

# Recent Tracking of Hawaii's Progress Toward Healthy People 2010 Derived from HBRFSS 2001-2006

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State of Hawaii

#### Acknowledgement

We would like to acknowledge the adult residents of Hawaii who voluntarily participated in the HBRFSS. Without their participation this report as well as other studies derived from HBRFSS would have not been made possible. We would also like to acknowledge the survey interviewers for their perseverance and dedication in on-going data gathering. Finally, we would also like to thank Dr. Chiyome Leinaala Fukino, Director of Health and Susan C. Jackson, Deputy Director of Health at DOH for their support.

#### About the Hawaii Behavioral Risk Factor Surveillance System (HBRFSS)

The HBRFSS is an ongoing land-based random telephone survey of randomly selected adult residents 18 years and older on behaviors that affects health directly and indirectly. The HBRFSS is funded by the Centers for Disease Control and Prevention (CDC) as part of the national Behavioral Risk Factor Surveillance System (BRFSS). The HBRFSS has been in operation since 1986. For more information about HBRFSS results, please visit the following website: <u>http://hawaii.gov/health/statistics/brfss/index.html</u>. If the information you are looking is not on the website, you may contact the state BRFSS coordinator via e-mail at brfsshi@doh.hawaii.gov or via phone at 808-586-4509.

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LINDA LINGLE GOVERNOR OF HAWAII



CHIYOME L. FUKINO, M.D. DIRECTOR OF HEALTH

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In reply, please refer to: File:

#### ALOHA FROM THE DIRECTOR

The State Department of Health is pleased to present this report *Recent Tracking Hawaii's Progress Toward Healthy People 2010 Derived from HBRFSS 2001-2006.* 

Healthy People 2010 is a set of national health objectives designed to identify the most significant preventable threats to health and to establish national goals to reduce these threats by year 2010.

The Hawaii Behavioral Risk Factor Surveillance System (HBRFSS) provides indicators that cover ten health areas and thirty Healthy People 2010 objectives for the calendar years 2001 to 2006. This report is an important resource for the planning, evaluation and implementation of health programs that promote quality of life and prevent premature death or disability, particularly among certain segments of Hawaii residents.

This report would have not been made possible without the survey participation of the people of Hawaii. Together we can work for a healthy Hawaii.

Sincerely,

Chiyome Leinaala Fukino, M.D. Director of Health

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- Access to Quality Health Services
- Cancer
- Diabetes
- Heart Disease and Stroke
- Immunization
- Nutrition and Overweight
- Oral Health
- Physical activity
- Substance Abuse
- Tobacco Use

Appendix A: List of Objectives, Questions and Variables used Appendix B: List of Age Distribution and weights used in age-adjustment Appendix C: Poverty Thresholds 2006 References

#### **Executive Summary**

In many of the HP2010 objectives tracked in this report for the adult residents of the state, what resonates are the following:

- 1. Hawaiians/Part-Hawaiians followed closely by Filipinos are far from meeting the HP2010 objectives.
- 2. Adults who are in low income households or adults who did not finish high school education are also failing to meet many of the objectives.
- Adults in Hawaii, Kauai, and Maui County are far behind from those in Honolulu County in terms of having health insurance, having source of ongoing care, having blood cholesterol check within 5 years, annually visiting dentist or dental clinic, annually having flu vaccination, and reducing the rate of smoking.
- Most adults in the state fail to consume the recommended daily servings of fruits and vegetables in order for the state to meet the HP2010 objectives on nutrition.
- 5. Women are trailing behind the objectives for pap smear and mammogram especially those with low income household.

Readers who want to see the numerical results without going through the entire report are invited to read the highlight sections.

#### **INTRODUCTION**

#### 1. PURPOSE

December 2003 saw the introduction of version 1 of "TRACKING HAWAII PROGRESS TOWARD HEALTHY PEOPLE 2010 MEASURE FROM HBRFSS" which featured five years of statistical data from 1998 to 2002. This report is an update with new 6 year data from 2001 to 2006 taking into account the changes made in the Healthy People 2010 Midcourse Review in 2006 (*www.healthypeople.gov/data/midcourse/*)<sup>1</sup>.

As was the case for its predecessor, the purpose of this report is to serve as a reference data book in order to assist program managers and policy makers in decision-making, planning and evaluation of activities and other services. It is hope that providing them with six year results of Healthy People 2010<sup>2</sup> (HP2010) objective goals as measured by the Hawaii Behavioral Risk Factor Surveillance System (HBRFSS) will help the health programs achieve their targeted results.

This report is alignment with HP2010 twin goals. The two overarching goals of HP2010 are to increase the quality and years of healthy life and to eliminate health disparities among Americans. To accomplish these aims, it has established a set of corresponding national targets that apply to diverse populations. These populations can be categorized into sub-groups such as county, gender, race or ethnicity, education, and income. Along these lines, this report will present weighted rates and age-adjusted rates for the entire state as well as for the population sub-groups. The age-adjusted rates are presented to be comparable with the HP2010 goal rates, which were age-adjusted based on US 2000 standard population and to compensate for age structure differences among subgroup populations.

<sup>&</sup>lt;sup>1</sup>The objectives in the midcourse review that are used in this report are listed in Appendix A.

<sup>2 &</sup>quot;Healthy People 2010" challenges individuals, communities, and professionals—indeed, all of us— to take specific steps to ensure that good health, as well as long life, are enjoyed by all. (http://www.healthypeople.gov/)

<sup>&</sup>quot;Healthy People 2010" provides a framework for prevention for the Nation. It is a statement of national health objectives designed to identify the most significant preventable threats to health and to establish national goals to reduce these threats (<u>http://www.healthypeople.gov/About/</u>). It covers 28 focus areas with 467 specific objectives. Most of the objectives are quantifiable and measurable over time.

With less than four year to go till 2010, it is time to look back and see where we are in terms of HP2010 goals and objectives. The data from Hawaii Behavioral Risk Factor Surveillance allow us to assess our progress towards achieving the 32 objectives within 10 areas or topics. These 10 areas or topics are:

- Access to Quality Health Services
- Cancer
- Diabetes
- Heart Disease and Stroke
- Immunization
- Nutrition and Overweight
- Oral Health
- Physical Activity
- Substance Abuse
- Tobacco Use

# 2. SOME SPECIFIC TERMS IN THIS REPORT AND CHANGES FROM PREVIOUS REPORT

In grouping subpopulations within the state, the terms *ethnicity*, *less education* and *low income* are defined as follows:

Ethnicity: self-reported ethnicity/race of respondents.

Less education: confined to adults aged 25 years and older who have not completed High School.

There is a change from the previous report in defining the term *"low-income household"* or *"low income"*.

Based on the Poverty Thresholds issued by The Census Bureau every year, which can be found at: <u>www.census.gov/hhes/www/poverty/threshld.html</u>, and based on characteristics of our state as well as the existing detail in our data, the term "low-income" is defined as:

*Low-income:* Household income less than \$10,000, or Household income from \$10,000 to less than \$15,000 and (number of adults + number of children)>=2, or Household income from \$15,000 to less than \$20,000 and (number of adults + number of children)>=3, or Household income from \$20,000 to less than \$25,000 and (number of adults + number of children)>=4, or Household income from \$25,000 to less than \$35,000 and (number of adults + number of children)>=6, or Household income from \$35,000 to less than \$50,000 and (number of adults + number of children)>=8.

#### **3. FORMAT OF PRESENTATION**

The main body of this report is presented in the following way: For each topic objectives, *summary highlights* are presented at the beginning of each topic objectives. This is followed by the prevalence rate available for each objective within the topic at the state level, followed by the *supplements*. These *supplements* are prevalence rates for sub-populations categorized by gender, ethnicity, household income, education and county.

The denominators of percentages presented in this report **include** responses of the type "Do Not Know" or "Refused" which means that once a question was asked, it was counted and included in the tabulation. The inclusion of 'Do Not Know' or 'Refused' in the denominator follows the definition of HP2010 for the denominator.

Note that **not** every objective at the state level and in the supplements has six data points representing the years 2001 to 2006. The exclusion of data for a year may be due to the following:

1) Questions related to the objective were not asked during the survey year.

2) The denominator sample size is less than 50. This exclusion follows the BRFSS protocol (Healthy People 2010 Statistical Notes, Number 24: Healthy People 2010 Criteria for Data Suppression [www.cdc.gov/nchs/data/statnt/statnt24.pdf]).

For each objective, the proportion is presented with weighted percentage and age-adjusted percentage **except** two objectives 21.3 and 21.4 in Oral Health areas. Age-adjustment was not done for these objectives because they are applied for specific age groups of "35 to 44" and "65 to 74". The *summary highlights* are presented with the age-adjusted percentage.

#### 4. NOTES

In measuring HP2010 objectives and goals, adherence to HP2010 definition prescribed in volume I and volume II of HP2010 was followed as much as possible. However, the reader is being cautioned that not all the HBRFSS variables or questions used in measuring HP2010 objectives and goals are 100% comparable with the prescribed HP2010 definition but are close alternatives. The HBRFSS questions and variables used can be found in Appendix A. The age distribution used for age-adjusted rates can be found in Appendix B. The Poverty Thresholds for 2006 can be found in Appendix C.

#### ACCESS TO QUALITY HEALTH SERVICE

Our HBRFSS data allow us to track two objectives in this area: Objective 1.1: Increase the proportion of persons under age 65 years with health insurance to 100%. Question used to obtain the data:

Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plan such as Medicare?

According to HBRFSS, in 2006 89.7% of Hawaii residents aged 18 to 64 have health insurance. In reference to the national baseline of 83% in 1997, the Progress Quotient of our state is 39.4% ([89.7-83]\*100/[100-83]). However, the following graph shows that we have declined a little since 2001 (Figure 1a) thus being farther from achieving this objective.

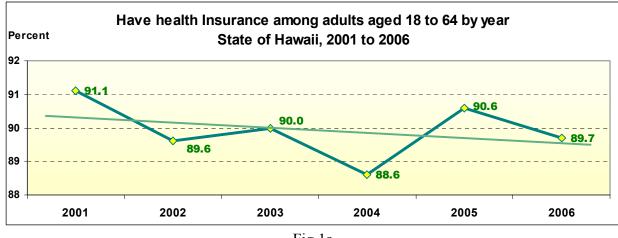
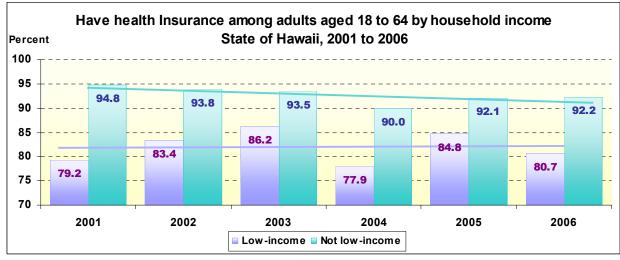


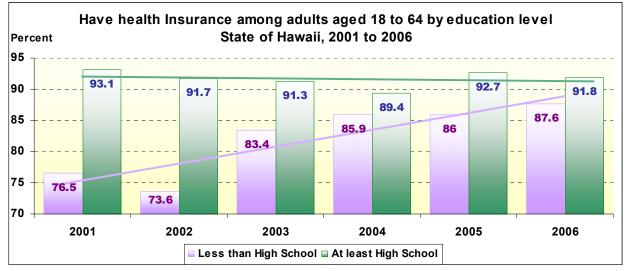
Fig.1a

In addition, there still exist disparities among some groups in the population.

• Figure 1b shows that there is a big gap in "Having health insurance" between people in low-income households and in better income households.

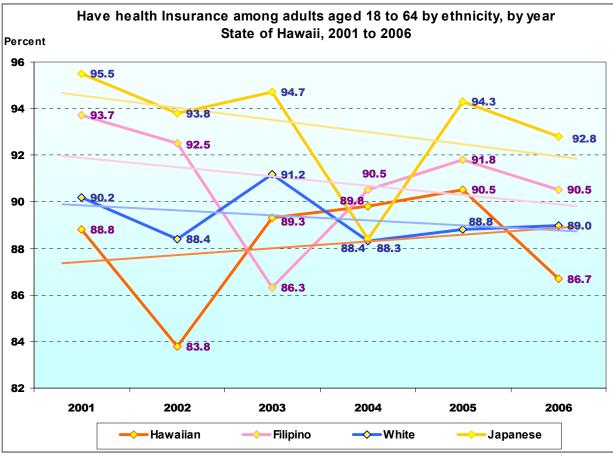


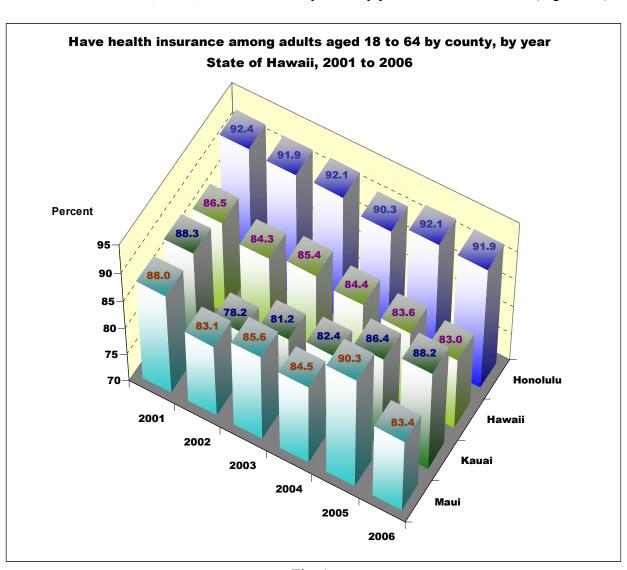
• The gap in health care coverage among those with less than high school education and those with more education narrowed over the six year period (Figure 1c).





• Among four major groups of ethnicity, Japanese have the highest percentage of having heath insurance in recent years. In 2006, Hawaiians have the lowest rate. However, based on 6-year data, the rate of having health insurance among Hawaiians is going up a bit, while those for other groups seem to be going down (Figure 1d).





• By county, Honolulu has been the best in this measure and had significant differences with Hawaii, Kauai, and Maui County in every year from 2001 to 2006 (Figure 1.e).

Fig. 1e

## **Objective 1.4c:** Increase the proportion of adults aged 18 years and older who have a specific source of ongoing care to **96%**

#### **Question used to obtain the data**:

Do you have one person [or more than one] you think of as your personal doctor or health care provider?

The proportion of adults with personal health care provider or doctor increased over the six-year period. Although the pattern is increasing it is still far from the objective (Figure 1f). Women have a higher proportion than men in every year.

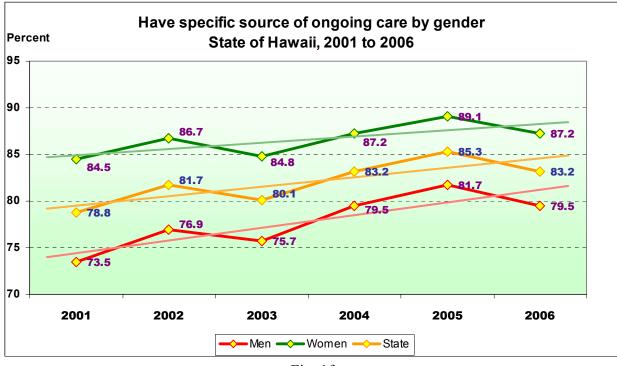


Fig. 1f

By county, Maui has been far below others since 2001 (Figure 1g)

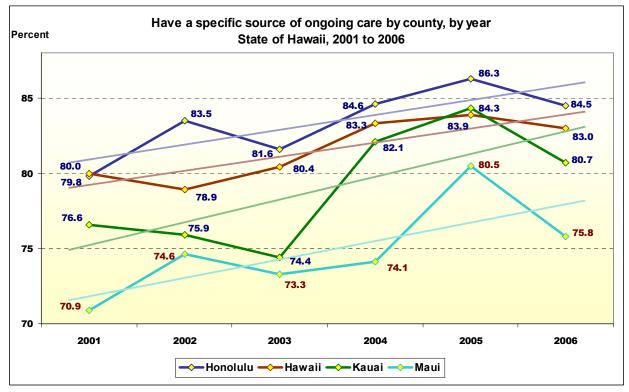
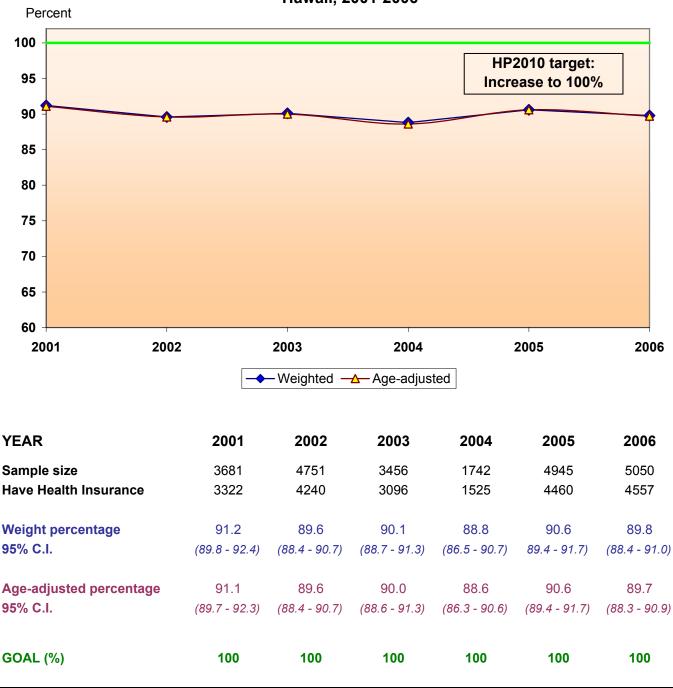


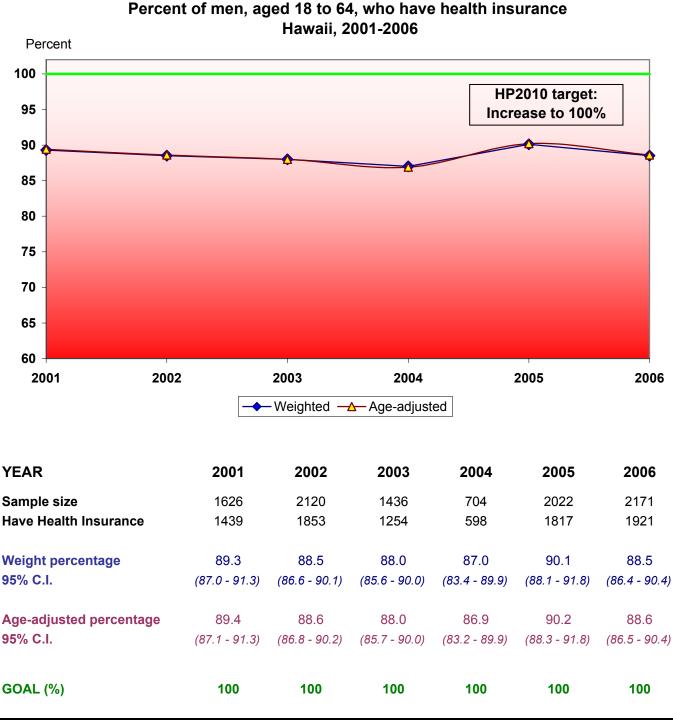
Fig. 1g

## **OBJECTIVE 1-1**

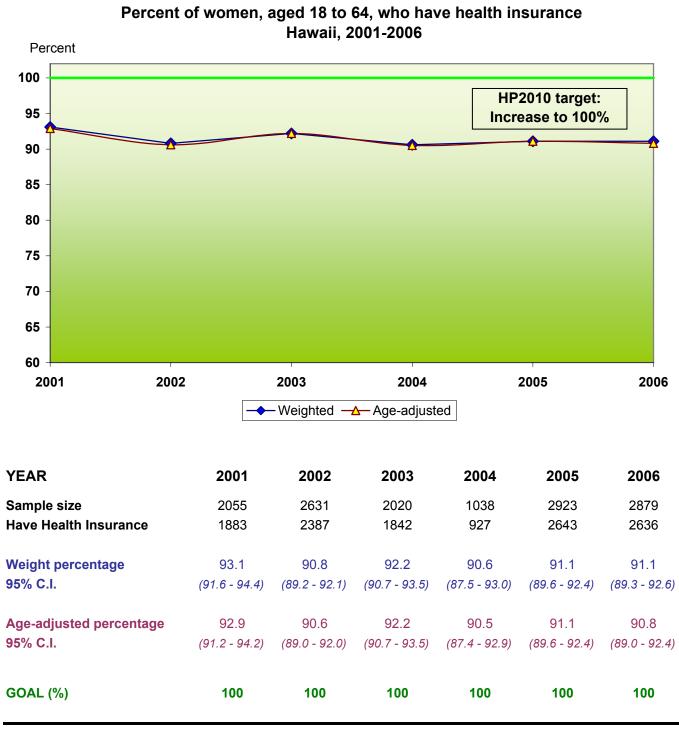


Percent of adults, aged 18 to 64, who have health insurance Hawaii, 2001-2006

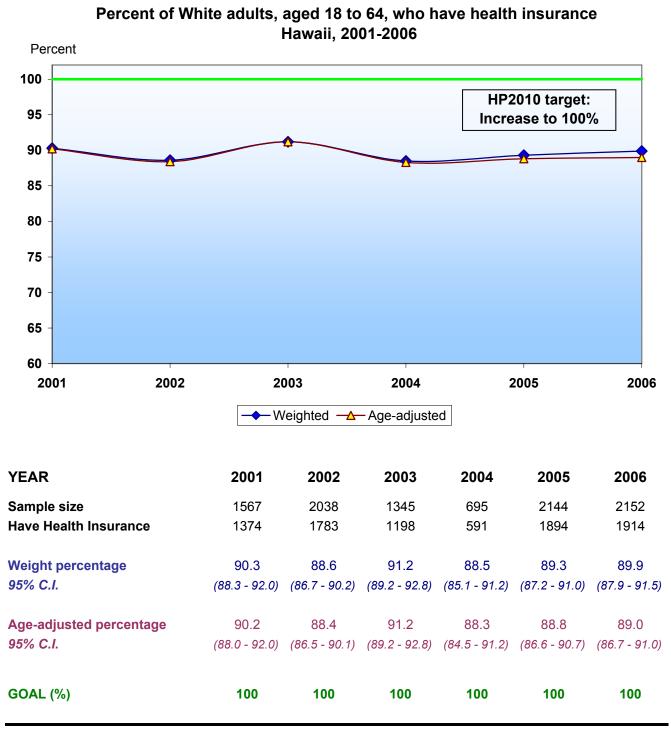
Source: Hawaii Behavioral Risk Factor Surveillance System



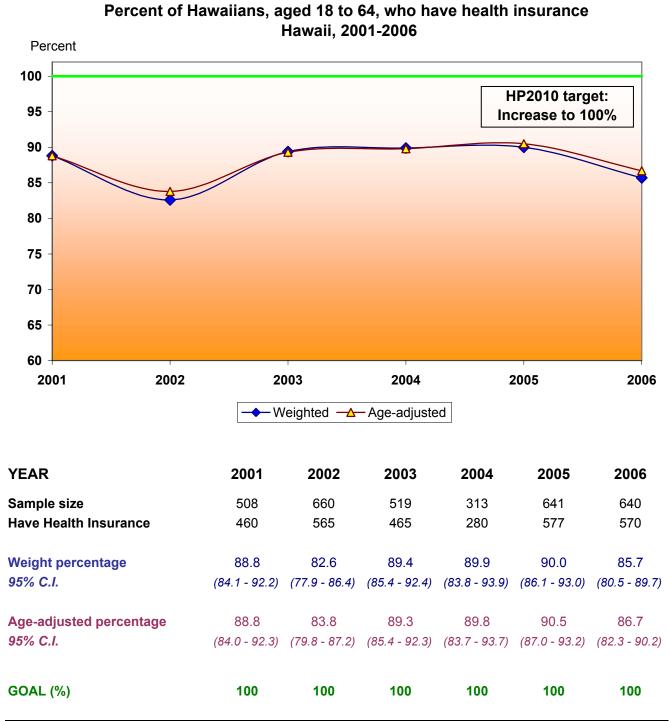
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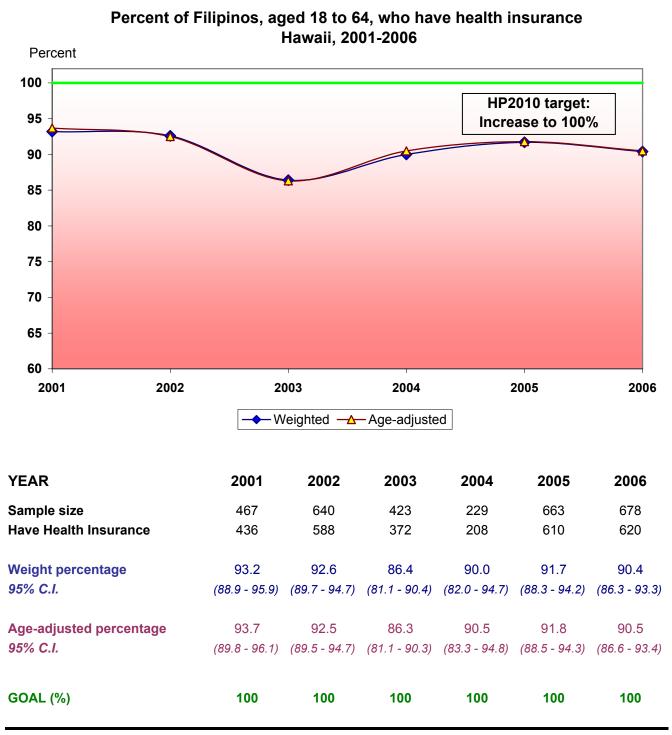
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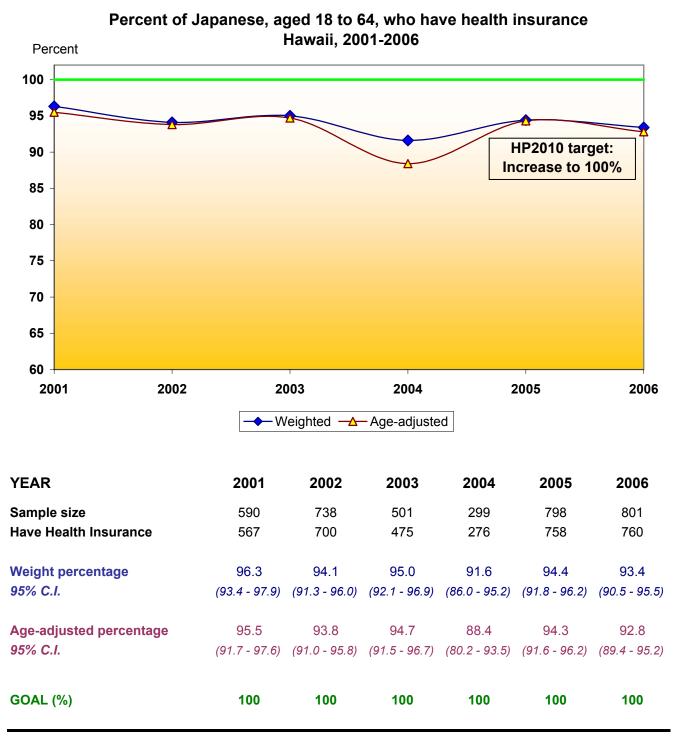
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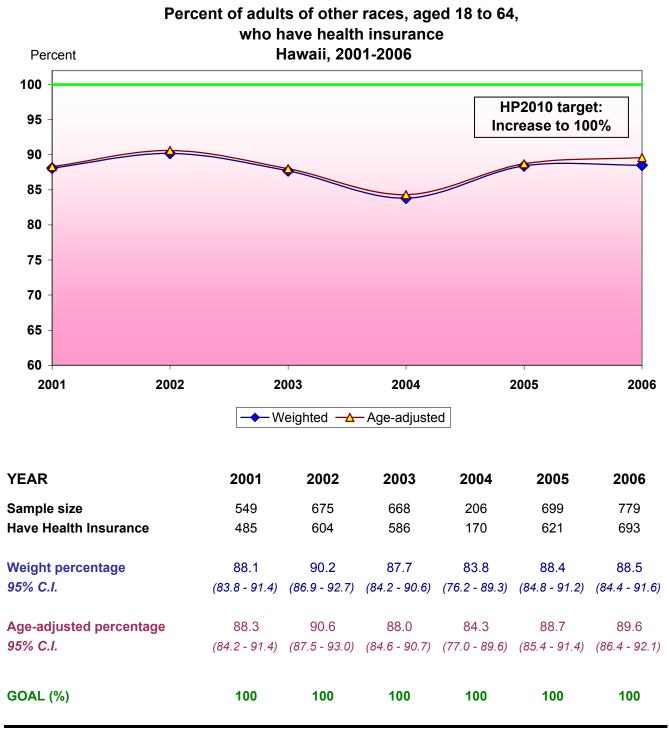
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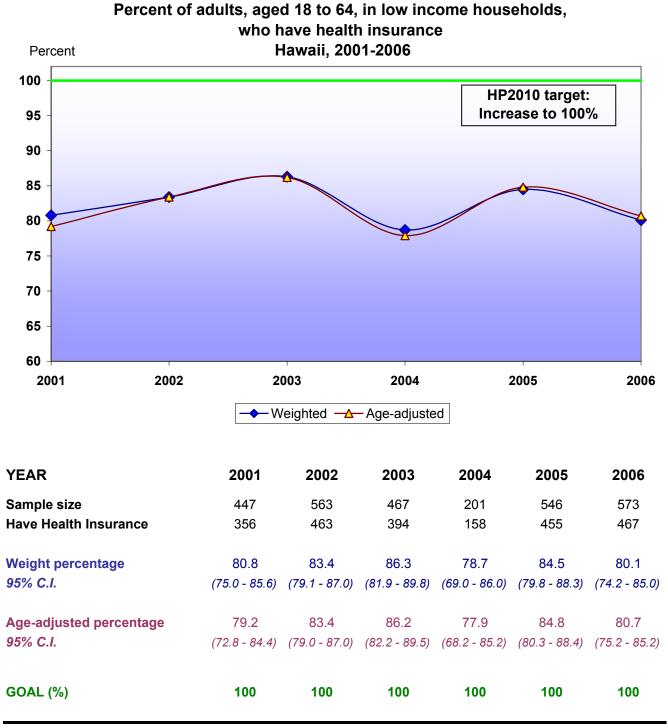
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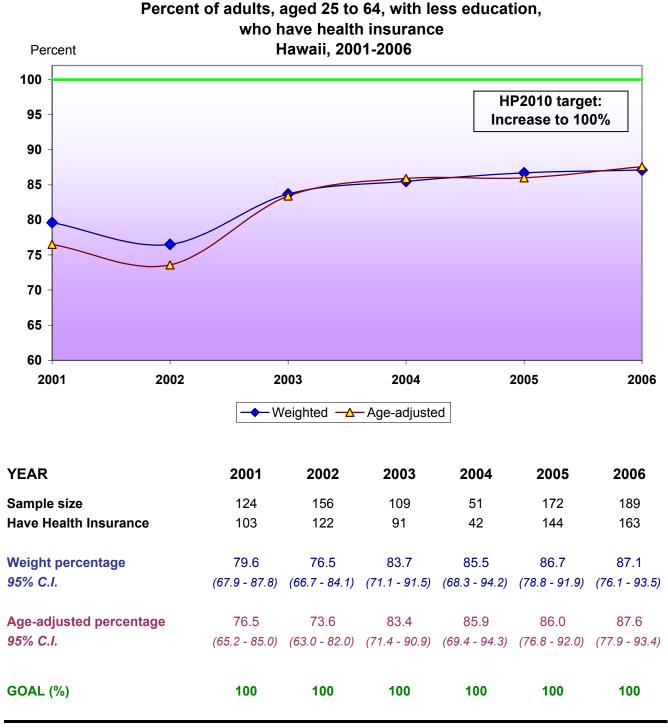
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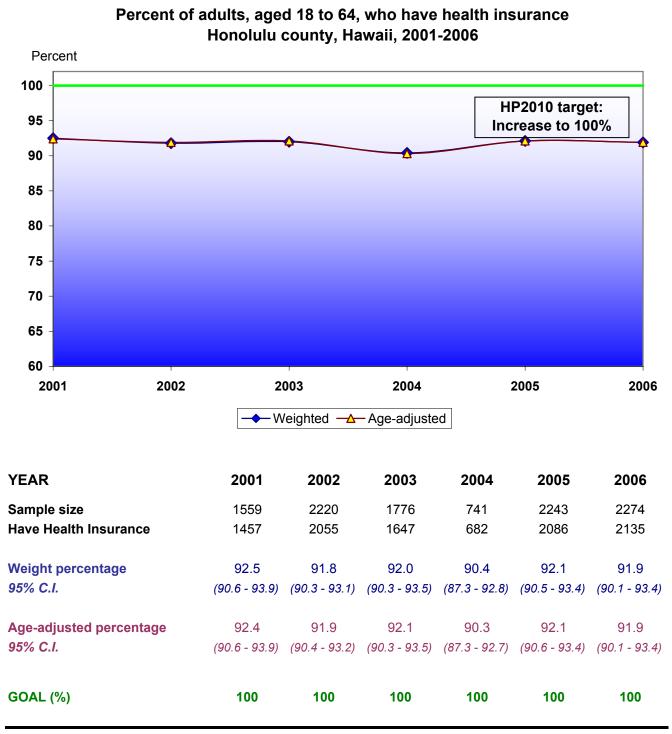
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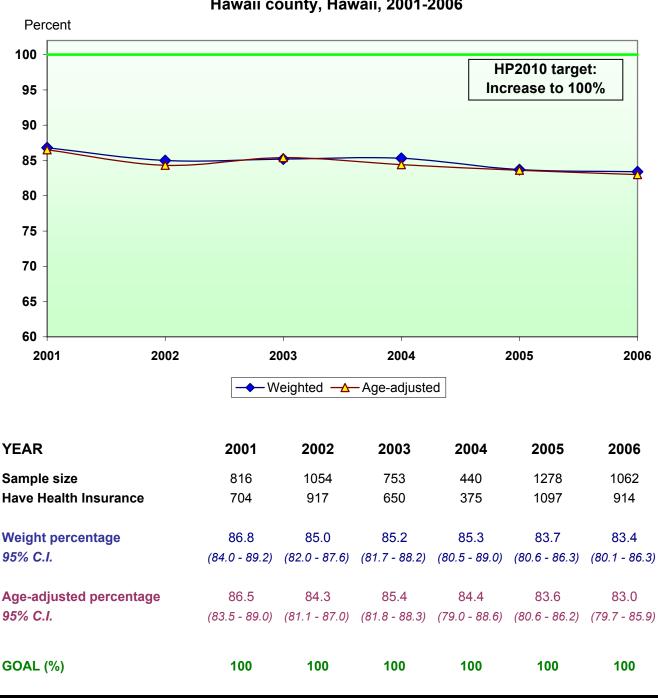
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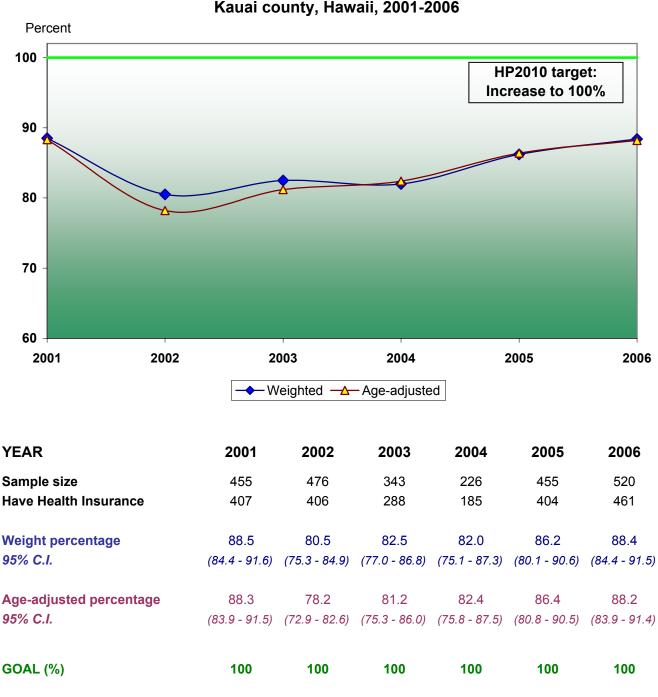


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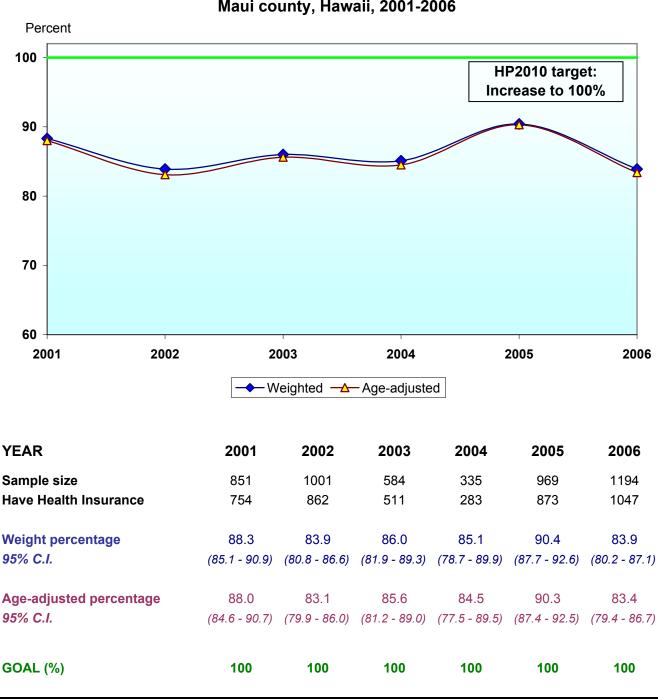
Percent of adults, aged 18 to 64, who have health insurance Hawaii county, Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of adults, aged 18 to 64, who have health insurance Kauai county, Hawaii, 2001-2006

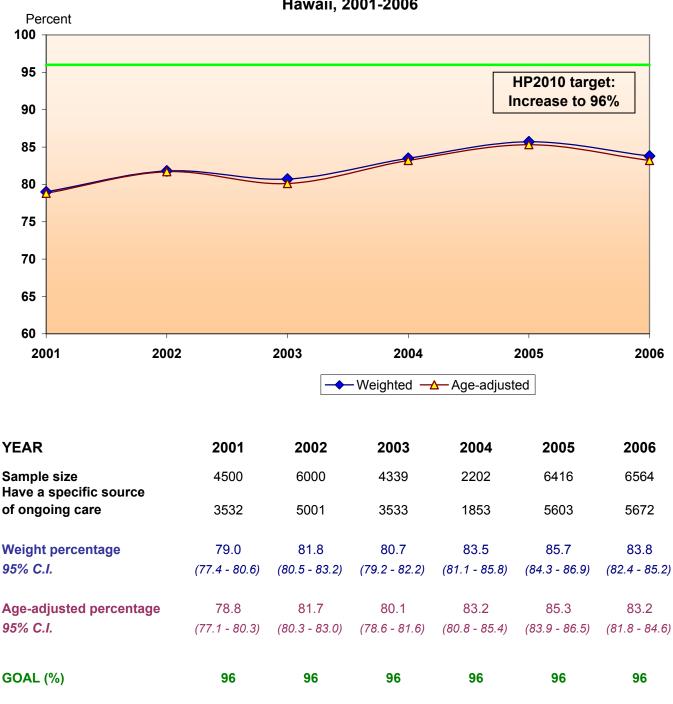
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of adults, aged 18 to 64, who have health insurance Maui county, Hawaii, 2001-2006

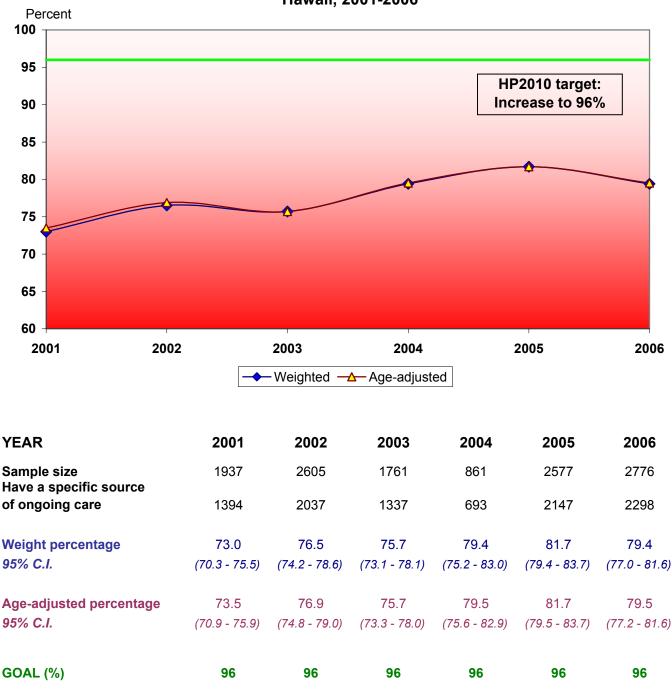
Source: Hawaii Behavioral Risk Factor Surveillance System

## **OBJECTIVE 1-4c**



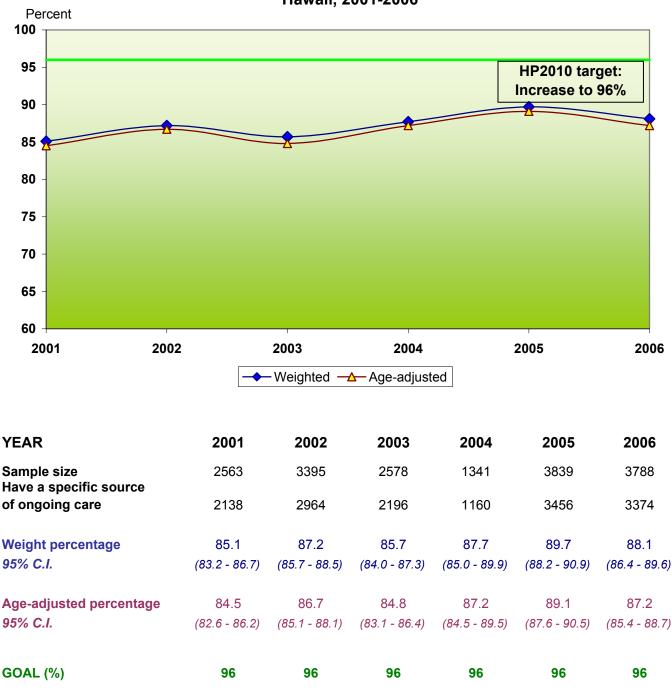
Percent of adults who have a specific source of ongoing care Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System



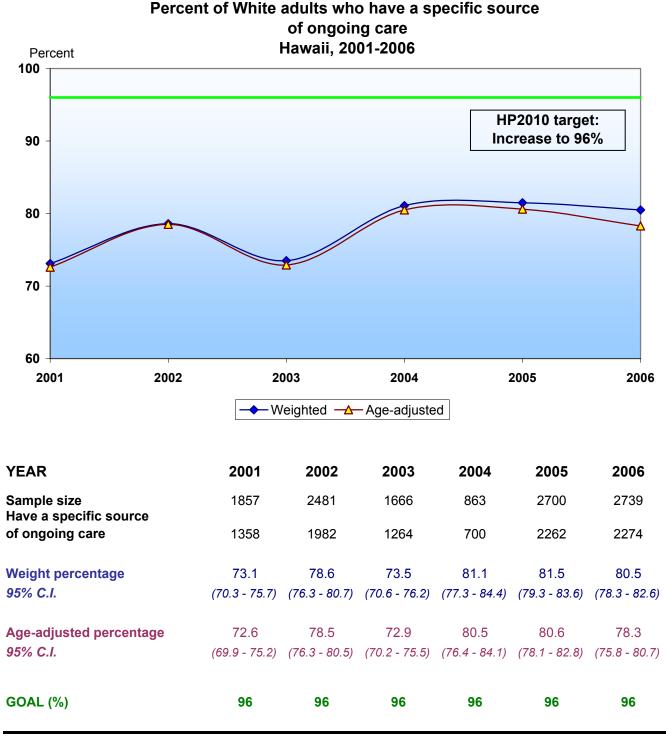
Percent of men who have a specific source of ongoing care Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

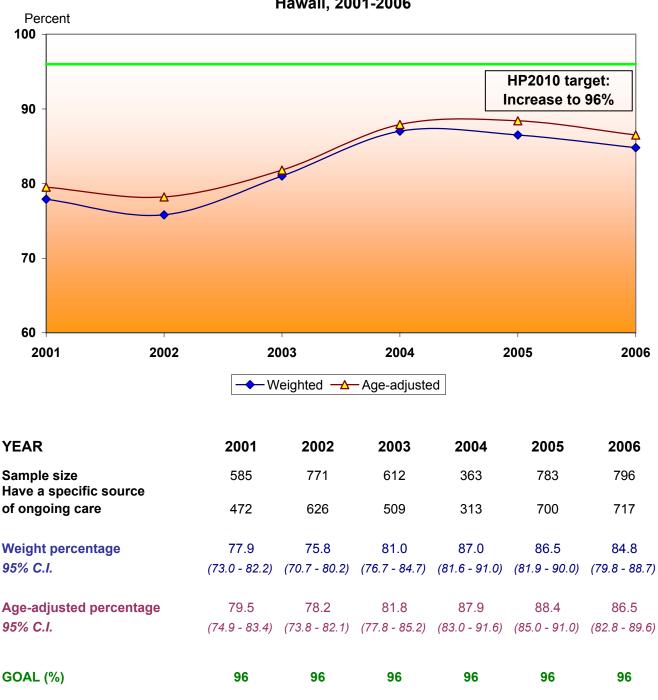


Percent of women who have a specific source of ongoing care Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

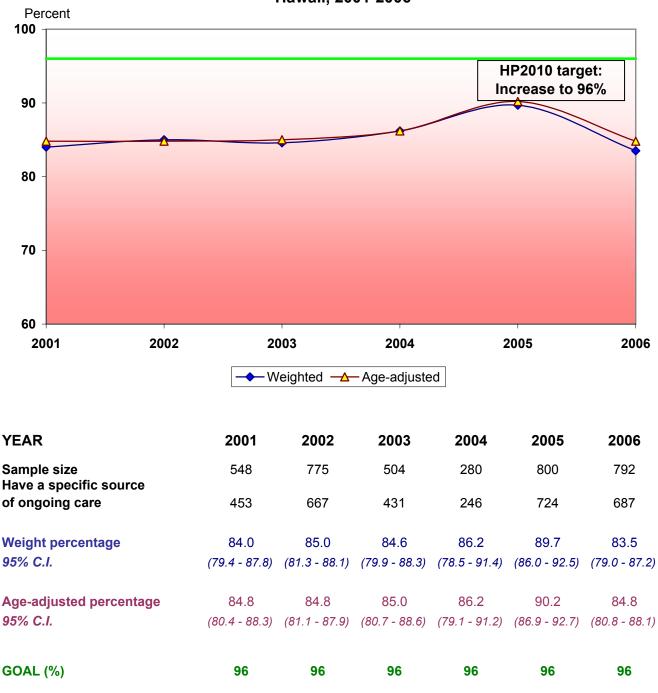


Source: Hawaii Behavioral Risk Factor Surveillance System



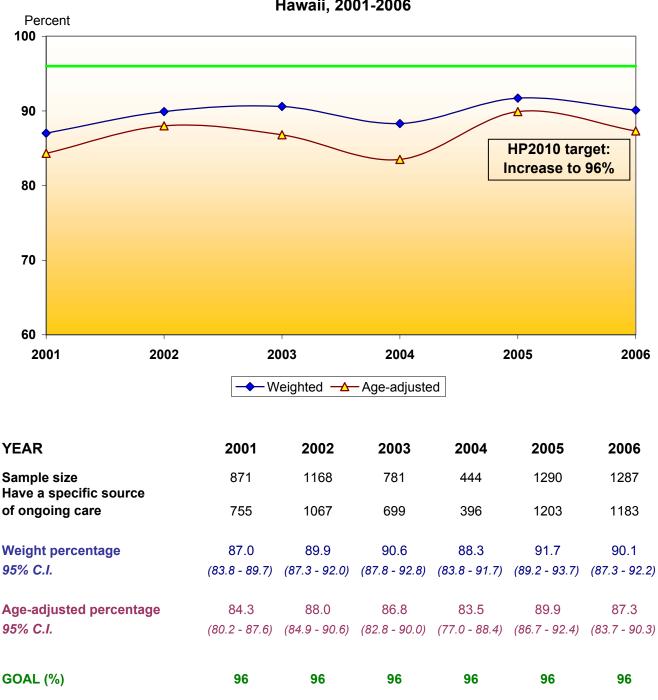
Percent of Hawaiians who have a specific source of ongoing care Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System



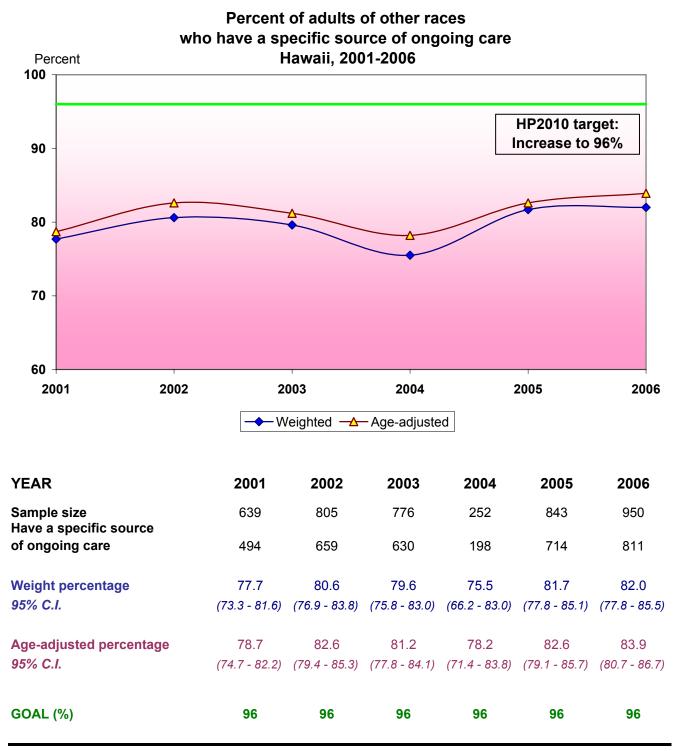
Percent of Filipinos who have a specific source of ongoing care Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

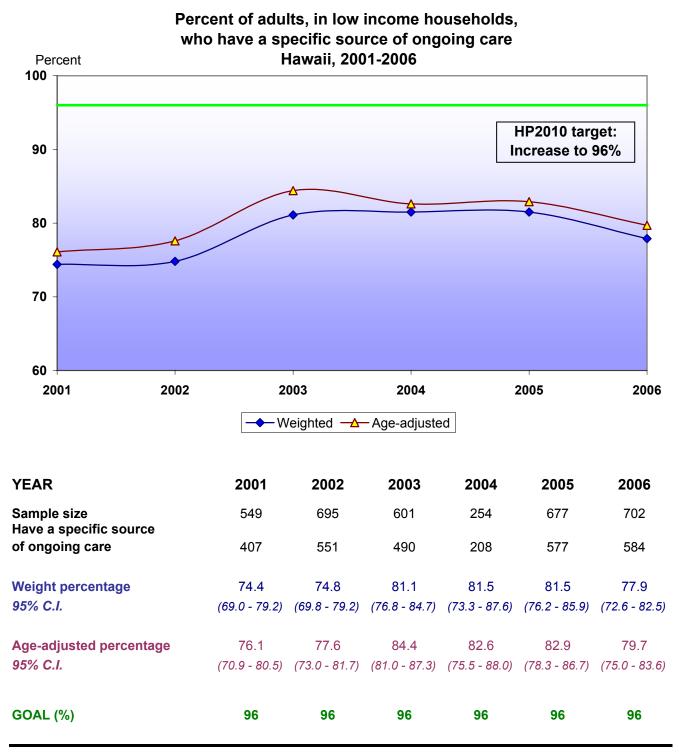


Percent of Japanese who have a specific source of ongoing care Hawaii, 2001-2006

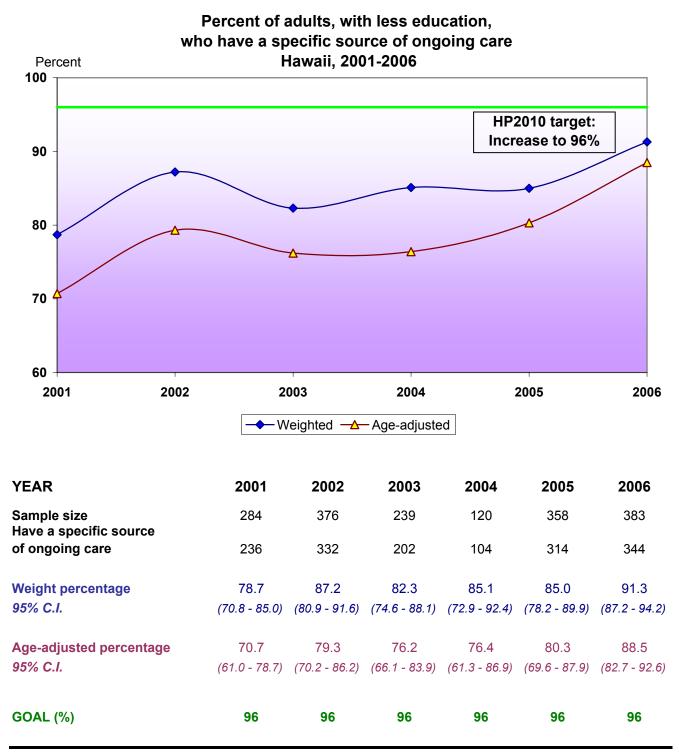
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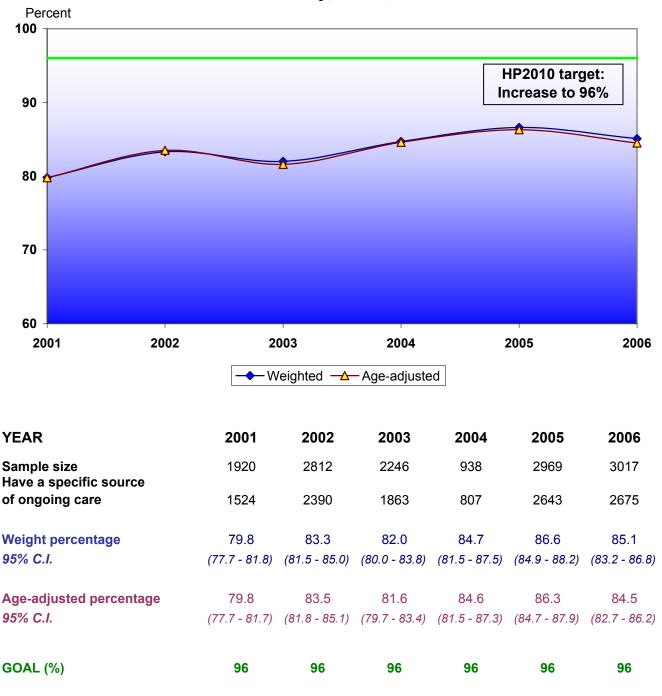
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

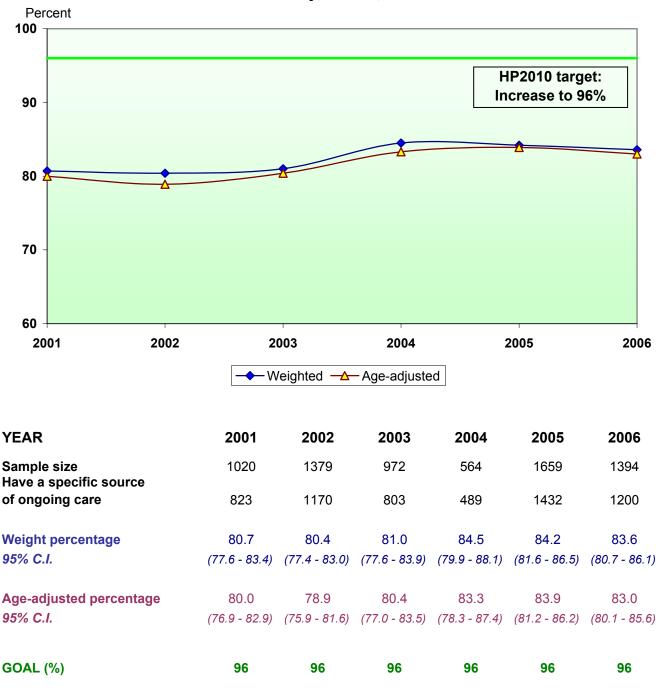


Source: Hawaii Behavioral Risk Factor Surveillance System



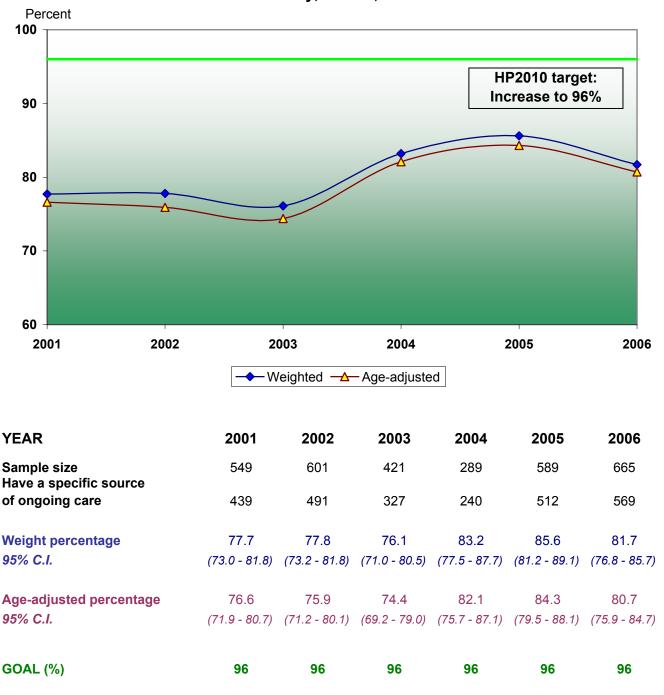
Percent of adults who have a specific source of ongoing care Honolulu county, Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System



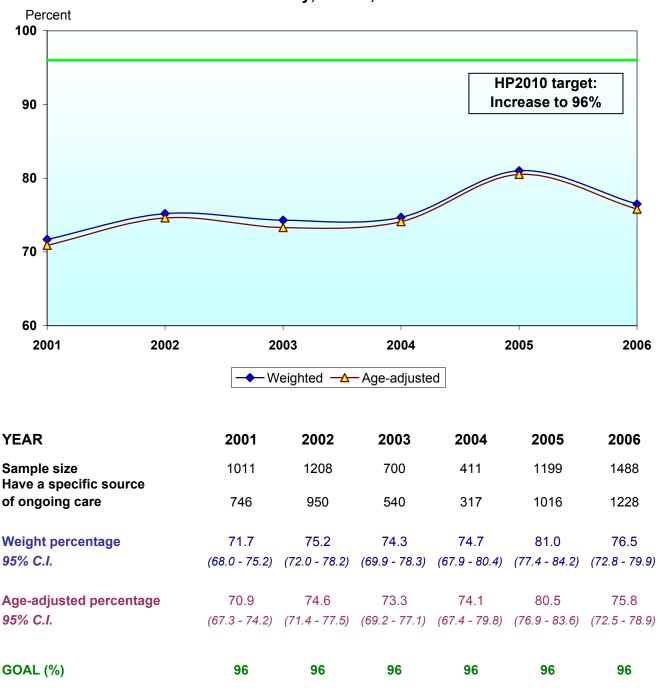
Percent of adults who have a specific source of ongoing care Hawaii county, Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of adults who have a specific source of ongoing care Kauai county, Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of adults who have a specific source of ongoing care Maui county, Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

#### CANCER

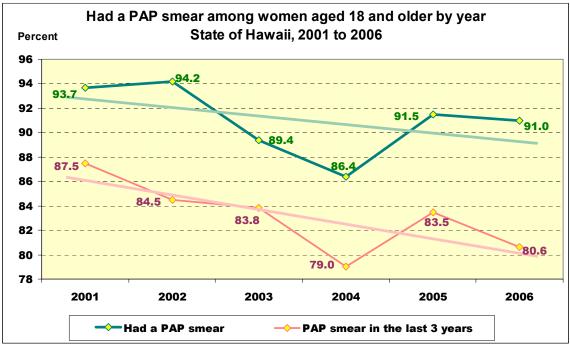
We have data to track 5 objectives within this target area.

**Objective 3-11a:** Increase the proportion of women aged 18 years and older who have ever received a Pap test to **97%.** 

**Question used to obtain the data:** *Have you ever had a pap smear?* 

**Objective 3-11b:** Increase the proportion of women aged 18 years and older who have ever received a Pap test within the preceding 3 years to **90%** <u>**Question used to obtain the data:**</u> How long has it been since your last pap smear?

The proportions of women 18 years and older in Hawaii who received a PAP test and who had the last one in the past 3 years are in downward trends (Figure 3a).





In 2006, the proportion of women aged 18 or older who have received a PAP test is 91%, lower than the national baseline of 92% in 1998. The percentage of women who had a PAP test within the last 3 years is 80.6%, just a little higher than the national baseline of 79% in 1998.

Filipino women have the lowest percentage, 77.1%, for "having a PAP test in the last 3 years" in 2006. The following chart shows a downward trend in the entire four major ethnic groups. The trend is gradually downward for Japanese women while it is rapidly downward for other women (Figure 3b).

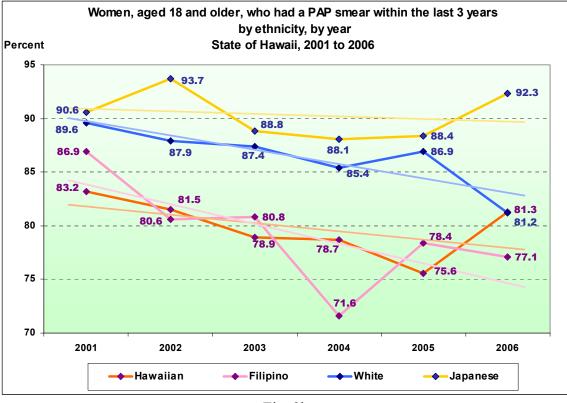
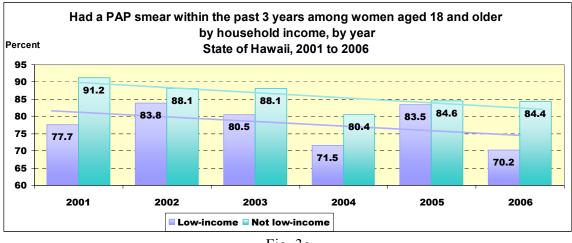


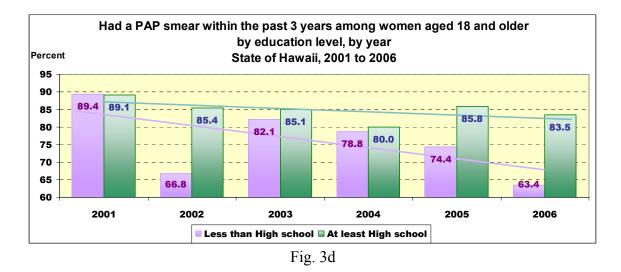
Fig. 3b

The proportion of women in low-income households who had a PAP test within the last 3 years is much lower than it is for those in better income households (Figure 3c).





Similarly, among women with less education, the percentage of "Having a PAP test within the last 3 years" is not only lower than it is for the better educated but it is going down at a faster pace (Figure 3d).





<u>**Question used to obtain the data:**</u> Have you ever had a mammogram? How long has it been since your last mammogram?

In 2006 76.7% of women aged 40 and older received a mammogram in the preceding 2 years. For the state, this proportion seems steady over the last six years (Figure 3e).

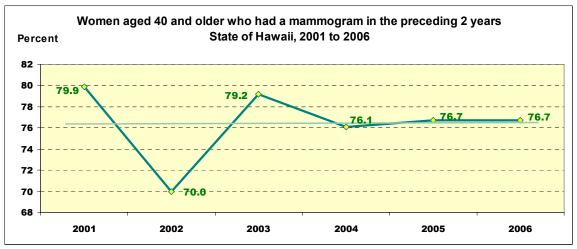


Fig. 3e

Japanese women always have the highest percentage of "Having a mammogram in the preceding 2 years". In 2006, the Japanese proportion was 83.9% and this rate is significantly higher than those of other ethnic groups (Figure 3f).

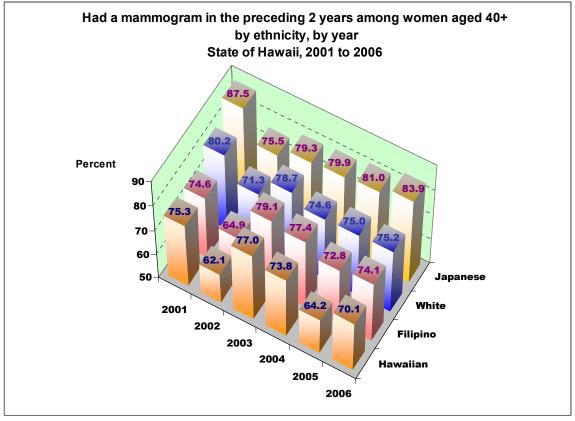


Fig. 3f

The trend for "Having a mammogram in the preceding 2 years" among women in lowincome households or among women with less education is down while that for not low income or more educated group is steady with the proportions higher than the HP2010 target of 70% (Figure 3g, 3h).

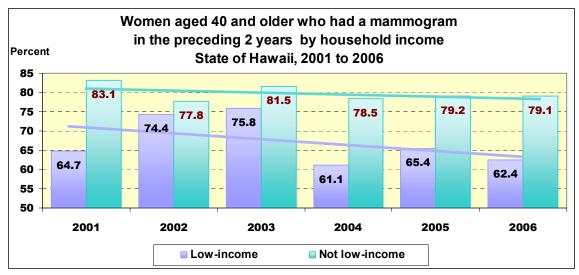


Fig. 3g

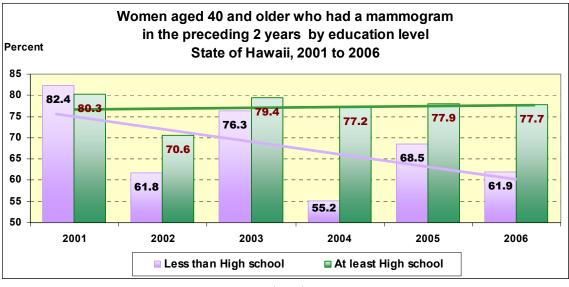


Fig. 3h

In "HEALTHY PEOPLE 2010 MIDCOURSE REVIEW (2006)", some revision was made for the objective 3.12: Increase the proportion of adults who receive a colorectal cancer screening examination.

(http://www.healthypeople.gov/data/midcourse/html/focusareas/FA03Objectives.htm)

#### Target and baseline:

Objective	Increase in Colorectal Cancer Screening	2000 Baseline <u>*</u> (unless noted)	2010 Target
		Percent	Percent
3-12a.	Adults aged 50 years and older who have received a fecal occult blood test (FOBT) within the preceding 2 years	24 <sup>1</sup>	33 <sup>2</sup>
3-12b.	Adults aged 50 years and older who have ever received a sigmoidoscopy	37 (1998)	50

\* Age adjusted to the year 2000 standard population.

<sup>1</sup> Baseline and baseline year revised from 35 and 1998 after November 2000 publication.

<sup>2</sup> Target revised from 50 because of baseline revision after November 2000 publication.

<u>Question used to obtain the data:</u>. Have you ever had this test using a home kit? How long has it been since your last blood stool test using a home kit?

And

Sigmoidoscopy and colonoscopy are exams in which a tube is inserted in the rectum to view the bowel for signs of cancer or other health problems. Have you ever had either of these exams?

Overall since 2001, among adults 50 years and older, the percentage of having a blood stool test in the preceding 2 years has strongly declined while the percentage of having a sigmoidscopy or a colonoscopy has tended to increase (Figure 3i).

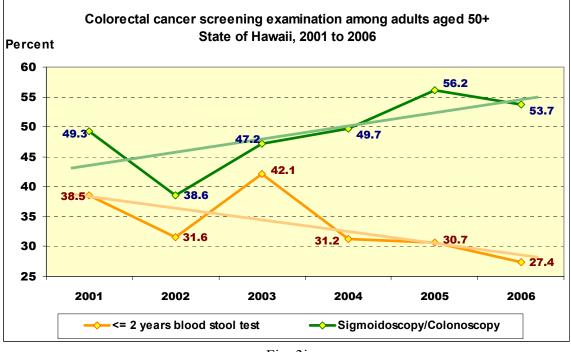


Fig. 3i

In 2006 53.7% of adults in Hawaii aged 50 years old or older had either sigmoidoscopy or colonoscopy. It exceeds the HP2010 goal of 50%. However, among the four major groups of ethnicity, the proportions for Japanese and White people are significantly higher than that for Filipinos or Hawaiians (Figure 3k).

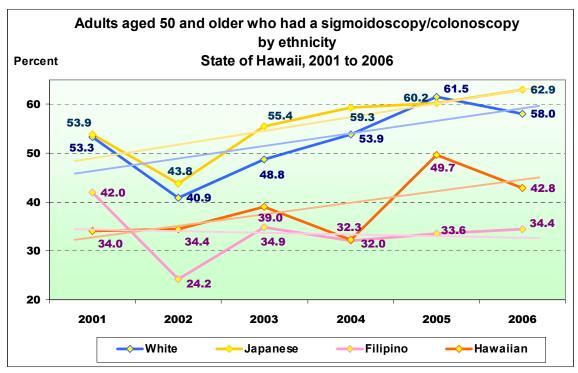


Fig. 3k

In addition, there is still a big difference in the proportion having this screening examination comparing people in low-income household with the better income (Figure 31), and people with less education and the better educated. The gap between these groups has widened over the six year period (Figure 3m).

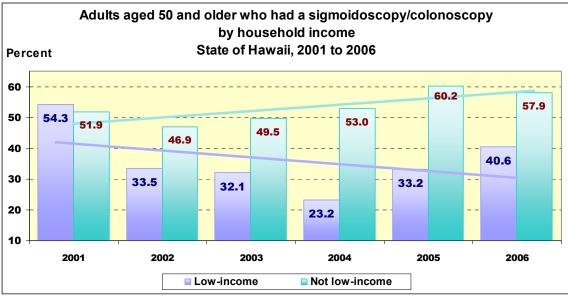


Fig. 31

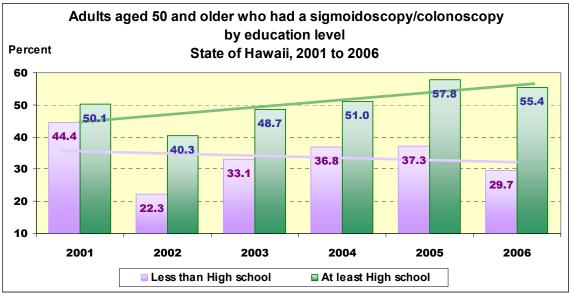
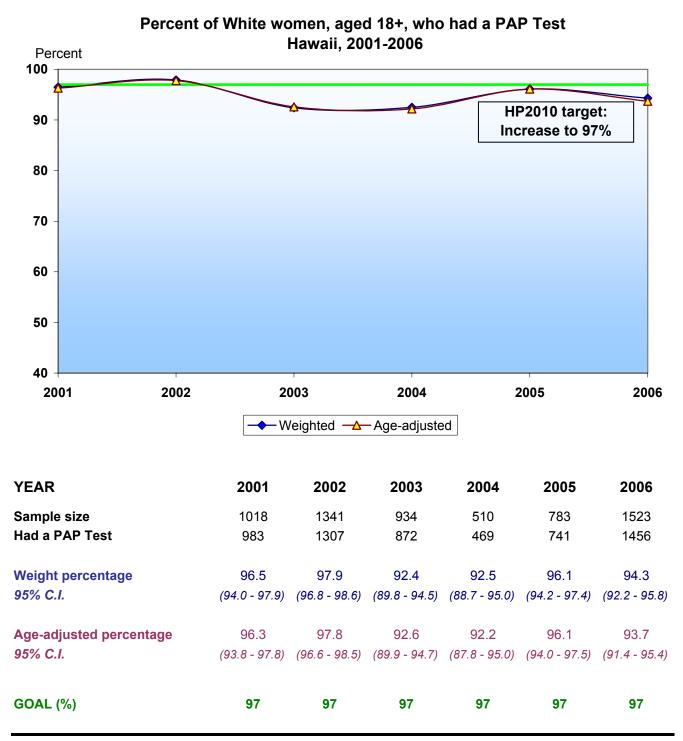


Fig. 3m

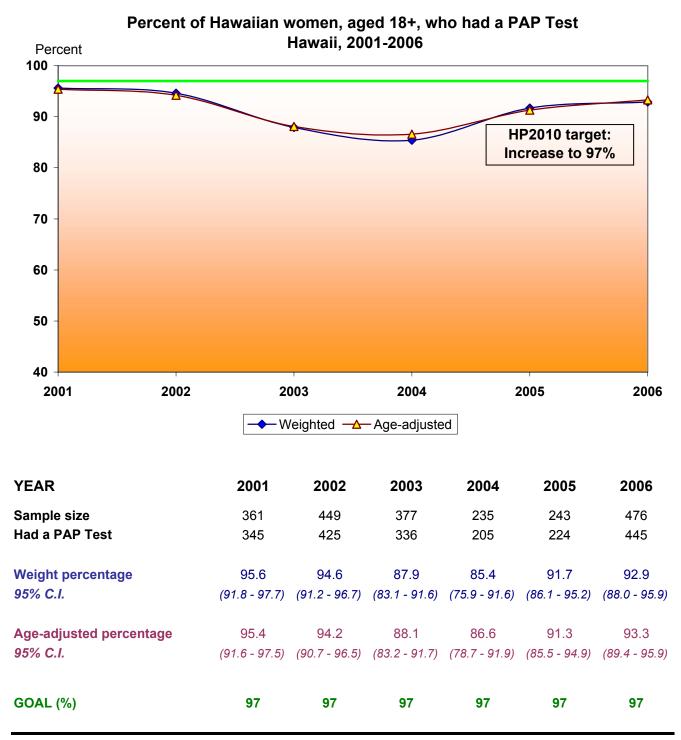
# **OBJECTIVE 3-11a**



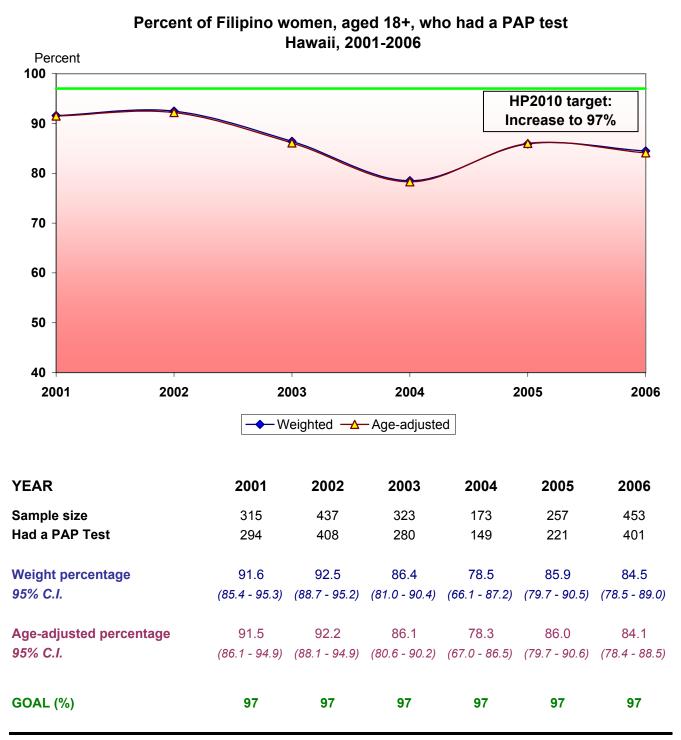
Source: Hawaii Behavioral Risk Factor Surveillance System



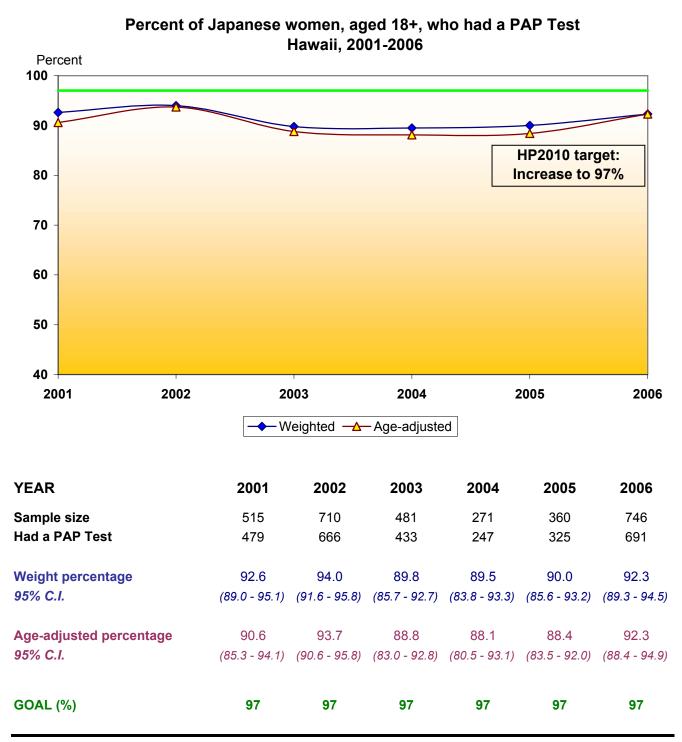
Source: Hawaii Behavioral Risk Factor Surveillance System



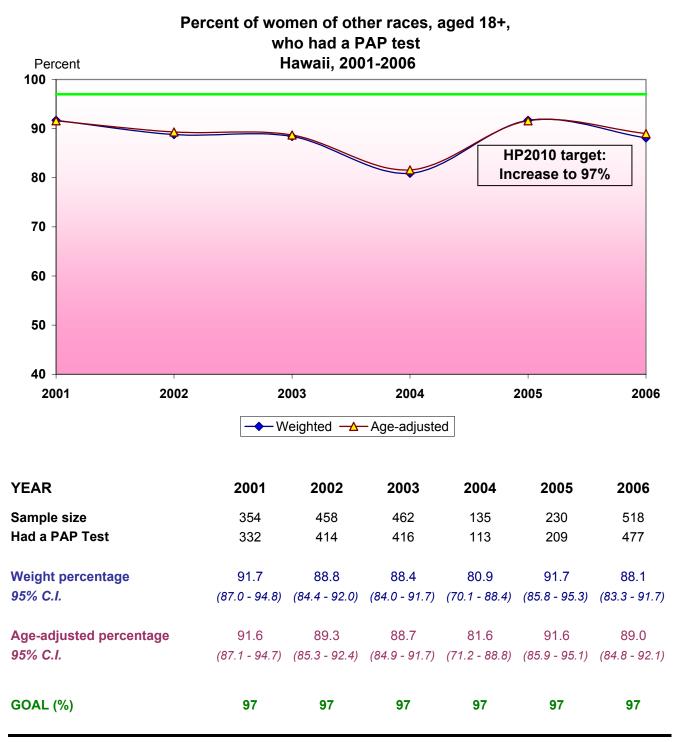
Source: Hawaii Behavioral Risk Factor Surveillance System



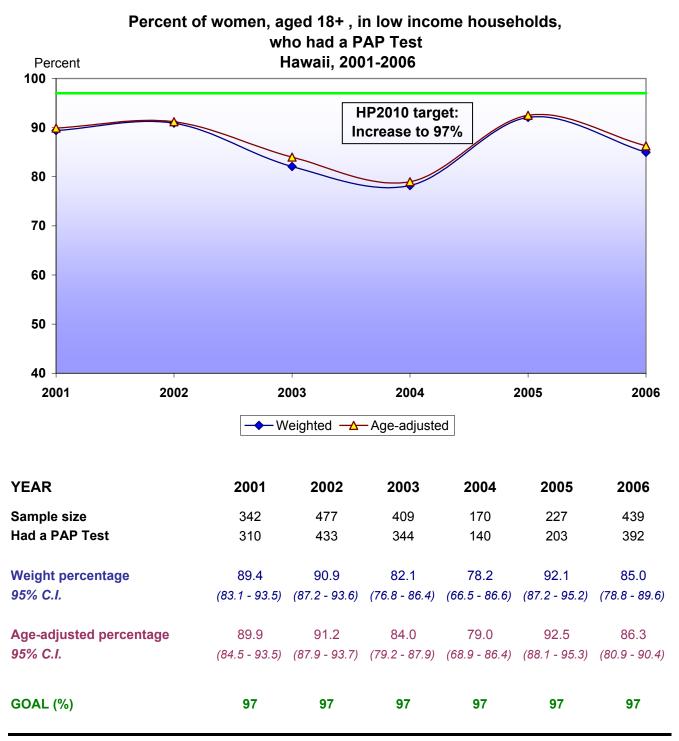
Source: Hawaii Behavioral Risk Factor Surveillance System



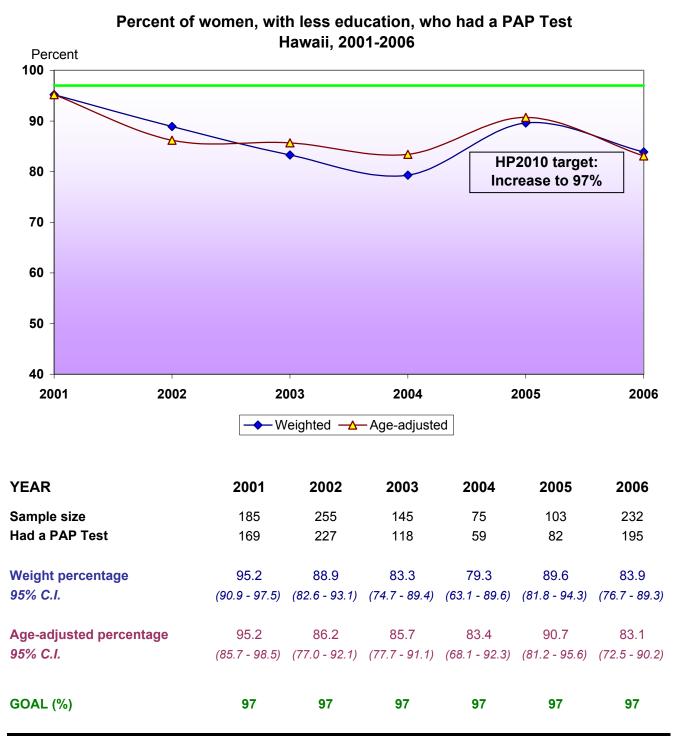
Source: Hawaii Behavioral Risk Factor Surveillance System



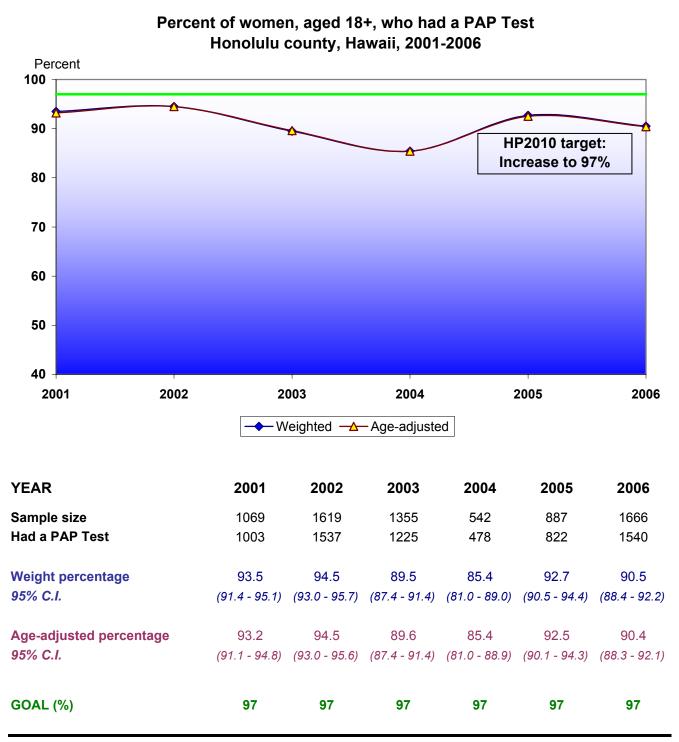
Source: Hawaii Behavioral Risk Factor Surveillance System



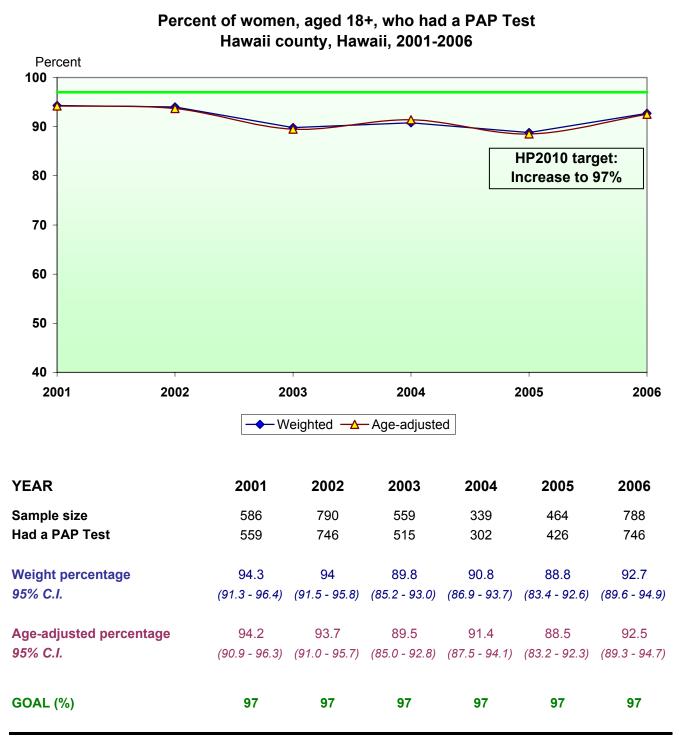
Source: Hawaii Behavioral Risk Factor Surveillance System



