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WORKFORCE DEVELOPMENT

HEALTH AND SOCIAL SERVICES INFRASTRUCTURE

FINANCIAL MANAGEMENT

REGULATIONS, LICENSURE, AND INSURANCE

WELLNESS AND PREVENTION

ACCESS TO CARE

COMMUNICABLE DISEASES

NON-COMMUNICABLE DISEASES

ORAL HEALTH

BEHAVIORAL HEALTH

OTHER SOCIAL SERVICES

5 Year Health & Social Services Strategic Plan



Governor Eddie Baza Calvo
Territory of Guam

October 2011
Public Draft



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Communicable
Diseases

Hepatitis A

Where do we Stand? Evaluating Trends

Current Trends

As shown on Table 9-2 and Figure 9-1, for much of the past decade, Guam experienced hepatitis A rates that were lower than the other geographic areas in the comparison group, with rates near or under 1 case per 100,000. Despite its relatively healthier status in previous years, hepatitis A morbidity rates significantly increased on Guam starting in 2008 and continuing in 2009. This is most likely due to an influx of older cases that were unreported until 2008 and 2009. These previously unreported cases may have existed for several years, but due to new reporting measures were all accounted for at once, thus skewing the numbers. A slight increase in cases was also experienced by Hawaii at this time while morbidity rates in the US and Puerto Rico continued on a downward trend.

Moving Forward

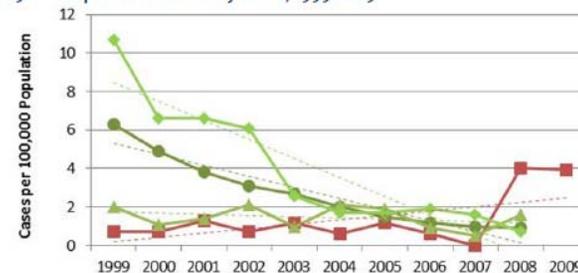
Guam Average	1.1 cases / 100,000 persons
Trending	↑
Guam 2009 Rate	3.9 cases / 100,000 persons
Goal	0.3 cases / 100,000 persons
5-Year Target	2.0 cases / 100,000 persons

In comparison to the goals established in the Healthy People 2020 plan, Guam has historically maintained a rate not too far off the goal established. Data for 2008 and 2009 show a significant uptick away from this goal.

Table 9-2. Average Hepatitis A Morbidity Rates, 1999-2008

	Guam	US	Hawaii	Puerto Rico
Average Rate (cases per 100,000 persons)	1.1	2.7	1.5	4.0
Trend	↑	↓	↓	↓

Figure 9-1. Hepatitis A Morbidity Rates, 1999-2009



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Guam	0.7	0.7	1.3	0.7	1.2	0.6	1.2	0.6	0.0	4.0	3.9
US	6.3	4.9	3.8	3.1	2.7	2.0	1.5	1.2	1.0	0.9	
Hawaii	2.0	1.1	1.4	2.1	1.0	2.1	1.9	0.9	0.5	1.6	
Puerto Rico	10.7	6.6	6.6	6.1	2.6	1.7	1.7	1.9	1.6	0.7	

Source: CDC, Morbidity and Mortality Weekly Report, Annual Summary of Notifiable Diseases for the United States, 1999 – 2008
DPHSS Office of Epidemiology and Research, "Annual Summary of Notifiable Diseases – Guam – 2009"



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Communicable
Diseases

Hepatitis B

Where do we Stand? Evaluating Trends

Current Trends

Table 9-3 and Figure 9-2 show that hepatitis B rates on Guam have been much more sporadic than those for the US, Puerto Rico and Hawaii, but has spiked in the last three years and is now substantially higher than the other comparable jurisdictions. This is most likely due to an influx of older cases that were unreported until 2008 and 2009. These previously unreported cases may have existed for several years, but due to new reporting measures were all accounted for at once, thus skewing the numbers. As a result, Guam's average rate of 5.0 cases per 100,000 persons is higher than all of the other three geographies.

Moving Forward

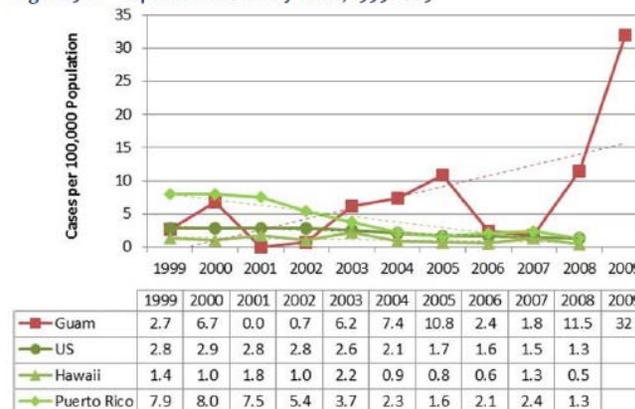
Guam Average	5.0 cases / 100,000 persons
Trending	↑
Guam 2009 Rate	32.0 cases / 100,000 persons
Goal	1.5 new cases in ages 19 and older / 100,000 persons
5-Year Target	5.0 cases / 100,000 persons

Guam's average rate of cases is not broken down by age groups, so it is difficult to tell how far away from the Healthy People 2020 goal it is. For all persons, Guam's rate is a little more than three times higher than the 2020 goal, and trending upwards due to a large amount of cases being reported in 2008 and 2009.

Table 9-3. Average Hepatitis B Morbidity Rates, 1999-2008

	Guam	US	Hawaii	Puerto Rico
Average Rate (cases per 100,000 persons)	5.0	2.2	1.2	4.2
Trend	↑	↓	↓	↓

Figure 9-2. Hepatitis B Morbidity Rates, 1999-2009



Source: CDC, Morbidity and Mortality Weekly Report, Annual Summary of Notifiable Diseases for the United States, 1999 – 2008
DPHSS Office of Epidemiology and Research, "Annual Summary of Notifiable Diseases – Guam – 2009"



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Communicable
Diseases

Hepatitis C

Where do we Stand? Evaluating Trends

Current Trends

Table 9-4 and Figure 9-3 show that for several years, Guam's hepatitis C rate was in line with the US, Hawaii, and Puerto Rico, but had some sporadic increases during 2003 to 2005, and more noticeably, in 2008 and 2009. This is most likely due to an influx of older cases that were unreported until 2008 and 2009. These previously unreported cases may have existed for several years, but due to new reporting measures were all accounted for at once, thus skewing the numbers. As a result, Guam's average rate of 2.3 cases per 100,000 persons is higher than all of the other three geographies.

Moving Forward

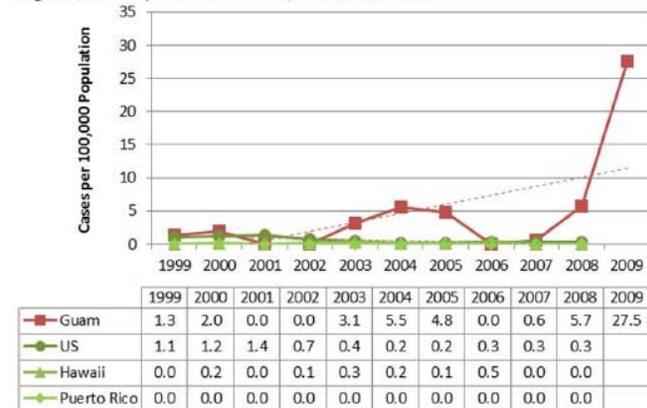
Guam Average	2.3 cases / 100,000 persons
Trending	↑
Guam 2009 Rate	27.5 cases / 100,000 persons
Goal	0.2 new cases / 100,000 persons
5-Year Target	

Guam's average rate of hepatitis C cases in recent years has been 10 times greater than the Healthy People 2020 goal. In addition, a recent influx of cases has (perhaps artificially) increased this rate to almost 140 times greater than the 2020 goal.

Table 9-4. Average Hepatitis C Morbidity Rates, 1999-2008

	Guam	US	Hawaii	Puerto Rico
Average Rate (cases per 100,000 persons)	2.3	0.6	0.1	0.0
Trend	↑	↓	↓	↓

Figure 9-3. Hepatitis C Morbidity Rates, 1999-2009



Source: CDC, Morbidity and Mortality Weekly Report, Annual Summary of Notifiable Diseases for the United States, 1999 - 2008
DPHSS Office of Epidemiology and Research, "Annual Summary of Notifiable Diseases - Guam - 2009"



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Communicable
Diseases

Influenza

Where do we Stand? Evaluating Trends

Current Trends

The CDC does not track and record influenza cases within the US, so no comparable data was available to compare Guam against the US, Hawaii, and Puerto Rico. Morbidity rates for influenza in Guam had been reasonably good for most of the last decade, becoming lower from a spike in 1999 to a relatively low rate until 2007. Since 2007, however, there was a substantial spike in 2008. This trend should be monitored carefully to determine if it will continue at this higher level.

Moving Forward

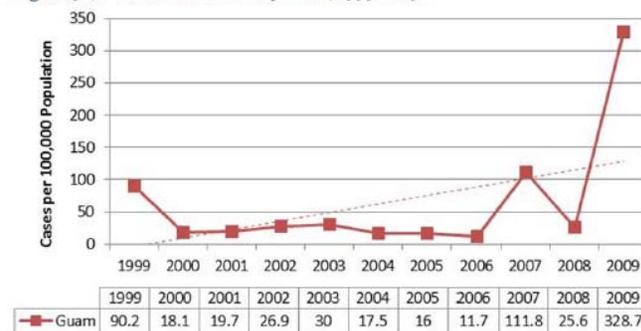
Guam Average	63.3 cases / 100,000 persons
Trending	↑
Guam 2009 Rate	328.7 cases / 100,000 persons
Goal	No goal established
5-Year Target	60.0 cases / 100,000 persons

Flu strains and seasons can vary from year to year, and new strains that appear that are not properly prepared for can have a large impact on new cases. Although the average rate of cases for the past decade on Guam is greater than the 5-year target identified as part of this Plan, this was largely influenced by a flu outbreak in 2009 that was an anomaly for the time period. The Healthy People 2020 plan did not establish a target goal for the number of cases for flu.

Table 9-5. Average Influenza Morbidity Rates, 1999-2009

	Guam	US	Hawaii	Puerto Rico
Average Rate (cases per 100,000 persons)	63.3	--	--	--
Trend	↑	--	--	--

Figure 9-4. Influenza Morbidity Rates, 1999-2009



Source: DPHSS Office of Epidemiology and Research, "Annual Summary of Notifiable Diseases - Guam - 2009"



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Communicable Diseases

Mumps

Where do we Stand? Evaluating Trends

Current Trends

Guam's morbidity rate for mumps has fluctuated a great deal over recent years. As can be seen in Table 9-6 and Figure 9-5, this varies as compared to the US and Puerto Rico, while Hawaii had some variation similar to Guam. Overall, Guam's rate, similar to Hawaii's was trending downwards as well. Puerto Rico and the US both trended upwards, but at a minimal amount. Guam's average of 2.5 cases per 100,000 persons was twice that of Hawaii's, and much greater than the US and Puerto Rico. Although data was not currently available for the exact number, there was a large outbreak of mumps in 2010.

