Ua ola loko i ke aloha.
Love gives life within.

Love is imperative to one’s mental and physical welfare.
KEY FINDINGS

++ Relative strengths/progress over time

ACCESS TO HEALTHCARE
Uninsured rates within the Native Hawaiian population have steadily declined over time, from 9.6 percent in 2005 to 7.4 percent in 2009.

MATERNAL AND INFANT HEALTH
The rates for late or no prenatal care, births to teenage mothers, and infant mortality among Native Hawaiians have decreased over time.
- Late or no prenatal care decreased from 22.4 to 17.6 percent between 2005 and 2010.
- Births to teenage mothers decreased from 19.1 to 16.1 percent between 2000 and 2008.
- Infant mortality decreased from 11.1 to 6.3 per 1,000 live births between 1981 and 2010.

HEALTHY LIFESTYLES
Native Hawaiian adolescents were more likely to participate in team sports and physical education at school and less likely to spend hours playing video/computer games and watching TV than were non-Hawaiian students.

Among Native Hawaiian students, 42.5 percent spent an hour or more engaged in physical activity five days out of the week, compared with 36.4 percent of non-Hawaiians.

Among Native Hawaiian adults, 37.3 percent engaged in muscle-strengthening activities two or more times per week, compared with 32.1 percent statewide.

RISK BEHAVIORS
The prevalence of smoking has decreased among Native Hawaiian youth and adults.
- The percentage of Native Hawaiian high school students who smoked cigarettes in the month prior to the survey declined from 36.5 to 9.0 percent between 1997 and 2011.
- The percentage of Native Hawaiian adults who smoke declined from 26.5 to 23.4 percent between 2005 and 2009.

DISEASE
The prevalence of certain chronic diseases has decreased among Native Hawaiians.
- The prevalence of diabetes decreased from 12.4 to 11.6 percent between 2005 and 2009.
- The prevalence of coronary heart disease decreased from 4.5 to 3.1 percent between 2005 and 2009; heart attacks decreased from 5.1 to 4.2 percent over the same period.

The incidence of certain types of cancer among Native Hawaiians has remained relatively low.
- The incidence of prostate cancer among Native Hawaiian men (106.7 per 100,000) was lower than the statewide average (131.0 per 100,000).
- The incidence of colon cancer among Native Hawaiian women (35.4 per 100,000) was lower than the statewide average (42.0 per 100,000).

LIFE EXPECTANCY
Life expectancy among Native Hawaiians increased from 71.8 years in 1980 to 74.3 years in 2000.
Key Findings

Areas of concern

Access to Healthcare
The rate at which Native Hawaiians missed medical treatment because of cost was 11.1 percent in 2009, compared with the statewide average of 7.3 percent. In addition, Native Hawaiian adults had the lowest checkup rates of the state’s major ethnic groups between 2005 and 2009.

Maternal and Infant Health
Native Hawaiians have experienced the highest rates of late or no prenatal care and infant mortality among the major ethnic groups in Hawai’i.

The proportion of live births to teenage mothers was about twice as high among Native Hawaiians (16.1 percent) as in the statewide population (8.4 percent).

Healthy Lifestyles
Native Hawaiian high school students were more likely than non-Hawaiian students to be overweight (15.4 versus 12.7 percent) or obese (16.6 versus 12.0 percent).

The prevalence of overweight and obesity among Native Hawaiian adults (76.5 percent) exceeded the statewide average (57.5 percent) in 2009.

Risk Behaviors
Native Hawaiian high school students were more likely than their non-Hawaiian peers to have sexual intercourse, drink alcohol, and try marijuana before age thirteen.

Among adults in Hawai’i, Native Hawaiians were the most likely of the major ethnic groups to smoke cigarettes, abuse alcohol, and engage in activities that increase the risk of HIV infection.

Disease
The prevalence of asthma among Native Hawaiian children (24.7 percent) was higher than the statewide average (17.9 percent) in 2009. Similarly, the asthma rate among Native Hawaiian adults (26.7 percent) was the highest among the major ethnic groups in the state.

Native Hawaiian men were the most likely of the state’s major ethnic groups to be diagnosed with lung cancer, while Native Hawaiian women were most likely to be diagnosed with breast or lung cancer.

The diabetes mortality rate among Native Hawaiians (130.6 per 100,000) was nearly twice the statewide average (70.3 per 100,000).

The heart disease mortality rate among Native Hawaiians (135.4 per 100,000) greatly exceeded the statewide average (81.3 per 100,000).

Mortality
Native Hawaiians suffered the highest mortality rate among the major ethnic groups in the state at 857.9 deaths per 100,000 in 2005, compared with 626.2 deaths per 100,000 statewide.

Key Implications
Physical well-being remains an area of significant challenge for the Native Hawaiian population. The high cost of medical services and lack of insurance continue to affect access to healthcare, which impacts the progression and prognosis for chronic diseases. Similarities in the health indicators of Native Hawaiian teens and adults suggest that patterns of behavior established early in life are critical. As individuals, communities, and organizations that serve Native Hawaiians seek to preserve recent gains and accelerate Native Hawaiian well-being, affordable healthcare and community-based outreach and educational programs will be essential.
Physical well-being is defined broadly within this report to encompass not just the health of one’s body but also the conditions—both biological (e.g., the presence of disease) and social (e.g., the accessibility of healthcare)—under which we make decisions that affect our physical welfare. At a time when medical research is increasingly finding that health outcomes are shaped, in part, by factors outside of the body, an examination of access to critical health resources and of the quality and consequences of our lifestyle choices (e.g., dietary habits, exercise routines, and risk behaviors like smoking and drug use) is critical to understanding physical well-being.

The relationship between physical well-being and education is strong. Like material and economic well-being, physical health and education are tied together in a mutually reinforcing, intergenerational cycle (Currie 2008). Physical health affects educational outcomes—as in the negative impact of asthma on student attendance (Milton et al. 2004; Moonie et al. 2008) and the negative correlation between childhood weight problems and student achievement and behavior (Shore et al. 2008; Datar and Sturm 2006). Conversely, research shows that education has a significant positive impact on health outcomes, with additional years of education correlated with lower mortality and a reduced risk of chronic illnesses like heart disease and diabetes (Silles 2009; Kemptner, Jürges, and Reinhold 2011; Cutler and Lleras-Muney 2006).
Analyses in this chapter show that physical well-being continues to be an area of concern for the Native Hawaiian community. Many of the positive developments in Native Hawaiian health parallel national trends and progress—including significant decreases in rates of smoking, teen pregnancy, infant mortality, and unwanted pregnancies. However, we see less evidence of gains made in relation to the broader state population or of progress that is specific to the Native Hawaiian community. Native Hawaiians therefore remain disadvantaged in key indicators of physical well-being, including access to healthcare, smoking and alcohol consumption, weight problems, infant mortality, and deaths related to heart disease, diabetes, and cancer.

However, policy changes at the national level, such as passage of the Patient Protection and Affordable Care Act of 2010 and the growing focus on preventive medicine, signify a trend toward increased access to quality health services among disadvantaged populations like Native Hawaiians. Such changes in the policy climate, coupled with a growing public awareness about health risk behaviors and medical advances improving the treatment of chronic illnesses, suggest that the direction of Native Hawaiian health may be about to change for the better.