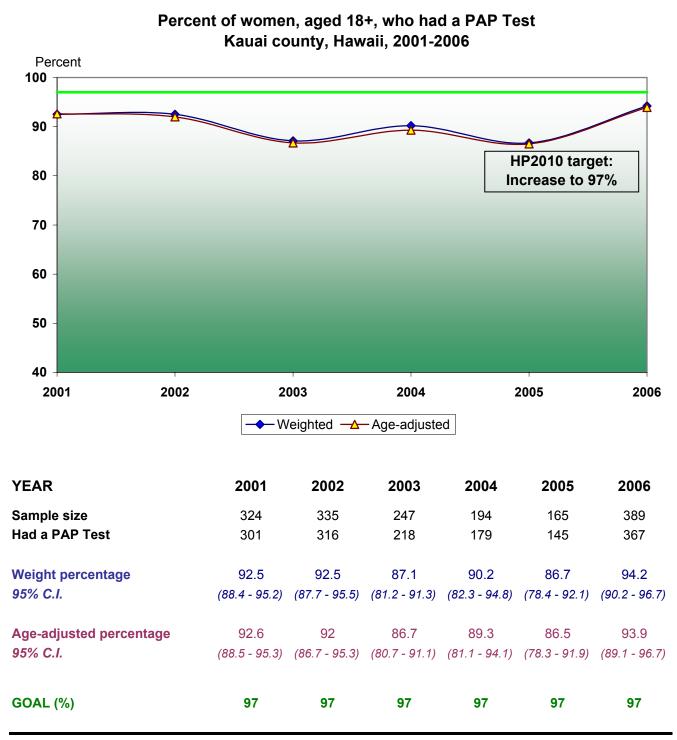
Source: Hawaii Behavioral Risk Factor Surveillance System



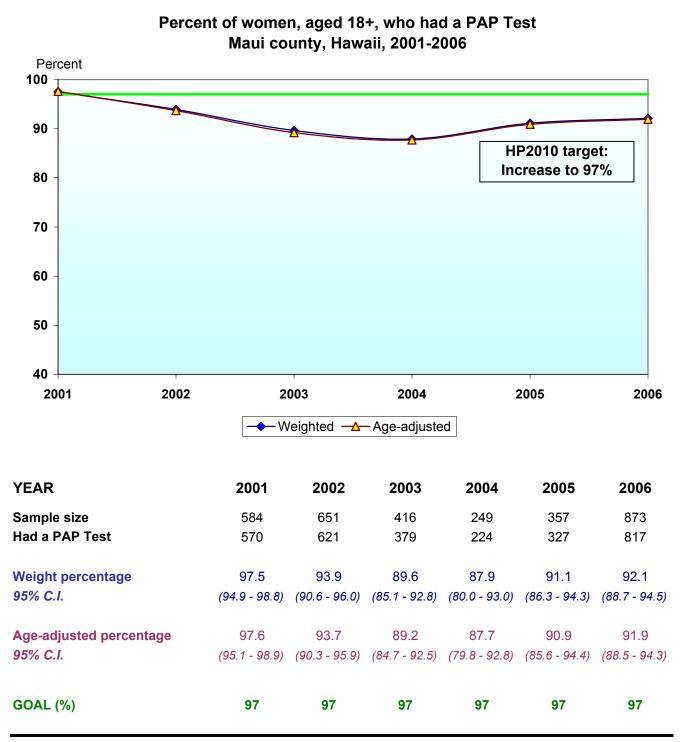
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

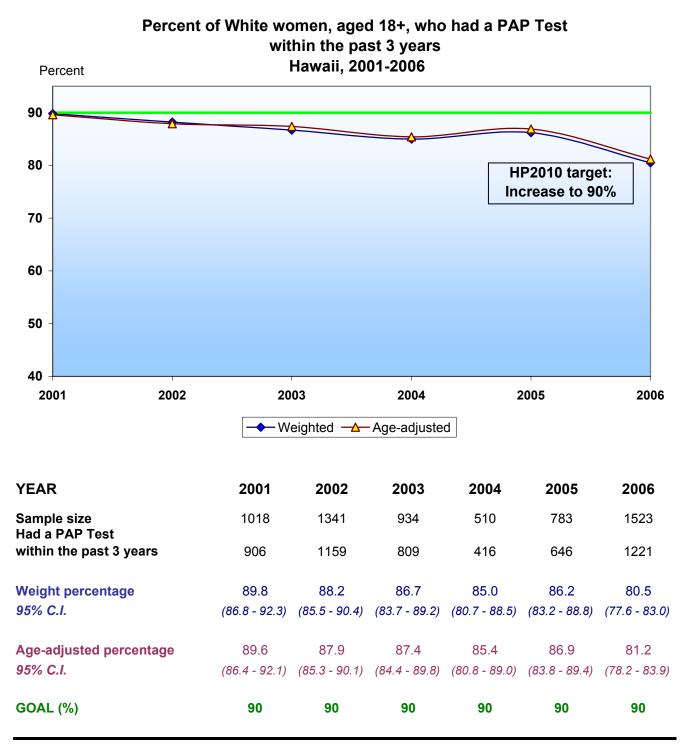


Source: Hawaii Behavioral Risk Factor Surveillance System

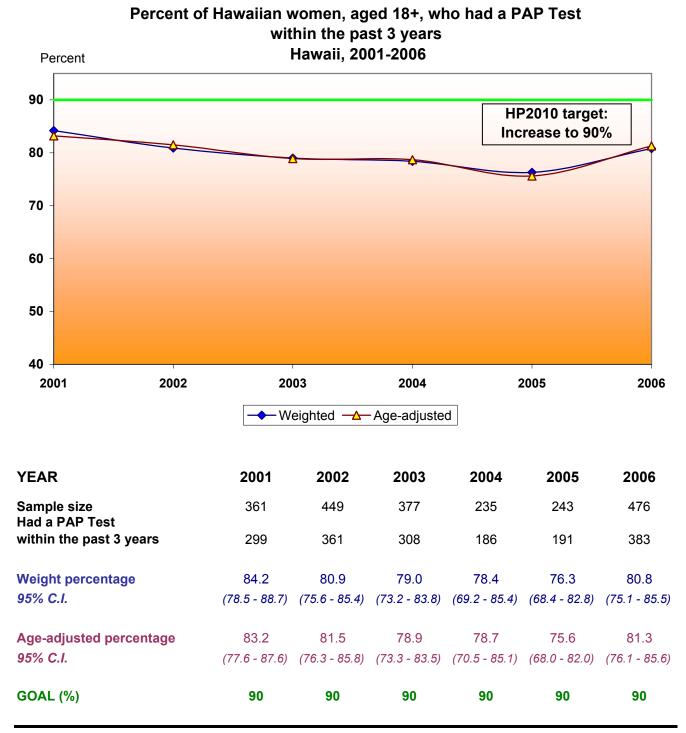
# **OBJECTIVE 3-11b**



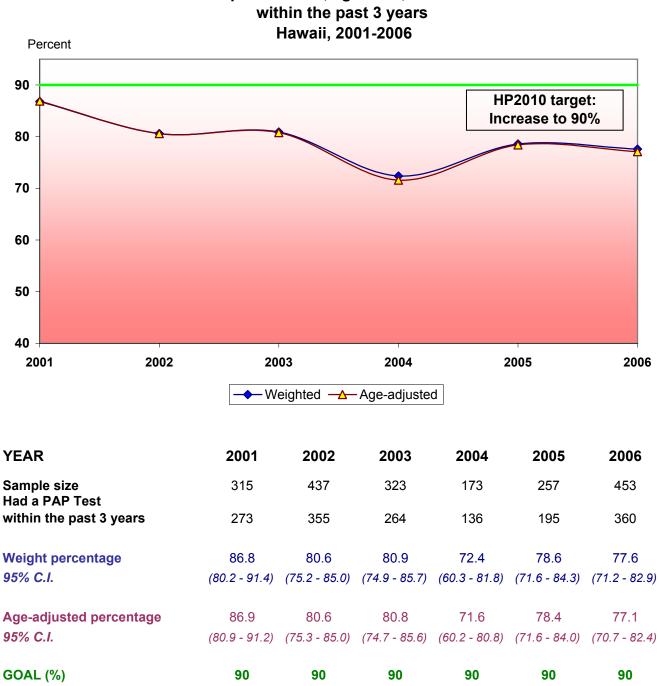
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

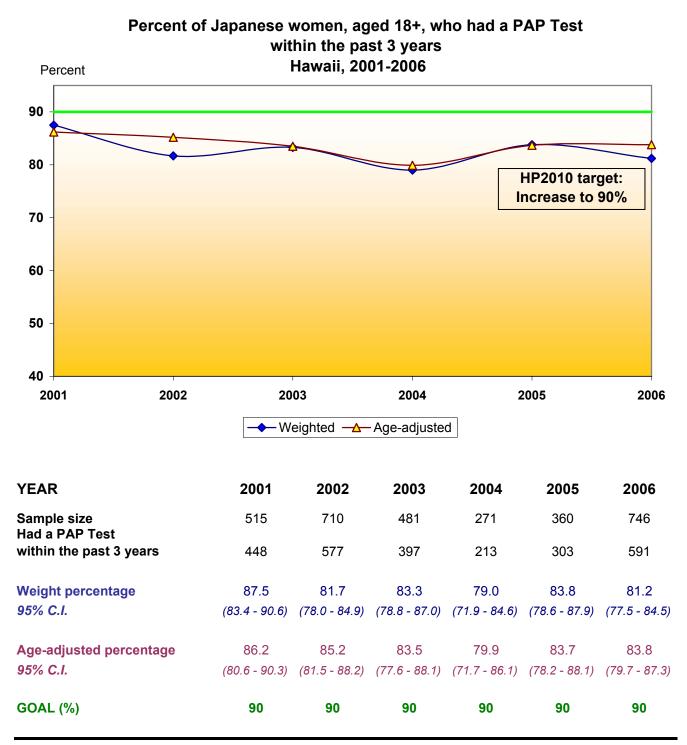


Source: Hawaii Behavioral Risk Factor Surveillance System

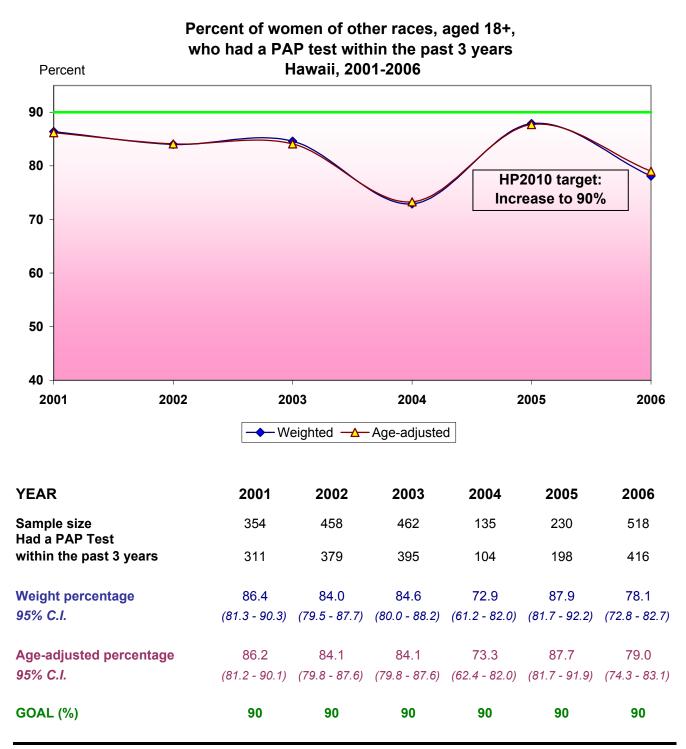


Percent of Filipino women, aged 18+, who had a PAP test

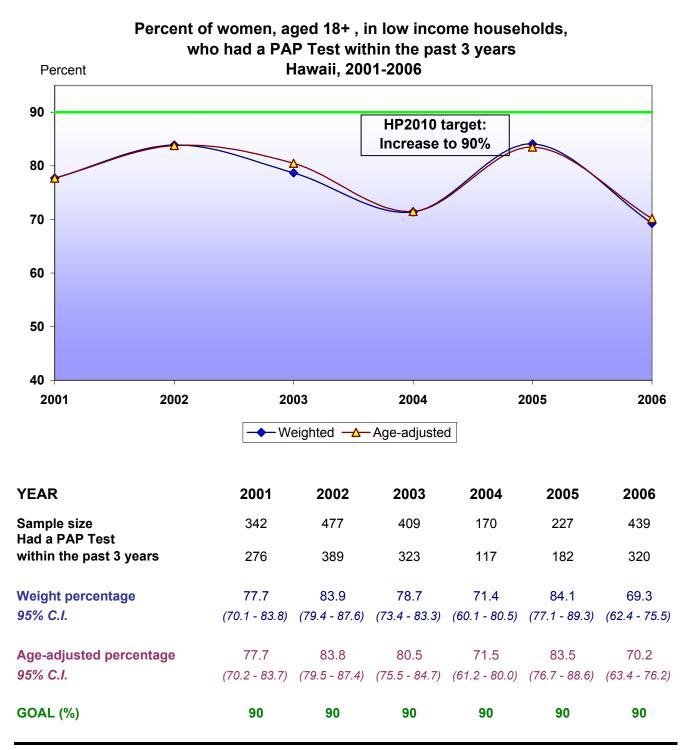
Source: Hawaii Behavioral Risk Factor Surveillance System



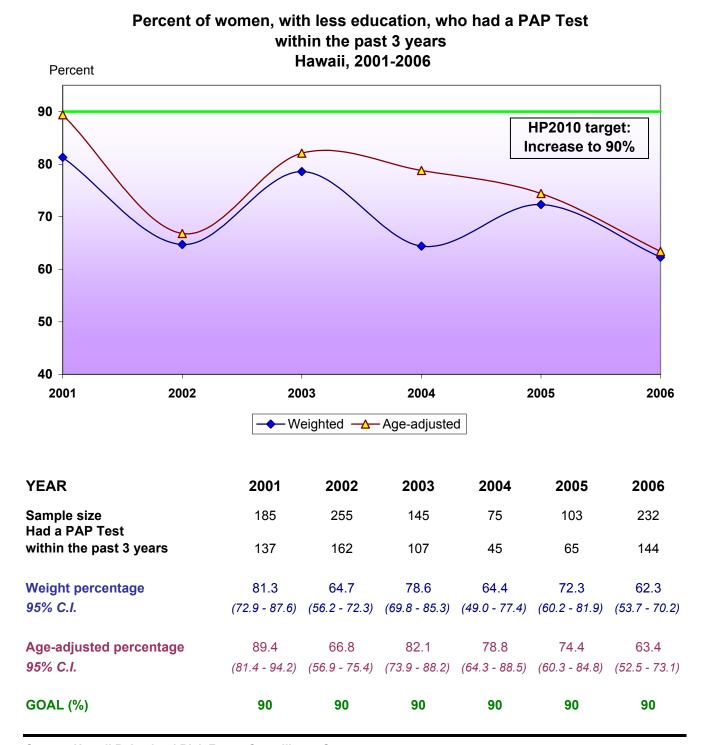
Source: Hawaii Behavioral Risk Factor Surveillance System



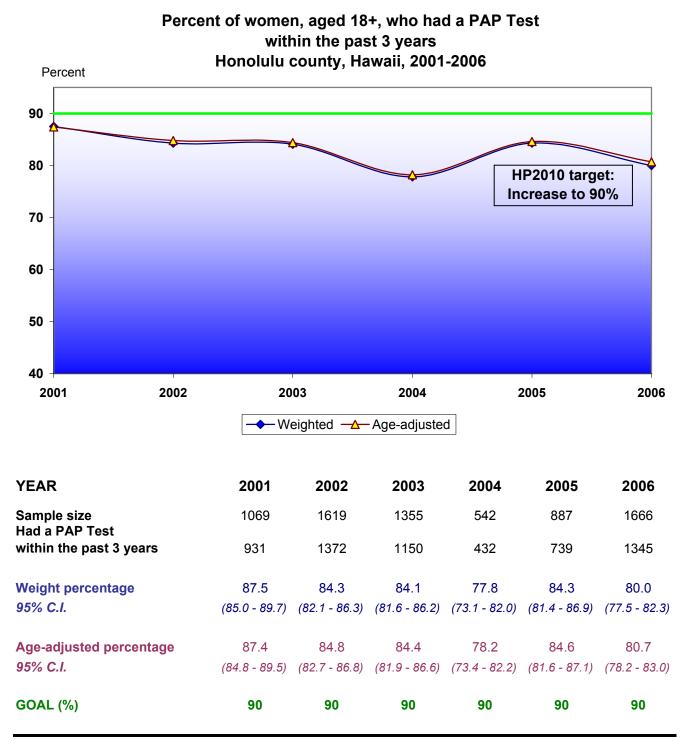
Source: Hawaii Behavioral Risk Factor Surveillance System



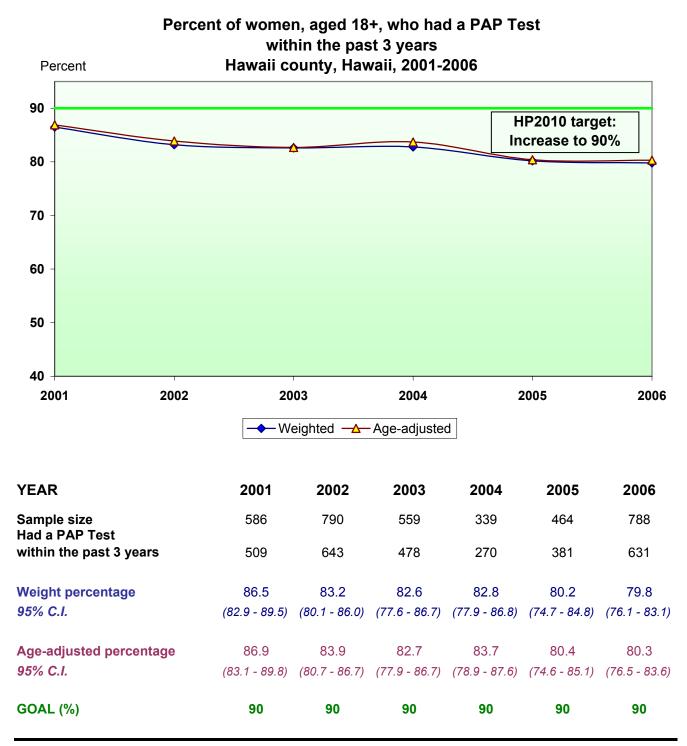
Source: Hawaii Behavioral Risk Factor Surveillance System



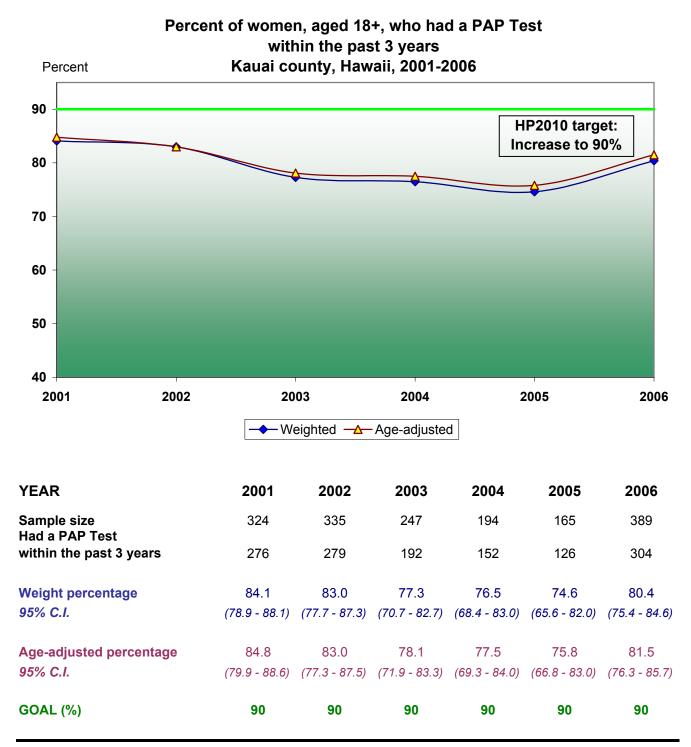
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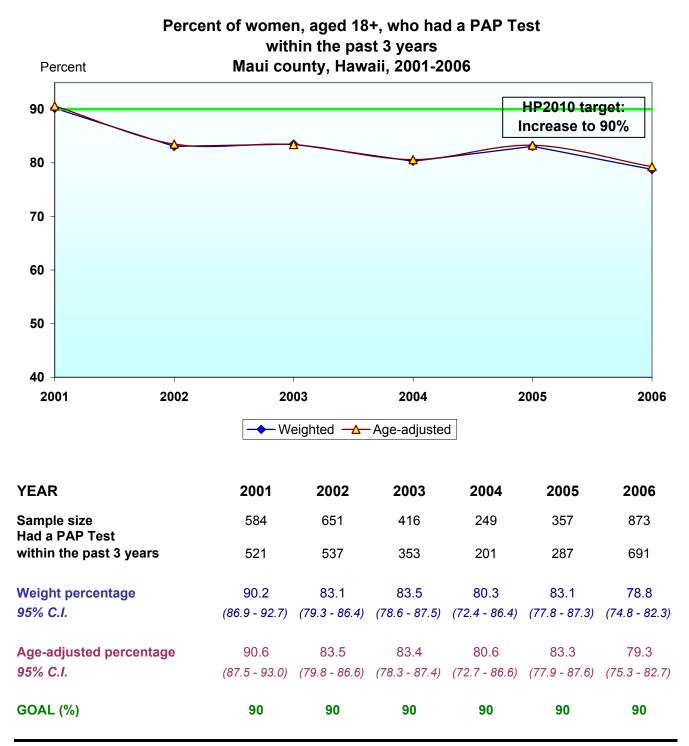
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

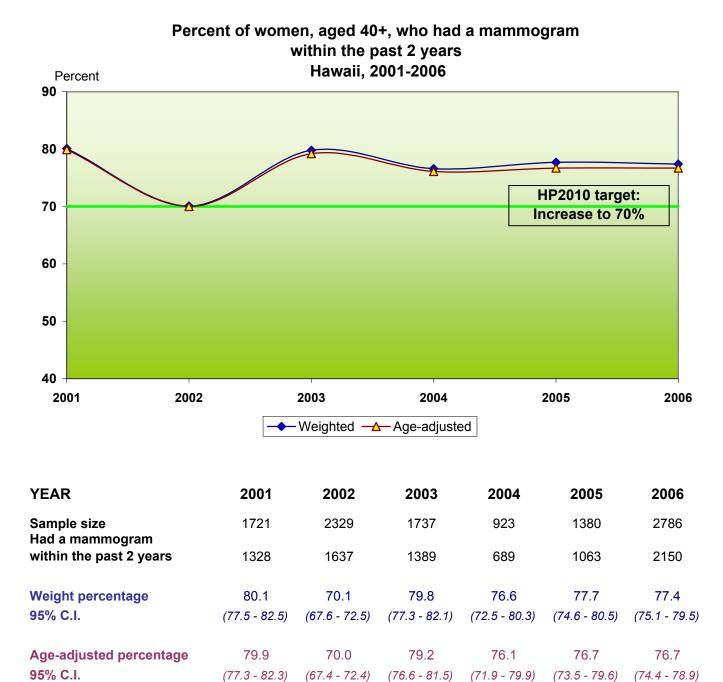


Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

# **OBJECTIVE 3-13**



70

70

CANCER

**GOAL (%)** 

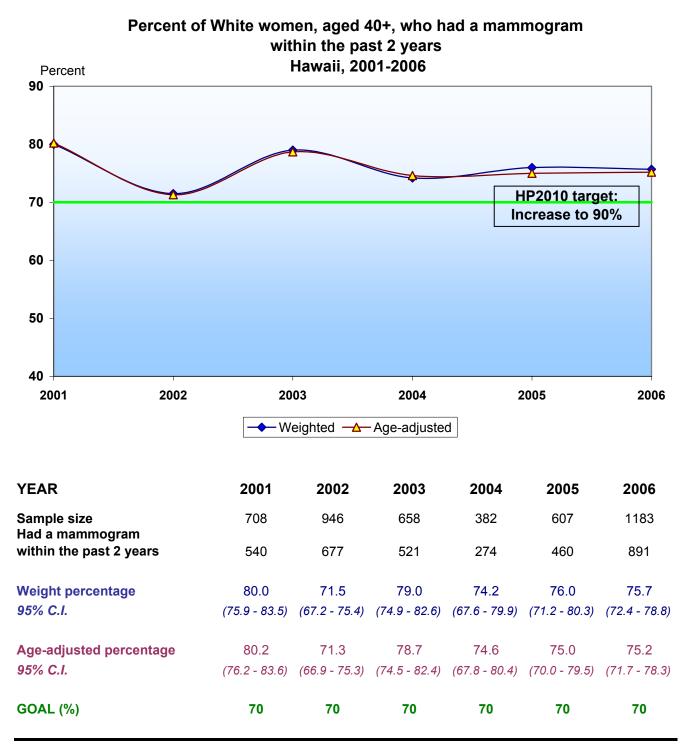
Source: Hawaii Behavioral Risk Factor Surveillance System

70

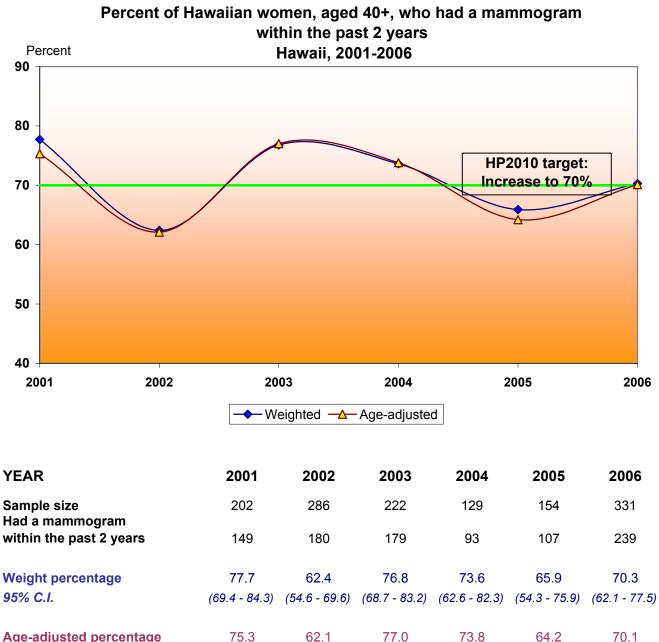
70

70

70

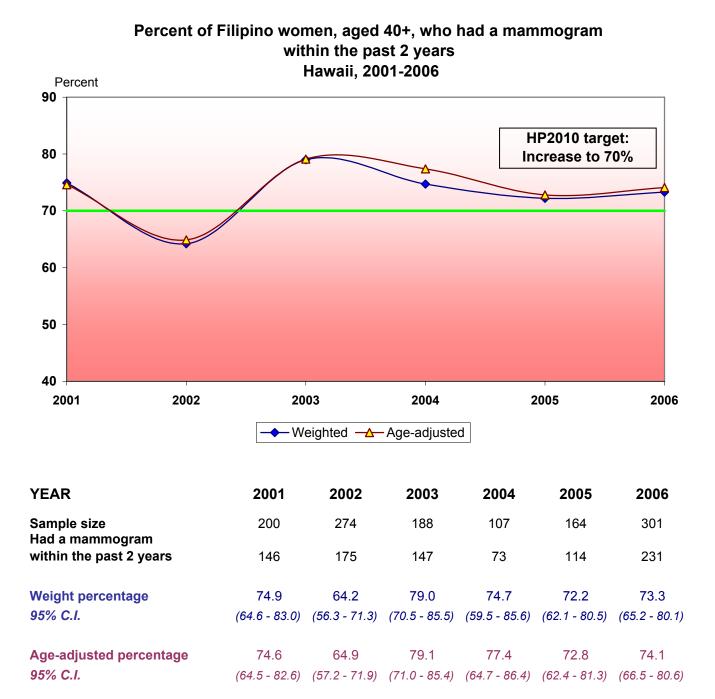


Source: Hawaii Behavioral Risk Factor Surveillance System



Age-adjusted percentage	75.3	62.1	77.0	73.8	64.2	70.1
95% C.I.	(66.6 - 82.3)	(54.5 - 69.3)	(69.1 - 83.4)	(63.0 - 82.3)	(52.9 - 74.1)	(62.0 - 77.1)
GOAL (%)	70	70	70	70	70	70

Source: Hawaii Behavioral Risk Factor Surveillance System



**GOAL (%)** 

Source: Hawaii Behavioral Risk Factor Surveillance System

70

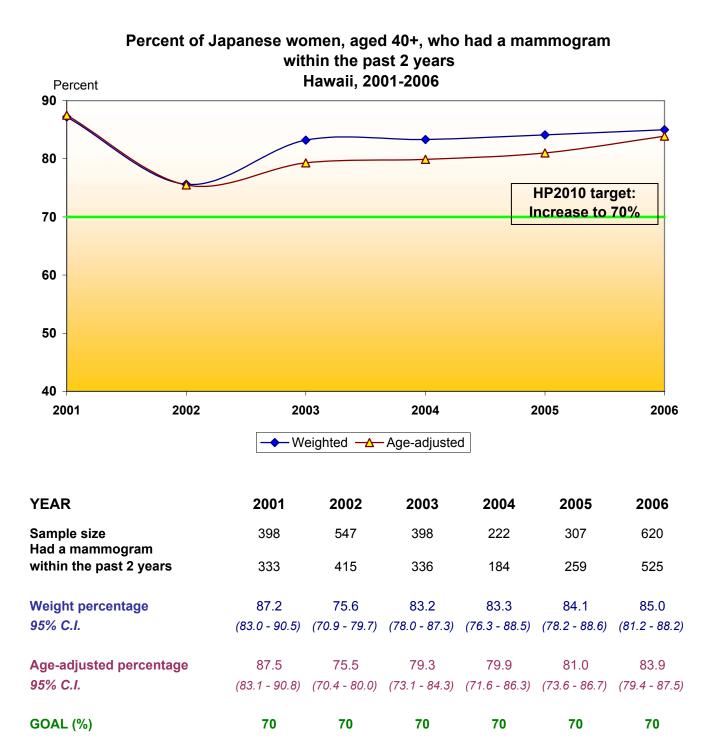
70

70

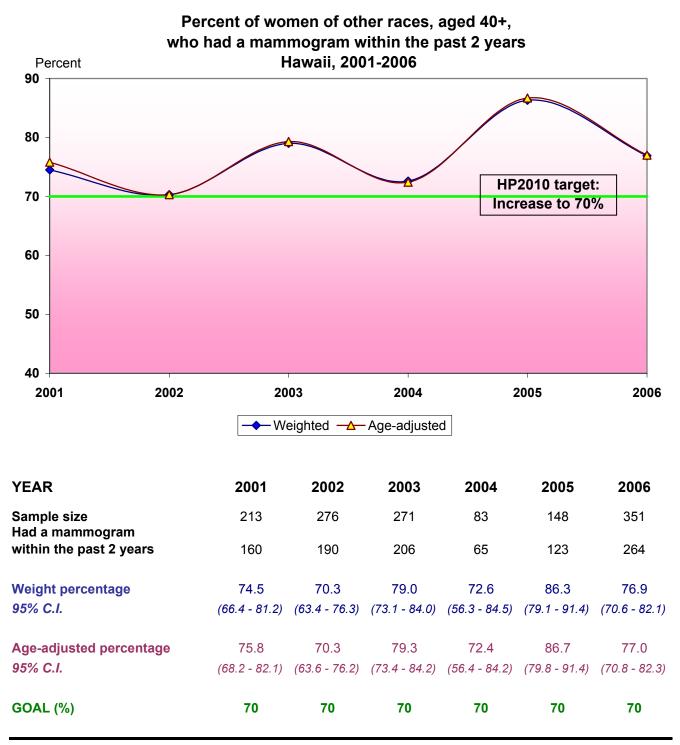
70

70

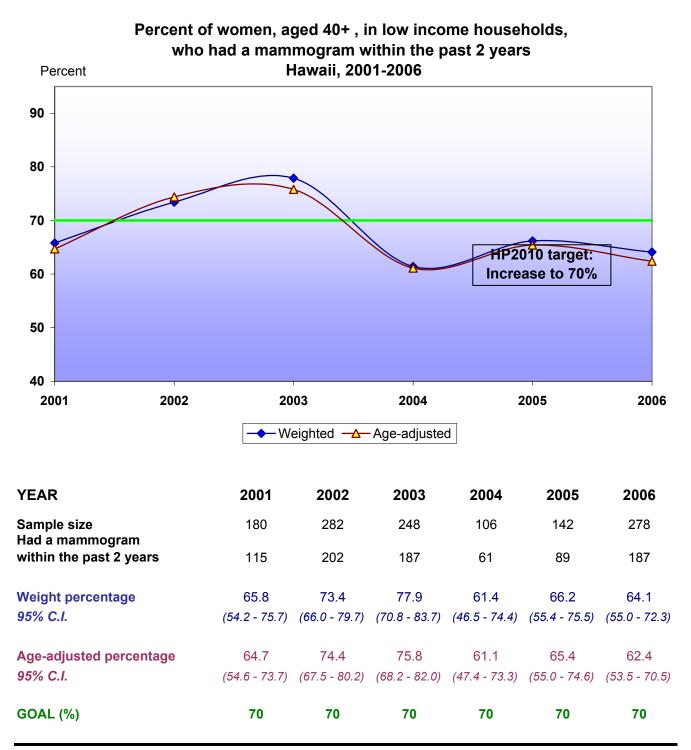
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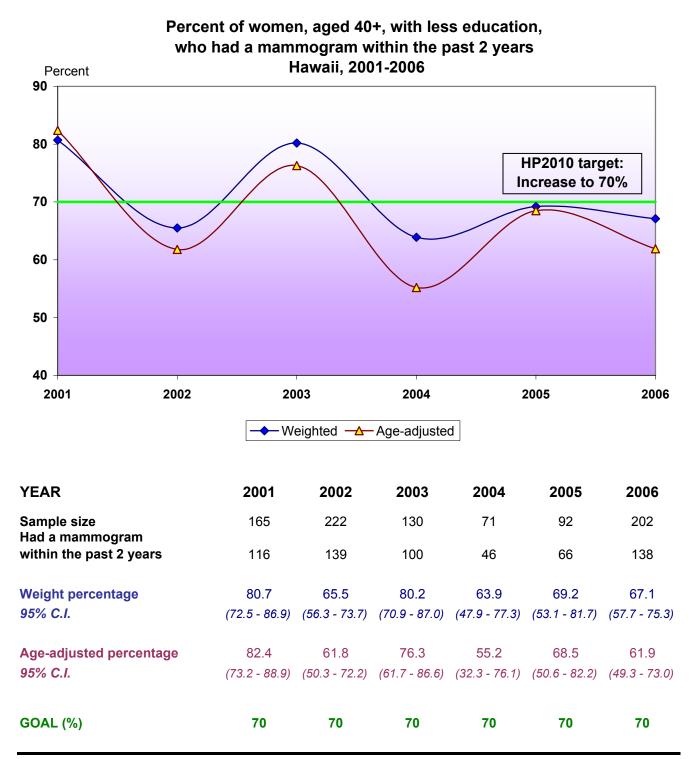
Source: Hawaii Behavioral Risk Factor Surveillance System



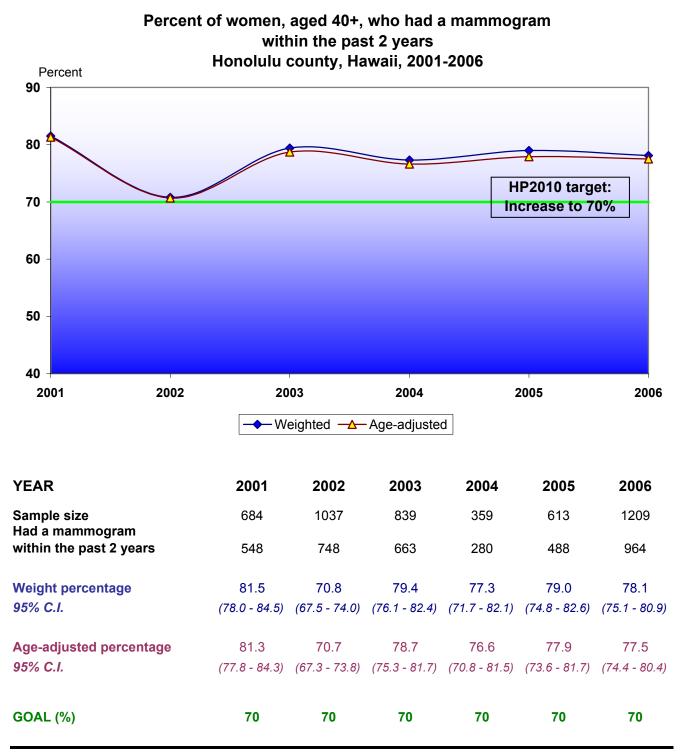
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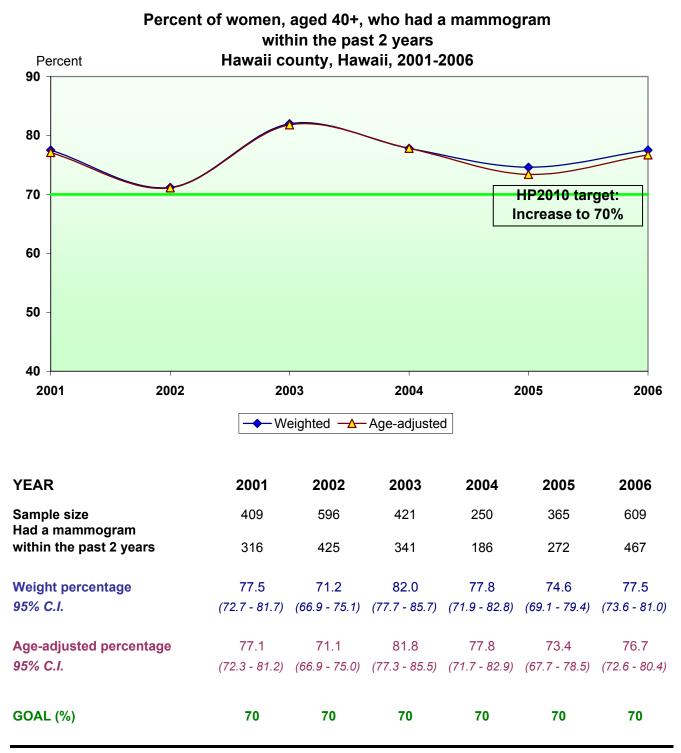
Source: Hawaii Behavioral Risk Factor Surveillance System



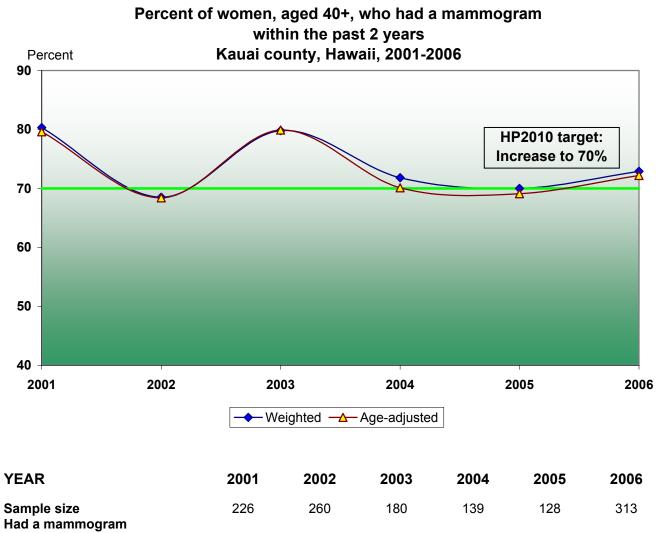
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

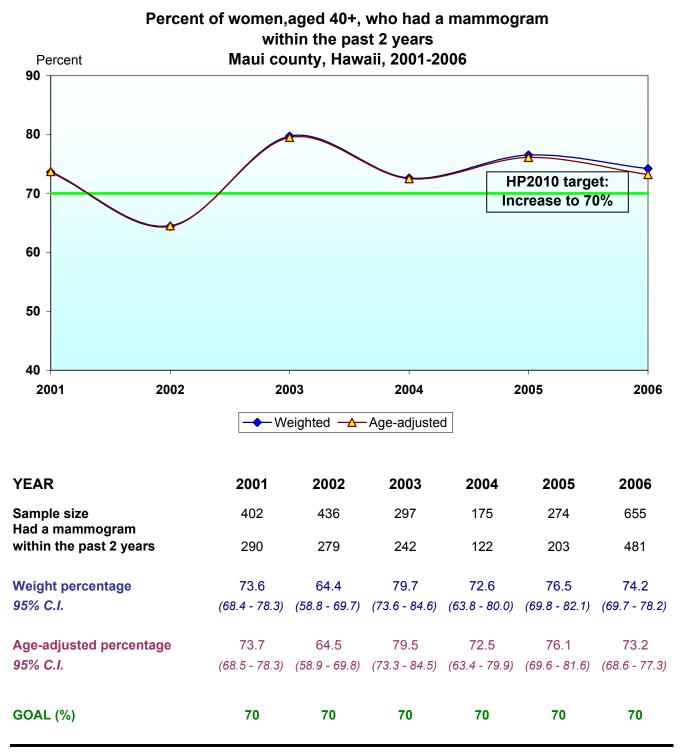


Source: Hawaii Behavioral Risk Factor Surveillance System



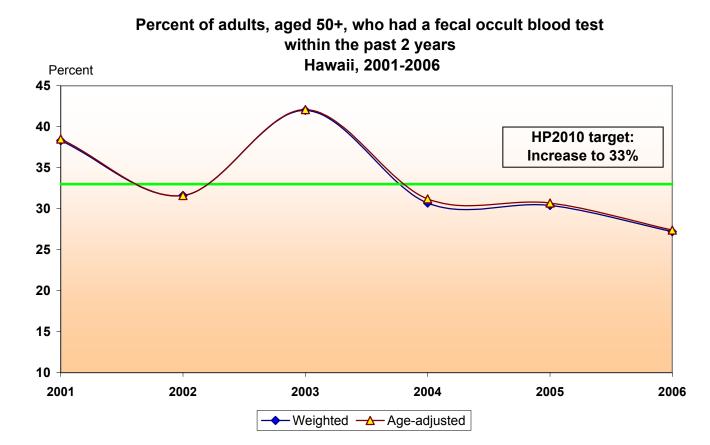
within the past 2 years	174	185	143	101	100	238
Weight percentage	80.3	68.5	79.8	71.8	70.0	72.9
95% C.I.	(74.2 - 85.2)	(61.5 - 74.8)	(72.6 - 85.5)	(62.8 - 79.3)	(59.0 - 79.1)	(66.6 - 78.4)
Age-adjusted percentage 95% C.I.	79.6	68.4	79.9	70.1	69.1	72.2
	(73.8 - 84.4)	(61.5 - 74.5)	(72.9 - 85.5)	(61.3 - 77.6)	(57.9 - 78.4)	(65.8 - 77.9)
GOAL (%)	70	70	70	70	70	70

Source: Hawaii Behavioral Risk Factor Surveillance System



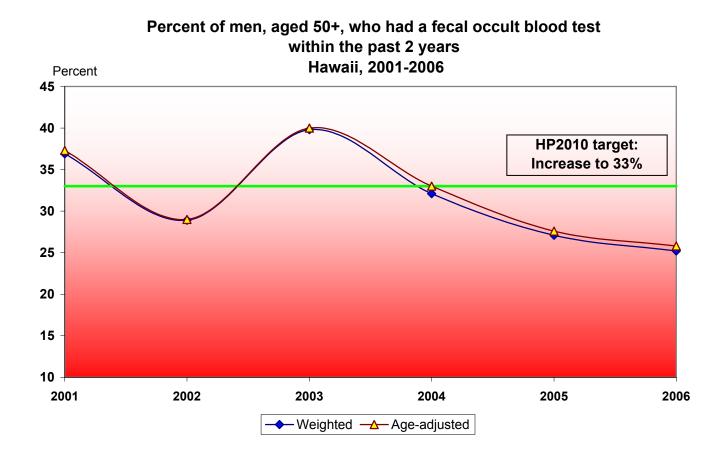
Source: Hawaii Behavioral Risk Factor Surveillance System

# **OBJECTIVE 3-12a**



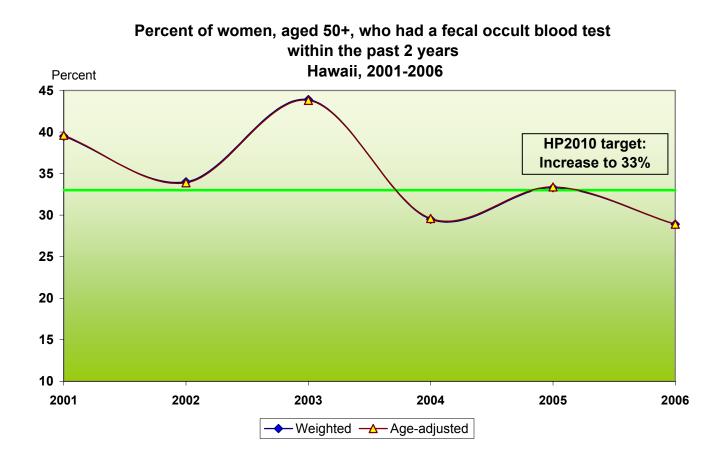
YEAR	2001	2002	2003	2004	2005	2006
Sample size	1865	2755	2026	1093	1660	3569
Had a fecal occult blood test within the past 2 years	671	897	863	313	521	974
Weight percentage	38.3	31.6	42.0	30.7	30.4	27.2
95% C.I.	(35.2 - 41.4)	(29.4 - 34.0)	(39.3 - 44.8)	(27.0 - 34.7)	(27.6 - 33.5)	(25.3 - 29.1)
Age-adjusted percentage	38.5	31.6	42.1	31.2	30.7	27.4
95% C.I.	(35.5 - 41.6)	(29.4 - 34.0)	(39.4 - 44.9)	(27.5 - 35.2)	(27.9 - 33.7)	(25.5 - 29.3)
GOAL (%)	33	33	33	33	33	33

Source: Hawaii Behavioral Risk Factor Surveillance System



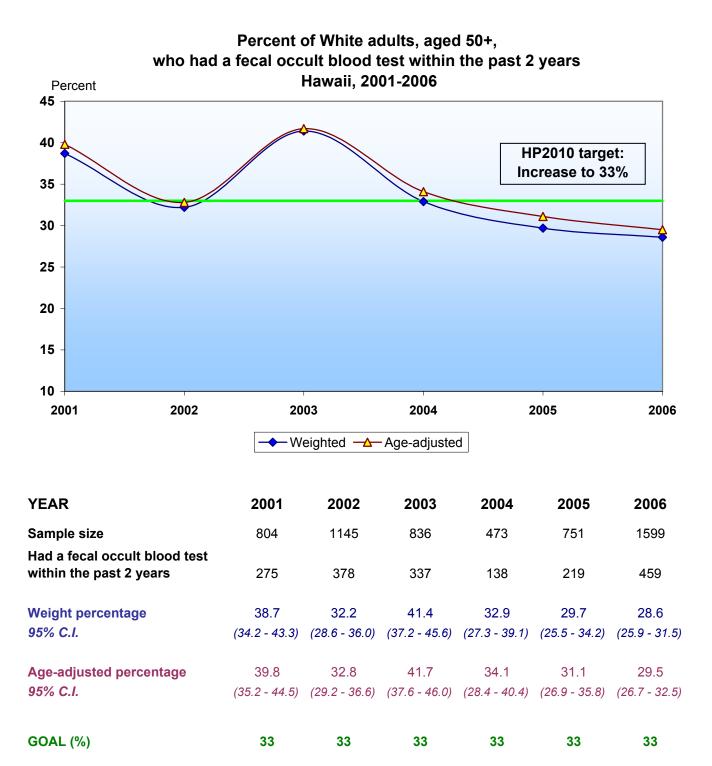
YEAR	2001	2002	2003	2004	2005	2006
Sample size	771	1163	789	436	641	1490
Had a fecal occult blood test within the past 2 years	262	348	327	125	178	371
Weight percentage	36.9	28.9	39.8	32.1	27.1	25.2
95% C.I.	(32.4 - 41.6)	(25.6 - 32.5)	(35.6 - 44.2)	(26.6 - 38.1)	(22.9 - 31.8)	(22.5 - 28.1)
Age-adjusted percentage	37.3	29.0	40.0	33.0	27.6	25.8
95% C.I.	(32.9 - 41.9)	(25.7 - 32.5)	(35.8 - 44.4)	(27.4 - 39.1)	(23.3 - 32.3)	(23.1 - 28.7)
GOAL (%)	33	33	33	33	33	33

Source: Hawaii Behavioral Risk Factor Surveillance System

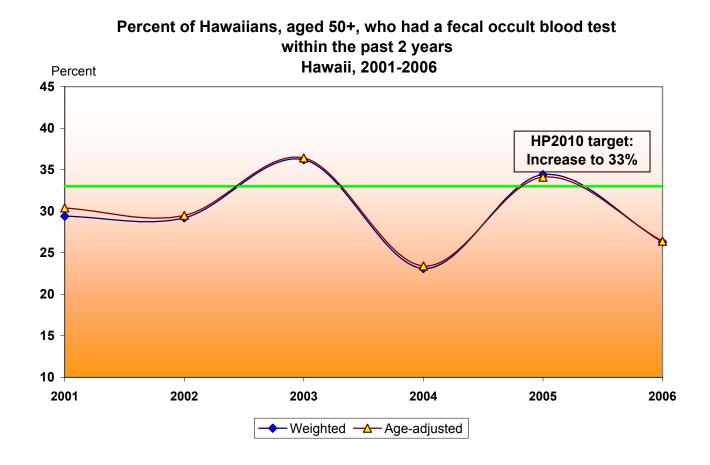


YEAR	2001	2002	2003	2004	2005	2006
Sample size	1094	1592	1237	657	1019	2079
Had a fecal occult blood test within the past 2 years	409	549	536	188	343	603
Weight percentage 95% C.I.	39.5 (35.4 - 43.7)	34.0 <i>(31.0 - 37.2)</i>	43.9 (40.5 - 47.5)	29.5 (24.7 - 34.8)	33.3 (29.6 - 37.3)	28.9 (26.4 - 31.5)
Age-adjusted percentage	39.6	33.9	43.8	29.6	33.4	28.9
95% C.I.	(35.6 - 43.8)	(30.9 - 37.1)	(40.3 - 47.3)	(24.9 - 34.9)	(29.7 - 37.4)	(26.4 - 31.6)
GOAL (%)	33	33	33	33	33	33

Source: Hawaii Behavioral Risk Factor Surveillance System

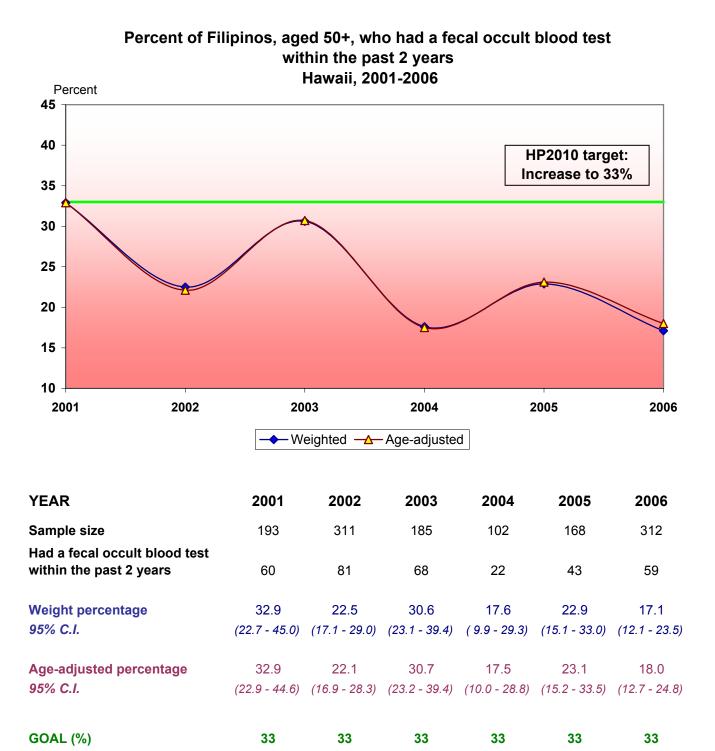


Source: Hawaii Behavioral Risk Factor Surveillance System

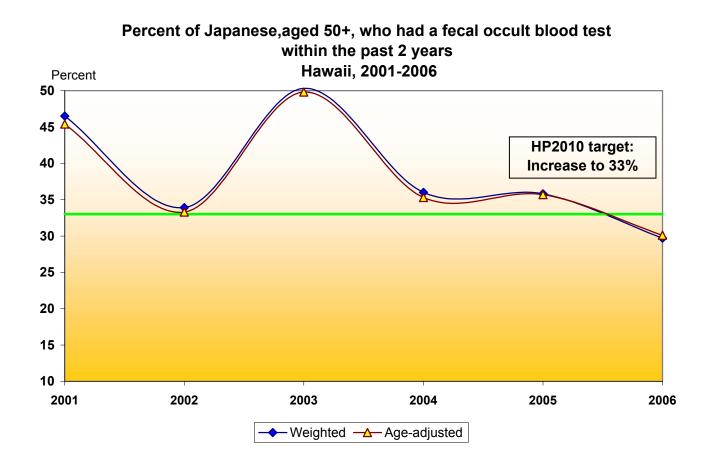


YEAR	2001	2002	2003	2004	2005	2006
Sample size	190	293	233	141	170	369
Had a fecal occult blood test within the past 2 years	54	77	84	31	60	95
Weight percentage	29.4	29.2	36.2	23.1	34.4	26.3
95% C.I.	(21.2 - 39.2)	(22.5 - 37.0)	(28.7 - 44.4)	(14.3 - 35.3)	(25.3 - 44.7)	(20.4 - 33.3)
Age-adjusted percentage	30.4	29.5	36.4	23.4	34.1	26.4
95% C.I.	(22.2 - 40.0)	(22.7 - 37.3)	(28.9 - 44.6)	(14.5 - 35.4)	(25.5 - 44.0)	(20.6 - 33.2)
GOAL (%)	33	33	33	33	33	33

Source: Hawaii Behavioral Risk Factor Surveillance System

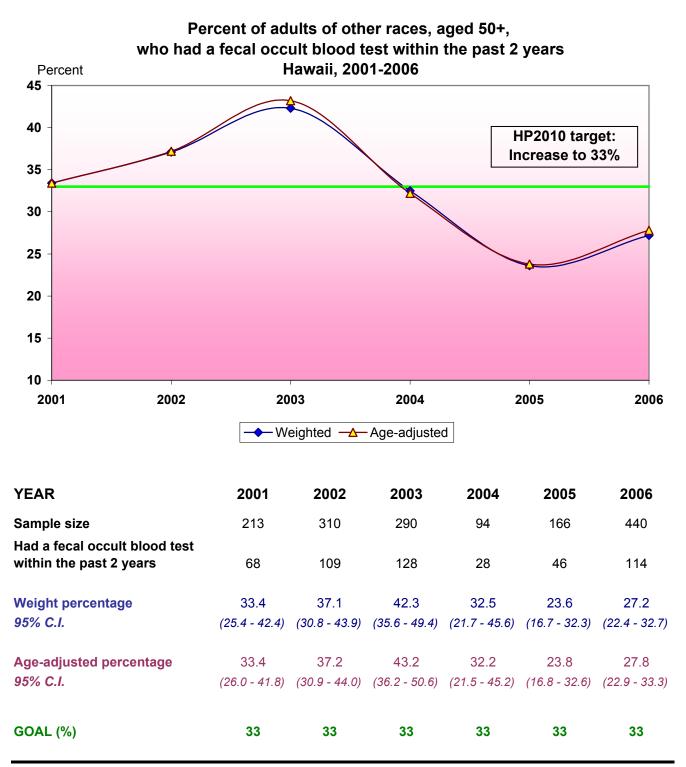


Source: Hawaii Behavioral Risk Factor Surveillance System

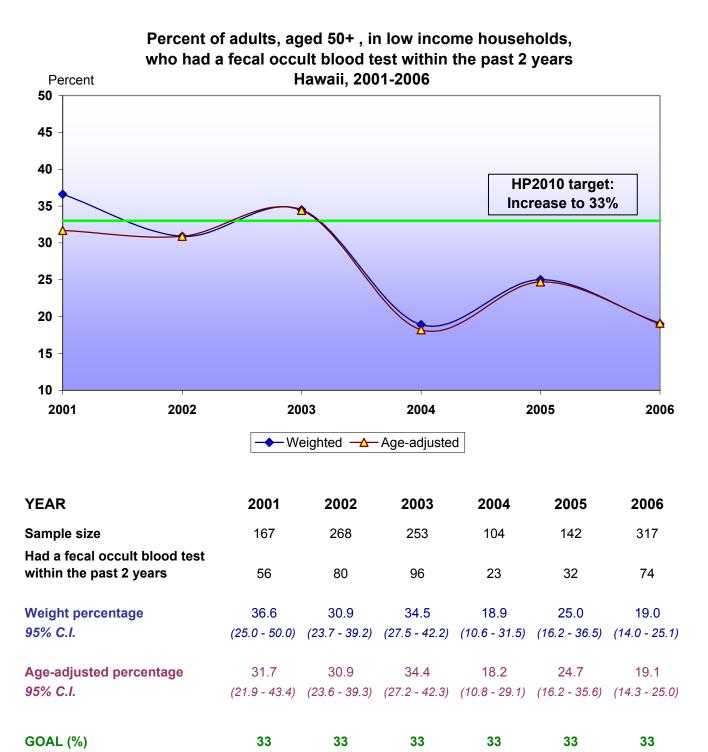


YEAR	2001	2002	2003	2004	2005	2006
Sample size	465	696	482	283	405	849
Had a fecal occult blood test within the past 2 years	214	252	246	94	153	247
Weight percentage	46.5	33.9	50.3	36.0	35.8	29.7
95% C.I.	(40.8 - 52.4)	(29.6 - 38.6)	(44.7 - 55.9)	(28.9 - 43.8)	(30.3 - 41.8)	(26.1 - 33.6)
Age-adjusted percentage	45.4	33.3	49.8	35.3	35.7	30.1
95% C.I.	(39.5 - 51.4)	(28.6 - 38.3)	(44.0 - 55.6)	(28.6 - 42.7)	(29.9 - 41.8)	(26.5 - 34.1)
GOAL (%)	33	33	33	33	33	33

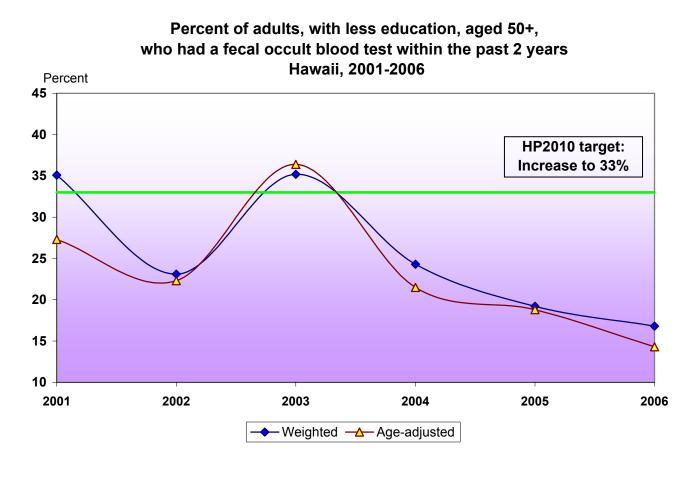
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

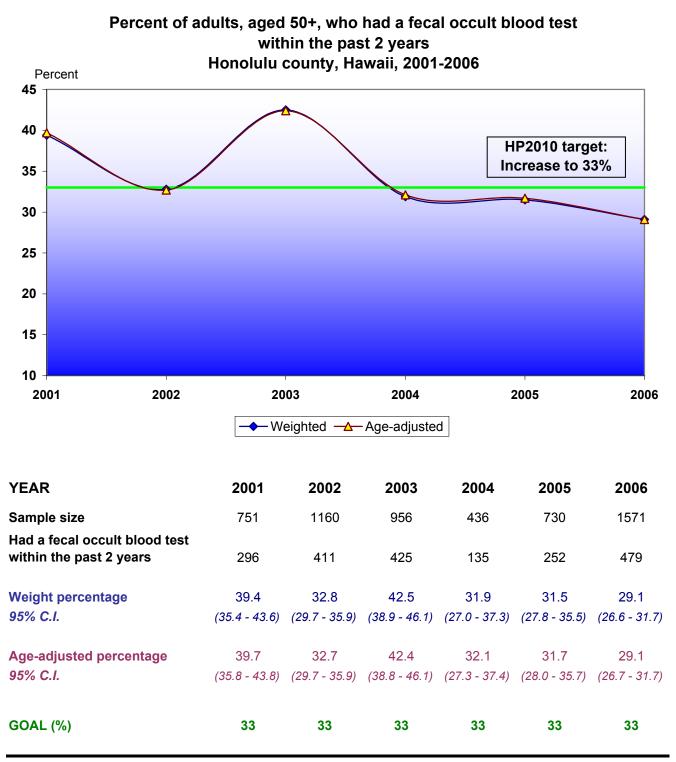


Source: Hawaii Behavioral Risk Factor Surveillance System

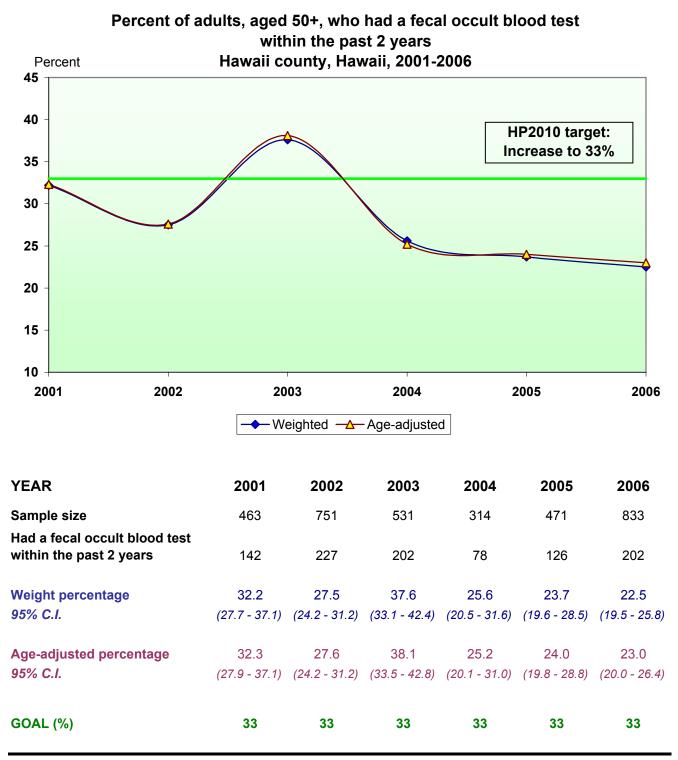


YEAR	2001	2002	2003	2004	2005	2006
Sample size	215	296	183	95	124	269
Had a fecal occult blood test within the past 2 years	66	82	78	26	29	53
Weight percentage 95% C.I.	35.1 (24.9 - 47.0)	23.1 (17.4 - 30.0)	35.2 (27.0 - 44.3)	24.3 (14.1 - 38.6)	19.2 (11.6 - 30.1)	16.8 <i>(11.9 - 23.3)</i>
Age-adjusted percentage 95% C.I.	27.3 (20.2 - 35.9)	22.3 (15.0 - 32.0)	36.4 (27.0 - 46.9)	21.5 (12.7 - 34.1)	18.8 (10.1 - 32.1)	14.3 (10.1 - 19.8)
GOAL (%)	33	33	33	33	33	33

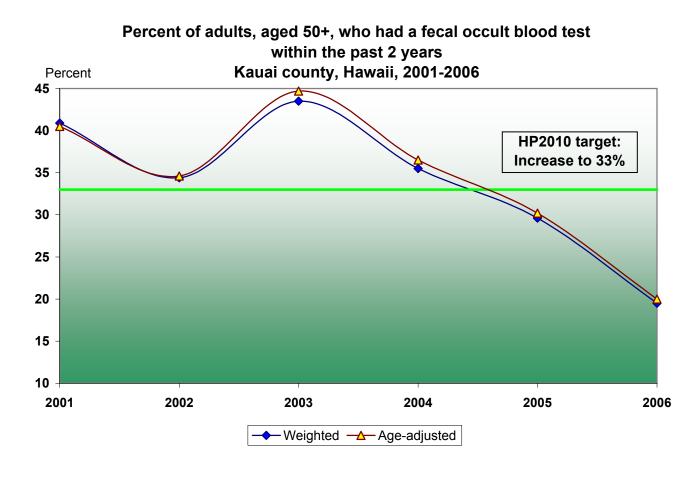
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

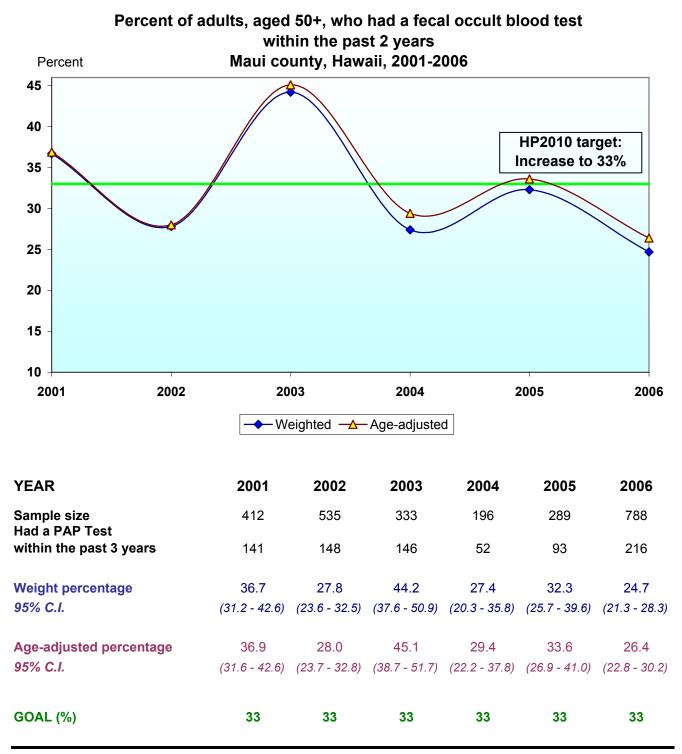


Source: Hawaii Behavioral Risk Factor Surveillance System



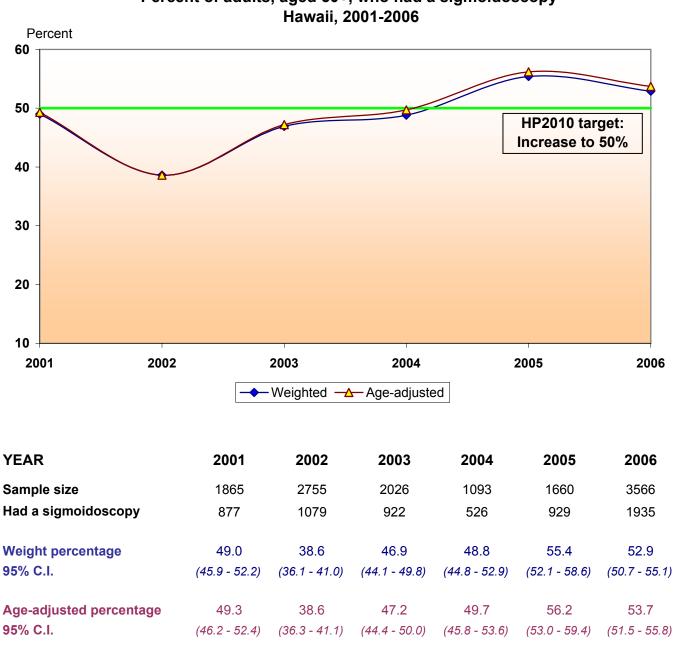
YEAR	2001	2002	2003	2004	2005	2006
Sample size	239	309	206	147	170	377
Had a fecal occult blood test within the past 2 years	92	111	90	48	50	77
Weight percentage 95% C.I.	40.9 (33.5 - 48.7)	34.4 (28.5 - 40.7)	43.5 (36.1 - 51.2)	35.5 (26.8 - 45.2)	29.6 (22.2 - 38.2)	19.5 (15.1 - 24.9)
Age-adjusted percentage 95% C.I.	40.5 (33.1 - 48.5)	34.6 (28.7 - 41.1)	44.7 (37.3 - 52.4)	36.5 (27.8 - 46.1)	30.2 (22.8 - 38.8)	20.0 (15.4 - 25.6)
GOAL (%)	33	33	33	33	33	33

Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

# **OBJECTIVE 3-12b**



Percent of adults, aged 50+, who had a sigmoidoscopy

Source: Hawaii Behavioral Risk Factor Surveillance System

50

50

50

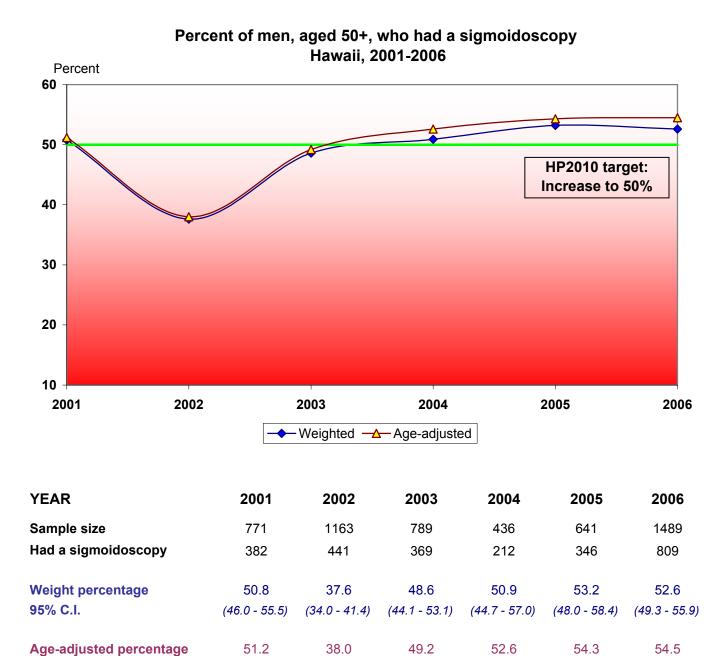
50

50

50

State of Hawaii, Department of Health

**GOAL (%)** 



Source: Hawaii Behavioral Risk Factor Surveillance System

(46.5 - 55.9)

50

(34.3 - 41.7)

50

(44.8 - 53.7)

50

(46.5 - 58.5)

50

(49.1 - 59.4)

50

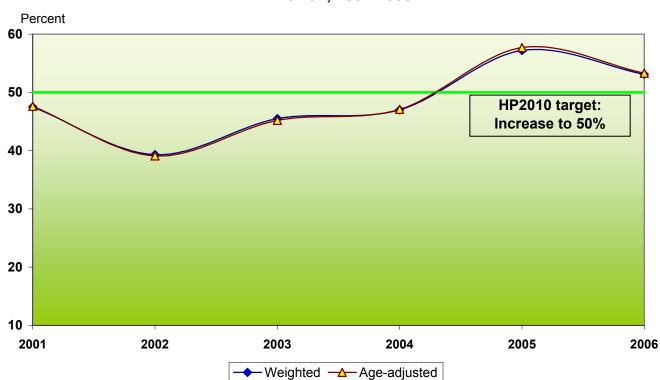
(51.3 - 57.6)

50

State of Hawaii, Department of Health

95% C.I.

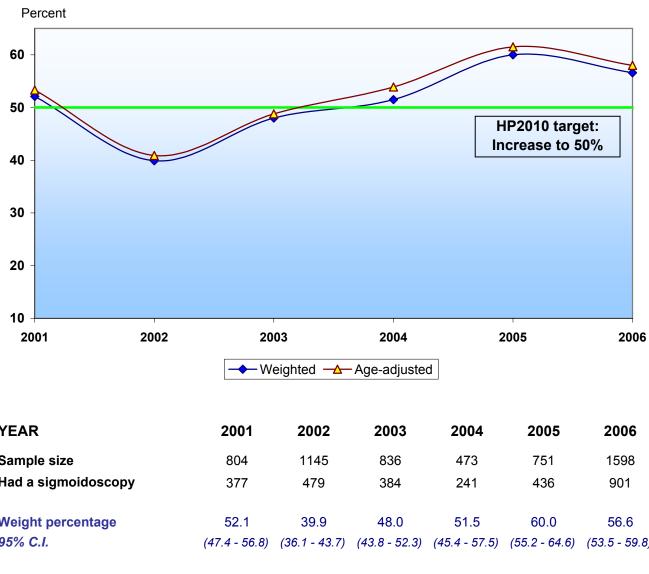
**GOAL (%)** 



Percent of women, aged 50+, who had a sigmoidoscopy Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size	1094	1592	1237	657	1019	2077
Had a sigmoidoscopy	495	638	553	314	583	1126
Weight percentage	47.5	39.3	45.5	47.0	57.2	53.1
95% C.I.	(43.2 - 51.7)	(36.2 - 42.6)	(42.0 - 49.0)	(41.6 - 52.4)	(53.1 - 61.2)	(50.2 - 56.0)
Age-adjusted percentage	47.6	39.1	45.2	47.1	57.7	53.3
95% C.I.	(43.5 - 51.8)	(36.0 - 42.2)	(41.8 - 48.7)	(42.1 - 52.2)	(53.8 - 61.5)	(50.4 - 56.2)
	50	50	50	50	50	50
GOAL (%)	50	50	50	50	50	50

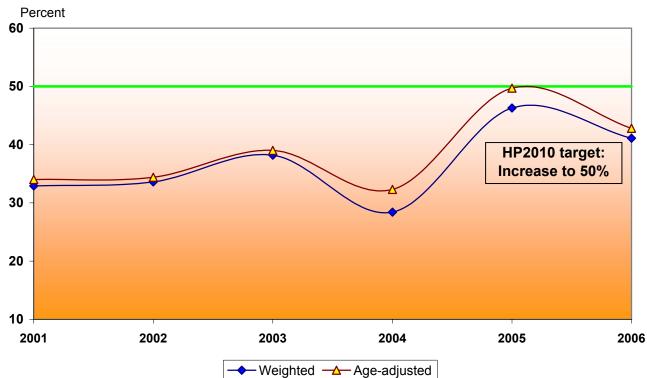
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of White adults, aged 50+, who had a sigmoidoscopy Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006	
Sample size	804	1145	836	473	751	1598	
Had a sigmoidoscopy	377	479	384	241	436	901	
Weight percentage	52.1	39.9	48.0	51.5	60.0	56.6	
95% C.I.	(47.4 - 56.8)	(36.1 - 43.7)	(43.8 - 52.3)	(45.4 - 57.5)	(55.2 - 64.6)	(53.5 - 59.8)	
Age-adjusted percentage	53.3	40.9	48.8	53.9	61.5	58.0	
95% C.I.	(48.6 - 57.9)	(37.1 - 44.8)	(44.6 - 53.0)	(48.2 - 59.5)	(56.8 - 66.0)	(54.9 - 61.0)	
GOAL (%)	50	50	50	50	50	50	

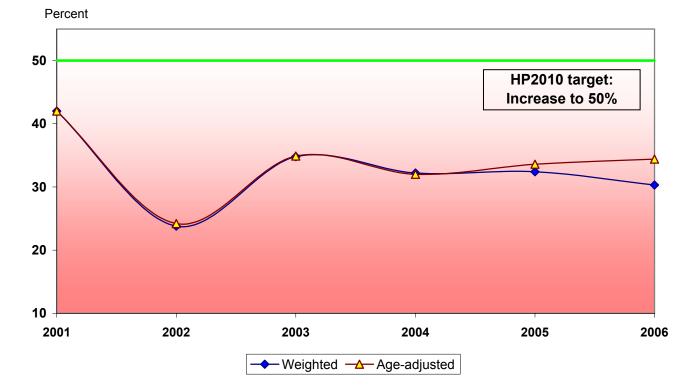
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of Hawaiians, aged 50+, who had a sigmoidoscopy Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size	190	293	233	141	170	369
Had a sigmoidoscopy	77	80	84	44	77	163
Weight percentage	32.9	33.6	38.2	28.4	46.3	41.1
95% C.I.	(24.8 - 42.2)	(26.0 - 42.0)	(30.4 - 46.6)	(19.8 - 39.0)	(36.1 - 56.8)	(34.3 - 48.2)
Age-adjusted percentage	34.0	34.4	39.0	32.3	49.7	42.8
95% C.I.	(25.9 - 43.1)	(27.2 - 42.5)	(31.4 - 47.3)	(22.8 - 43.4)	(39.8 - 59.5)	(36.1 - 49.7)
GOAL (%)	50	50	50	50	50	50

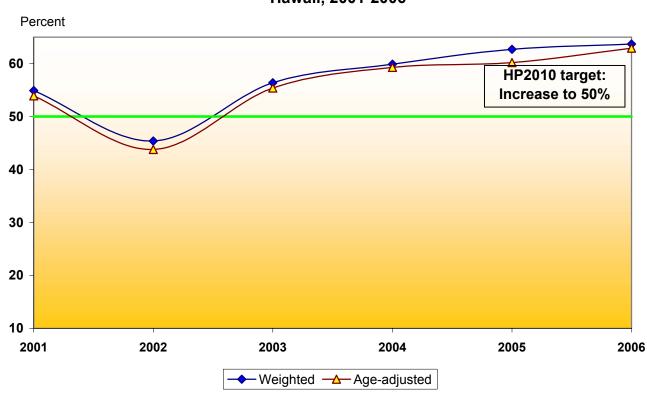
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of Filipinos, aged 50+, who had a sigmoidoscopy Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size	193	311	185	102	168	312
Had a sigmoidoscopy	70	77	63	35	60	115
Weight percentage	42.0	23.8	34.8	32.2	32.4	30.3
95% C.I.	(31.1 - 53.7)	(18.3 - 30.5)	(26.6 - 44.1)	(20.5 - 46.6)	(23.6 - 42.8)	(23.7 - 37.8)
Age-adjusted percentage	42.0	24.2	34.9	32.0	33.6	34.4
95% C.I.	(31.4 - 53.3)	(18.5 - 30.9)	(26.8 - 44.1)	(20.7 - 45.9)	(24.5 - 44.2)	(27.5 - 42.0)
GOAL (%)	50	50	50	50	50	50

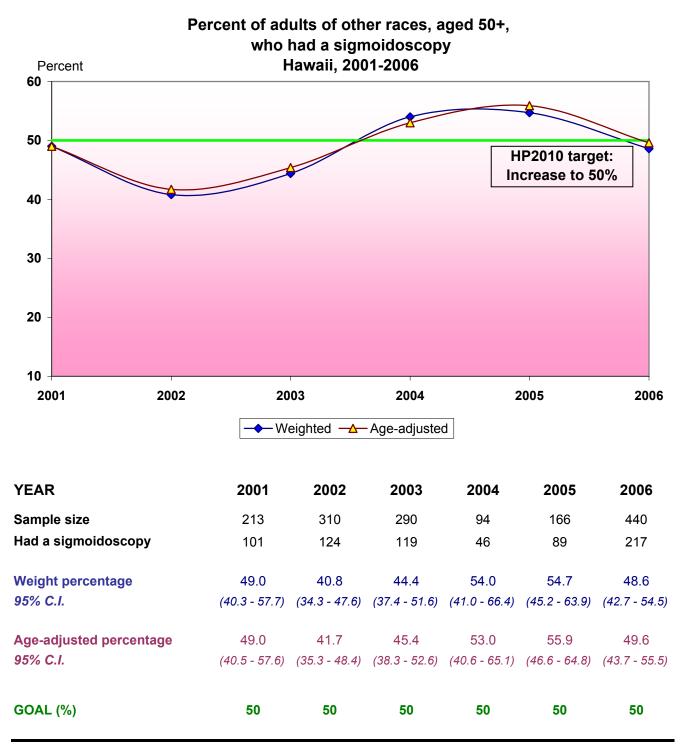
Source: Hawaii Behavioral Risk Factor Surveillance System



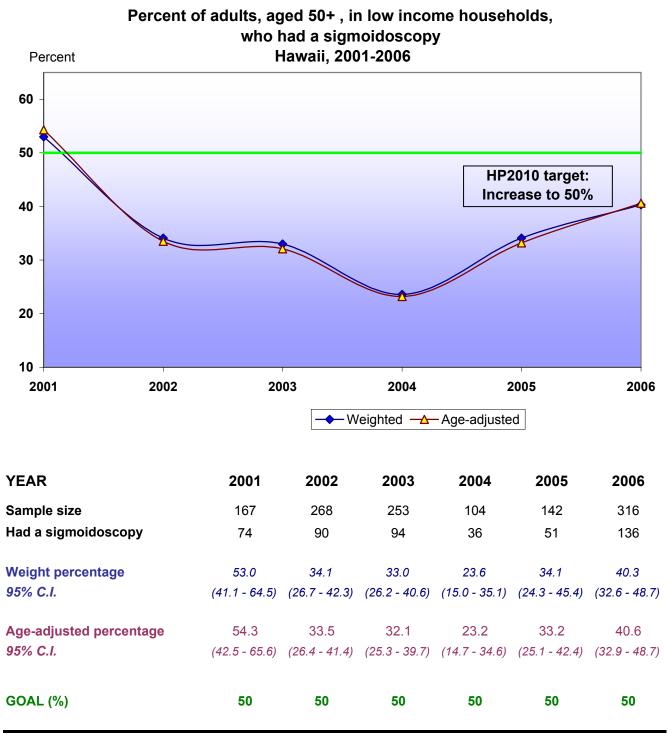
Percent of Japanese,aged 50+, who had a sigmoidoscopy Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size	465	696	482	283	405	847
Had a sigmoidoscopy	252	319	272	160	267	539
Weight percentage	54.9	45.4	56.4	59.9	62.7	63.7
95% C.I.	(49.1 - 60.6)	(40.8 - 50.2)	(50.8 - 61.9)	(52.3 - 67.0)	(56.4 - 68.6)	(59.7 - 67.6)
Age-adjusted percentage	53.9	43.8	55.4	59.3	60.2	62.9
95% C.I.	(47.7 - 59.9)	(38.8 - 48.9)	(49.6 - 61.0)	(52.0 - 66.3)	(54.0 - 66.0)	(58.8 - 66.8)
GOAL (%)	50	50	50	50	50	50

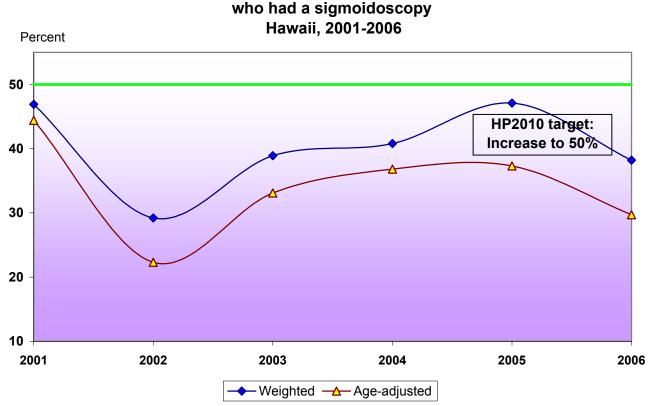
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System



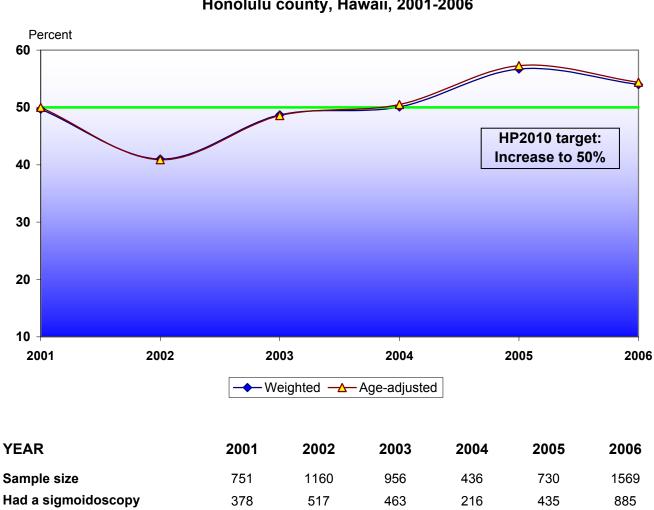
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of adults, with less education, aged 50+, who had a sigmoidoscopy

YEAR	2001	2002	2003	2004	2005	2006
Sample size	215	296	183	95	124	269
Had a sigmoidoscopy	94	93	79	45	56	116
Weight percentage	46.9	29.2	38.9	40.8	47.1	38.2
95% C.I.	(36.5 - 57.7)	(22.7 - 36.6)	(29.7 - 49.0)	(28.3 - 54.6)	(34.9 - 59.6)	(30.6 - 46.4)
Age-adjusted percentage	44.4	22.3	33.1	36.8	37.3	29.7
95% C.I.	(33.4 - 56.0)	(16.7 - 29.1)	(24.7 - 42.7)	(24.8 - 50.6)	(27.2 - 48.5)	(24.1 - 36.0)
GOAL (%)	50	50	50	50	50	50

Source: Hawaii Behavioral Risk Factor Surveillance System



41.0

40.9

50

48.7

48.6

50

(45.5 - 53.9) (37.8 - 44.3) (45.0 - 52.4) (44.7 - 55.6) (52.3 - 60.9) (51.0 - 56.9)

(45.9 - 54.2) (37.7 - 44.1) (44.9 - 52.2) (45.2 - 55.7) (53.1 - 61.4) (51.6 - 57.2)

50.1

50.5

50

56.7

57.3

50

54.0

54.4

50

Percent of adults, aged 50+, who had a sigmoidoscopy Honolulu county, Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

49.7

50.0

50

State of Hawaii, Department of Health

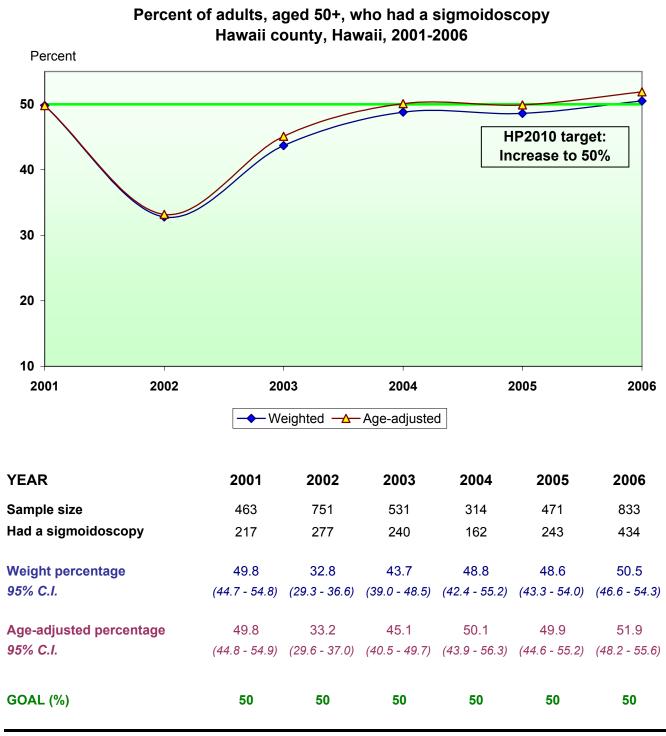
Weight percentage

Age-adjusted percentage

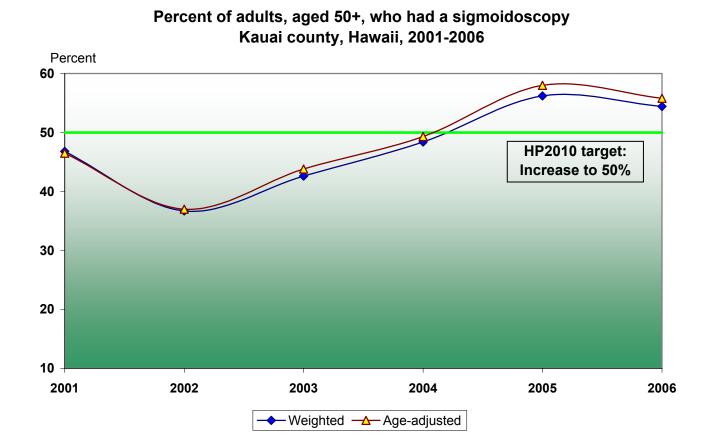
95% C.I.