Moving Forward

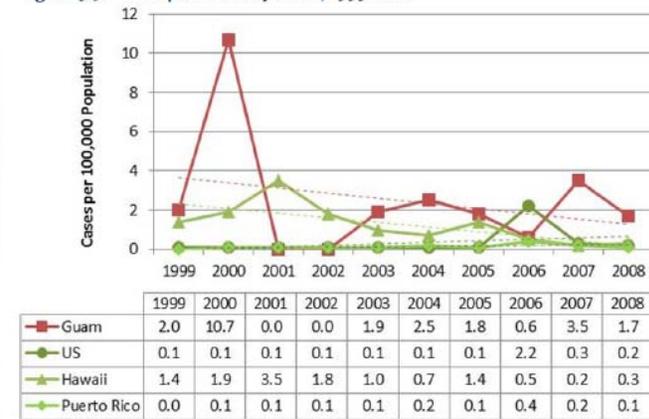
Guam Average	2.5 cases / 100,000 persons
Trending	↓
Guam 2009 Rate	Not available (1.7 cases / 100,000 person in 2008)
Goal	Less than 1 case / 100,000 persons
5-Year Target	1.0 case p/ 100,000 persons

Guam's average rate in recent years was 1.5 times greater than the goal set forth in the Healthy People 2020 plan; however was trending downwards in recent years. This does not account for a significant outbreak in 2010, which was an anomaly based on recent data trends.

Table 9-6. Average Mumps Morbidity Rates, 1999-2008

	Guam	US	Hawaii	Puerto Rico
Average Rate (cases per 100,000 persons)	2.5	0.3	1.3	0.1
Trend	↓	↑	↓	↑

Figure 9-5. Mumps Morbidity Rates, 1999-2008



Source: CDC, Morbidity and Mortality Weekly Report, Annual Summary of Notifiable Diseases for the United States, 1999 - 2008



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Communicable
Diseases

Salmonellosis

Where do we Stand? Evaluating Trends

Current Trends

Although Guam's rate of salmonellosis is generally trending downwards as shown in Table 9-7 and Figure 9-6, there is no distinguishable downward trend. The rates vary every few years, which is different than Hawaii and Puerto Rico, which tend to go up and down almost every other year. The US, in contrast, was fairly steady for the timeframe. Guam had the second highest average rate (22.3 cases per 100,000 persons), falling only shortly behind Hawaii. Puerto Rico was slightly lower, and the US rate only about 70% of Guam's rate.

Moving Forward

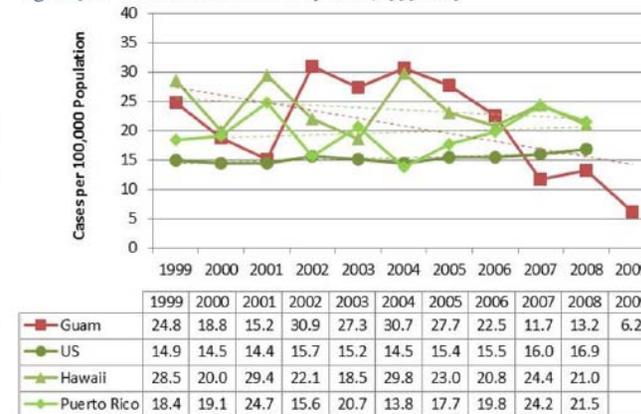
Guam Average	22.3 cases / 100,000 persons
Trending	↓
Guam 2009 Rate	6.2 cases / 100,000 persons
Goal	11.4 cases / 100,000 persons
5-Year Target	5.0 cases / 100,000 persons

Although Guam's average rate of salmonellosis in recent years has been almost double the goal set forth in the Healthy People 2020 plan, it has declined significantly over the years, reaching a rate in 2009 that is almost half the goal rate. If this trend continues, Guam will have no problem maintaining the 2020 goal.

Table 9-7. Average Salmonellosis Morbidity Rates, 1999-2008

	Guam	US	Hawaii	Puerto Rico
Average Rate (cases per 100,000 persons)	22.3	15.3	23.8	19.6
Trend	↓	↑	↓	↑

Figure 9-6. Salmonellosis Morbidity Rates, 1999-2009



Source: CDC, Morbidity and Mortality Weekly Report, Annual Summary of Notifiable Diseases for the United States, 1999 - 2008
DPHSS Office of Epidemiology and Research, "Annual Summary of Notifiable Diseases - Guam - 2009"



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Communicable Diseases

Chlamydia

Where do we Stand? Evaluating Trends

Current Trends

Table 9-10 and Figure 9-7 show that Guam has had the highest rate of chlamydia compared to the US, Hawaii, and Puerto Rico in recent years. All four geographies have been trending upwards. Most notably, Guam's average rate of 401.2 cases per 100,000 persons was almost four times greater than Puerto Rico's. For the most part, all geographies' rates increased steadily; however, Guam's and Puerto Rico's began to show a noticeable decline starting in 2008.

Moving Forward

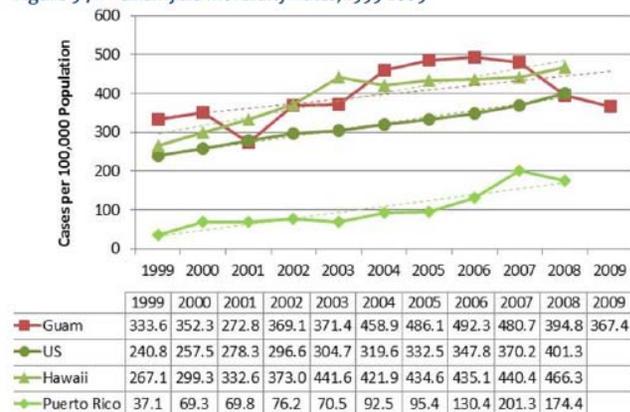
Guam Average	401.2 cases / 100,000 persons
Trending	↑
Guam 2009 Rate	367.4 cases / 100,000 persons
Goal	No goal established
5-Year Target	200.0 cases / 100,000 persons

The 5-year target set out for chlamydia trends in this Plan is half of what Guam's average has been in the past decade. However, a decline has been seen in recent years, which is a step in the right direction towards reaching this target. The 2009 rate is still far away from the 5-year target, and much work is still needed. The Healthy People 2020 plan did not establish goals for chlamydia rates.

Table 9-10. Average Chlamydia Morbidity Rates, 1999-2008

	Guam	US	Hawaii	Puerto Rico
Average Rate (cases per 100,000 persons)	401.2	314.9	391.2	101.7
Trend	↑	↑	↑	↑

Figure 9-7. Chlamydia Morbidity Rates, 1999-2009



Source: CDC, Morbidity and Mortality Weekly Report, Annual Summary of Notifiable Diseases for the United States, 1999 – 2008
DPHSS Office of Epidemiology and Research, "Annual Summary of Notifiable Diseases – Guam – 2009"



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Communicable
Diseases

Gonorrhea

Where do we Stand? Evaluating Trends

Current Trends

Although the morbidity rate for Gonorrhea has seen an upwards trend between 1999 and 2008, it remains substantially lower than the U.S. average and is comparable to the statistics for Hawaii during this timeframe, as can be seen in Table 9-11 and Figure 9-8. The last two years have shown a tangible reduction in the reported rates for Guam. Guam's average of 52.4 cases per 100,000 persons for the timeframe was more than five times greater than Puerto Rico's, but was lower than Hawaii's and was less than half the US rate.

Moving Forward

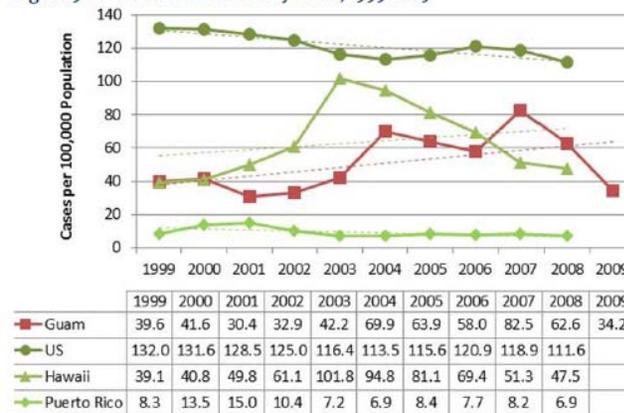
Guam Average	52.4 cases / 100,000 persons
Trending	↑
Guam 2009 Rate	34.2 cases / 100,000 persons
Goal	257 new cases / 100,000 females 198 new cases / 100,000 males
5-Year Target	

Guam's morbidity rates for gonorrhea are not presented as broken down between male and female, as are the goals within the Healthy People 2020 plan. However, Guam's rates in recent years have been well below the rates

Table 9-11. Average Gonorrhea Morbidity Rates, 1999-2008

	Guam	US	Hawaii	Puerto Rico
Average Rate (cases per 100,000 persons)	52.4	121.4	63.7	9.3
Trend	↑	↓	↑	↓

Figure 9-8. Gonorrhea Morbidity Rates, 1999-2009



Source: CDC, Morbidity and Mortality Weekly Report, Annual Summary of Notifiable Diseases for the United States, 1999 - 2008
DPHSS Office of Epidemiology and Research, "Annual Summary of Notifiable Diseases - Guam - 2009"



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Communicable
Diseases

AIDS

Where do we Stand? Evaluating Trends

Current Trends

AIDS morbidity data was not available for the year 2006, and so this year was not factored into averages and trends. As shown in Table 9-12 and Figure 9-9, Guam has had lower morbidity rates for AIDS than the US, Hawaii, and Puerto Rico. The rates for each of these geographies have been trending downwards between 1999 and 2008. Guam's rates have shown the most variability from year to year, even though they have consistently been the lowest. Guam's average rate of 3.7 cases per 100,000 persons was less than half of Hawaii's rate, less than 1/3 the US rate, and less than 1/6 Puerto Rico's rate.

Moving Forward

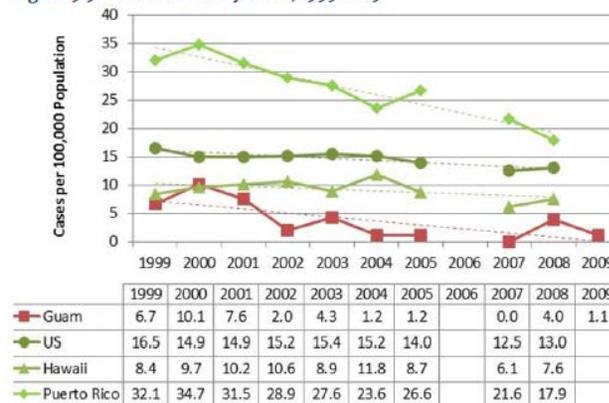
Guam Average	3.7 cases / 100,000 persons
Trending	↓
Guam 2009 Rate	1.1 cases / 100,000 persons
Goal	13 new cases / 100,000 adolescents and adults
5-Year Target	1.0 cases / 100,000 persons

Guam's average morbidity rate of AIDS cases over the past decade has been less than 1/3 of the goal established by the Healthy People 2020 plan. The rate has continued trending downwards over the years and is not likely to increase past the 2020 goal.