ACCESS TO HEALTHCARE

The formal infrastructure that supports physical well-being is the healthcare system, a network of public and private entities that mediate access to medical services within a regulatory framework established by state and federal governments. Key players within the healthcare system include patients, healthcare providers, and insurance companies. Medical insurance facilitates access to healthcare, promotes the use of preventive medicine, and enables timely and appropriate treatment for illness and injury.

Although Hawai‘i—with its employer-centered healthcare system—has served as a model for policy reforms aimed at expanding health coverage, pockets of uninsured people remain throughout the population, primarily among part-time workers who are excluded from the employer mandate (Buchmueller, DiNardo, and Valletta 2011). Patterns of coverage are likely to change over the coming years as new provisions within the Affordable Care Act of 2010 are phased in. However, current data on uninsured rates from the Behavioral Risk Factor Surveillance System (BRFSS) confirm the existence of ethnic disparities within Hawai‘i’s healthcare system.

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2. The 2011 administration of BRFSS implemented a significant change in the sampling and weighting methodology: inclusion of cell phone users in the sampling pool, an addition that broadens the survey’s demographic and accounts for the population’s decreasing reliance on landlines. Given this significant methodological shift, the 2011 BRFSS data represent a snapshot in time and do not lend to an apples-to-apples comparison with data from previous years. To make a clear distinction between the different data, figures are used to summarize BRFSS trends in three-year weighted averages covering years 2004 through 2010. Relevant data from 2011 are listed as bullet points and may be treated as a new baseline against which future BRFSS data points can be compared.
Uninsured rates within the Native Hawaiian population have steadily declined over time, from a three-year weighted average in 2005 of 9.6 percent to a three-year weighted average in 2009 of 7.4 percent. Among other major ethnic groups in the state, only Whites saw a pattern of consistent decline comparable to that of Native Hawaiians.

Three-year weighted averages for 2005 and 2007 showed Native Hawaiian adults with the highest uninsured rates, compared with the other major ethnic groups in the state. In 2009, the Filipino uninsured rate exceeded that of Native Hawaiians by 0.5 percentage points.

More recent data from 2011 (not shown) confirm the persistence of health coverage disparities, indicating that approximately one in seven Native Hawaiian adults (14.5 percent) did not have medical insurance, compared with approximately one in ten adults (9.6 percent) statewide.

A lack of medical insurance may directly affect the healthcare choices and behaviors of individuals and families, which in turn may impact their physical well-being.

Recent data highlight the impact of financial considerations on healthcare choices. Compared with the other major ethnic groups in the state, Native Hawaiians are more likely to skip a needed doctor’s visit because of cost and less likely to have received a checkup in the last year.
Approximately one in ten Native Hawaiian adults (between 10.2 and 11.1 percent) missed a needed visit to the doctor because of the associated cost.

Among the major ethnic groups in the state, Native Hawaiians were most likely to have missed a needed visit to the doctor because of cost—a disparity that is consistent across all years of data reported.

Between 2005 and 2009, the percentage of adults who missed a needed visit to the doctor increased slightly across all major ethnic groups in the state except Whites.

In 2011 (not shown), the rate of missed medical treatment among Native Hawaiians was 15.6 percent, compared with the statewide rate of 9.5 percent. Native Hawaiians were more than five times as likely as Japanese adults to skip a needed doctor’s appointment.

Data from the Hawai‘i Department of Health suggest that the percentage of Native Hawaiians who receive preventive checkups is lower than the rate among non-Hawaiians.
Native Hawaiian adults had the lowest checkup rates of the state’s major ethnic groups across all years shown.

Between 2005 and 2009, the gap between the Native Hawaiian checkup rate and the statewide total increased from 1.9 percentage points to 5.0 percentage points.

Three-year weighted averages for 2005 through 2009 suggest a slow but steady decline in the percentage of adults in Hawai’i receiving checkups.

More recent data from 2011 (not shown) indicate that the percentage of Native Hawaiian adults who had a checkup (59.8 percent) was comparable to the statewide total of 60.0 percent.
Access to healthcare is critical early in pregnancy, when prenatal care can enable timely identification of problems and provide early support and guidance for expectant mothers. For these reasons, public health officials nationally and internationally are investing in efforts to expand prenatal care access (US Department of Health and Human Services 2009; US Department of Health and Human Services 2012b; Department of Reproductive Health and Research 1999).

Unfortunately, access to quality prenatal care has often varied along racial and ethnic lines, with national data showing that African American, Hispanic, and American Indian women are more likely to receive late or no prenatal care than are their White counterparts. This finding persists even where financial barriers are removed (American Medical Association 1999). Data on prenatal care in Hawai‘i also show disparities in utilization.

**FIGURE 4.4** Trends in late or no prenatal care
[as a percentage of all live births, by race/ethnicity, 3-year weighted averages, selected years, Hawai‘i]

- Rates of late or no prenatal care declined between 2005 and 2010 across all of the state’s major ethnic groups except among Japanese. The greatest decrease (from 22.4 percent to 17.6 percent) is apparent among Native Hawaiians.
- However, since at least 1980 (not shown), Native Hawaiian mothers have been the most likely of the state’s major ethnic groups to receive late or no prenatal care.
- In 2010, approximately one in six new Native Hawaiian mothers (17.6 percent) did not receive prenatal care during the first trimester of pregnancy.

Compounding the risks to maternal and child health among Native Hawaiians is the prevalence of teen pregnancies. Research shows that children born to teen mothers face significant challenges. Compared with their peers, such children are at greater risk for low birth weight and infant mortality, are less prepared for kindergarten, are more likely to suffer from chronic medical problems, and exhibit greater
behavioral issues and lower levels of academic achievement (Hoffman and Maynard 2008). Figure 4.5 shows that new Native Hawaiian mothers are more likely to be teenagers than are their counterparts among the state’s major ethnic groups.³

FIGURE 4.5 Trends in births to teenage mothers
[as a percentage of all live births, by race/ethnicity, 3-year weighted averages, selected years, Hawai‘i]

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2004</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Native Hawaiian</td>
<td>19.1</td>
<td>15.2</td>
<td>16.1</td>
</tr>
<tr>
<td>Filipino</td>
<td>9.9</td>
<td>8.1</td>
<td>7.7</td>
</tr>
<tr>
<td>Japanese</td>
<td>3.8</td>
<td>3.2</td>
<td>3.1</td>
</tr>
<tr>
<td>White</td>
<td>3.7</td>
<td>3.8</td>
<td>3.1</td>
</tr>
<tr>
<td>Hawai‘i Total</td>
<td>10.2</td>
<td>8.3</td>
<td>8.4</td>
</tr>
</tbody>
</table>

Note: Data are not available for Chinese births; nor are data disaggregated by race/ethnicity available for years 2010 forward.