95% C.I.

**GOAL (%)** 

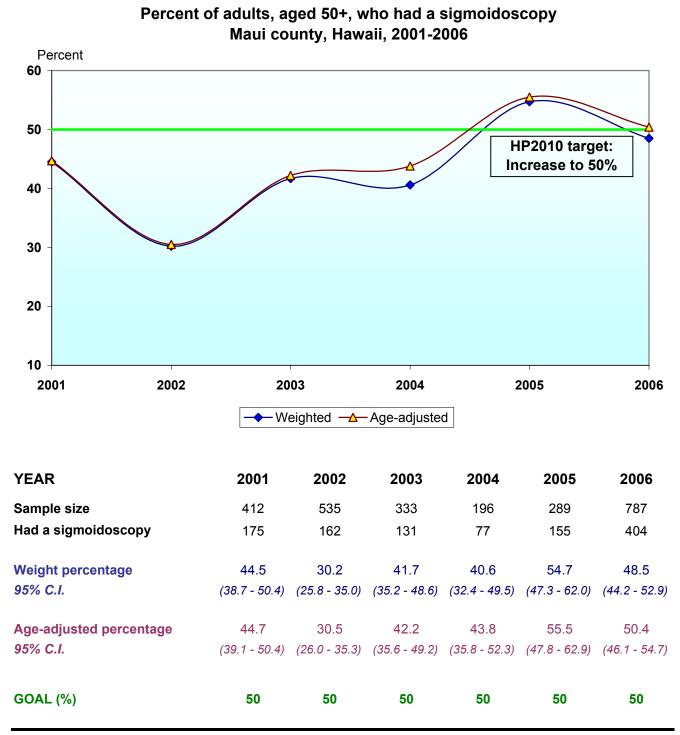


Source: Hawaii Behavioral Risk Factor Surveillance System



YEAR	2001	2002	2003	2004	2005	2006
Sample size	239	309	206	147	170	377
Had a sigmoidoscopy	107	123	88	71	96	212
Weight percentage	46.8	36.7	42.6	48.4	56.2	54.4
95% C.I.	(38.8 - 55.0)	(30.7 - 43.1)	(35.2 - 50.3)	(39.1 - 57.7)	(47.3 - 64.7)	(48.2 - 60.4)
Age-adjusted percentage	46.5	37.0	43.8	49.3	58.0	55.8
95% C.I.	(38.8 - 54.3)	(31.0 - 43.4)	(36.2 - 51.6)	(39.9 - 58.6)	(49.9 - 65.7)	(49.7 - 61.7)
GOAL (%)	50	50	50	50	50	50

Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

#### DIABETES

There are 5 objectives in this area which can be tracked with our BRFSS data.

NOTES:

- In measuring HP2010 objectives and goals, adherence to HP2010 definition prescribed in volume I and volume II of HP2010 was followed as much as possible. However, readers are being cautioned that not all the HBRFSS variables or questions used in measuring HP2010 objectives and goals are 100% comparable with the prescribed HP2010 definition but are close alternatives.
- Due to change made after November 2000 publication, the target and baseline of **some** of the following objectives are revised (the original baseline or target objective would be noted by an asterisk).

**Objective 5-3:** *Reduce the overall rate of diabetes that is clinically diagnosed to* **2.5%** (25 overall cases per 1,000 population)

**Question used to obtain the data:** *Have you ever been told by a doctor, a nurse or a health professional that you have diabetes?* 

In 2006, 7.6% of adults reported that they were diagnosed with diabetes (Figure 5a), much higher than the HP2010 goal of 2.5%. More than that, the trend is going up.

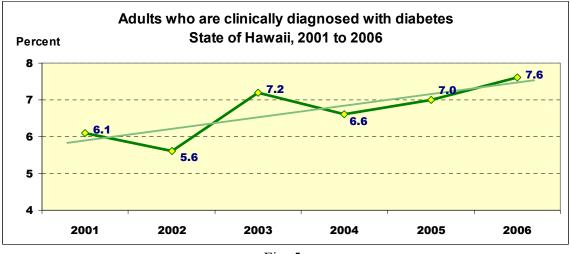


Fig. 5a

There is a statistical significant difference in the diabetes prevalence rate between ethnic groups in 2006. Caucasians have the lowest one, 4.9%, then come Japanese with 6.8%. Both are much lower than those for Hawaiians, 12.3%, and Filipinos, 12.0%.

Moreover, the diabetes rates of Hawaiians and Filipinos have been in an upward trend since 2001 (Figure 5b).

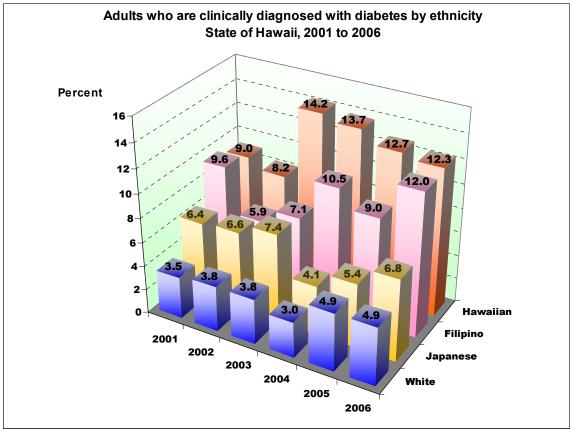


Fig. 5b

In addition, the diabetes rate among people in low-income household is significantly higher than that for the better income (Figure 5c).

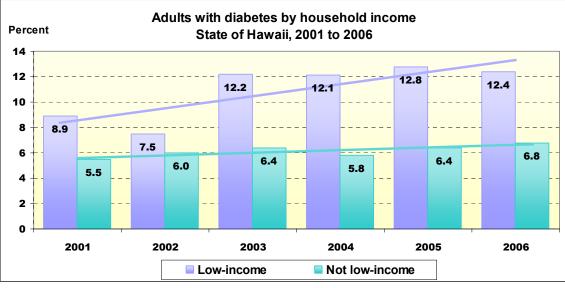


Fig. 5c

**Objective 5-1:** Increase the proportion of persons with diabetes who receive formal diabetes education to **60%** 

**Question used to obtain the data**: *Have you ever taken a course or class in how to manage your diabetes yourself?* 

**Objective 5-12:** Increase the proportion of adults with diabetes who have a glycosylated hemoglobin measurement at least once a year to **65%** (\*: revised from 50%)

Question used to obtain the data: About how many times in the last year has a doctor, nurse, or other health professional checked you for glycosylated hemoglobin "A one C"?

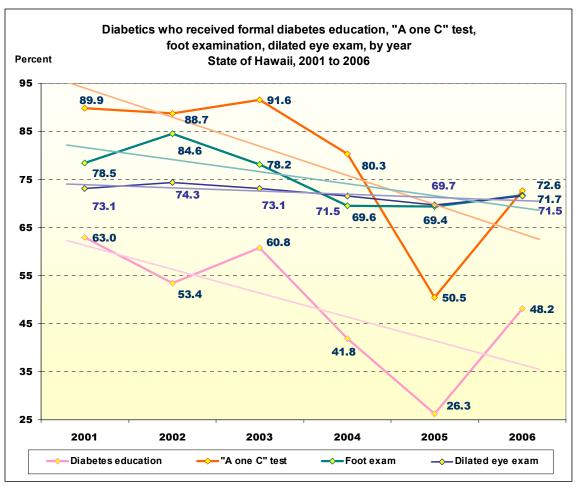
**Objective 5-13:** Increase the proportion of adults (aged 18+) with diabetes who have an annual dilated eye examination to 76% (\*: revised from 75%)

**Question used to obtain the data:** *When was the last time you had an eye exam in which the pupils were dilated?* 

**Objective 5-14:** Increase the proportion of adults with diabetes who have at least an annual foot examination to **91%** (\*: revised from 75%)

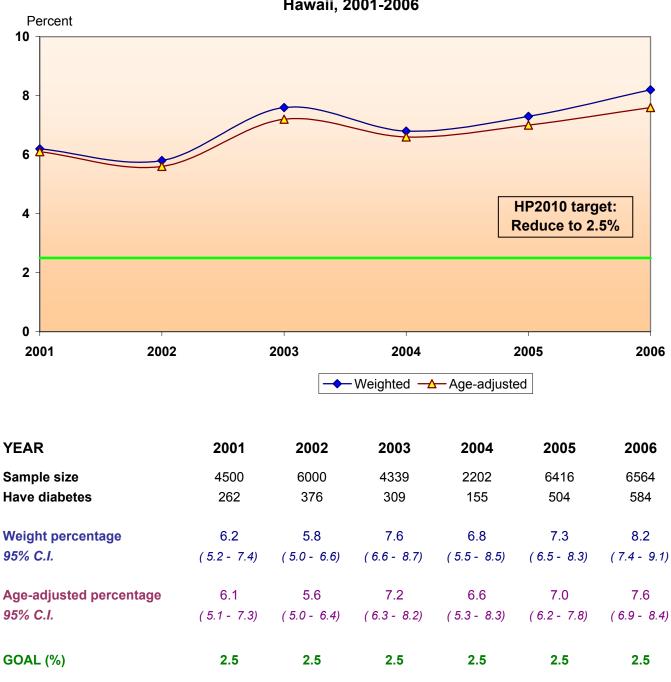
**Question used to obtain the data:** *About how many times in the last year has a other health professional checked your feet for any sores or irritations?* 

These objectives are to improve the way diabetics manage and control their disease. For the state of Hawaii, these indexes are worsening (Figure 5d).



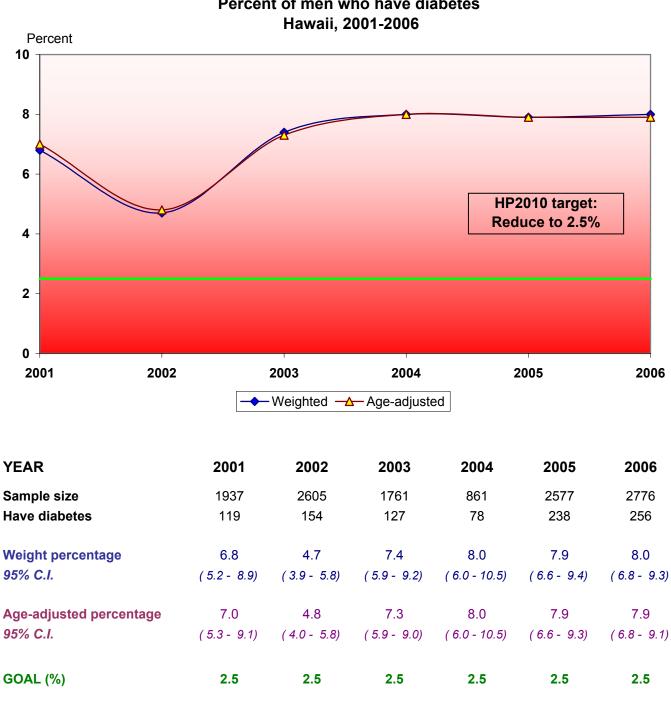
- In 2006, 71.5% adults with diabetes had an eye examination in which the pupils were dilated at least once a year (objective 5.13). Logically, Hawaii made progress toward the HP2010 goal of 76% compared to the national baseline of 49% in 1998, but it was actually going down a little bit. In 2001 we were at 73.1% then declined to 71.5% in 2006 while still being around 70%.
- There is a definite downward trend in the proportion of diabetics who had a glycosylated hemoglobin measurement ("A one C" test) at least once a year, the proportion of diabetics who obtained foot examination at least once a year, and the proportion of diabetics who received formal diabetes education. Although, there is an improvement between 2005 and 2006 as reflected by increase in the respective proportion, the increases are not large enough to be at the 2001 level.

# **OBJECTIVE 5-3**



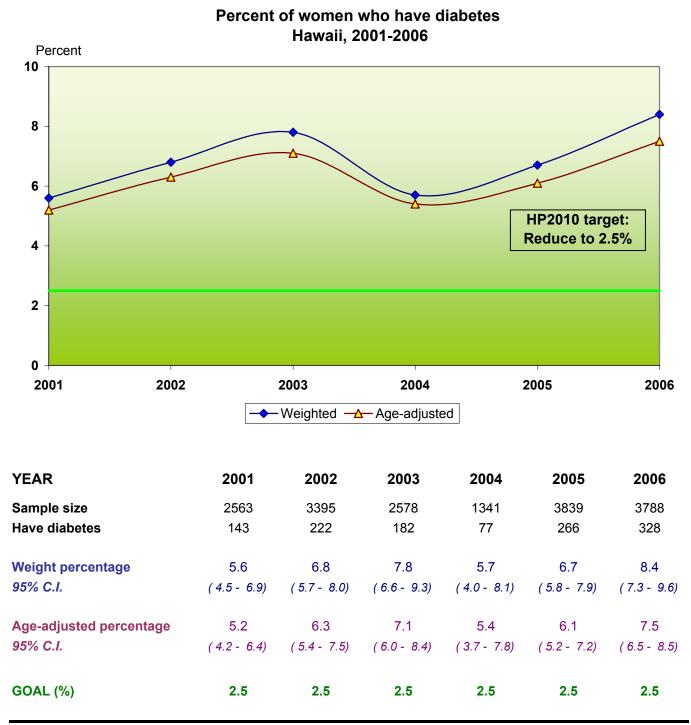
Percent of adults who have diabetes Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

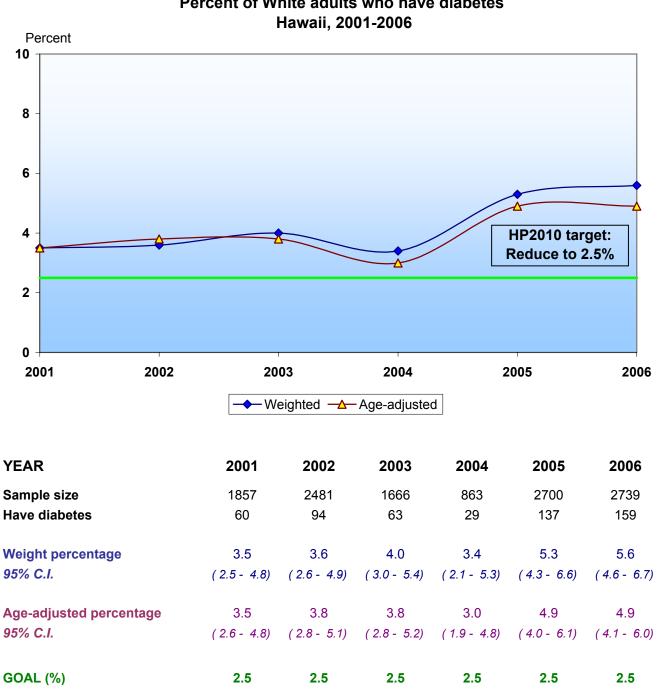


Percent of men who have diabetes

Source: Hawaii Behavioral Risk Factor Surveillance System

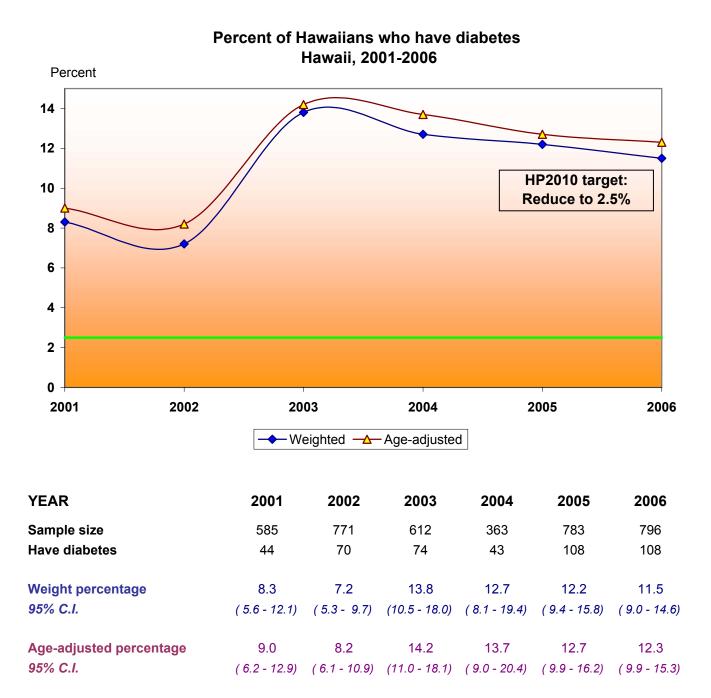


Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of White adults who have diabetes

Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

2.5

2.5

2.5

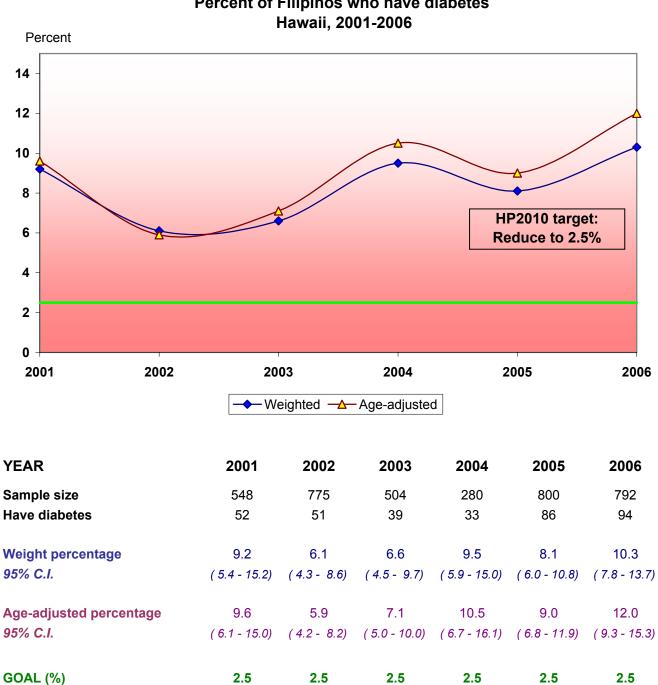
2.5

2.5

2.5

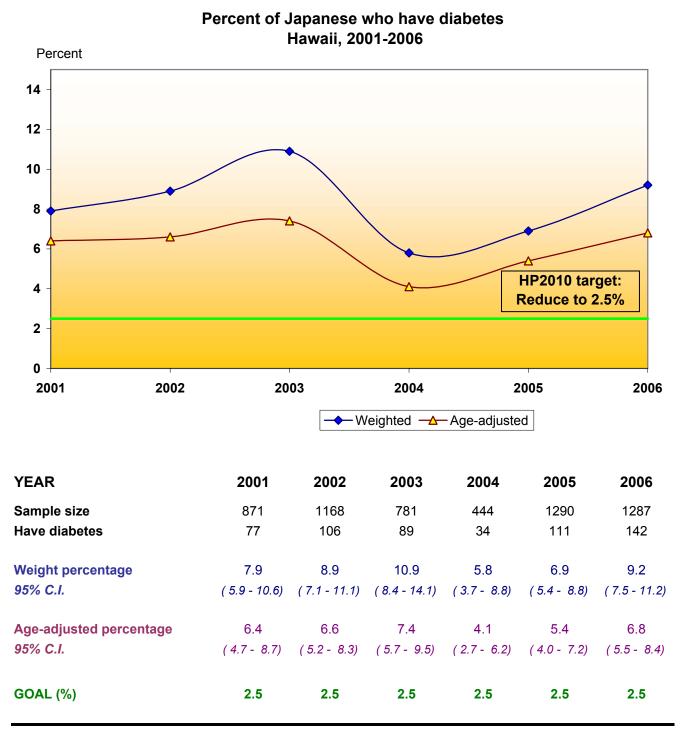
State of Hawaii, Department of Health

**GOAL (%)** 

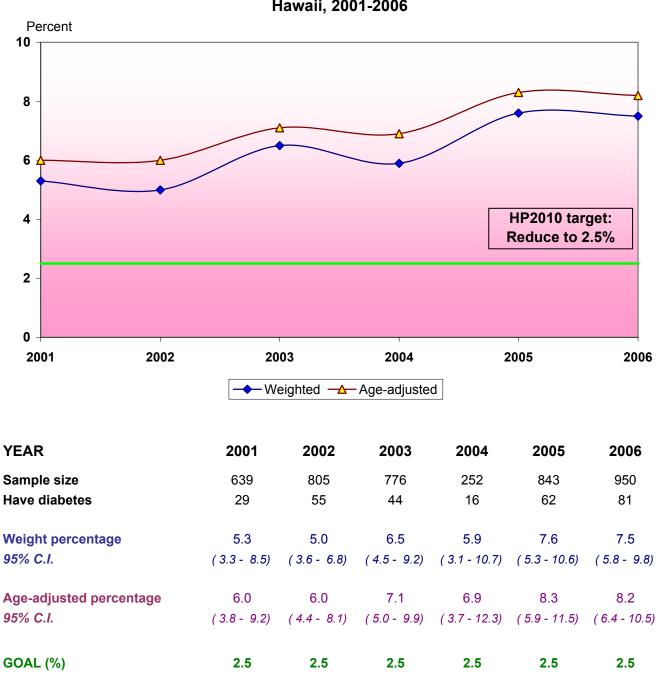


Percent of Filipinos who have diabetes

Source: Hawaii Behavioral Risk Factor Surveillance System

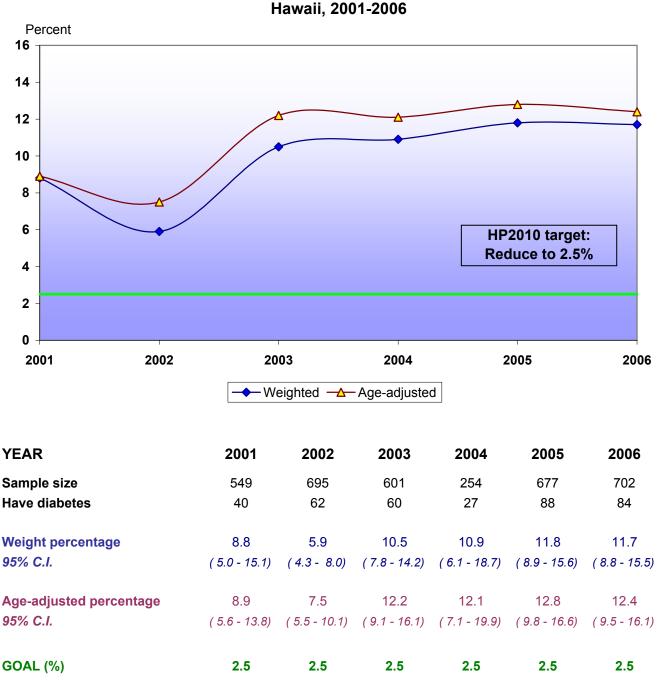


Source: Hawaii Behavioral Risk Factor Surveillance System



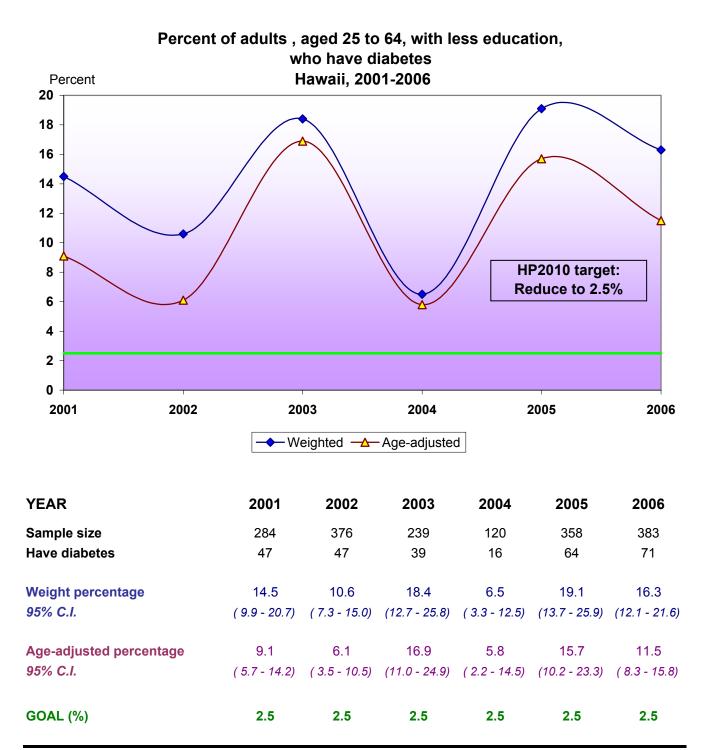
Percent of adults of other races who have diabetes Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

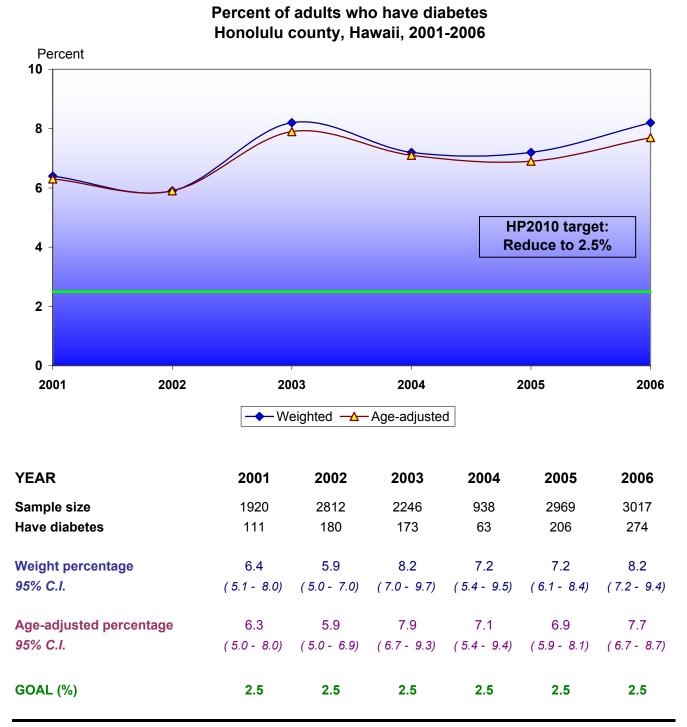


Percent of adults, in low income households, who have diabetes Hawaii, 2001-2006

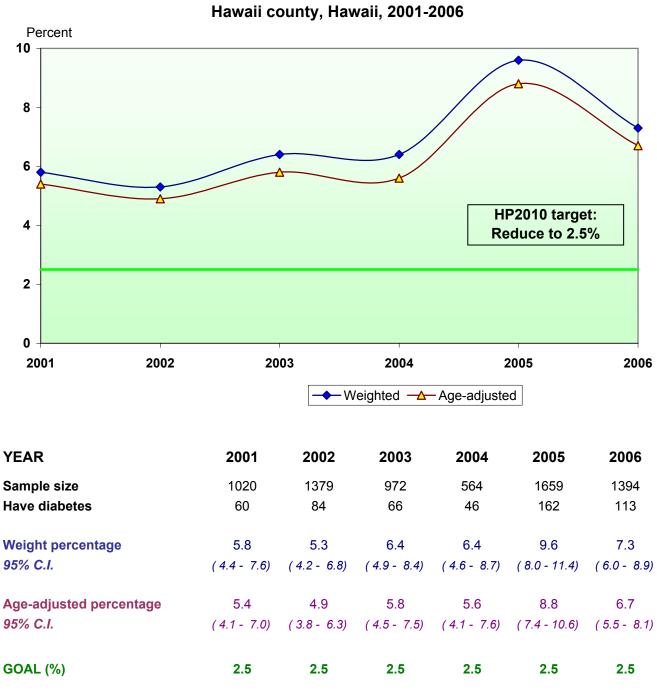
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

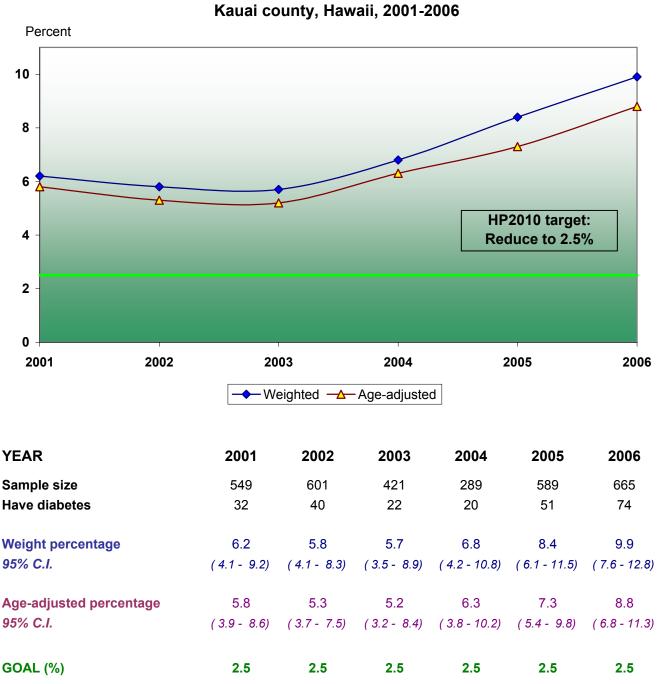


Source: Hawaii Behavioral Risk Factor Surveillance System



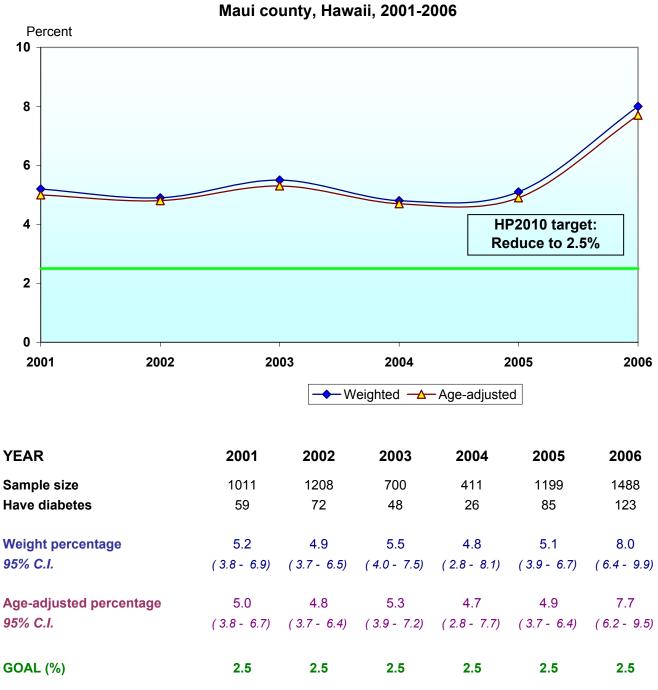
Percent of adults who have diabetes

Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of adults who have diabetes

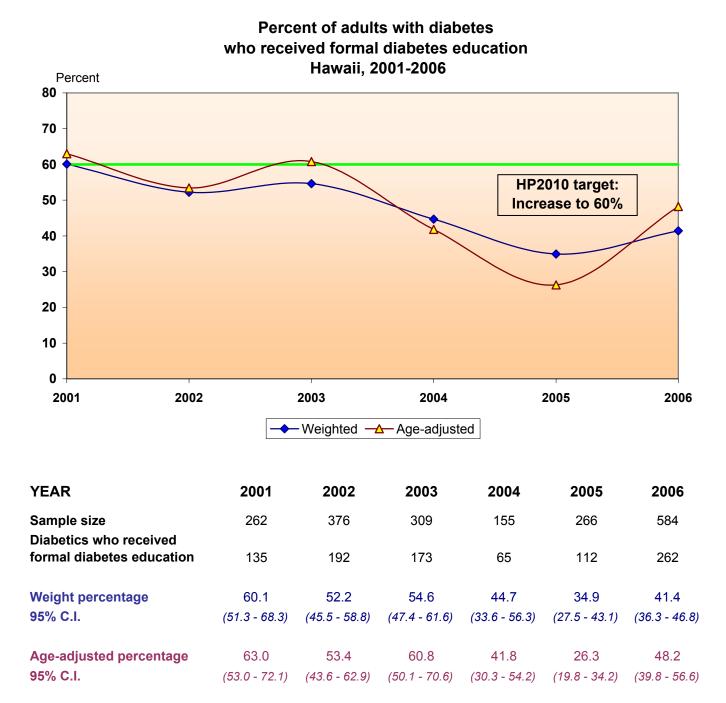
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of adults who have diabetes Maui county. Hawaii. 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

# **OBJECTIVE 5-1**



State of Hawaii, Department of Health

Source: Hawaii Behavioral Risk Factor Surveillance System

60

60

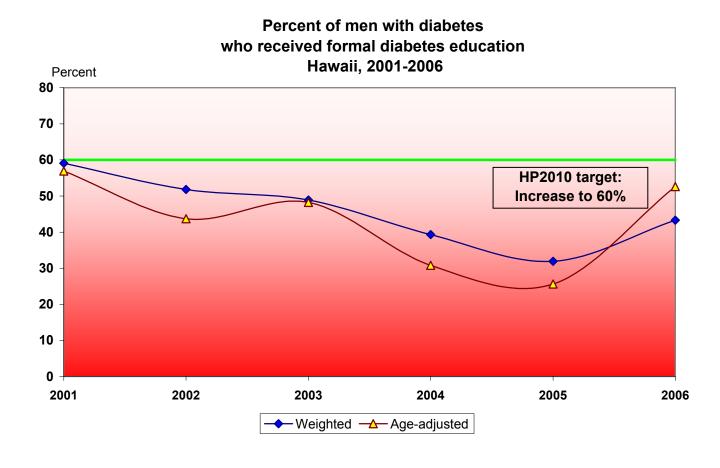
60

60

60

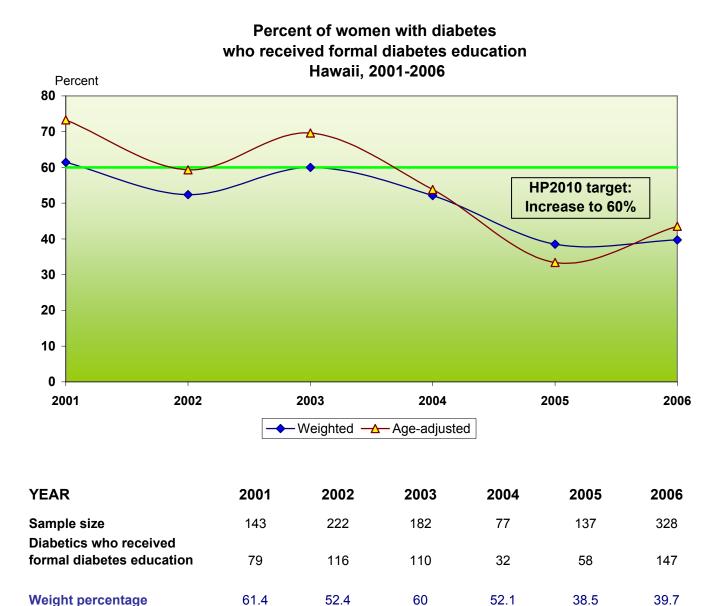
60

**GOAL (%)** 



YEAR	2001	2002	2003	2004	2005	2006
Sample size	119	154	127	78	129	256
Diabetics who received formal diabetes education	56	76	63	33	54	115
Weight percentage	59.1	51.8	48.9	39.3	31.9	43.3
95% C.I.	(45.8 - 71.2)	(42.0 - 61.5)	(37.9 - 60.0)	(26.5 - 53.7)	(22.2 - 43.6)	(35.4 - 51.5)
Age-adjusted percentage	56.9	43.7	48.2	30.8	25.6	52.6
95% C.I.	(43.6 - 69.3)	(28.8 - 59.8)	(33.1 - 63.6)	(19.9 - 44.4)	(17.0 - 36.7)	(43.5 - 61.6)
GOAL (%)	60	60	60	60	60	60

Source: Hawaii Behavioral Risk Factor Surveillance System



(34.2 - 69.5)

53.8

(43.3 - 64.0)

60

(33.2 - 46.6)

43.5

(32.8 - 54.8)

60

(28.1 - 49.9)

33.4

(22.7 - 46.0)

60

Source: Hawaii Behavioral Risk Factor Surveillance System

(50.2 - 71.4)

73.3

(60.1 - 83.3)

60

(43.3 - 61.3)

59.3

(47.6 - 70.1)

60

(50.9 - 68.4)

69.6

(58.4 - 79.0)

60

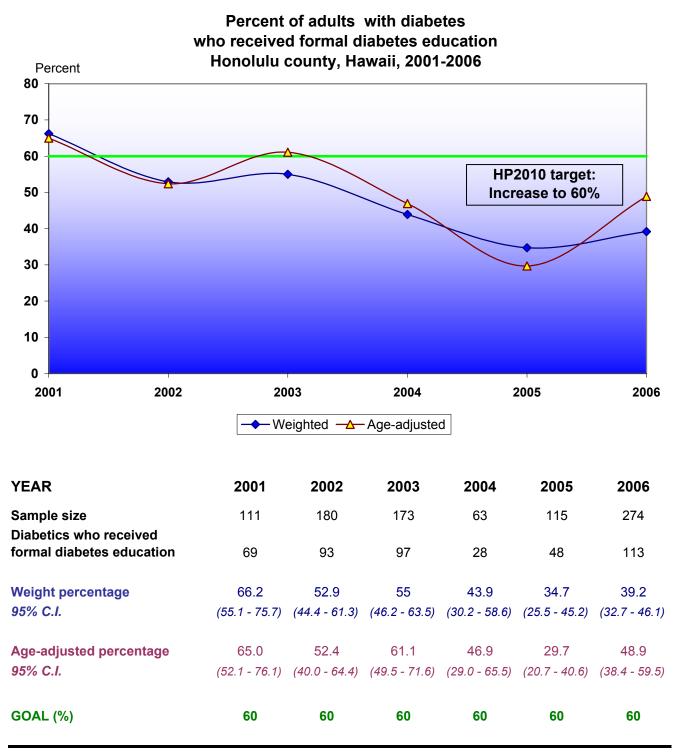
State of Hawaii, Department of Health

95% C.I.

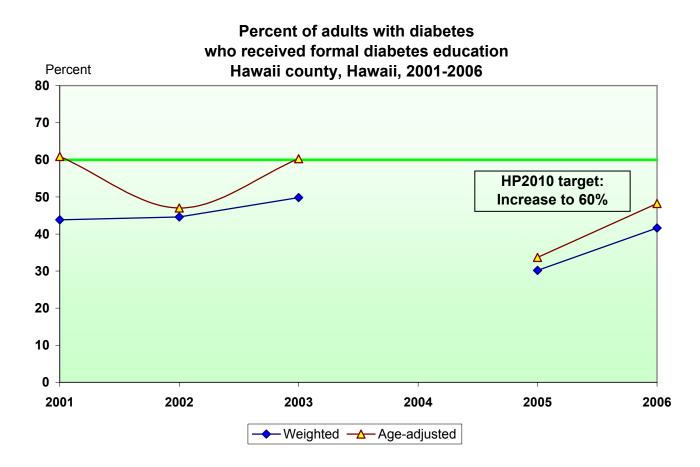
95% C.I.

**GOAL (%)** 

Age-adjusted percentage

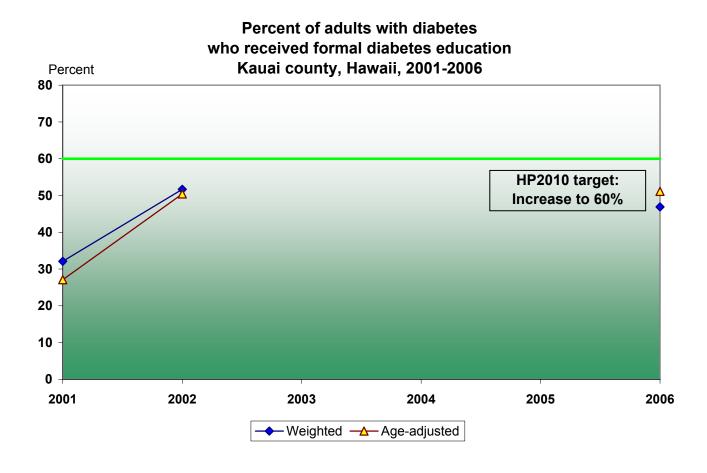


Source: Hawaii Behavioral Risk Factor Surveillance System



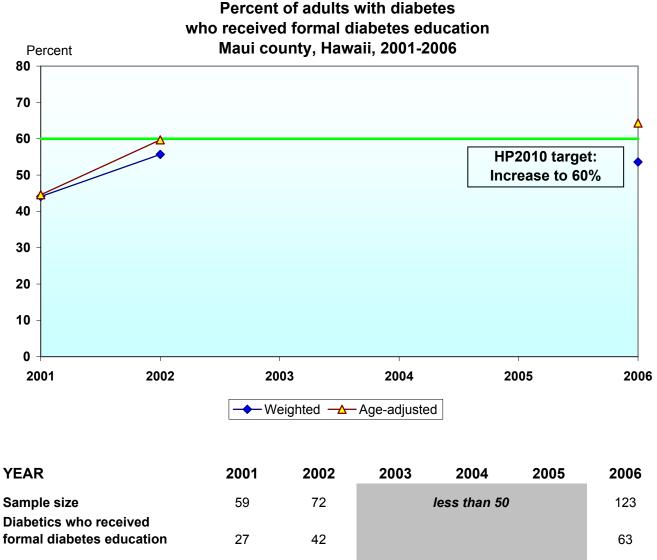
YEAR	2001	2002	2003	2004	2005	2006
Sample size	60	84	66	less than 50	84	113
Diabetics who received formal diabetes education	26	36	36		31	52
Weight percentage	43.8	44.6	49.8		30.2	41.6
95% C.I.	(30.8 - 57.7)	(32.8 - 57.2)	(36.7 - 63.0)		(20.4 - 42.3)	(32.0 - 51.8)
Age-adjusted percentage 95% C.I.	60.9 (44.8 - 75.0)	47.0 (33.8 - 60.6)	60.3 (47.7 - 71.6)		33.7 (24.0 - 44.9)	48.2 (35.6 - 60.9)
GOAL (%)	60	60	60	60	60	60

Source: Hawaii Behavioral Risk Factor Surveillance System



YEAR	2001	2002	2003	2004	2005	2006
Sample size Diabetics who received	32	40		less than 50		74
formal diabetes education	13	21				34
Weight percentage	32.1	51.7				46.9
95% C.I.	(17.4 - 51.5)	(34.0 - 68.9)				(33.8 - 60.5)
Age-adjusted percentage	27.1	50.4				51.1
95% C.I.	(16.6 - 41.0)	(34.4 - 66.3)				(32.5 - 69.4)
GOAL (%)	60	60	60	60	60	60

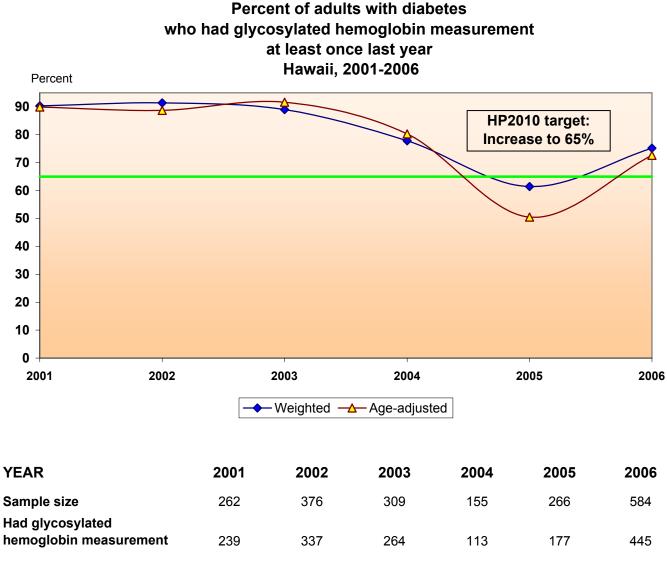
Source: Hawaii Behavioral Risk Factor Surveillance System



Weight percentage 95% C.I.	44.1 (30.3 - 59.0)	55.7 (41.4 - 69.1)				53.6 (42.3 - 64.5)
Age-adjusted percentage 95% C.I.	44.6 (36.3 - 53.1)	59.7 (42.2 - 75.0)				64.3 (53.0 - 74.2)
GOAL (%)	60	60	60	60	60	60

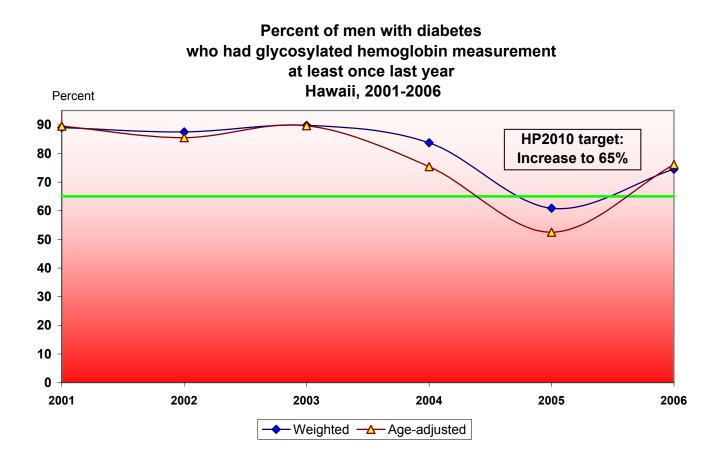
Source: Hawaii Behavioral Risk Factor Surveillance System

## **OBJECTIVE 5-12**



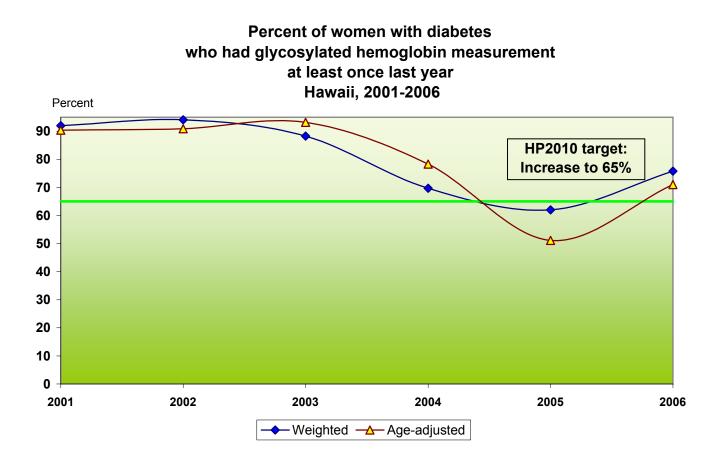
Weight percentage	90.3	91.4	89.0	77.8	61.4	75.2
95% C.I.	(83.9 - 94.4)	(87.7 - 94.1)	(84.4 - 92.4)	(67.9 - 85.4)	<i>(52.1 - 69.9)</i>	(69.9 - 79.9)
Age-adjusted percentage	89.9	88.7	91.6	80.3	50.5	72.6
95% C.I.	(81.5 - 94.7)	(80.8 - 93.6)	<i>(85.4 - 95.3)</i>	(68.9 - 88.2)	(40.3 - 60.6)	(62.8 - 80.7)
GOAL (%)	65	65	65	65	65	65

Source: Hawaii Behavioral Risk Factor Surveillance System



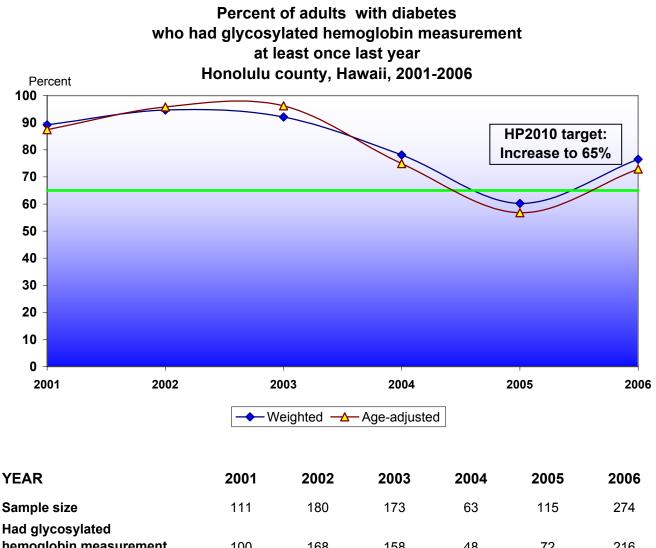
YEAR	2001	2002	2003	2004	2005	2006
Sample size	119	154	127	78	129	256
Had glycosylated hemoglobin measurement	109	133	108	62	90	194
Weight percentage	89.0	87.5	89.8	83.7	60.9	74.5
95% C.I.	(78.0 - 94.8)	(79.9 - 92.5)	(83.3 - 93.9)	(71.6 - 91.3)	(46.7 - 73.5)	(66.0 - 81.5)
Age-adjusted percentage	89.5	85.5	89.7	75.4	52.5	76.1
95% C.I.	(77.6 - 95.4)	(75.5 - 91.9)	(78.3 - 95.5)	(59.5 - 86.5)	(41.3 - 63.5)	(65.1 - 84.5)
GOAL (%)	65	65	65	65	65	65

Source: Hawaii Behavioral Risk Factor Surveillance System



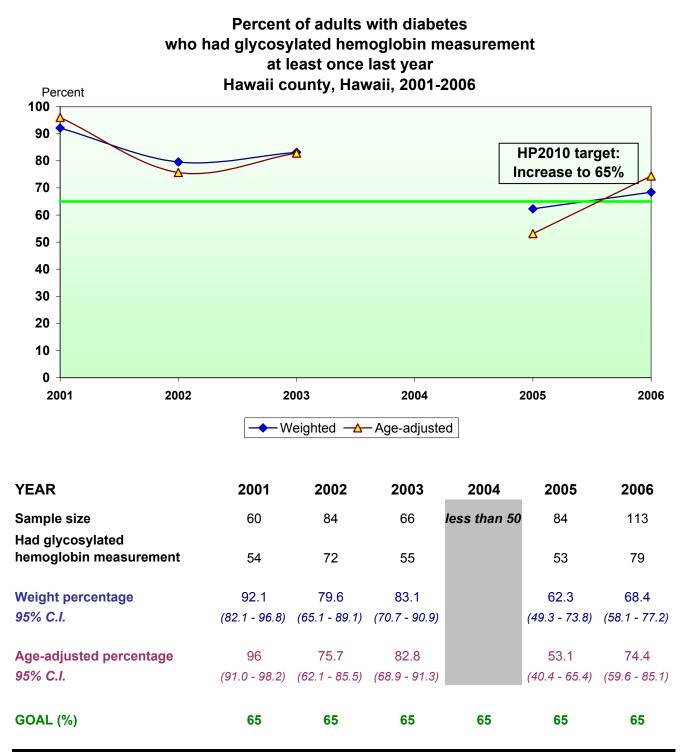
YEAR	2001	2002	2003	2004	2005	2006
Sample size	143	222	182	77	137	328
Had glycosylated hemoglobin measurement	130	204	156	51	87	251
Weight percentage	92.0	94.1	88.3	69.7	62.0	75.8
95% C.I.	(84.4 - 96.1)	(90.2 - 96.5)	(81.1 - 92.9)	(52.1 - 83.0)	(50.7 - 72.1)	(68.9 - 81.6)
Age-adjusted percentage	90.4	90.9	93.2	78.3	51.1	71
95% C.I.	(76.5 - 96.4)	(79.8 - 96.2)	(88.2 - 96.1)	(67.4 - 86.2)	(37.2 - 64.8)	(58.6 - 80.9)
GOAL (%)	65	65	65	65	65	65

Source: Hawaii Behavioral Risk Factor Surveillance System

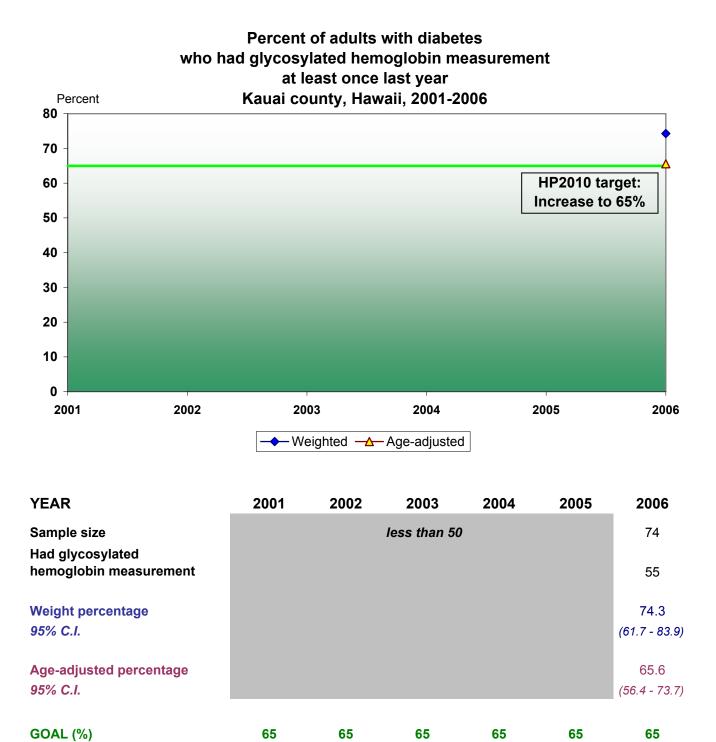


GOAL (%)	65	65	65	65	65	65	
Age-adjusted percentage 95% C.I.	87.4 (76.3 - 93.7)	95.8 (91.2 - 98.0)	96.2 (93.5 - 97.8)	74.9 (55.8 - 87.6)	56.8 (42.3 - 70.2)	72.9 (60.5 - 82.5)	
Weight percentage 95% C.I.	89.2 (80.5 - 94.2)	94.7 (90.3 - 97.1)	92.1 (86.4 - 95.5)	78.1 (65.1 - 87.3)	60.2 (48.3 - 70.9)	76.5 (69.4 - 82.4)	
nemoglobin measurement	100	168	158	48	72	216	

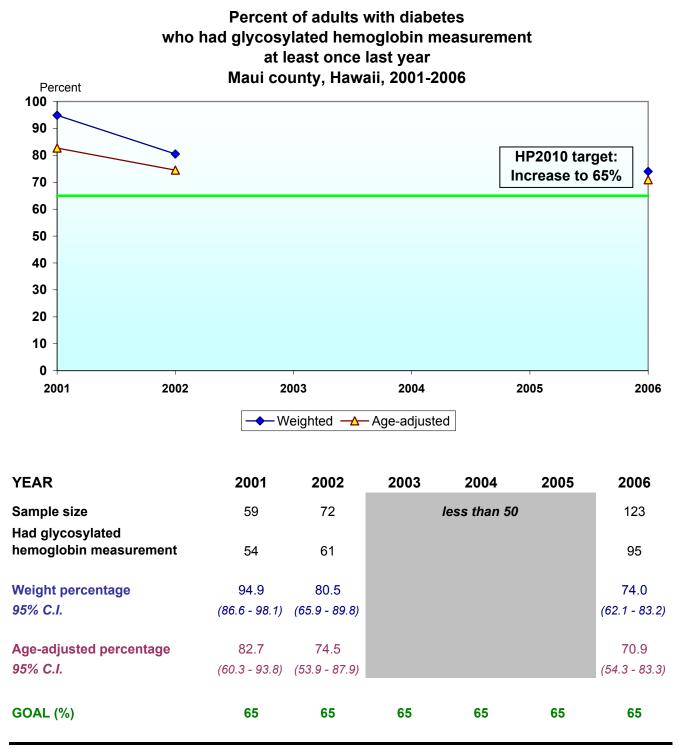
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

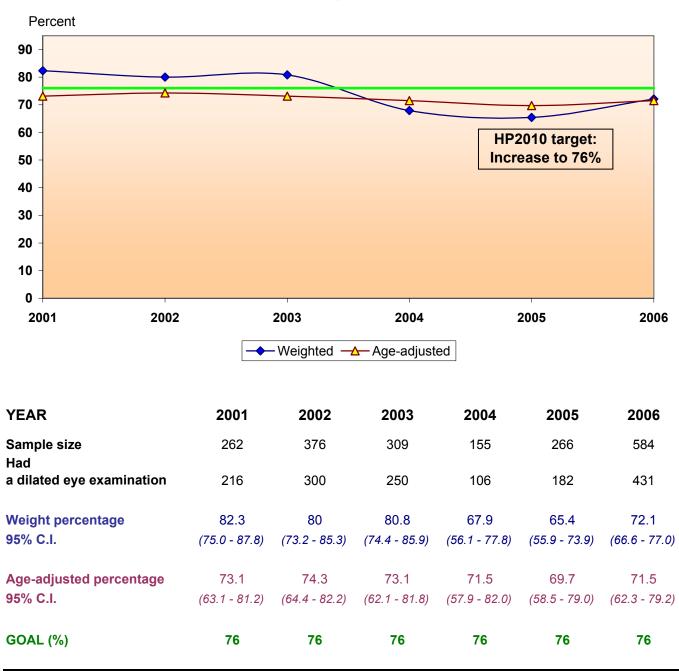


Source: Hawaii Behavioral Risk Factor Surveillance System



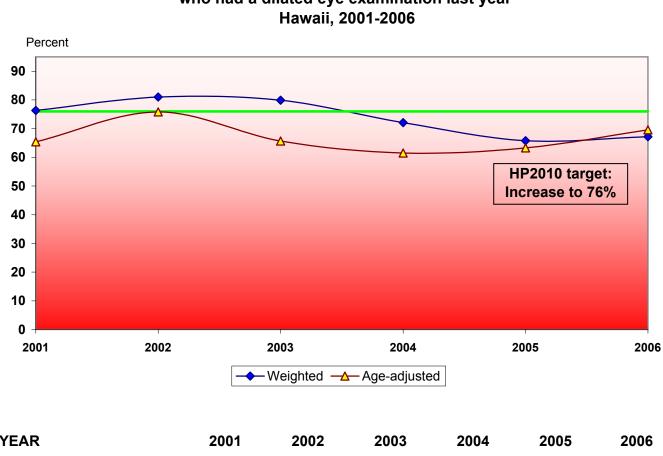
Source: Hawaii Behavioral Risk Factor Surveillance System

## **OBJECTIVE 5-13**



Percent of adults with diabetes who had a dilated eye examination last year Hawaii, 2001-2006

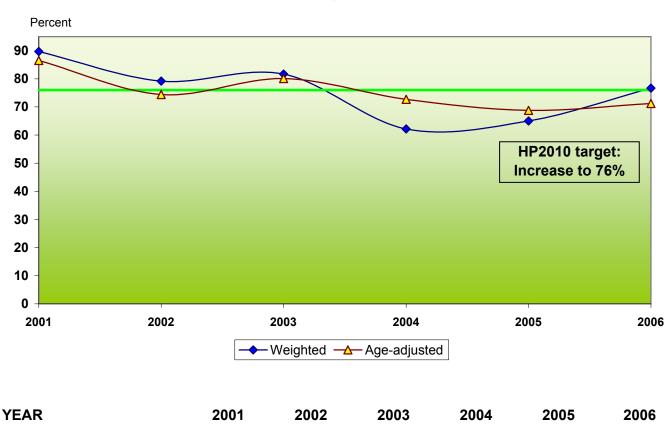
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of men with diabetes who had a dilated eye examination last year Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size Had	119	154	127	78	129	256
a dilated eye examination	92	121	102	56	94	179
Weight percentage	76.3	81	79.9	72.1	65.8	67.2
95% C.I.	(64.1 - 85.2)	(72.3 - 87.4)	(68.9 - 87.7)	(56.4 - 83.7)	(50.9 - 78.1)	(58.4 - 74.9)
Age-adjusted percentage	65.4	75.8	65.7	61.5	63.3	69.6
95% C.I.	(53.5 - 75.7)	(66.8 - 83.0)	(51.6 - 77.4)	(42.8 - 77.3)	(44.5 - 78.7)	(56.2 - 80.3)
GOAL (%)	76	76	76	76	76	76

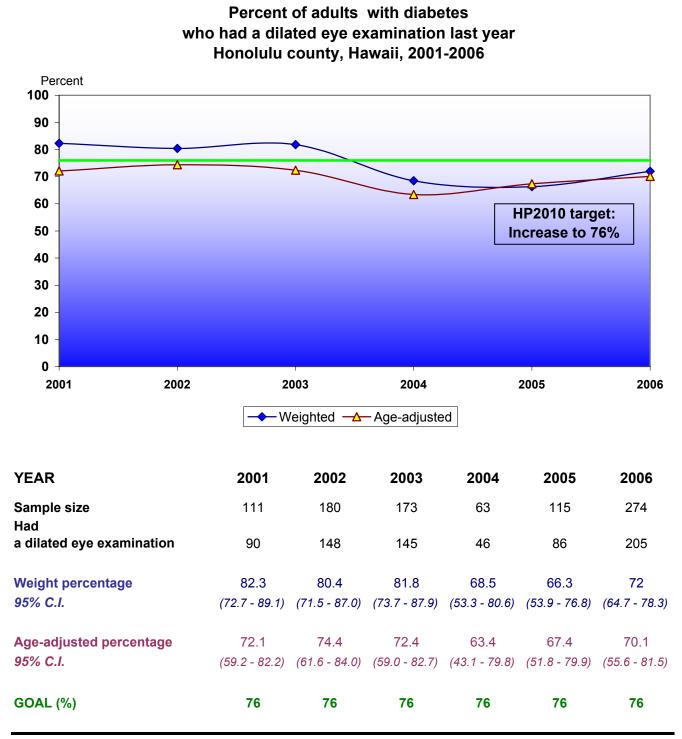
Source: Hawaii Behavioral Risk Factor Surveillance System



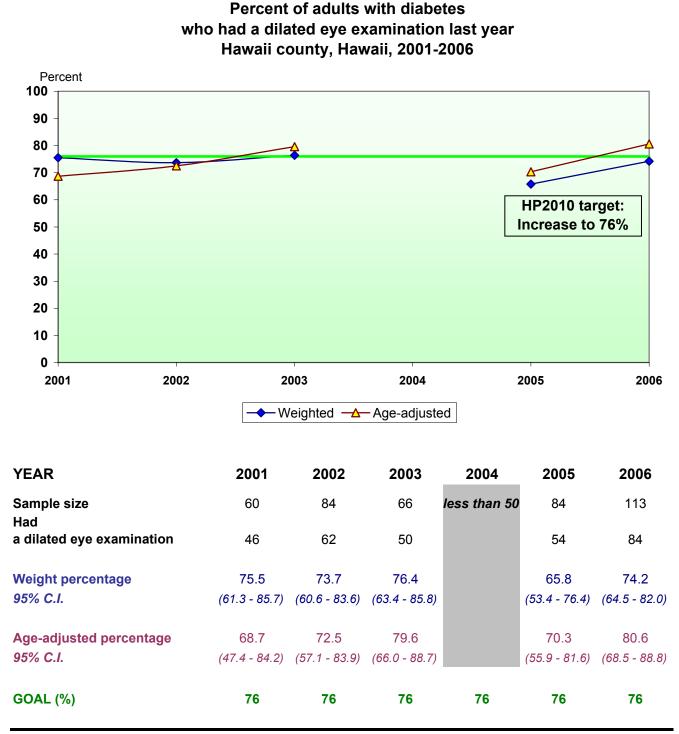
Percent of women with diabetes who had a dilated eye examination last year Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size Had	143	222	182	77	137	328
a dilated eye examination	124	179	148	50	88	252
Weight percentage	89.7	79.2	81.7	62.2	65	76.7
95% C.I.	(82.5 - 94.2)	(69.1 - 86.7)	(73.8 - 87.6)	(43.4 - 77.9)	(53.3 - 75.0)	(69.9 - 82.3)
Age-adjusted percentage	86.5	74.4	80.1	72.7	68.8	71.2
95% C.I.	(75.0 - 93.2)	(61.5 - 84.0)	(66.4 - 89.1)	(56.7 - 84.5)	(54.6 - 80.2)	(60.0 - 80.2)
GOAL (%)	76	76	76	76	76	76

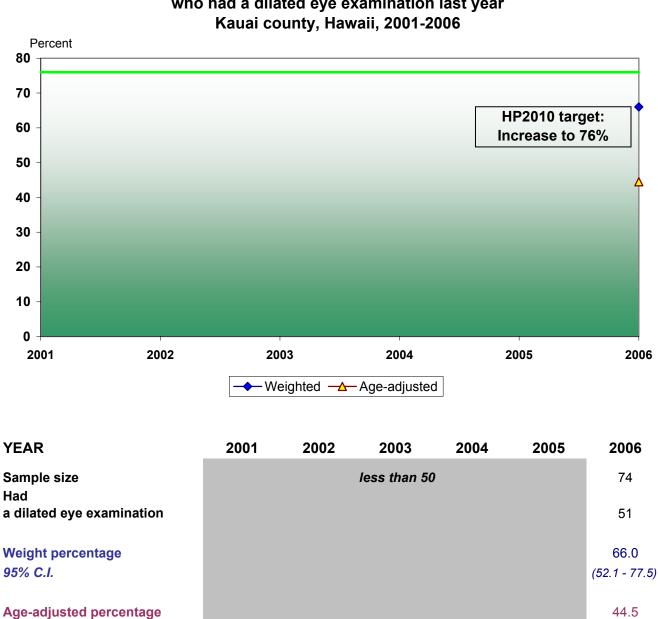
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System



(30.0 - 60.1)

76

Percent of adults with diabetes who had a dilated eye examination last year

Source: Hawaii Behavioral Risk Factor Surveillance System

76

76

76

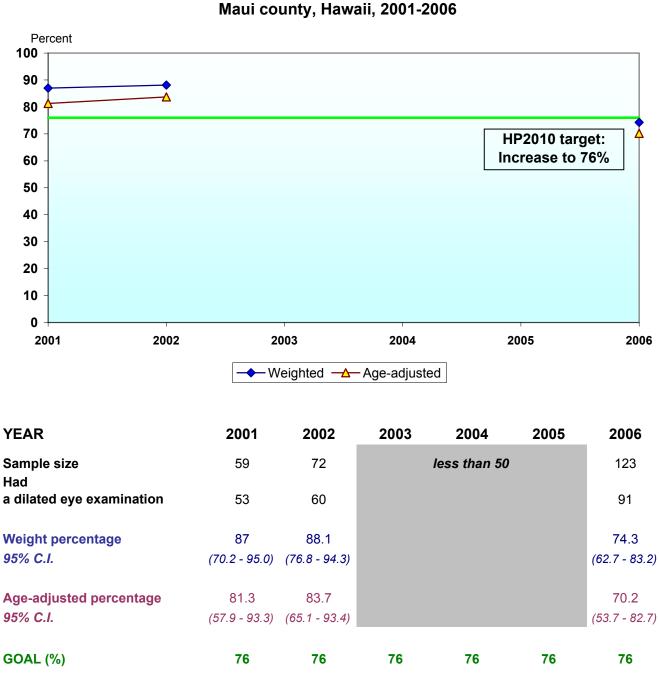
76

76

State of Hawaii, Department of Health

95% C.I.

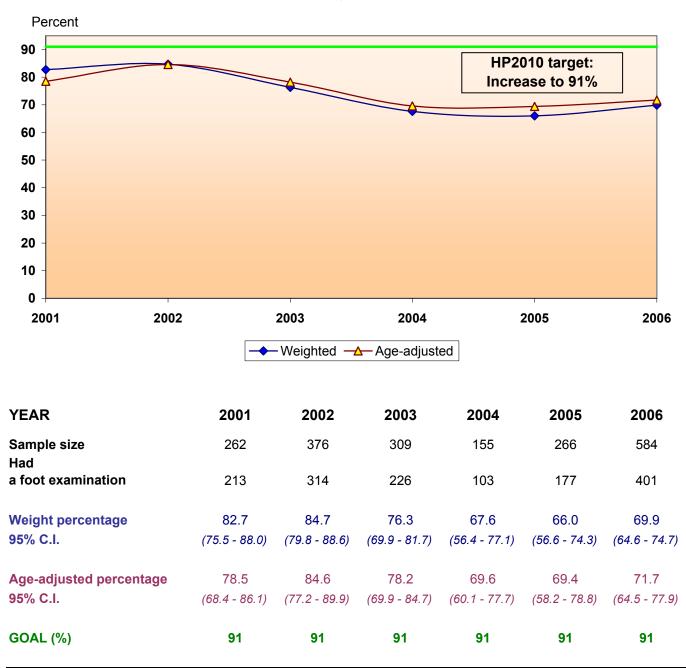
**GOAL (%)** 



Percent of adults with diabetes who had a dilated eye examination last year Maui county, Hawaii, 2001-2006

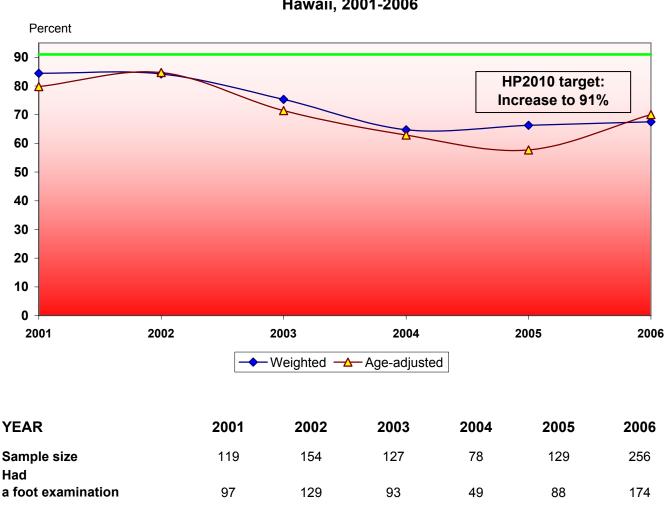
Source: Hawaii Behavioral Risk Factor Surveillance System

#### **OBJECTIVE 5-14**



Percent of adults with diabetes who had a foot examination at least once last year Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System



84.2

(76.4 - 89.8)

84.7

(74.8 - 91.1)

91

75.3

(64.8 - 83.5)

71.4

(58.8 - 81.3)

91

64.7

(50.1 - 76.9)

62.9

(47.5 - 76.0)

91

66.3

(51.7 - 78.4)

57.7

(47.0 - 67.7)

91

67.5

(59.0 - 75.0)

70.0

(59.0 - 79.1)

91

Percent of men with diabetes who had a foot examination at least once last year Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

84.4

(73.9 - 91.2)

79.8

(65.4 - 89.3)

91

State of Hawaii, Department of Health

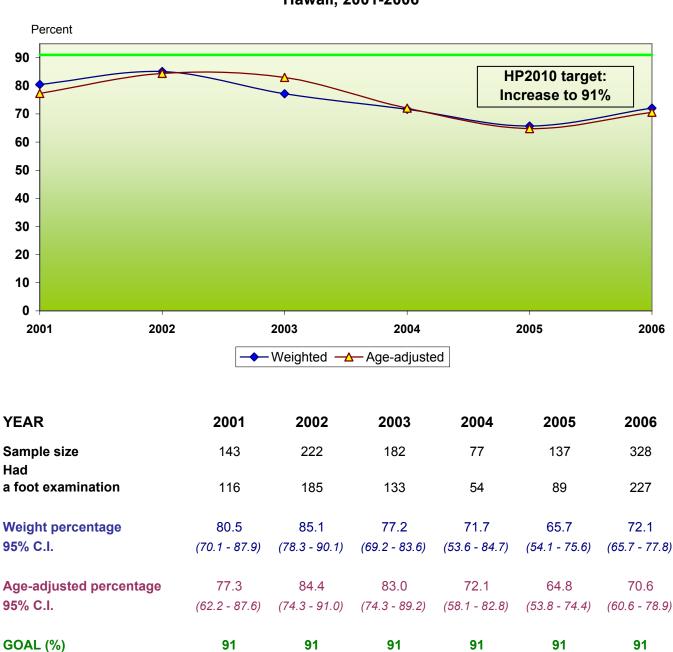
Weight percentage

Age-adjusted percentage

95% C.I.

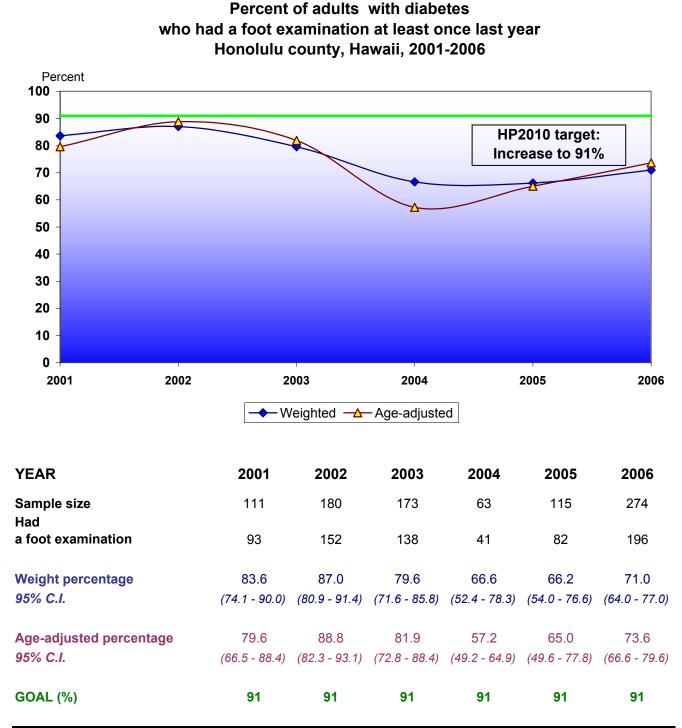
95% C.I.

**GOAL (%)** 

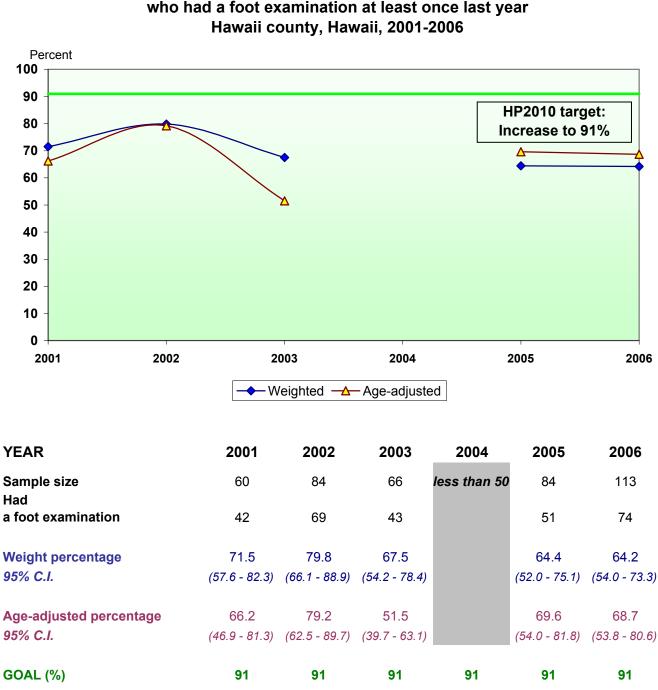


Percent of women with diabetes who had a foot examination at least once last year Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

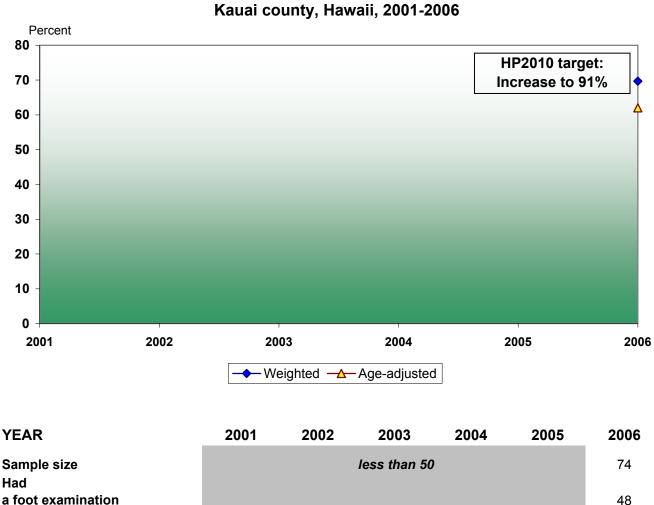


Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of adults with diabetes who had a foot examination at least once last year

Source: Hawaii Behavioral Risk Factor Surveillance System



69.7

(57.3 - 79.8)

62.0

(52.1 - 71.0)

91

Percent of adults with diabetes who had a foot examination at least once last year Kauai county, Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

91

91

91

91

91

State of Hawaii, Department of Health

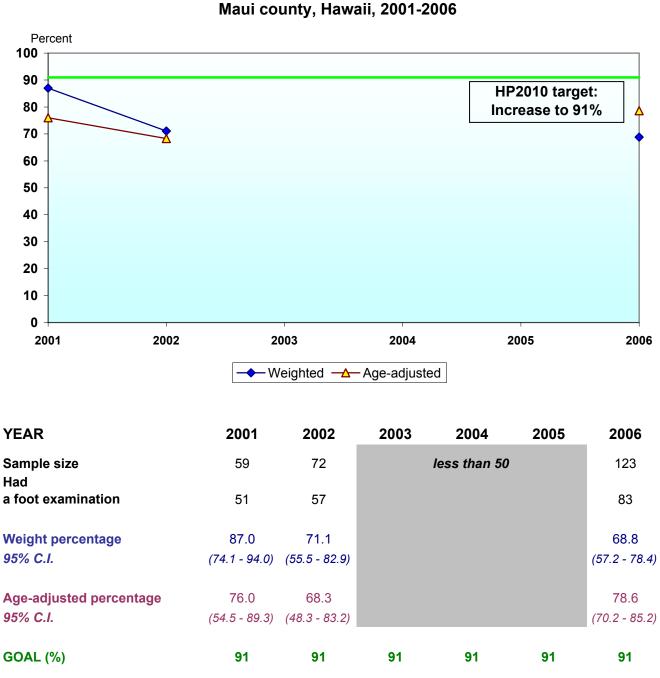
Weight percentage

Age-adjusted percentage

95% C.I.

95% C.I.

**GOAL (%)** 



Percent of adults with diabetes who had a foot examination at least once last year Maui county, Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

#### HEART DISEASE AND STROKE

In our survey, the questions related to cardiovascular diseases were asked in every other year.

We can track the 3 following objectives in this area.

**Objective 12-9:** Reduce the proportion of adults (aged 20+) with high blood pressure to **14%** (revised from 16%)

<u>Question used to obtain the data:</u> *Have you ever been told by a doctor, nurse or other health professional that you have high blood pressure?* 

In 2005, the percentage of adults aged 20 years old and older in Hawaii with high blood pressure was 23.5%. With the national baseline of 26% in 1988, only a little progress was made toward the goal of 14% in 2010.

Whites exhibit the lowest percentage of adults suffering from high blood pressure (Figure 12a). This high blood pressure prevalence rate among White is significantly lower than the Hawaiian, Japanese, Filipino high blood pressure prevalence rate at alpha=1% test criterion in each of the survey year except White and Filipino in 2001.

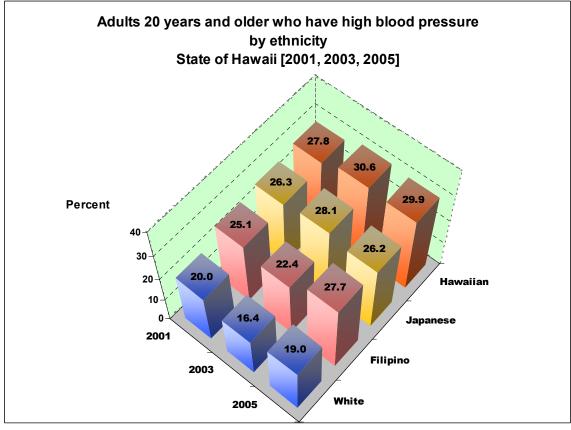
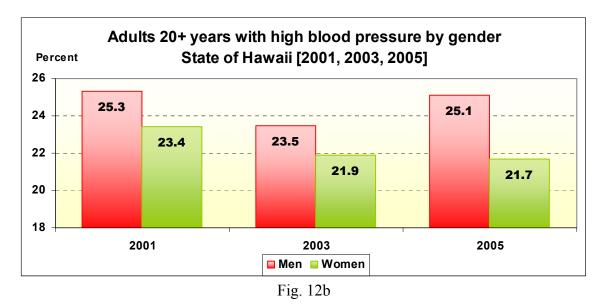
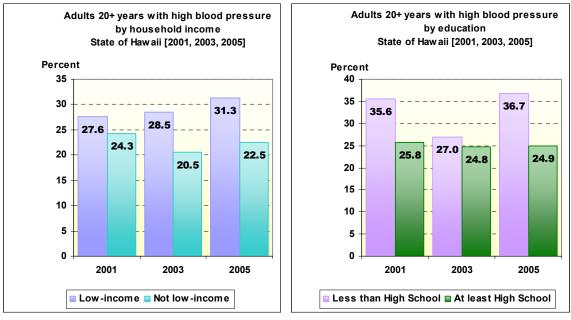


Fig. 12a



Men are more at risk of high blood pressure than women (Figure 12.b).

In addition, people in low-income households or people with less education have a higher rate of high blood pressure compared to those in better income households or with better education respectively (Figure 12c).





**Objective 12-14:** Reduce the proportion of adults (aged 20+) with high total blood cholesterol levels to **17%** 

**Question used to obtain the data:** Have you ever been told by a doctor, nurse or other professional health that your blood cholesterol is high?

# **Objective 12-15:** Increase the proportion of adults who have had their blood cholesterol checked within the preceding 5 years to **80%**

#### Questions used to obtain the data:

Have you ever had your blood cholesterol checked? About how long has it been since you last had your blood cholesterol checked?

The percentage of adults in Hawaii who had blood cholesterol checked in the past 5 years seems to be declining; it was 73.9% in 2001, then dropped down to 70.2% in 2003, and then 69.4% in 2005 (Figure 12d). The most recent data show that we are only 2.4% higher than the national baseline of 67% in 1996.

With a downward trend, we certainly have a long road to the HP2010 goal of 80%.

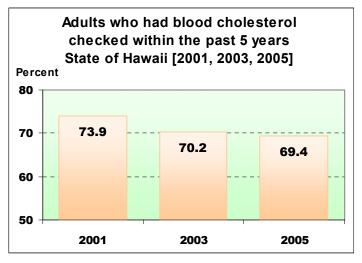


Fig.12d

The percentage having a blood cholesterol check within the past 5 years among people in low-income households or with less education is much lower than it is for those in better income households or with better education (Figure 12e).