Table 9-12. Average AIDS Morbidity Rates, 1999-2008

	Guam	US	Hawaii	Puerto Rico
Average Rate (cases per 100,000 persons)	3.7	13.2	8.2	24.5
Trend	↓	↓	↓	↓

Figure 9-9. AIDS Morbidity Rates, 1999-2009



Source: CDC, Morbidity and Mortality Weekly Report, Annual Summary of Notifiable Diseases for the United States, 1999 – 2008
DPHSS Office of Epidemiology and Research, "Annual Summary of Notifiable Diseases – Guam – 2009"



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Communicable
Diseases

HIV

Where do we Stand? Evaluating Trends

Current Trends

The CDC does not track HIV cases and so there is no available data to compare Guam against the US, Hawaii, and Puerto Rico in terms of morbidity rates. The CDC does record the number of deaths from HIV-related diseases, but the number of deaths on Guam was insufficient to warrant recordation. DPHSS does track HIV morbidity rates on Guam, and so some insight is provided, but not as comparable to the other geographies. Table 9-13 and Figure 9-10 show that the HIV morbidity rate is has been trending downwards for the past decade. Other than an anomaly experienced during 2001, the rate has been fairly low.

Moving Forward

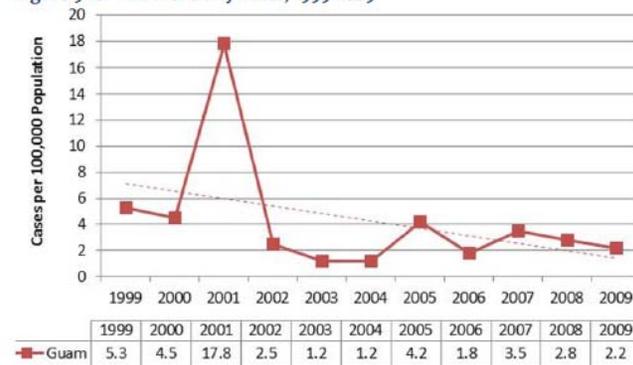
Guam Average	4.2 cases / 100,000 persons
Trending	↓
Guam 2009 Rate	2.2 cases / 100,000 persons
Goal	No goal established
5-Year Target	

The Healthy People 2020 plan did not establish goals for HIV rates.

Table 9-13. Guam Average HIV Morbidity Rates, 1999-2009

	Guam	US	Hawaii	Puerto Rico
Average Rate (cases per 100,000 persons)	4.2	-	-	-
Trend	↓	-	-	-

Figure 9-10. HIV Morbidity Rates, 1999-2009



Source: DPHSS Office of Epidemiology and Research, "Annual Summary of Notifiable Diseases - Guam - 2009"



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Communicable
Diseases

Syphilis

Where do we Stand? Evaluating Trends

Current Trends

Although Guam's syphilis rate has been sporadic over recent years, Table 9-15 and Figure 9-11 show that it had the second lowest average rate (12.1 cases per 100,000 persons), after Hawaii, which had about 1/3 the rate. The US had an average rate almost the same as Guam, just slightly higher, and Puerto Rico's rate was almost three times higher than Guam's. Guam's rate was trending upwards.

Moving Forward

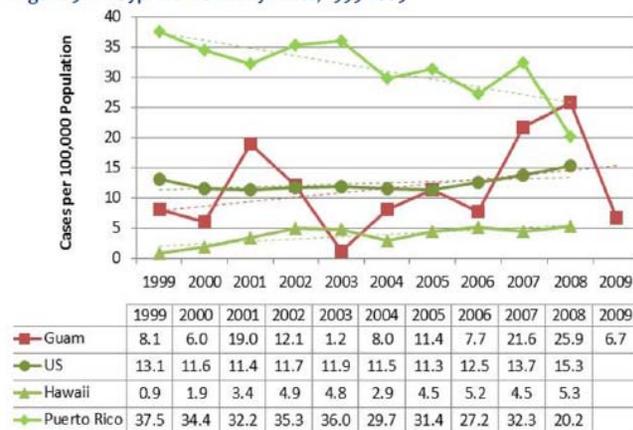
Guam Average	12.1 cases / 100,000 persons
Trending	↑
Guam 2009 Rate	6.7 cases / 100,000 persons
Goal	Among females, 1.4 new cases of primary and secondary syphilis per 100,000 population Among males, 6.8 new cases of primary and secondary syphilis per 100,000 population 9.1 new cases of congenital syphilis per 100,000 live births
5-Year Target	

Guam's rate is not categorized by male versus female, and so it is hard to tell if it is on par with the goals established in the Healthy People 2020 plan. Based on the average of the past decade, both male and female cases are most likely above the 2020 goal; however, the 2009 rate may be within the goals. The sporadic nature of Guam's annual rates makes it hard to predict future years.

Table 9-15. Average Syphilis Morbidity Rates, 1999-2008

	Guam	US	Hawaii	Puerto Rico
Average Rate (cases per 100,000 persons)	12.1	12.4	3.83	31.6
Trend	↑	↑	↑	↓

Figure 9-11. Syphilis Morbidity Rates, 1999-2009



Source: CDC, Morbidity and Mortality Weekly Report, Annual Summary of Notifiable Diseases for the United States, 1999 – 2008
DPHSS Office of Epidemiology and Research, "Annual Summary of Notifiable Diseases – Guam – 2009"



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Communicable
Diseases

Shigellosis

Where do we Stand? Evaluating Trends

Current Trends

As shown in Table 9-16 and Figure 9-12, Guam's shigellosis morbidity rates have been much higher than the US, Hawaii, and Puerto Rico for the years between 1999 and 2008. The years 2000 through 2004 saw rates more than double what the other years had, which resulted in a downwards trend for the timeframe. However, because of this, Guam's average rate of 19.7 cases per 100,000 persons was almost three times higher than the US, almost five times higher than Hawaii, and almost 20 times higher than Puerto Rico.

Moving Forward

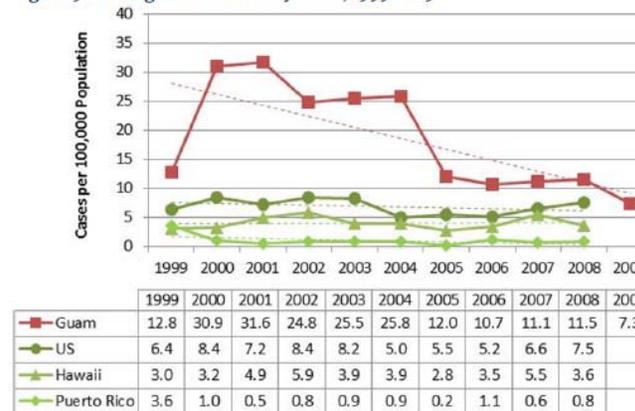
Guam Average	19.7 cases / 100,000 persons
Trending	↓
Guam 2009 Rate	7.3 cases / 100,000 persons
Goal	No goal established
5-Year Target	5.0 cases / 100,000 persons

Although the average rate of shigellosis on Guam was almost four times higher than the 5-year target established in this Plan, the rate has declined in the past several years and is continuing in a downwards trend. If this path is kept up, the 5-year target may be reached. The Healthy People 2020 plan did not establish a goal for shigellosis rates.

Table 9-16. Average Shigellosis Morbidity Rates, 1999-2008

	Guam	US	Hawaii	Puerto Rico
Average Rate (cases per 100,000 persons)	19.7	6.8	4.0	1.0
Trend	↓	↓	↔	↓

Figure 9-12. Shigellosis Morbidity Rates, 1999-2009



Source: CDC, Morbidity and Mortality Weekly Report, Annual Summary of Notifiable Diseases for the United States, 1999 – 2008
DPHSS Office of Epidemiology and Research, "Annual Summary of Notifiable Diseases – Guam – 2009"



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Communicable
Diseases

Tuberculosis

Where do we Stand? Evaluating Trends

Current Trends

Guam's tuberculosis rates are significantly greater than the rates of the US, Hawaii, and Puerto Rico. Table 9-17 and Figure 9-13 show that the US, Hawaii, and Puerto Rico had stable rates from year to year, while Guam had a good amount of variability, resulting in an upwards trend. Guam's average rate of 41.4 cases per 100,000 persons was almost four times greater than Hawaii's average, almost four times greater than the US, and more than 12 times greater than Puerto Rico's, all three of which were trending downwards.

Moving Forward

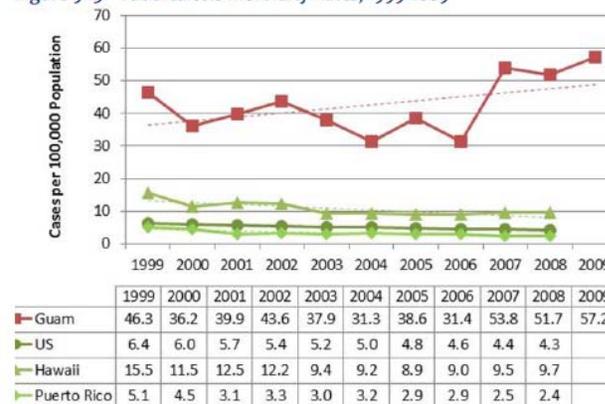
Guam Average	41.4 cases / 100,000 persons
Trending	↑
Guam 2009 Rate	57.2 cases / 100,000 persons
Goal	1 new case per 100,000 persons
5-Year Target	8.0 cases / per 100,000 persons

The Healthy People 2020 plan established a goal of one new TB case per 100,000 persons, which is vastly lower than Guam's average and current rates. Guam has continued an upwards trend in TB cases and is not likely to reach this goal by 2020.

Table 9-17. Average Tuberculosis Morbidity Rates, 1999-2008

	Guam	US	Hawaii	Puerto Rico
Average Rate (cases per 100,000 persons)	41.4	5.2	10.7	3.3
Trend	↑	↓	↓	↓

Figure 9-13. Tuberculosis Morbidity Rates, 1999-2009



Source: CDC, Morbidity and Mortality Weekly Report, Annual Summary of Notifiable Diseases for the United States, 1999 – 2008
DPHSS Office of Epidemiology and Research, "Annual Summary of Notifiable Diseases – Guam – 2009"



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Communicable
Diseases

Chickenpox

Where do we Stand? Evaluating Trends

Current Trends

Guam has exhibited a large change in chickenpox morbidity rates between 1999 and 2008, seeing both dramatic increases and decreases over the years. Hawaii's rate was hardly noticeable and the US rate was consistently low. Puerto Rico's rates began declining in 2000 and tapered off at a steady level by 2003. Although Guam's rate has been declining the past decade, it had two peak years in 2000 and 2005. Guam's average of 132.2 cases per 100,000 persons was three times greater than Puerto Rico's almost 12 times greater than the US, and almost 147 times greater than Hawaii's.