- Native Hawaiians have seen the largest decrease (3.0 percentage points) in the incidence of births to teenage mothers over the last decade among the state’s major ethnic groups.
- In 2000, 2004, and 2008, the proportion of live births to teen mothers was about twice as high among Native Hawaiians as in the statewide population.

Despite the progress in maternal and child health reflected in increased utilization of prenatal care and decreased births to teen mothers, the percentage of low-birthweight babies in the Native Hawaiian population has increased slowly but steadily over the last decade, a trend that is mirrored at the national level (Donahue et al. 2010). Low-birthweight newborns face an increased risk of serious medical conditions and death (March of Dimes 2012). Some studies have shown that very low birth weight is associated with below-average IQ scores, lower academic achievement, and increased rates of physical challenges (Hack 2002).

³ Note that these teen birth rates may differ substantially from those reported in Ko Huaka‘i 2005 because the definition of “teenage” has been expanded to include eighteen- and nineteen-year-old mothers. This broader age range is consistent with definitions used by public health organizations for risk monitoring.
The incidence of low-birthweight babies within the Native Hawaiian population increased from 7.8 percent in 2000 to 8.5 percent in 2010.

The increase in low birth weights among Native Hawaiians is consistent with changes at the state level—where rates increased from 7.8 percent in 2000 to 8.3 percent in 2010—and across all major ethnic groups in Hawaiʻi except for the Japanese population.

Although trends in low birth weights were relatively consistent across the major ethnic groups in the state, significant differences are apparent in the actual rates, with Filipino and Chinese newborns most likely to be underweight and White babies the least.\(^4\)

Figure 4.7 provides a longer-term perspective on trends in low birth weight within the Native Hawaiian population, showing that the slow but steady increase in the percentage of underweight newborns began sometime in the late 1970s or early 1980s. This fact may distinguish the Native Hawaiian trend from changes at the national level, where the decline in birth weights seems to have begun in the 1990s (Donahue et al. 2010).

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4. One potential reason low-birthweight rates may not exhibit the racial/ethnic disparities seen in other measures of physical well-being is that the thresholds used to identify low-birthweight births are based on weight standards for White babies. Chinese and Japanese newborns are, on average, smaller than White newborns; thus, a weight that is low for a White baby may actually be typical for a Chinese or Japanese baby. This inconsistency has led some researchers to argue for the establishment of sex- and ethnicity-specific thresholds and growth charts (Janssen et al. 2007).
• The percentage of low-birthweight Native Hawaiian babies decreased sharply between 1970 and 1980, from 8.4 percent to 6.9 percent.

• Since 1980 the low-birthweight rate among Native Hawaiians has steadily increased, rising to 8.2 percent in 2011—just 0.2 percentage points shy of the 1970 rate.

Despite the increases in low-birthweight babies, infant mortality is in decline across all major ethnic groups in the state, including Native Hawaiians. The decline parallels national trends that show decreased mortality across four of the five leading causes of death among infants, including congenital malformations, short gestation/low birth weight, maternal complications, and sudden infant death syndrome (MacDorman, Hoyert, and Mathews 2013). Research suggests that such decreases may be largely attributable to medical advancements (Cutler and Meara 2001, 1999) and, more recently, to public campaigns discouraging the scheduling of preterm deliveries for nonmedical reasons, a practice that had been increasing in obstetrics (Castillo 2013; Bowser 2013).
Infant mortality within Hawai‘i has generally been in decline since at least the 1980s. Among Native Hawaiians, infant mortality rates decreased from 11.1 per 1,000 live births in 1981 to 6.3 per 1,000 in 2010. Statewide rates declined at a comparable pace, from 9.5 per 1,000 live births in 1981 to 5.7 per 1,000 in 2010.

Despite the gains made over time, Native Hawaiians continue to experience the highest rates of infant mortality among the state’s major ethnic groups. In 2010, the Native Hawaiian rate of 6.3 infant deaths per 1,000 live births was nearly twice the rate among Whites (3.4 deaths per 1,000 live births).

Abortion rates offer an alternative perspective on women’s health, acting as a rough indicator for a number of interrelated health issues, including early sexual activity, availability and use of contraception, and access to reproductive health procedures. Data from the Hawai‘i Department of Health indicate that, over the last decade, the proportion of intentionally terminated pregnancies has decreased across most major ethnic groups in the state. These trends should, however, be interpreted with caution because the cause of the decline in abortions is unclear and may reflect, for example, increased use of contraceptives or decreased access to reproductive health services.

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5. The Hawai‘i Department of Health refers to these procedures as “intentional terminations of pregnancy,” rather than the more common term, “abortion.”
Abortion rates declined between 2000 and 2010 across all major ethnic groups in the state, including Native Hawaiians, whose rate decreased by 26.1 per 1,000 live births.

Among the major ethnic groups in the state, Native Hawaiians are the least likely to terminate their pregnancies, with abortion rates that are nearly half the statewide average.
HEALTHY LIFESTYLES

Given some of the early risks to which Native Hawaiian children are subject—including late or no prenatal care and low birth weights—healthy lifestyle choices are a critical counterbalance, laying a foundation of behaviors and habits that promote lifelong physical well-being. Typical indicators of healthy lifestyles include dietary habits, exercise, and weight management. This review of Native Hawaiian lifestyle choices begins with a focus on the fuel for physical health: diet and nutrition.

Nutrition

Diet and nutrition physically and mentally support the basic functions of one’s body. Nutrition is particularly important for children because it affects academic performance, behavior, and physical and cognitive development (Florence, Asbridge, and Veugelers 2008; Benton 2010; Bellisle 2004). Early dietary habits also lay the groundwork for healthy choices throughout one’s lifetime (Kelder et al. 1994). Among adults, nutrition and dietary choices can mitigate the risk of serious illnesses such as heart disease, diabetes, and cancer (Kastorini et al. 2011), while more immediately improving mood, lowering stress, and increasing cognitive functioning and alertness (Benton and Donohoe 1999; Dallman et al. 2003; Barnes and Joyner 2012; American Academy of Sleep Medicine 2013).

Fruits and vegetables are significant sources of nutrition, and data from the Hawai‘i Department of Health suggest that Native Hawaiian adolescents may eat fewer fruits and vegetables than do their non-Hawaiian peers.

FIGURE 4.10 Vegetable and fruit consumption among high school students
[as a percentage of all public high school student respondents, by Native Hawaiian and non-Hawaiian, 2011, Hawai‘i]

Source: Hawai‘i Department of Health, YRBS 2011.
- Native Hawaiian students were slightly less likely than were non-Hawaiians to include vegetables and fruit in their diet.
- About one in nine Native Hawaiian students (11.3 percent) reported eating vegetables three or more times per day in the past week, compared with one in seven non-Hawaiian high school students (15.0 percent).
- Fewer than one in four Native Hawaiian students (23.1 percent) reported eating fruit two or more times per day in the past week, compared with 26.3 percent of non-Hawaiian students.

Adult responses to a similar survey question suggested that eating habits may converge as the population ages, with the diet of Native Hawaiian adults roughly mirroring that of the other major ethnic groups in the state.

