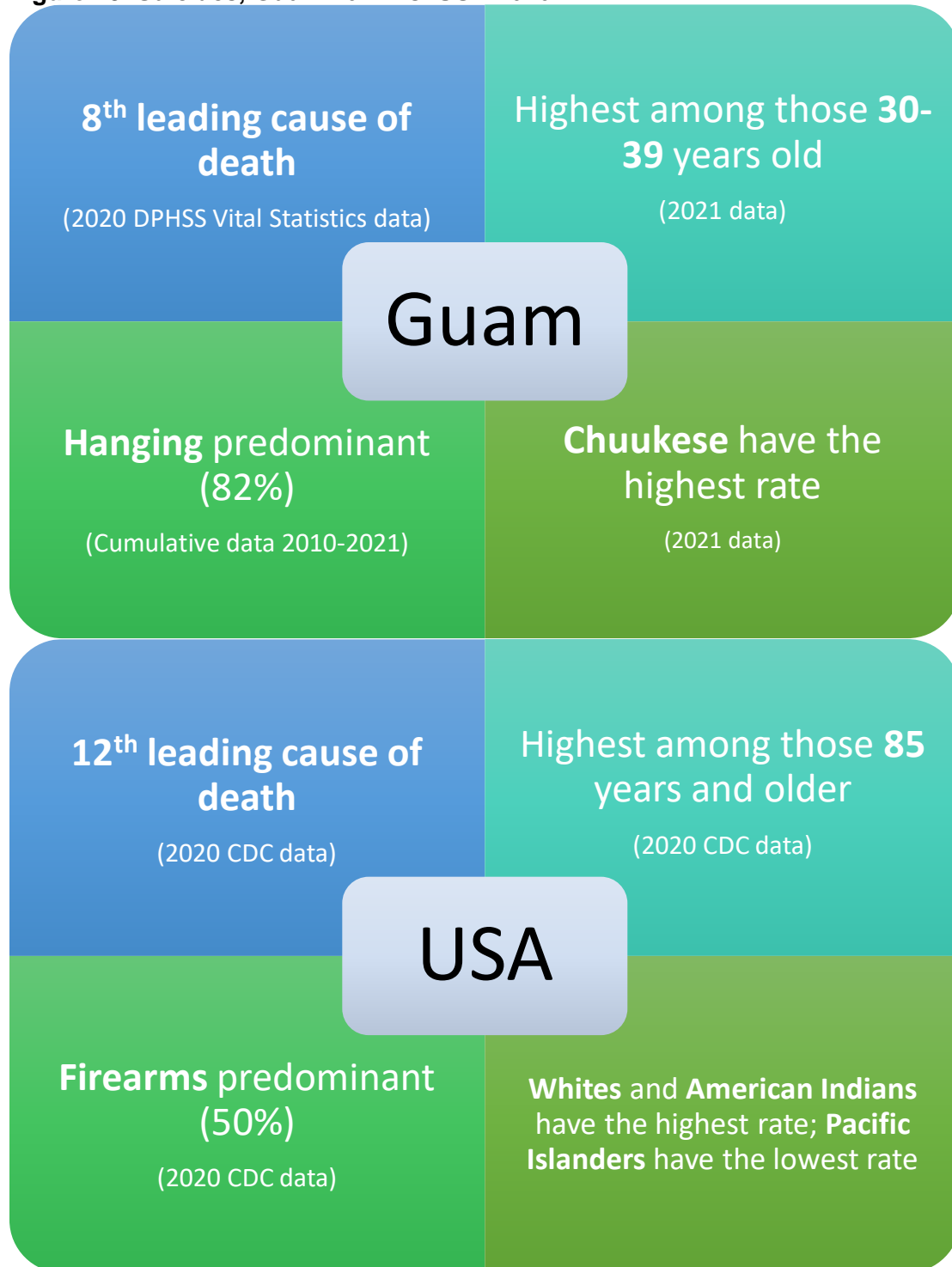
Suicide prevention remains a key public health priority, and the data point towards specific strategies to reduce suicide in Guam. These strategies include:

- 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, such as through the Hagu Foundation, 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 2021 vs. USA 2020



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 (2020) via CDC WONDER, as reported in <https://www.cdc.gov/nchs/fastats/suicide.htm>

Note: US data for 2021 not yet available.