Moving Forward

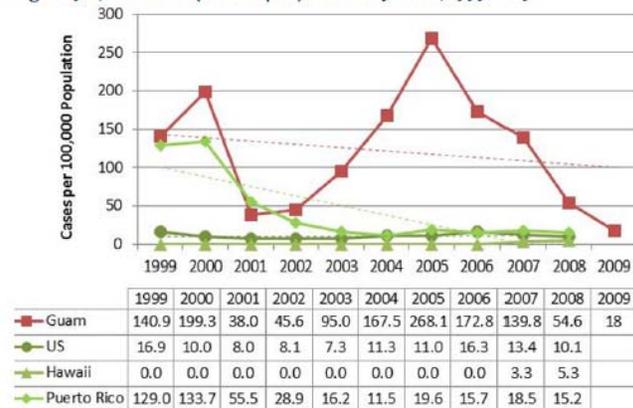
Guam Average	132.2 cases / 100,000 persons
Trending	↓
Guam 2009 Rate	18.0 cases / 100,000 persons
Goal	Less than 1.0 cases / 100,000 persons
5-Year Target	5.0 cases / 100,000 persons

The Healthy People 2020 plan goal for chickenpox is less than one case per 100,000 persons. Guam is nowhere near achieving this goal, but has seen a steep decline in cases in recent years, and depending on vaccination levels and other measures taken, could possibly come close to this goal by 2020.

Table 9-18. Average Varicella (Chickenpox) Morbidity Rates, 1999-2008

	Guam	US	Hawaii	Puerto Rico
Average Rate (cases per 100,000 persons)	132.2	11.2	0.9	44.4
Trend	↓	↔	↑	↔

Figure 9-14. Varicella (Chickenpox) Morbidity Rates, 1999-2009



Source: CDC, Morbidity and Mortality Weekly Report, Annual Summary of Notifiable Diseases for the United States, 1999 - 2008
DPHSS Office of Epidemiology and Research, "Annual Summary of Notifiable Diseases - Guam - 2009"



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Non-Communicable Diseases

All Cancers - Incidence

Where do we Stand? Evaluating Trends

Current Trends

Table 10-2 and Figure 10-1 indicate that Guam's rate of incidence of all cancer types has been less than half that of Hawaii and US between 1999 and 2007. Guam has remained under 200 cases per 100,000 people for the past decade. The rate has remained relatively constant for most of the decade, with a slight upward trend for all years. There was a decline in 2000, also experienced by Hawaii, and another downward trending in 2009. Data was not available for Hawaii and the US to make a similar comparison for this year.

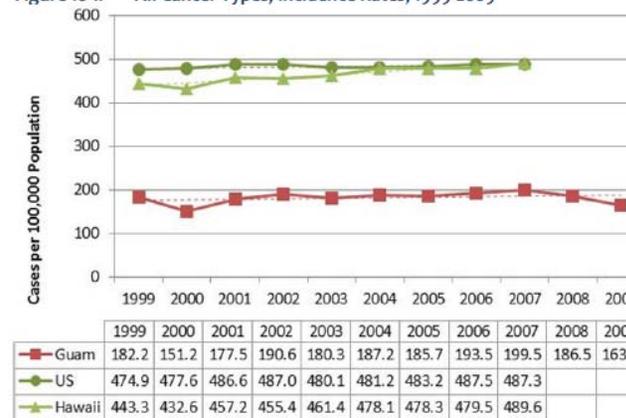
Moving Forward

Guam Average	183.1 cases / 100,000 persons
Trending	↑
Guam 2009 Rate	163.8 cases / 100,000 persons
Goal	N/A
5-Year Target	150.0 cases / 100,000 persons

Table 10-2. Average Incidence Rates of All Cancers, 1999-2007

	Guam	US	Hawaii	Puerto Rico
Average Rate (cases per 100,000 persons)	183.1	482.8	463.9	-
Trend	↑	↑	↑	-

Figure 10-1. All Cancer Types, Incidence Rates, 1999-2009



Source: CDC National Program of Cancer Registries (NPCR) United States Cancer Statistics (USCS) <http://apps.nccd.cdc.gov/uscs/>; University of Guam Cancer Research Center, 1999-2009



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Non-Communicable Diseases

All Cancers - Mortality

Where do we Stand? Evaluating Trends

Current Trends

Similar to the incidence rates, Table 10-3 and Figure 10-2 show that the rates of mortality for all cancers on Guam were much lower than the rates for Hawaii and the US. For every year except 2002, Guam's rate was less than 100 deaths per 100,000 people and the average for the years 1999 to 2007 was slightly less than half of the US rate. Rates on Guam varied somewhat from year to year, but have been trending downwards for the past decade.

Moving Forward

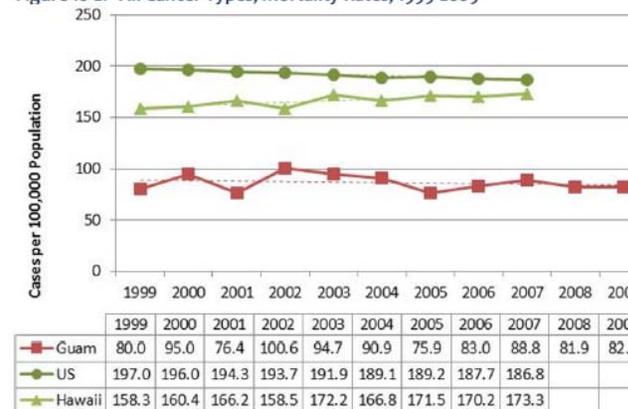
Guam Average	87.3 deaths / 100,000 persons
Trending	↓
Guam 2009 Rate	82.5 deaths / 100,000 persons
Goal	160.6 deaths / 100,000 persons
5-Year Target	75.0 deaths / 100,000 persons

In comparison to the goals established in the Healthy People 2020 plan, Guam has historically maintained a rate that is a little more than half of the goal that has been established, and the rate continues to trend downwards.

Table 10-3. Average Mortality Rates for All Cancers, 1999-2007

	Guam	US	Hawaii	Puerto Rico
Average Rate (deaths per 100,000 persons)	87.3	191.7	166.4	-
Trend	↓	↓	↑	-

Figure 10-2. All Cancer Types, Mortality Rates, 1999-2009



Source: CDC National Program of Cancer Registries (NPCR) United States Cancer Statistics (USCS) <http://apps.nccd.cdc.gov/uscs/>; University of Guam Cancer Research Center, 1999-2009



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Non-Communicable Diseases

Colorectal Cancer - Incidence

Where do we Stand? Evaluating Trends

Current Trends

As shown on Table 10-4 and Figure 10-3, the incidence rates of colorectal cancer on Guam have been equal to less than half the rates of Hawaii and the US between the years 1999 to 2007, with an average of around 20 cases per 100,000 people. All three geographies have been trending downwards, with the other two slightly more than Guam. The rates on Guam have not been consistent from year to year, as they appear to fluctuate up and down every few years.

Moving Forward

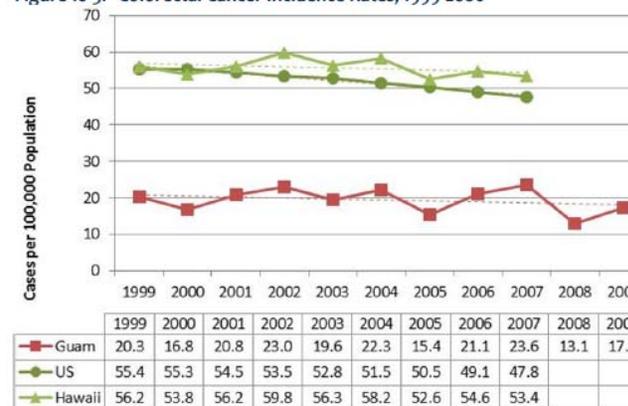
Guam Average	20.3 cases / 100,000 persons
Trending	↓
Guam 2009 Rate	17.4 cases / 100,000 persons
Goal	38.6 new invasive colorectal cancer cases / 100,000 persons
5-Year Target	17.0 cases / 100,000 persons

In comparison to the goals established in the Healthy People 2020 plan, Guam has historically maintained a rate that is a little more than half of the goal that has been established, and the rate continues to trend downwards.

Table 10-4. Average Colorectal Cancer, Incidence Rates, 1999-2007

	Guam	US	Hawaii	Puerto Rico
Average Rate (cases per 100,000 persons)	20.3	52.3	55.7	-
Trend	↓	↓	↓	-

Figure 10-3. Colorectal Cancer Incidence Rates, 1999-2006



Source: CDC National Program of Cancer Registries (NPCR) United States Cancer Statistics (USCS) <http://apps.nccd.cdc.gov/uscs/>; University of Guam Cancer Research Center, 1999-2009



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Non-Communicable Diseases

Colorectal Cancer - Mortality

Where do we Stand? Evaluating Trends

Current Trends

Although the rates of colorectal mortality on Guam were closer to those of Hawaii and the US, they were still lower than each of these other two geographies. Table 10-5 and Figure 10-4 indicate that rates of mortality on Guam are trending upwards, but the average rate for the years 1999 to 2007 was 9.5 deaths per 100,000 people, half of the rate of the US, which is trending downwards.

Moving Forward

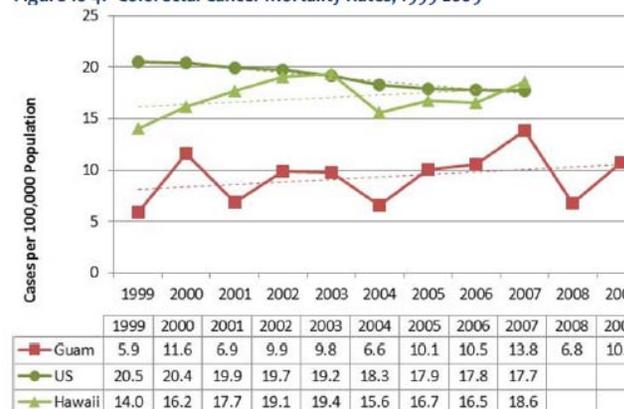
Guam Average	9.5 deaths / 100,000 persons
Trending	↑
Guam 2009 Rate	10.7 deaths / 100,000 persons
Goal	Colorectal cancer – 14.5 deaths / 100,000 persons
5-Year Target	10.0 deaths / 100,000 persons

Guam has maintained an average rate over the past decade that is around 2/3 of the goal established within the Healthy People 2020 plan; however, the rate of death has been trending upwards for the past decade.