**FIGURE 4.11** Vegetable and fruit consumption among adults
[as a percentage of all adult respondents, by race/ethnicity, 2011, Hawai'i]

- Approximately one in five Native Hawaiian adults (19.0 percent) reported eating vegetables three or more times per day. This figure is nearly identical to that of the statewide population (19.2 percent).
- Fruit consumption habits were similarly comparable, with 30.4 percent of Native Hawaiians and 30.1 percent of all adults in the state reportedly eating fruits two or more times per day.
- Among the state’s major ethnic groups, only Whites were more likely than Native Hawaiians to eat fruits and vegetables multiple times per day.
Physical Activity

Another aspect of a healthy lifestyle is regular exercise, which is critical for maintaining a healthy weight and has been shown to increase student engagement and academic performance (Hillman et al. 2009; Center for Disease Control and Prevention 2010). Regular exercise alleviates anxiety and depression (Blumenthal et al. 2007; Smits et al. 2011) and reduces the risk of chronic illnesses like heart disease, diabetes, and cancer (Kruk 2007).

Data from the Hawai‘i Department of Health suggest that Native Hawaiian adolescents are more likely to participate in physical activities at school and spend less of their leisure time engaged in sedentary pursuits.

**FIGURE 4.12** Physical activity and sedentary behavior among high school students
[as a percentage of all public high school student respondents, by Native Hawaiian and non-Hawaiian, by type of activity, 2011, Hawai‘i]

- Native Hawaiian high school students were more likely to play on sports teams and attend physical education classes than were non-Hawaiian students.
- Three in five Native Hawaiian students (61.7 percent) participate in sports teams, compared with approximately half of all non-Hawaiian students (52.2 percent).
- On an average school day, 26.5 percent of Native Hawaiian students spend three or more hours on their computers or playing video games, compared with 40.3 percent of non-Hawaiians.
- Nearly one in three high school students—both Native Hawaiian and non-Hawaiian—spends three or more hours watching television on the average school day.

Source: Hawai‘i Department of Health, YRBS 2011.
Compared with non-Hawaiian high school students, Native Hawaiians are also more frequently engaged in physical activity.

**FIGURE 4.13  Duration and frequency of physical activity among high school students**  
[as a percentage of all public high school student respondents, by Native Hawaiian and non-Hawaiian, by number of days with at least 60 minutes of physical activity, 2011, Hawai‘i]

- Overall, Native Hawaiian high school students spent more time engaged in physical activity than non-Hawaiian students.
- Among Native Hawaiian students, 42.5 percent spent an hour or more engaged in physical activity on five days during the past week, compared with 36.4 percent of non-Hawaiians.
- Just 15.0 percent of Native Hawaiians and 19.9 percent of non-Hawaiians reported that they had not spent a full hour engaged in physical activity at any time in the prior week.

Within the adult population, the activity levels of Native Hawaiians are also slightly higher than average. Figure 4.14 shows the percentage of adults who meet recommendations issued by the US Department of Health and Human Services (DHHS) for aerobic and muscle-strengthening activity (US Department of Health and Human Services 2008). Among the major ethnic groups surveyed, only Whites reported levels of physical activity that equaled or exceeded those of Native Hawaiians.

Source: Hawai‘i Department of Health, YRBS 2011.
Native Hawaiians had the second highest aerobic activity rates (60.2 percent) among the major ethnic groups in the state. Only Whites were more likely to meet the DHHS aerobic activity recommendations (65.8 percent).

Native Hawaiians were the most likely of the major ethnic groups in Hawai‘i to meet the DHHS muscle-strengthening recommendations. More than one in three Native Hawaiian adults (37.3 percent) engaged in muscle-strengthening activities two or more times per week, compared with one in four adults (25.2 percent) in the Japanese population.

The similar patterns in adolescent and adult activity levels among Native Hawaiians suggest that lifelong exercise habits may be established early in life, a pattern that is consistent with research (Kelder et al. 1994).

Weight

Despite the relatively healthy diet and high levels of physical activity reported above, Native Hawaiians are significantly more likely to be classified as overweight or obese than are their non-Hawaiian counterparts. Weight issues are typically assessed using the body mass index (BMI), a measure that gauges weight relative to height. However, a growing number of experts argue that BMI may be a poor indicator of weight problems because it does not directly measure body fat or waist size, and fails to account for differences in bone and muscle mass. BMI may, therefore, inappropriately classify people as overweight or obese based on variations in their athleticism, age, and even ethnicity—all of which are associated with differences in bone and muscle mass (Nightingale et al. 2011; Cawley and Burkhauser 2006; Brooks et al. 2007). Despite these limitations, BMI remains the most common indicator of healthy body weight because of the simplicity with which the data can be collected and the measure calculated.
Based on BMI, Native Hawaiians are more likely to be considered overweight or obese than are the other major ethnic groups in the state. This disparity puts Native Hawaiians at an increased risk for serious illnesses such as heart disease, diabetes, and cancer (US Department of Health and Human Services 2012a). Being overweight may also impact the social, emotional, and educational outcomes of children (Janssen et al. 2004; Neighmond 2010; Edmunds 2008; Datar and Sturm 2006; Shore et al. 2008).

**FIGURE 4.15** Weight issues among high school students
[as a percentage of all public high school student respondents, by Native Hawaiian and non-Hawaiian, 2011, Hawai‘i]

<table>
<thead>
<tr>
<th>Description</th>
<th>Native Hawaiian</th>
<th>Non-Hawaiian</th>
<th>Hawai‘i Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overweight</td>
<td>15.4</td>
<td>12.7</td>
<td>13.4</td>
</tr>
<tr>
<td>Obese</td>
<td>16.6</td>
<td>12.0</td>
<td>13.2</td>
</tr>
<tr>
<td>Described self as slightly/very overweight</td>
<td>38.3</td>
<td>29.6</td>
<td>31.9</td>
</tr>
<tr>
<td>Trying to lose weight</td>
<td>54.2</td>
<td>47.4</td>
<td>49.3</td>
</tr>
<tr>
<td>Went without eating for 24 hours or more</td>
<td>15.9</td>
<td>11.7</td>
<td>13.1</td>
</tr>
<tr>
<td>Took diet supplements without doctor’s advice</td>
<td>8.9</td>
<td>5.4</td>
<td>6.5</td>
</tr>
<tr>
<td>Vomited or took laxatives</td>
<td>7.3</td>
<td>4.8</td>
<td>5.5</td>
</tr>
</tbody>
</table>

**Source:** Hawai‘i Department of Health, YRBS 2011.
• Based on national height and weight guidelines, Native Hawaiian high school students were more likely than their non-Hawaiian peers to be overweight (15.4 percent versus 12.7 percent) or obese (16.6 percent versus 12.0 percent).\(^6\)

• Native Hawaiian students were also more likely than their non-Hawaiian counterparts were to describe themselves as being slightly or very overweight.

• The majority of Native Hawaiian high school students (54.2 percent) reported that they were trying to lose weight, compared with 47.4 percent of non-Hawaiian students.

• Native Hawaiians were more likely than their non-Hawaiian peers were to employ unhealthy or dangerous weight loss strategies such as fasting for at least twenty-four hours, taking diet supplements or laxatives, or vomiting.