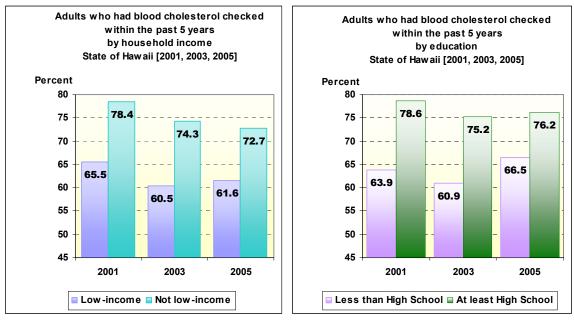
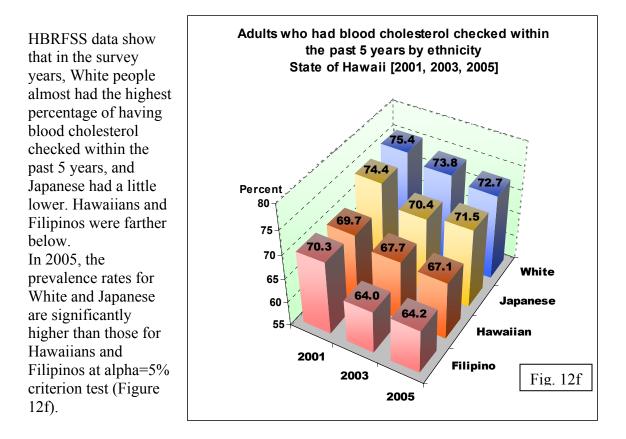
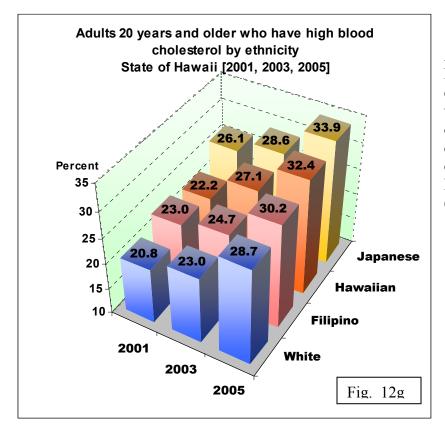


Fig. 12e





Among people who had blood cholesterol checked, Whites have the lowest percentage of having high blood cholesterol level. In contrast, Japanese have the highest one (Figure 12g). In measuring the proportion of adults who ever had a blood cholesterol check within the past 5 years, Hawaii state exhibits a disparity between counties. Honolulu County had the highest rates in 2001, 2002, and 2003; and also had significant differences with other counties except Maui County in 2001 (Figure 12h).

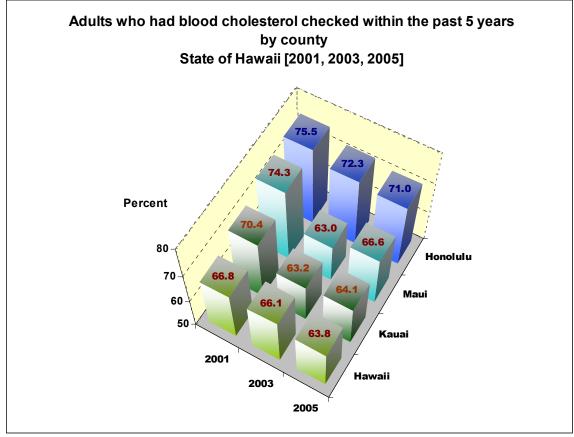
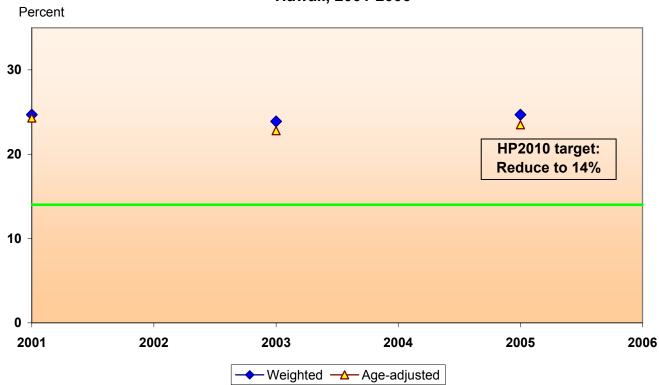


Fig. 12h

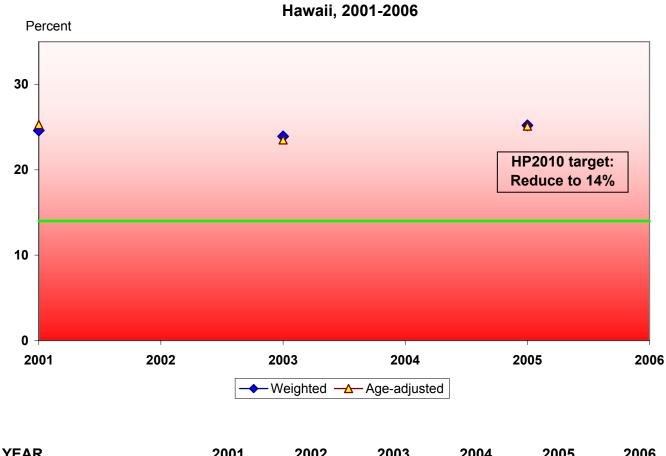
### **OBJECTIVE 12-9**



Percent of adults, aged 20+, who have High Blood Pressure Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size Have High Blood Pressure	4419 1082	N/A	4255 1043	N/A	6329 1689	N/A
Weight percentage 95% C.I.	24.7 (23.0 - 26.5)		23.9 (22.3 - 25.5)		24.7 (23.2 - 26.1)	
Age-adjusted percentage 95% C.I.	24.3 (22.8 - 25.9)		22.8 (21.4 - 24.2)		23.5 (22.2 - 24.9)	
GOAL (%)	14	14	14	14	14	14

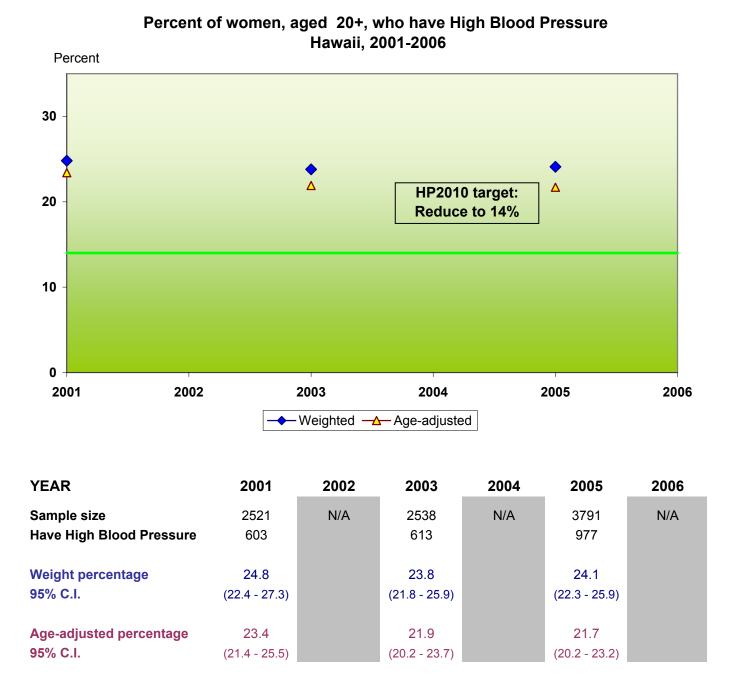
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of men, aged 20+, who have High Blood Pressure

YEAR	2001	2002	2003	2004	2005	2006
Sample size Have High Blood Pressure	1898 479	N/A	1717 430	N/A	2538 712	N/A
Weight percentage 95% C.I.	24.6 (22.1 - 27.3)		23.9 (21.5 - 26.5)		25.2 (23.0 - 27.6)	
Age-adjusted percentage 95% C.I.	25.3 (23.0 - 27.8)		23.5 (21.3 - 25.8)		25.1 (22.9 - 27.3)	
GOAL (%)	14	14	14	14	14	14

Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

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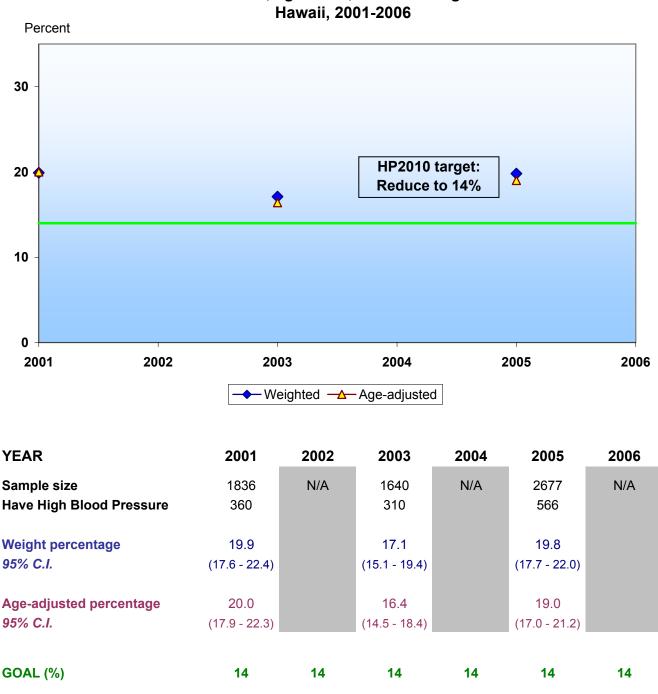
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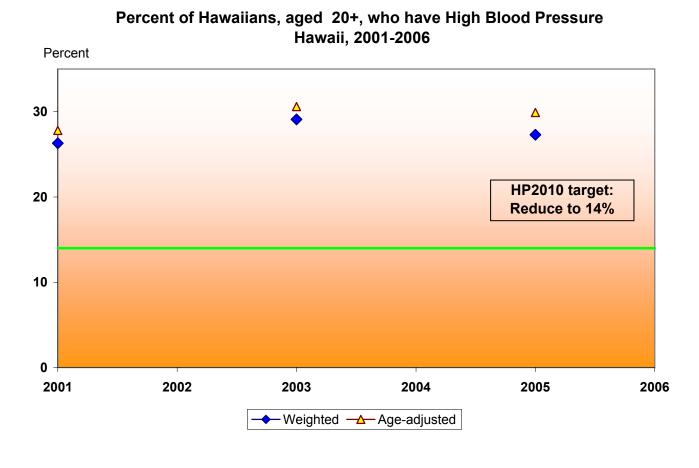
State of Hawaii, Department of Health

**GOAL (%)** 



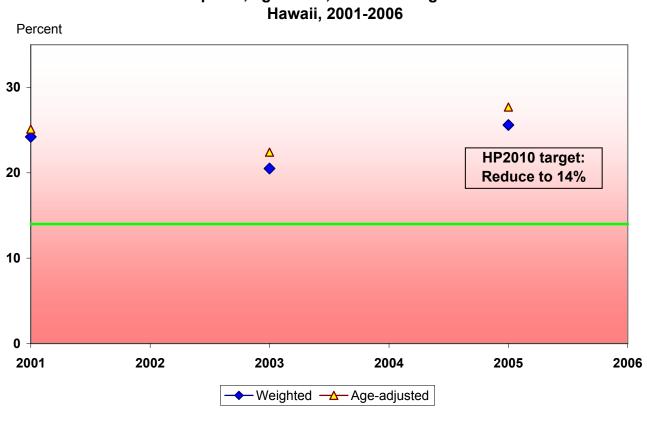
Percent of White adults, aged 20+, who have High Blood Pressure

Source: Hawaii Behavioral Risk Factor Surveillance System



YEAR	2001	2002	2003	2004	2005	2006
Sample size Have High Blood Pressure	565 145	N/A	595 178	N/A	767 239	N/A
Weight percentage 95% C.I.	26.3 (21.6 - 31.7)		29.1 (24.7 - 33.8)		27.3 (23.4 - 31.7)	
Age-adjusted percentage 95% C.I.	27.8 (23.4 - 32.8)		30.6 (26.6 - 35.0)		29.9 (26.1 - 33.9)	
GOAL (%)	14	14	14	14	14	14

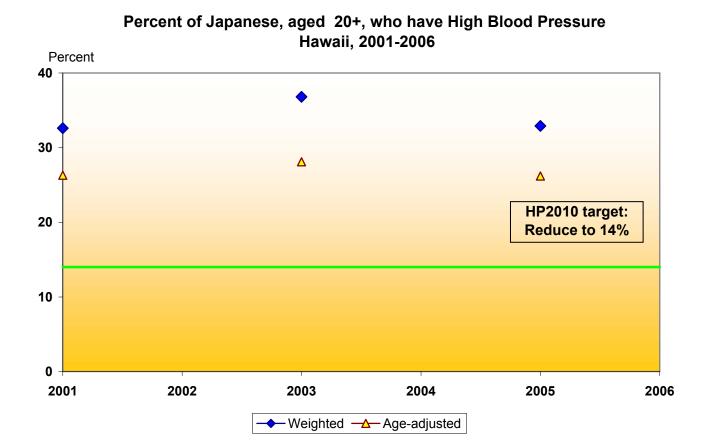
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of Filipinos, aged 20+, who have High Blood Pressure Hawaii, 2001-2006

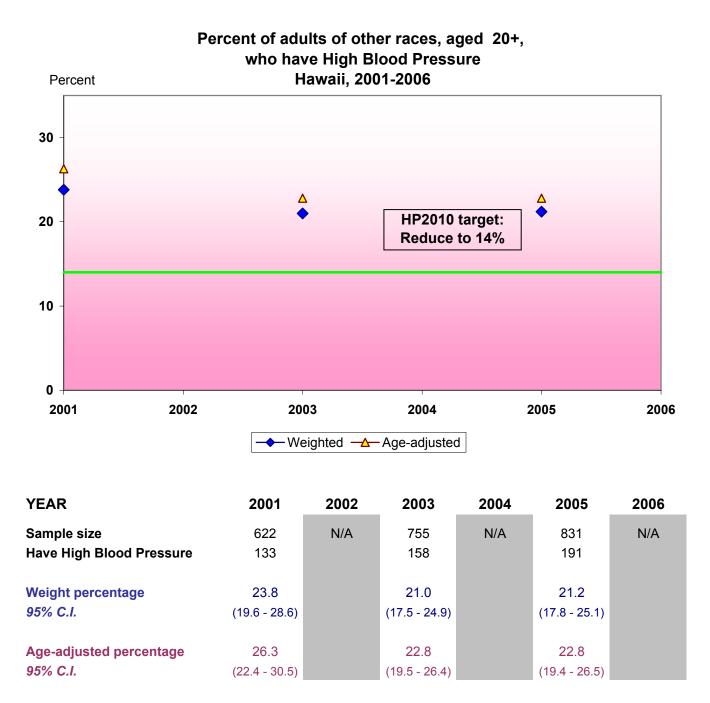
YEAR	2001	2002	2003	2004	2005	2006
Sample size Have High Blood Pressure	534 145	N/A	495 120	N/A	781 236	N/A
nave nigh blood Fressure	145		120		230	
Weight percentage	24.2		20.5		25.6	
95% C.I.	(19.0 - 30.2)		(16.6 - 25.0)		(21.6 - 30.1)	
Age-adjusted percentage	25.1		22.4		27.7	
95% C.I.	(20.5 - 30.4)		(18.6 - 26.7)		(23.8 - 32.0)	
GOAL (%)	14	14	14	14	14	14

Source: Hawaii Behavioral Risk Factor Surveillance System



YEAR	2001	2002	2003	2004	2005	2006
Sample size Have High Blood Pressure	862 299	N/A	770 277	N/A	1273 457	N/A
Weight percentage 95% C.I.	32.6 (28.7 - 36.8)		36.8 (32.6 - 41.2)		32.9 (29.7 - 36.2)	
Age-adjusted percentage 95% C.I.	26.3 (23.0 - 29.9)		28.1 (24.4 - 32.1)		26.2 (23.0 - 29.8)	
GOAL (%)	14	14	14	14	14	14

Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

14

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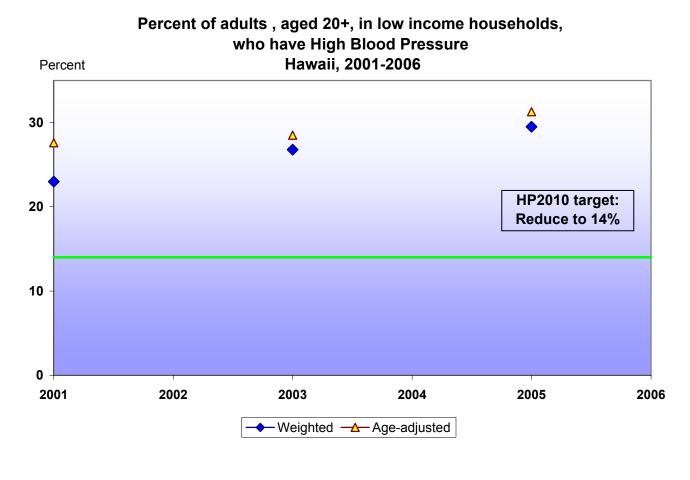
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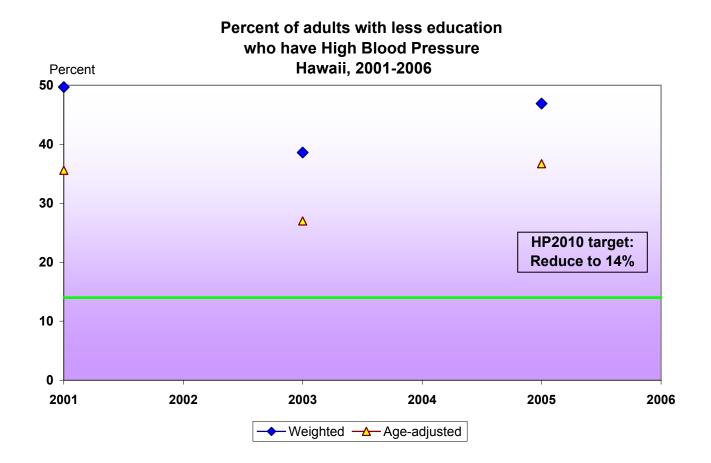
State of Hawaii, Department of Health

**GOAL (%)** 



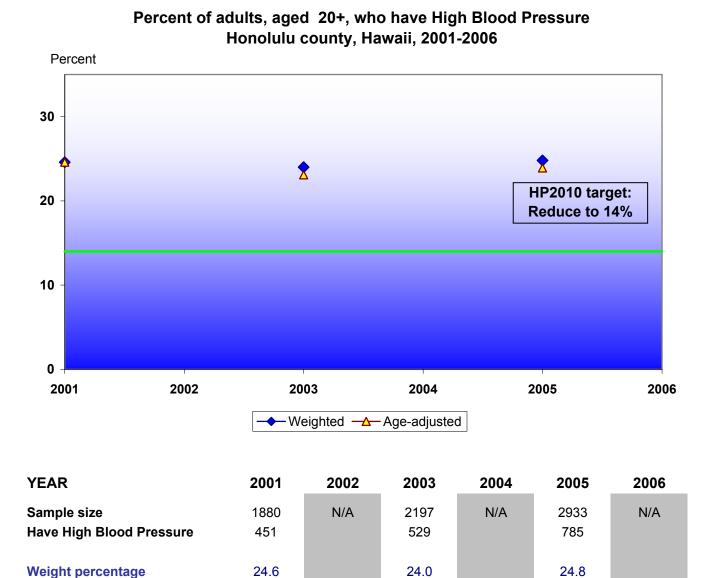
YEAR	2001	2002	2003	2004	2005	2006
Sample size Have High Blood Pressure	529 127	N/A	576 165	N/A	664 204	N/A
Weight percentage 95% C.I.	23.0 (17.9 - 29.0)		26.8 (22.5 - 31.6)		29.5 (24.7 - 34.9)	
Age-adjusted percentage 95% C.I.	27.6 (22.6 - 33.3)		28.5 (24.4 - 32.9)		31.3 (26.5 - 36.5)	
GOAL (%)	14	14	14	14	14	14

Source: Hawaii Behavioral Risk Factor Surveillance System



YEAR	2001	2002	2003	2004	2005	2006
Sample size Have High Blood Pressure	284 137	N/A	239 91	N/A	358 166	N/A
Weight percentage 95% C.I.	49.7 (41.1 - 58.4)		38.6 (30.6 - 47.2)		46.9 (39.6 - 54.4)	
Age-adjusted percentage 95% <i>C.I.</i>	35.6 (29.1 - 42.6)		27.0 (20.7 - 34.3)		36.7 (29.3 - 44.7)	
GOAL (%)	14	14	14	14	14	14

Source: Hawaii Behavioral Risk Factor Surveillance System



(21.9 - 26.1)

23.1

(21.3 - 25.0)

14

14

(23.0 - 26.8)

23.9

(22.2 - 25.7)

14

14

Source: Hawaii Behavioral Risk Factor Surveillance System

(22.4 - 27.0)

24.6

(22.6 - 26.7)

14

14

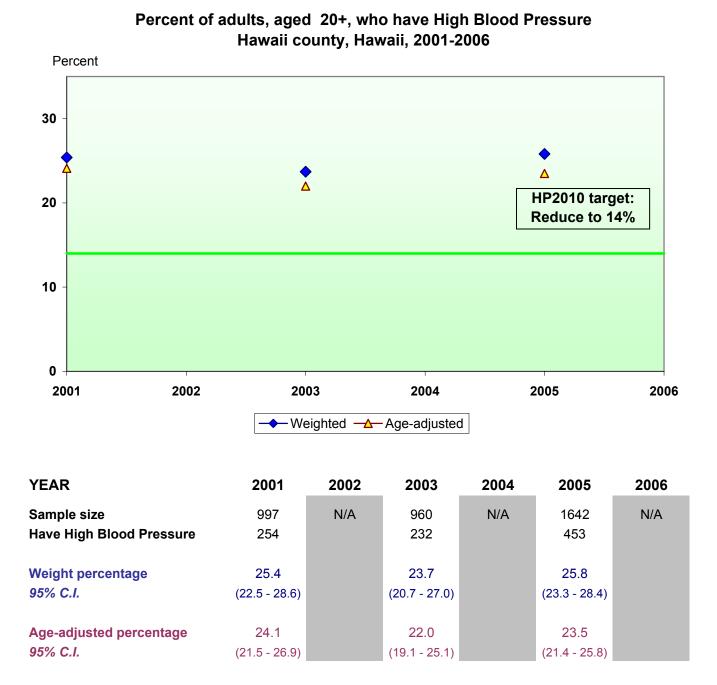
State of Hawaii, Department of Health

Age-adjusted percentage

95% C.I.

95% C.I.

**GOAL (%)** 



Source: Hawaii Behavioral Risk Factor Surveillance System

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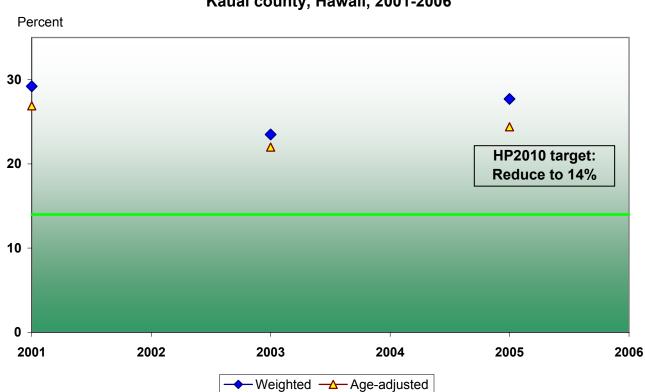
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State of Hawaii, Department of Health

**GOAL (%)** 



Percent of adults, aged 20+, who have High Blood Pressure Kauai county, Hawaii, 2001-2006

Sample size Have High Blood Pressure	542 150	N/A	409 103	N/A	581 167	N/A
Weight percentage 95% C.I.	29.2 (24.6 - 34.3)		23.5 (19.3 - 28.4)		27.7 (23.3 - 32.5)	
Age-adjusted percentage 95% C.I.	26.9 (23.4 - 30.7)		22.0 (18.0 - 26.6)		24.4 (20.5 - 28.6)	
GOAL (%)	14	14	14	14	14	14

2002

2003

2004

2005

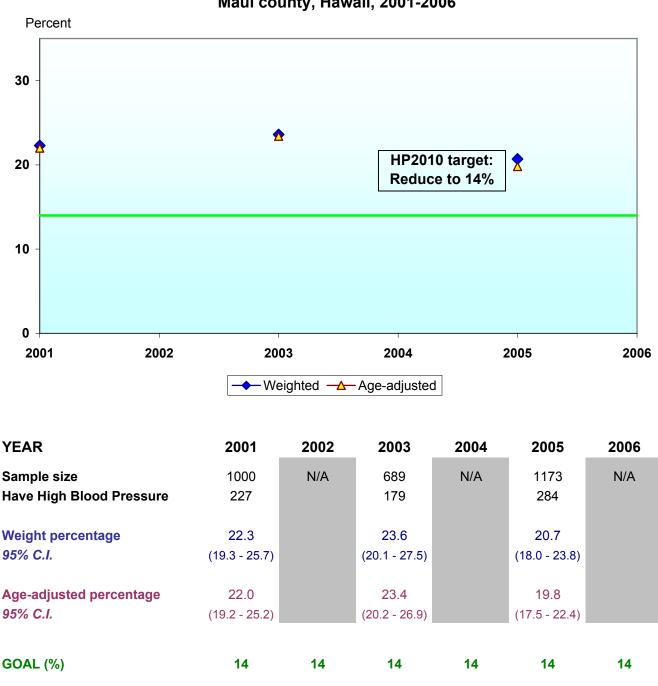
2006

2001

Source: Hawaii Behavioral Risk Factor Surveillance System

State of Hawaii, Department of Health

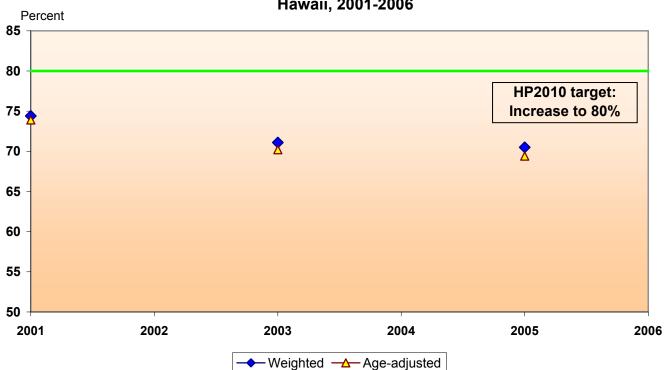
YEAR



Percent of adults , aged 20+, who have High Blood Pressure Maui county, Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

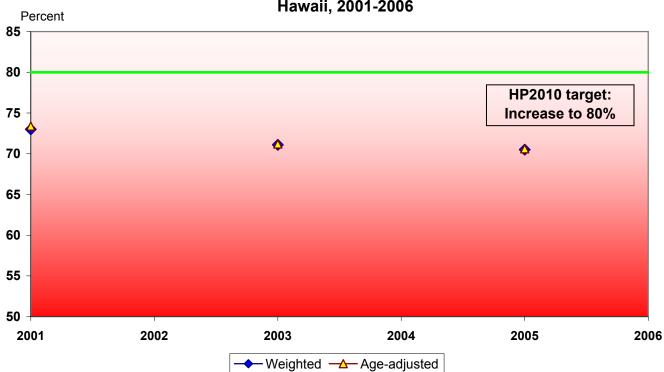
# **OBJECTIVE 12-15**



Percent of adults who had a blood cholesterol checked
within the past 5 years
Hawaii 2001 2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size	4500	N/A	4339	N/A	6416	N/A
Blood cholesterol checked within the past 5 years	3365		3205		4820	
Weight percentage	74.4		71.1		70.5	
95% C.I.	(72.6 - 76.1)		(69.3 - 72.9)		(68.8 - 72.1)	
Age-adjusted percentage 95% C.I.	73.9 (72.2 - 75.6)		70.2 (68.5 - 71.9)		69.4 (67.9 - 70.9)	
GOAL (%)	80	80	80	80	80	80

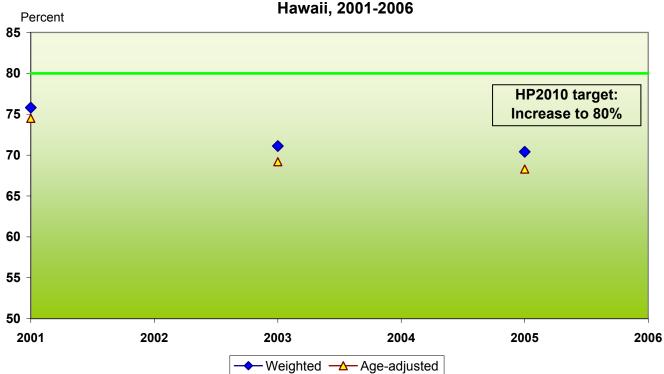
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of men who had a blood cholesterol checked
within the past 5 years
Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size	1937	N/A	1761	N/A	2577	N/A
Blood cholesterol checked within the past 5 years	1412		1290		1931	
Weight percentage	73.0		71.1		70.5	
95% C.I.	(70.3 - 75.6)		(68.3 - 73.8)		(67.9 - 73.1)	
Age-adjusted percentage 95% C.I.	73.4 (70.9 - 75.8)		71.2 (68.7 - 73.7)		70.6 (68.2 - 72.8)	
GOAL (%)	80	80	80	80	80	80

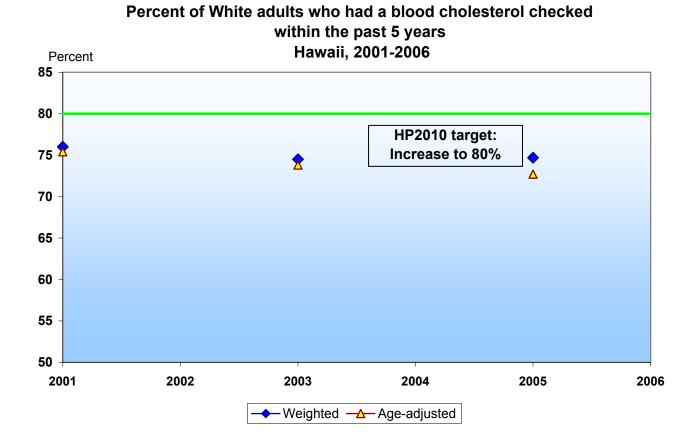
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of women who had a blood cholesterol checked
within the past 5 years
Hawaii 2001 2006

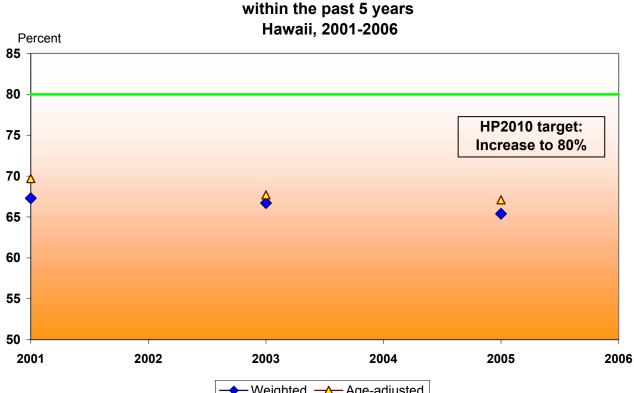
YEAR	2001	2002	2003	2004	2005	2006
Sample size	2563	N/A	2578	N/A	3839	N/A
Blood cholesterol checked within the past 5 years	1953		1915		2889	
Weight percentage	75.8		71.1		70.4	
95% C.I.	(73.4 - 78.0)		(68.8 - 73.3)		(68.3 - 72.4)	
Age-adjusted percentage 95% C.I.	74.5 (72.2 - 76.7)		69.2 (67.0 - 71.4)		68.3 (66.3 - 70.2)	
GOAL (%)	80	80	80	80	80	80

Source: Hawaii Behavioral Risk Factor Surveillance System



YEAR	2001	2002	2003	2004	2005	2006
Sample size	1857	N/A	1666	N/A	2700	N/A
Blood cholesterol checked within the past 5 years	1398		1280		2084	
Weight percentage	76.0		74.5		74.7	
95% C.I.	(73.2 - 78.5)		(71.7 - 77.1)		(72.3 - 77.0)	
Age-adjusted percentage 95% C.I.	75.4 (72.7 - 78.0)		73.8 (71.0 - 76.4)		72.7 (70.2 - 75.1)	
GOAL (%)	80	80	80	80	80	80

Source: Hawaii Behavioral Risk Factor Surveillance System

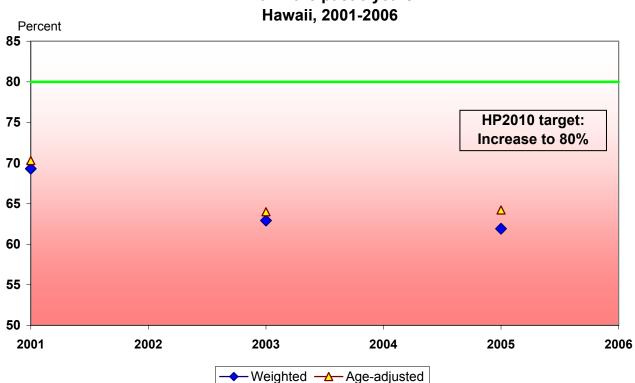


Percent of Hawaiians who had a blood cholesterol checked

 $\leftarrow$  Weighted  $\frown$  Age-adjusted

YEAR	2001	2002	2003	2004	2005	2006
Sample size	585	N/A	612	N/A	783	N/A
Blood cholesterol checked within the past 5 years	403		427		549	
Weight percentage	67.3		66.7		65.4	
95% C.I.	(62.0 - 72.3)		(61.7 - 71.3)		(60.5 - 70.0)	
Age-adjusted percentage 95% C.I.	69.7 (65.0 - 74.1)		67.7 (63.2 - 71.9)		67.1 (63.0 - 71.0)	
GOAL (%)	80	80	80	80	80	80

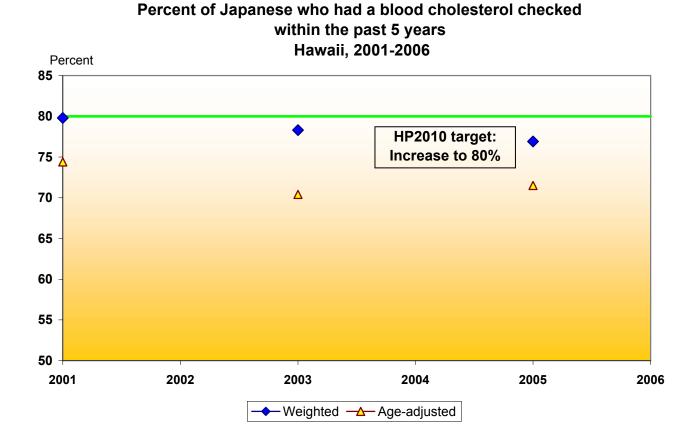
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of Filipinos who had a blood cholesterol checked within the past 5 years Hawaii, 2001-2006

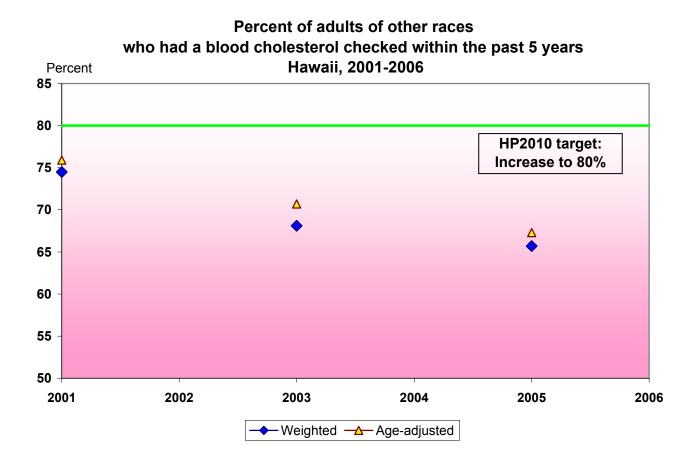
YEAR	2001	2002	2003	2004	2005	2006
Sample size	548	N/A	504	N/A	800	N/A
Blood cholesterol checked within the past 5 years	388		328		546	
Weight percentage	69.3		62.9		61.9	
95% C.I.	(63.5 - 74.5)		(57.2 - 68.2)		(56.7 - 66.8)	
Age-adjusted percentage 95% C.I.	70.3 (64.7 - 75.3)		64.0 (59.0 - 68.8)		64.2 (59.9 - 68.3)	
	(01.7 70.0)		(00.0 00.0)		(00.0 00.0)	
GOAL (%)	80	80	80	80	80	80

Source: Hawaii Behavioral Risk Factor Surveillance System



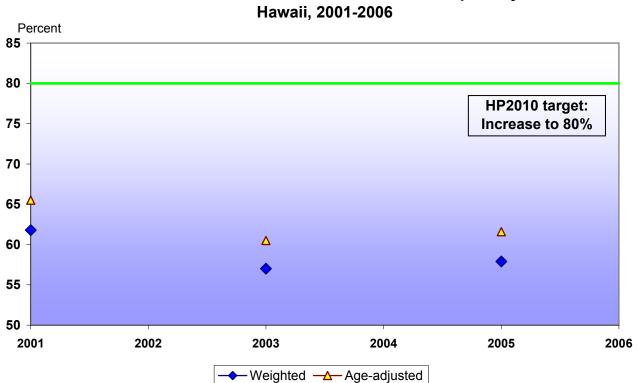
YEAR	2001	2002	2003	2004	2005	2006
Sample size	871	N/A	781	N/A	1290	N/A
Blood cholesterol checked within the past 5 years	694		631		1050	
Weight percentage 95% C.I.	79.8 (76.0 - 83.1)		78.3 (74.1 - 82.0)		76.9 (73.4 - 80.0)	
Age-adjusted percentage 95% C.I.	74.4 (70.3 - 78.1)		70.4 (66.2 - 74.3)		71.5 (67.9 - 74.9)	
GOAL (%)	80	80	80	80	80	80

Source: Hawaii Behavioral Risk Factor Surveillance System



YEAR	2001	2002	2003	2004	2005	2006
Sample size	639	N/A	776	N/A	843	N/A
Blood cholesterol checked within the past 5 years	482		539		591	
Weight percentage 95% C.I.	74.5 (69.7 - 78.8)		68.1 (63.9 - 72.0)		65.7 (61.2 - 70.0)	
Age-adjusted percentage 95% C.I.	75.9 (71.9 - 79.5)		70.7 (67.0 - 74.1)		67.3 (63.2 - 71.2)	
GOAL (%)	80	80	80	80	80	80

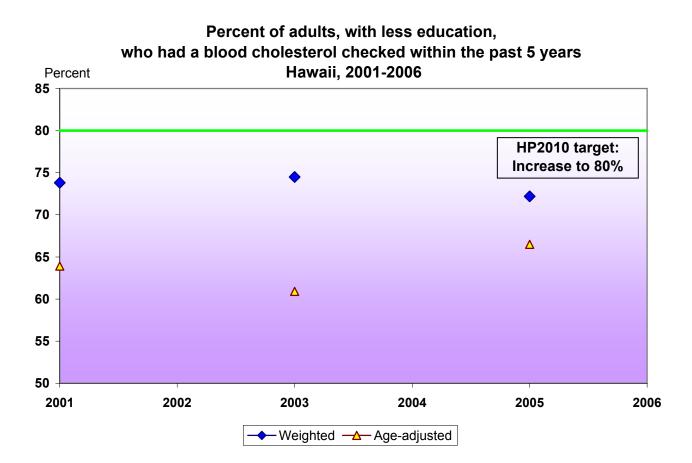
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of adults, in low income households,
who had a blood cholesterol checked within the past 5 years
Hawaii, 2001-2006

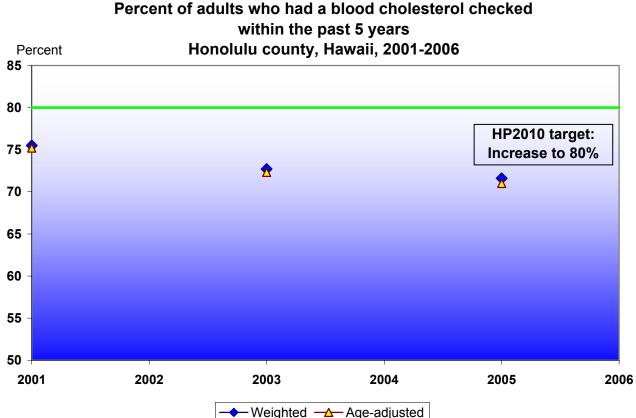
YEAR	2001	2002	2003	2004	2005	2006
Sample size	549	N/A	601	N/A	677	N/A
Blood cholesterol checked within the past 5 years	338		362		422	
Weight percentage	61.8		57.0		57.9	
95% C.I.	(55.6 - 67.7)		(51.7 - 62.1)		(52.3 - 63.4)	
Age-adjusted percentage 95% C.I.	65.5 (60.1 - 70.6)		60.5 (55.8 - 64.9)		61.6 (57.0 - 66.0)	
GOAL (%)	80	80	80	80	80	80

Source: Hawaii Behavioral Risk Factor Surveillance System



YEAR	2001	2002	2003	2004	2005	2006
Sample size	284	N/A	239	N/A	358	N/A
Blood cholesterol checked within the past 5 years	210		183		262	
Weight percentage	73.8		74.5		72.2	
95% C.I.	(66.0 - 80.4)		(66.5 - 81.1)		(64.7 - 78.6)	
Age-adjusted percentage 95% C.I.	63.9 (55.1 - 71.8)		60.9 (51.3 - 69.8)		66.5 (57.6 - 74.4)	
GOAL (%)	80	80	80	80	80	80

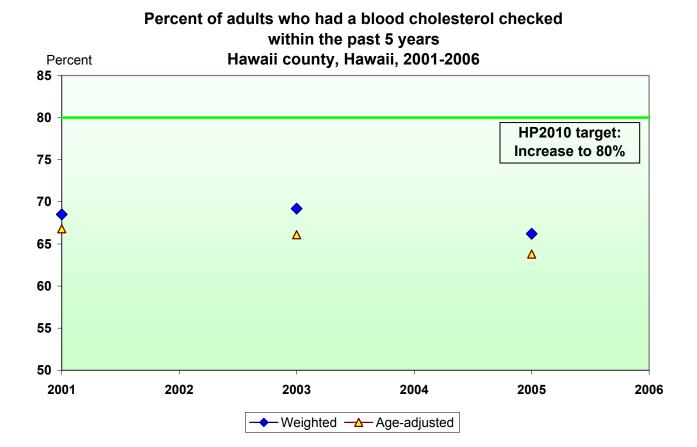
Source: Hawaii Behavioral Risk Factor Surveillance System



	- <u>∆</u> -Age-a	djusted
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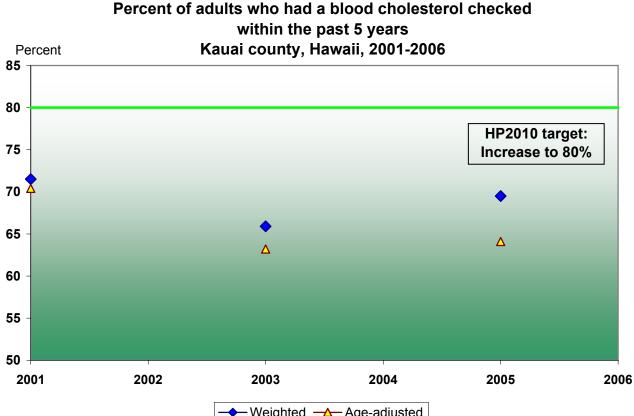
YEAR	2001	2002	2003	2004	2005	2006
Sample size	1920	N/A	2246	N/A	2969	N/A
Blood cholesterol checked within the past 5 years	1465		1685		2274	
Weight percentage	75.5		72.7		71.6	
95% C.I.	(73.1 - 77.7)		(70.4 - 74.9)		(69.4 - 73.6)	
Age-adjusted percentage 95% C.I.	75.2 (73.0 - 77.3)		72.3 (70.1 - 74.3)		71.0 (69.0 - 72.9)	
GOAL (%)	80	80	80	80	80	80

Source: Hawaii Behavioral Risk Factor Surveillance System



YEAR	2001	2002	2003	2004	2005	2006
Sample size	1020	N/A	972	N/A	1659	N/A
Blood cholesterol checked within the past 5 years	733		714		1229	
Weight percentage 95% C.I.	68.5 (64.8 - 72.0)		69.2 (65.4 - 72.8)		66.2 (62.9 - 69.3)	
Age-adjusted percentage 95% C.I.	66.8 (63.4 - 70.1)		66.1 (62.5 - 69.6)		63.8 (61.0 - 66.5)	
GOAL (%)	80	80	80	80	80	80

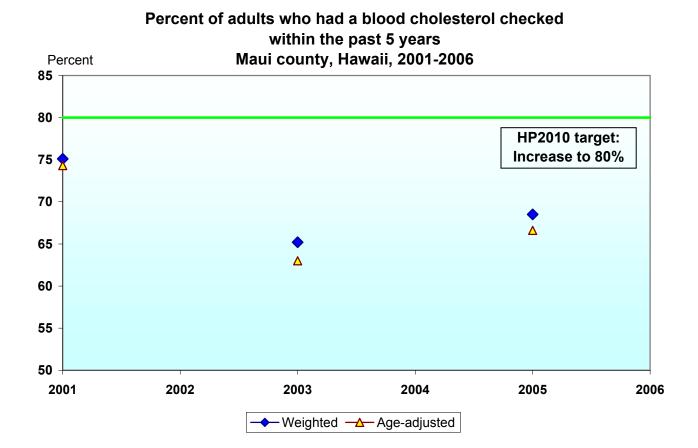
Source: Hawaii Behavioral Risk Factor Surveillance System



 $\leftarrow$  Weighted  $\frown$  Age-adjusted

YEAR	2001	2002	2003	2004	2005	2006
Sample size	549	N/A	421	N/A	589	N/A
Blood cholesterol checked within the past 5 years	400		296		439	
Weight percentage	71.5		65.9		69.5	
95% C.I.	(66.7 - 75.8)		(60.4 - 71.1)		(64.3 - 74.3)	
Age-adjusted percentage 95% C.I.	70.4 (65.8 - 74.6)		63.2 (57.7 - 68.3)		64.1 (59.2 - 68.8)	
			(0		(0012 0010)	
GOAL (%)	80	80	80	80	80	80

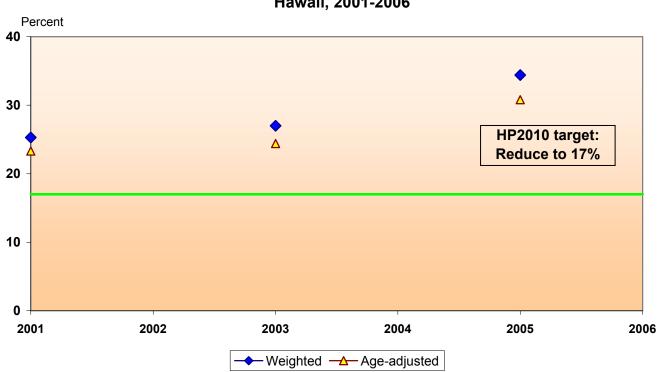
Source: Hawaii Behavioral Risk Factor Surveillance System



YEAR	2001	2002	2003	2004	2005	2006
Sample size	1011	N/A	700	N/A	1199	N/A
Blood cholesterol checked within the past 5 years	767		510		878	
Weight percentage 95% C.I.	75.1 (71.5 - 78.4)		65.2 (60.3 - 69.7)		68.5 (64.5 - 72.2)	
Age-adjusted percentage 95% C.I.	74.3 (70.8 - 77.5)		63.0 (58.8 - 67.0)		66.6 (63.2 - 69.9)	
GOAL (%)	80	80	80	80	80	80

Source: Hawaii Behavioral Risk Factor Surveillance System

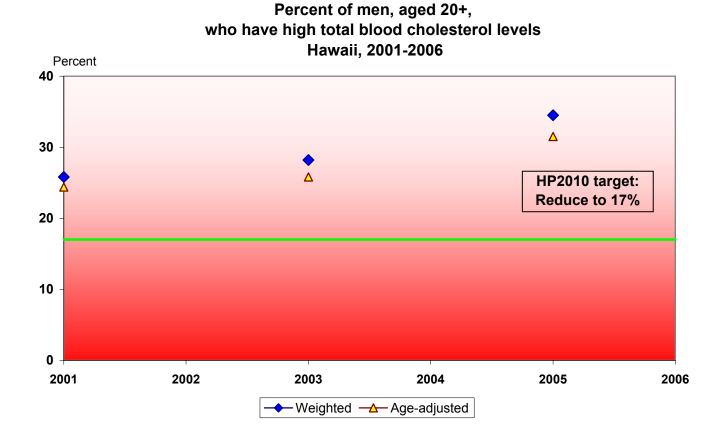
## **OBJECTIVE 12-14**



Percent of adults, aged 20+,
who have high total blood cholesterol levels
Hawaii, 2001-2006

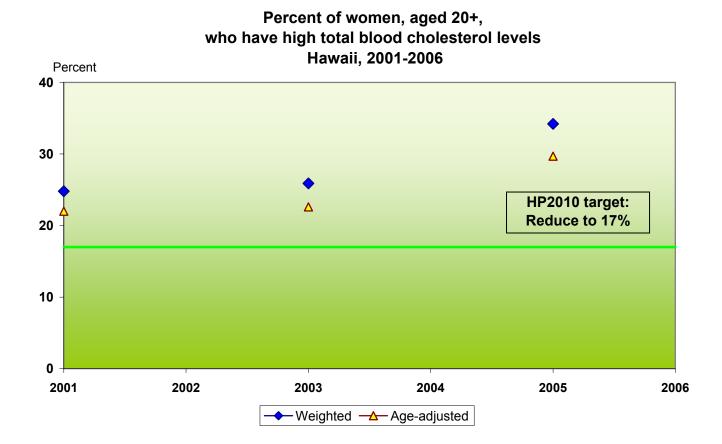
YEAR	2001	2002	2003	2004	2005	2006
Sample size Have high total	3491	N/A	3320	N/A	5119	N/A
blood cholesterol levels	883		953		1867	
Weight percentage	25.3		27.0		34.4	
95% C.I.	(23.4 - 27.3)		(25.2 - 29.0)		(32.6 - 36.1)	
Age-adjusted percentage	23.3		24.4		30.8	
95% C.I.	(21.5 - 25.2)		(22.7 - 26.3)		(29.1 - 32.6)	
GOAL (%)	17	17	17	17	17	17

Source: Hawaii Behavioral Risk Factor Surveillance System



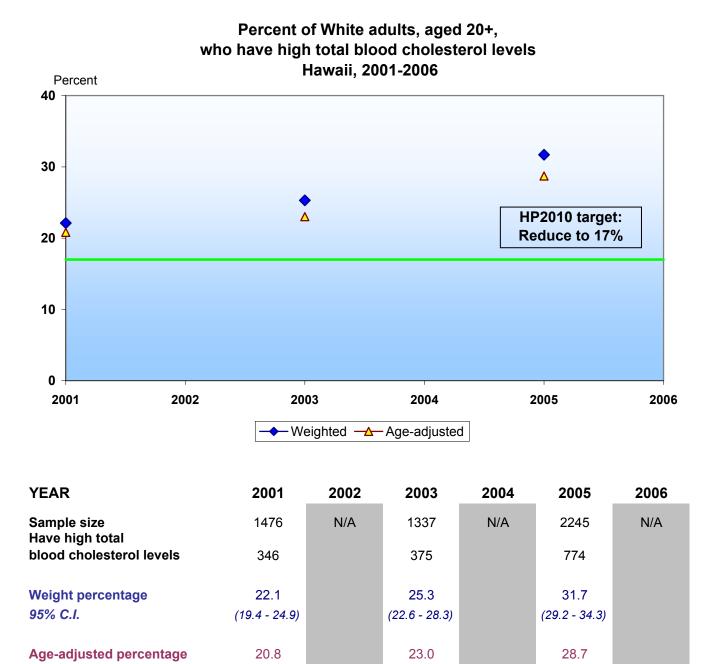
YEAR	2001	2002	2003	2004	2005	2006
Sample size Have high total	1480	N/A	1343	N/A	2058	N/A
blood cholesterol levels	378		422		766	
Weight percentage	25.8		28.2		34.5	
95% C.I.	(22.9 - 28.9)		(25.3 - 31.2)		(31.9 - 37.3)	
Age-adjusted percentage	24.4		25.8		31.5	
95% C.I.	(21.7 - 27.3)		(23.2 - 28.6)		(28.9 - 34.2)	
GOAL (%)	17	17	17	17	17	17

Source: Hawaii Behavioral Risk Factor Surveillance System



YEAR	2001	2002	2003	2004	2005	2006
Sample size Have high total	2011	N/A	1977	N/A	3061	N/A
blood cholesterol levels	505		531		1101	
Weight percentage	24.8		25.9		34.2	
95% C.I.	(22.3 - 27.4)		(23.6 - 28.3)		(32.0 - 36.4)	
Age-adjusted percentage	22.0		22.6		29.7	
95% C.I.	(19.7 - 24.5)		(20.4 - 24.9)		(27.5 - 32.0)	
GOAL (%)	17	17	17	17	17	17

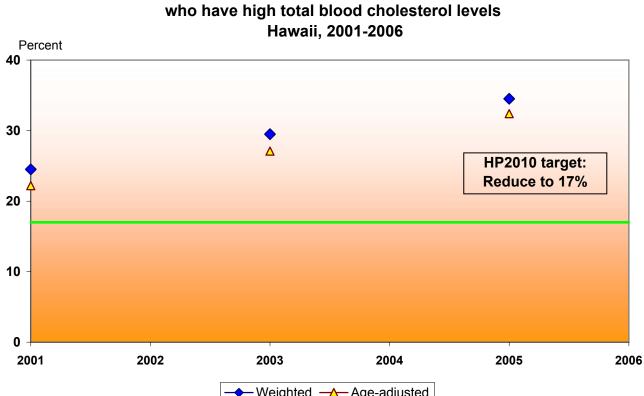
#### Source: Hawaii Behavioral Risk Factor Surveillance System



95% C.I.	(18.2 - 23.7)		(20.5 - 25.8)		(26.1 - 31.4)
GOAL (%)	17	17	17	17	17

17

#### Source: Hawaii Behavioral Risk Factor Surveillance System

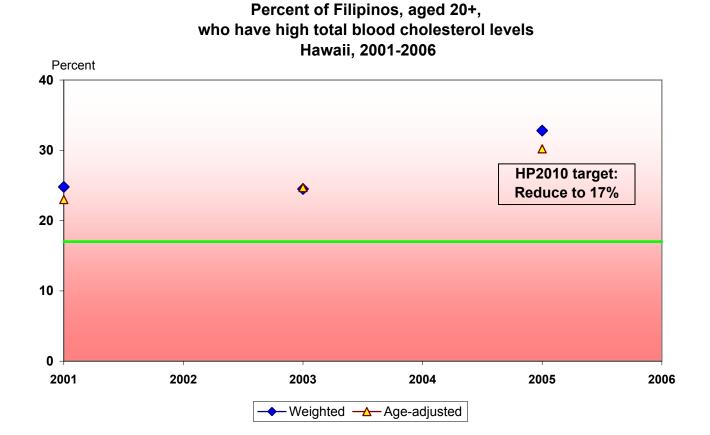


Percent of Hawaiians, aged 20+,

-Weighted - Age-adjusted

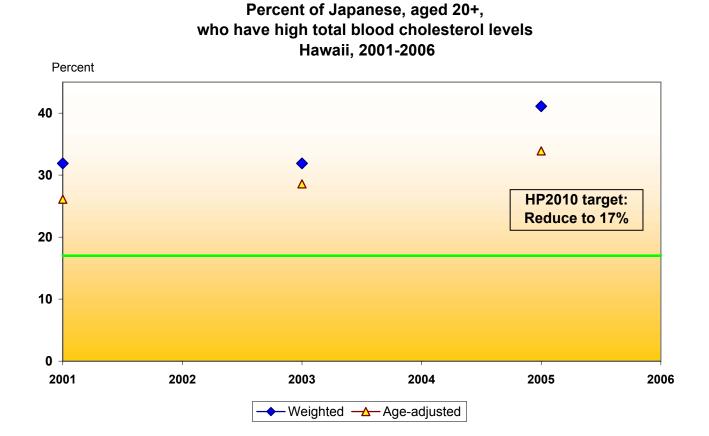
YEAR	2001	2002	2003	2004	2005	2006
Sample size	407	N/A	446	N/A	578	N/A
Have high total blood cholesterol levels	98		131		209	
Weight percentage	24.5		29.5		34.5	
95% C.I.	(19.2 - 30.8)		(24.5 - 35.1)		(29.3 - 40.1)	
Age-adjusted percentage	22.2		27.1		32.4	
95% C.I.	(17.7 - 27.5)		(22.5 - 32.3)		(27.6 - 37.6)	
GOAL (%)	17	17	17	17	17	17

Source: Hawaii Behavioral Risk Factor Surveillance System



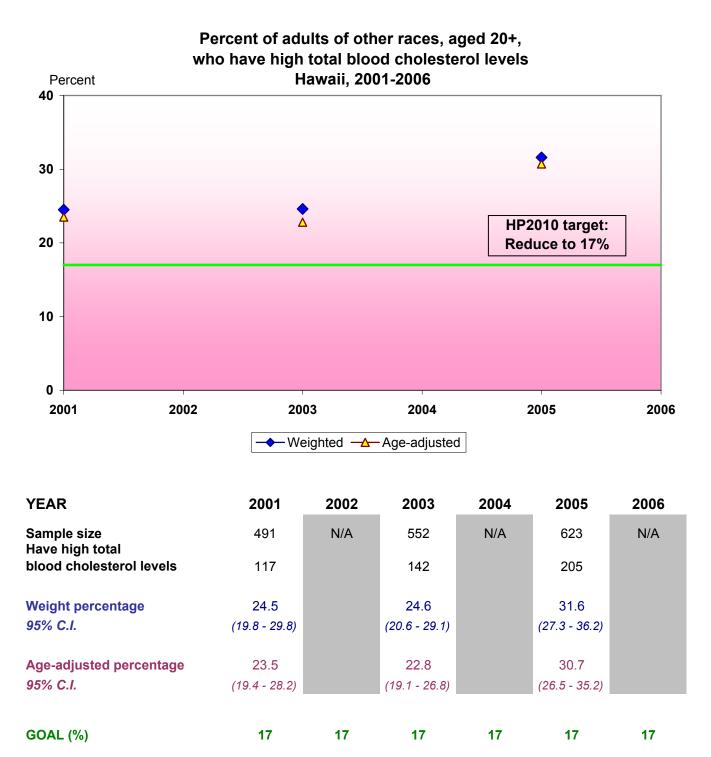
YEAR	2001	2002	2003	2004	2005	2006
Sample size Have high total	398	N/A	336	N/A	570	N/A
blood cholesterol levels	94		89		202	
Weight percentage	24.8		24.5		32.8	
95% C.I.	(18.9 - 31.8)		(19.2 - 30.7)		(27.6 - 38.5)	
Age-adjusted percentage	23.0		24.7		30.2	
95% C.I.	(17.7 - 29.4)		(19.4 - 30.9)		(24.8 - 36.1)	
GOAL (%)	17	17	17	17	17	17

Source: Hawaii Behavioral Risk Factor Surveillance System

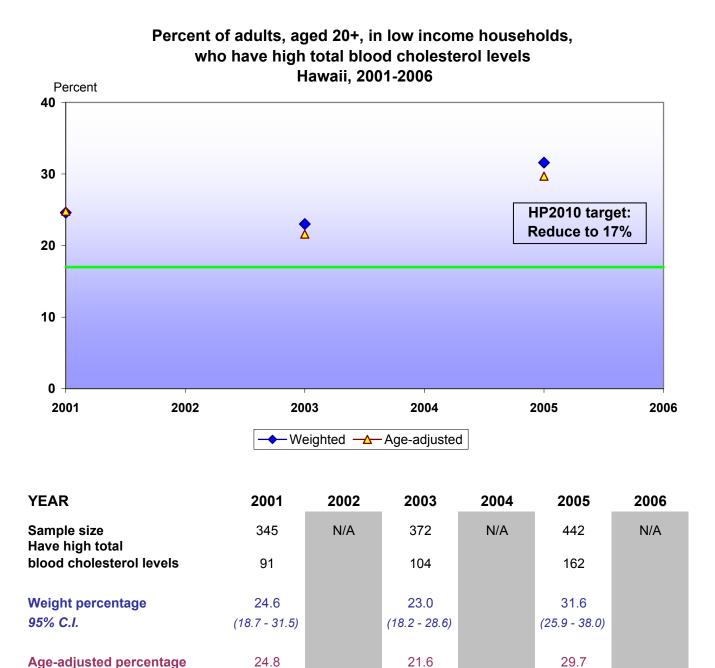


YEAR	2001	2002	2003	2004	2005	2006
Sample size Have high total	719	N/A	649	N/A	1103	N/A
blood cholesterol levels	228		216		477	
Weight percentage	31.9		31.9		41.1	
95% C.I.	(27.6 - 36.4)		(27.6 - 36.5)		(37.6 - 44.8)	
Age-adjusted percentage	26.1		28.6		33.9	
95% C.I.	(22.3 - 30.3)		(23.6 - 34.1)		(29.9 - 38.2)	
GOAL (%)	17	17	17	17	17	17

Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System



(17.2 - 26.7)

17

17

(23.8 - 36.3)

17

17

Source: Hawaii Behavioral Risk Factor Surveillance System

(19.0 - 31.7)

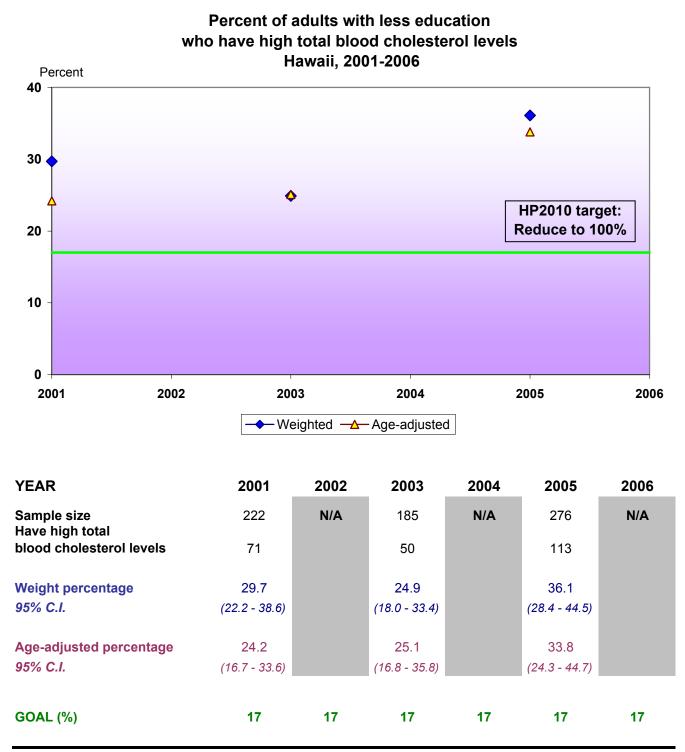
17

17

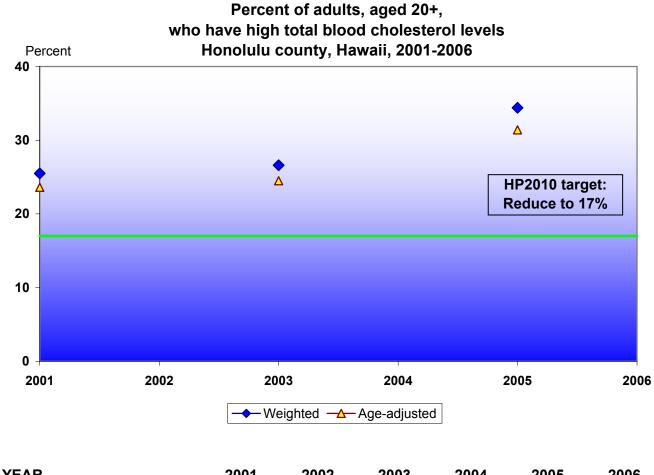
State of Hawaii, Department of Health

95% C.I.

**GOAL (%)** 

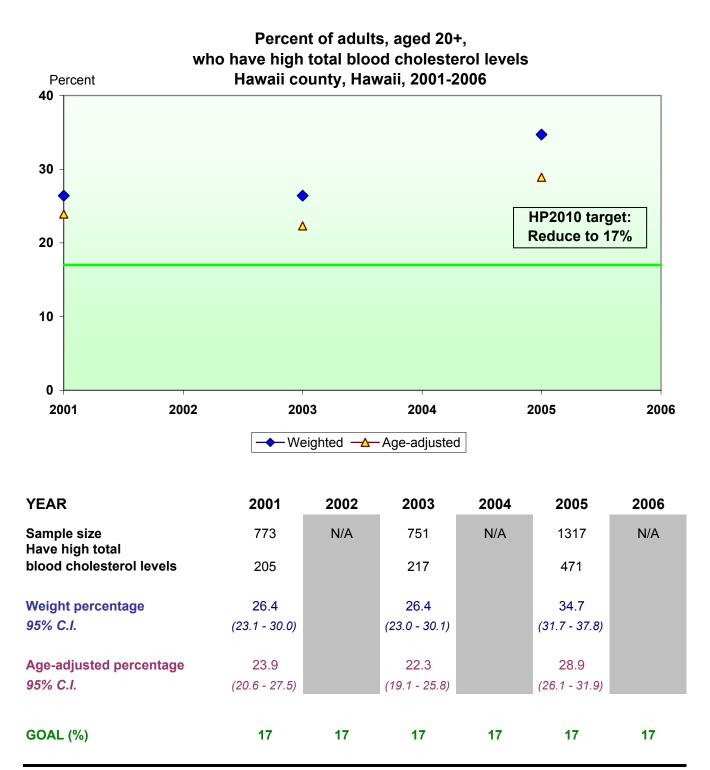


Source: Hawaii Behavioral Risk Factor Surveillance System

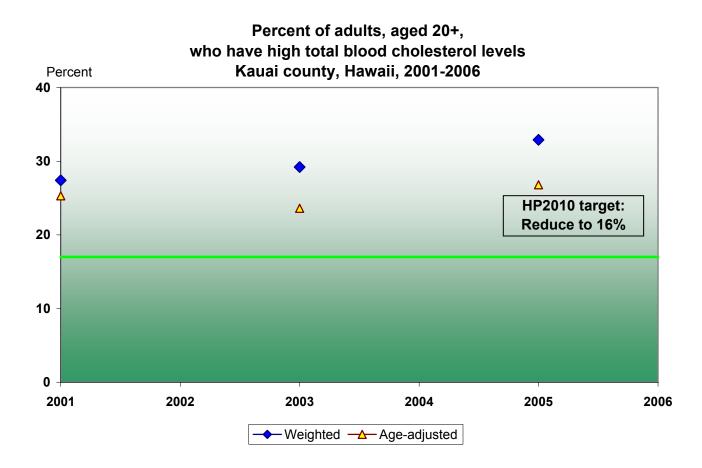


YEAR	2001	2002	2003	2004	2005	2006	
Sample size Have high total	1512	N/A	1727	N/A	2403	N/A	
blood cholesterol levels	380		475		884		
Weight percentage	25.5		26.6		34.4		
95% C.I.	(23.0 - 28.1)		(24.3 - 29.0)		(32.2 - 36.7)		
Age-adjusted percentage	23.6		24.5		31.4		
95% C.I.	(21.3 - 26.1)		(22.3 - 26.9)		(29.3 - 33.7)		
GOAL (%)	17	17	17	17	17	17	

Source: Hawaii Behavioral Risk Factor Surveillance System

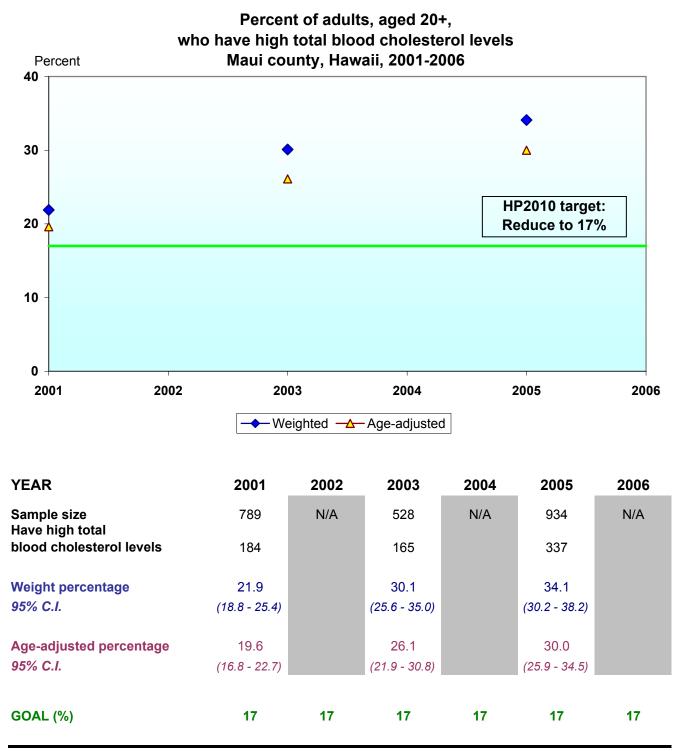


Source: Hawaii Behavioral Risk Factor Surveillance System



YEAR	2001	2002	2003	2004	2005	2006
Sample size Have high total	417	N/A	314	N/A	465	N/A
blood cholesterol levels	114		96		175	
Weight percentage	27.4		29.2		32.9	
95% C.I.	(22.6 - 32.8)		(23.8 - 35.3)		(28.1 - 38.2)	
Age-adjusted percentage	25.3		23.6		26.8	
95% C.I.	(20.1 - 31.4)		(18.5 - 29.7)		(22.2 - 32.0)	
GOAL (%)	17	17	17	17	17	17

Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

#### **IMMUNIZATION**

**Objective 14-29a & 14-29b:** Increase the proportion of adults aged 65 years and older who are vaccinated annually against influenza and ever vaccinated against pneumococcal disease to **90%** 

**Objective 14-29c & 14-29d:** Increase the proportion of adults aged 18 to 64 who are vaccinated annually against influenza and ever vaccinated against pneumococcal disease to **60%** Age-adjusted by distribution #22

#### Questions used to obtain the data for these objectives:

During the past 12 months have you had a flu shot? Have you ever had a pneumonia shot?

HBRFSS data from 2001 to 2006 show that:

• The percentage of pneumonia shot for adults aged 65 years or older and adults younger than 65 years gradually rose between 2001 and 2006. In contrast, for the same groups of adults, the percentages who had flu shot gradually declined for the same time period (Figure 14a).

Vaccination rates for both flu and pneumococcal disease are very low in the state of Hawaii. In 2006 among senior citizens, 74.8% received a flu shot within the last 12 months, and 64.8% already had a pneumonia shot. These percentages are much lower than the HP2010 goal of 90%. Also in 2006, among adults younger than 65, 30.9% got a flu shot within the last 12 months and 13.2% had a pneumonia shot. These percentages are slightly improved over the 1998 national baseline of 26% for flu shot and 13% for pneumonia shot.

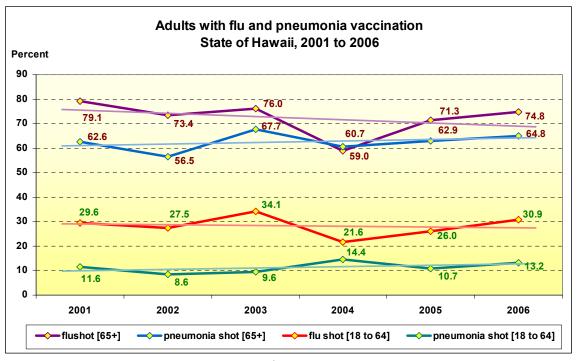
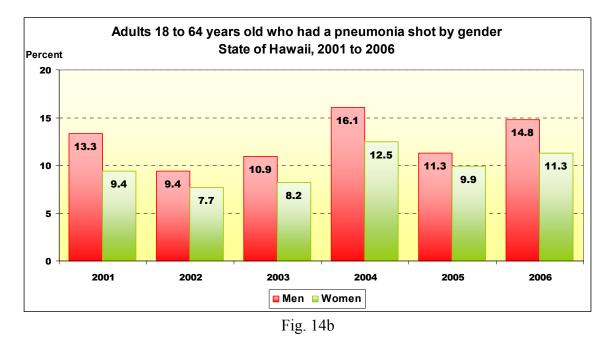


Fig. 14a

• There are gender differences in pneumonia immunization depending on the age group.

Among adults aged 18 to 64, men had higher percentage of having a pneumonia shot compared to women (Figure 14b).



In contrast, among adults aged 65 years old and older, women had a higher rate of having a pneumonia vaccination compared to men (Figure 14c).

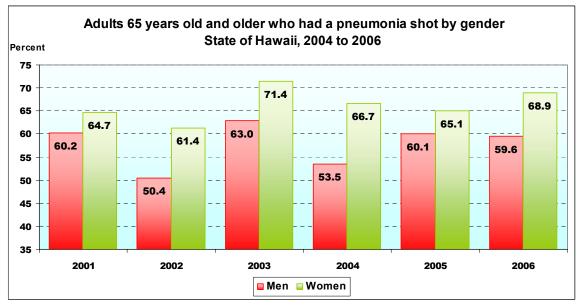


Fig. 14c

• By county, Honolulu has a definitely higher rate for adults aged 18 to 64 who yearly have a flu shot compared to neighboring counties (Figure 14d).

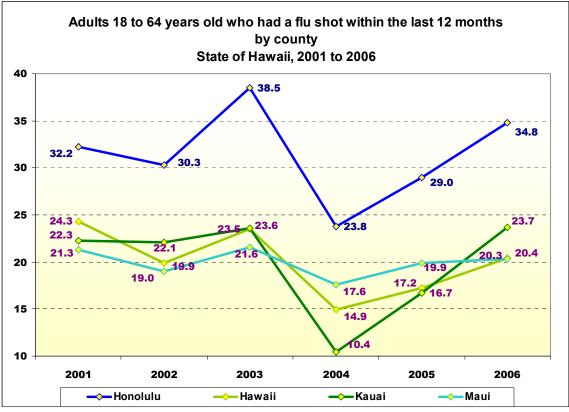
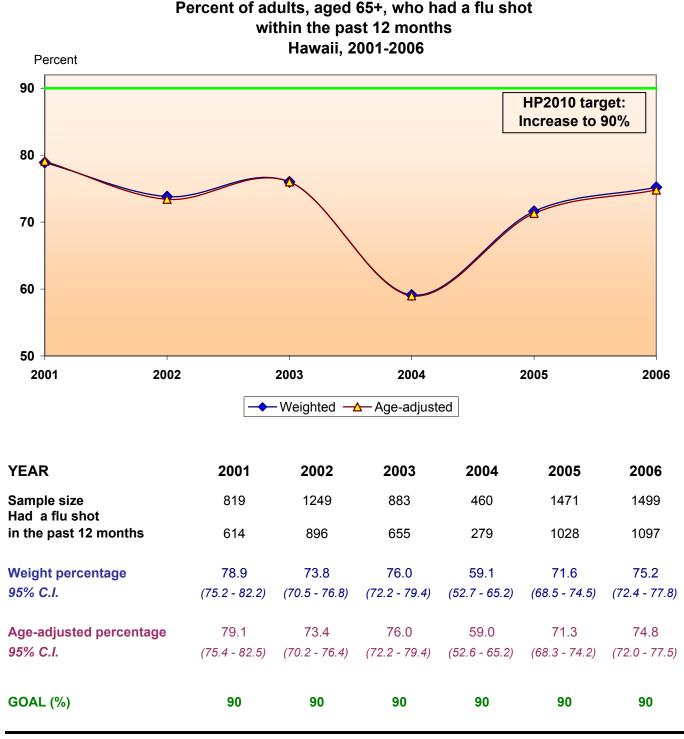
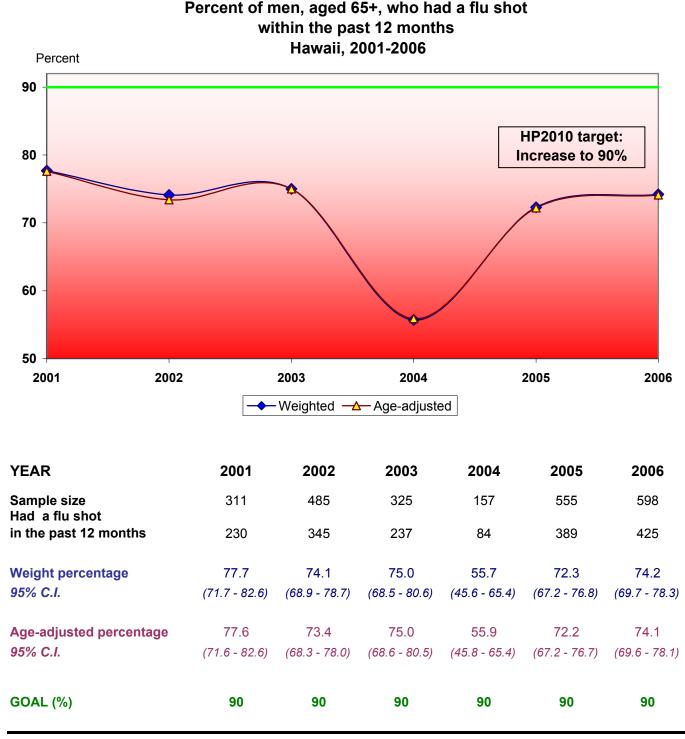


Fig. 14d

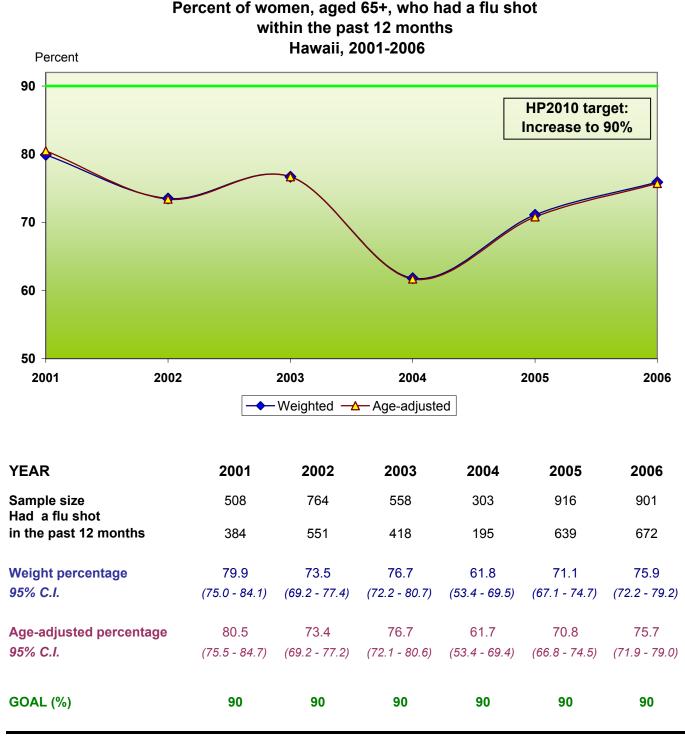
## **OBJECTIVE 14-29a**



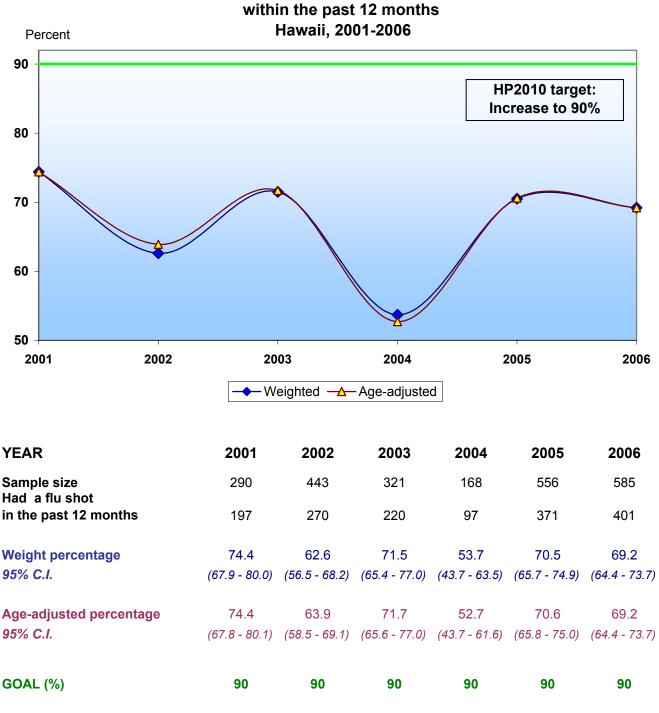
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

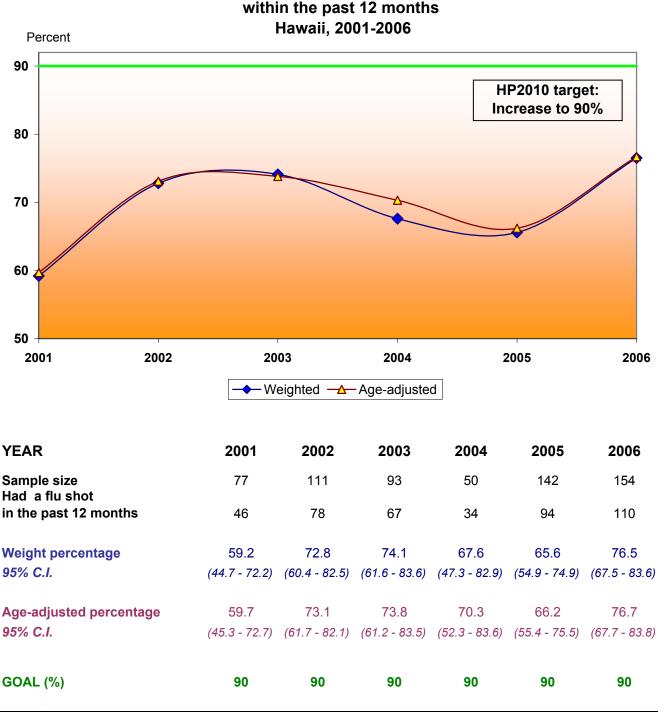


Source: Hawaii Behavioral Risk Factor Surveillance System



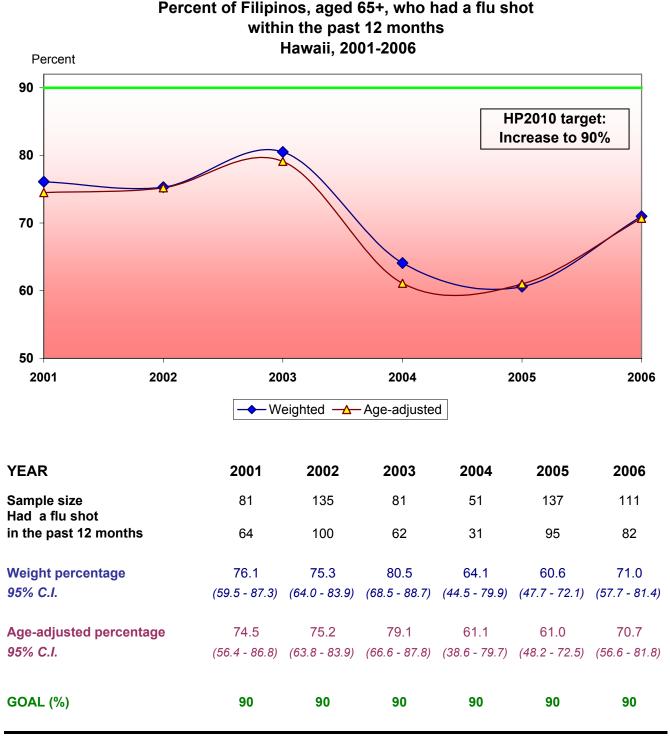
Percent of White adults, aged 65+, who had a flu shot

Source: Hawaii Behavioral Risk Factor Surveillance System

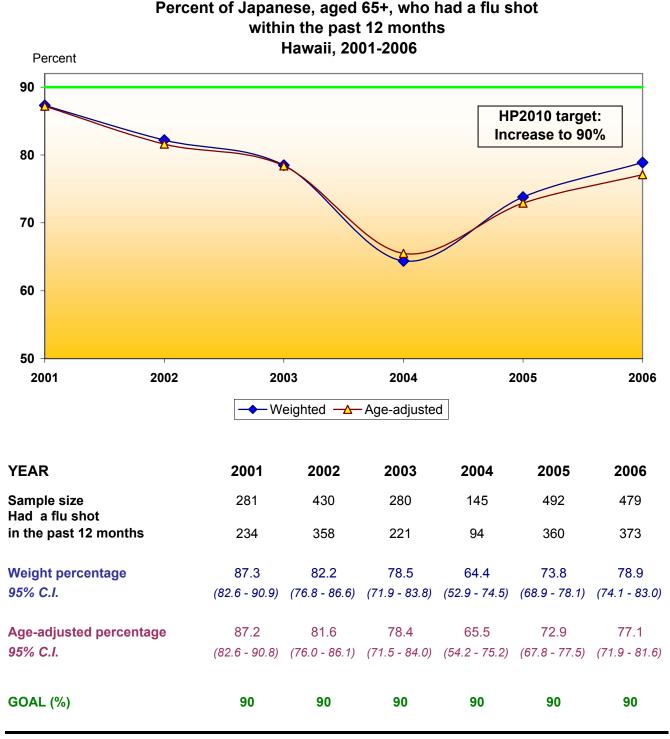


Percent of Hawaiians, aged 65+, who had a flu shot within the past 12 months

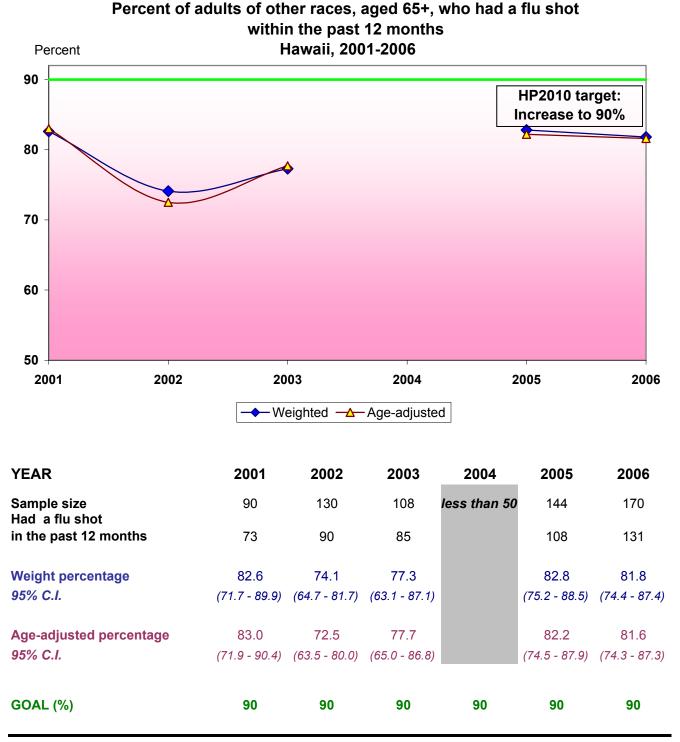
Source: Hawaii Behavioral Risk Factor Surveillance System