Table 10-5. Average Colorectal Cancer, Mortality Rates, 1999-2007

	Guam	US	Hawaii	Puerto Rico
Average Rate (deaths per 100,000 persons)	9.5	19.0	17.1	-
Trend	↑	↓	↑	-

Figure 10-4. Colorectal Cancer Mortality Rates, 1999-2009



Source: CDC National Program of Cancer Registries (NPCR) United States Cancer Statistics (USCS) <http://apps.nccd.cdc.gov/uscs/>; University of Guam Cancer Research Center, 1999-2009



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Non-Communicable Diseases

Female Breast Cancer - Incidence

Where do we Stand? Evaluating Trends

Current Trends

Table 10-6 and Figure 10-5 indicate that Guam has a significantly lower incidence rate of breast cancer as compared to Hawaii and the US. Compared to Hawaii and the US, Guam, with an average of 52.3 cases per 100,000 females has had rates less than half those of the other two geographies. For the most part, incidence rates on Guam have been between 40 to 60 cases per 100,000 females and have been trending downwards for the past decade. The lowest rate was seen in 2009.

Moving Forward

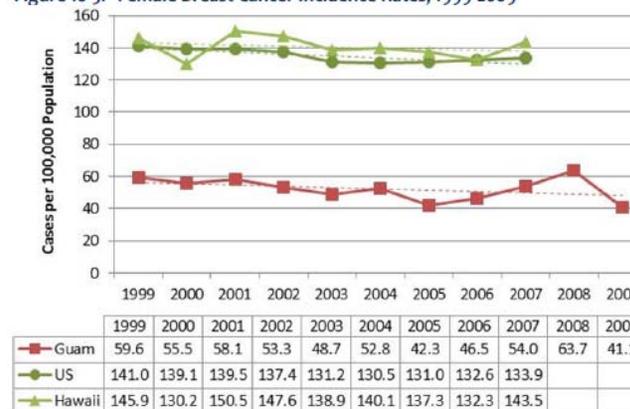
Guam Average	52.3 cases / 100,000 females
Trending	↓
Guam 2009 Rate	41.1 cases / 100,000 females
Goal	41 new cases of late stage female breast cancer / 100,000 females
5-Year Target	

Historically, average rate was around 25% higher than the Healthy People 2020 plan, but continues to trend downwards. In 2009, Guam's rate was almost equal to the Healthy People 2020 goal.

Table 10-6. Average Female Breast Cancer Incidence Rates, 1999-2007

	Guam	US	Hawaii	Puerto Rico
Average Rate (cases per 100,000 persons)	52.3	135.1	140.7	-
Trend	↓	↓	↓	-

Figure 10-5. Female Breast Cancer Incidence Rates, 1999-2009



Source: CDC National Program of Cancer Registries (NPCR) United States Cancer Statistics (USCS) <http://apps.nccd.cdc.gov/uscs/>; University of Guam Cancer Research Center, 1999-2009



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Non-Communicable Diseases

Female Breast Cancer - Mortality

Where do we Stand? Evaluating Trends

Current Trends

Similar to the incidence rate for breast cancer, the mortality rates on Guam have been lower than Hawaii and the US between the years 1999 to 2007. Guam's average rate of 13.8 deaths per 100,000 females was about half that of the US rate and about 35% lower than Hawaii's rate. The mortality rate has been trending downwards on Guam, as well as the US, whereas it has been trending upwards in Hawaii.

Moving Forward

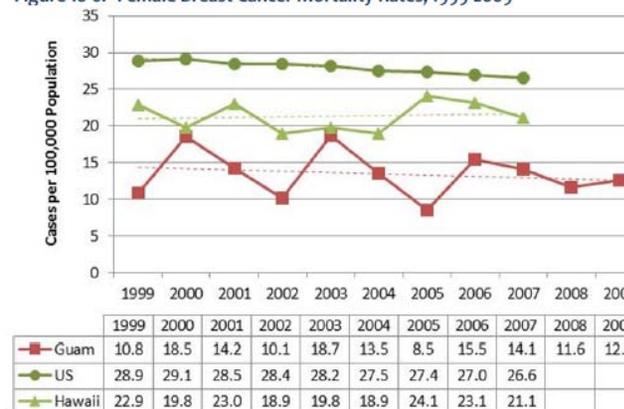
Guam Average	13.8 deaths / 100,000 females
Trending	↓
Guam 2009 Rate	12.6 deaths / 100,000 females
Goal	20.6 deaths / 100,000 females
5-Year Target	

Compared to the goal established for breast cancer deaths within the Healthy People 2020 plan, Guam's rate over the past decade has been equal to around 2/3, and continues to trend downwards.

Table 10-7. Average Female Breast Cancer Mortality Rates, 1999-2007

	Guam	US	Hawaii	Puerto Rico
Average Rate (deaths per 100,000 persons)	13.8	28.0	21.3	-
Trend	↓	↓	↑	-

Figure 10-6. Female Breast Cancer Mortality Rates, 1999-2009



Source: CDC National Program of Cancer Registries (NPCR) United States Cancer Statistics (USCS) <http://apps.nccd.cdc.gov/uscs/>; University of Guam Cancer Research Center, 1999-2009



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Non-Communicable Diseases

Leukemia - Incidence

Where do we Stand? Evaluating Trends

Current Trends

As shown on Table 10-8 and Figure 10-7, the incidence rates for leukemia on Guam were lower than both the US and Hawaii. The variation in rates for Guam has been much more sporadic than for Hawaii and the US, but in general all three geographies have been trending downwards. Guam's average rate of 4.8 cases per 100,000 people between 1999 and 2007 was less than half that of Hawaii and the US, and in 2009 saw a significant decline in the incidence rate.

Moving Forward

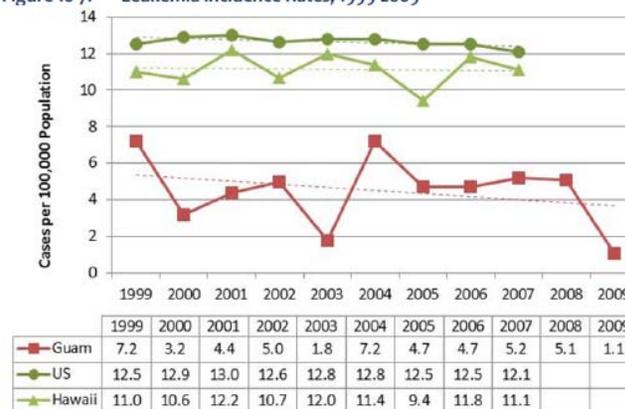
Guam Average	4.8 cases / 100,000 persons
Trending	↓
Guam 2009 Rate	1.1 cases / 100,000 persons
Goal	N/A
5-Year Target	1.0 cases / 100,000 persons

Although Guam's average rate of leukemia incidence over the past decade has been almost five times greater than the 5-year target established within this Plan, the rate continues to trend downwards. The rate in 2009 was almost equal to the 5-year target. The Healthy People 2020 plan did not identify a goal for leukemia incidence rates.

Table 10-8. Average Leukemia Incidence Rates, 1999-2007

	Guam	US	Hawaii	Puerto Rico
Average Rate (cases per 100,000 persons)	4.8	12.6	11.1	-
Trend	↓	↓	↓	-

Figure 10-7. Leukemia Incidence Rates, 1999-2009



Source: CDC National Program of Cancer Registries (NPCR) United States Cancer Statistics (USCS) <http://apps.nccd.cdc.gov/uscs/>; University of Guam Cancer Research Center, 1999-2009



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Non-Communicable Diseases

Leukemia - Mortality

Where do we Stand? Evaluating Trends

Current Trends

As Table 10-9 and Figure 10-8 show, for the most part, Guam has had a lower rate of mortality from leukemia than Hawaii and the US. In 1999, Guam had a higher rate than Hawaii, but it dropped the following year and remained lower than Hawaii for the remaining years. The mortality rate on Guam has fluctuated much more than Hawaii or the US between the years of 1999 to 2007, but in general, all three were trending downwards. Of the three, Guam's downward trend was much more rapid than the other two. Guam's nine-year average of 3.0 deaths per 100,000 people was less than half of the US rate, and a little more than half of Hawaii's rate.

Moving Forward

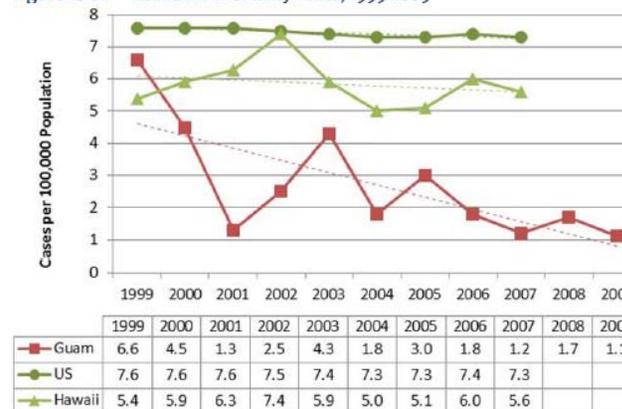
Guam Average	3.0 deaths / 100,000 persons
Trending	↓
Guam 2009 Rate	1.1 deaths / 100,000 persons
Goal	N/A
5-Year Target	1.0 deaths / 100,000 persons

Although Guam's average rate of leukemia mortality over the past decade has been three times greater than the 5-year target established within this Plan, the rate continues to trend downwards. The rate in 2009 was almost equal to the 5-year target. The Healthy People 2020 plan did not identify a goal for leukemia mortality rates.

Table 10-9. Average Leukemia Mortality Rates, 1999-2007

	Guam	US	Hawaii	Puerto Rico
Average Rate (deaths per 100,000 person)	3.0	7.4	5.8	-
Trend	↓	↓	↓	-

Figure 10-8. Leukemia Mortality Rates, 1999-2009



Source: CDC National Program of Cancer Registries (NPCR) United States Cancer Statistics (USCS) <http://apps.nccd.cdc.gov/uscs/>; University of Guam Cancer Research Center, 1999-2009



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Non-Communicable Diseases

Lung and Bronchus Cancer - Incidence

Where do we Stand? Evaluating Trends

Current Trends

Lung cancer is one of the more common cancers on Guam. Table 10-10 and Figure 10-9 show that Guam had much lower incidence rates for lung and bronchus cancer than Hawaii and the US. Rates on Guam have fluctuated up and down more than in Hawaii and the US (the US rate was nearly the same each year); however, the average rate of 30.3 cases per 100,000 people on Guam was less than half the US rate, and a little more than half the rate in Hawaii. From 1999 to 2009, Guam's trendline remained stable, not trending up or down, similar to the US, while Hawaii trended upwards.