Weight issues among adolescents often worsen with age (Kelder et al. 1994; Serdula et al. 1993), resulting in widespread obesity within the adult population. According to the Hawai‘i Department of Health’s BRFSS, more than half of all adults across Hawai‘i are overweight or obese, with Native Hawaiians represented at higher rates.\(^7\)

**FIGURE 4.16** Trends in overweight and obesity among adults

[as a percentage of all adult respondents, by race/ethnicity, 3-year weighted averages, selected years, Hawai‘i]

![Chart showing trends in overweight and obesity among adults by race/ethnicity in Hawai‘i from 2005 to 2009.](chart.png)

Source: Hawai‘i Department of Health, BRFSS 2011.

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6. Adolescents are considered overweight if their BMI is between the 85th and 95th percentile for their age and sex. Adolescents with a BMI at the 95th percentile or higher are considered obese.

7. Adults are considered overweight if their BMI is between 25 and 30; a BMI of 30 or higher indicates obesity.
• The prevalence of weight problems and obesity among Native Hawaiians consistently exceeded statewide averages by about 19 percentage points between 2005 and 2009.

• Native Hawaiian rates of overweight and obesity exceeded those of Whites (the group with the second highest rates) by about 20 percentage points and Chinese (the group with the lowest rates) by roughly 30 percentage points.

• Between 2005 and 2009, the prevalence of weight problems increased across nearly all of the major ethnic groups in the state.

• In 2011 (not shown), almost three in four Native Hawaiian adults (74.3 percent) were overweight or obese, compared with slightly more than one in two adults (55.7 percent) statewide. Among most of the other major ethnic groups in the state—Filipino, Japanese, and White—an unhealthy weight was apparent in roughly half the population.
RISK BEHAVIORS

Just as choices about diet and exercise can significantly impact one’s risk of disease, risk behaviors can have far-reaching consequences for one’s health. Many risk behaviors such as sexual activity, alcohol consumption, and use of tobacco and illicit drugs are more common among Native Hawaiians than in the broader state population.

Sexual Activity

Data from a state survey of youth show that Native Hawaiian high school students are more likely than their non-Hawaiian peers to be sexually active.

**FIGURE 4.17** Sexual activity among high school students

[as a percentage of all public high school student respondents, by Native Hawaiian and non-Hawaiian, 2011, Hawai‘i]

- Nearly one-half of Native Hawaiian high school students (49.1 percent) have had sexual intercourse, compared with less than one-third of non-Hawaiians (32.5 percent).
- One in ten Native Hawaiian high school students (10.6 percent) has had sexual intercourse with four or more people, compared with only one in fourteen non-Hawaiians (7.2 percent).
- Native Hawaiian high school students were nearly twice as likely as their non-Hawaiian peers were to have had sexual intercourse before the age of thirteen (7.6 percent versus 4.1 percent).

Source: Hawai‘i Department of Health, YRBS 2011.
Research suggests that early sexual activity among adolescents may be associated with other high-risk sexual behaviors such as engaging with multiple partners and not using a condom (Coker et al. 1994). Such behaviors increase the risk of pregnancy and infection with HIV/AIDS or other sexually transmitted diseases (Kaestle et al. 2005; Joffe et al. 1992).

Disparities in high-risk activity persist across age groups, with Native Hawaiian adults being 2.5 times as likely as the statewide population to engage in situations associated with an increased HIV risk (e.g., using intravenous drugs, contracting other sexually transmitted diseases, or having anal sex without a condom).

**FIGURE 4.18 Activities that increase HIV risk among adults**
[as a percentage of all adult respondents ages 18–64, by race/ethnicity, 2011, Hawai‘i]

- Nearly one in ten Native Hawaiian adults (9.2 percent) has engaged in activities or exhibits other risk factors that greatly increase the likelihood of contracting HIV, compared with about one in twenty-five adults (3.7 percent) across the state.
- Compared with the Japanese population, Native Hawaiian adults are 6.5 times more likely to engage in activities that increase the risk of HIV infection.

Despite being at greatest risk for contracting HIV among the state's major ethnic groups, Native Hawaiians are not more likely to undergo testing for HIV/AIDS.
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FIGURE 4.19 HIV testing among adults
[as a percentage of all adult respondents ages 18–64, by race/ethnicity, 2011, Hawai‘i]

- More than one-third of Native Hawaiian adults (36.9 percent) have been tested for HIV—a screening rate about the same as that of the state population (36.0 percent).
- Among the state’s major ethnic groups, Whites are the most likely to have been tested for HIV (51.1 percent), even though the proportion of White adults who are at high risk for contracting HIV is comparable with the statewide rate (see Figure 4.18). However, the data may be skewed by the high concentration of military personnel within the White population.

Monitoring of the prevalence and incidence of HIV/AIDS within the population is typically structured to align with federal reporting standards. Such efforts use federal racial categories, which lack the granularity necessary to track HIV/AIDS trends within the Native Hawaiian population. However, a recent analysis conducted by the Hawai‘i Center for AIDS at the University of Hawai‘i–Mānoa’s John A. Burns School of Medicine found that “HIV/AIDS is being diagnosed in Native Hawaiians more than twice as often as Caucasians, and that Native Hawaiians with HIV/AIDS are three times more likely to need hospitalization” (Shelton 2012). Such statistics underscore the need for more refined data collection within the health system and more research on treatment access and utilization within the Native Hawaiian community.

Smoking

Despite a wealth of literature on the dangers of tobacco (Center for Disease Control and Prevention 2013), smoking remains a common risk behavior, particularly among socioeconomically disadvantaged groups like Native Hawaiians. Research suggests such groups may be driven to unhealthy habits like tobacco use in part because of the stress associated with social inequality and financial uncertainty, the lack of knowledge or doubts about the consequences of health risk behaviors, and the influence of social networks and class politics (Cutler and Lleras-Muney 2010; Pampel, Krueger, and Denney 2010).
Figure 4.20 highlights ongoing disparities in tobacco use between Native Hawaiian high school students and their non-Hawaiian peers. However, the 2011 data fail to show the substantial gains achieved over time across both groups.

**FIGURE 4.20** Smoking among high school students
[as a percentage of all public high school student respondents, by Native Hawaiian and non-Hawaiian, 2011, Hawai'i]

- The percentage of Native Hawaiian high school students who smoked cigarettes in the month prior to being surveyed has steadily declined from 36.5 percent in 1997 to 25.2 percent in 2001 (not shown) and most recently to 9.0 percent in 2011. Significant decreases are also apparent among non-Hawaiian students, although the rate of decline is lower than that seen among Native Hawaiian students.
- Nearly one-half of Native Hawaiian high school students (45.6 percent) reported that they had smoked cigarettes, compared with one-third of non-Hawaiians (33.9 percent).
- Native Hawaiians were more likely than non-Hawaiians were to have smoked a whole cigarette before age thirteen (11.9 percent versus 7.4 percent).
- A comparable percentage of Native Hawaiians and non-Hawaiians reported smoking within the past thirty days (9.0 percent and 10.5 percent, respectively).
- Among students who had smoked, Native Hawaiians were more than twice as likely as were non-Hawaiians to have smoked more than ten cigarettes per day on the days they smoked during the past month (9.8 percent versus 4.7 percent).