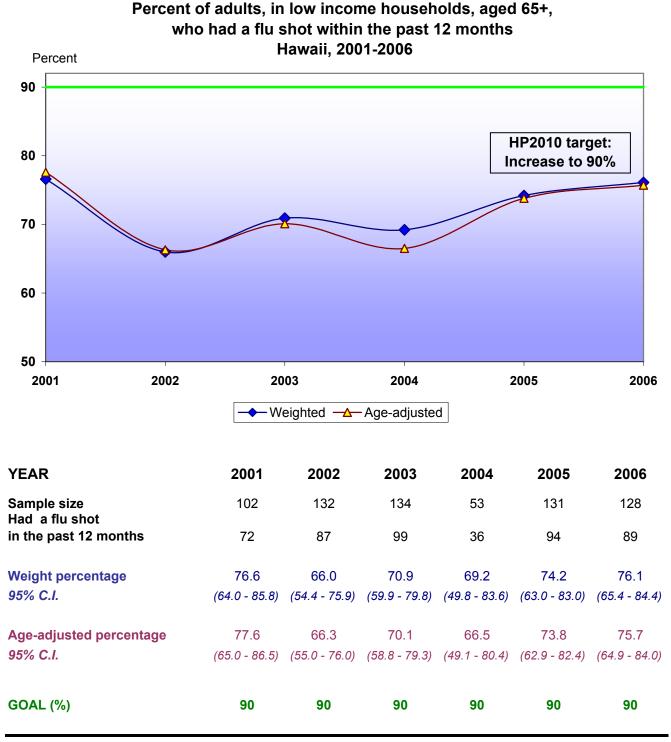
Source: Hawaii Behavioral Risk Factor Surveillance System



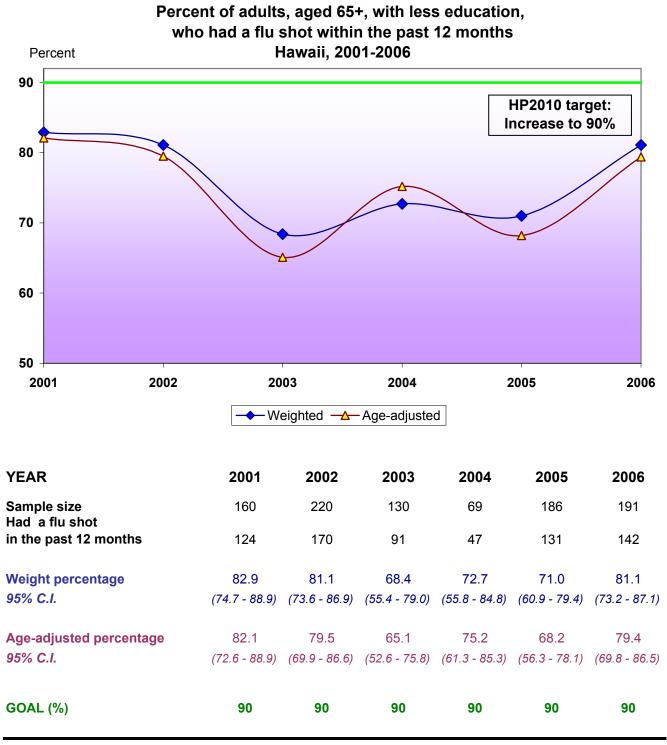
Source: Hawaii Behavioral Risk Factor Surveillance System



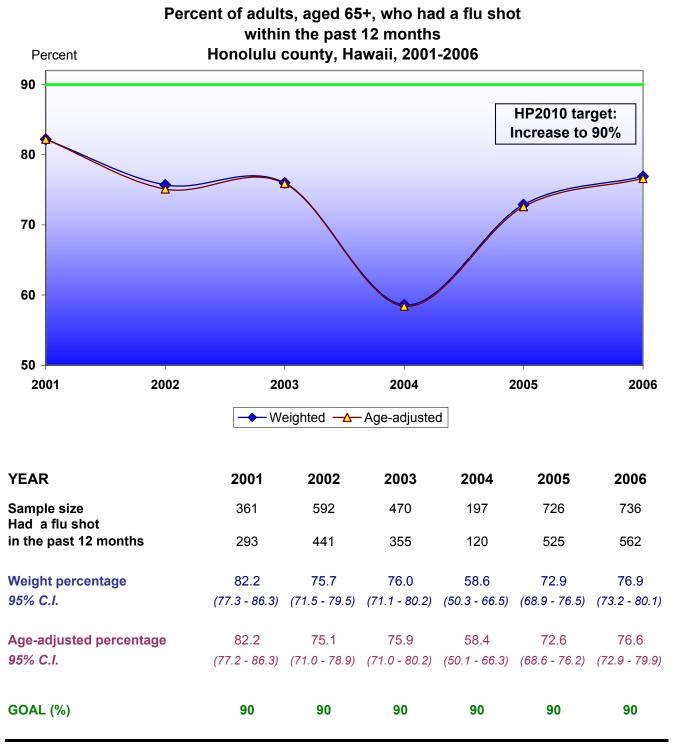
Source: Hawaii Behavioral Risk Factor Surveillance System



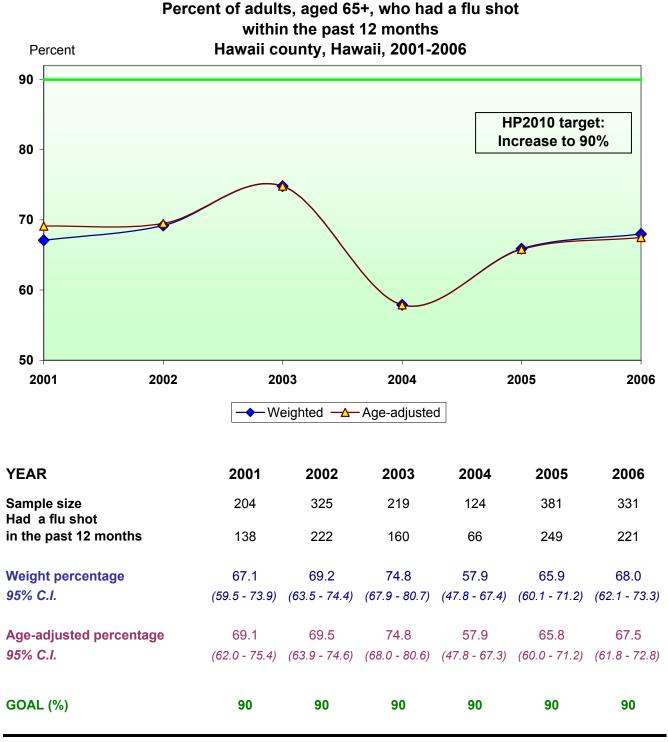
Source: Hawaii Behavioral Risk Factor Surveillance System



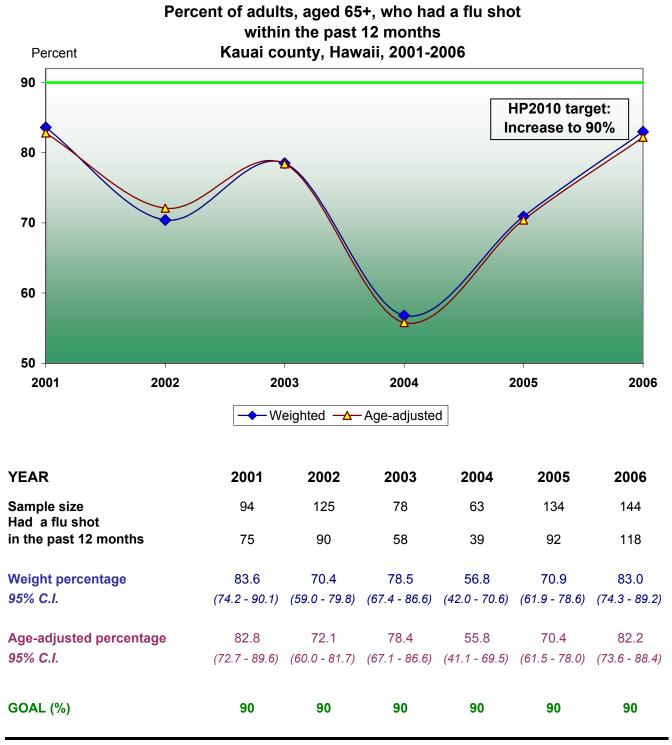
Source: Hawaii Behavioral Risk Factor Surveillance System



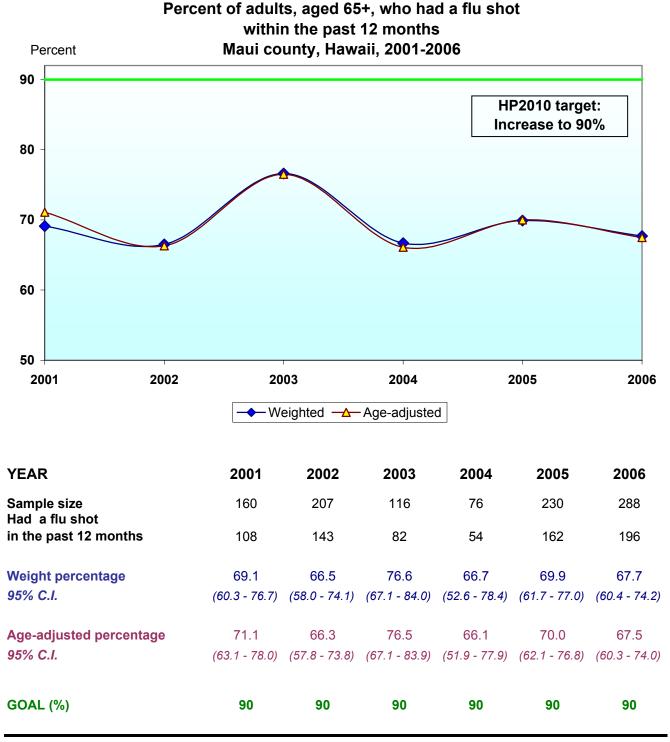
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

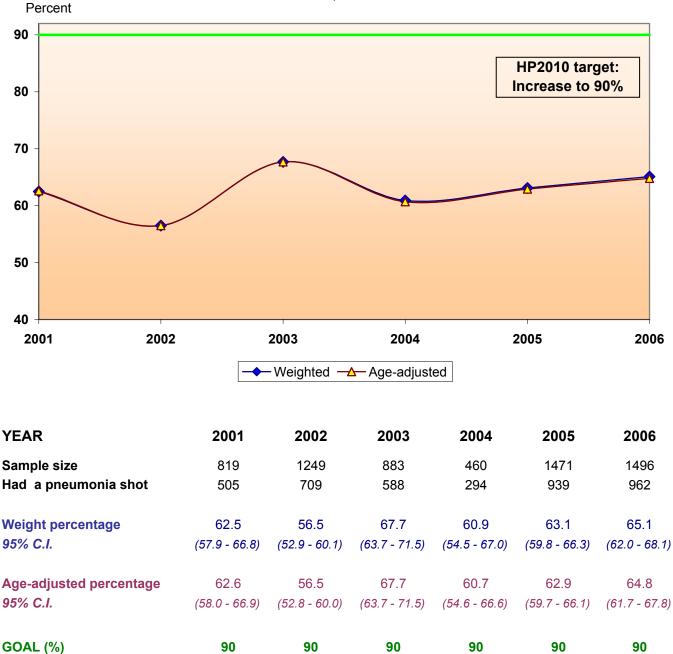


Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

## **OBJECTIVE 14-29b**



Percent of adults, aged 65+, who had a pneumonia shot Hawaii, 2001-2006

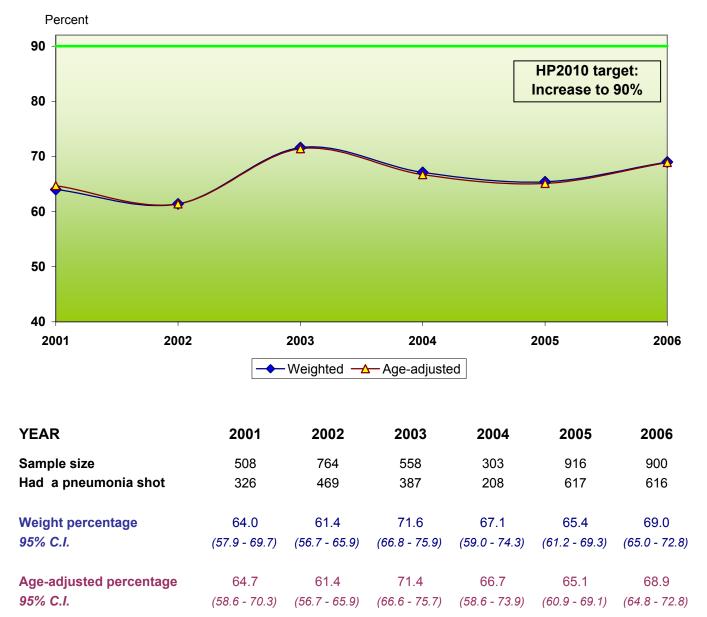
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of men, aged 65+, who had a pneumonia shot Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size	311	485	325	157	555	596
Had  a pneumonia shot	179	240	201	86	322	346
Weight percentage	60.7	50.3	63.0	53.1	60.2	59.7
95% C.I.	(53.8 - 67.1)	(44.8 - 55.9)	(56.1 - 69.3)	(42.9 - 63.0)	(54.8 - 65.3)	(54.8 - 64.5)
Age-adjusted percentage 95% C.I.	60.2	50.4	63.0	53.5	60.1	59.6
	(53.4 - 66.7)	(44.9 - 55.9)	(56.2 - 69.4)	(44.3 - 62.5)	(54.8 - 65.2)	(54.7 - 64.3)
GOAL (%)	90	90	90	90	90	90

Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of women, aged 65+, who had a pneumonia shot Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

90

90

90

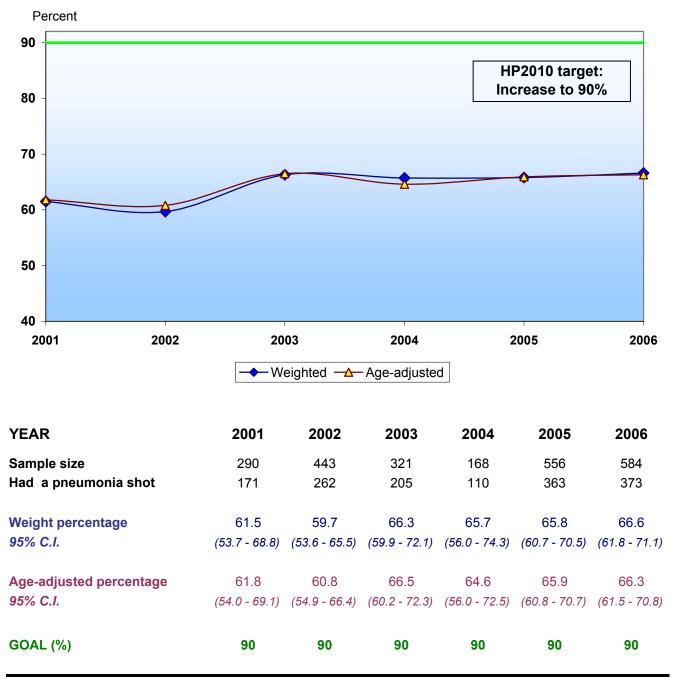
90

90

90

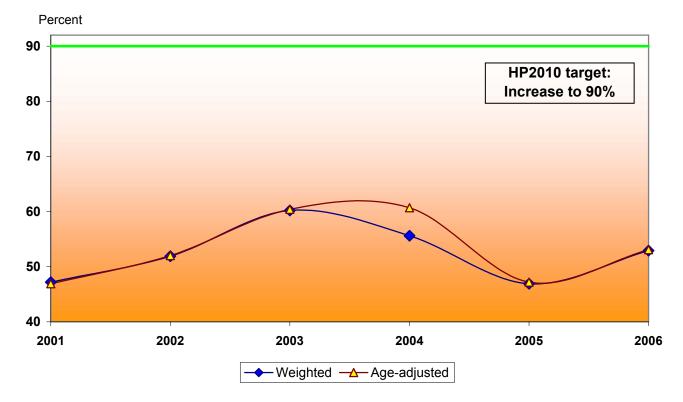
State of Hawaii, Department of Health

**GOAL (%)** 



Percent of White adults, aged 65+, who had a pneumonia shot Hawaii, 2001-2006

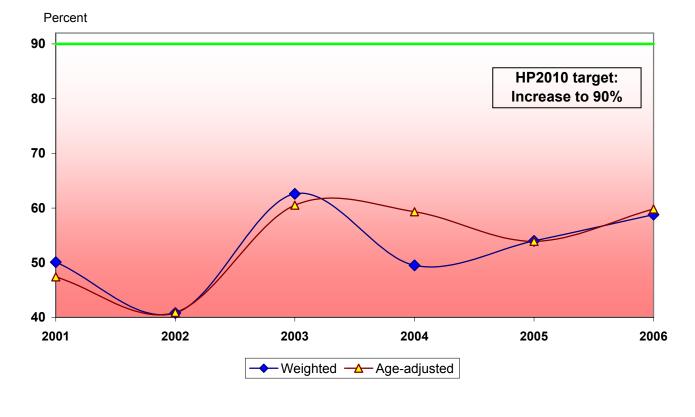
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of Hawaiians, aged 65+, who had a pneumonia shot Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size	77	111	93	50	142	154
Had  a pneumonia shot	38	53	58	28	72	79
Weight percentage	47.2	51.9	60.2	55.6	46.9	52.9
95% C.I.	(33.5 - 61.3)	(39.1 - 64.4)	(46.6 - 72.4)	(36.2 - 73.5)	(36.6 - 57.4)	(42.8 - 62.7)
Age-adjusted percentage 95% C.I.	46.9	52.0	60.4	60.7	47.2	53.1
	(33.3 - 61.0)	(39.5 - 64.3)	(46.6 - 72.8)	(44.1 - 75.1)	(36.8 - 57.9)	(43.2 - 62.7)
GOAL (%)	90	90	90	90	90	90

Source: Hawaii Behavioral Risk Factor Surveillance System

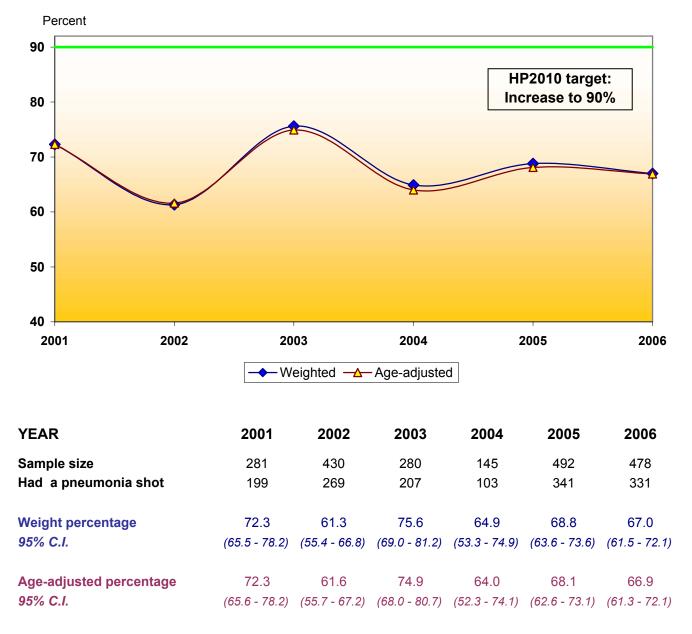


Percent of Filipinos, aged 65+, who had a pneumonia shot Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size	81	135	81	51	137	111
Had a pneumonia shot	42	53	44	26	78	64
Weight percentage	50.1	40.8	62.6	49.5	54.0	58.8
95% C.I.	(33.0 - 67.1)	(29.7 - 52.9)	(49.2 - 74.3)	(30.1 - 69.0)	(41.9 - 65.7)	(45.2 - 71.2)
Age-adjusted percentage	47.4	40.9	60.5	59.3	53.9	59.8
95% C.I.	(31.7 - 63.5)	(30.3 - 52.5)	(47.5 - 72.2)	(43.3 - 73.6)	(41.7 - 65.6)	(45.9 - 72.2)
GOAL (%)	90	90	90	90	90	90

Source: Hawaii Behavioral Risk Factor Surveillance System State of Hawaii, Department of Health

**IMMUNIZATION** 



90

90

90

90

Percent of Japanese, aged 65+, who had a pneumonia shot Hawaii, 2001-2006

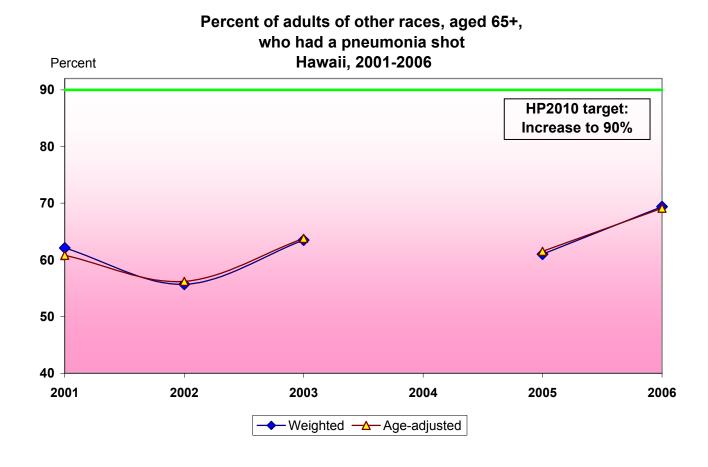
Source: Hawaii Behavioral Risk Factor Surveillance System

90

90

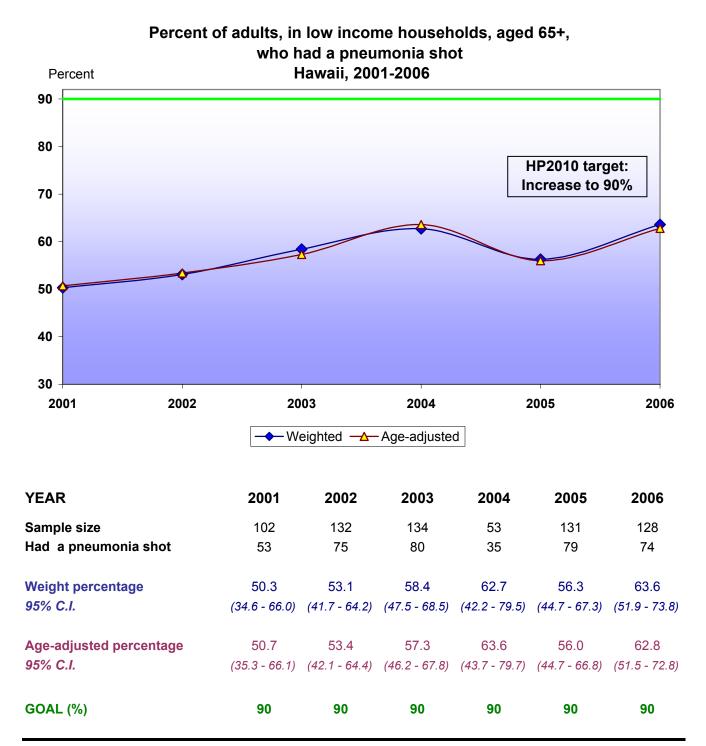
State of Hawaii, Department of Health

**GOAL (%)** 

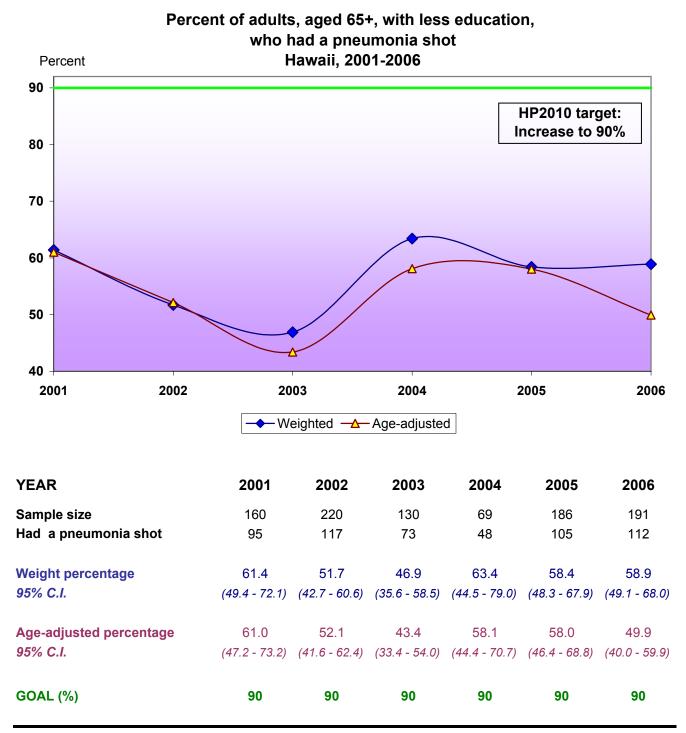


YEAR	2001	2002	2003	2004	2005	2006
Sample size	90	130	108	less than 50		169
Had a pneumonia shot	55	72	74		85	115
Weight percentage	62.1	55.7	63.5		61.0	69.4
95% C.I.	(49.5 - 73.3)	(45.4 - 65.6)	(50.3 - 74.9)		(50.3 - 70.8)	(60.7 - 76.9)
Age-adjusted percentage	60.8	56.2	63.8		61.5	69.1
95% C.I.	(47.9 - 72.3)	(46.2 - 65.8)	(51.4 - 74.6)		(51.1 - 71.0)	(60.4 - 76.6)
	00	00	00	00	00	00
GOAL (%)	90	90	90	90	90	90

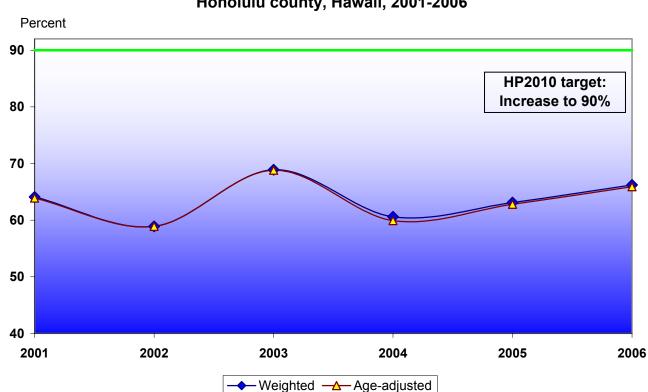
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System



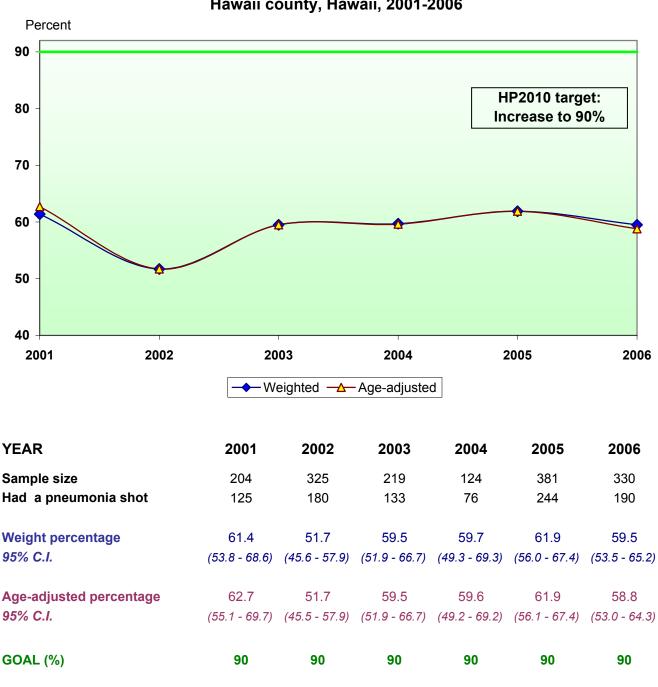
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of adults, aged 65+, who had a pneumonia shot Honolulu county, Hawaii, 2001-2006

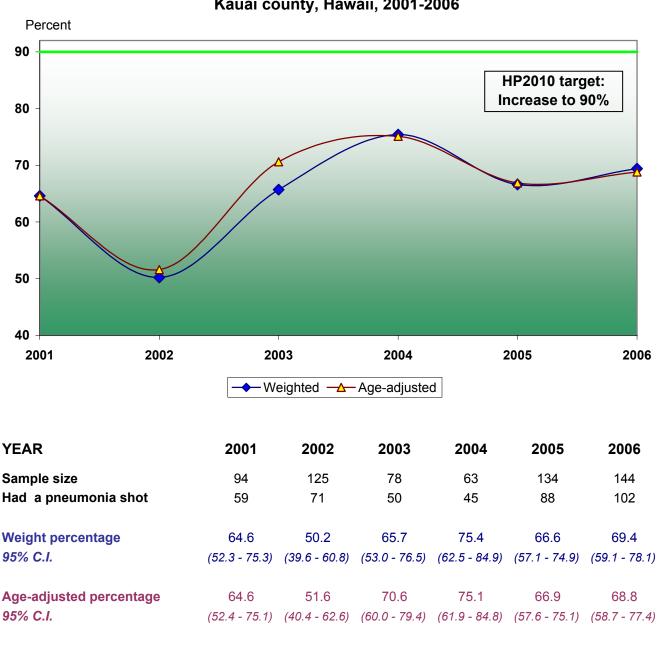
YEAR	2001	2002	2003	2004	2005	2006
Sample size	361	592	470	197	726	734
Had a pneumonia shot	235	356	326	123	463	488
Weight percentage	64.1	58.9	68.9	60.6	63.1	66.2
95% C.I.	(58.0 - 69.8)	(54.2 - 63.4)	(63.7 - 73.6)	(52.3 - 68.4)	(58.8 - 67.1)	(62.2 - 70.0)
Age-adjusted percentage	63.9	58.9	68.8	59.9	62.8	65.9
95% C.I.	(57.9 - 69.6)	(54.2 - 63.4)	(63.6 - 73.6)	(52.0 - 67.4)	(58.6 - 66.9)	(61.9 - 69.8)
GOAL (%)	90	90	90	90	90	90

Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of adults, aged 65+, who had a pneumonia shot Hawaii county, Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System



90

90

90

90

Percent of adults, aged 65+, who had a pneumonia shot Kauai county, Hawaii, 2001-2006

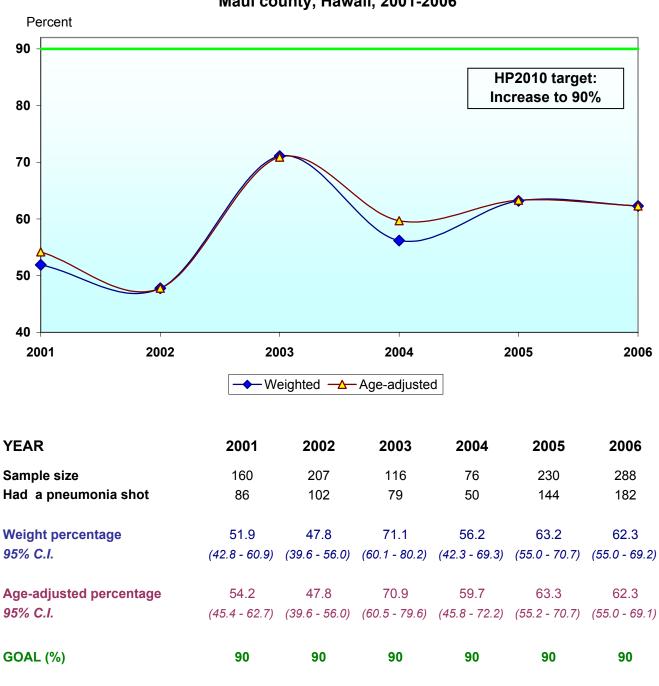
Source: Hawaii Behavioral Risk Factor Surveillance System

90

90

State of Hawaii, Department of Health

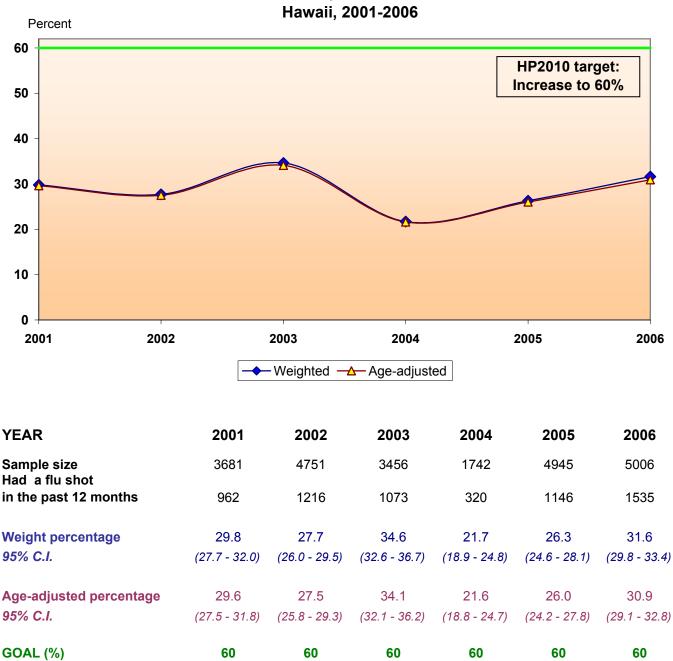
**GOAL (%)** 



Percent of adults, aged 65+, who had a pneumonia shot Maui county, Hawaii, 2001-2006

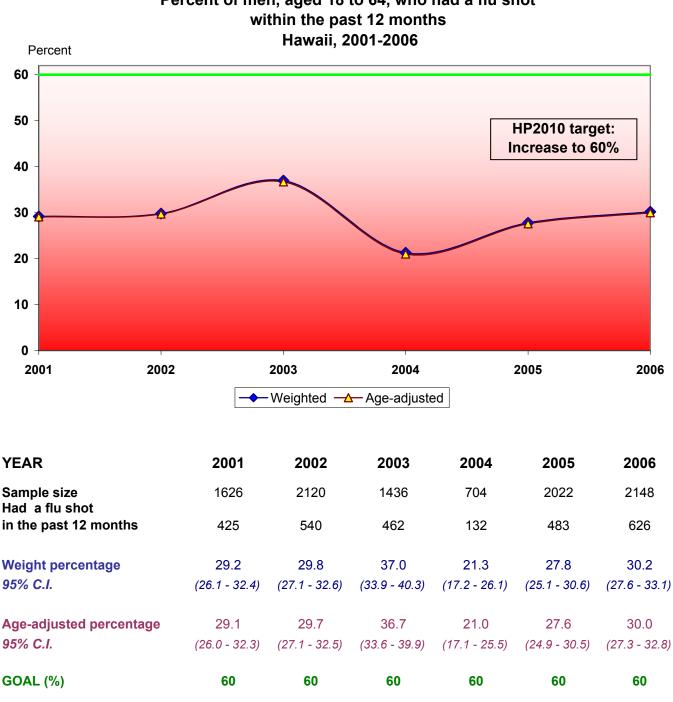
Source: Hawaii Behavioral Risk Factor Surveillance System

## **OBJECTIVE 14-29c**



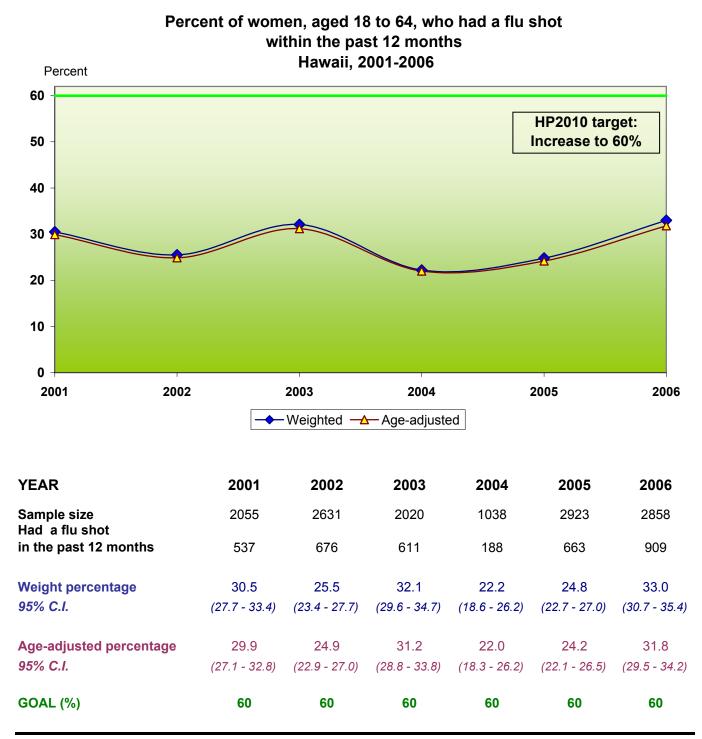
Percent of adults, aged 18 to 64, who had a flu shot within the past 12 months Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

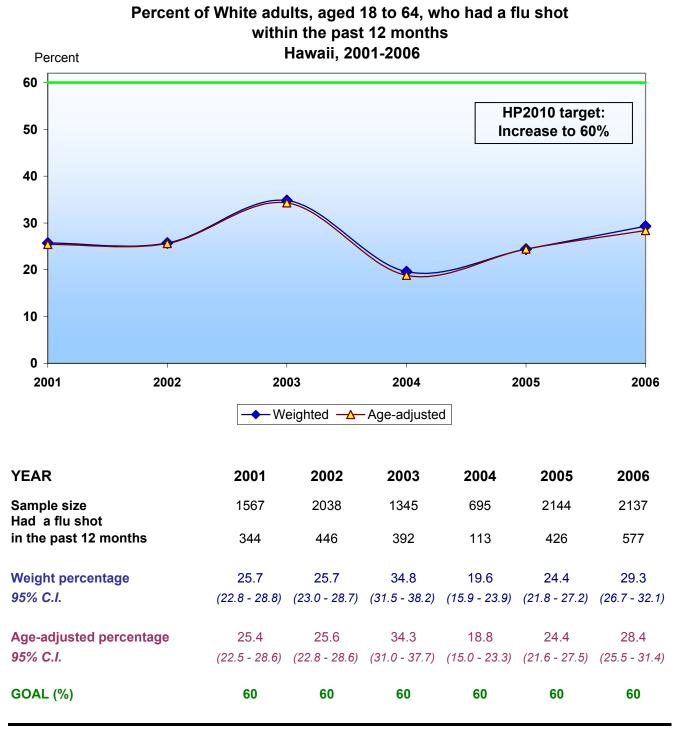


Percent of men, aged 18 to 64, who had a flu shot

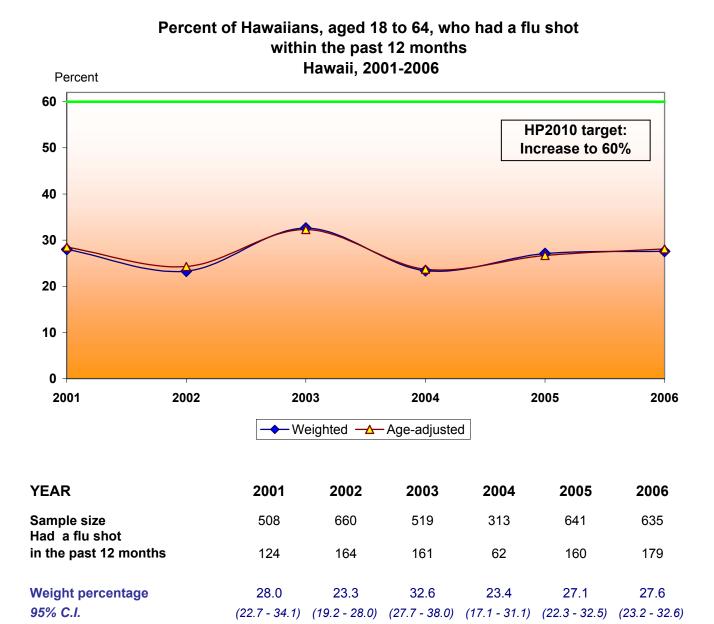
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System



IMMUNIZATION

Age-adjusted percentage

95% C.I.

**GOAL (%)** 

Source: Hawaii Behavioral Risk Factor Surveillance System

28.5

60

24.3

60

32.3

60

(23.2 - 34.6) (20.2 - 29.0) (27.7 - 37.3) (17.4 - 31.3) (22.1 - 31.7) (23.8 - 32.9)

23.7

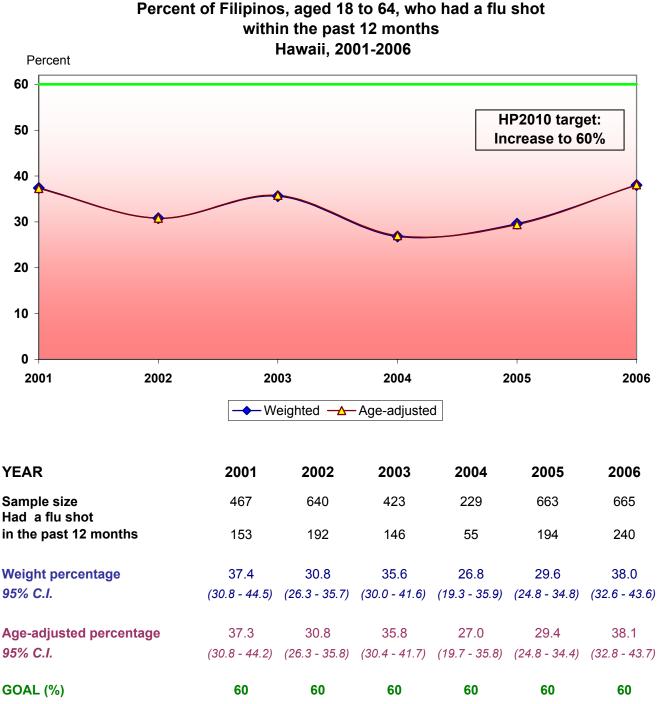
60

26.7

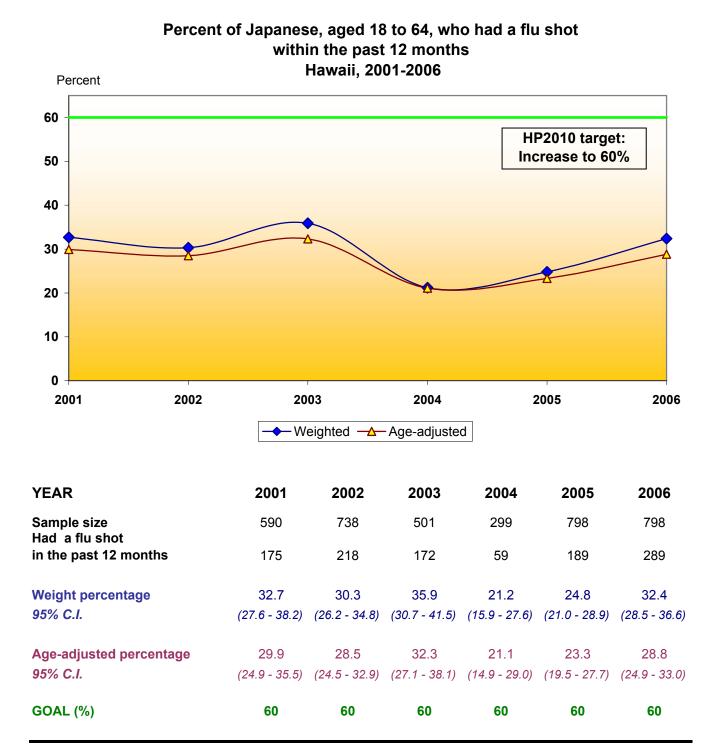
60

28.1

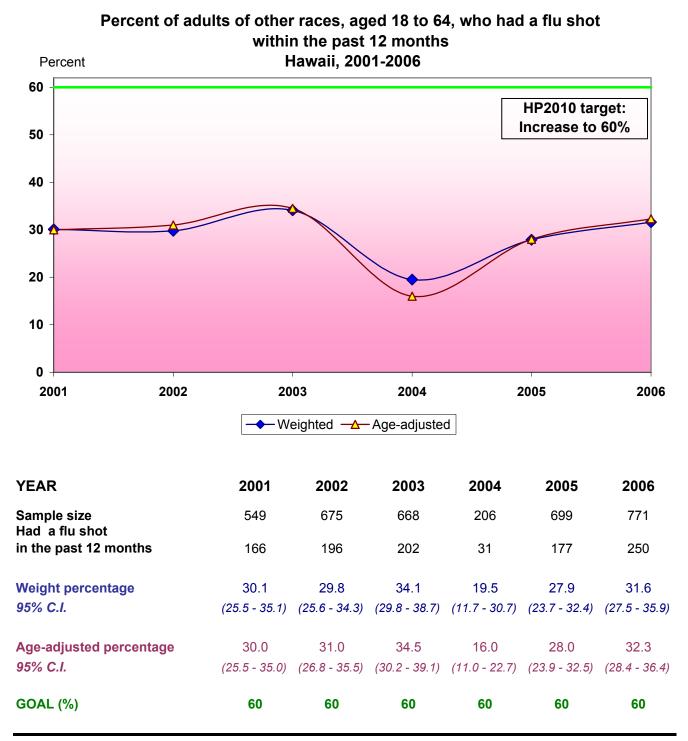
60



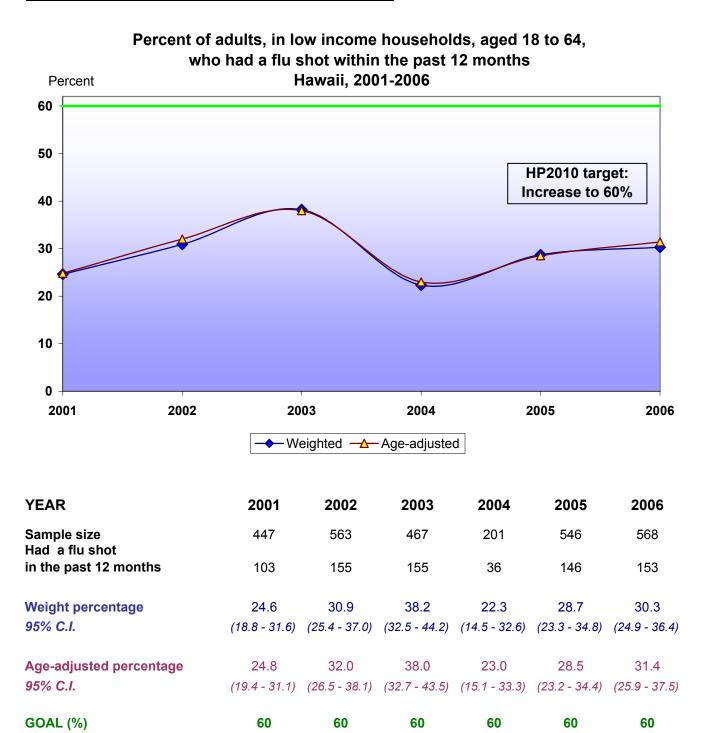
Source: Hawaii Behavioral Risk Factor Surveillance System



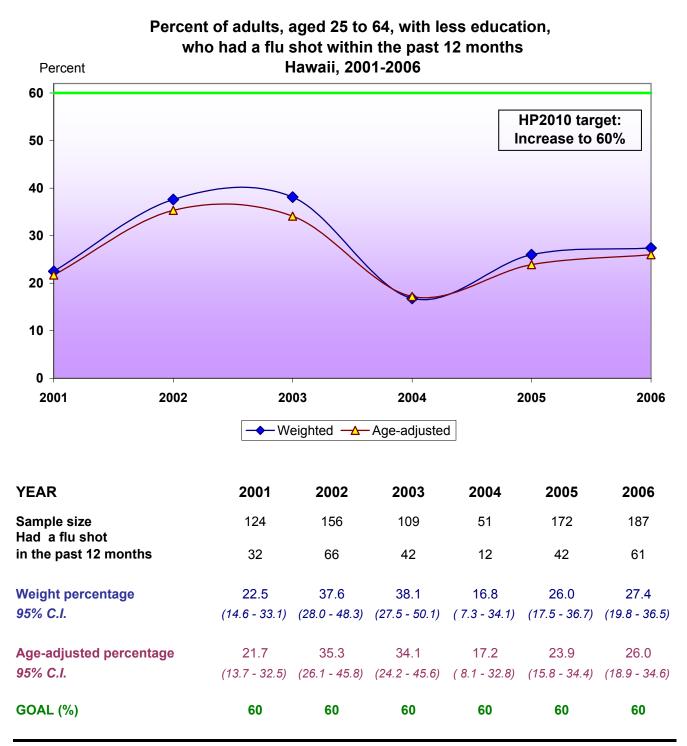
Source: Hawaii Behavioral Risk Factor Surveillance System



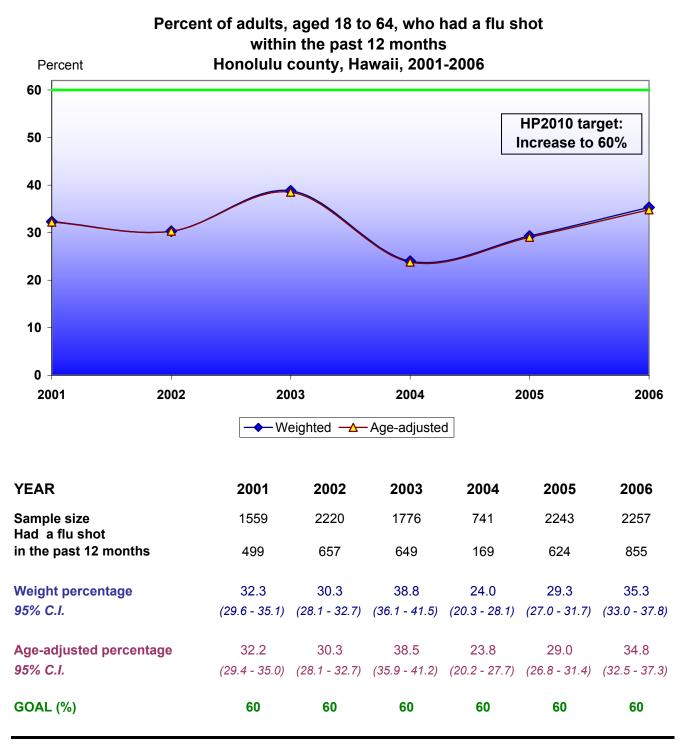
Source: Hawaii Behavioral Risk Factor Surveillance System



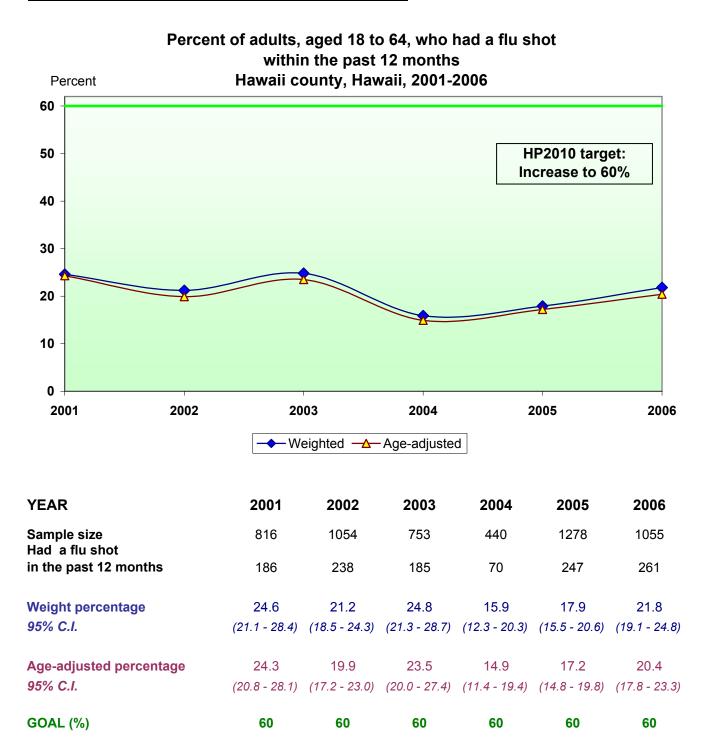
Source: Hawaii Behavioral Risk Factor Surveillance System



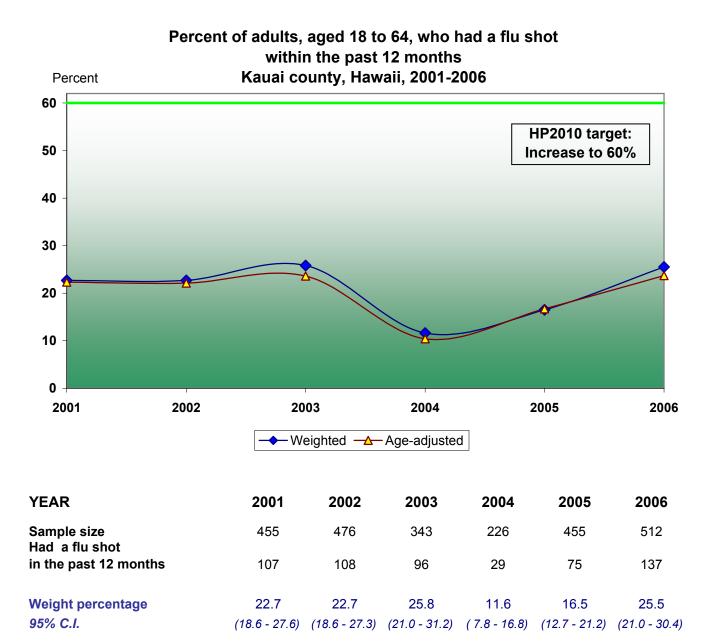
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

22.3

60

22.1

60

23.6

60

(18.2 - 27.1) (17.9 - 27.0) (19.0 - 28.9) (7.0 - 15.2) (12.2 - 22.4) (19.5 - 28.5)

10.4

60

16.7

60

23.7

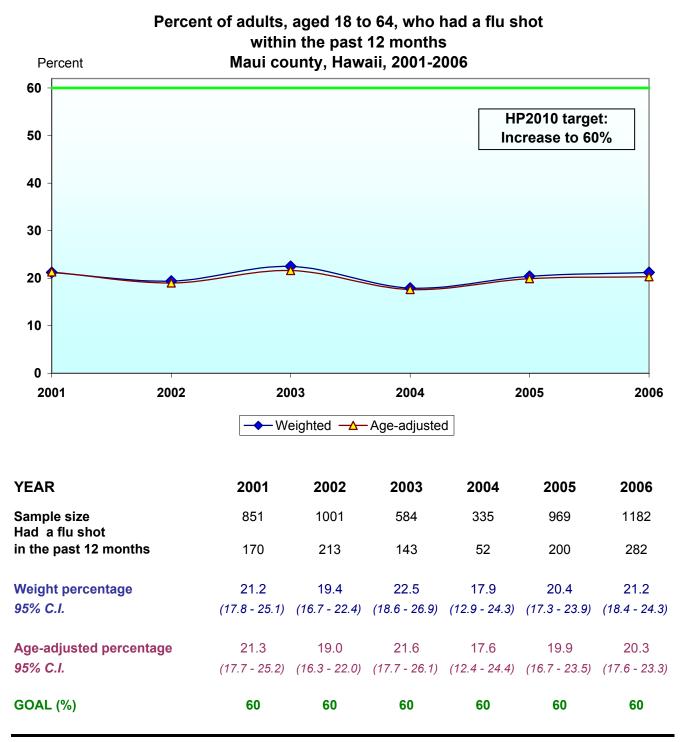
60

State of Hawaii, Department of Health

95% C.I.

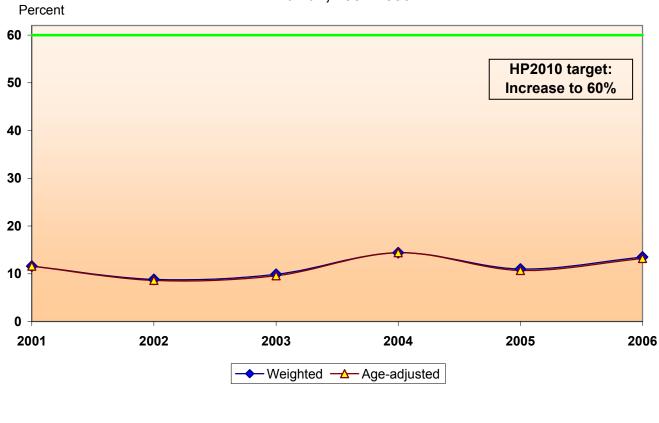
**GOAL (%)** 

Age-adjusted percentage



Source: Hawaii Behavioral Risk Factor Surveillance System

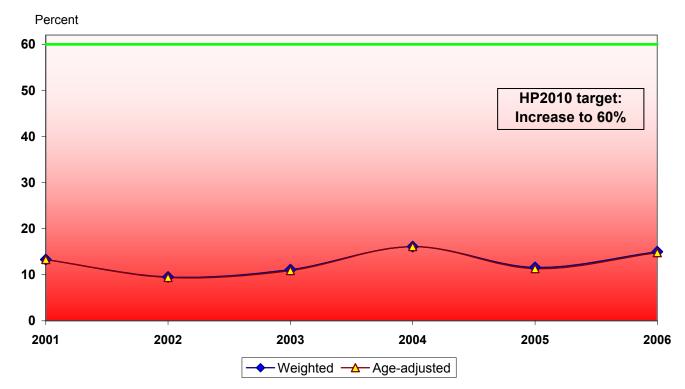
# **OBJECTIVE 14-29d**



Percent of adults, aged 18 to 64, who had a pneumonia shot Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size Had  a pneumonia shot	3681 372	4751 424	3456 327	1742 222	4945 560	5000 673
·						
Weight percentage 95% C.I.	11.6 <i>(10.0 - 13.3</i> )	8.8 ( 7.7 - 10.0)	9.9 ( 8.6 - 11.3)	14.4 (12.1 - 17.2)	11.0 ( 9.8 - 12.4)	13.5 <i>(12.2 - 14.9</i> )
	(10.0 10.0)	(7.7 70.0)	(0.0 11.0)	(12.1 11.2)	(0.0 12.1)	(12.2 11.0)
Age-adjusted percentage	11.6	8.6	9.6	14.4	10.7	13.2
95% C.I.	(10.0 - 13.3)	(7.6 - 9.8)	( 8.4 - 11.0)	(11.9 - 17.2)	( 9.4 - 12.1)	(11.9 - 14.6)
GOAL (%)	60	60	60	60	60	60

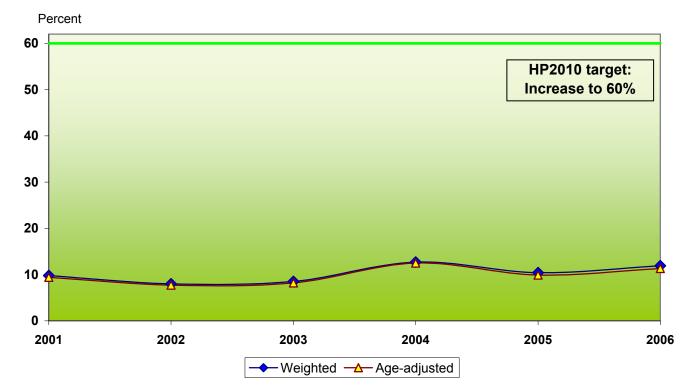
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of men, aged 18 to 64, who had a pneumonia shot Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size	1626	2120	1436	704	2022	2145
Had  a pneumonia shot	188	190	141	103	227	308
Weight percentage	13.3	9.5	11.1	16.1	11.6	15.0
95% C.I.	(11.0 - 16.0)	( 7.8 - 11.5)	( 9.2 - <i>1</i> 3.4)	(12.4 - 20.6)	<i>(</i> 9.7 - 13.8)	(12.9 - 17.3)
Age-adjusted percentage 95% C.I.	13.3	9.4	10.9	16.1	11.3	14.8
	(11.0 - 15.9)	( 7.8 - 11.4)	( 9.0 - 13.1)	(12.4 - 20.7)	( 9.4 - 13.5)	(12.8 - 17.1)
GOAL (%)	60	60	60	60	60	60

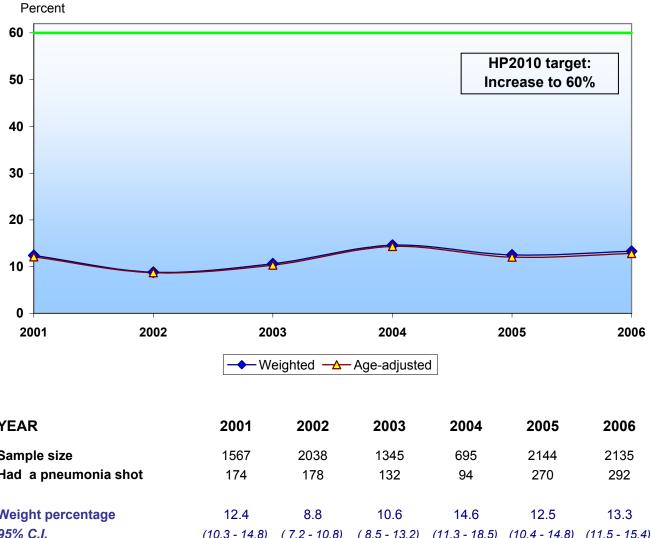
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of women, aged 18 to 64, who had a pneumonia shot Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size	2055	2631	2020	1038	2923	2855
Had  a pneumonia shot	184	234	186	119	333	365
Weight percentage	9.8	8.0	8.5	12.7	10.4	11.9
95% C.I.	( 7.9 - 12.0)	( 6.7 - 9.4)	( 7.2 - 10.2)	(10.0 - 16.0)	( 8.9 - 12.1)	(10.4 - 13.6)
Age-adjusted percentage 95% C.I.	9.4	7.7	8.2	12.5	9.9	11.3
	( 7.6 - 11.6)	( 6.5 - 9.0)	( 6.8 - 9.8)	( 9.7 - 15.8)	( 8.4 - 11.6)	( 9.9 - 13.0)
GOAL (%)	60	60	60	60	60	60

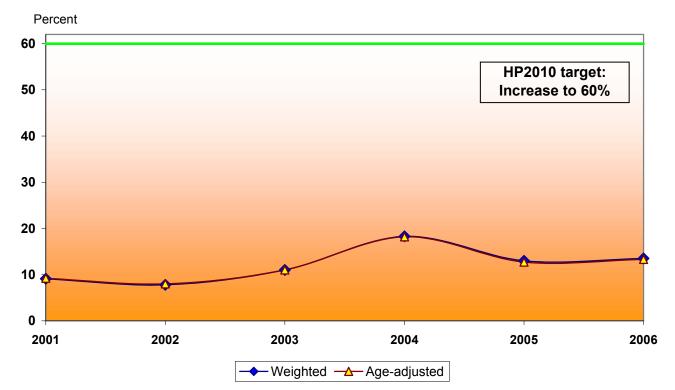
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of White adults, aged 18 to 64, who had a pneumonia shot Hawaii, 2001-2006

YEAR Sample size Had a pneumonia shot Weight percentage 95% C.I. (10.3 - 14.8) (7.2 - 10.8) (8.5 - 13.2) (11.3 - 18.5) (10.4 - 14.8) (11.5 - 15.4) Age-adjusted percentage 12.1 8.7 14.3 12.0 10.3 12.8 95% C.I. (10.0 - 14.6) (7.0 - 10.7) (8.3 - 12.9) (10.9 - 18.5) (9.8 - 14.6) (10.8 - 15.1) **GOAL (%)** 60 60 60 60 60 60

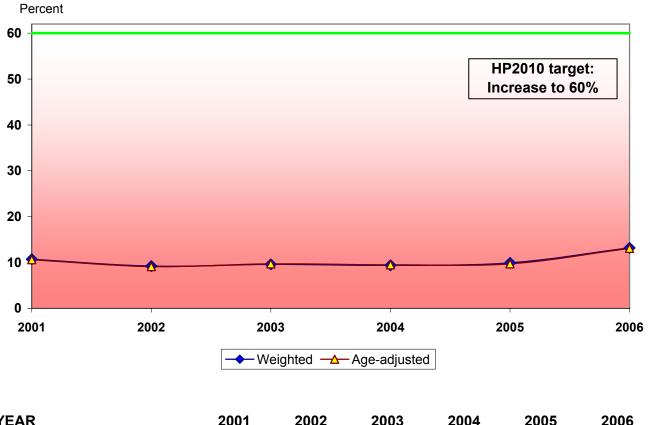
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of Hawaiians, aged 18 to 64, who had a pneumonia shot Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size	508	660	519	313	641	635
Had  a pneumonia shot	54	55	56	46	82	87
Weight percentage 95% C.I.	9.1	7.8	11.0	18.3	13.0	13.5
	( 6.4 - 12.9)	( 5.3 - 11.3)	( 8.0 - 14.9)	(12.7 - 25.7)	( 9.8 - <i>17.1</i> )	(10.0 - 17.8)
Age-adjusted percentage 95% C.I.	9.2	8.0	11.0	18.2	12.7	13.3
	( 6.4 - 13.0)	( 5.6 - 11.3)	( 8.1 - 14.7)	(12.6 - 25.5)	( 9.6 - 16.5)	(10.2 - 17.3)
GOAL (%)	60	60	60	60	60	60

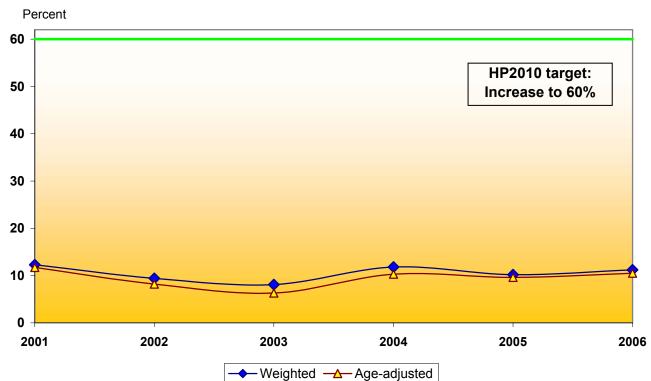
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of Filipinos, aged 18 to 64, who had a pneumonia shot Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size	467	640	423	229	663	664
Had a pneumonia shot	38	62	37	23	58	91
Weight percentage	10.7	9.2	9.6	9.4	9.9	13.2
95% C.I.	( 6.1 - 18.1)	( 6.6 - 12.7)	( 6.4 - 14.2)	( 5.5 - 15.7)	( 6.6 - 14.6)	( 9.9 - 17.4)
Age-adjusted percentage	10.6	9.1	9.7	9.5	9.7	13.1
95% C.I.	( 6.5 - 16.7)	( 6.5 - 12.5)	( 6.6 - 14.1)	( 5.6 - 15.6)	( 6.6 - 14.1)	( 9.9 - 17.2)
GOAL (%)	60	60	60	60	60	60

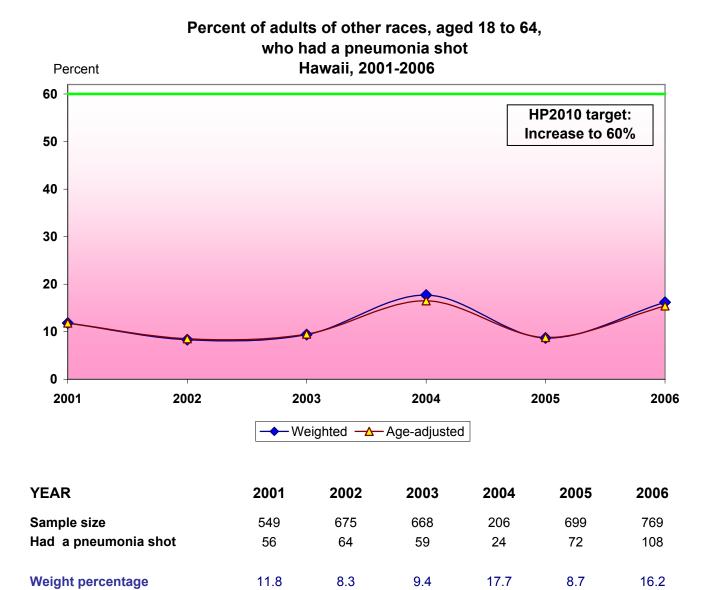
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of Japanese, aged 18 to 64, who had a pneumonia shot Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size	590	738	501	299	798	797
Had  a pneumonia shot	50	65	43	35	78	95
Weight percentage	12.3	9.4	8.1	11.8	10.2	11.2
95% C.I.	( 8.5 - 17.6)	( 6.6 - 13.2)	( 5.6 - 11.6)	( 7.9 - 17.3)	( 7.6 - 13.5)	( 8.7 - 14.3)
Age-adjusted percentage 95% C.I.	11.7	8.2	6.3	10.3	9.6	10.5
	( 7.9 - 17.1)	( 5.7 - 11.6)	( 4.2 - 9.3)	( 6.2 - 16.7)	( 7.0 - 12.9)	( 7.8 - 14.0)
GOAL (%)	60	60	60	60	60	60

Source: Hawaii Behavioral Risk Factor Surveillance System



8.5

60

9.5

60

(8.7 - 15.9) (6.4 - 11.3) (7.1 - 12.5) (10.3 - 25.5) (6.7 - 11.6) (12.3 - 19.0)

(6.2 - 11.1) (7.0 - 12.6) (10.3 - 28.8) (6.5 - 11.5) (12.7 - 20.3)

16.5

60

8.8

60

15.4

60

Source: Hawaii Behavioral Risk Factor Surveillance System

(8.6 - 16.0)

11.8

60

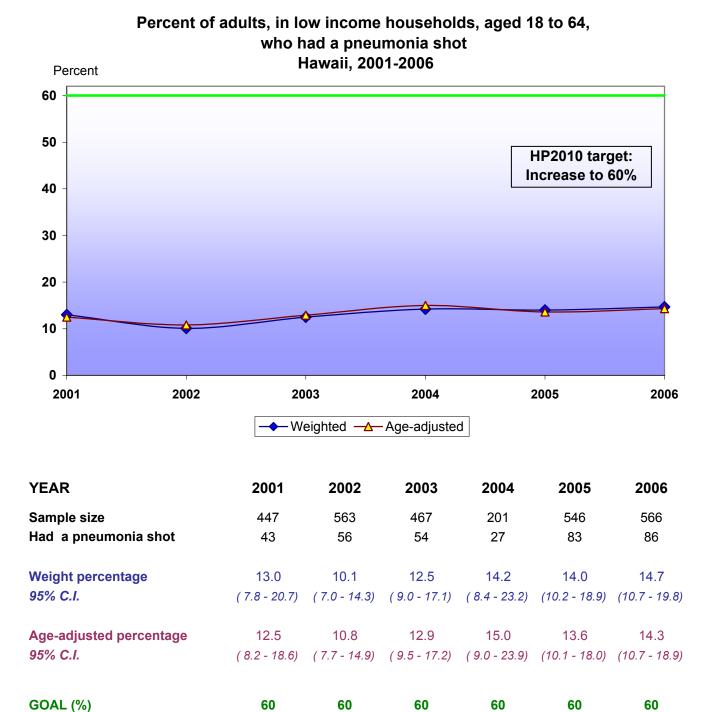
State of Hawaii, Department of Health

95% C.I.

95% C.I.

**GOAL (%)** 

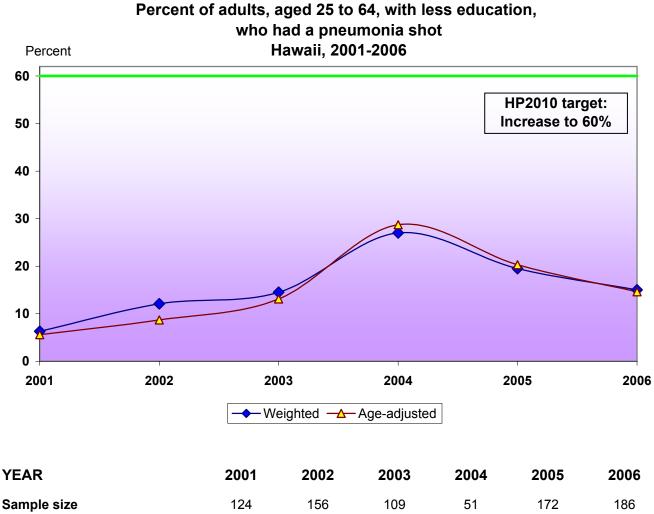
Age-adjusted percentage



IMMUNIZATION

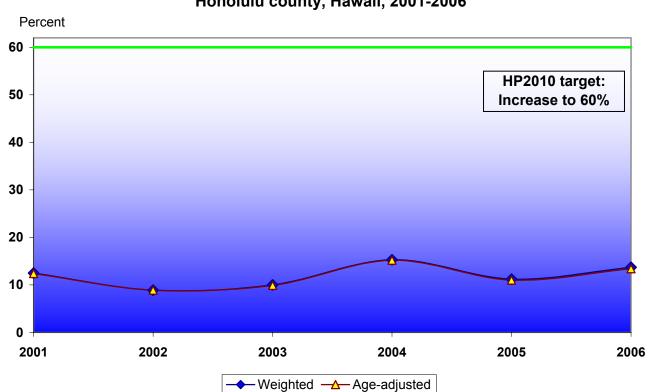
State of Hawaii, Department of Health

Source: Hawaii Behavioral Risk Factor Surveillance System



Sample size	124	156	109	51	172	186
Had  a pneumonia shot	13	17	14	14	33	33
Weight percentage	6.3	12.1	14.5	27.0	19.5	15.0
95% C.I.	( 2.8 - 13.8)	( 6.6 - 21.0)	( 7.7 - 25.6)	(12.9 - 48.0)	(11.5 - 31.1)	( 9.9 - 22.2)
Age-adjusted percentage 95% C.I.	5.6	8.7	13.1	28.7	20.3	14.6
	( 2.6 - 11.9)	( 4.9 - 14.9)	( 6.9 - 23.5)	(17.9 - 42.7)	(11.4 - 33.6)	( 9.4 - 21.9)
GOAL (%)	60	60	60	60	60	60

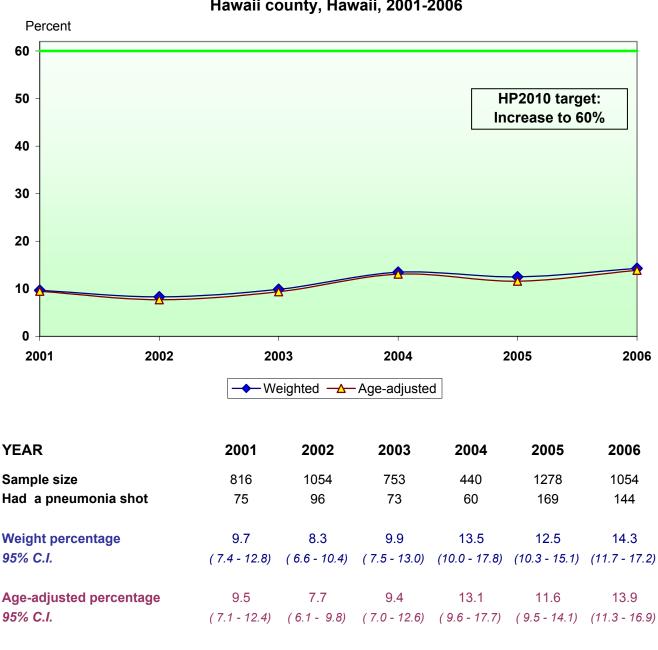
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of adults, aged 18 to 64, who had a pneumonia shot
Honolulu county, Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size	1559	2220	1776	741	2243	2254
Had  a pneumonia shot	178	191	163	106	239	318
Weight percentage	12.5	8.9	10.0	15.3	11.2	13.7
95% C.I.	(10.5 - 14.8)	( 7.5 - 10.5)	( 8.4 - 11.9)	(12.2 - 19.0)	( 9.6 - 13.1)	(12.0 - 15.5)
Age-adjusted percentage 95% C.I.	12.4	8.9	9.9	15.2	11.0	13.4
	(10.4 - 14.8)	( 7.5 - 10.5)	( 8.3 - 11.6)	(12.1 - 18.9)	( 9.4 - 12.8)	(11.7 - 15.3)
GOAL (%)	60	60	60	60	60	60

Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of adults, aged 18 to 64, who had a pneumonia shot Hawaii county, Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

60

60

60

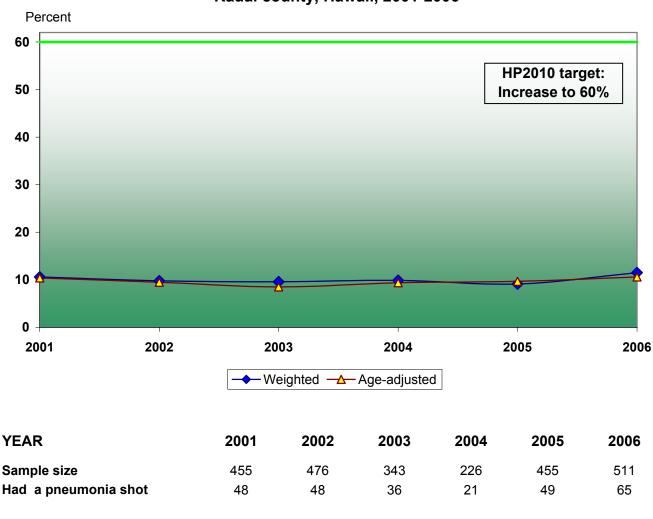
60

60

60

State of Hawaii, Department of Health

**GOAL (%)** 



9.8

9.5

60

9.6

8.5

60

(7.0 - 13.6) (6.7 - 13.7) (6.0 - 15.9) (6.5 - 12.6)

(7.5 - 14.2) (6.5 - 13.7) (5.8 - 12.3) (5.6 - 15.3) (6.4 - 14.5) (7.9 - 14.0)

9.9

9.4

60

9.1

9.7

60

11.5

(8.6 - 15.0)

10.6

60

Percent of adults, aged 18 to 64, who had a pneumonia shot Kauai county, Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

10.6

(7.7 - 14.5)

10.4

60

State of Hawaii, Department of Health

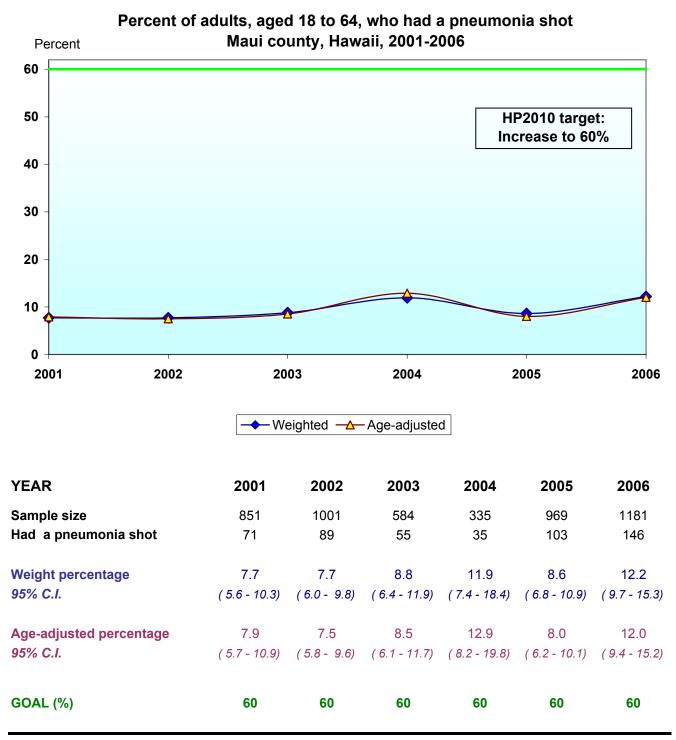
Weight percentage

Age-adjusted percentage

95% C.I.

95% C.I.

**GOAL (%)** 



Source: Hawaii Behavioral Risk Factor Surveillance System

#### NUTRITION AND OVERWEIGHT

**Objective 19-1:** *Increase the proportion of adults (aged 20+) who are at healthy weight to 60%* 

**Objective 19-2:** Reduce the proportion of adults (aged 20+) who are obese to 15%

#### **NOTES:**

The definition of "Healthy weight" and "Obese" are based on the Body Mass Index of a person.

**Body Mass Index (BMI)** is a number calculated from a person's weight and height. BMI provides a reliable indicator of body fatness for most people and is used to screen for weight categories that may lead to health problems (http://www.cdc.gov/nccdphp/dnpa/bmi/).

#### **Calculation of BMI:**

(http://www.cdc.gov/nccdphp/dnpa/bmi/adult\_BMI/about\_adult\_BMI.htm#Interpreted):

BMI=weight (kg) / [height (m)]<sup>2</sup>

Or

BMI=weight (lb) / [height (in)]<sup>2</sup> x 703

#### Interpretation of BMI for adult:

The standard weight status categories associated with BMI ranges for adults are shown in the following table.

ВМІ	Weight Status
Below 18.5	Underweight
18.5 – 24.9	Normal (Healthy weight)
25.0 – 29.9	Overweight
30.0 and Above	Obese

#### Questions used to obtain the data:

About how much do you weight without shoes? About how tall are you without shoes?

In general, the percentage of adults who are at a healthy weight is declining, while the obesity rate is rising (Figure 19a). Based on the height and weight reported by people in the state of Hawaii, in 2006, 40% of adults are at a healthy weight and 20.6% are obese. These proportions were worse than the national baseline of 42% and 20% during the period of 1988 to 1994.

NUTRITION AND OVERWEIGHT

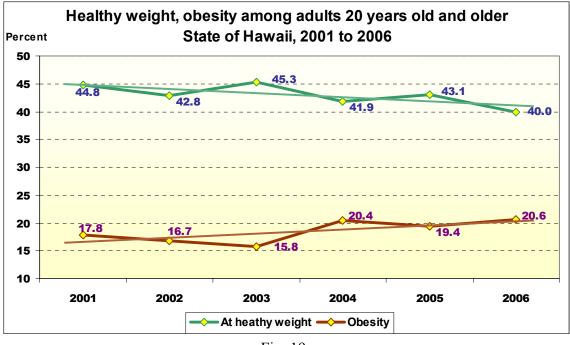


Fig. 19a

The percentage of men with healthy weight is much lower than the one for women. Concomitantly, the proportion of men with obesity is much higher than it is for women. Note that the obesity percentage is trending up while the healthy-weight percentage is trending down for both men and women (Figure 19b).

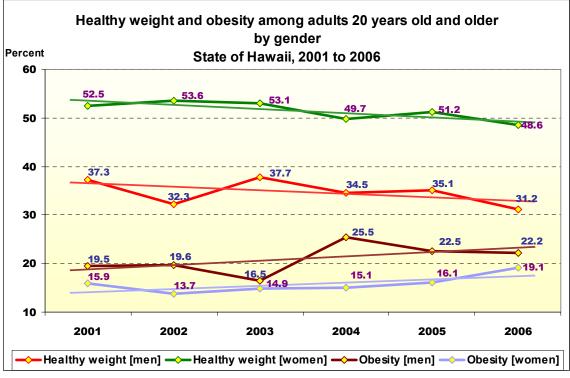


Fig. 19b

Among ethnic groups, Hawaiians definitely exhibit a higher risk of a weight problem than others (Figure 19c, 19d).

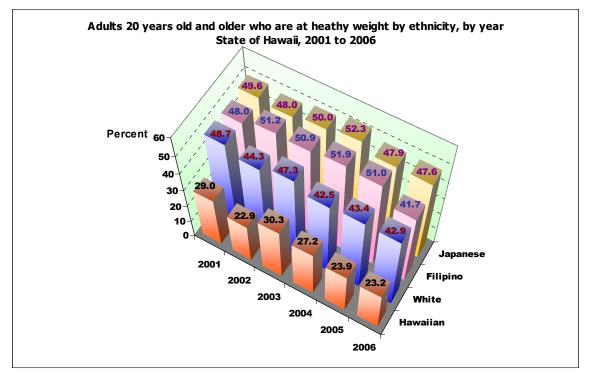


Fig. 19c

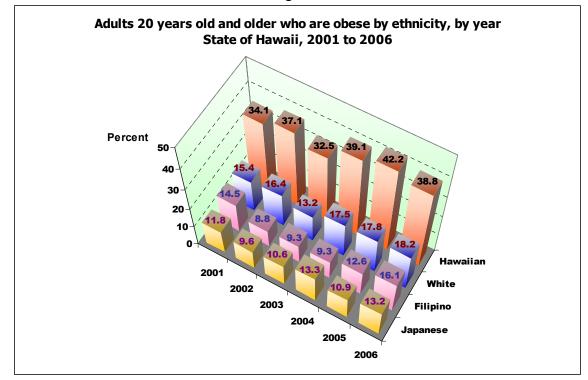


Fig. 19d

People in low-income households are much more at risk for obesity than those in better income households (Figure 19e).

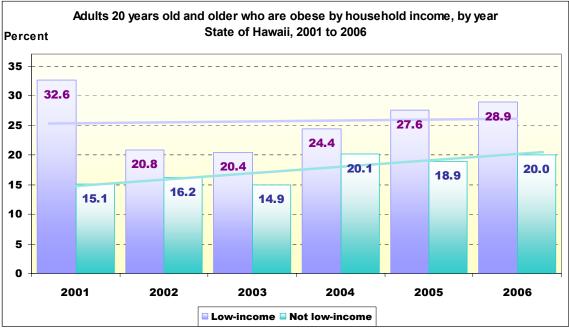


Fig. 19e

**Objective 19-5:** Increase the proportion of persons (aged 2 years and older) who consume at least two daily servings of fruit to 75%

**Question used to obtain the data:** Not counting juice, how often do you eat fruit?

**Objective 19-6:** Increase the proportion of persons (aged 2 years and older) who consume at least three daily servings of vegetables, with at least one-third being dark green or orange vegetables to 50%

#### **Questions used to obtain the data:**

How often do you eat green salad? How often do you eat carrots? Not counting carrots, potatoes or green salad, how many servings of vegetables do you usually eat?