Moving Forward

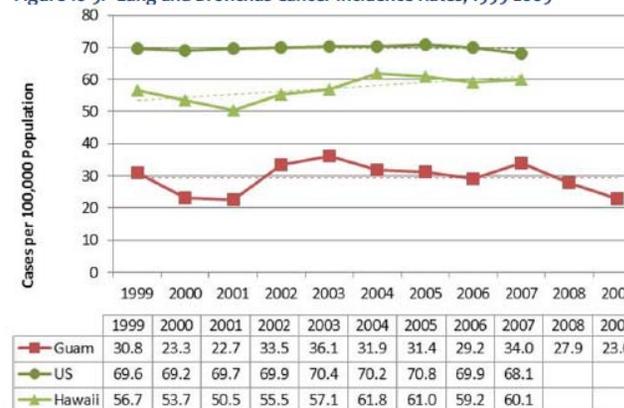
Guam Average	30.3 cases / 100,000 persons
Trending	↔
Guam 2009 Rate	23.0 cases / 100,000 persons
Goal	N/A
5-Year Target	20.0 cases / 100,000 persons

Guam's average rate for the past decade was 50% greater than the 5-year target established within this Plan. The rates do not appear to trend up or down for the past decade; however, the 2009 rate was only slightly greater than the 5-year target. The Healthy People 2020 plan did not identify a goal for lung and bronchus cancer incidence rates.

Table 10-10. Average Lung and Bronchus Cancer Incidence Rates, 1999-2007

	Guam	US	Hawaii	Puerto Rico
Average Rate (cases per 100,000 persons)	30.3	69.8	57.3	-
Trend	↔	↔	↑	-

Figure 10-9. Lung and Bronchus Cancer Incidence Rates, 1999-2009



Source: CDC National Program of Cancer Registries (NPCR) United States Cancer Statistics (USCS) <http://apps.nccdc.cdc.gov/uscs/>; University of Guam Cancer Research Center, 1999-2009



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Non-Communicable Diseases

Lung and Bronchus Cancer - Mortality

Where do we Stand? Evaluating Trends

Current Trends

Guam's mortality rate for lung and bronchus cancer has been noticeably lower than Hawaii and the US, as can be seen in Table 10-11 and Figure 10-10. The average rate of 23.5 deaths per 100,000 people from 1999 to 2007 is less than half the US rate, and a little more than half of Hawaii's rate. Rates on Guam have fluctuated up and down more than the other two geographies, but started to become more linear starting in 2005. While the US rate has a slight downwards trend and Hawaii has an upwards trend, Guam exhibited a hardly-noticeable upwards trend.

Moving Forward

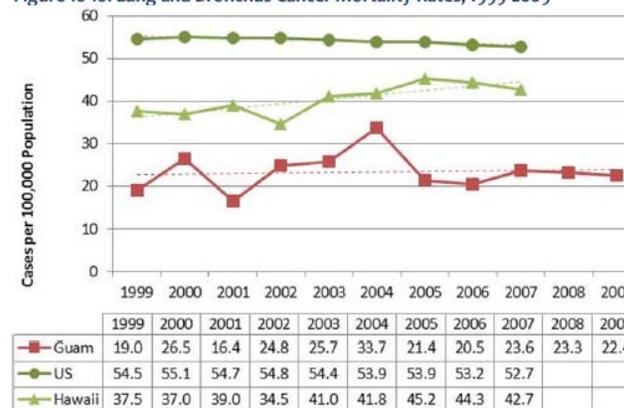
Guam Average	23.5 deaths / 100,000 persons
Trending	↑
Guam 2009 Rate	22.4 deaths / 100,000 persons
Goal	45.5 deaths / 100,000 persons
5-Year Target	20.0 deaths / 100,000 persons

In comparison to the goals established in the Healthy People 2020 plan, Guam has historically had an average rate of around half the plan's goal rate. Although Guam's rate has been trending upwards slightly, it is not significant enough to go off-course from the goal rate if it continues at its current trend level. The Healthy People 2020 plan did not identify a goal for lung and bronchus cancer mortality rates.

Table 10-11. Average Lung and Bronchus Cancer Mortality Rates, 1999-2007

	Guam	US	Hawaii	Puerto Rico
Average Rate (deaths per 100,000 persons)	23.5	54.1	40.3	-
Trend	↑	↓	↑	-

Figure 10-10. Lung and Bronchus Cancer Mortality Rates, 1999-2009



Source: CDC National Program of Cancer Registries (NPCR) United States Cancer Statistics (USCS) <http://apps.nccd.cdc.gov/uscs/>; University of Guam Cancer Research Center, 1999-2009



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Non-Communicable Diseases

Non-Hodgkin's Lymphoma - Incidence

Where do we Stand? Evaluating Trends

Current Trends

Table 10-12 and Figure 10-11 illustrate that Guam has a much lower rate of non-Hodgkin's lymphoma than Hawaii and the US. Between 1999 and 2007, Guam's average rate of 6.3 cases per 100,000 people was less than 1/3 the US rate and a little more than 1/3 Hawaii's rate. Guam showed the largest variation in rates from year to year, and although all three geographies were trending upwards, Guam's trend appears to be the most rapid increase.

Moving Forward

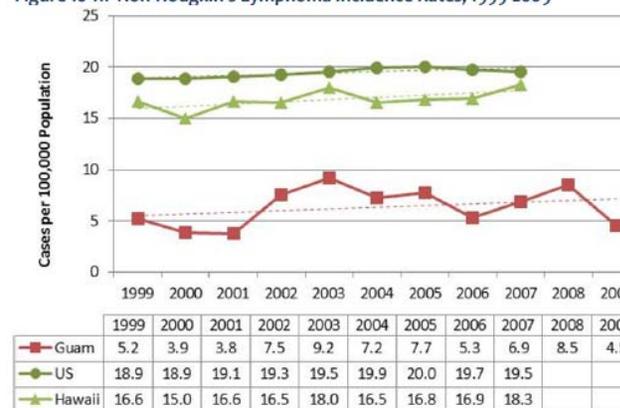
Guam Average	6.3 cases / 100,000 persons
Trending	↑
Guam 2009 Rate	4.5 cases / 100,000 persons
Goal	N/A
5-Year Target	4.0 cases / 100,000 persons

Guam's average rate for the past decade was a little more than 50% greater than the 5-year target established within this Plan. The rate for the past decade has been trending upwards; however, the 2009 rate was only slightly greater than the 5-year target. The Healthy People 2020 plan did not identify a goal for non-Hodgkin's lymphoma incidence rates.

Table 10-12. Average Non-Hodgkin's Lymphoma Incidence Rates, 1999-2007

	Guam	US	Hawaii	Puerto Rico
Average Rate (cases per 100,000 persons)	6.3	19.4	16.8	-
Trend	↑	↑	↑	-

Figure 10-11. Non-Hodgkin's Lymphoma Incidence Rates, 1999-2009



Source: CDC National Program of Cancer Registries (NPCR) United States Cancer Statistics (USCS) <http://apps.nccd.cdc.gov/uscs/>; University of Guam Cancer Research Center, 1999-2009



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Non-Communicable Diseases

Non-Hodgkin's Lymphoma - Mortality

Where do we Stand? Evaluating Trends

Current Trends

Similar to the incidence rates, Guam's mortality rate for non-Hodgkin's lymphoma is much lower than the rates of Hawaii and the US. However, as Table 10-13 and Figure 10-12 indicate, Guam is the only one of these three geographies that is trending upwards, although the trendline is increasing at a barely noticeable rate. The variation in rates on Guam was generally up and down from year to year, which is a big difference from the gradual annual decline shown by the US. However, Guam's average rate of 2.5 per 100,000 people from 1999 to 2007 was around 1/3 the US rate, and a little more than 1/3 Hawaii's rate.

Moving Forward

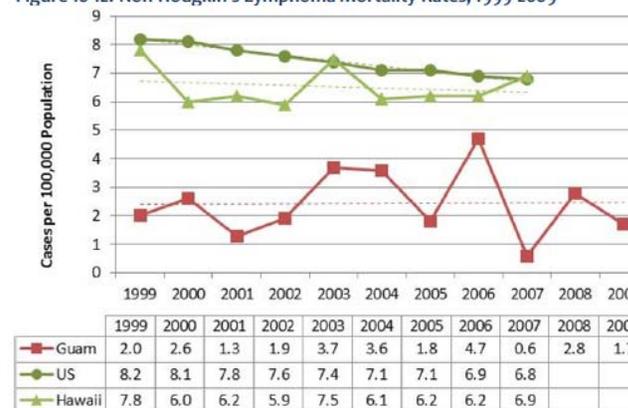
Guam Average	2.5 deaths / 100,000 persons
Trending	↑
Guam 2009 Rate	1.7 deaths / 100,000 persons
Goal	N/A
5-Year Target	2.0 deaths / 100,000 persons

The average rate for non-Hodgkin's lymphoma deaths over the past decade has been 25% greater than the 5-year target established within this plan, and has been trending slightly upwards. However, the 2009 rate was below the 5-year target. The Healthy People 2020 plan did not identify a goal for non-Hodgkin's lymphoma mortality rates.

Table 10-13. Average Non-Hodgkin's Lymphoma Mortality Rates, 1999-2007

	Guam	US	Hawaii	Puerto Rico
Average Rate (deaths per 100,000 persons)	2.5	7.4	6.5	-
Trend	↑	↓	↓	-

Figure 10-12. Non-Hodgkin's Lymphoma Mortality Rates, 1999-2009



Source: CDC National Program of Cancer Registries (NPCR) United States Cancer Statistics (USCS) <http://apps.nccd.cdc.gov/uscs/>; University of Guam Cancer Research Center, 1999-2009



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Non-Communicable Diseases
Diabetes

Where do we Stand? Evaluating Trends

Current Trends

There was a limited amount of comparable data for Guam regarding the number of deaths due to diabetes, and so the data in Table 10-15 and Figure 10-13 is based only on the years that data was available for Guam (1999, 2000, and 2004-2007). For the most part, Guam had a greater rate than the US (except for 2000 in which they were approximately the same), and a greater rate than Hawaii. For the total time period, Guam had a much lower average rate than Puerto Rico. Guam is shown to be trending upwards, as well as Hawaii, while the other two geographies are trending downwards.