Survey results for adults suggest that the disparities in smoking behavior seen among adolescents may persist into adulthood. However, trend data highlight positive gains achieved over time.
FIGURE 4.21 Trends in smoking among adults
[as a percentage of all adult respondents, by race/ethnicity, 3-year weighted averages, selected years, Hawai‘i]

- Trends between 2005 and 2009 suggest that smoking is in slow decline, with Native Hawaiian rates decreasing from 26.5 percent to 23.4 percent.
- Statewide rates during the same period have decreased from 17.3 percent to 15.1 percent.
- Since 2005, rates of smoking among Native Hawaiian adults have consistently exceeded statewide rates by more than 7 percentage points.

Note: Due to recent changes in methodology, the Hawai‘i Department of Health advises against comparing 2011 results with data from previous years. For this reason, figures are used to summarize trends through 2010, and relevant data from 2011 are listed in bullet points. The 2011 data may be treated as a new baseline against which future results can be compared. See Appendix A for more details.
## Alcohol

Alcohol consumption is not consistently monitored as a risk factor because, in moderate amounts, it may have a positive effect on the physical health of adults. However, data show that dangerous alcohol-related behaviors such as underage drinking, binge-drinking, and heavy drinking are more common within the Native Hawaiian community than among non-Hawaiians.

**FIGURE 4.22 Alcohol use among high school students**

[as a percentage of all public high school student respondents, by Native Hawaiian and non-Hawaiian, 2011, Hawai‘i]

- Native Hawaiian high school students were more likely than their non-Hawaiian peers were to report risk behaviors related to alcohol use, including drinking before age thirteen, having five or more drinks in a row, and drinking alcohol on school property.
- More than one in four Native Hawaiian high school students (26.2 percent) had their first alcoholic drink before age thirteen, compared with 16.5 percent of non-Hawaiians.
- More than one-third of Native Hawaiian high school students (36.9 percent) drank alcohol in the thirty days leading up to the survey, compared with one-fourth of non-Hawaiians (26.0 percent).
- One in five Native Hawaiian high school students (20.8 percent) had five or more alcoholic drinks in a row, compared with fewer than one in seven non-Hawaiians (13.3 percent).
As with other risk behaviors, disparities in alcohol consumption among Native Hawaiian teens are also reflected in the adult population.

**FIGURE 4.23** Binge drinking or heavy drinking among adults
[as a percentage of all adult respondents, by race/ethnicity, 2011, Hawai‘i]

- Nearly one-third of Native Hawaiian adults (31.6 percent) report being heavy drinkers or engaging in binge-drinking within the past thirty days, compared with less than one-fourth (22.7 percent) of the statewide population.\(^8\)
- Native Hawaiians are almost twice as likely as Japanese adults are to have engaged in such high-risk, alcohol-related behaviors (31.6 percent versus 16.9 percent, respectively).

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\(^8\) In this survey, binge drinking is defined as having had, within the past 30 days, four or more drinks on a single occasion for women and five or more drinks on a single occasion for men. Heavy drinking is defined as having more than one drink per day for women and more than two drinks per day for men.
Illicit Drugs

The pattern of disparities between racial/ethnic groups changes when we shift the analysis from commonly regulated substances like alcohol and tobacco to illicit drugs. Marijuana, however, is an exception. Patterns of marijuana use among high school students mirror the disparities we see in alcohol and tobacco figures, with Native Hawaiians reporting significantly higher rates of use than non-Hawaiians.

**Figure 4.24** Marijuana use among high school students
[as a percentage of all public high school student respondents, by Native Hawaiian and non-Hawaiian, 2011, Hawai‘i]

- Native Hawaiians were more than twice as likely as non-Hawaiians to report trying marijuana before age thirteen (16.1 percent versus 6.7 percent).
- Nearly one in three Native Hawaiians (31.4 percent) reported using marijuana in the thirty days leading up to the survey, compared with only one in five non-Hawaiians (18.1 percent).
- Native Hawaiians were more than twice as likely as their non-Hawaiian peers were to report using marijuana on school property (12.4 percent versus 5.7 percent).

In contrast to disparities in marijuana use, Figure 4.25 shows that the proportion of Native Hawaiian high school students who use other illicit drugs (e.g., methamphetamines, cocaine, and ecstasy) is comparable to the rates of use among non-Hawaiians.
Native Hawaiian high school students reported using methamphetamines, cocaine, ecstasy, inhalants, and prescription drugs not prescribed to them at rates similar to or lower than non-Hawaiian students.

The only category for which Native Hawaiian drug use exceeded that of non-Hawaiians was the prescription drugs group and, even in that case, the difference was not pronounced (0.8 percentage points).

About one-third (31.7 percent) of high school students statewide were offered, given, or had purchased methamphetamines, cocaine, ecstasy, inhalants, or prescription drugs while on school property (not shown).

Source: Hawai‘i Department of Health, YRBS 2011.
**DISEASE**

The disproportionate incidence of health risk factors among Native Hawaiians might be expected to result in an inordinately high likelihood of serious, chronic diseases. The data, however, show mixed outcomes. Prevalence among Native Hawaiians and non-Hawaiians is comparable for several serious illnesses, including coronary heart disease and cancer. However, age-adjusted mortality rates among Native Hawaiians far exceed those of other major ethnic groups in the state.

This contradiction may be explained by the differences in age distributions across ethnic groups and the lower life expectancy of Native Hawaiians. The Native Hawaiian population is dominated by younger age groups that are less affected by chronic illnesses such as diabetes, heart disease, and cancer. When comparing the younger Native Hawaiian population to the older non-Hawaiian population, group statistics may hide the elevated risk of disease for Native Hawaiians. Such disparities become more readily apparent when comparing Native Hawaiians to non-Hawaiians of similar ages.

For this reason, the use of age-adjusted statistics—where population data are weighted to account for differences in the age distribution—is critical for an accurate understanding of racial/ethnic differences in disease risk. Age-adjusted morbidity and mortality rates are common in federal data but, unfortunately, are less common among state statistics that report Native Hawaiians as a separate and distinct ethnic group. Throughout this section, we intentionally provide a mix of data on disease prevalence and mortality, noting for the reader whether data are age-adjusted. We begin with an examination of unadjusted rates of disease prevalence.

**Asthma**

Compared with other types of chronic disease, asthma is commonly seen across all age groups. Age-adjusted rates are, therefore, less critical for understanding the relative prevalence of asthma in different ethnic groups.

Asthma is rarely fatal and is highly manageable with proper treatment and medication (Moorman et al. 2012). Still, asthma decreases the quality of life of those with the condition (Ampon, Williamson, and Marks 2005), increases medical expenses (Corso and Fertig 2009), decreases productivity in adults, and negatively affects educational outcomes in children (Milton et al. 2004).

Data from the Hawai’i Department of Health (Figure 4.26 and Figure 4.27) show that Native Hawaiians are disproportionately prone to asthma, both in childhood and as adults.
Data from 2005 to 2009 consistently show that about one in four Native Hawaiian children suffers from asthma.