Based on the existing data, we are far below the goal of having 75% eat at least 2 servings of fruits as well as 50% eating at least 3 servings of vegetables every day. However, people are tending to have more fruits and vegetables in their daily diet (Figure 19f).

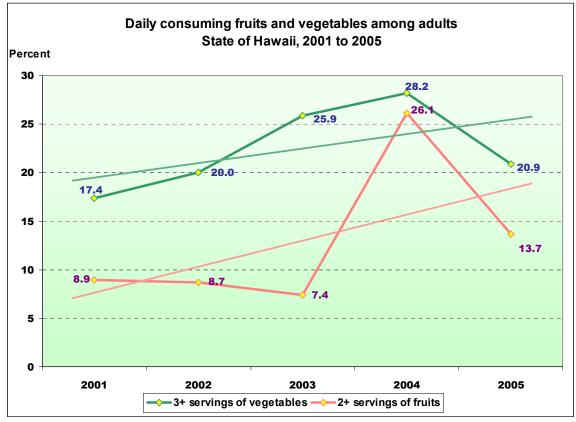
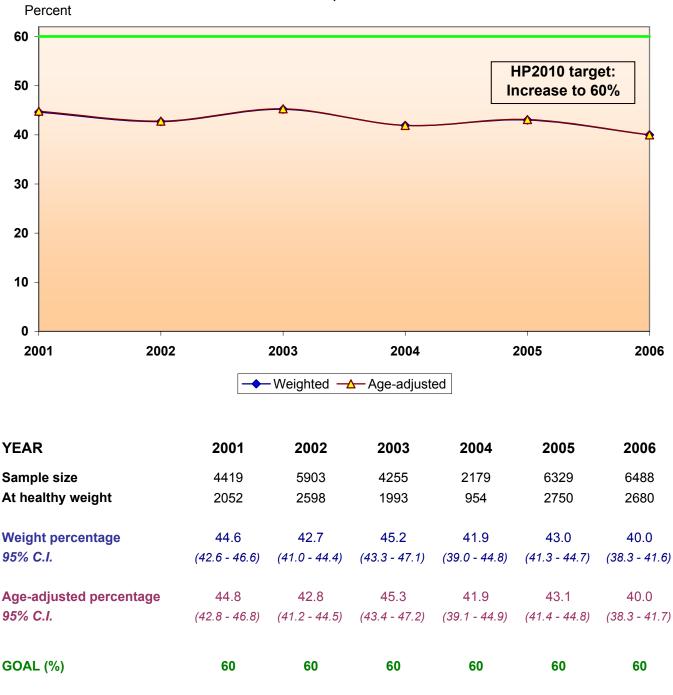


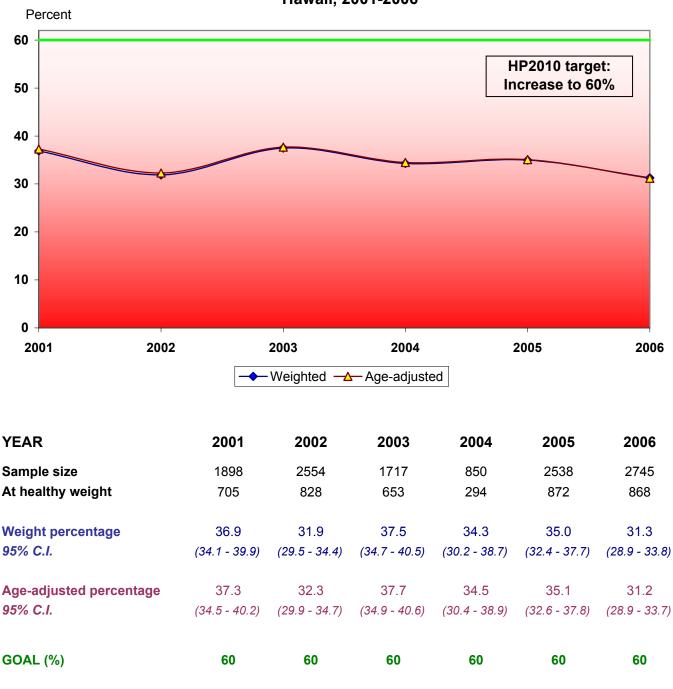
Fig. 19f

# **OBJECTIVE 19-1**



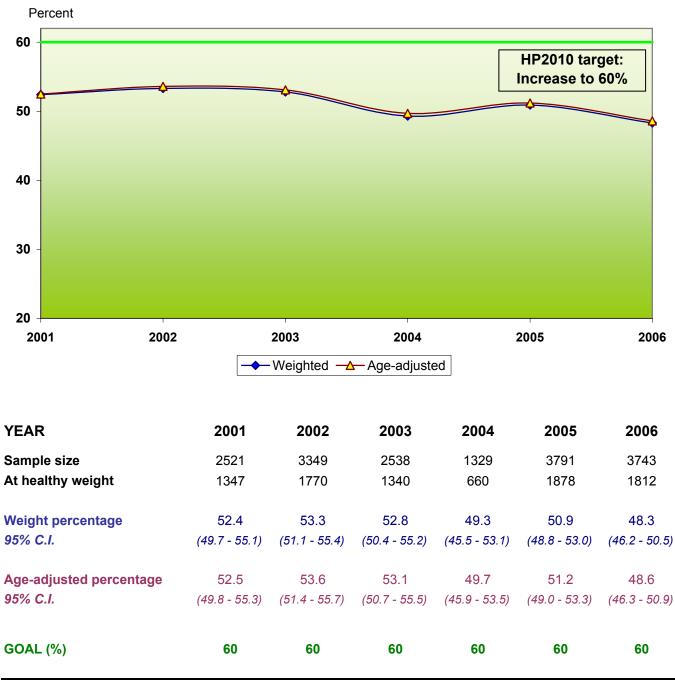
Percent of adults, aged 20+, who are at healthy weight Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System



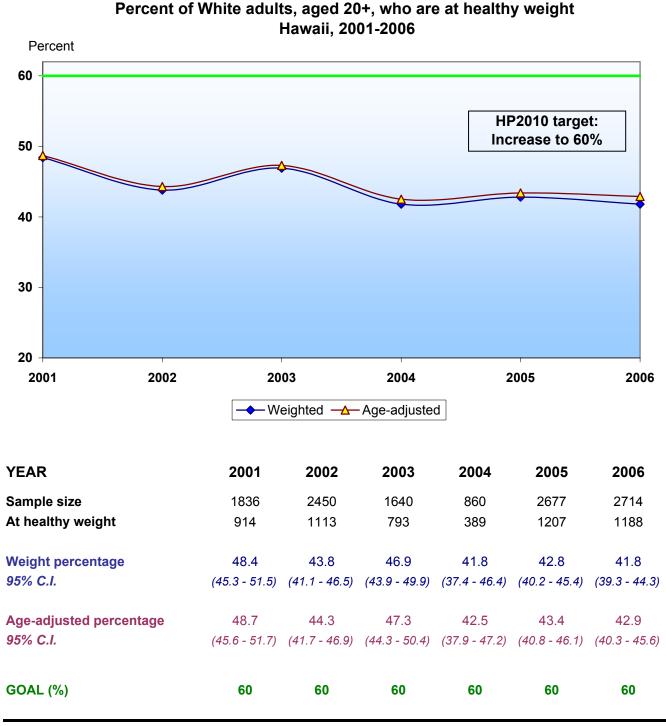
Percent of men, aged 20+, who are at healthy weight Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

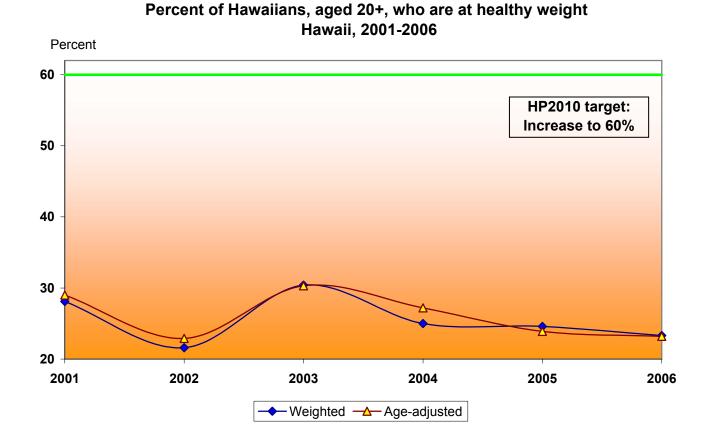


Percent of women, aged 20+, who are at healthy weight Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

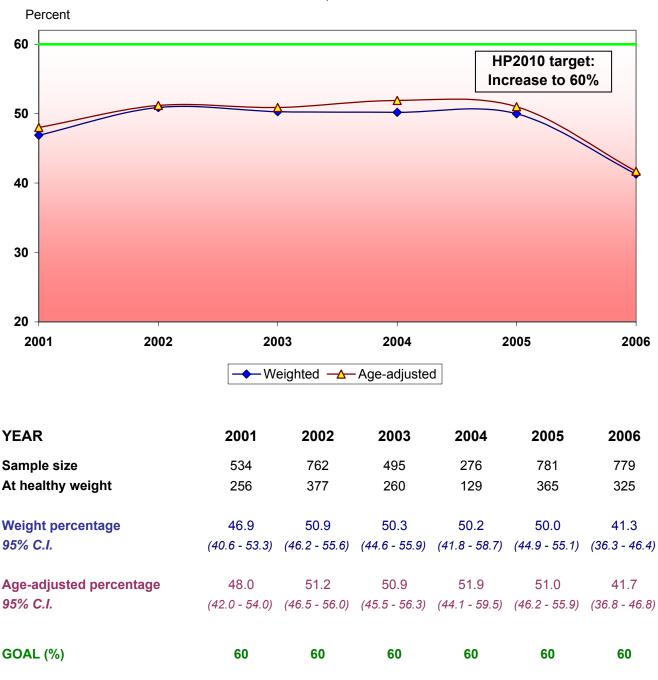


Source: Hawaii Behavioral Risk Factor Surveillance System



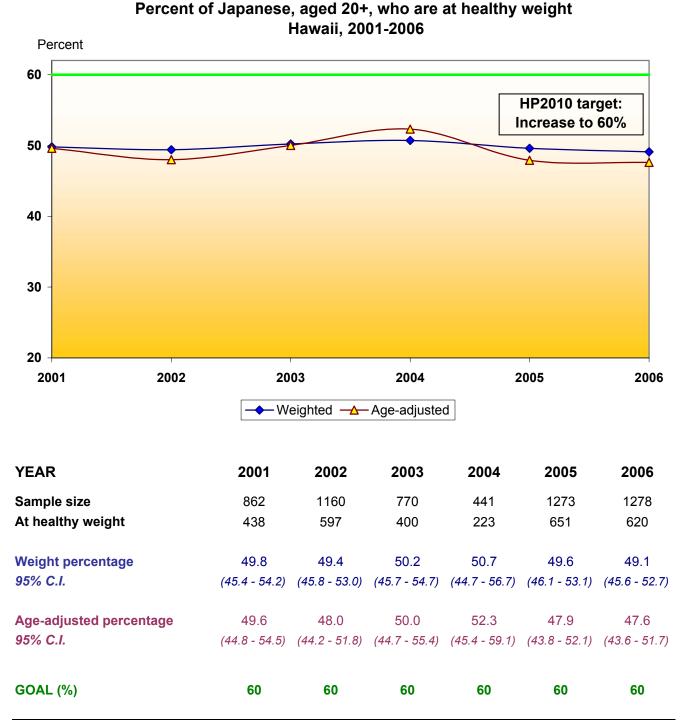
YEAR	2001	2002	2003	2004	2005	2006
Sample size	565	750	595	355	767	784
At healthy weight	155	179	179	101	178	181
Weight percentage	28.1	21.6	30.4	25.0	24.6	23.3
95% C.I.	(23.1 - 33.7)	(18.1 - 25.7)	(25.9 - 35.3)	(19.6 - 31.4)	(20.2 - 29.5)	(19.4 - 27.8)
Age-adjusted percentage	29.0	22.9	30.3	27.2	23.9	23.2
95% C.I.	(24.0 - 34.5)	(19.3 - 27.0)	(26.0 - 35.0)	(22.0 - 33.2)	(19.8 - 28.5)	(19.5 - 27.4)
GOAL (%)	60	60	60	60	60	60

Source: Hawaii Behavioral Risk Factor Surveillance System

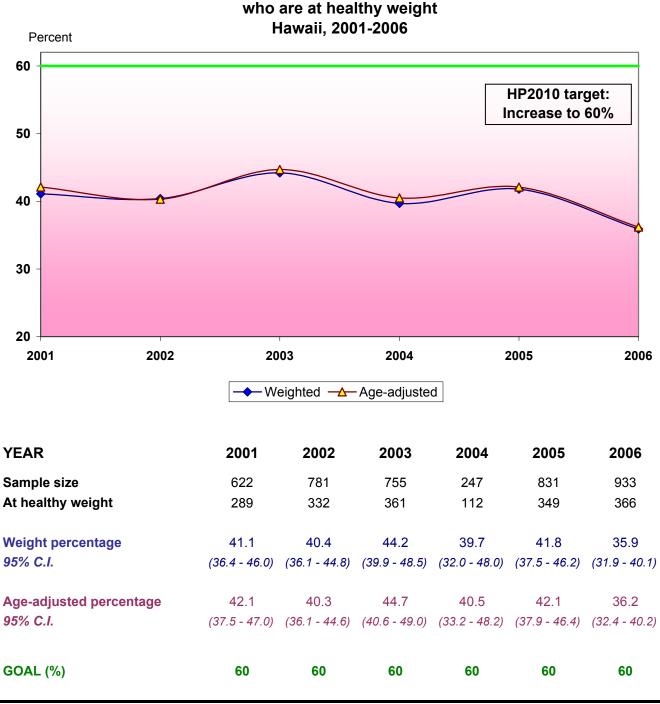


Percent of Filipinos, aged 20+, who are at healthy weight Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

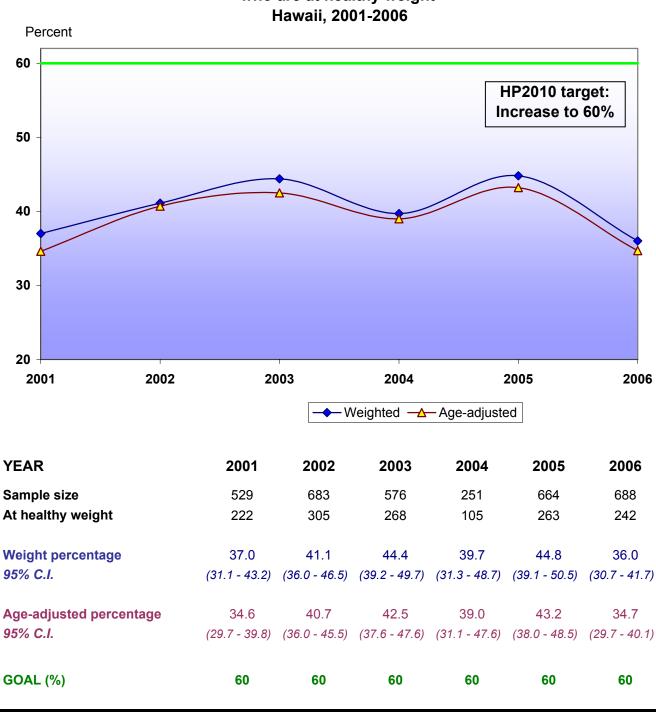


Source: Hawaii Behavioral Risk Factor Surveillance System



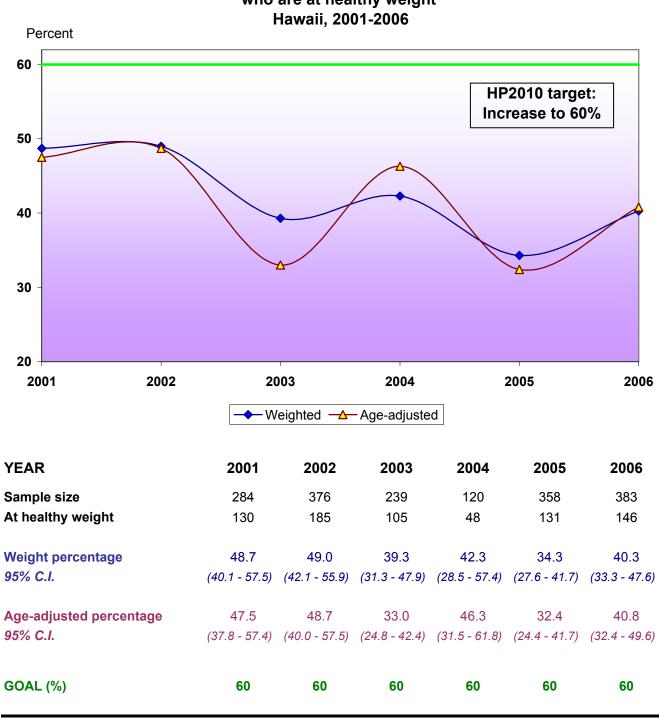
Percent of adults of other races, aged 20+, who are at healthy weight

Source: Hawaii Behavioral Risk Factor Surveillance System



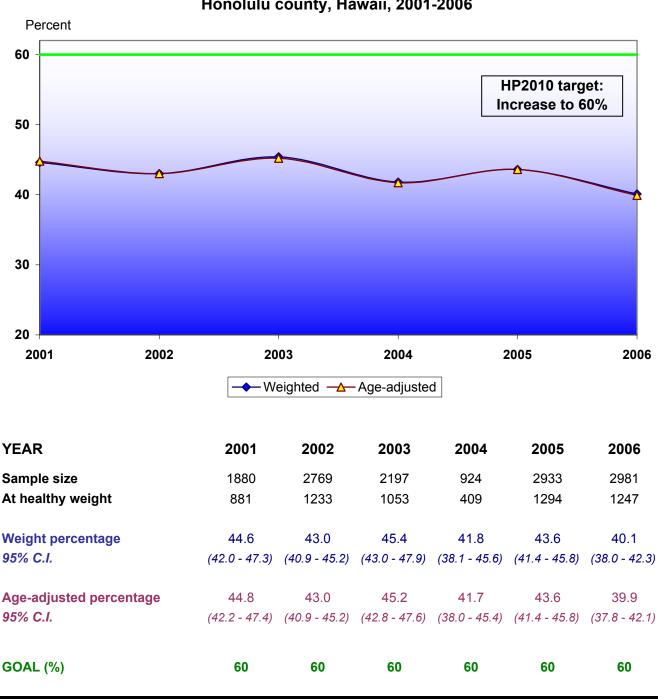
Percent of adults, in low income households, aged 20+, who are at healthy weight Hawaii. 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System



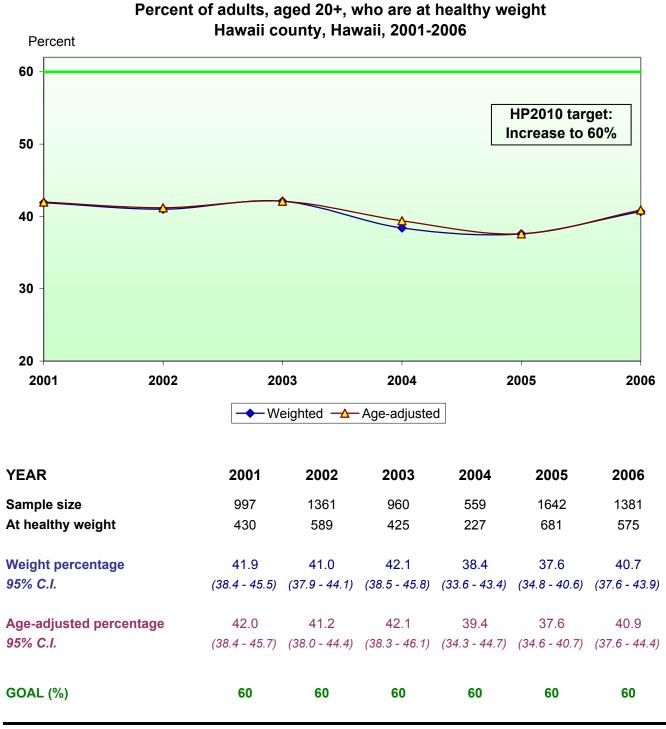
Percent of adults, with less education, who are at healthy weight

Source: Hawaii Behavioral Risk Factor Surveillance System

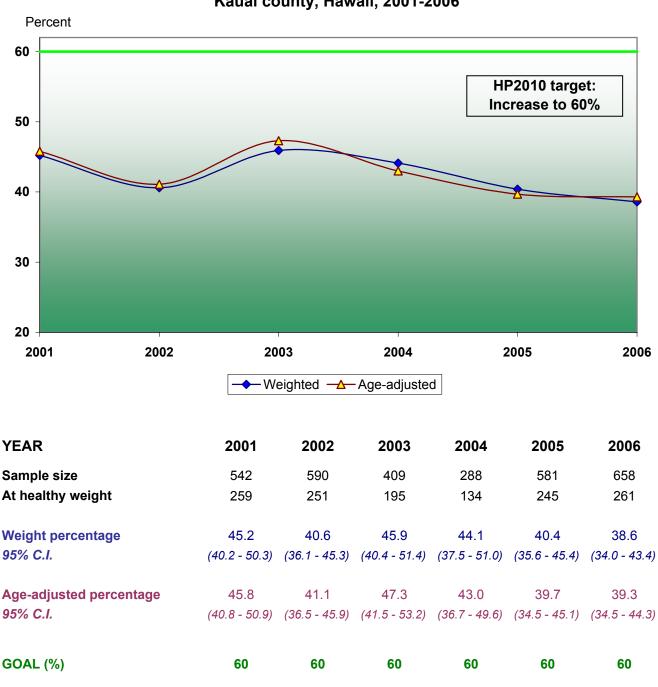


Percent of adults, aged 20+, who are at healthy weight Honolulu county, Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

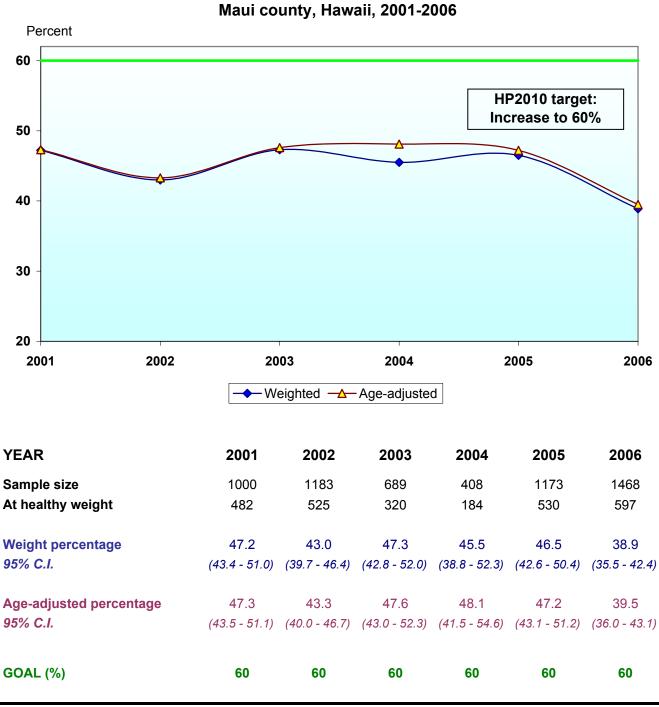


Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of adults, aged 20+, who are at healthy weight Kauai county, Hawaii, 2001-2006

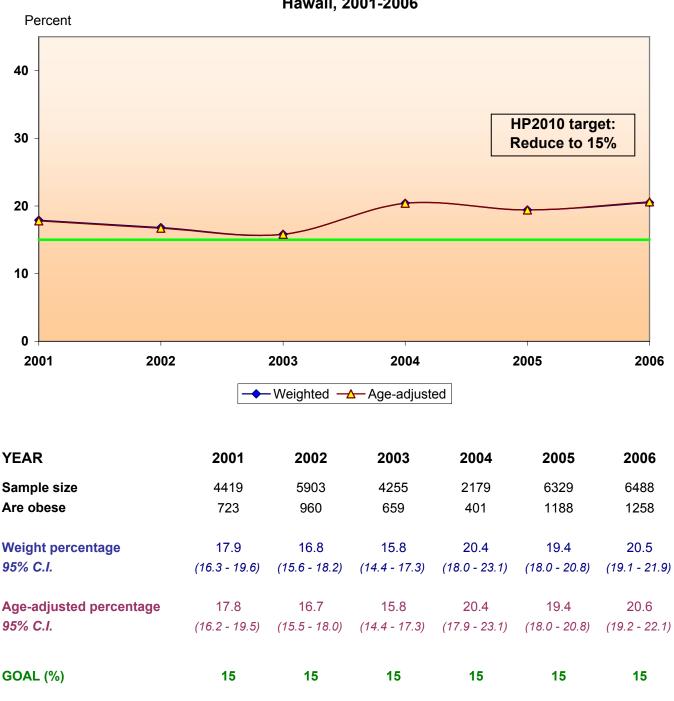
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of adults, aged 20+, who are at healthy weight Maui county, Hawaii, 2001-2006

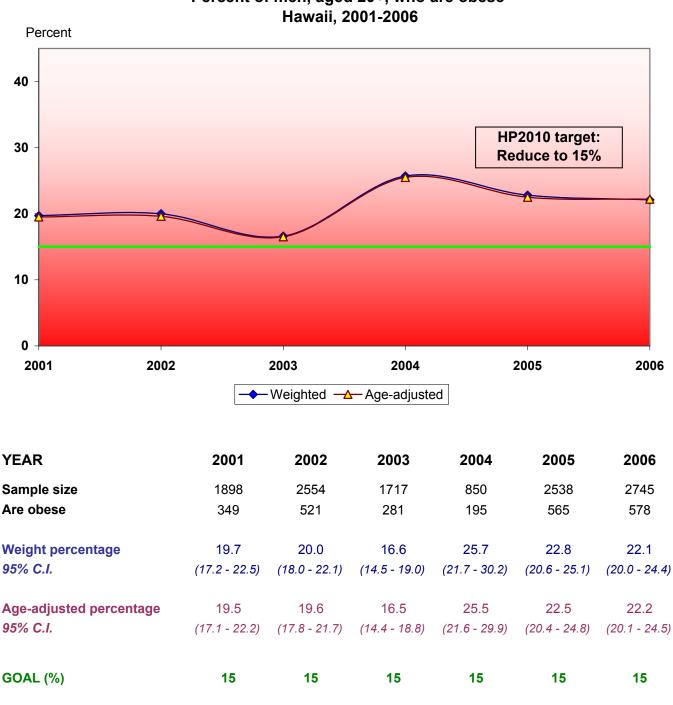
Source: Hawaii Behavioral Risk Factor Surveillance System

# **OBJECTIVE 19-2**



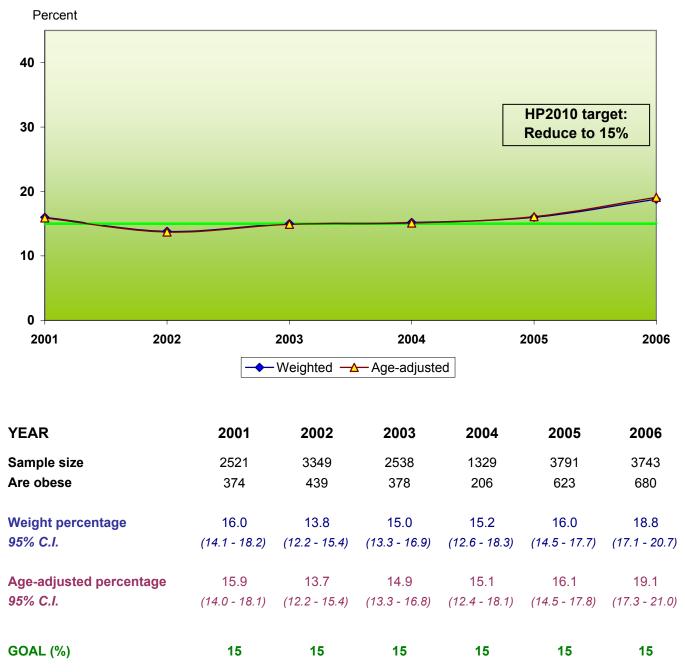
Percent of adults, aged 20+, who are obese Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System



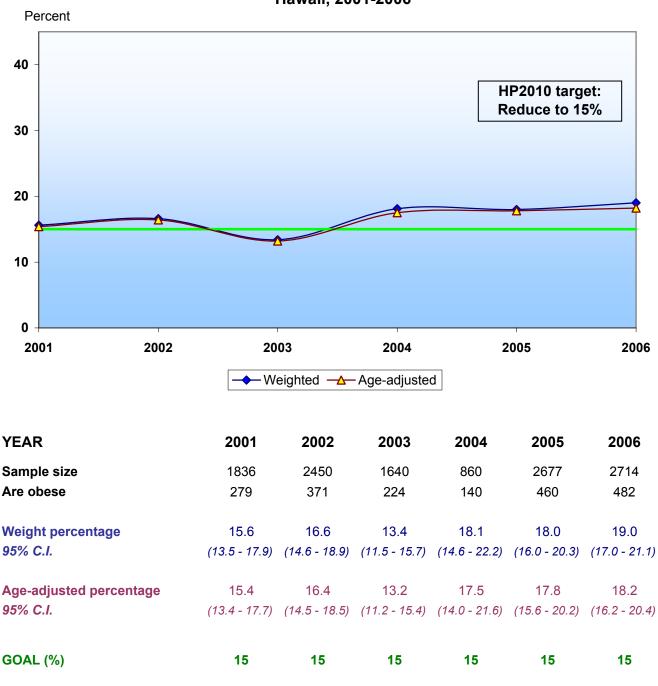
Percent of men, aged 20+, who are obese

Source: Hawaii Behavioral Risk Factor Surveillance System



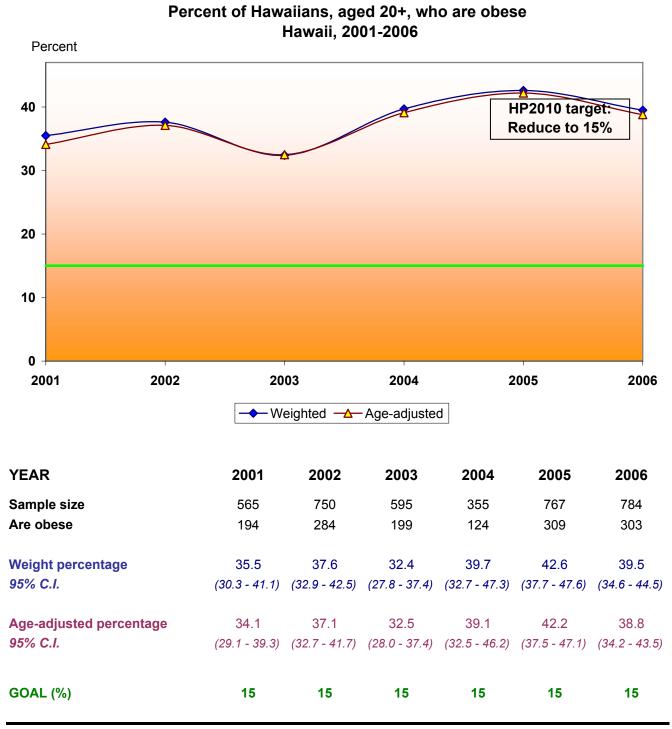
Percent of women, aged 20+, who are obese Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

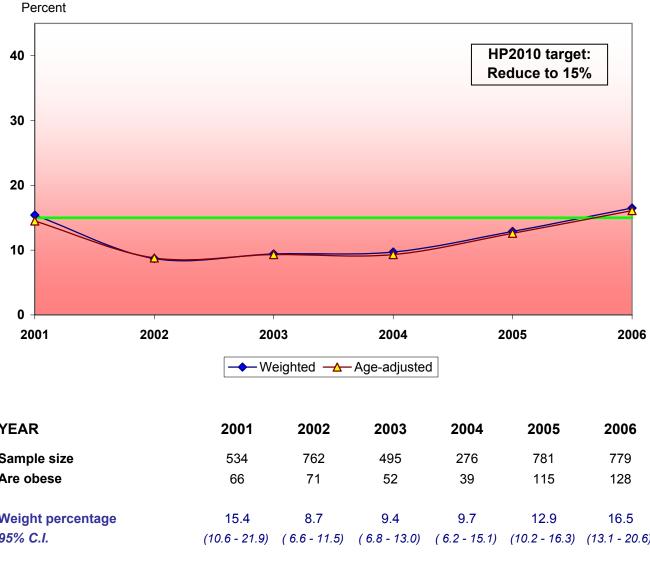


Percent of White adults, aged 20+, who are obese Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System



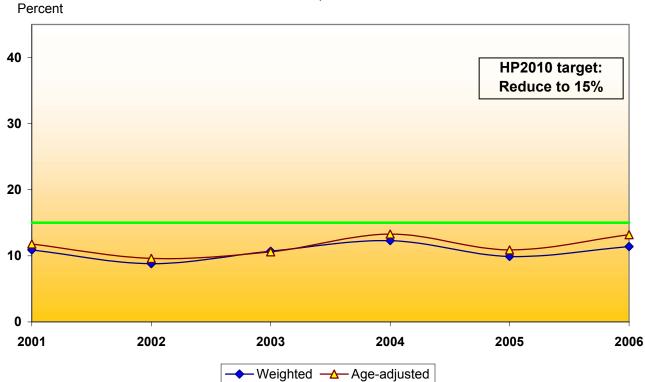
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of Filipinos, aged 20+, who are obese Hawaii, 2001-2006

YEAR Sample size Are obese Weight percentage 95% C.I. (10.6 - 21.9) (6.6 - 11.5) (6.8 - 13.0) (6.2 - 15.1) (10.2 - 16.3) (13.1 - 20.6) Age-adjusted percentage 9.3 12.6 14.5 8.8 9.3 16.1 95% C.I. (10.3 - 20.1) (6.7 - 11.6) (6.7 - 12.8) (6.1 - 14.0) (10.0 - 15.9) (12.9 - 20.0) 15 **GOAL (%)** 15 15 15 15 15

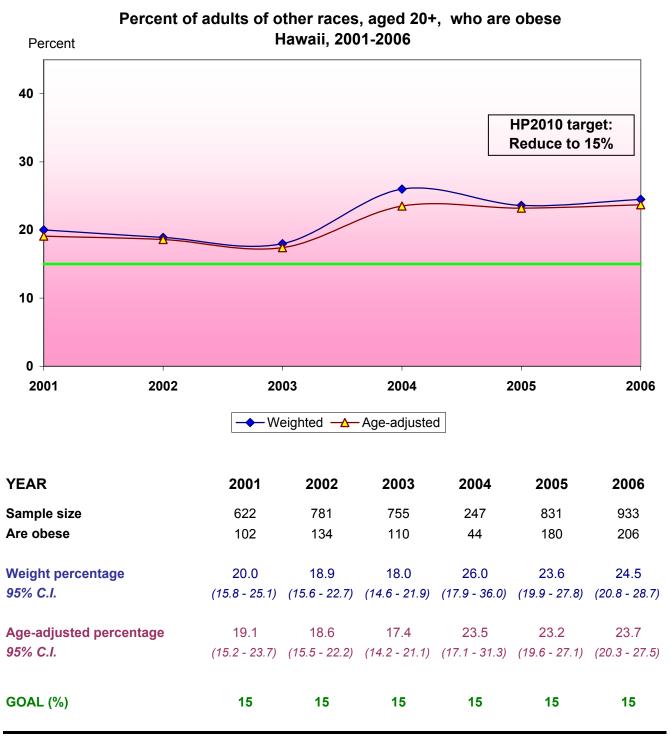
Source: Hawaii Behavioral Risk Factor Surveillance System



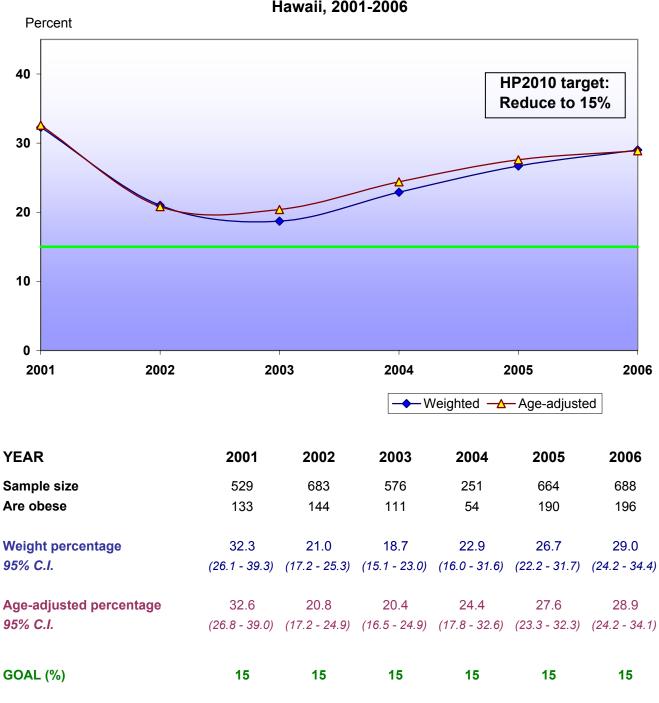
Percent of Japanese, aged 20+, who are obese Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size Are obese	862	1160	770	441	1273	1278
Are obese	82	100	74	54	124	139
Weight percentage	10.9	8.8	10.7	12.3	9.9	11.4
95% C.I.	( 8.3 - 14.1)	( 6.9 - 11.0)	( 8.1 - 14.1)	( 9.0 - 16.7)	( 8.0 - 12.2)	( 9.2 - 13.9)
Age-adjusted percentage	11.8	9.6	10.6	13.3	10.9	13.2
95% C.I.	( 8.9 - 15.6)	( 7.5 - 12.2)	( 8.0 - 13.9)	( 9.2 - 18.9)	( 8.6 - 13.7)	(10.5 - 16.5)
GOAL (%)	15	15	15	15	15	15

Source: Hawaii Behavioral Risk Factor Surveillance System

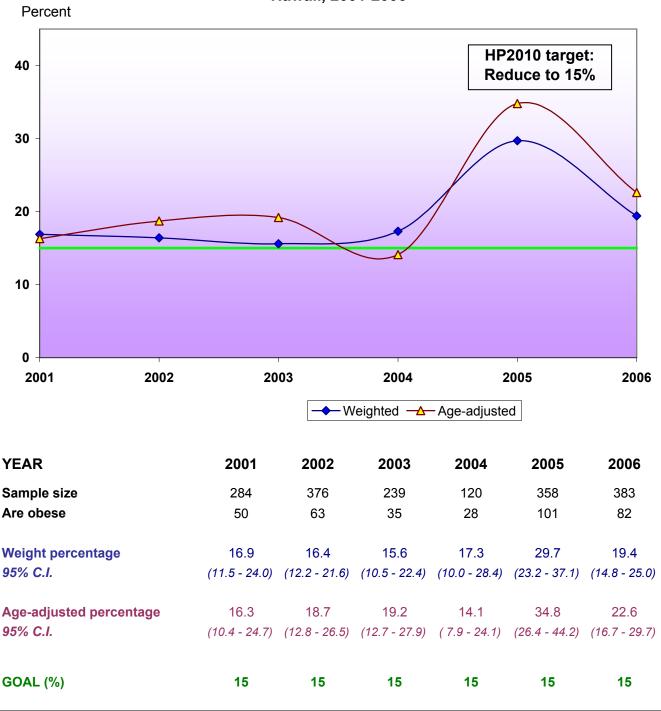


Source: Hawaii Behavioral Risk Factor Surveillance System



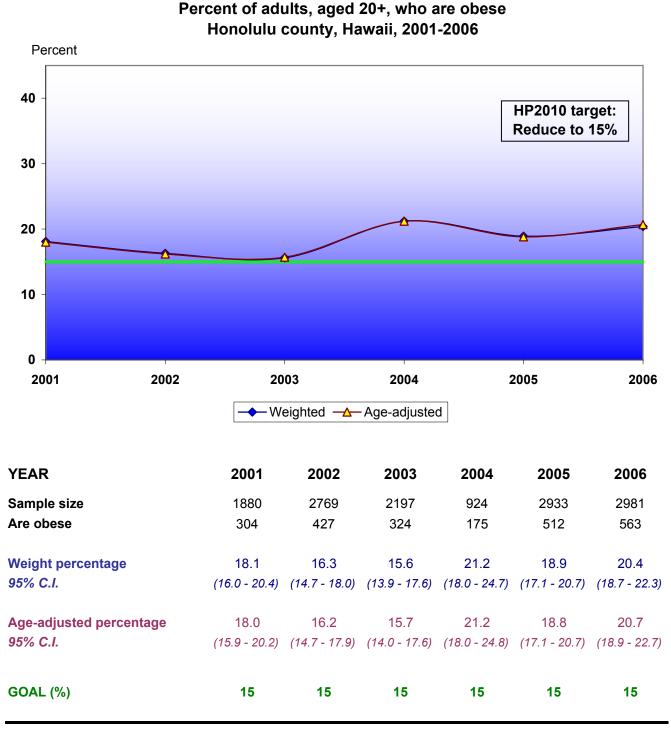
Percent of adults, in low income households, aged 20+, who are obese Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

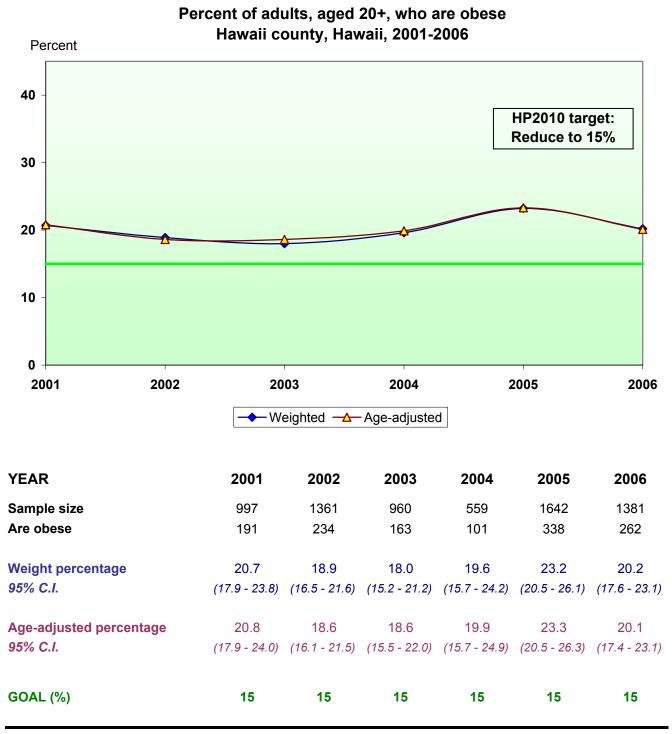


Percent of adults, with less education, who are obese Hawaii, 2001-2006

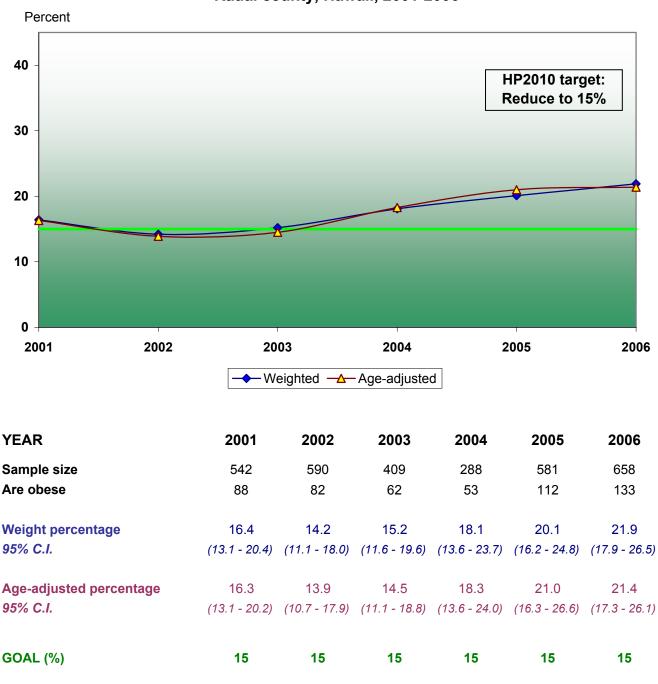
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

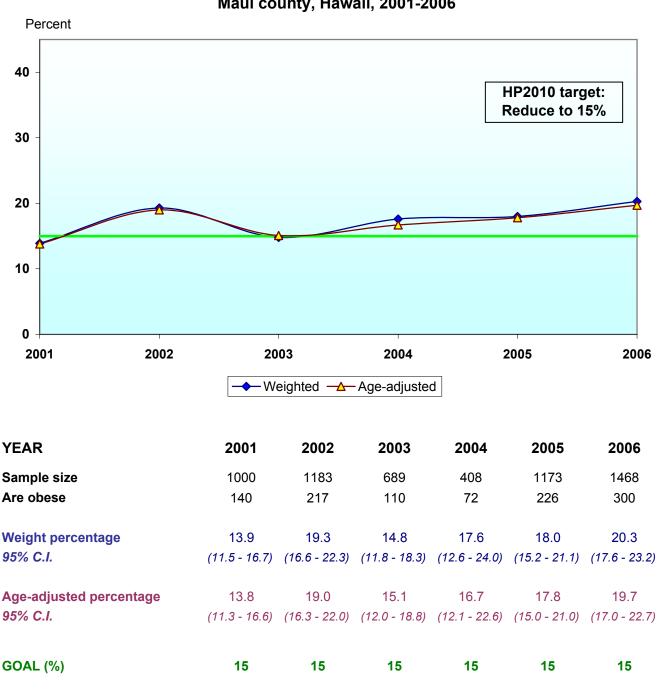


Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of adults, aged 20+, who are obese Kauai county, Hawaii, 2001-2006

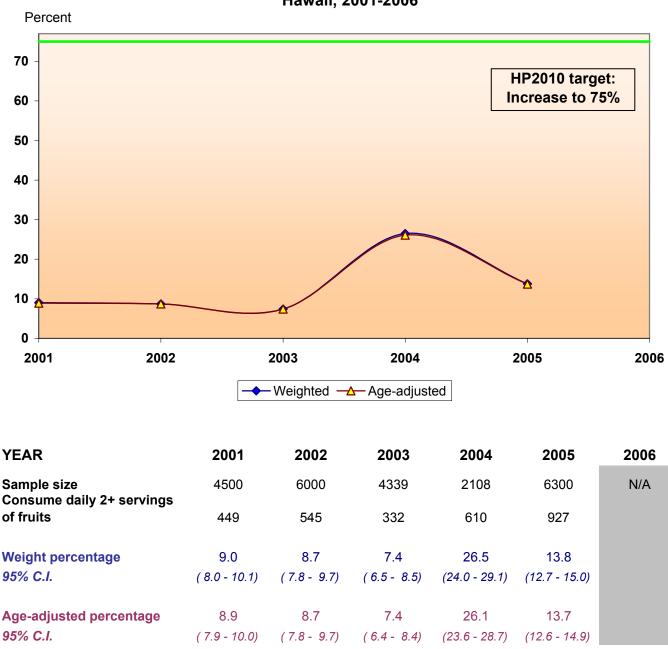
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of adults, aged 20+, who are obese Maui county, Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

# **OBJECTIVE 19-5**



75

75

Percent of adults who consume daily 2+ servings of fruits Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

75

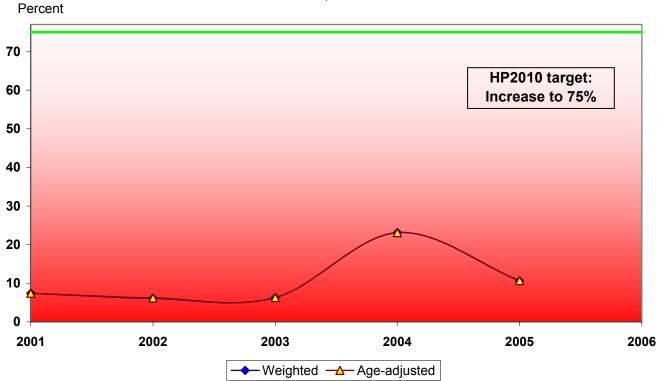
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75

75

State of Hawaii, Department of Health

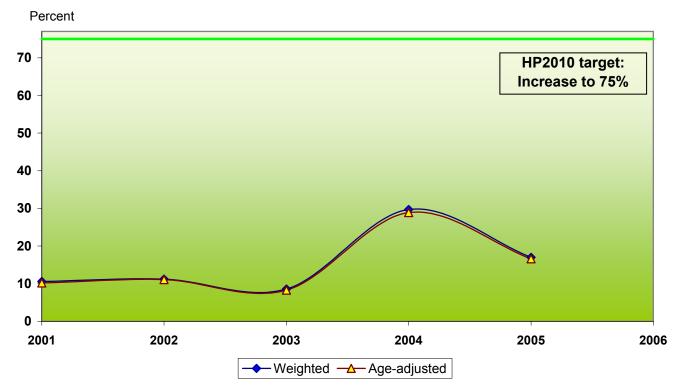
**GOAL (%)** 



Percent of men who consume daily 2+ servings of fruits Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size Consume daily 2+ servings	1937	2605	1761	814	2534	N/A
of fruits	150	159	100	195	270	
Weight percentage	7.4	6.1	6.3	23.1	10.6	
95% C.I.	( 6.0 - 9.0)	(5.0 - 7.5)	( 5.0 - 7.9)	(19.5 - 27.2)	( 8.9 - 12.4)	
Age-adjusted percentage	7.4	6.2	6.3	23.1	10.7	
95% C.I.	(6.1 - 9.0)	(5.0 - 7.6)	(5.0 - 7.9)	(19.5 - 27.1)	( 9.0 - 12.6)	
GOAL (%)	75	75	75	75	75	75

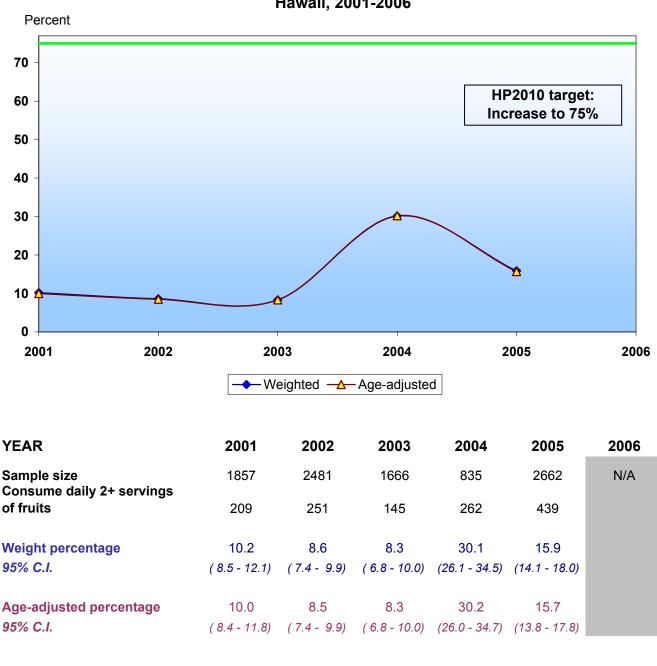
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of women who consume daily 2+ servings of fruits Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size Consume daily 2+ servings	2563	3395	2578	1294	3766	N/A
of fruits	299	386	232	415	657	
Weight percentage	10.6	11.2	8.6	29.7	17.0	
95% C.I.	( 9.2 - 12.1)	( 9.9 - 12.7)	( 7.4 - 10.0)	(26.3 - 33.2)	(15.5 - 18.6)	
Age-adjusted percentage	10.2	11.1	8.3	28.9	16.6	
95% C.I.	( 8.9 - 11.8)	( 9.8 - 12.6)	(7.1 - 9.7)	(25.7 - 32.5)	(15.1 - 18.2)	
GOAL (%)	75	75	75	75	75	75

Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of White adults who consume daily 2+ servings of fruits Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

75

75

75

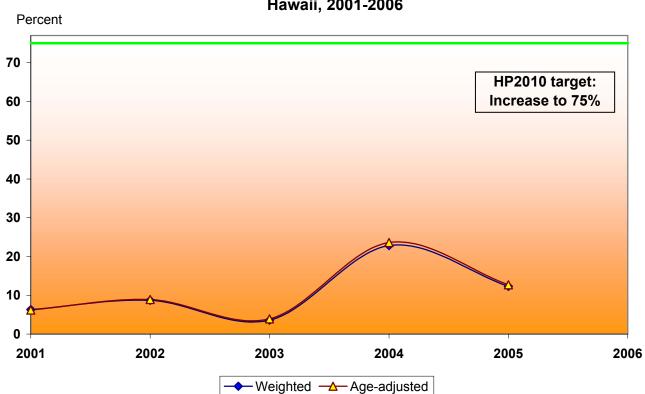
75

75

75

State of Hawaii, Department of Health

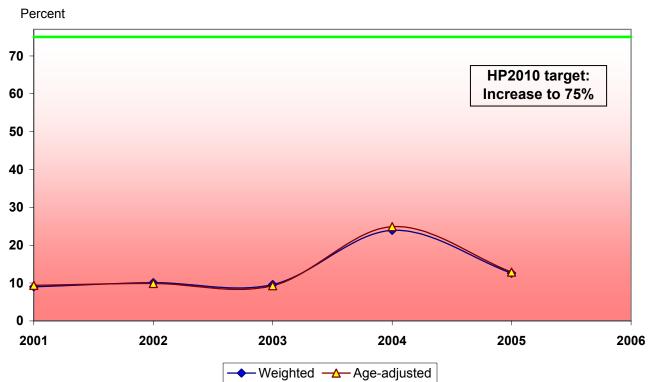
**GOAL (%)** 



Percent of Hawaiians who consume daily 2+ servings of fruits Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size	585	771	612	349	769	N/A
Consume daily 2+ servings of fruits	45	66	25	90	95	
Weight percentage	6.3	8.7	3.6	22.8	12.3	
95% C.I.	(4.3 - 9.1)	( 6.4 - 11.7)	( 2.2 - 5.8)	(17.5 - 29.3)	( 9.6 - 15.7)	
Age-adjusted percentage	6.2	8.9	3.9	23.6	12.7	
95% C.I.	(4.3 - 8.7)	( 6.5 - 12.0)	(2.4 - 6.3)	(18.1 - 30.2)	(10.0 - 16.0)	
GOAL (%)	75	75	75	75	75	75

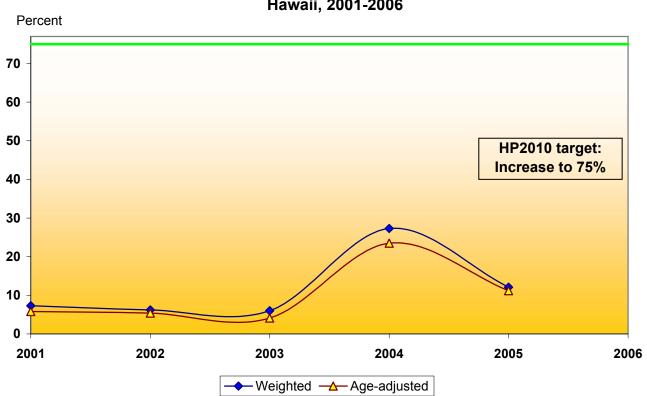
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of Filipinos who consume daily 2+ servings of fruits Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size Consume daily 2+ servings	548	775	504	262	782	N/A
of fruits	55	68	39	69	101	
Weight percentage	9.0	10.1	9.6	23.9	12.6	
95% C.I.	( 6.3 - 12.7)	( 7.5 - 13.4)	( 6.6 - 13.9)	(17.1 - 32.3)	( 9.5 - 16.5)	
Age-adjusted percentage	9.4	9.9	9.3	24.9	12.9	
95% C.I.	( 6.7 - 13.2)	( 7.3 - 13.2)	( 6.5 - 13.2)	(18.0 - 33.4)	( 9.8 - 16.8)	
GOAL (%)	75	75	75	75	75	75

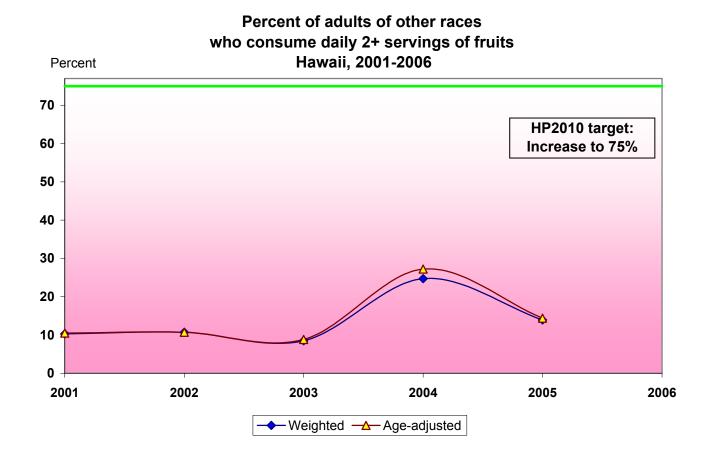
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of Japanese who consume daily 2+ servings of fruits
Hawaii, 2001-2006

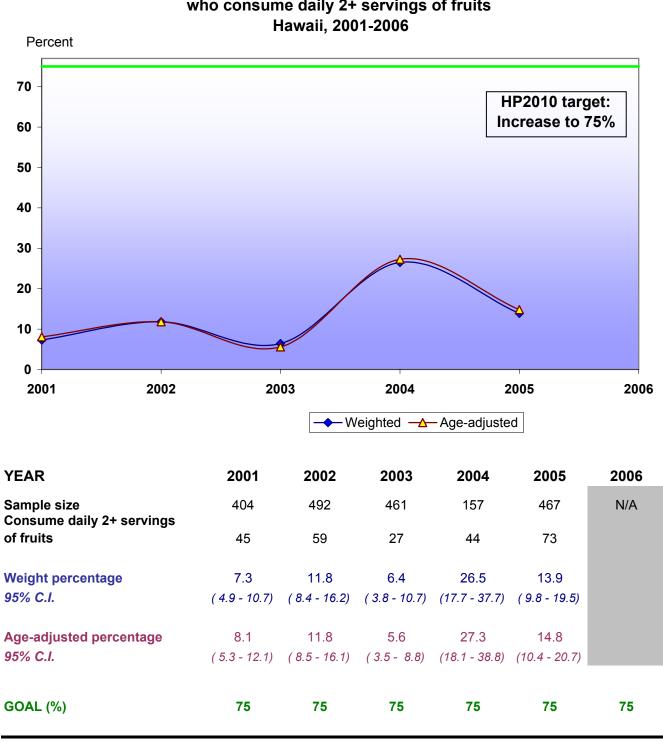
YEAR	2001	2002	2003	2004	2005	2006
Sample size Consume daily 2+ servings	871	1168	781	420	1265	N/A
of fruits	69	82	54	118	173	
Weight percentage	7.3	6.2	6.0	27.3	12.1	
95% C.I.	( 5.4 - 9.8)	(4.8 - 8.0)	(4.4 - 8.2)	(22.1 - 33.2)	(10.0 - 14.6)	
Age-adjusted percentage	5.8	5.4	4.1	23.5	11.2	
95% C.I.	(4.2 - 7.8)	(4.1 - 7.3)	(2.9 - 5.6)	(18.0 - 30.1)	( 8.8 - 14.2)	
	75	75	75	75	76	75
GOAL (%)	75	75	75	75	75	75

Source: Hawaii Behavioral Risk Factor Surveillance System



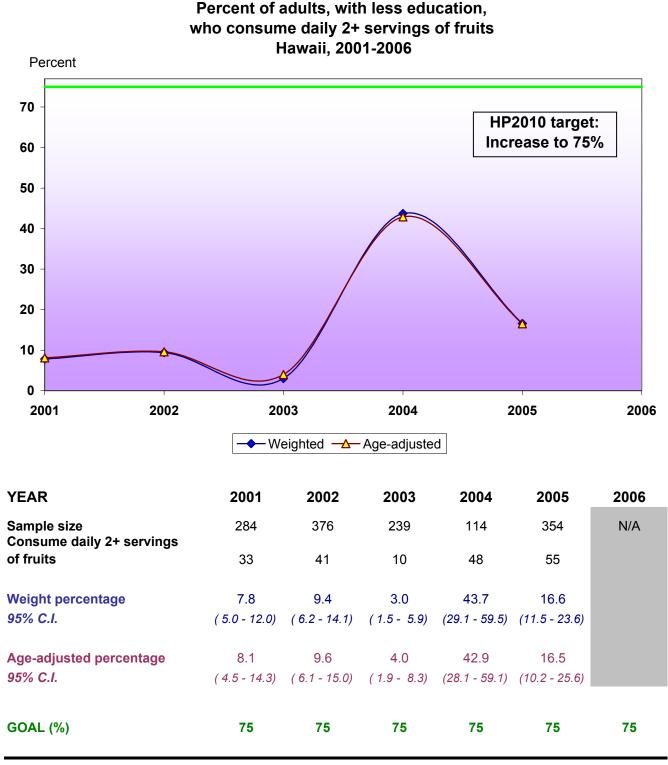
YEAR	2001	2002	2003	2004	2005	2006
Sample size Consume daily 2+ servings	639	805	776	242	822	N/A
of fruits	71	78	69	71	119	
Weight percentage	10.3	10.7	8.5	24.7	13.9	
95% C.I.	( 7.9 - 13.4)	( 7.9 - 14.2)	( 6.4 - 11.1)	(18.7 - 31.9)	(11.3 - 17.0)	
Age-adjusted percentage	10.5	10.7	8.8	27.2	14.4	
95% C.I.	( 8.1 - 13.6)	( 8.1 - 14.0)	( 6.8 - 11.5)	(21.2 - 34.2)	(11.7 - 17.5)	
	75	75	75	75	75	75
GOAL (%)	75	75	75	75	75	75

#### Source: Hawaii Behavioral Risk Factor Surveillance System

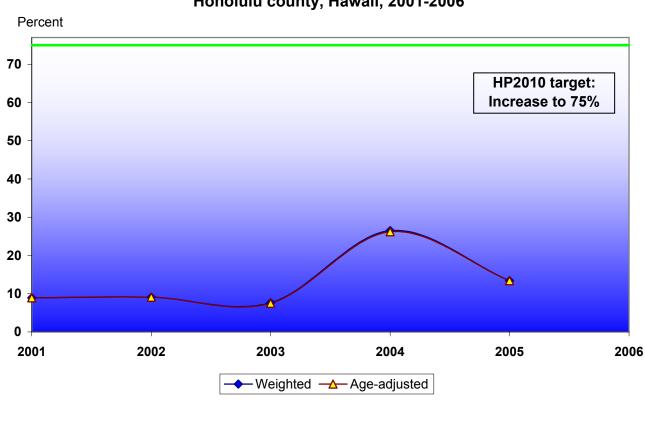


Percent of adults , in low income households, who consume daily 2+ servings of fruits

Source: Hawaii Behavioral Risk Factor Surveillance System



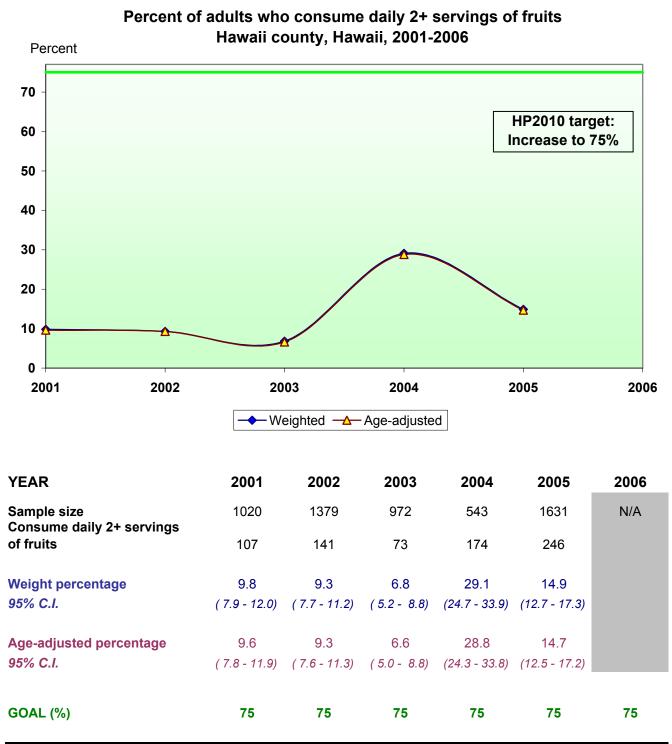
Source: Hawaii Behavioral Risk Factor Surveillance System



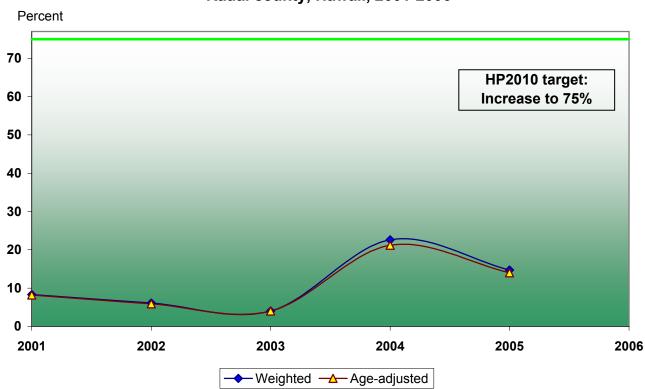
Percent of adults who consume daily 2+ servings of fruits Honolulu county, Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size	1920	2812	2246	893	2914	N/A
Consume daily 2+ servings of fruits	206	271	186	257	412	
Weight percentage	8.9	9.1	7.6	26.5	13.4	
95% C.I.	( 7.6 - 10.3)	( 7.9 - 10.4)	( 6.4 - 8.9)	(23.2 - 30.0)	(12.0 - 15.0)	
Age-adjusted percentage	8.9	9.1	7.5	26.2	13.4	
95% C.I.	( 7.6 - 10.3)	( 7.9 - 10.4)	( 6.3 - 8.8)	(23.0 - 29.6)	(11.9 - 14.9)	
GOAL (%)	75	75	75	75	75	75

Source: Hawaii Behavioral Risk Factor Surveillance System



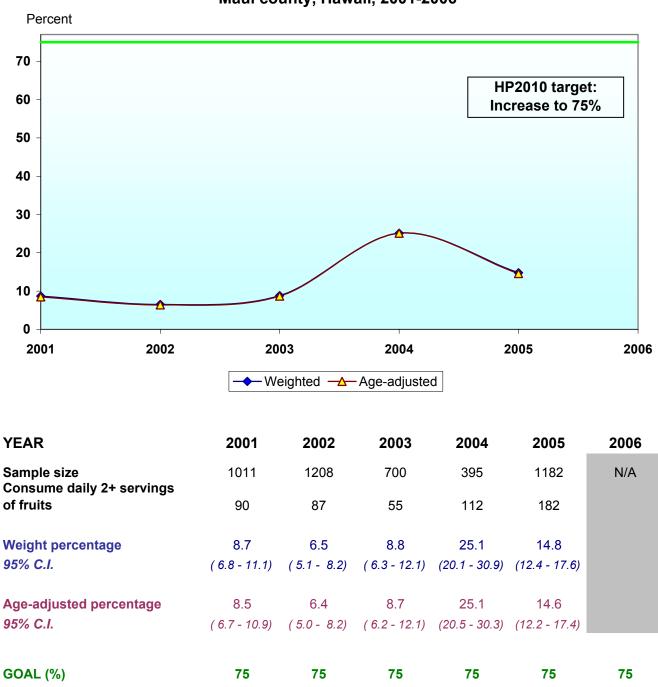
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of adults who consume daily 2+ servings of fruits Kauai county, Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size Consume daily 2+ servings	549	601	421	277	573	N/A
of fruits	46	46	18	67	87	
Weight percentage	8.3	6.1	4.0	22.6	14.7	
95% C.I.	( 6.0 - 11.3)	( 4.4 - 8.4)	( 2.4 - 6.6)	(17.6 - 28.5)	(11.6 - 18.4)	
Age-adjusted percentage	8.2	5.9	4.0	21.2	14.0	
95% C.I.	( 5.9 - 11.2)	( 4.2 - 8.3)	(2.4 - 6.8)	(16.6 - 26.6)	(10.9 - 17.7)	
GOAL (%)	75	75	75	75	75	75

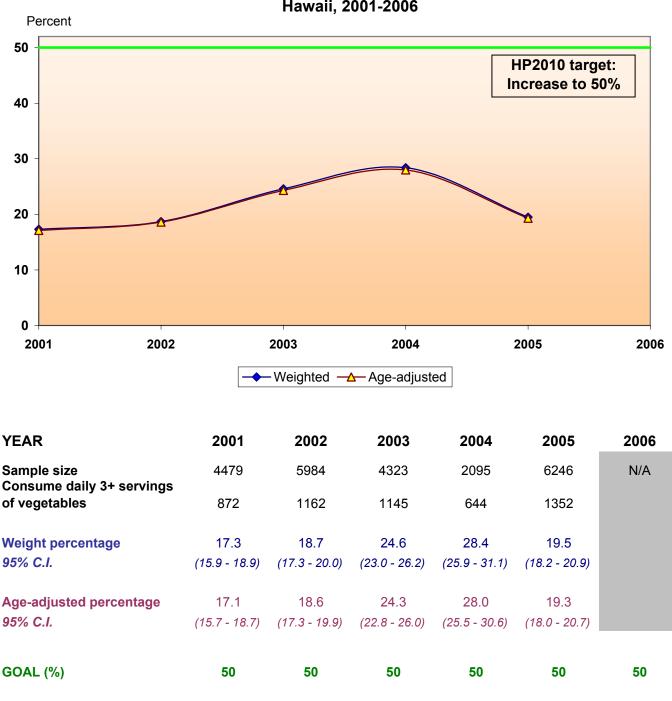
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of adults who consume daily 2+ servings of fruits Maui county, Hawaii, 2001-2006

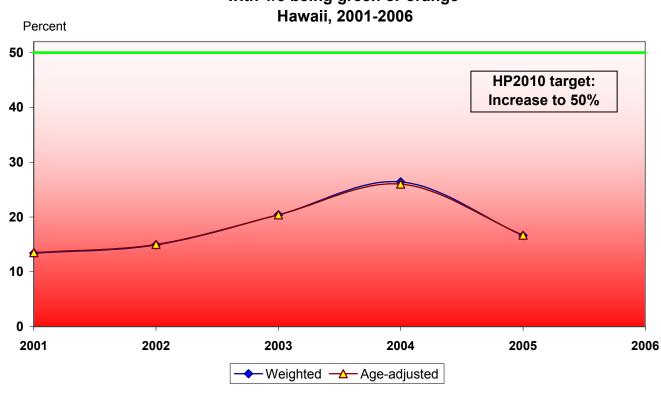
Source: Hawaii Behavioral Risk Factor Surveillance System

# **OBJECTIVE 19-6**



Percent of adults who consume daily 3+ servings of vegetables with 1/3 being green or orange Hawaii, 2001-2006

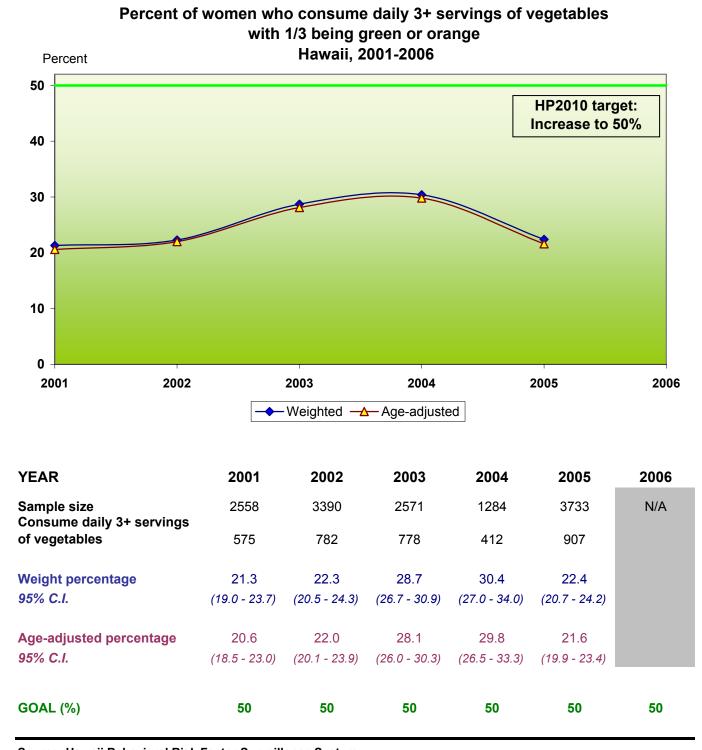
Source: Hawaii Behavioral Risk Factor Surveillance System



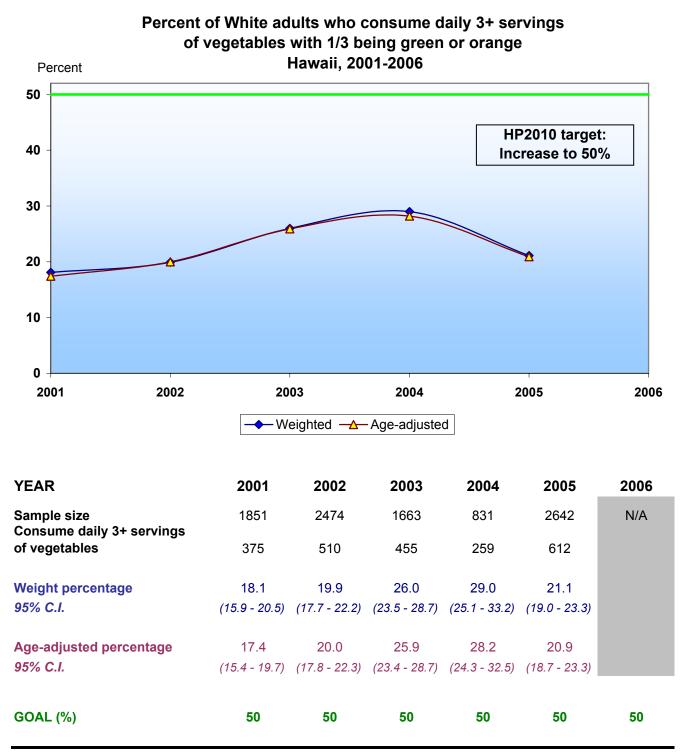
Percent of men who consume daily 3+ servings of vegetables with 1/3 being green or orange Hawaii 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size Consume daily 3+ servings	1921	2594	1752	811	2513	N/A
of vegetables	297	380	367	232	445	
Weight percentage	13.4	14.9	20.4	26.4	16.6	
95% C.I.	(11.6 - 15.5)	(13.2 - 16.9)	(18.2 - 22.9)	(22.7 - 30.5)	(14.7 - 18.7)	
Age-adjusted percentage	13.5	15.0	20.4	26.0	16.7	
95% C.I.	(11.7 - 15.5)	(13.2 - 16.9)	(18.1 - 22.8)	(22.5 - 30.0)	(14.8 - 18.9)	
GOAL (%)	50	50	50	50	50	50

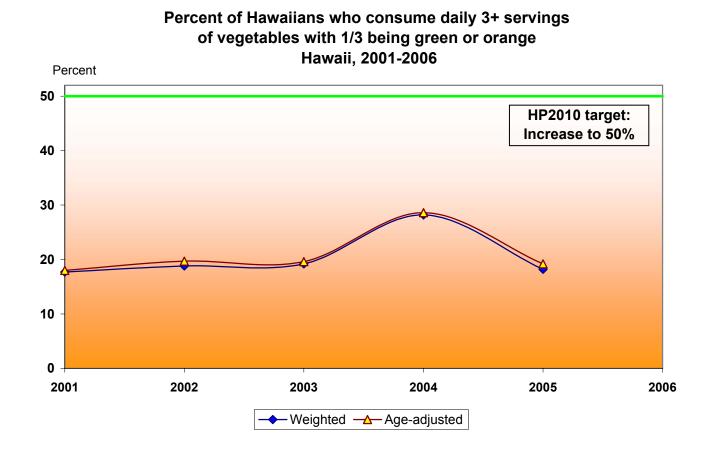
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

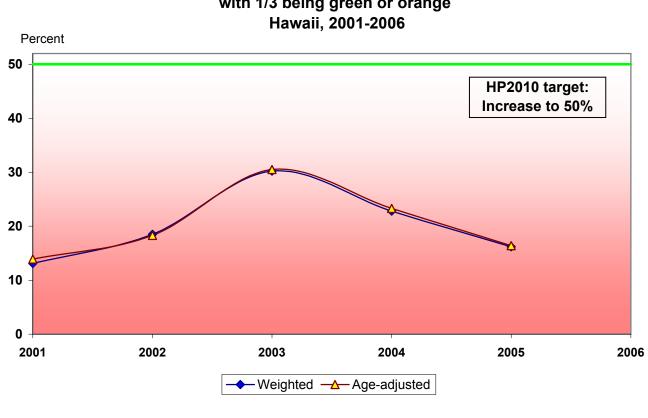


Source: Hawaii Behavioral Risk Factor Surveillance System



YEAR	2001	2002	2003	2004	2005	2006
Sample size	583	770	608	346	764	N/A
Consume daily 3+ servings of vegetables	125	137	135	107	162	
Weight percentage	17.7	18.8	19.2	28.2	18.2	
95% C.I.	(14.1 - 22.0)	(15.2 - 23.2)	(15.7 - 23.2)	(22.2 - 35.1)	(14.9 - 22.0)	
Age-adjusted percentage	18.0	19.7	19.6	28.6	19.2	
95% C.I.	(14.4 - 22.3)	(15.9 - 24.1)	(16.1 - 23.6)	(22.4 - 35.6)	(15.8 - 23.0)	
GOAL (%)	50	50	50	50	50	50

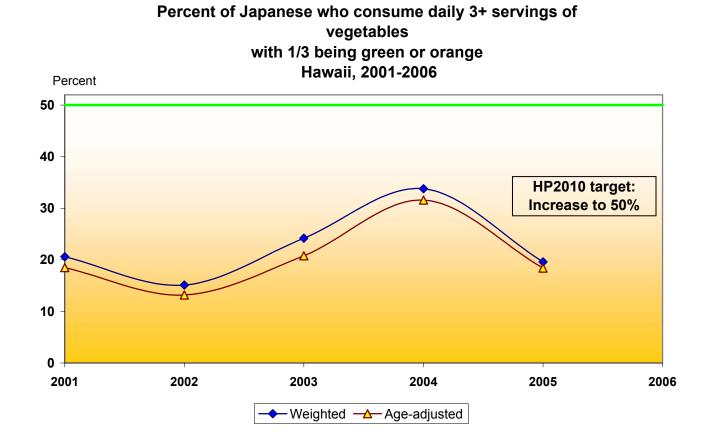
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of Filipinos who consume daily 3+ servings of vegetables
with 1/3 being green or orange
Hawaii. 2001-2006

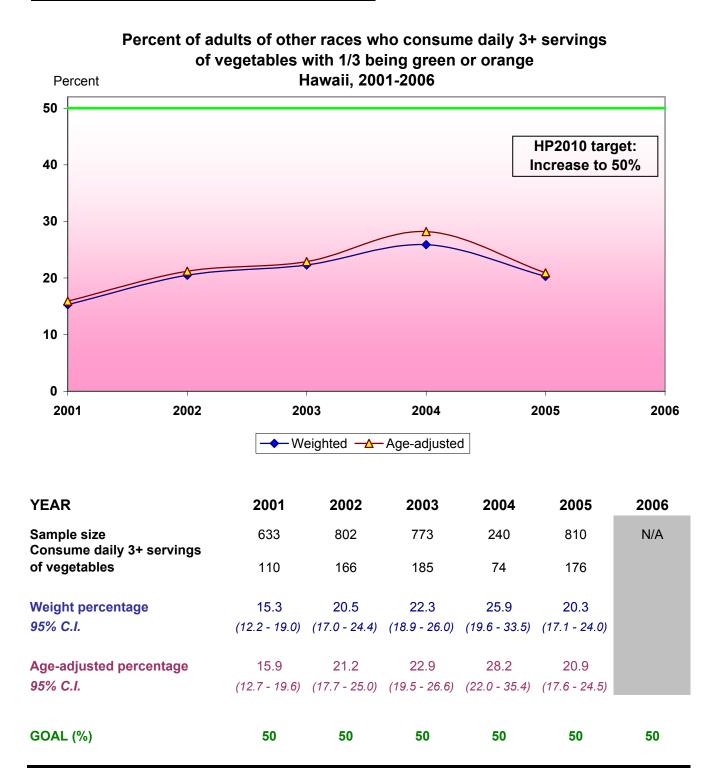
YEAR	2001	2002	2003	2004	2005	2006
Sample size Consume daily 3+ servings	545	772	502	259	774	N/A
of vegetables	81	143	147	62	134	
Weight percentage	13.1	18.5	30.2	22.8	16.2	
95% C.I.	( 8.9 - 18.8)	(15.0 - 22.4)	(25.3 - 35.5)	(16.4 - 30.7)	(12.4 - 20.8)	
Age-adjusted percentage	13.9	18.3	30.5	23.3	16.4	
95% C.I.	( 9.8 - 19.3)	(14.9 - 22.3)	(25.7 - 35.8)	(16.8 - 31.4)	(12.8 - 20.9)	
2011 (%)	50	50	50	50	50	50
GOAL (%)	50	50	50	50	50	50

Source: Hawaii Behavioral Risk Factor Surveillance System

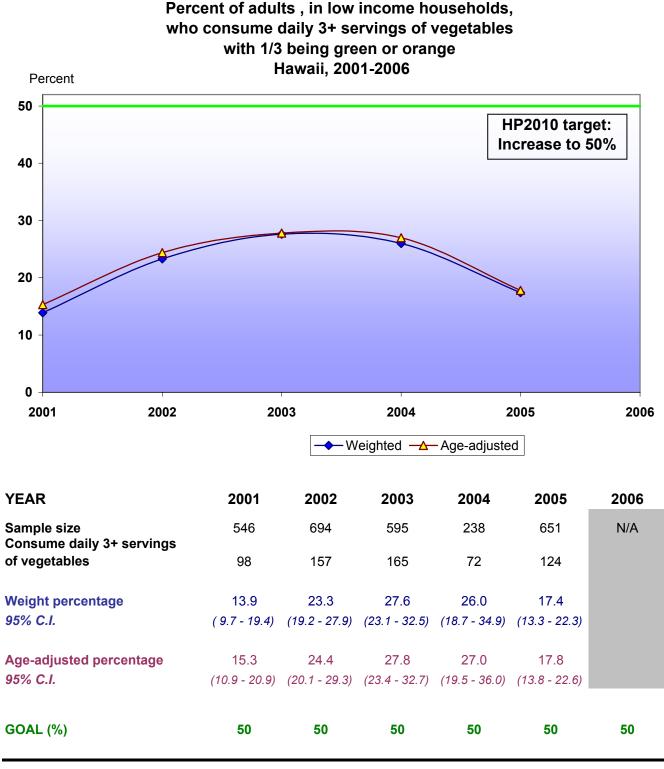


YEAR	2001	2002	2003	2004	2005	2006
Sample size	867	1166	777	419	1256	N/A
Consume daily 3+ servings of vegetables	181	206	223	142	268	
Weight percentage	20.6	15.1	24.2	33.8	19.6	
95% C.I.	(17.1 - 24.6)	(12.9 - 17.7)	(20.9 - 27.9)	(28.2 - 39.9)	(17.0 - 22.5)	
Age-adjusted percentage	18.5	13.2	20.8	31.6	18.4	
95% C.I.	(15.1 - 22.4)	(11.0 - 15.7)	(17.4 - 24.5)	(25.4 - 38.5)	(15.5 - 21.6)	
224 <i>(</i> 1/)	-			-		
GOAL (%)	50	50	50	50	50	50

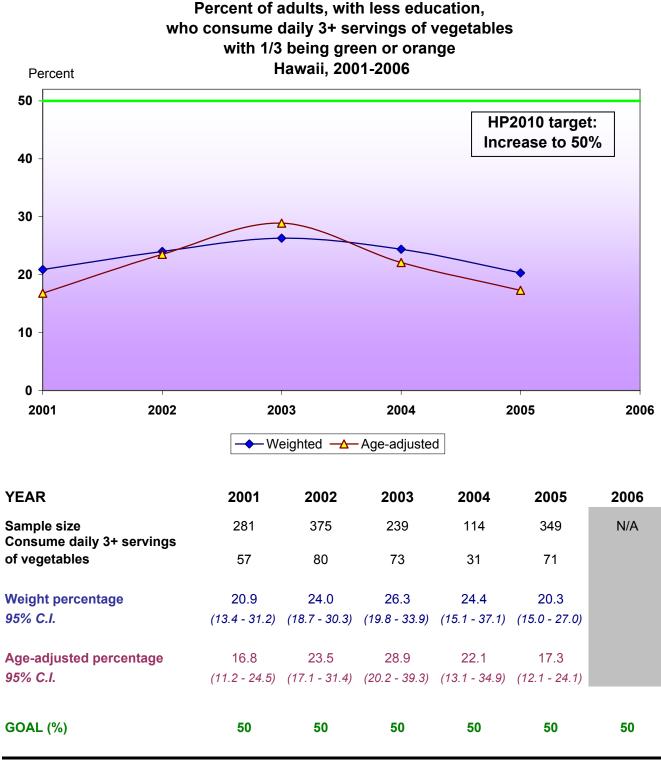
Source: Hawaii Behavioral Risk Factor Surveillance System



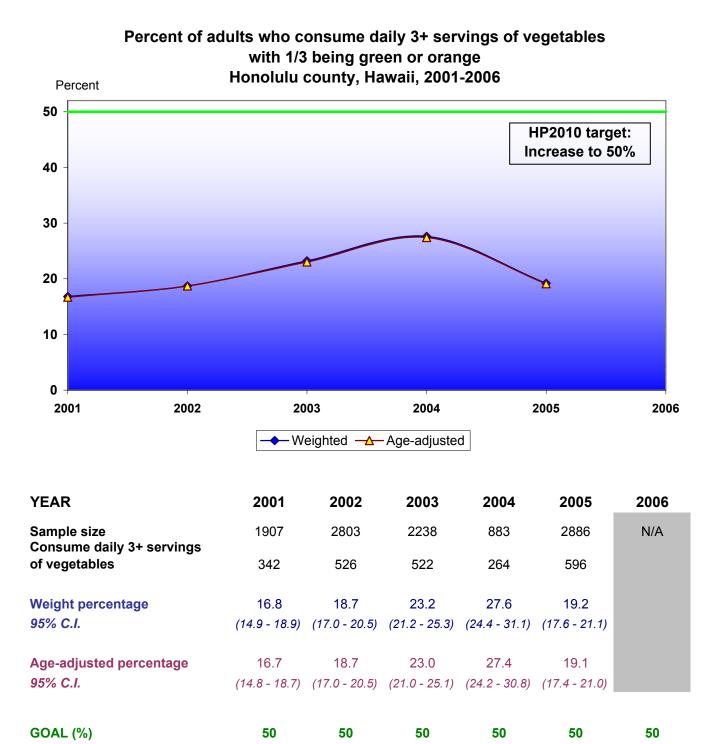
Source: Hawaii Behavioral Risk Factor Surveillance System



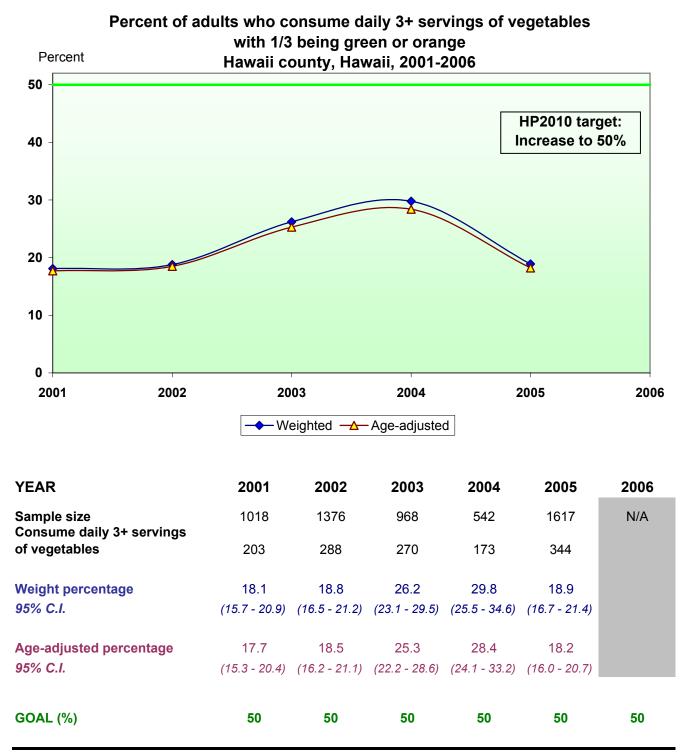
Source: Hawaii Behavioral Risk Factor Surveillance System



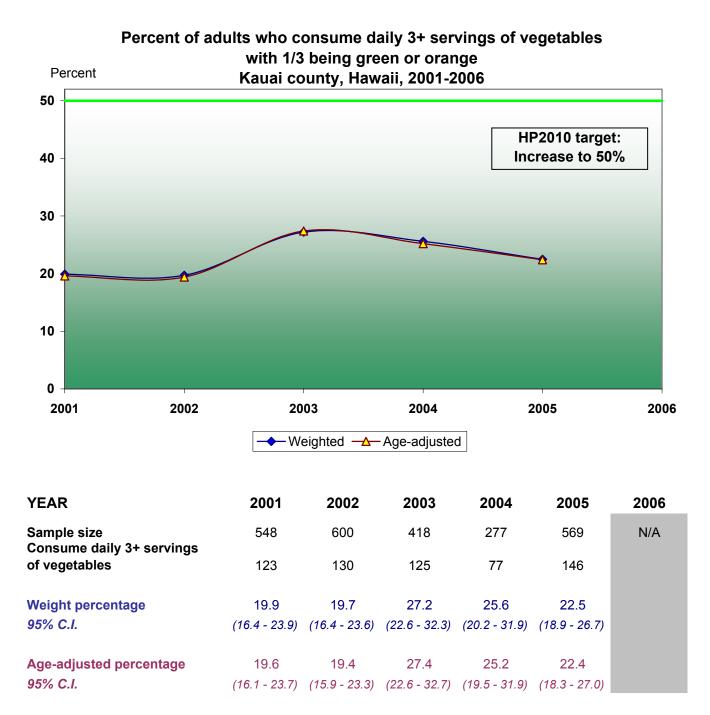
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

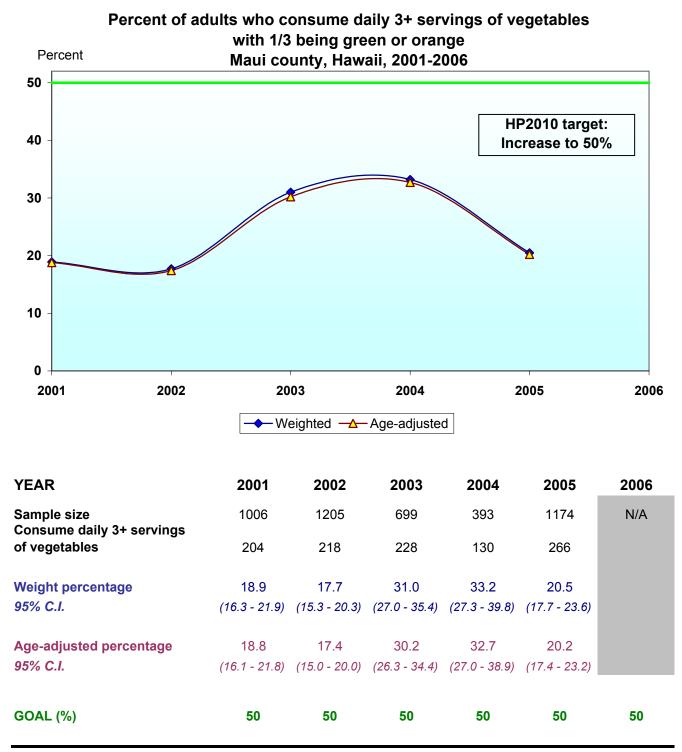


Source: Hawaii Behavioral Risk Factor Surveillance System



GOAL (%) 50 50 50 50 50 50

Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

#### ORAL HEALTH

**Objective 21-3:** Increase the proportion of adults (aged 35 - 44) who have never had a permanent tooth extracted because of dental caries or periodontal disease to **40 %** (revised from 42%.)