Moving Forward

Guam Average	33.6 deaths / 100,000 persons
Trending	↑
Guam 2007 Rate	44.0 deaths / 100,000 persons
Goal	65.8 deaths / 100,000 persons
5-Year Target	25.0 deaths / 100,000 persons

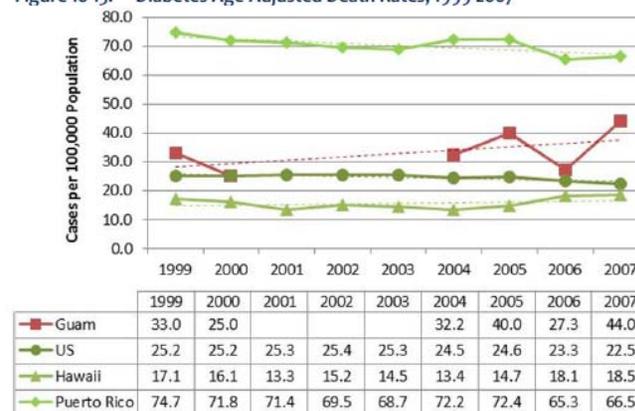
Based on the years that data was available for, Guam's average rate is well below the goal for diabetes deaths set forth in the Health People 2020 plan. Although the rate is trending upwards, the 2007 rate was only around 2/3 of the goal rate.

Table 10-15. Average Diabetes Age-Adjusted Death Rates, 1999 to 2007

	Guam	US	Hawaii	Puerto Rico
Average Rate (deaths per 100,000 persons)	33.6	24.6	15.7	70.3
Trend	↑	↓	↑	↓

Note: Guam's average is based on 1999, 2000, 2004, 2005, 2006, 2007 data. Data is not available for 2001, 2002, 2003.

Figure 10-13. Diabetes Age-Adjusted Death Rates, 1999-2007



Source: CDC National Vital Statistics Reports, Deaths: Final Data for 1999-2007



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Non-Communicable Diseases
Heart Disease

Where do we Stand? Evaluating Trends

Current Trends

Table 10-18 and Figure 10-15 show that Guam typically has higher rates of death due to heart disease as compared to Hawaii, Puerto Rico, and the US. Guam had higher rates than Hawaii and Puerto Rico for all the years between 1999 and 2007, and a higher rate than the US for most of the years, except for 2000 when it was almost 50 deaths per 100,000 less, and in 1999 and 2006 when they were almost equivalent. While Hawaii, Puerto Rico, and the US have all gradually declined in mostly linear trends, Guam has also experienced a downwards trend in cases, but it has not been linear year by year. Of the four geographies, Guam had the highest average rate, which was 237.2 deaths per 100,000 people.

Moving Forward

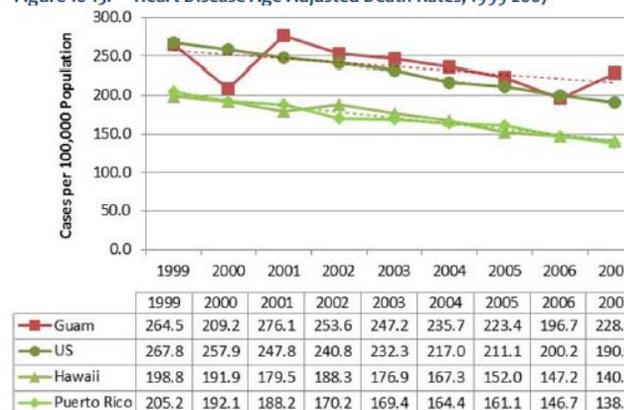
Guam Average	237.2 deaths / 100,000 persons
Trending	↓
Guam 2007 Rate	228.4 deaths / 100,000 persons
Goal	100.8 coronary heart disease deaths / 100,000 persons
5-Year Target	100.0 deaths / 100,000 persons

Guam's historic rate of heart disease deaths has been more than double the goal set forth in the Healthy People 2020 plan. The rate is trending downwards; however, at its current rate of decline, it will not reach the goal by the year 2020.

Table 10-18. Average Heart Disease Age-Adjusted Death Rates, 1999 to 2007

	Guam	US	Hawaii	Puerto Rico
Average Rate (deaths per 100,000 persons)	237.2	229.5	171.3	170.6
Trend	↓	↓	↓	↓

Figure 10-15. Heart Disease Age-Adjusted Death Rates, 1999-2007



Source: CDC National Vital Statistics Reports, Deaths: Final Data for 1999-2007



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Non-Communicable Diseases

Stroke

Where do we Stand? Evaluating Trends

Current Trends

As shown on Table 10-19 and Figure 10-16, Guam has experienced higher rates of death cause by strokes than Hawaii, Puerto Rico, and the US. Each of the other three geographies have had roughly steady declines in rates between the years of 1999 to 2007. Guam, on the other hand, has had fluctuating rates from year to year, going up and down almost every other year. This fluctuation resulted in an anomaly in 2004 when Guam had the lowest rate of the four geographies. Guam's average rate of 67.8 deaths per 100,000 persons was around 25% higher than Hawaii and the US, and a little less than 50% higher than Puerto Rico

Moving Forward

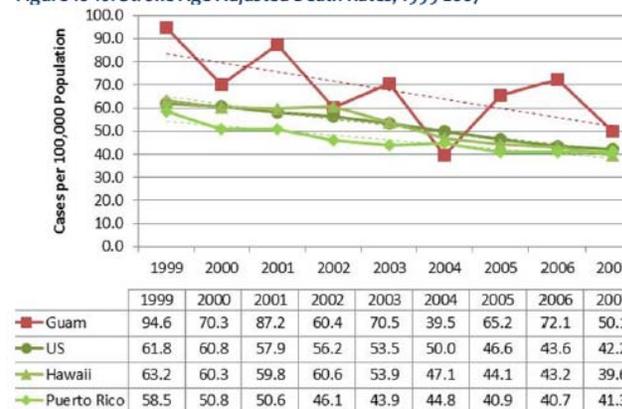
Guam Average	67.8 deaths / 100,000 persons
Trending	↓
Guam 2007 Rate	50.1 deaths / 100,000 persons
Goal	33.8 deaths / 100,000 persons
5-Year Target	33.8 deaths / 100,000 persons

Guam's average rate of deaths from strokes was approximately twice the goal set forth in the Healthy People 2020 plan. However, it has been declining over the years and if it continues along its current downward trend, it may reach the goal by the year 2020.

Table 10-19. Average Stroke Age-Adjusted Death Rates, 1999 to 2007

	Guam	US	Hawaii	Puerto Rico
Average Rate (deaths per 100,000 persons)	67.8	52.5	52.4	46.4
Trend	↓	↓	↓	↓

Figure 10-16. Stroke Age-Adjusted Death Rates, 1999-2007



Source: CDC National Vital Statistics Reports, Deaths: Final Data for 1999-2007



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Non-Communicable Diseases

Chronic Respiratory Disease

Where do we Stand? Evaluating Trends

Current Trends

Limited data was available for the rates of death on Guam comparable to Hawaii, Puerto Rico, and the US. The years in which data was not available (2003 and 2006) are not included in the calculations to determine trendlines and the average rate. Table 10-20 and Figure 10-17 show that all four geographies are trending downwards. However, Guam's downward trend is sporadic over the years, while the other three geographies are generally steady and consistent declines. Guam's average rate of 32.2 deaths per 100,000 persons was greater than Hawaii's, but less than Puerto Rico and the US.

Moving Forward

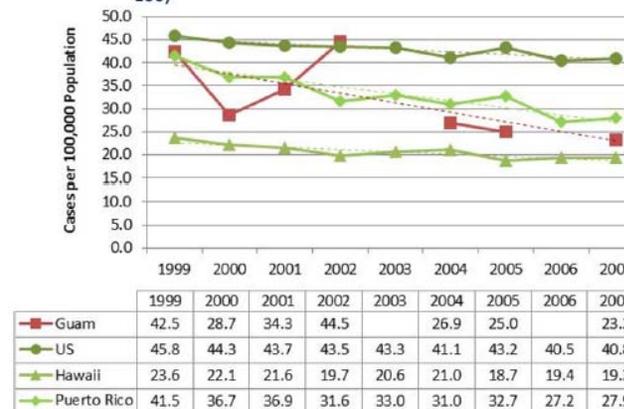
Guam Average	32.2 deaths / 100,000 persons
Trending	↓
Guam 2007 Rate	23.2 deaths / 100,000 persons
Goal	98.5 COPD deaths among adults / 100,000 persons 0.6 asthma deaths for people age 35 to 64 years old / 100,000 persons 2.3 asthma deaths for people over age 65 years old / 100,000 persons
5-Year Target	

The available data on chronic respiratory disease deaths was not broken down by the type of disease. Therefore, no distinction can be made regarding whether the deaths were from asthma, COPD, or another respiratory disease in order to determine the possibility of meeting the goals set forth in the Health People 2020 plan.

Table 10-20. Average Chronic Respiratory Disease Age-Adjusted Death Rates, 1999 to 2007

	Guam	US	Hawaii	Puerto Rico
Average Rate (deaths per 100,000 persons)	32.2	42.9	20.7	33.2
Trend	↓	↓	↓	↓

Figure 10-17. Chronic Respiratory Disease Age-Adjusted Death Rates, 1999-2007



Source: CDC National Vital Statistics Reports, Deaths: Final Data for 1999-2007



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Non-Communicable Diseases

Liver Disease

Where do we Stand? Evaluating Trends

Current Trends

Insufficient data was available for liver disease death rates on Guam to be able to make a determination of trends or an average rate that would be comparable to Hawaii, Puerto Rico, and the US. Table 10-21 and Figure 10-18 illustrate the available data.

Moving Forward

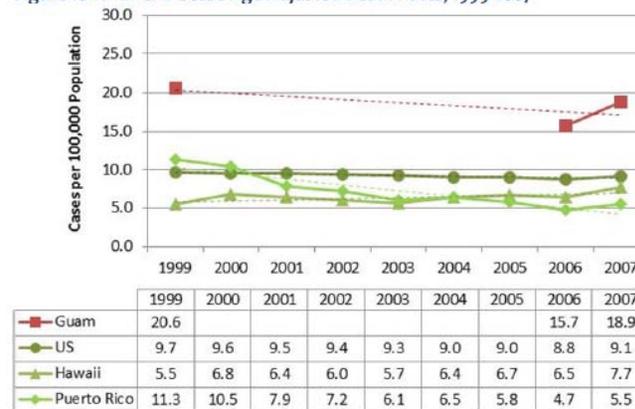
Guam Average	18.4 deaths / 100,000 persons
Trending	↓
Guam 2007 Rate	18.9 deaths / 100,000 persons
Goal	N/A
5-Year Target	10.0 deaths / 100,000 persons

Insufficient data was available for liver disease death rates on Guam to be able to make a determination as to possible future trends of the disease.

Table 10-21. Average Liver Disease Age-Adjusted Death Rates, 1999 to 2007

	Guam	US	Hawaii	Puerto Rico
Average Rate (deaths per 100,000 persons)	18.4	9.3	6.4	7.3
Trend	↓	↓	↑	↓

Figure 10-18. Liver Disease Age-Adjusted Death Rates, 1999-2007



Source: CDC National Vital Statistics Reports, Deaths: Final Data for 1999-2007



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Behavioral
Health

Suicide Rates

Where do we Stand? Evaluating Trends

Current Trends

As shown on Table 12-2 and Figure 12-1 for much of the past decade suicide rates on Guam have remained high as compared to other geographic areas. These rates have alternated from comparatively very high (rates of 18.7 deaths per 100,000 people) to not as high (9.6 deaths per 100,000 people). Between 2006 and 2007 suicide rates were rising as suicide trends in the US, Puerto Rico and Hawaii remained more static.