Among the state’s major ethnic groups, Native Hawaiian children are most likely to suffer from asthma, with rates that exceed the statewide average by more than 5 percentage points across all years reported.

In 2011 (not shown), three in ten Native Hawaiian children (29.9 percent) were diagnosed with asthma, compared with fewer than two in ten children (18.0 percent) statewide. The asthma rate among Filipino children (20.3 percent)—which is the second highest among the major ethnic groups in the state—is still almost 10 percentage points lower than the 2011 rate among Native Hawaiians.

Elevated asthma rates in the population of Filipino children are not evident at the adult level. However, the disparities persist among Native Hawaiians as shown in Figure 4.27.
FIGURE 4.27  Trends in asthma among adults
[as a percentage of all adult respondents, by race/ethnicity, 3-year weighted averages, selected years, Hawai‘i]

- Trend data suggest that asthma may be a growing problem among the Native Hawaiian adult population, with the prevalence of asthma increasing from 21.0 percent in 2005 to 26.7 percent in 2009.
- Among the major ethnic groups in the state, only the Chinese population saw a steeper increase in asthma rates than Native Hawaiians.
- Data from 2011 (not shown) indicate that approximately one in every four Native Hawaiian adults (24.0 percent) suffers from asthma, compared with one in six adults (16.2 percent) statewide.

High rates of asthma are consistent with the prevalence of risk factors like smoking and obesity within the Native Hawaiian population (Black et al. 2013; Stapleton et al. 2011). Smoking and obesity also can be associated with more serious illnesses such as diabetes and heart disease, two closely related and often co-occurring conditions.

Source: Hawai‘i Department of Health, BRFSS 2004-10.
Note: Due to recent changes in methodology, the Hawai‘i Department of Health advises against comparing 2011 results with data from previous years. For this reason, figures are used to summarize trends through 2010, and relevant data from 2011 are listed in bullet points. The 2011 data may be treated as a new baseline against which future results can be compared. See Appendix A for more details.
Diabetes

Despite positive gains in the last decade, Native Hawaiians are still the most likely of the state’s major ethnic groups to have diabetes.

**FIGURE 4.28** Trends in diabetes among adults
[as a percentage of all adult respondents, by race/ethnicity, unadjusted 3-year weighted averages, selected years, Hawai‘i]

• Native Hawaiians are the only major ethnic group in the state whose diabetes prevalence decreased between 2005 and 2009 (from 12.4 percent to 11.6 percent). Over the same period, statewide averages increased slightly from 7.4 percent to 8.3 percent.

• However, Native Hawaiian adults have historically had the highest rates of diabetes among the major ethnic groups in Hawai‘i.

• Data from 2011 (not shown) indicate that one in ten Native Hawaiians (9.8 percent) had diabetes, compared with one in twelve adults (8.4 percent) statewide. Among the major ethnic groups, the prevalence of diagnosed diabetes was highest for Japanese adults (12.3 percent) and second highest for the Native Hawaiian population (9.8 percent).

Our understanding of racial and ethnic disparities in chronic illness rates depends to a large extent on the specific types of measures employed. Thus far, based on unadjusted data from a statewide survey of adults, it appears that Native Hawaiians are more likely than the state’s other major ethnic groups to suffer from asthma and diabetes. However, age-adjusted mortality rates highlight the full extent of the disparities in diabetes data and the disproportionate toll the disease takes on the Native Hawaiian population.
Native Hawaiians had the highest diabetes mortality rates (underlying, contributing, and total) of the major ethnic groups in the state.

The total diabetes mortality rate among Native Hawaiians (130.6 per 100,000) was roughly three times that of Whites (44.2 per 100,000) and nearly twice the rate of the statewide population (70.3 per 100,000).

Heart Disease

One might expect that Native Hawaiians would be disproportionately prone to heart disease due to the prevalence of other health risk factors, such as smoking and obesity, and because of the high rate of co-occurrence between diabetes and heart disease. However, survey data collected by the Hawai‘i Department of Health suggest otherwise. The findings show a high prevalence of heart disease (unadjusted for age) in the Chinese and White populations and, more recently, among Japanese adults.
The prevalence of coronary heart disease within the Native Hawaiian community has been trending downward—from 4.5 percent in 2005 to 3.1 percent in 2009—but has remained slightly higher than the statewide average.

Data from 2011 (not shown) suggest that the rate of coronary heart disease within the Native Hawaiian community (2.7 percent) fell below the statewide average (3.0 percent) and the rates among White (3.2 percent) and Japanese adults (4.4 percent). Among the major ethnic groups in the state, only the Chinese and Filipino populations had lower heart disease rates in 2011 than Native Hawaiians.

Related data on the prevalence of heart attacks align more predictably with risk factor disparities for Native Hawaiians. Between 2005 and 2009, Native Hawaiians reported the highest unadjusted rate of heart attacks among the state’s major ethnic groups.
The prevalence of heart attacks among Native Hawaiians fell from 5.1 percent in 2005 to 4.2 percent in 2009.

Between 2005 and 2009, however, Native Hawaiians were the most likely of the state’s major ethnic groups to report having suffered a heart attack.

Data from 2011 (not shown) indicate that the reported prevalence of heart attacks among Native Hawaiians (2.3 percent) was lower than the statewide average (3.2 percent) and half the rate among Japanese adults (4.6 percent).9

The unadjusted estimates of heart disease prevalence depict mixed results, with the differences between Native Hawaiians and other ethnic groups varying significantly from year to year. Again, age-adjusted mortality rates provide a clearer, more consistent perspective on the impact of heart disease on the Native Hawaiian population.

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9. Given the substantial inconsistencies between 2011 heart disease and heart attack rates and those of previous years, we wonder about the accuracy of the statistics generated during this first year of the new cell phone-based survey methodology.
Native Hawaiians had the highest mortality rate for heart disease (135.4 per 100,000) of the major ethnicities in the state.

Heart disease mortality among Native Hawaiians was more than twice the rates of either the Chinese or the Japanese populations (66.4 and 66.6 per 100,000, respectively) and exceeded the statewide average by 54.1 per 100,000.

Heart disease prevalence and mortality rates depict a complex model of illness. The data, which suggest that heart disease is no more common among Native Hawaiians than it is within the broader state population—yet heart attacks and deaths related to heart disease are more prevalent—hint at the importance of healthcare as a mediator of disease progression and consequence. Similar patterns are apparent in the cancer data.
Cancer

Owing to the existence of locally dedicated research programs like the Cancer Research Center of Hawai‘i, cancer is the one disease for which we are consistently able to locate incidence rates that are specific to the state’s major ethnic groups and adjusted to account for varying age profiles.

Incidence rates for 2000 to 2005 (the last years for which age-adjusted data are currently available) show that Native Hawaiians are more likely to be diagnosed with lung cancer than are the state’s other major ethnic groups. Similarly, Native Hawaiian women are more likely than other women in the state to have breast cancer.