**Objective 21-4:** Reduce the proportion of older adults (aged 65 to 74) who have had all their natural teeth extracted to **22%** (revised from 20%)

#### **Question used to obtain the data:**

How many of your permanent teeth have been removed because of tooth decay or gum disease? Do not include teeth lost for other reasons such as injury or orthodontics.

**Objective 21-10:** Increase the proportion of children and adults who use the oral health care system each year to **56%** 

#### Question used to obtain the data:

How long has it been since you last visited a dentist or a dental clinic for any reason?

#### NOTES:

The questions about oral health were asked in the state of Hawaii every other year. According to the existing data, for each year of 2002, 2004, and 2006, the results exceed these three HP2010 goals.

For some specific population groups, the sample size is small (less than 50) preventing a solid conclusion when tracking the two objectives 21.3 and 21.4.

Objective 21.10 aims to look at the way people use the oral health care system each year. Even with 72% adults visiting dentist(s) or dental clinic in the last 12 months, surpassing the HP2010 goal of 56%, we still have some disparity by ethnicity, by household income, and by education level.

In 2006, 44.3% of people with limited education visited dentist or a dental clinic in the last year. The proportion of people with less than High School education who visited dentist or a dental clinic annually is much lower compared to that for people with at least High School (Figure 21a).

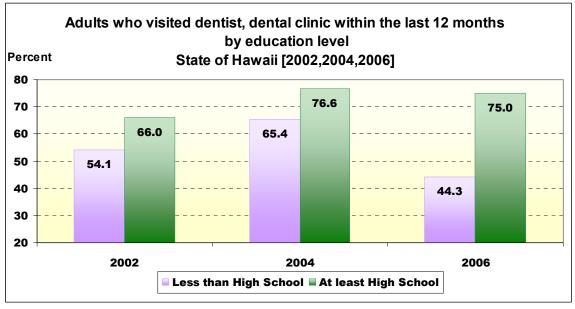


Fig.	21a
0-	

Similarly, people in low-income households had a lower rate of annually visiting dentist or dental clinic than others did (Figure 21b).

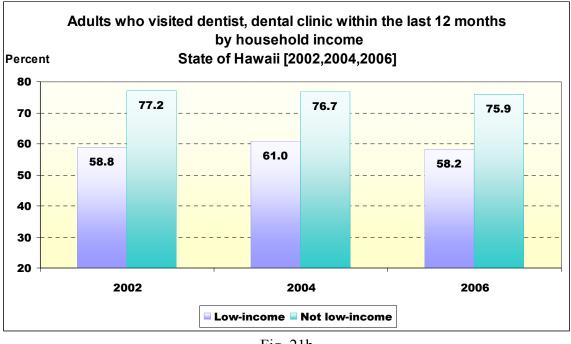
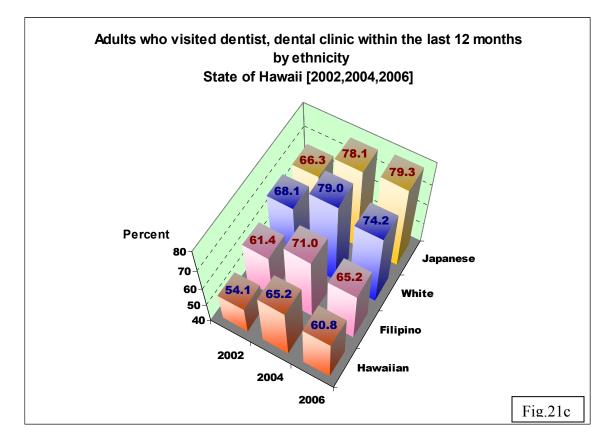
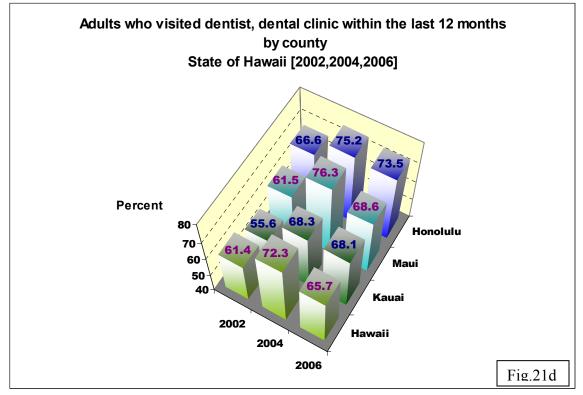


Fig. 21b

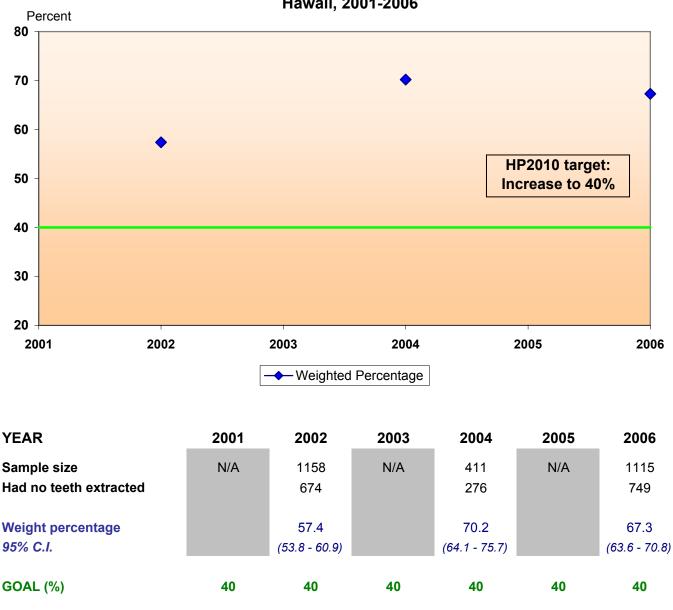
In the survey years, Hawaiians experienced the lowest rate of using dental care followed by Filipinos. Alternatively, the proportion of Whites and Japanese annually visiting dentists is much higher than the Hawaiians and Filipinos (Figure 21c).



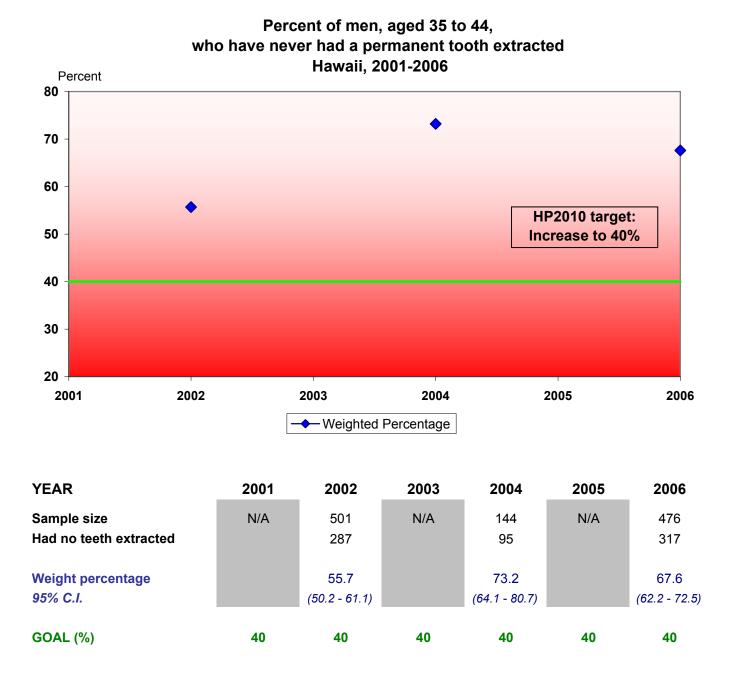
The state of Hawaii also features a disparity among counties in terms of using dental care. Except for 2004, Honolulu has a significantly higher percentage of adults who visit dentists or a dental clinic within the last 12 months than other counties (Figure 21d).

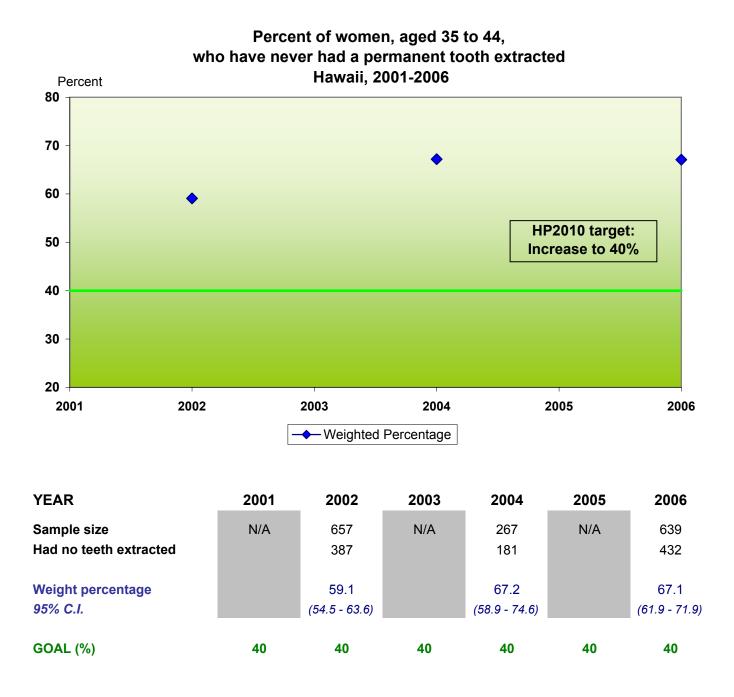


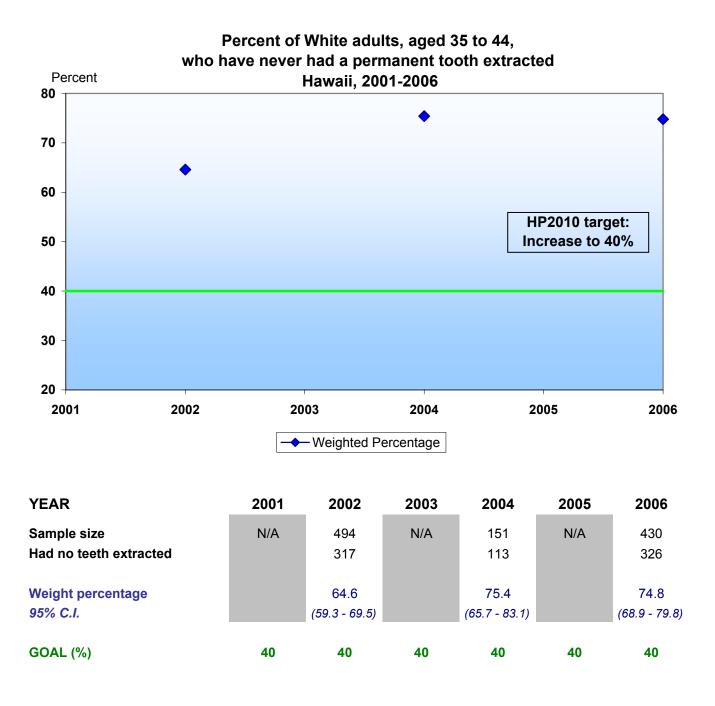
# **OBJECTIVE 21-3**

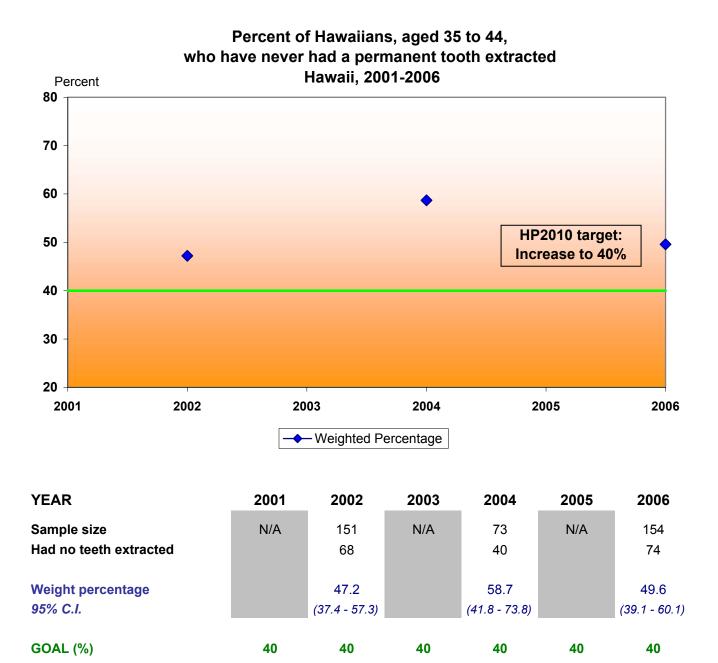


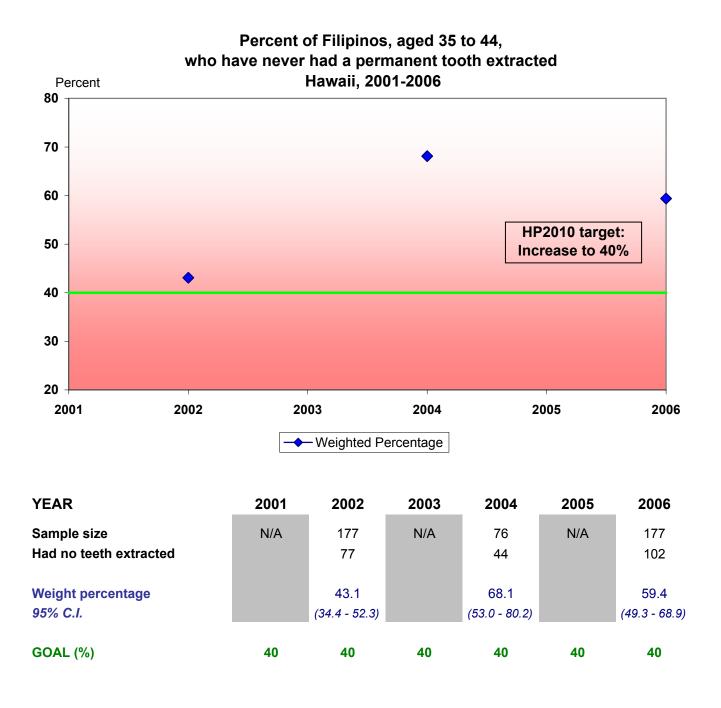
Percent of adults, aged 35 to 44, who have never had a permanent tooth extracted Hawaii, 2001-2006

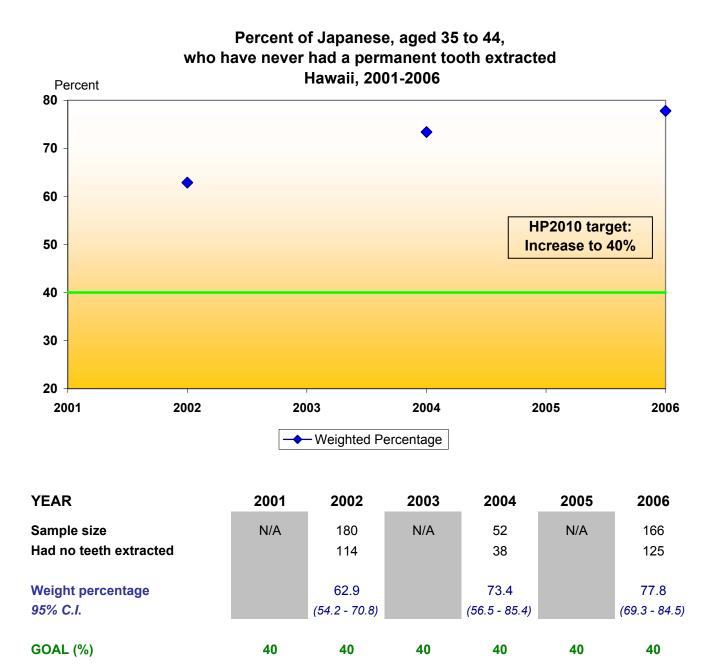


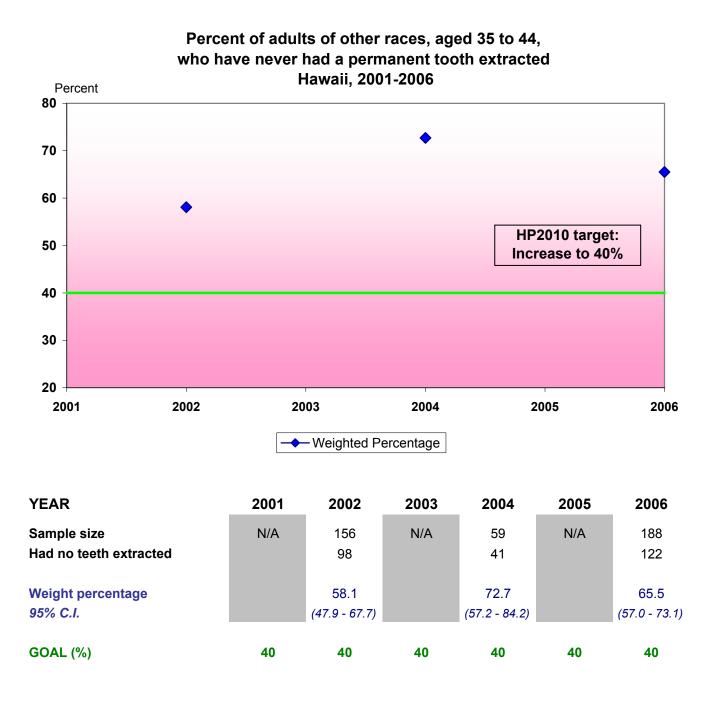


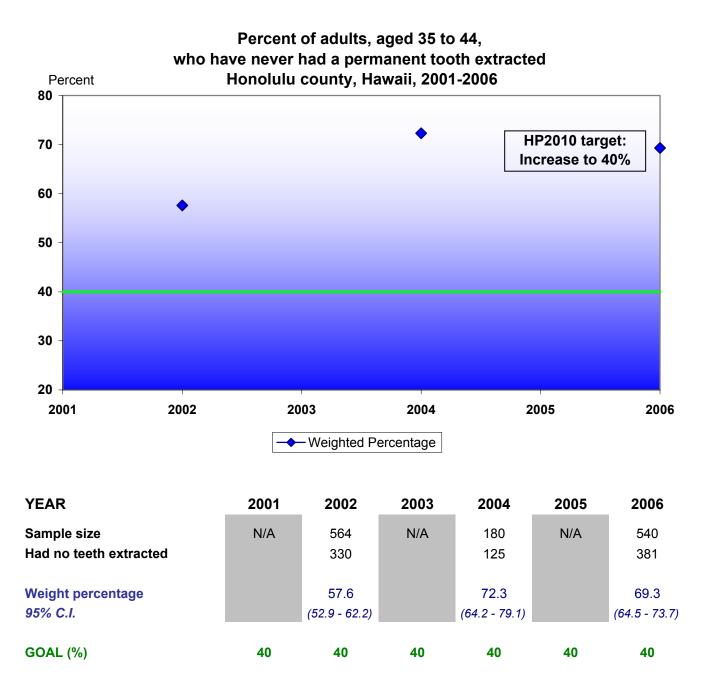


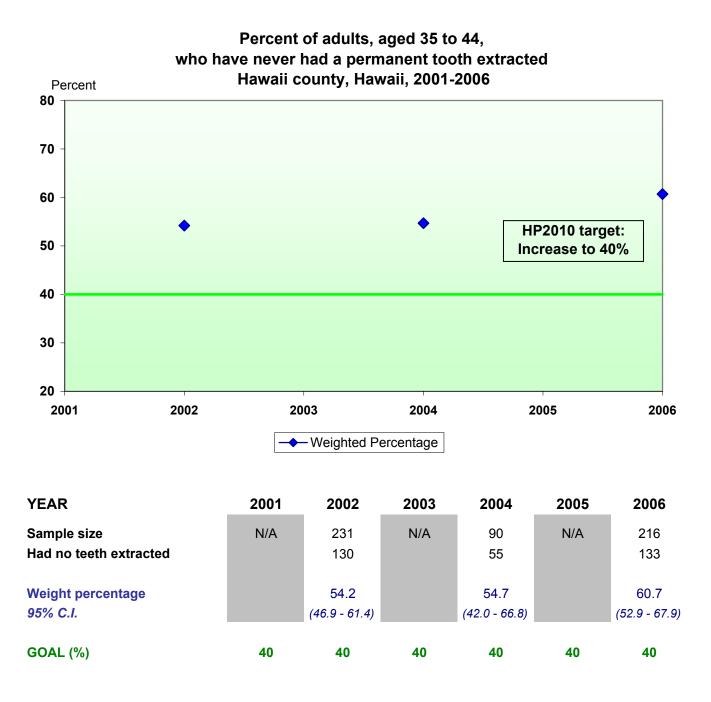


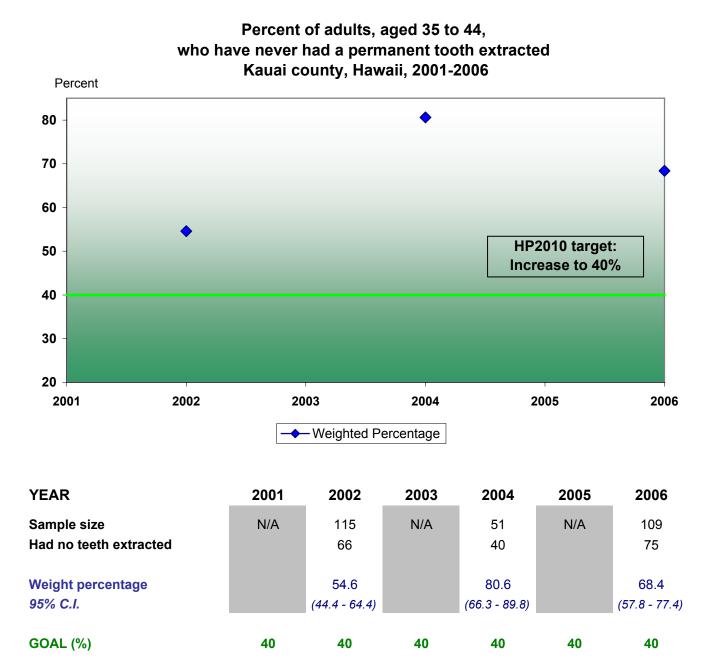


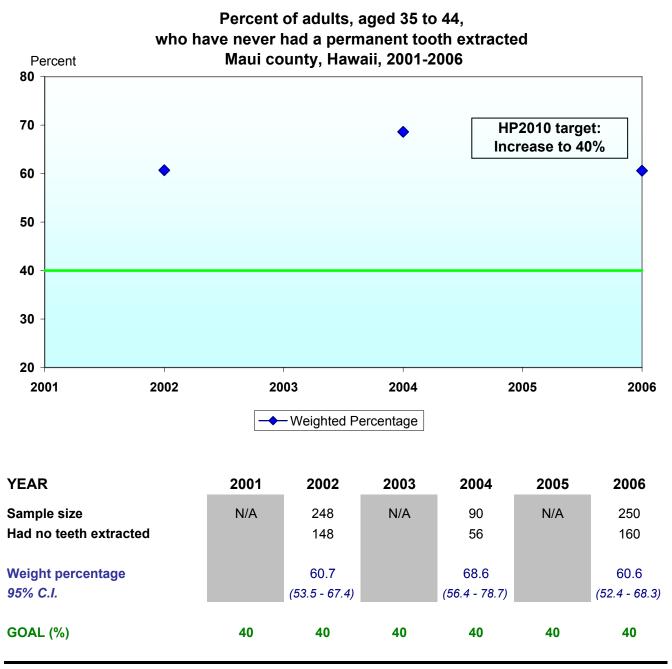




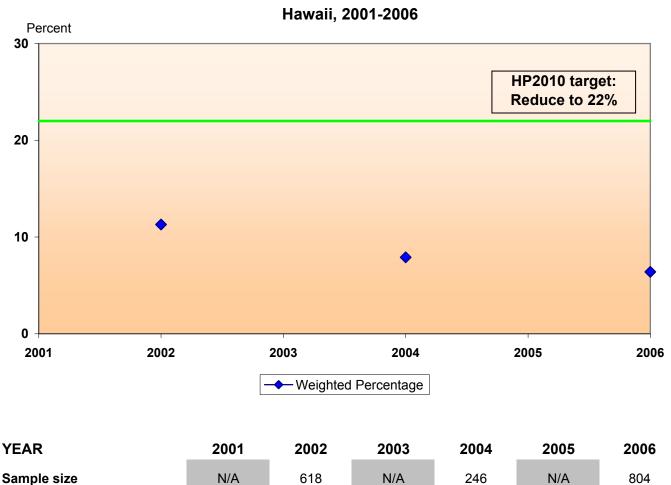








#### **OBJECTIVE 21-4**



63

11.3

(8.0 - 15.9)

22

59

6.4

(4.4 - 9.3)

22

22

23

7.9

(4.7 - 13.0)

22

22

#### Percent of adults, aged 65 to 74, who had all natural teeth extracted Hawaii 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System State of Hawaii, Department of Health

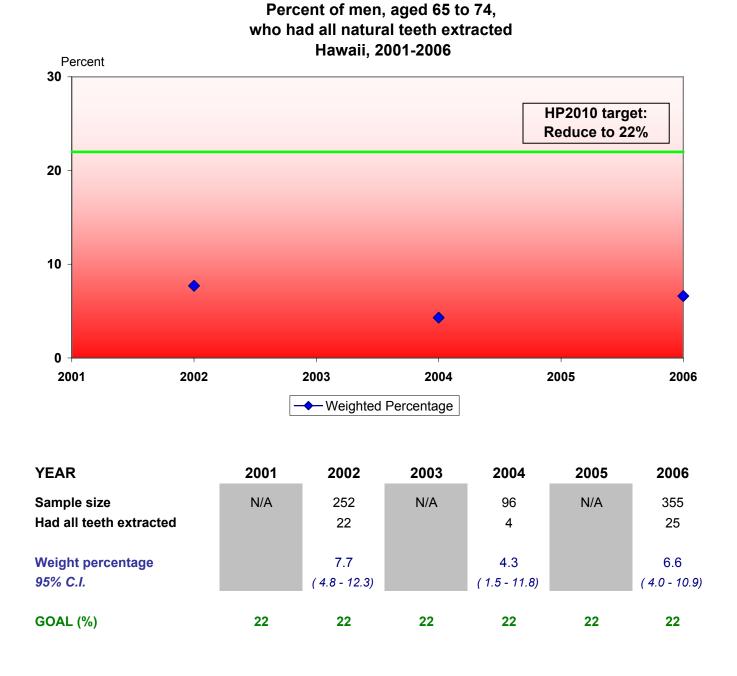
22

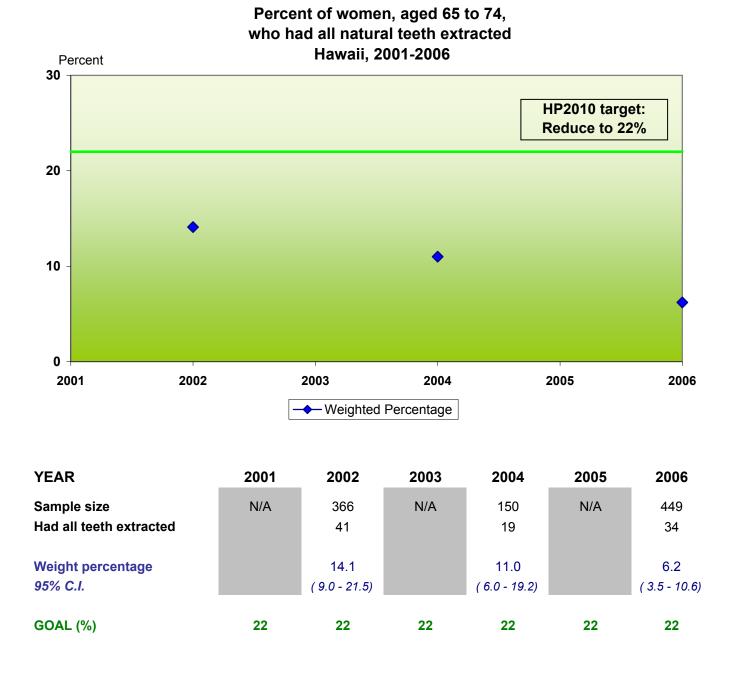
Had all teeth extracted

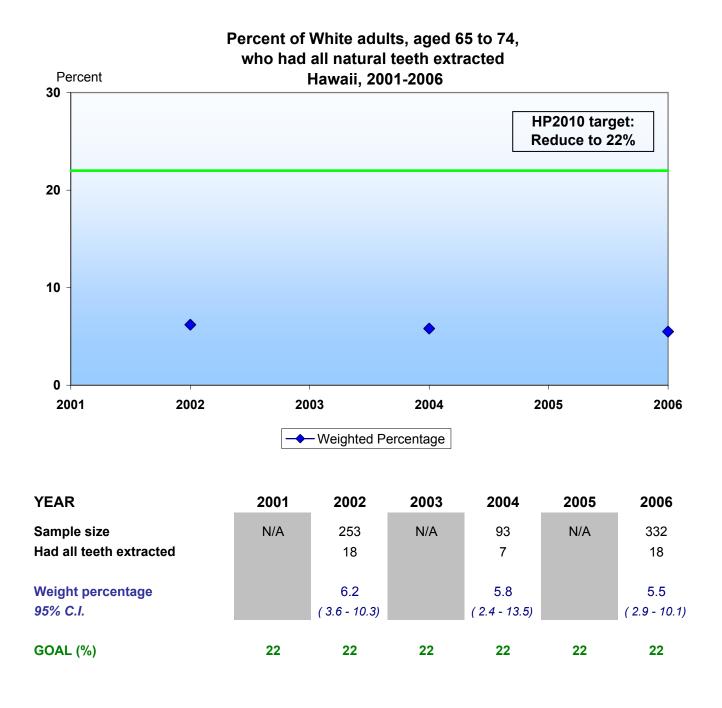
Weight percentage

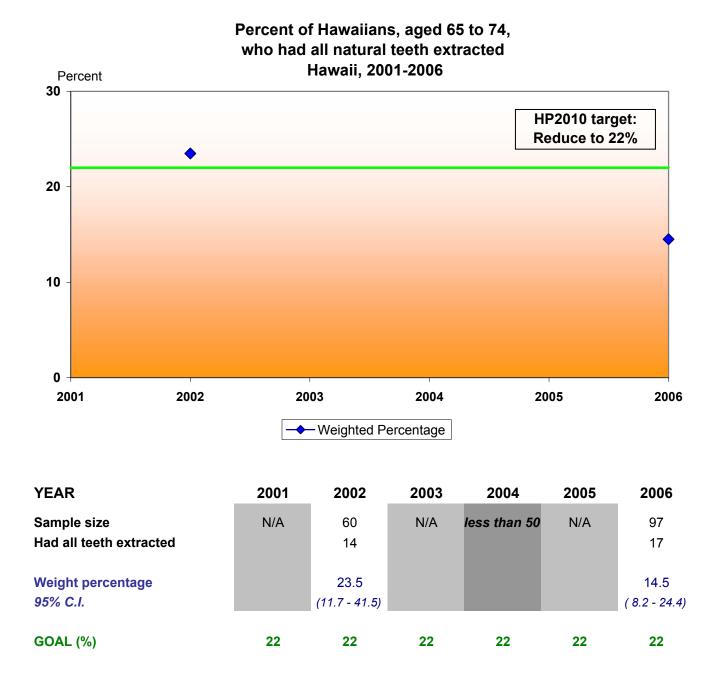
95% C.I.

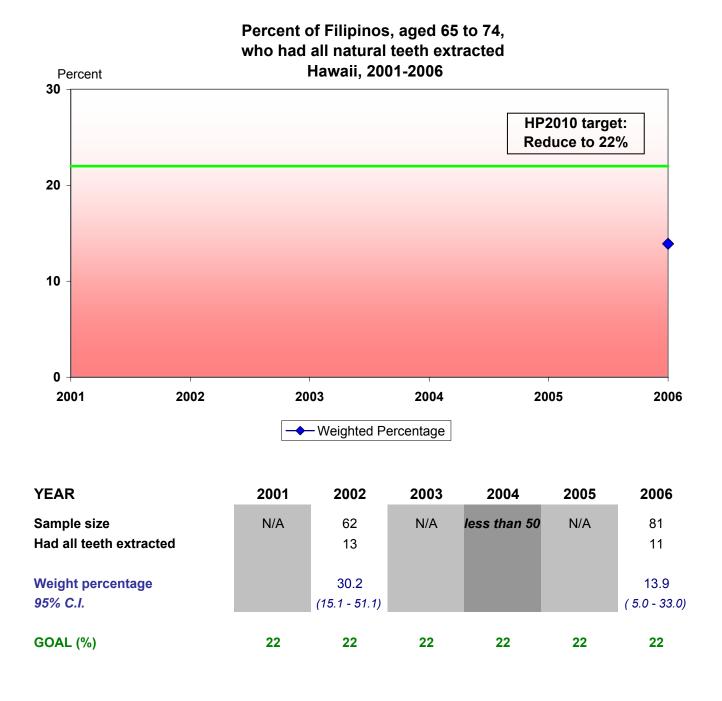
**GOAL (%)** 

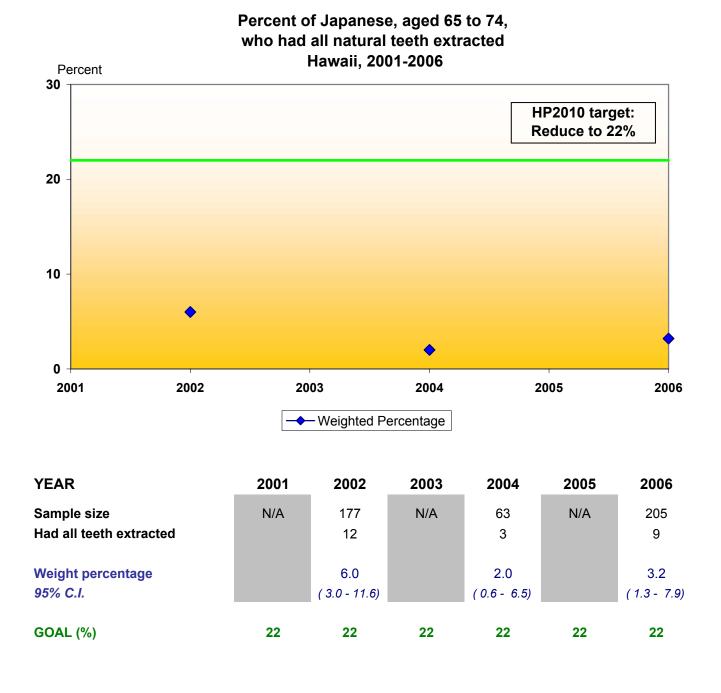


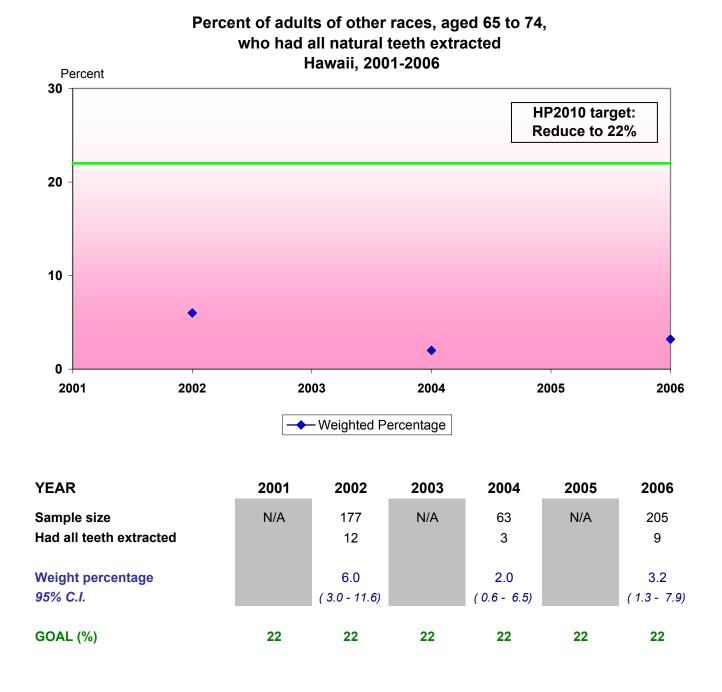


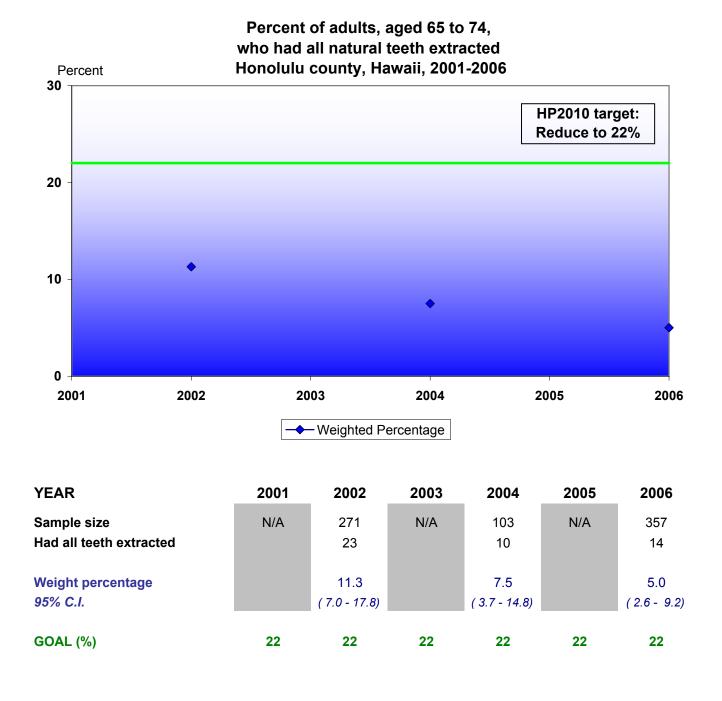


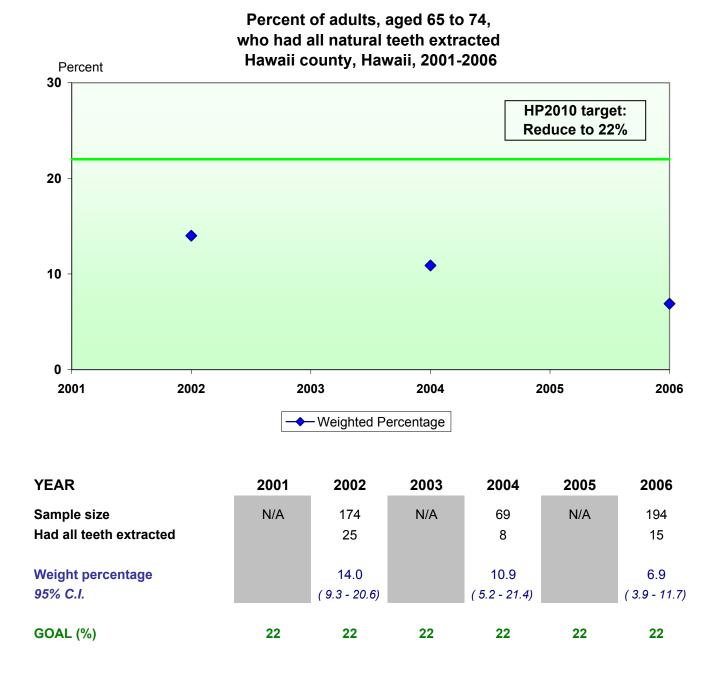


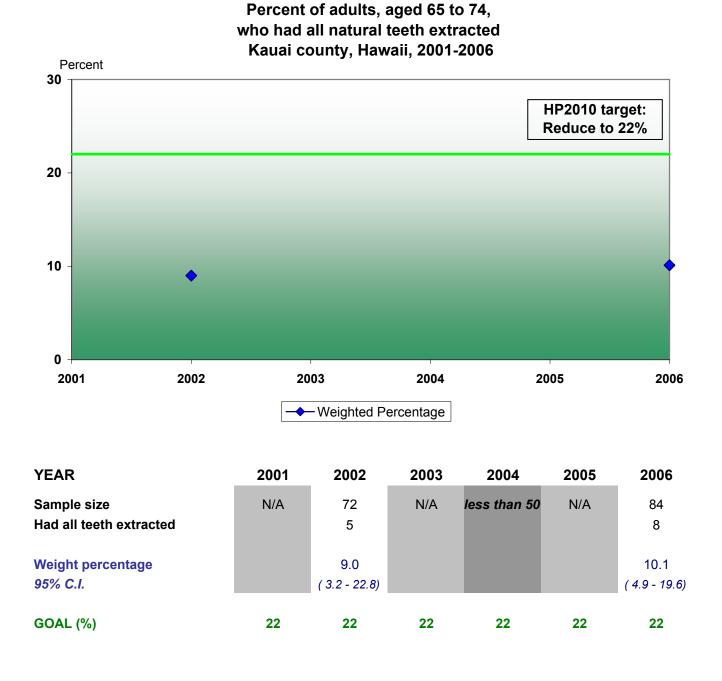


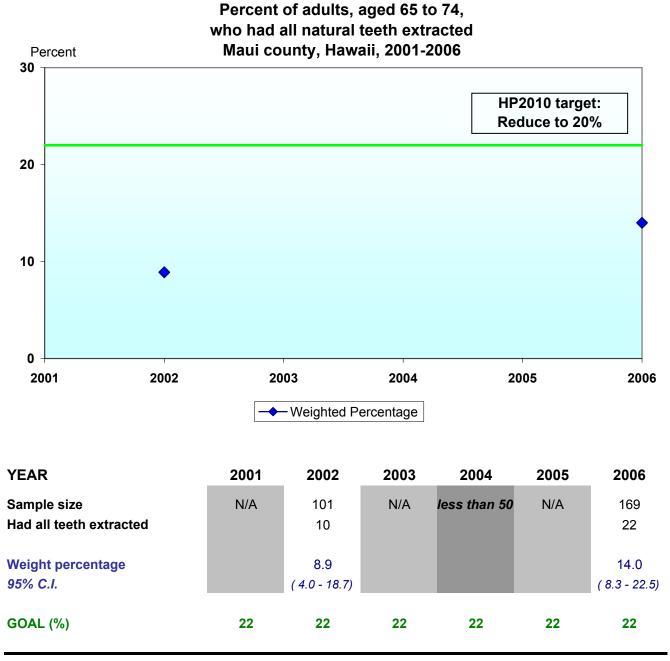




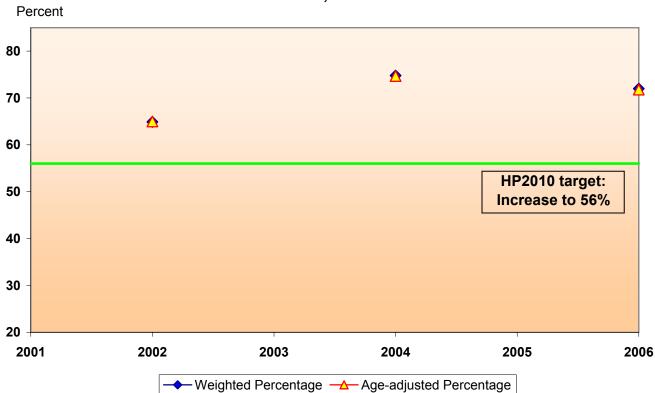






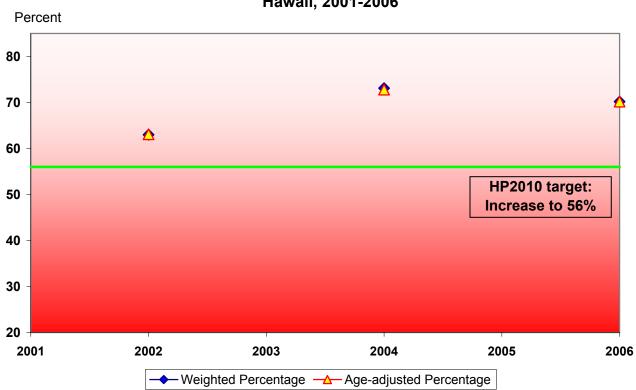


# **OBJECTIVE 21-10**



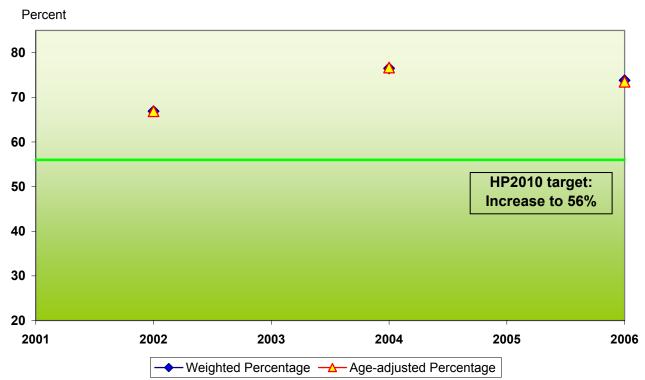
Percent of adults who use the oral health care system Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size	N/A	6000	N/A	2202	N/A	6564
Use the oral health care system		3900		1648		4816
Weight percentage		64.9		74.8		72
95% C.I.		(63.3 - 66.5)		(72.1 - 77.3)		(70.4 - 73.6)
Age-adjusted percentage		65.0		74.7		71.8
95% C.I.		(63.4 - 66.6)		(71.9 - 77.3)		(70.2 - 73.4)
GOAL (%)	56	56	56	56	56	56



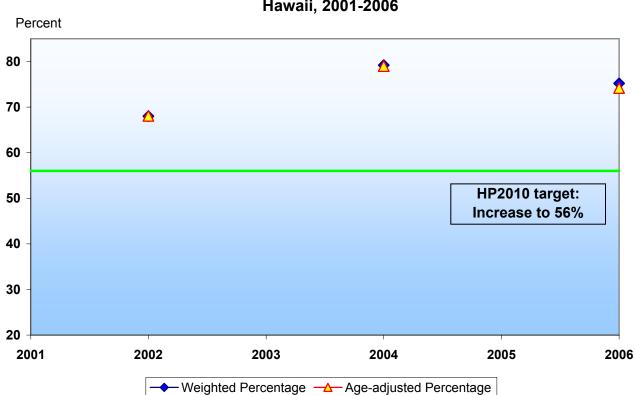
Percent of men who use the oral health care system Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size	N/A	2605	N/A	861	N/A	2776
Use the oral health care system		1613		630		1972
Weight percentage		63.0		73.1		70.2
95% C.I.		(60.5 - 65.4)		(68.7 - 77.0)		(67.7 - 72.6)
Age edited percentage		62.4		70.0		70.0
Age-adjusted percentage 95% C.I.		63.1 <i>(60.6 - 65.5)</i>		72.8 (68.5 - 76.8)		70.2 (67.7 - 72.5)
				. ,		. ,
GOAL (%)	56	56	56	56	56	56



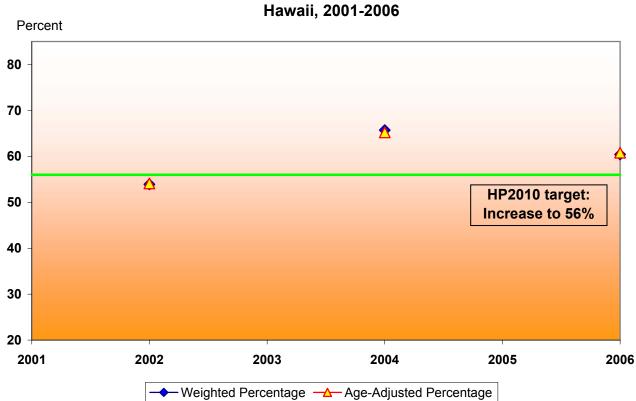
# Percent of women who use the oral health care system Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size	N/A	3395	N/A	1341	N/A	3788
Use the oral health care system		2287		1018		2844
Weight percentage		66.9		76.5		73.8
95% C.I.		(64.8 - 68.9)		(73.3 - 79.5)		(71.8 - 75.7)
Age-adjusted percentage		66.9		76.7		73.5
95% C.I.		(64.8 - 68.9)		(73.4 - 79.7)		(71.4 - 75.5)
GOAL (%)	56	56	56	56	56	56
	50	50	50	50	50	50



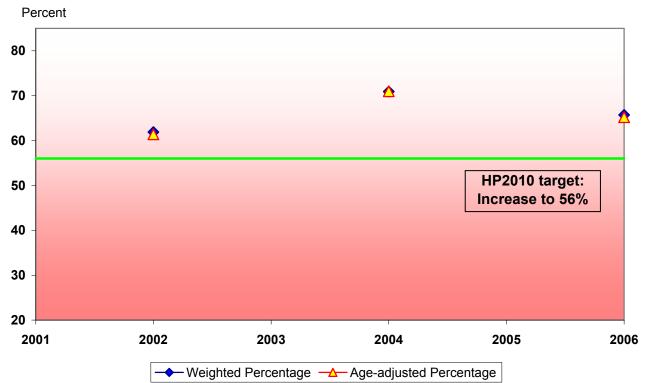
Percent of White adu	ilts who use the ora	al health care system
	Hawaii, 2001-2006	

YEAR	2001	2002	2003	2004	2005	2006
Sample size	N/A	2481	N/A	863	N/A	2739
Use the oral health care system		1707		670		2079
		00.0		70.0		75.0
Weight percentage		68.0		79.2		75.2
95% C.I.		(65.5 - 70.4)		(75.4 - 82.6)		(72.9 - 77.3)
Age-adjusted percentage		68.1		79.0		74.2
95% C.I.		(65.5 - 70.5)		(75.0 - 82.6)		(71.7 - 76.7)
GOAL (%)	56	56	56	56	56	56



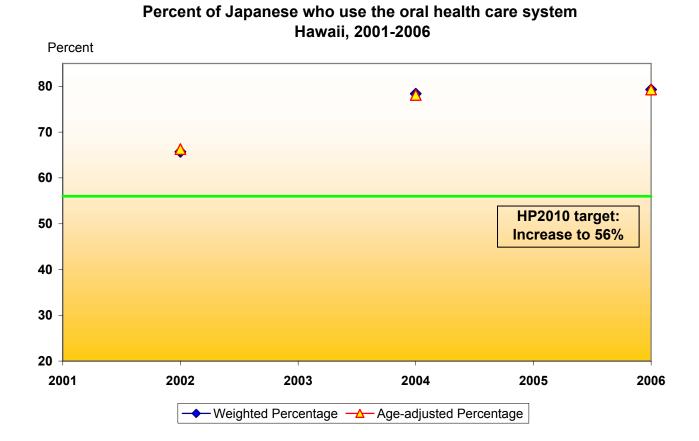
Percent of Hawaiians who use the oral health care system
Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size	N/A	771	N/A	363	N/A	796
Use the oral health care system		402		248		500
Weight percentage		53.9		65.7		60.4
95% C.I.		(49.0 - 58.7)		(58.5 - 72.3)		(55.3 - 65.3)
Age-adjusted percentage		54.1		65.2		60.8
95% C.I.		(49.3 - 58.8)		(58.0 - 71.8)		(56.1 - 65.3)
GOAL (%)	56	56	56	56	56	56
GOAL (%)	50	50	50	50	50	50

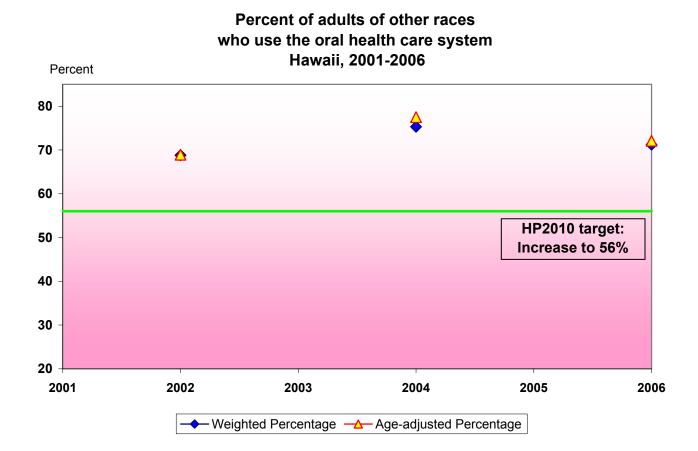


#### Percent of Filipinos who use the oral health care system Hawaii, 2001-2006

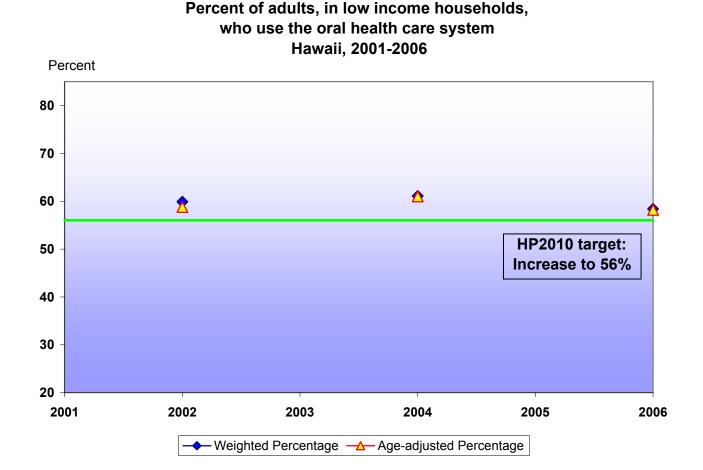
YEAR	2001	2002	2003	2004	2005	2006
Sample size	N/A	775	N/A	280	N/A	792
Use the oral health care system		470		199		520
Weight percentage		61.9		70.9		65.7
95% C.I.		(57.2 - 66.3)		(62.7 - 77.9)		(60.6 - 70.4)
Age-adjusted percentage		61.4		71.0		65.2
95% C.I.		(56.8 - 65.7)		(63.0 - 77.9)		(60.3 - 69.7)
GOAL (%)	56	56	56	56	56	56
GOAL (/0)	50	50	50	50	50	50



YEAR	2001	2002	2003	2004	2005	2006
Sample size Use the oral health care system	N/A	1168 767	N/A	444 347	N/A	1287 1024
Weight percentage 95% C.I.		65.7 (62.2 - 69.0)		78.4 (73.1 - 82.8)		79.3 (76.4 - 82.0)
Age-adjusted percentage 95% C.I.		66.3 (62.5 - 69.9)		78.1 (71.8 - 83.3)		79.3 (75.8 - 82.4)
GOAL (%)	56	56	56	56	56	56



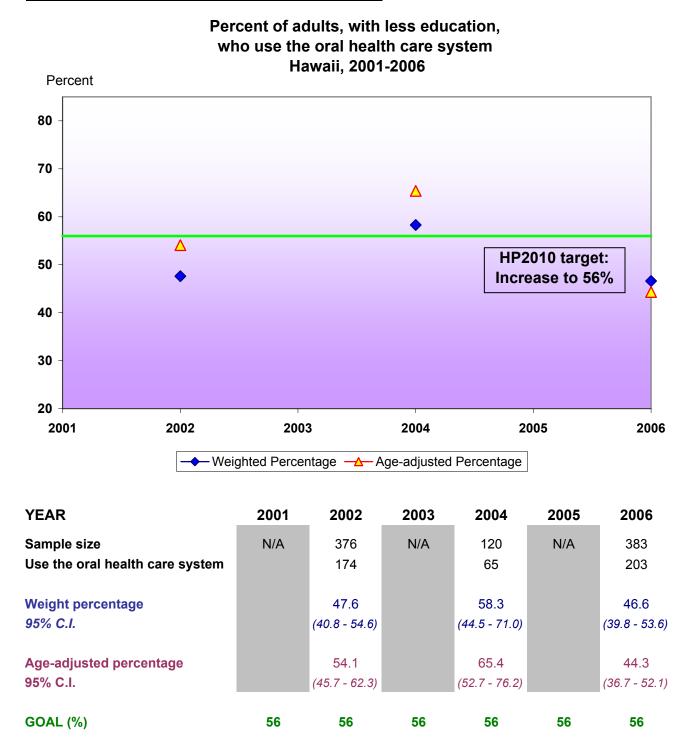
YEAR	2001	2002	2003	2004	2005	2006
Sample size Use the oral health care system	N/A	805 554	N/A	252 184	N/A	950 693
Weight percentage 95% C.I.		68.8 (64.5 - 72.7)		75.3 (66.4 - 82.6)		71.2 (67.1 - 75.1)
Age-adjusted percentage 95% C.I.		68.9 (64.8 - 72.7)		77.5 (70.9 - 82.9)		72.1 (68.3 - 75.7)
GOAL (%)	56	56	56	56	56	56



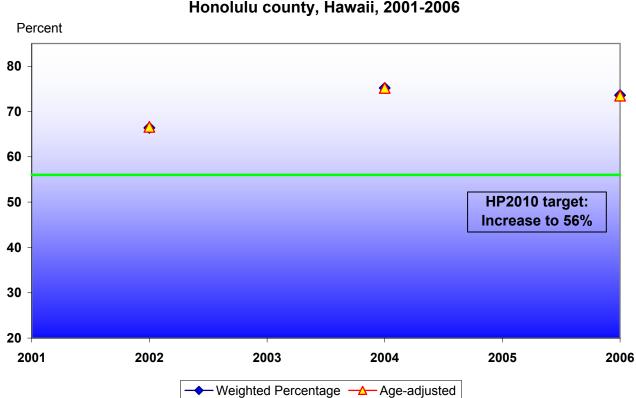
YEAR	2001	2002	2003	2004	2005	2006
Sample size Use the oral health care system	N/A	695 389	N/A	254 153	N/A	702 386
Weight percentage 95% C.I.		59.9 (54.7 - 64.8)		61.1 <i>(52.0 -</i> 69. <i>4)</i>		58.4 (53.0 - 63.6)
Age-adjusted percentage 95% C.I.		58.8 (53.7 - 63.7)		61.0 (52.3 - 69.1)		58.2 (52.8 - 63.3)
GOAL (%)	56	56	56	56	56	56

Source: Hawaii Behavioral Risk Factor Surveillance System

State of Hawaii, Department of Health

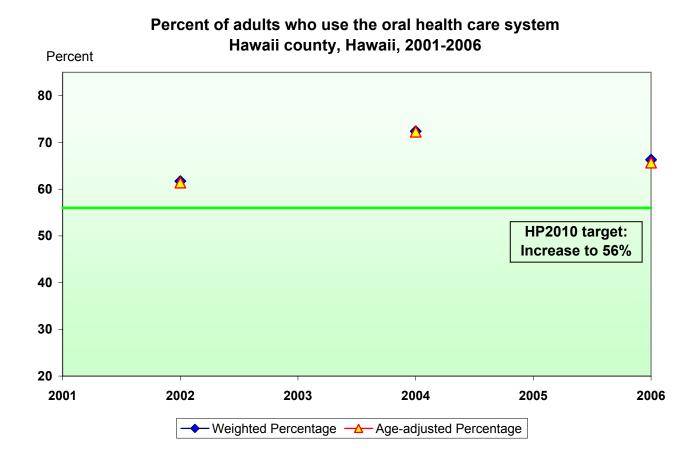


Source: Hawaii Behavioral Risk Factor Surveillance System

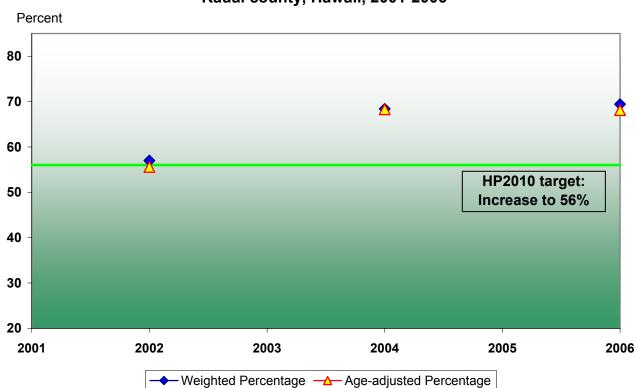


Percent of adults who use the oral health care system
Honolulu county, Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size	N/A	2812	N/A	938	N/A	3017
Use the oral health care system		1914		709		2310
Weight percentage		66.4		75.2		73.6
95% C.I.		(64.3 - 68.5)		(71.6 - 78.4)		(71.6 - 75.6)
Age-adjusted percentage		66.6		75.2		73.5
95% C.I.		(64.5 - 68.6)		(71.6 - 78.4)		(71.4 - 75.5)
GOAL (%)	56	56	56	56	56	56

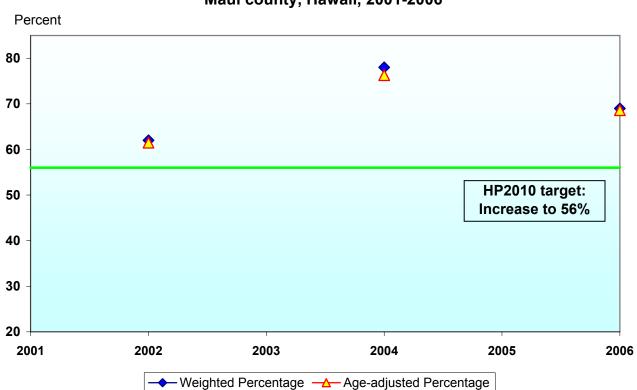


YEAR	2001	2002	2003	2004	2005	2006
Sample size Use the oral health care system	N/A	1379 874	N/A	564 408	N/A	1394 962
		074		400		302
Weight percentage 95% C.I.		61.7 <i>(58.6 - 64.8</i> )		72.4 (67.6 - 76.7)		66.3 (63.1 - 69.5)
				. ,		
Age-adjusted percentage 95% C.I.		61.4 <i>(58.1 - 64.6)</i>		72.3 (67.1 - 77.0)		65.7 (62.4 - 68.9)
						. ,
GOAL (%)	56	56	56	56	56	56



Percent of adults who use the oral health care system Kauai county, Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006	
Sample size	N/A	601	N/A	289	N/A	665	
Use the oral health care system		371		211		489	
Weight percentage		57.0		68.4		69.4	
95% C.I.		(52.2 - 61.6)		(61.4 - 74.6)		(64.5 - 73.8)	
Age-adjusted percentage		55.6		68.3		68.1	
95% C.I.		(50.8 - 60.4)		(61.2 - 74.6)		(63.2 - 72.7)	
GOAL (%)	56	56	56	56	56	56	



Percent of adults who use the oral health care system Maui county, Hawaii, 2001-2006

YEAR	2001	2002	2003	2004	2005	2006
Sample size	N/A	1208	N/A	411	N/A	1488
Use the oral health care system		741		320		1055
Weight percentage		62.0		78.0		69.0
95% C.I.		(58.6 - 65.3)		(71.9 - 83.2)		(65.5 - 72.3)
Age-adjusted percentage		61.5		76.3		68.6
95% C.I.		(58.0 - 64.8)		(70.2 - 81.6)		(65.0 - 72.0)
GOAL (%)	56	56	56	56	56	56

#### PHYSICAL ACTIVITY

We can use HBRFSS data to track three following objectives.

**Objective 22-1:** Reduce the proportion of adults who engage in no leisure-time physical activity to **20%** 

**Question used to obtain the data:** During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?

Statewide since 2001, we had a good record for having fewer than 20% of adults having no leisure time physical activity, except for 20.4% in 2004.

However, there are significant differences between the four main ethnic groups in Hawaii (Figure 22a). Filipinos have always been far behind the others since 2001 and have 28.8% with no leisure time physical activity in 2006. In contrast, White people always had the lowest percentage. Japanese and Hawaiians were around 20% in recent years. However, these latter groups are trending up a little; they share the same trend line as shown in figure 22a.

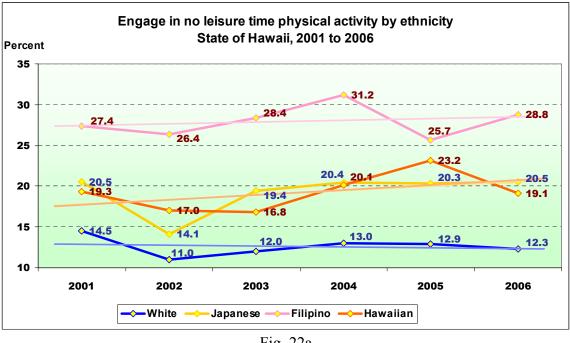


Fig. 22a

In addition, there are differences in proportion of engaging in leisure time physical activity by gender, household income, and education level.

The proportion of men who have no leisure time physical activity is always significantly lower than it is for women at alpha=5% test criterion (Figure 22b).

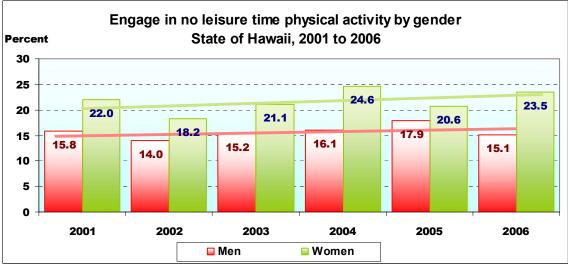


Fig.	22b
1 15.	220

Among people with low-income household, the percentage of having no leisure time physical activity is much higher compared to that of those with better income. The difference in this subject between these two groups is widening. We also find that it is statistically significant at alpha=1% test criterion since 2001 (Figure 22c)

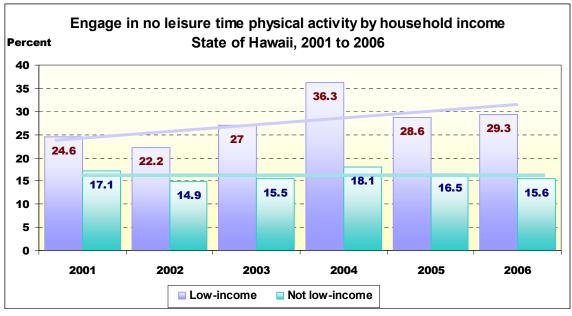


Fig. 22c

By education, the gap in having no leisure time physical activity among people with less than High School education and those with at least High School education seems steady wide as shown in Figure 22d. In every observed year, except 2004, the proportion for group with higher education level is much lower than it is for the other and the difference is statistically significant at alpha=1% criterion test.

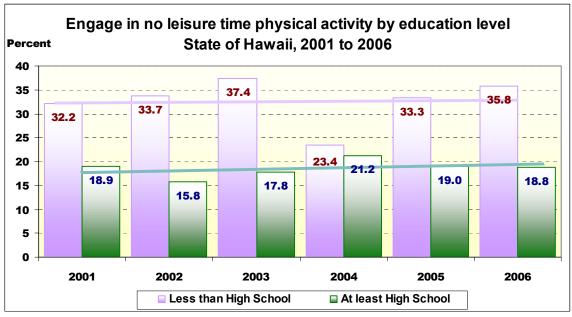


Fig. 22d

**Objective 22-2:** Increase the proportion of adults who engage regularly, preferably daily, in moderate physical activity for at least 30 minutes per day to **50%** (revised from 30%)

#### Questions used to obtain the data:

How many days per week do you do these moderate activities for at least 10 minutes at a time?

On days when you do moderate activities for at least 10 minutes at a time, how much total time per day do you spend doing these activities?

**Objective 22-3:** Increase the proportion of adults who engage in vigorous physical activity that promotes the development and maintenance of cardiorespiratory fitness 3 or more days per week for 20 or more minutes per occasion to **30%** 

#### **Questions used to obtain the data:**

How many days per week do you do these vigorous activities for at least 10 minutes at a time?

On days when you do vigorous activities for at least 10 minutes at a time, how much total time per day do you spend doing these activities

We did not ask the questions about moderate or vigorous physical activity in 2006.

The five-year data from 2001 to 2005 show that we have almost achieved these two goals at state level (Figure 22e).

#### PHYSICAL ACTIVITY

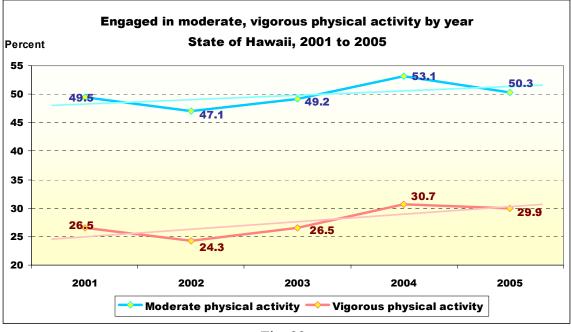


Fig. 22e

By gender, except the year of 2004, the proportion of women who engaged in moderate physical activity is statistically different from the men's proportion at alpha=1% criterion test. However, women in Hawaii are closing the gender gap in moderate physical activity as reflected in Figure 22f.

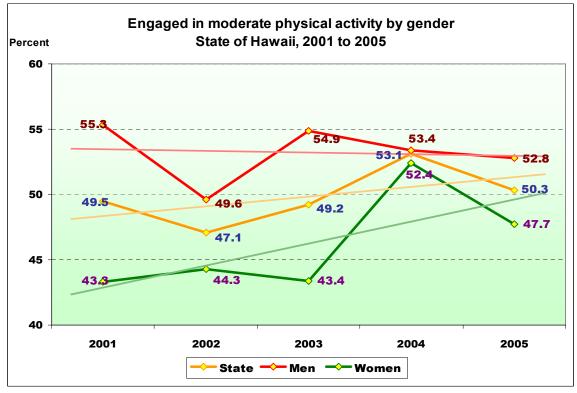


Fig. 22f

About engaging in vigorous physical activity, men have surpassed the goal of 30% but women have not. Since 2001, the percentage of women who engaged in vigorous physical activity is significantly lower than that of men. In spite of that, women's prevalence rate is also trending up as men's (Figure 22g).

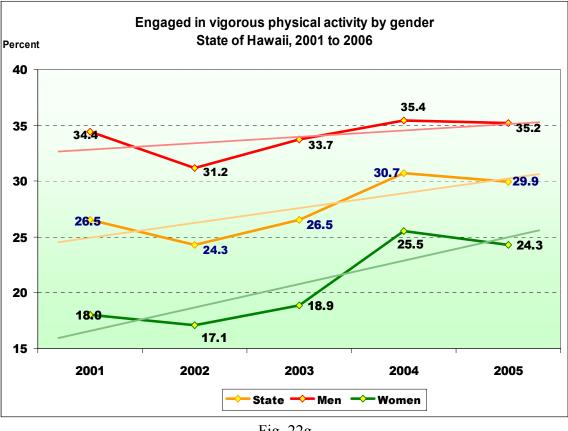
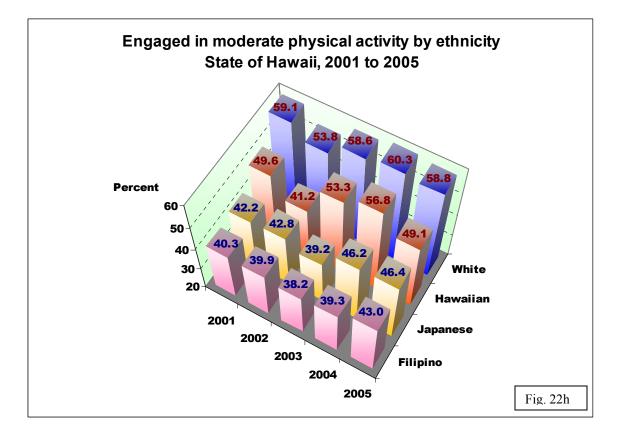
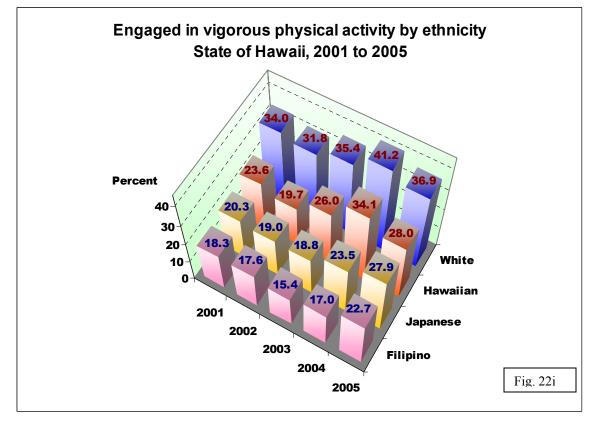


Fig. 22g

Looking at ethnicity, White people always had the best result of engaged in moderate or vigorous physical activity. From 2001 to 2005, the White prevalence rates are significantly different from those for Japanese, Hawaiians and Filipinos. In contrast, Filipinos had the lowest percentages in having moderate or vigorous physical activity and they are considerably lower than those for Hawaiians or Japanese in the same time period (Figure 22h, 22i).





Overall, adults in low income households or with less education have lower participation in vigorous physical activity compared to those who are in higher income group or better educated. However, the difference is narrowing as reflected in Figure 22i and Figure 22k. The percent of adults in low income households or with less education who engaged in vigorous physical activity gradually increased from 2001 to 2005. In contrast, the proportion of those in better income group or better educated remains steady or shows very slow increase.