Moving Forward

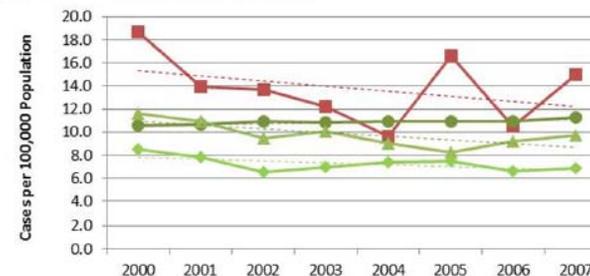
Guam Average	13.8 deaths / 100,000 persons
Trending	↓
Guam 2009 Rate	15.0 deaths / 100,000 persons
Goal	10.2 deaths / 100,000 persons
5-Year Target	

The sustained rate of 15 suicides per 100,000 persons from 2007 through 2009 is noticeably greater than the goals established in the Healthy People 2020 plan. The average suicide rate is closer to the goal, but is still greater than the goal; however, rates have been trending downwards in recent years.

Table 12-2. Average Rates of Suicide per 100,000 People, 1999-2007

	Guam	US	Hawaii	Puerto Rico
Average Rate (deaths per 100,000 persons)	13.8	10.9	9.8	7.3
Trend	↓	↑	↓	↓

Figure 12-1. Suicide Rates, 1999-2007



	2000	2001	2002	2003	2004	2005	2006	2007
Guam	18.7	13.9	13.7	12.2	9.6	16.6	10.5	15.0
US	10.6	10.7	10.9	10.8	10.9	10.9	10.9	11.3
Hawaii	11.6	10.9	9.5	10.1	9.0	8.3	9.2	9.7
Puerto Rico	8.5	7.8	6.5	7.0	7.4	7.5	6.6	6.9

Source: CDC National Vital Statistics Reports, Deaths: Final Data for 2000-2007; Guam data from DMHSA, A Profile of Suicide on Guam, January 2009



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Behavioral
Health

Suicide by Gender

Where do we Stand? Evaluating Trends

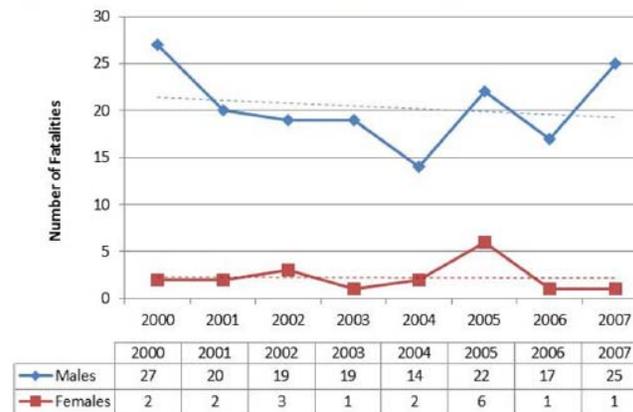
Current Trends

As shown on Figure 12-2 male suicide rates on Guam over the past decade have been significantly higher than female suicide rates, which have been relatively low. In the latest recorded year (2007), male suicide rates were 25 times higher than female rates. From 2000 to 2007, male suicide rates dipped and then resumed to peak levels. In this period, female rates peaked at 6 suicides per 100,000 persons in 2005, which was significantly less than the 22 suicides per 100,000 persons experienced by the male populace that year.

Moving Forward

While the female rate of suicide on Guam is much lower than the Healthy People 2020 Plan goal of 10.2 deaths per 100,000 people per year, the male rate exceeds this rate. The latest statistics indicate that the female rate of suicide is remaining low and static while the male suicide rate is rising.

Figure 12-2. Suicide Cases on Guam by Gender, 1999-2007



Source: DMHSA, A Profile of Suicide on Guam, January 2009



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Behavioral
Health

Domestic Violence

Where do we Stand? Evaluating Trends

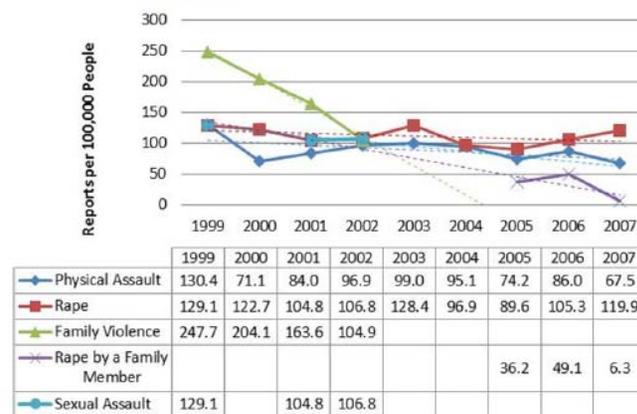
Current Trends

As shown in Figure 12-3, the majority of Guam's domestic violence rates have hovered between 100 and 150 incidents per 100,000 people per year. The exception has been rates of "family violence" in the period of 1999 to 2001, which were noticeably greater than the other forms of domestic violence and the rates of "rape by a family member" which were noticeably lower than the of domestic violence rates from 2005 to 2007. Overall, in all of the categories of domestic violence, between 1999 and 2007, rates have decreased. However, although overall incidents for the category "rape" have gone down the pattern of incident during this period has been fluctuated. "Physical assault" rates have significantly and consistently decreased as have rates for "rape by a family member".

Moving Forward

It is not clear what the Government of Guam's goal for domestic violence is over the upcoming years. Likely, the goal will be for all categories of domestic violence to see sustained decreases, especially in the comparatively high category "rape".

Figure 12-3. Domestic Violence Rates Compared to Crime Rates in Guam, 1999-2007



Source: Guam Police Department Uniform Crime Reports 1999-2007



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Behavioral
Health

Disabilities

Where do we Stand? Evaluating Trends

Current Trends

As is shown in Table 13.1 and Figure 13.1, the prevalence of disabilities among the age group 6-22 in Guam decreased significantly between the years of 1999 and 2005. Guam's highest prevalence rate was 298.4 in 1999. This rate was extremely low when compared to the prevalence rate of people with disabilities in this age group in Puerto Rico, the US and Hawaii. The prevalence of disabilities among person in this age group was 3 or 4 times higher in the other geographic locations in 1999. By 2005 rates for all regions decreased significantly, however Guam remained the location with the lowest prevalence rate and overall average prevalence rate.

Moving Forward

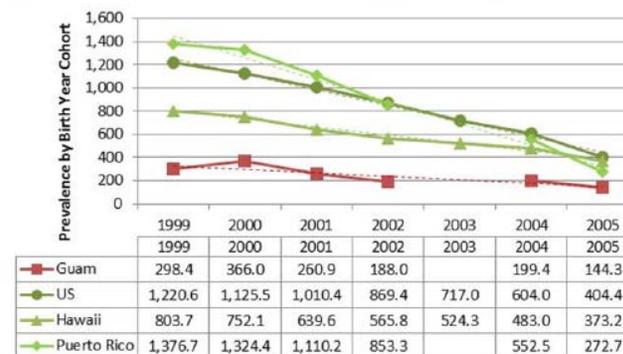
Guam Average	242.8
Trending	↓
Guam 2009 Rate	144.3
Goal	N/A
5-Year Target	

A specific 5-year target rate for persons with disabilities between the ages 6-22 has not been set or is not available at this time. However, based on the comparative analysis presented here, historically Guam's prevalence rate in this category has been low and steadily decreasing. Maintaining these patterns would be a reasonable goal.

Table 13-1. Average Prevalence of Disabilities by Birth Year Cohort Among Ages 6-22, 1999-2005

	Guam	US	Hawaii	Puerto Rico
Average prevalence by birth year cohort	242.8	850.2	591.7	915.0
Trend	↓	↓	↓	↓

Figure 13-1. Prevalence of Disabilities Among Ages 6-22, 1999-2005



(Source: Thoughtful House Center for Children, <http://www.thoughtfulhouse.org/tech-labs/disabilities/rates.php?s=US&d=ALL>)



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Behavioral
Health

Disabilities for
Age 65+

Where do we Stand? Evaluating Trends

Current Trends

As shown in Table 13.2 and Figure 13.2, data relating to Guam's disability rates for persons ages 65 and above, is limited. For the one year (2000) that data was collected and is available, Guam's disability rate among this demographic was 44.9%, which was slightly higher than the US and Hawaii but over 15% less than Puerto Rico for that year. Since data for Guam is only available for a single year, it is not possible to provide a trend analysis. However, it should be noted that the three other geographic locations represented had downward trends over the eight-year timeframe.

Moving Forward

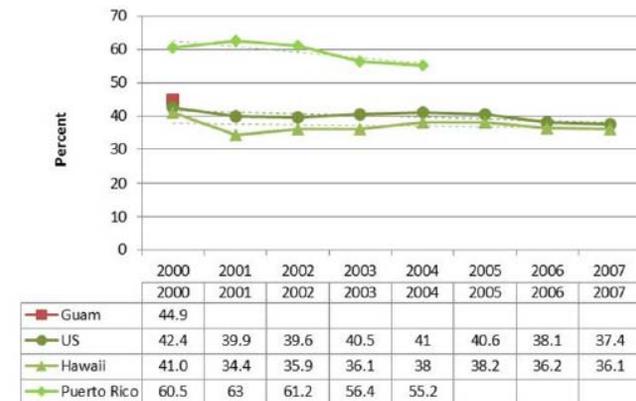
Guam Average	44.9
Trending	↔
Guam 2009 Rate	N/A
Goal	N/A
5-Year Target	

Specific goals for percentages of persons with disabilities ages 65 and older are not available. Since the US and Hawaii realized a lower percentage of disabled persons in this age group, Guam's goal would be to realize a decreased rate.

Table 13-2. Average Percent of Persons Age 65 and Above with a Disability, 2000-2007

	Guam	US	Hawaii	Puerto Rico
Average Percent	44.9	39.9	37.0	59.3
Trend	↔	↓	↓	↓

Figure 13-2. Percent of Persons Ages 65 and Above with a Disability, 2000-2007



(Source: US Census Bureau American Fact Finder, http://factfinder.census.gov/servlet/ADPTable?_bm=y&-context=adp&-qr_name=ACS_2005_EST_Goo_DP2PR&-ds_name=ACS_2005_EST_Goo_&)



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**Public review
period goes
through
December 9,
2011**

- Draft HSS posted on website
www.one.guam.gov
- Public comment sheets are available on website
 - Email comments to hss@oneguam.com
 - Mail comments to:
 - HSS Comments
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