**FIGURE 4.33** Cancer incidence among males
[rate per 100,000 people, by race/ethnicity, by cancer type, 2000–05 (combined), Hawai‘i]

- Native Hawaiian men had the lowest incidence of prostate cancer (106.7 per 100,000) and the highest incidence of lung cancer (94.0 per 100,000) compared with the other major ethnic groups in the state.
- The lung cancer incidence rate among Native Hawaiian men (94.0 per 100,000) is nearly twice that of Chinese men (48.9 per 100,000).
- For cancer of the colon and rectum—one of the most frequently diagnosed types of cancer—incidence among Native Hawaiian men (60.7 per 100,000) is lower than the statewide average (63.2 per 100,000).

Racial/ethnic differences in cancer incidence are similar in both men and women (aside from prostate and breast cancer, which are typically gender-specific), with Native Hawaiians most likely to be diagnosed with lung cancer and Japanese most likely to be diagnosed with colorectal cancer.

*Source: American Cancer Society, Cancer Research Center of Hawai‘i, and Hawai‘i Department of Health 2010.*
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FIGURE 4.34 Cancer incidence among females
[rate per 100,000 people, by race/ethnicity, by cancer type, 2000–05 (combined), Hawai‘i]

- Native Hawaiian women suffered the highest incidence of breast cancer (157.5 per 100,000) and lung cancer (61.9 per 100,000) among the state’s major ethnic groups.
- Lung cancer incidence among Native Hawaiian women exceeded the statewide average (38.8 per 100,000) by 23.1 per 100,000.
- Native Hawaiian women are among the least likely of the state’s major ethnic groups to be diagnosed with colorectal cancer.

Although cancer incidence data hint at underlying disparities across the major ethnic groups in the state, perhaps the most troubling statistics are apparent in the divergence between cancer incidence and mortality rates. As with heart disease and diabetes, racial/ethnic differences in rates of cancer diagnosis do not necessarily mirror differences in the risk of dying from the disease.

Source: American Cancer Society, Cancer Research Center of Hawai‘i, and Hawai‘i Department of Health 2010.
In comparing Native Hawaiian and White males from 2000 to 2005, White men are more likely to be diagnosed with cancer, but Native Hawaiian men are more likely to die from cancer.

The ratio of cancer mortality to incidence among Native Hawaiian men was approximately 5 to 10 (0.48), meaning that for every two Native Hawaiian men diagnosed with cancer, approximately one died from malignancy.

By contrast, the statewide mortality to incidence ratio was 4 to 10 (0.40), indicating a greater chance of survival.
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FIGURE 4.36  Cancer incidence and mortality among females
[rate per 100,000 people, by race/ethnicity, all types of cancer combined, 2000–05 (combined), Hawai‘i]

- Native Hawaiian women are the most likely to be diagnosed with cancer and to die from cancer compared with females from the other major ethnicities in the state.
- Between 2000 and 2005, cancer incidence among Native Hawaiian women exceeded the rate among White women by 34.2 per 100,000 and the statewide rate by 65.5 per 100,000.
- Total cancer mortality among Native Hawaiian women exceeded the statewide rate by 46.3 per 100,000.
- The ratio of cancer mortality to incidence among Native Hawaiian women was approximately 4 to 10 (0.38), meaning that for every ten Native Hawaiian women diagnosed with cancer, approximately four died from malignancy—higher than the statewide ratio of 3 to 10 (0.33) but not as disparate as the rates for men shown above.

Source: American Cancer Society, Cancer Research Center of Hawai‘i, and Hawai‘i Department of Health 2010.
MORTALITY AND LIFE EXPECTANCY

The disproportionately high risk of death Native Hawaiians face for specific diseases like cancer, heart disease, and diabetes contributes to an overall mortality rate for Native Hawaiians that is significantly higher than that for non-Hawaiians.

FIGURE 4.37 Mortality [deaths per 100,000 people, by race/ethnicity, age-adjusted estimates, aggregated across all causes, 2005, Hawai‘i]

- Native Hawaiians suffered the highest mortality rate among the major ethnic groups in the state at 857.9 deaths per 100,000 in 2005, compared with 626.2 deaths per 100,000 statewide.
- In 2005, the mortality rate among Native Hawaiians exceeded that of the Japanese population and the total state population by 340.6 per 100,000 and 231.7 per 100,000, respectively.
- Filipinos are the only major ethnic group in the state with a mortality rate approaching that of Native Hawaiians (801.4 per 100,000 and 857.9 per 100,000, respectively).

Directly related to the high mortality rates among Native Hawaiians is the comparatively low life expectancy within the population.

Source: Liu, Blaisdell, and Aitaoto 2008.
Note: Chinese rates are excluded because sample sizes were too small to yield reliable estimates.
Native Hawaiians have had the lowest life expectancy among the major ethnic groups in the state since at least 1980.

As of 2000, Native Hawaiian life expectancy was an average of 6.2 years lower than that of the statewide population.

Native Hawaiians were the only major ethnic group in the state for whom life expectancy did not increase between 1990 and 2000.
CONCLUSION

Physical well-being unfortunately remains an area of significant challenge for the Native Hawaiian population. Compared with the other major ethnic groups in the state, Native Hawaiians have limited access to healthcare, are more likely to be overweight or obese, and are more likely to engage in high-risk behaviors such as smoking and excessive drinking. Native Hawaiians also suffer higher mortality rates for infants and those afflicted with chronic illnesses such as heart disease, diabetes, and cancer.

Many of the improvements in Native Hawaiian health—such as decreases in the prevalence of smoking, teen pregnancy, and infant mortality—mirror national trends. This highlights the success of public health initiatives in reaching and supporting all parts of the population, including disadvantaged minorities like Native Hawaiians. However, the parallel nature of these trends also suggests that Native Hawaiians are making minimal gains relative to the other major ethnic groups in the state. Health disparities among ethnic groups have been stubbornly persistent over time, and Native Hawaiians continue to trail non-Hawaiians across a range of physical well-being measures.

Despite the ongoing concerns regarding Native Hawaiian health, there is reason to hope for improvement. In addition to the quantifiable gains described in this chapter, there are also positive influences emerging from external sources. System-level shifts initiated by the Affordable Care Act, technological advances in medicine, and the growing policy emphasis on promoting wellness rather than treating disease provide a backdrop that is conducive to positive change.

In addition, the wealth of data on physical health acts as a critical resource that programs and service providers can use to identify ideal intervention points and strategies. Risk factors such as obesity, early sexual activity, smoking, and excessive alcohol consumption—all of which may be prevented or mitigated—present opportunities for positive intervention. Similarities in the health indicators of Native Hawaiian adolescents and Native Hawaiian adults suggest that patterns of behavior are established early in life and that intervention in a child’s formative years is critical.

Finally, a substantial body of research highlights the strong relationship between physical health and the social and economic context, suggesting the need for support services to address the underlying drivers of high-risk behaviors and choices—such as socioeconomic inequalities, lack of information, and peer group pressures—to achieve greater success. The multifaceted and intergenerational nature of well-being, in combination with the complex nature of physical health and disease, means that the path toward improved Native Hawaiian health will require efforts that are both holistic and strategic.