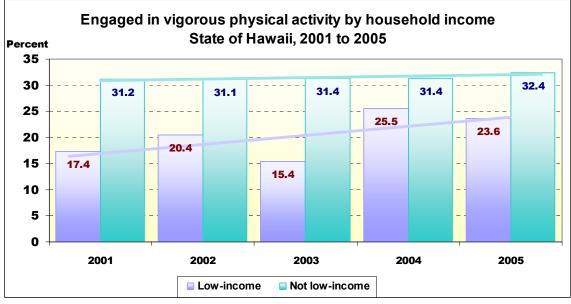


Fig. 22i

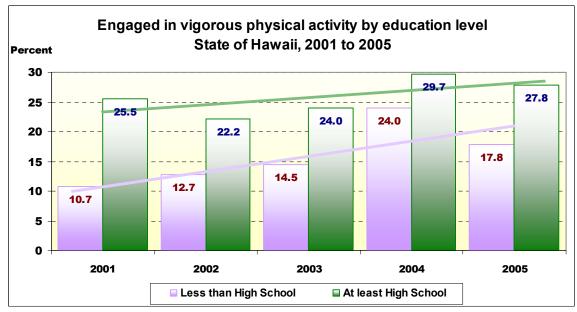
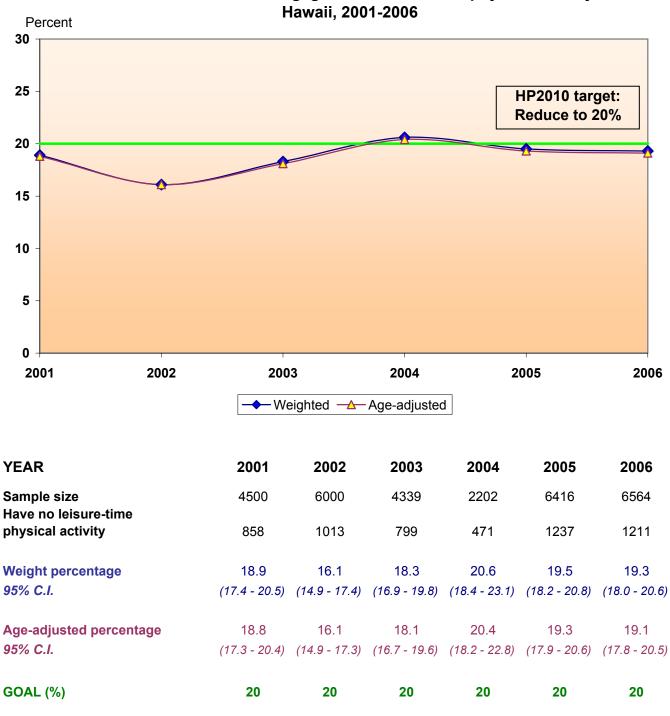


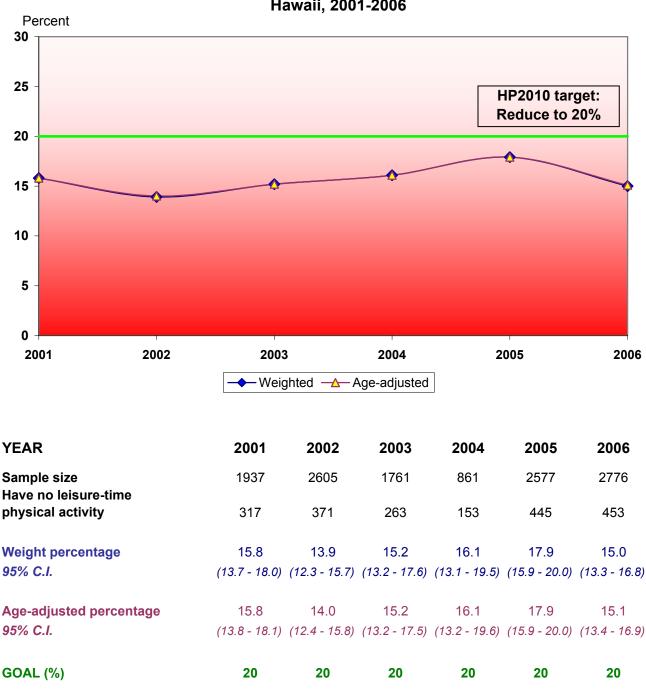
Fig. 22k

## **OBJECTIVE 22-1**



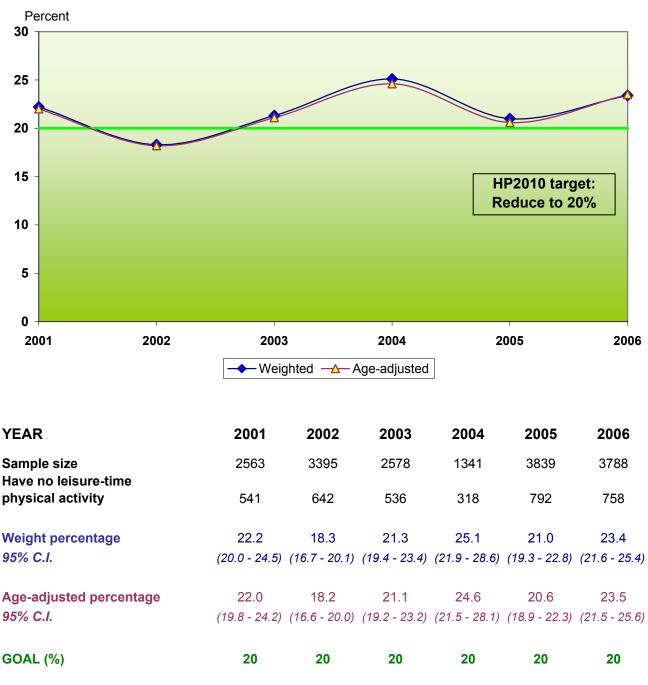
Percent of adults who engage in no leisure-time physical activity

Source: Hawaii Behavioral Risk Factor Surveillance System



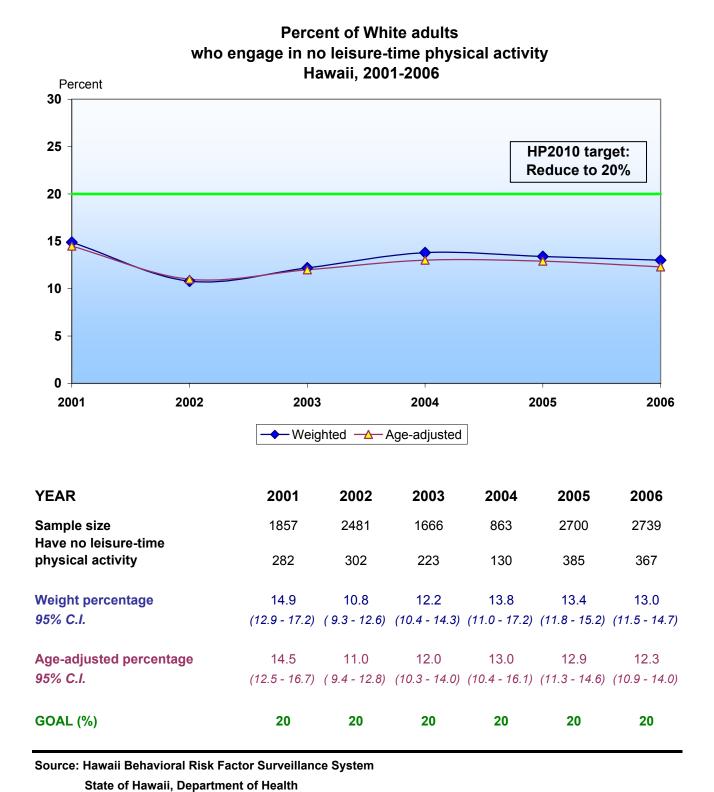
Percent of men who engage in no leisure-time physical activity Hawaii, 2001-2006

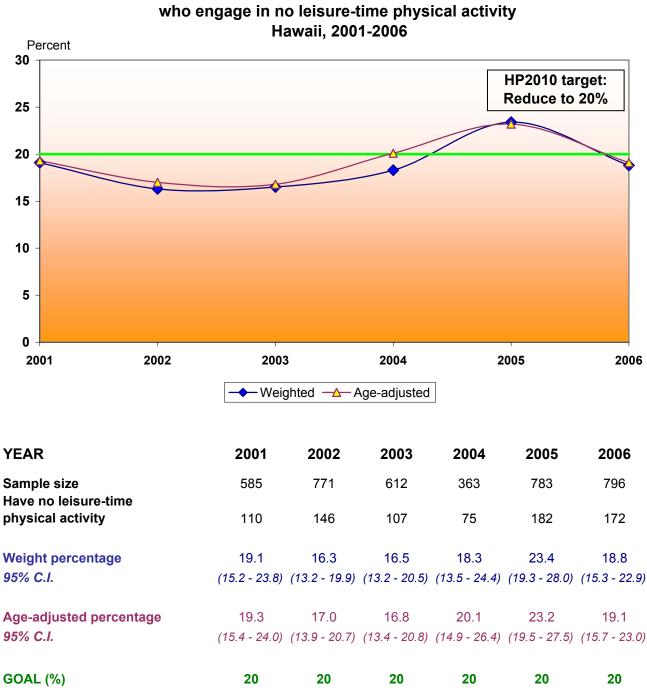
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of women who engage in no leisure-time physical activity Hawaii, 2001-2006

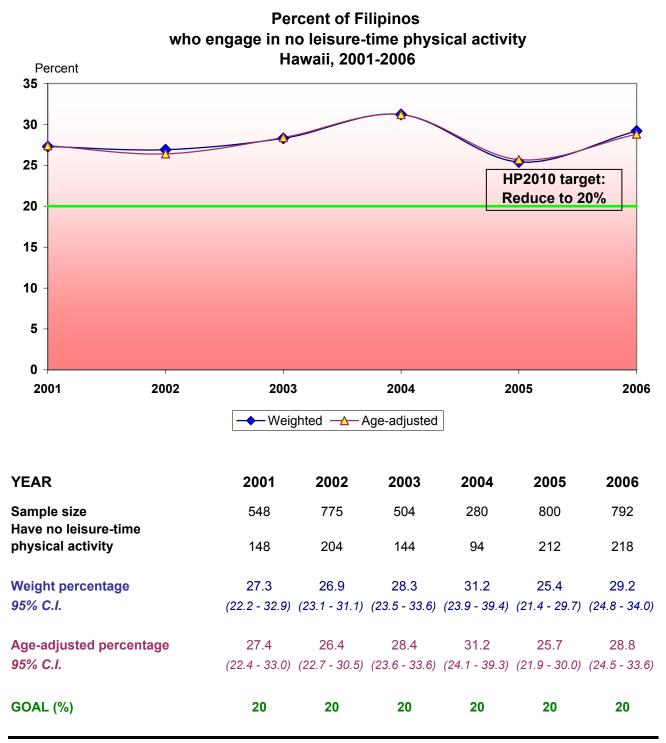
Source: Hawaii Behavioral Risk Factor Surveillance System



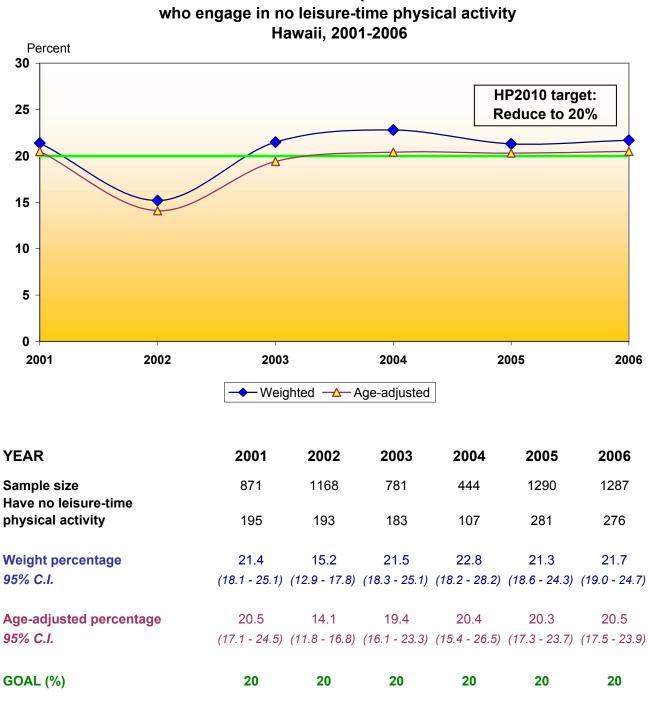


Percent of Hawaiians

Source: Hawaii Behavioral Risk Factor Surveillance System

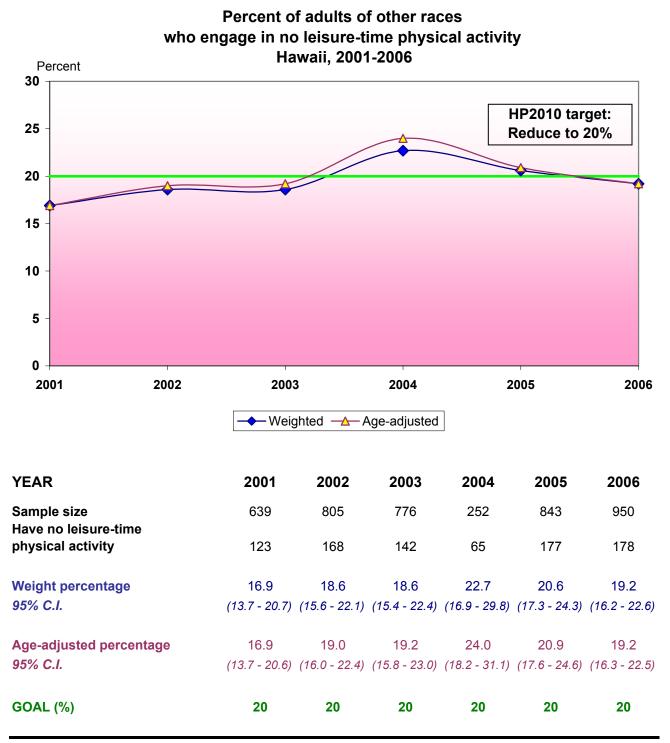


Source: Hawaii Behavioral Risk Factor Surveillance System

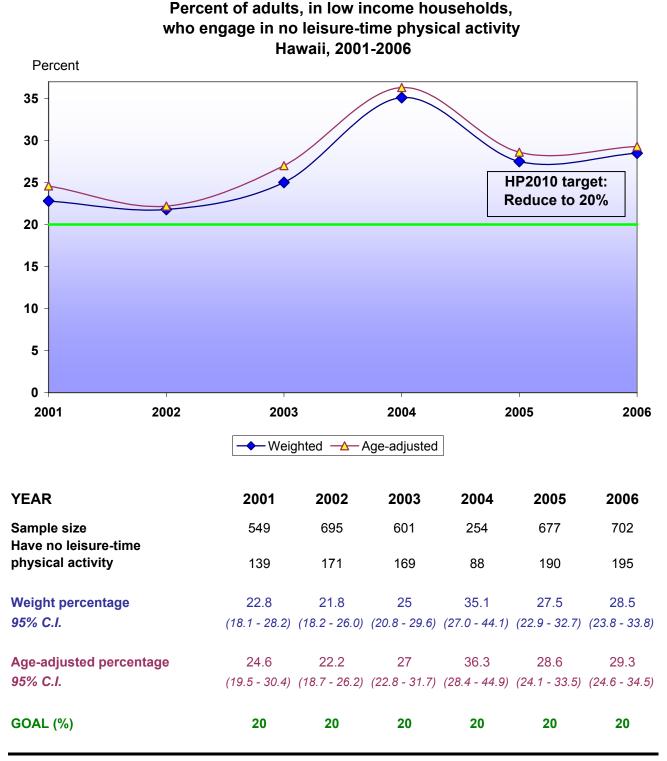


**Percent of Japanese** 

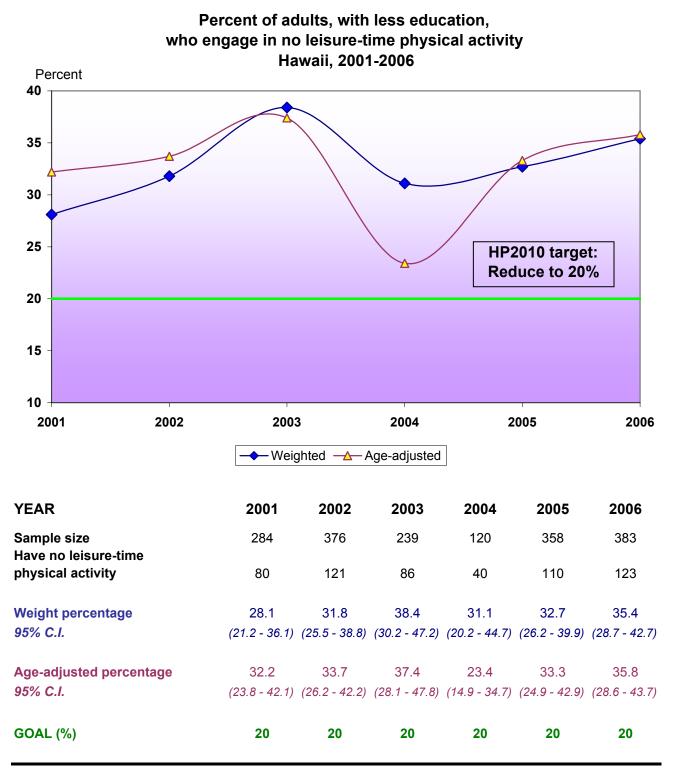
Source: Hawaii Behavioral Risk Factor Surveillance System



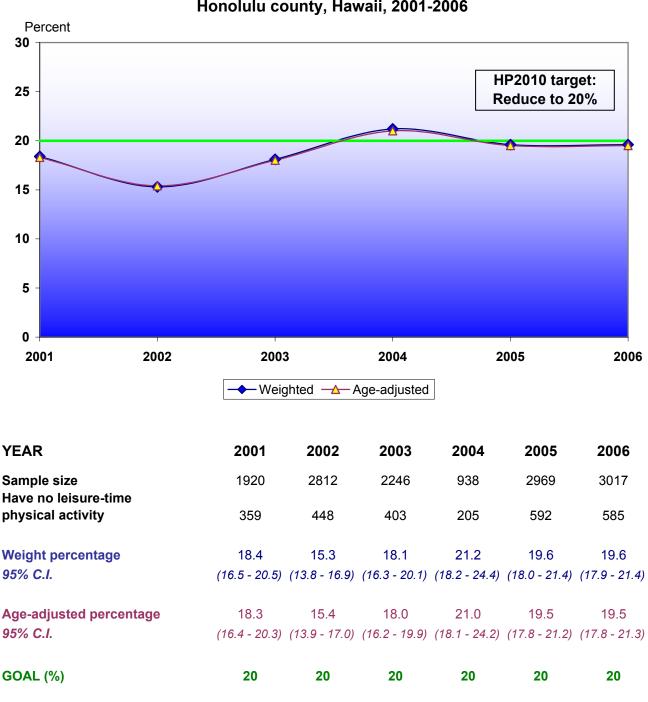
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

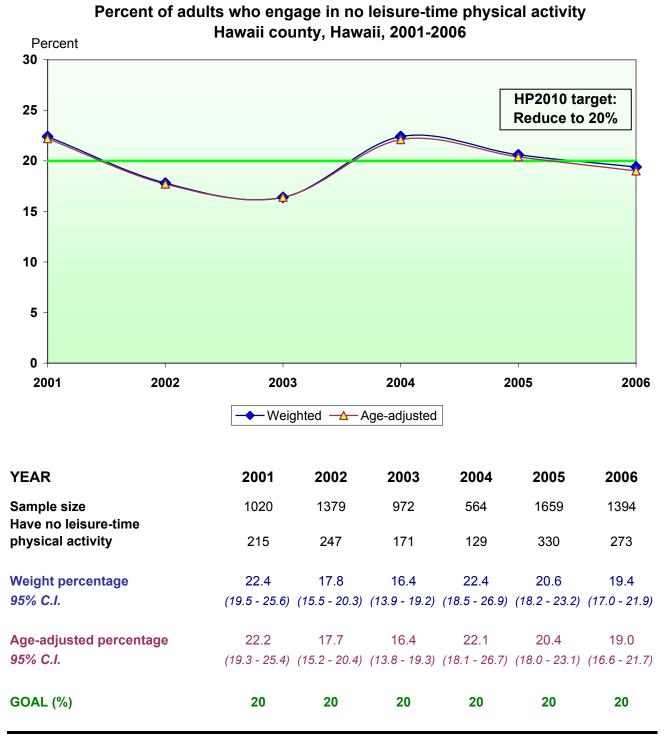


Source: Hawaii Behavioral Risk Factor Surveillance System

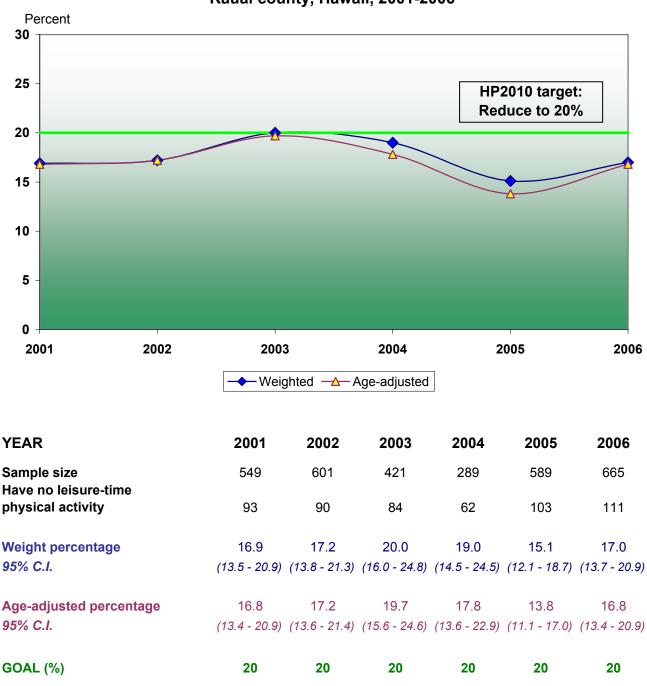


Percent of adults who engage in no leisure-time physical activity Honolulu county, Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

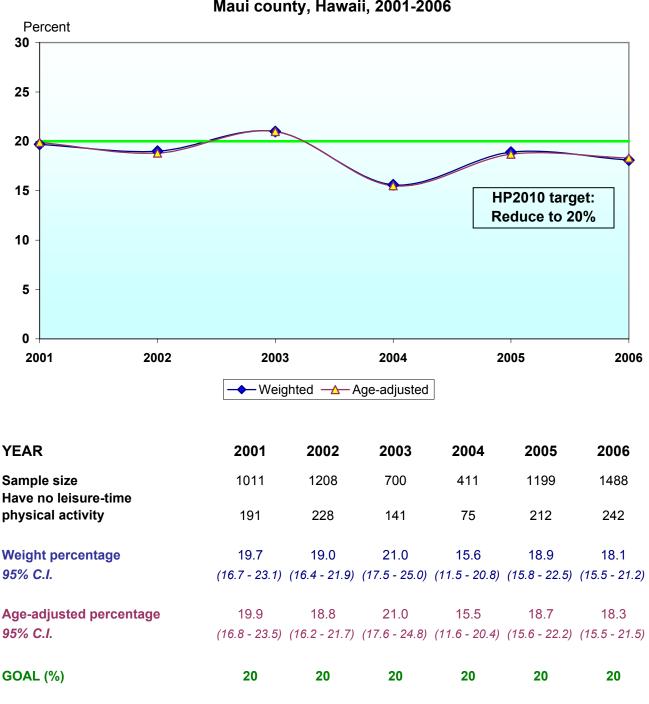


Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of adults who engage in no leisure-time physical activity Kauai county, Hawaii, 2001-2006

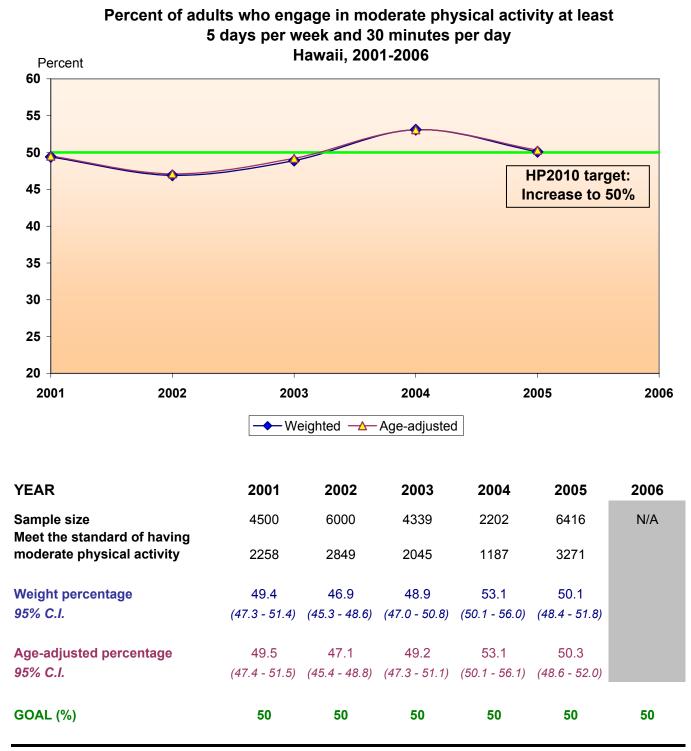
Source: Hawaii Behavioral Risk Factor Surveillance System



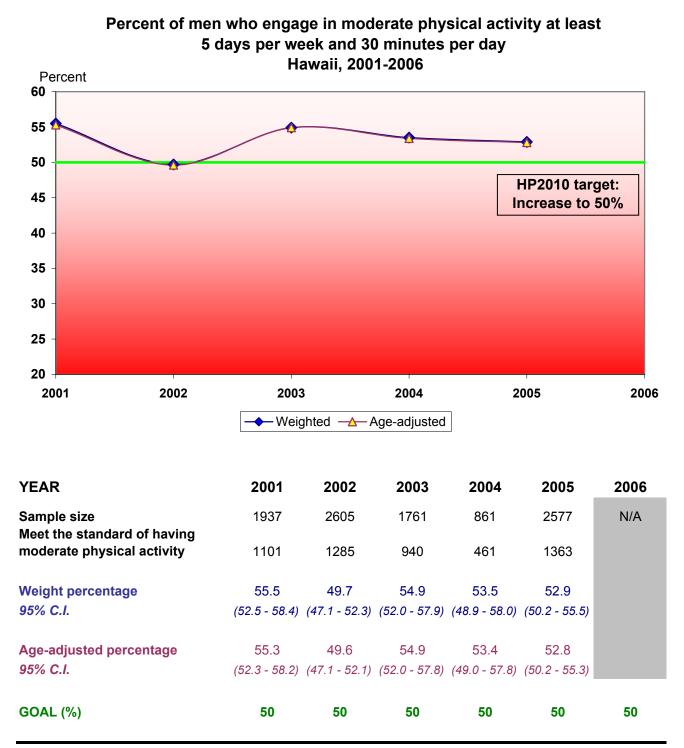
Percent of adults who engage in no leisure-time physical activity Maui county, Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

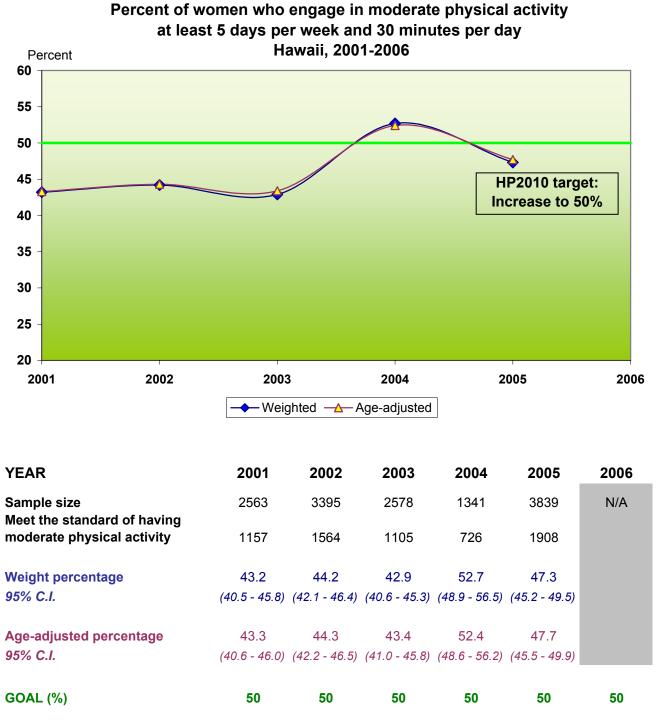
## **OBJECTIVE 22-2**



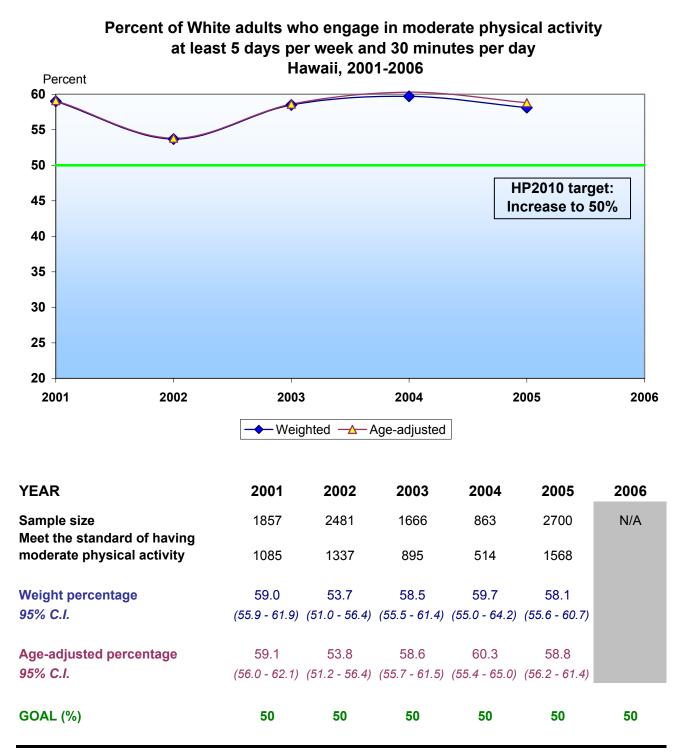
Source: Hawaii Behavioral Risk Factor Surveillance System



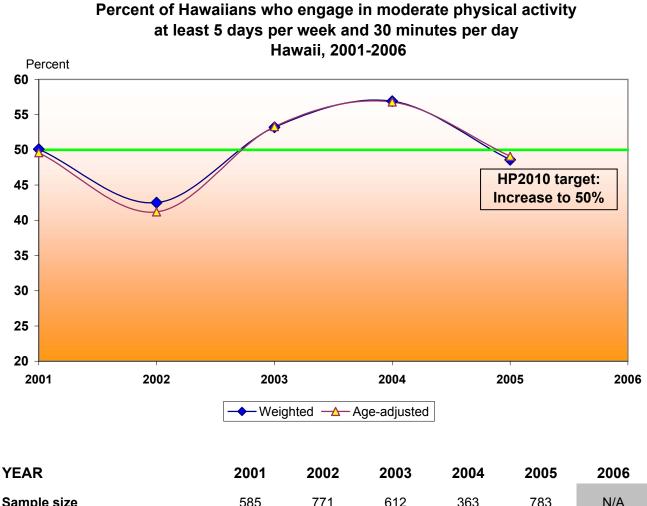
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

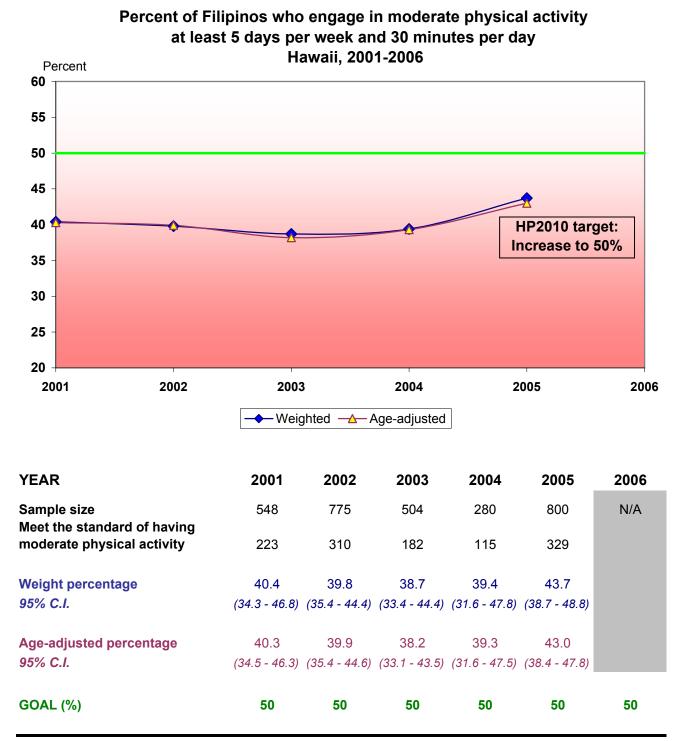


Source: Hawaii Behavioral Risk Factor Surveillance System

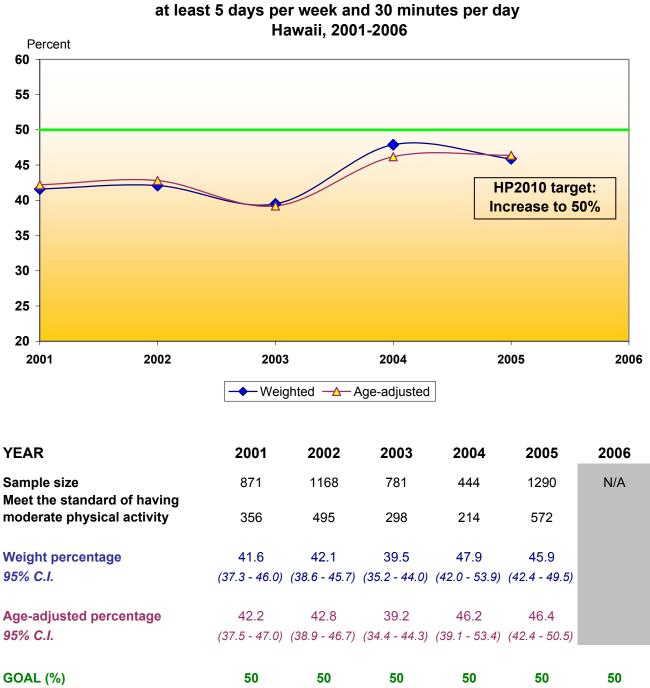


Sample size Meet the standard of having moderate physical activity	585 288	771 327	612 316	363 208	783 399	N/A
Weight percentage	50.1	42.5	53.2	56.9	48.6	
95% C.I.	(44.6 - 55.7)	(37.7 - 47.4)	(48.2 - 58.2)	(49.7 - 63.9)	(43.8 - 53.5)	
Age-adjusted percentage	49.6	41.2	53.3	56.8	49.1	
95% C.I.	(44.1 - 55.1)	(36.7 - 45.8)	(48.2 - 58.2)	(49.6 - 63.7)	(44.4 - 53.7)	
GOAL (%)	50	50	50	50	50	50

Source: Hawaii Behavioral Risk Factor Surveillance System

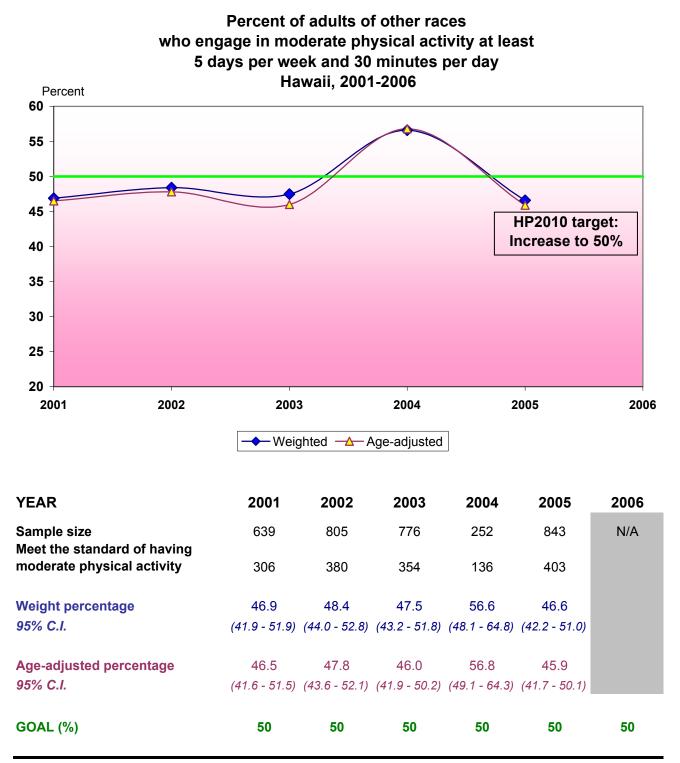


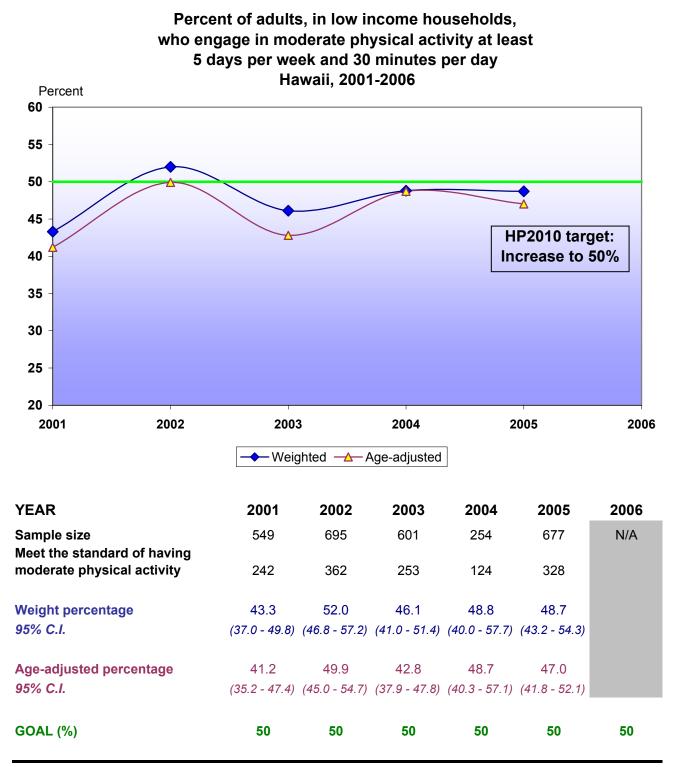
Source: Hawaii Behavioral Risk Factor Surveillance System



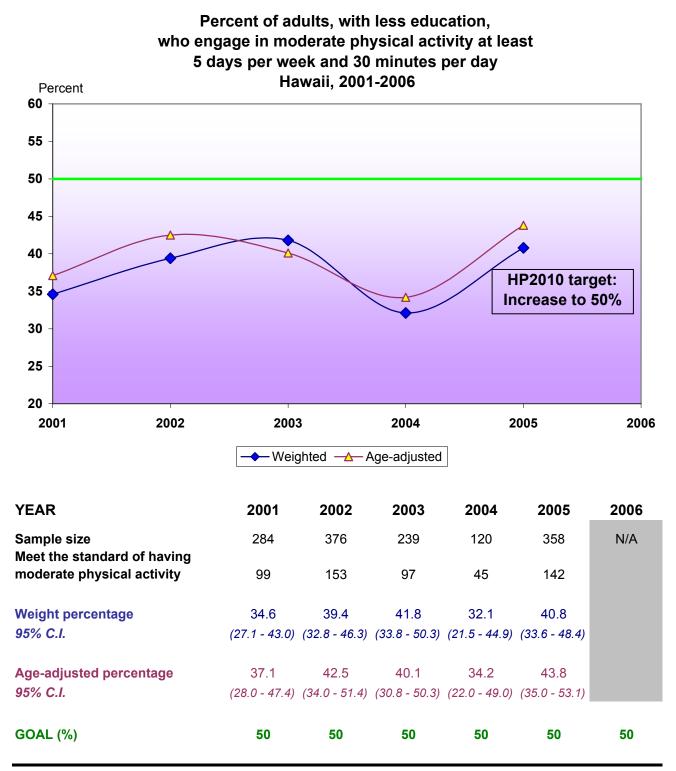
Percent of Japanese who engage in moderate physical activity

Source: Hawaii Behavioral Risk Factor Surveillance System

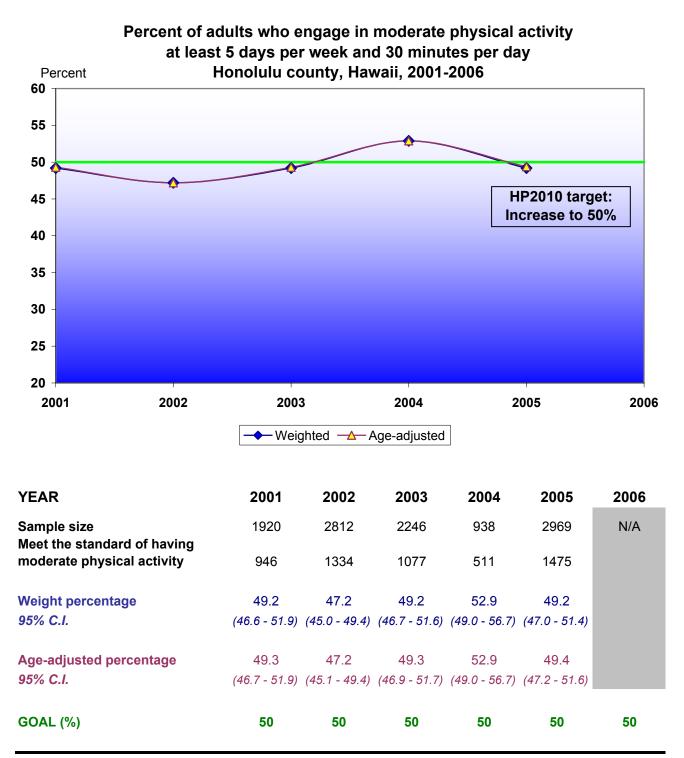




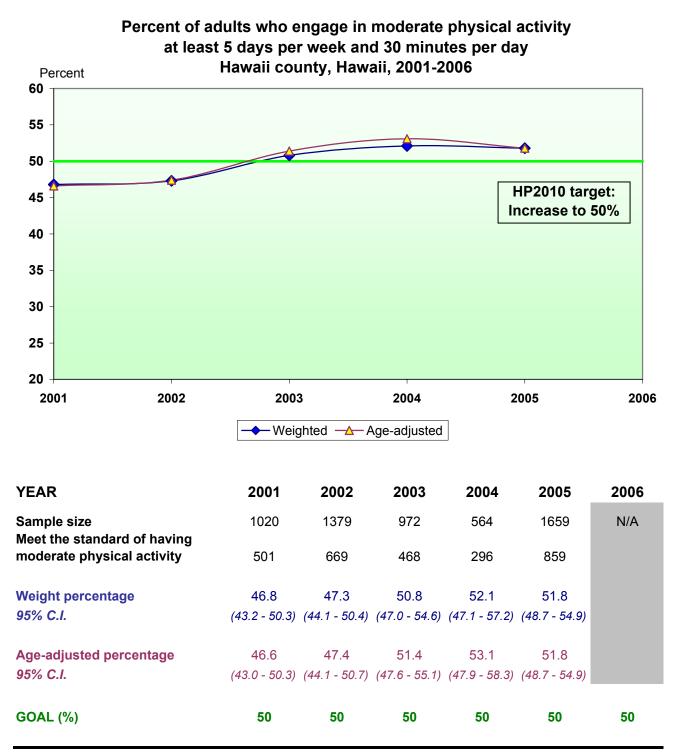
Source: Hawaii Behavioral Risk Factor Surveillance System



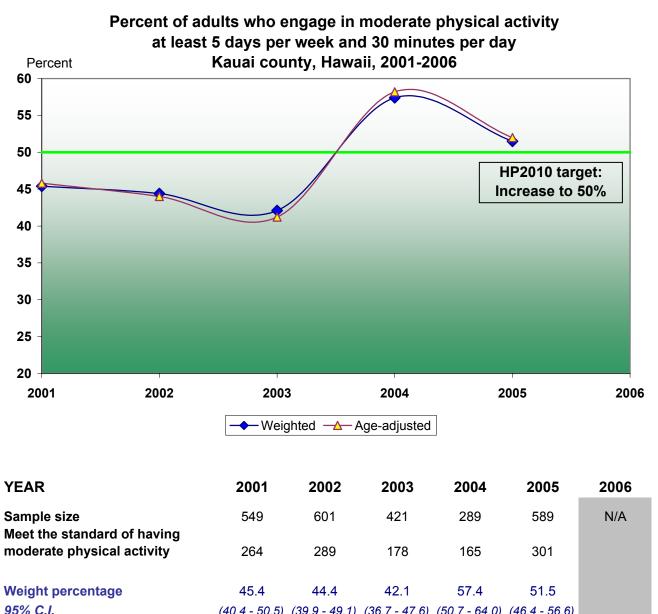
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

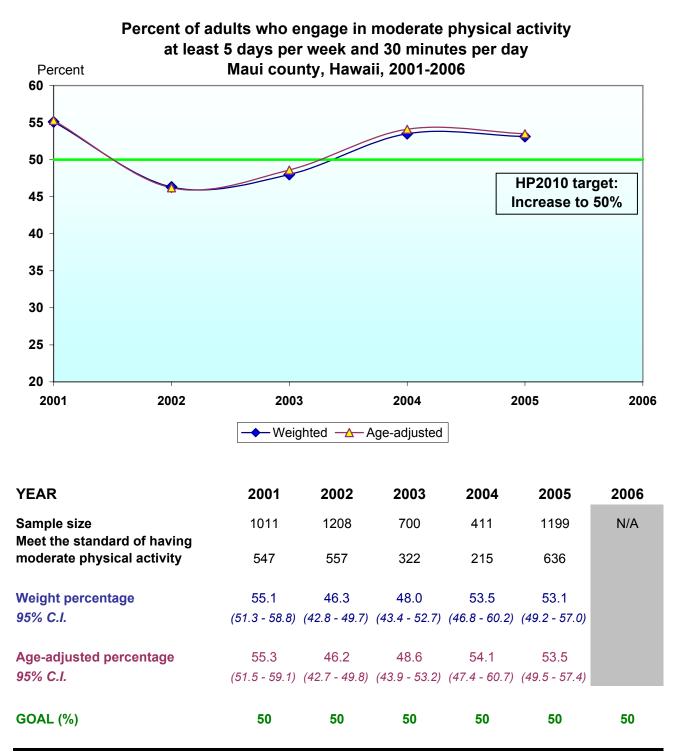


Source: Hawaii Behavioral Risk Factor Surveillance System



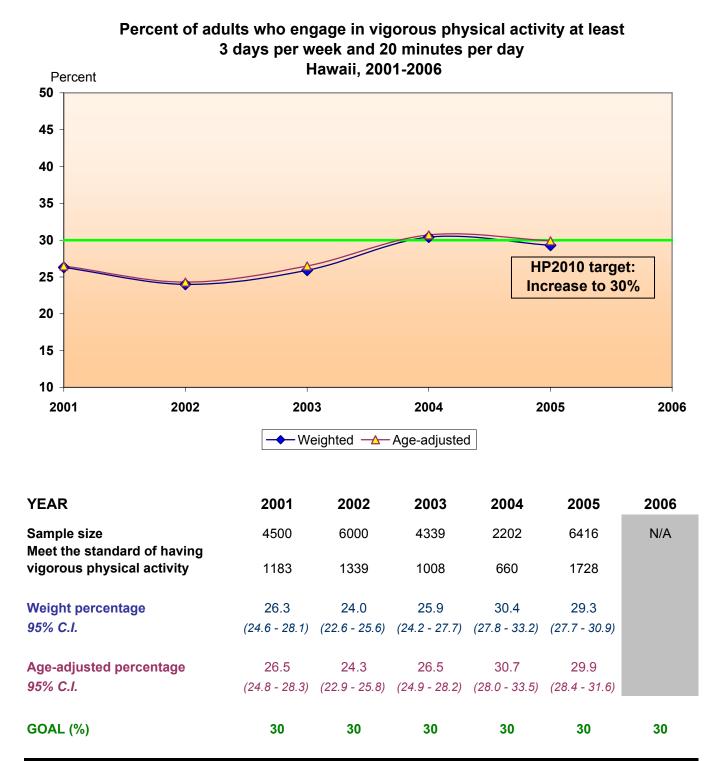
GOAL (%)	50	50	50	50	50	
95% C.I.	(40.7 - 50.9)	(39.3 - 48.9)	(35.7 - 46.9)	(51.0 - 65.0)	(46.2 - 57.8)	
Age-adjusted percentage	45.8	44.0	41.2	58.2	52.0	
5070 C.I.	(10.1 00.0)	(00.0 10.1)	(00.7 77.0)	(00.7 07.0)	(+0.+ - 00.0)	

Source: Hawaii Behavioral Risk Factor Surveillance System

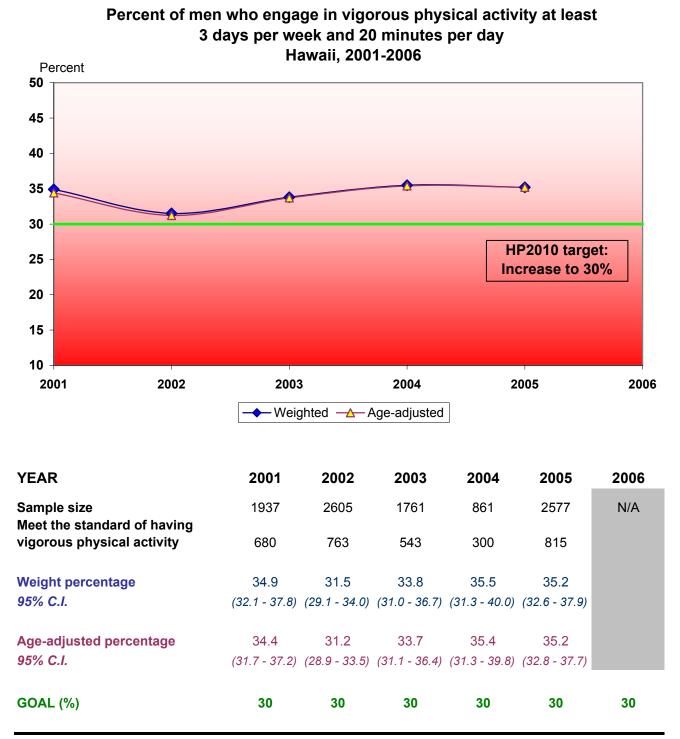


Source: Hawaii Behavioral Risk Factor Surveillance System

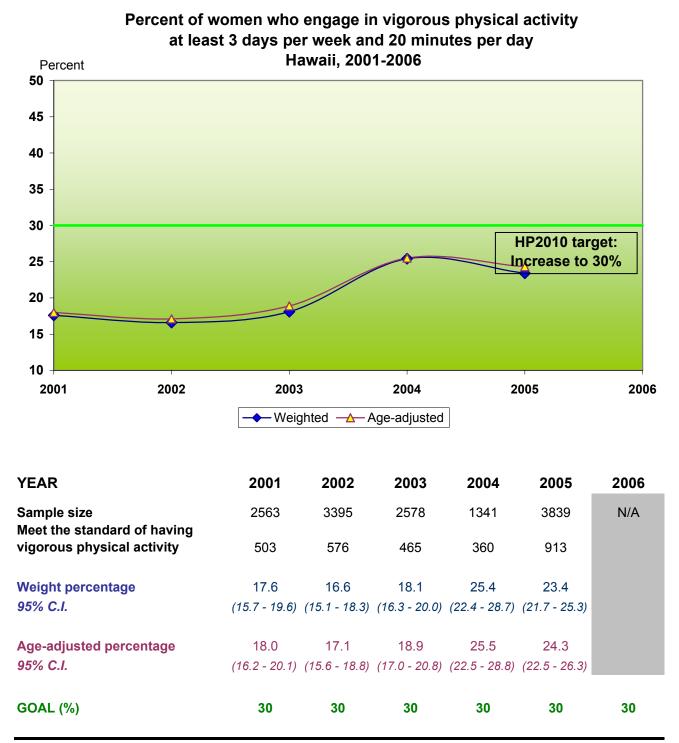
## **OBJECTIVE 22-3**



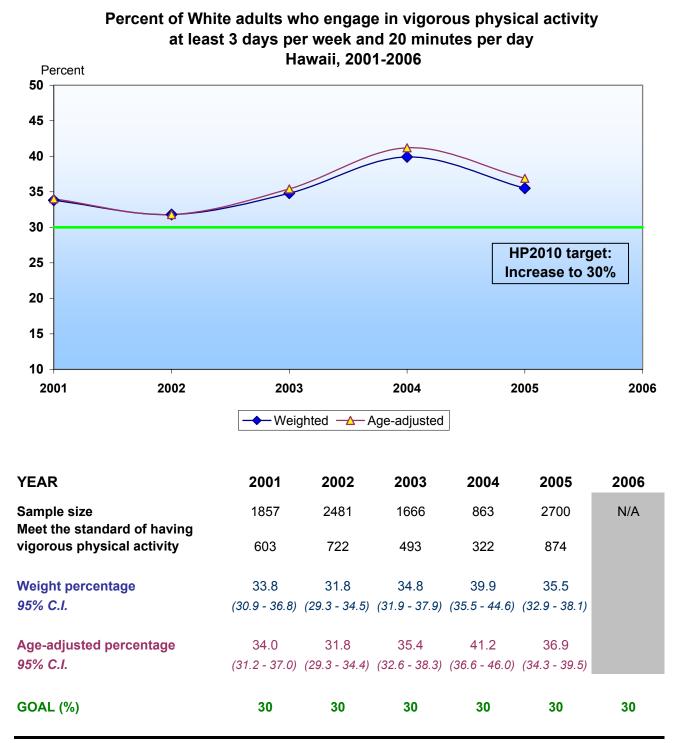
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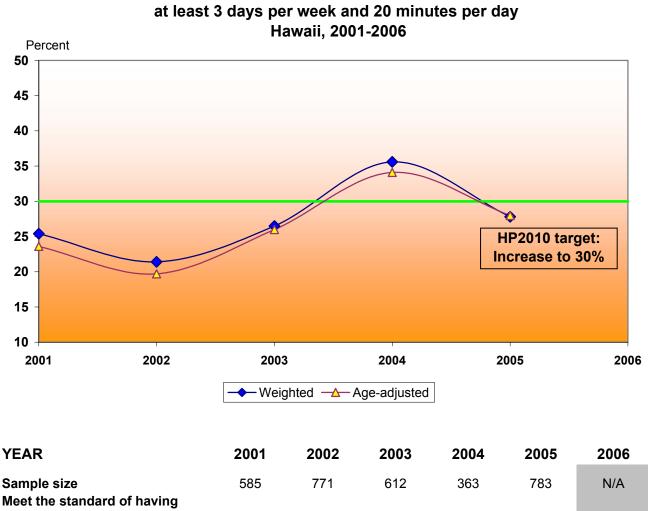
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System



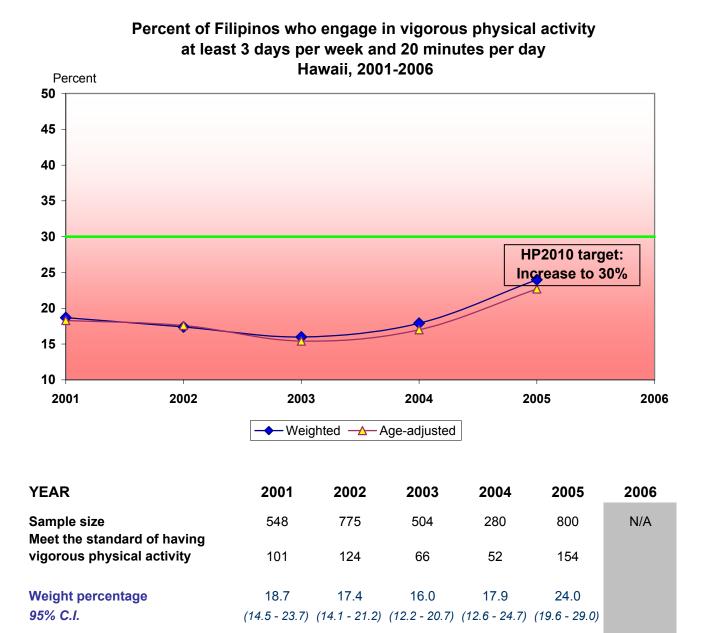
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of Hawaiians who engage in vigorous physical activity

Sample size Meet the standard of having	585	771	612	363	783	N/A	
vigorous physical activity	143	144	142	116	222		
Weight percentage	25.4	21.4	26.5	35.6	27.8		
95% C.I.	(20.7 - 30.6)	(17.4 - 26.0)	(22.2 - 31.2)	(28.8 - 43.0)	(23.7 - 32.3)		
Age-adjusted percentage	23.6	19.7	26.0	34.1	28.0		
95% C.I.	(19.5 - 28.3)	(16.2 - 23.7)	(22.0 - 30.4)	(27.8 - 41.1)	(24.2 - 32.2)		
GOAL (%)	30	30	30	30	30	30	
GOAL (%)	30	30	30	30	30	30	

Source: Hawaii Behavioral Risk Factor Surveillance System



17.6

30

15.4

(14.3 - 23.1) (14.3 - 21.3) (11.9 - 19.6) (12.0 - 23.4) (18.8 - 27.0)

30

17.0

30

22.7

30

30

PHYSICAL ACTIVITY

Age-adjusted percentage

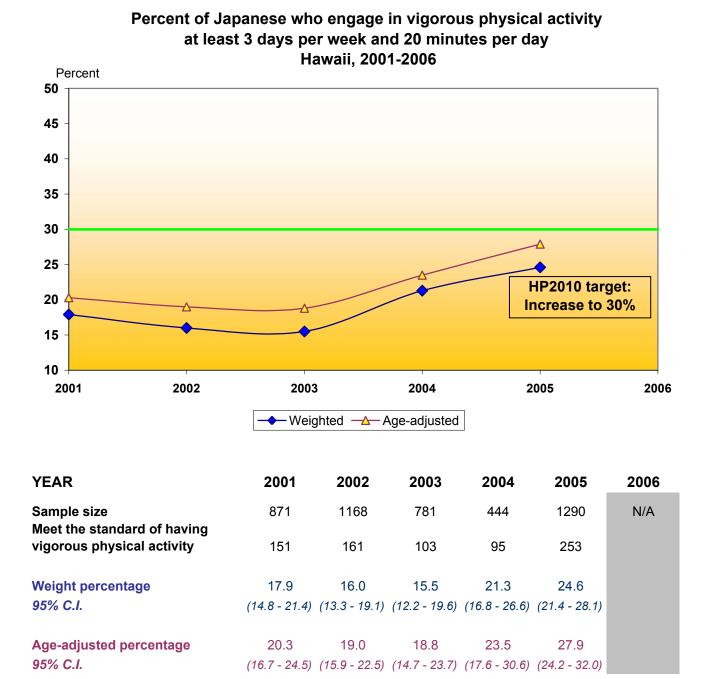
95% C.I.

GOAL (%)

Source: Hawaii Behavioral Risk Factor Surveillance System

18.3

30



PHYSICAL ACTIVITY

**GOAL (%)** 

State of Hawaii, Department of Health

Source: Hawaii Behavioral Risk Factor Surveillance System

30

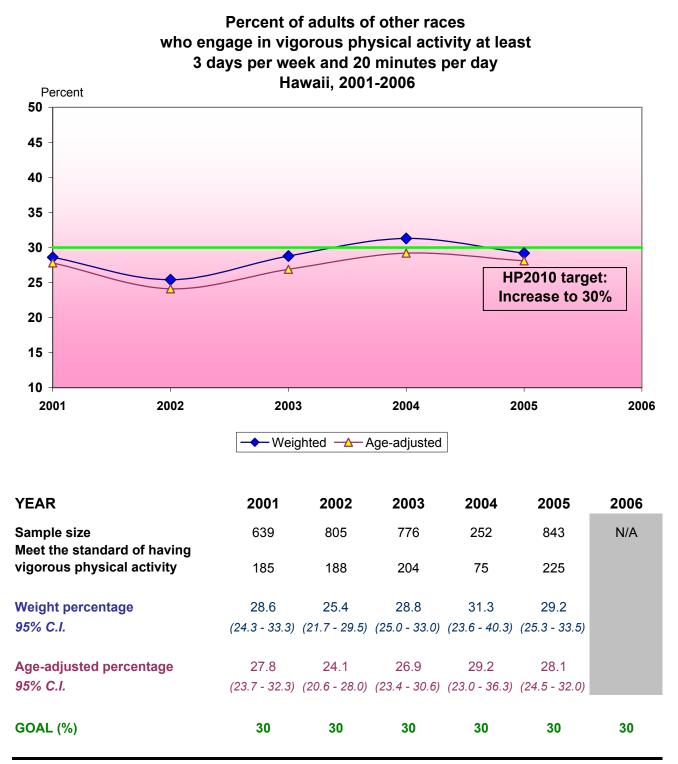
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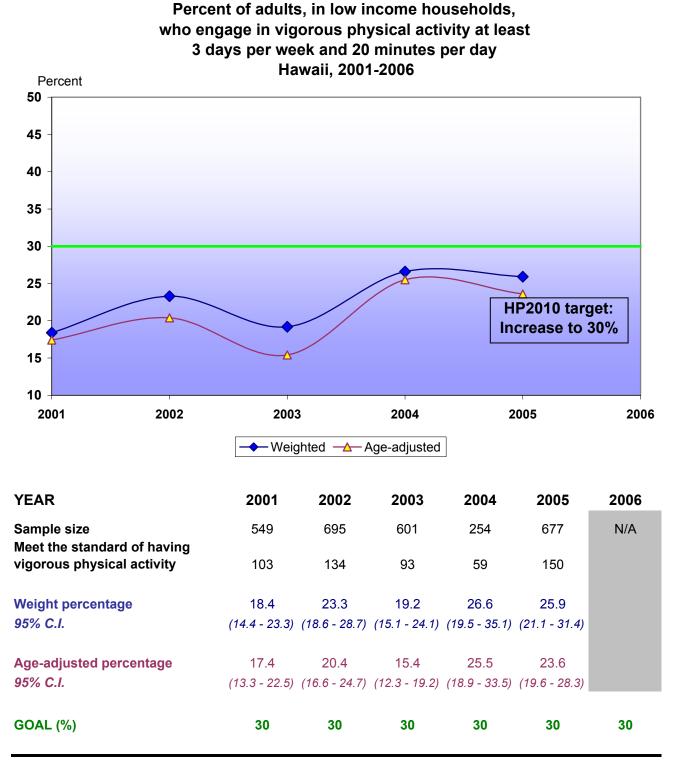
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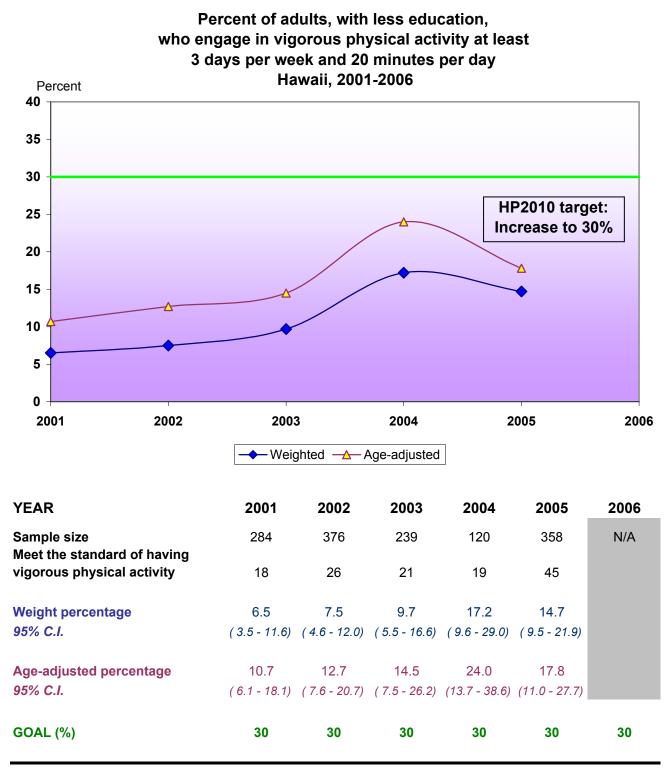
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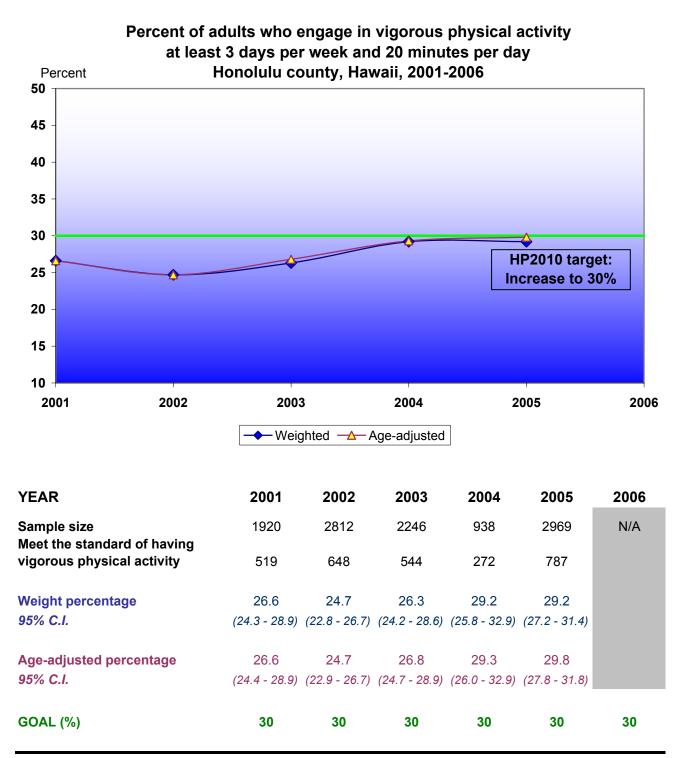
Source: Hawaii Behavioral Risk Factor Surveillance System State of Hawaii, Department of Health



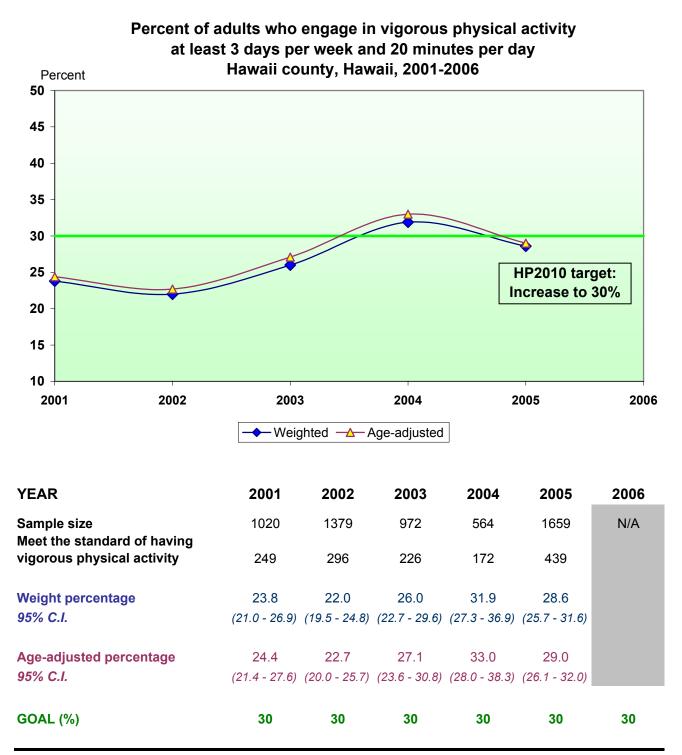
Source: Hawaii Behavioral Risk Factor Surveillance System



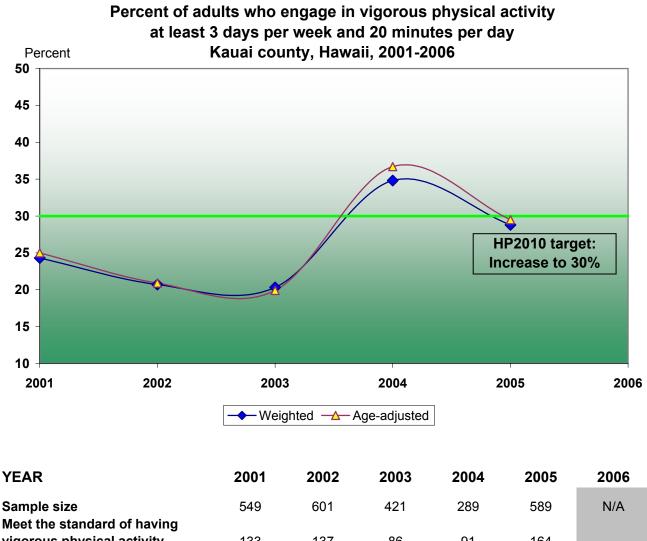
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

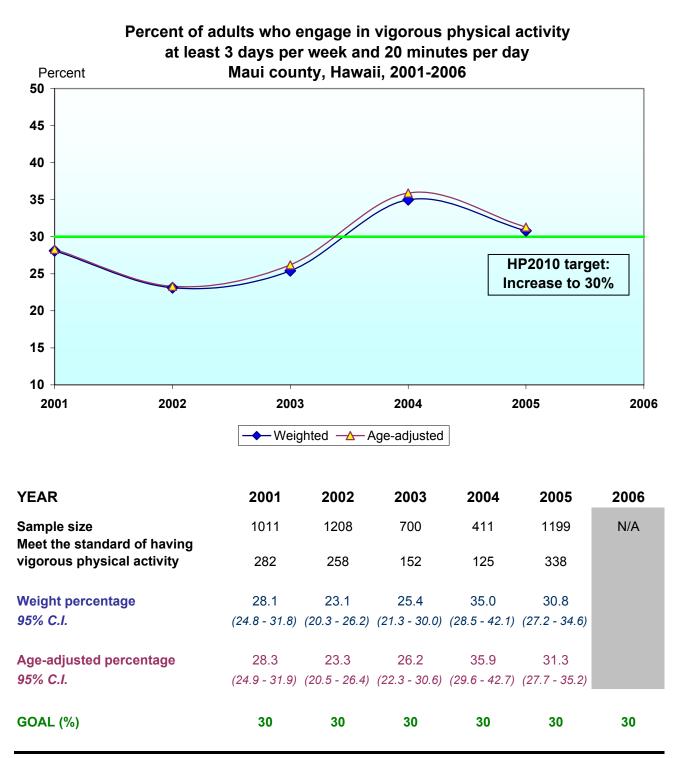


Source: Hawaii Behavioral Risk Factor Surveillance System



95% C.I.					(24.6 - 34.8)	
Age-adjusted percentage	25.0	20.9	19.9	36.7	29.5	
Weight percentage 95% C.I.	24.3 (20.2 - 29.0)	20.7 (17.4 - 24.5)	20.3 (16.2 - 25.1)	34.8 (28.5 - 41.7)	28.8 (24.3 - 33.8)	
vigorous physical activity	133	137	86	91	164	

Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

#### **SUBSTANCE ABUSE**

We have data to track only one objective in this area

**Objective 26-11c:** Reduce the proportion of persons engaging in binge drinking of alcoholic beverages to **13.4%** (change from **6%** due to new baseline)

#### **Question used to obtain the data:**

From 2001 to 2005:

Considering all types of alcoholic beverages, during the past 30 days, how many times did you have 5 or more drinks on the same occasion? By "occasion," we mean at the same time or within a couple of hours of each other.

In 2006:

Considering all types of alcoholic beverages, during the past 30 days, how many times did you have X (X=5 for men, X=4 for women) or more drinks on the same occasion? By "occasion," we mean at the same time or within a couple of hours of each other.

The national baseline for this objective is 24.3% in 2002. In 2006, the percentage of adults in Hawaii who engage in binge drinking of alcoholic beverages is 17.6%, 6.7% lower than the baseline but higher than the goal of 13.4%.

In addition, our six-year data show that the proportion of adults with binge drinking is increasing. Women binge drinking rate was very low at 4.2% in 2001, but it rose to 9.8% in 2006, more than twice as much. The proportion of men who binge drink is even increasing at a faster pace than women's trend (Figure 26a).

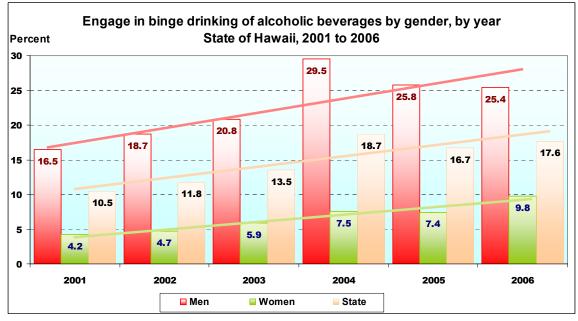
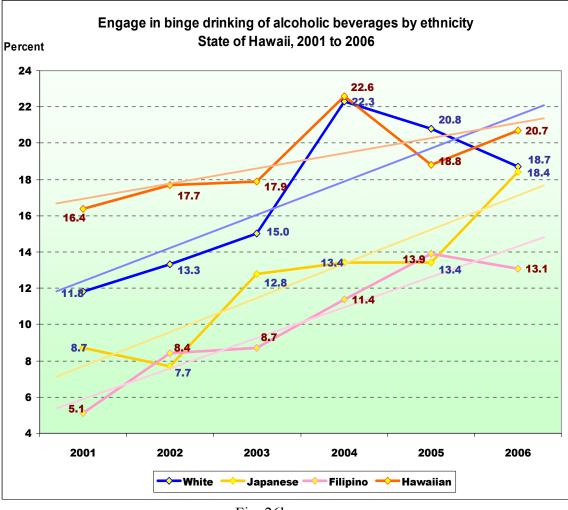


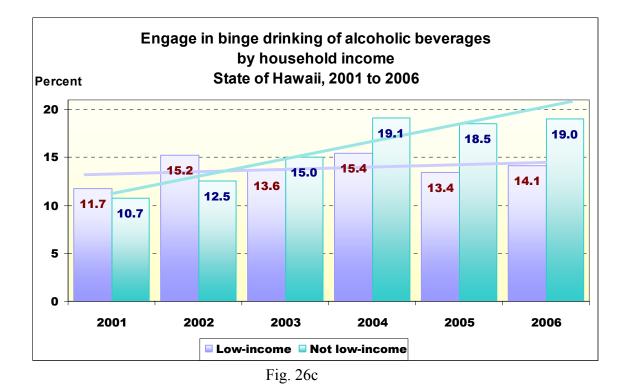
Fig	26a
I Ig.	20a

By ethnicity, in 2006 Filipinos had the lowest rate of alcoholic beverage binge drinking at13.1%. It is significantly lower than that for Japanese, Whites, or Hawaiians. Nevertheless, the percentages engaging in binge drinking in each of these four ethnic groups are definitely increasing (Figure 26b).





By socio-economic status, the trend in binge drinking remains flat among adults in low income households but it appears upward among those with better household income (Figure 26c). Except the year of 2004, HBRFSS data show that there is no significant difference in binge drinking between the groups of people who did not finish High School and those with better education (Figure 26d).



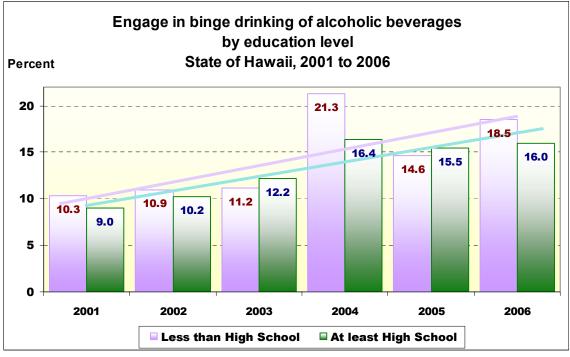
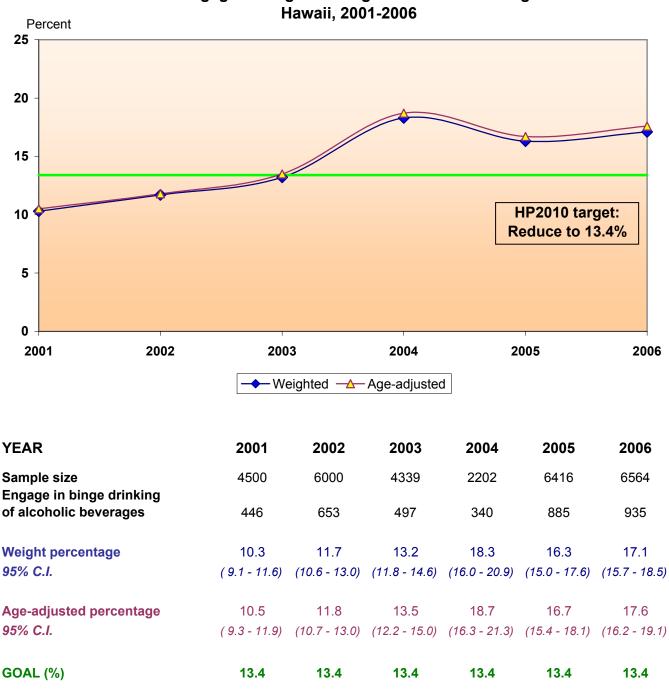


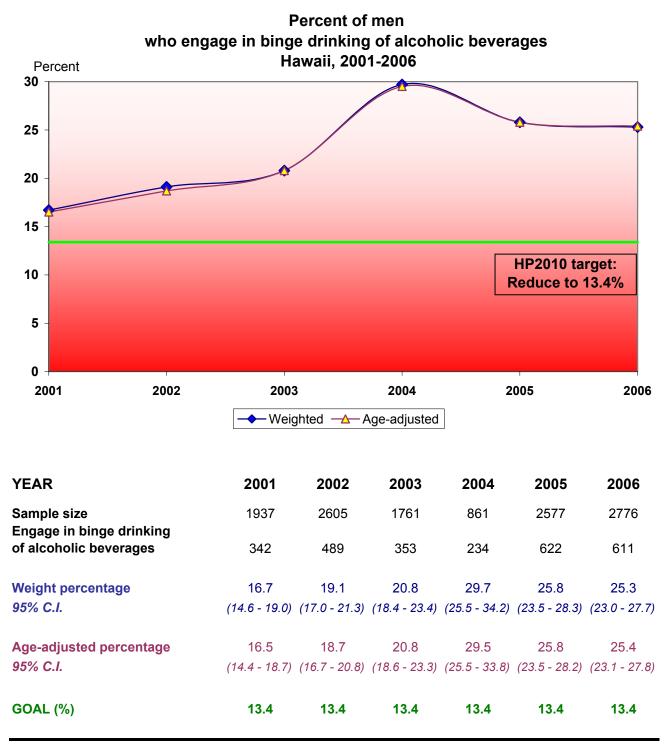
Fig. 26d

# **OBJECTIVE 26-11c**

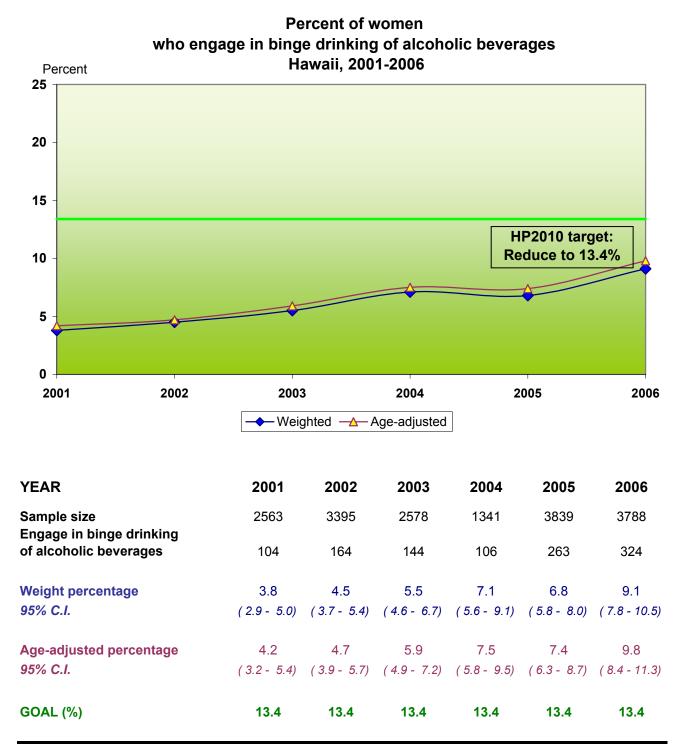


Percent of adults who engage in binge drinking of alcoholic beverages Hawaii. 2001-2006

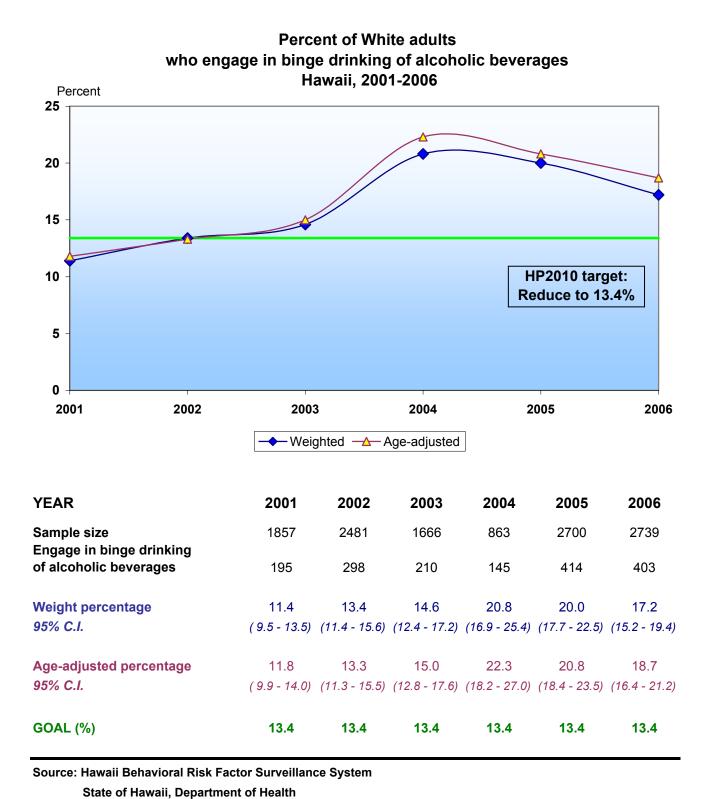
Source: Hawaii Behavioral Risk Factor Surveillance System

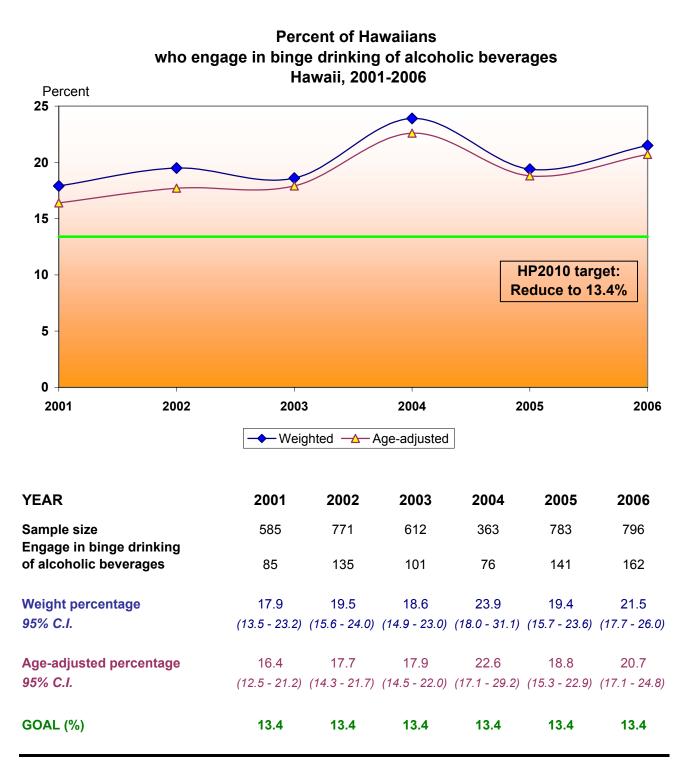


Source: Hawaii Behavioral Risk Factor Surveillance System

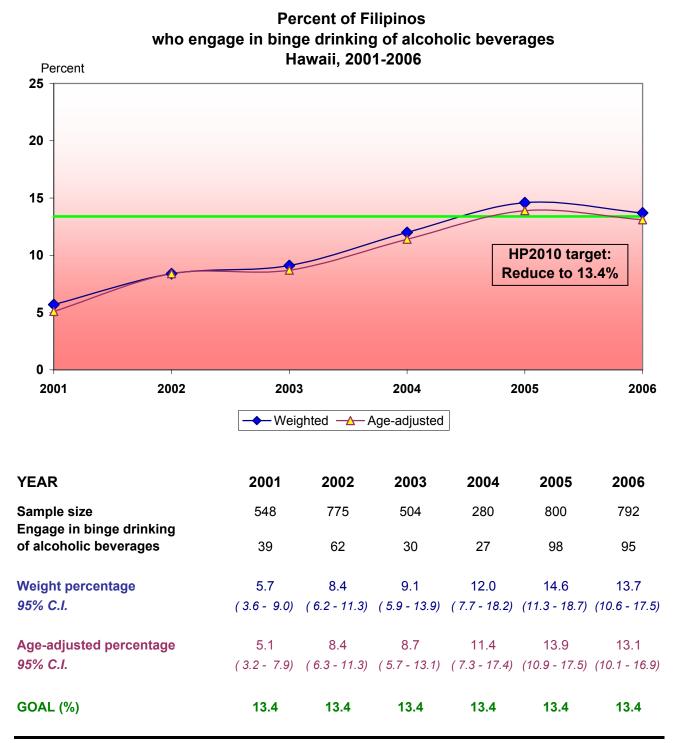


Source: Hawaii Behavioral Risk Factor Surveillance System

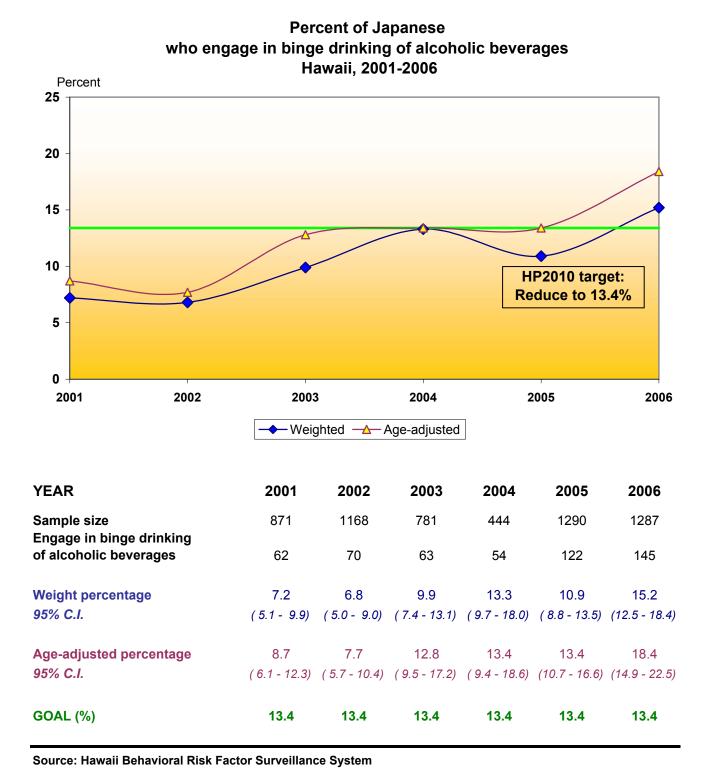


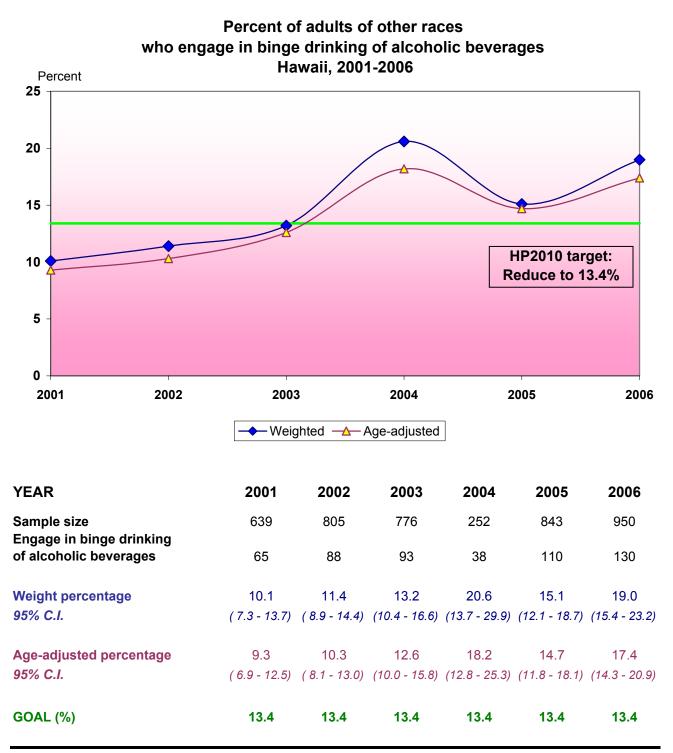


Source: Hawaii Behavioral Risk Factor Surveillance System

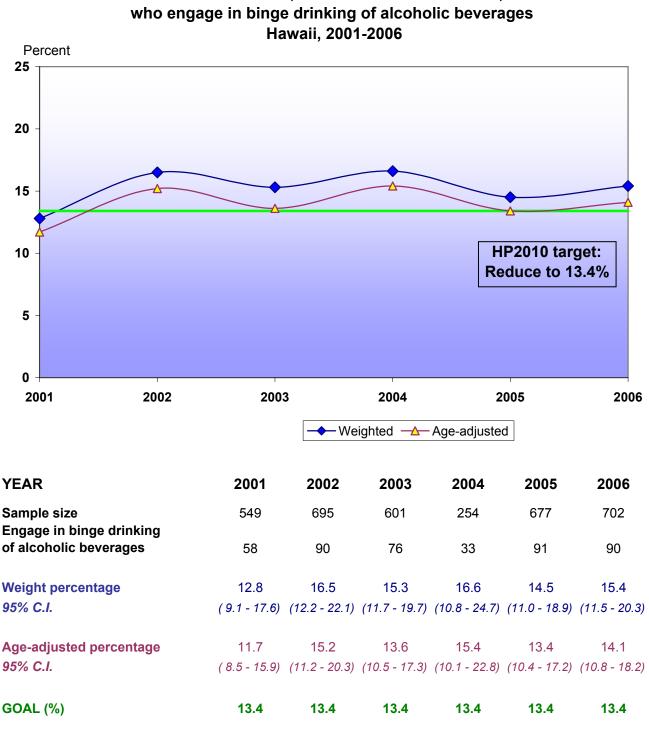


Source: Hawaii Behavioral Risk Factor Surveillance System



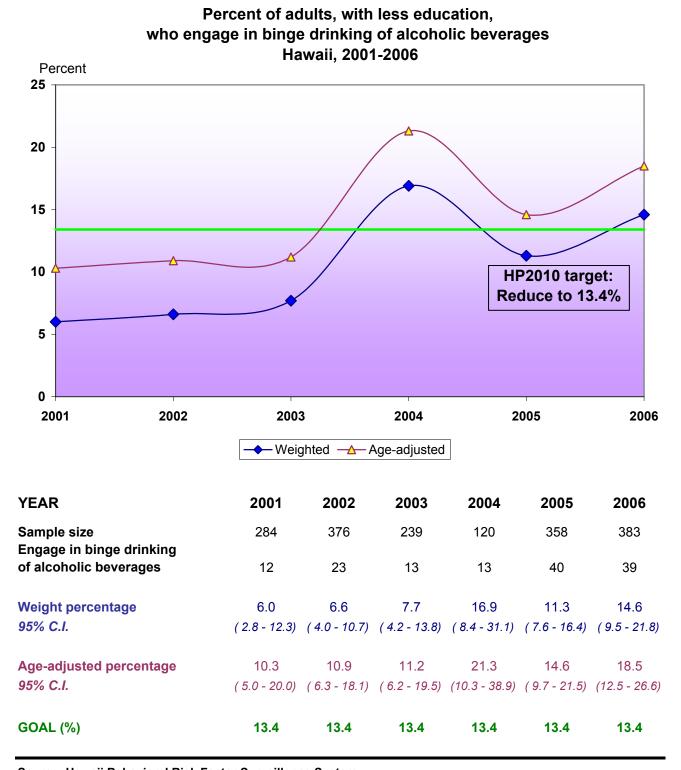


Source: Hawaii Behavioral Risk Factor Surveillance System

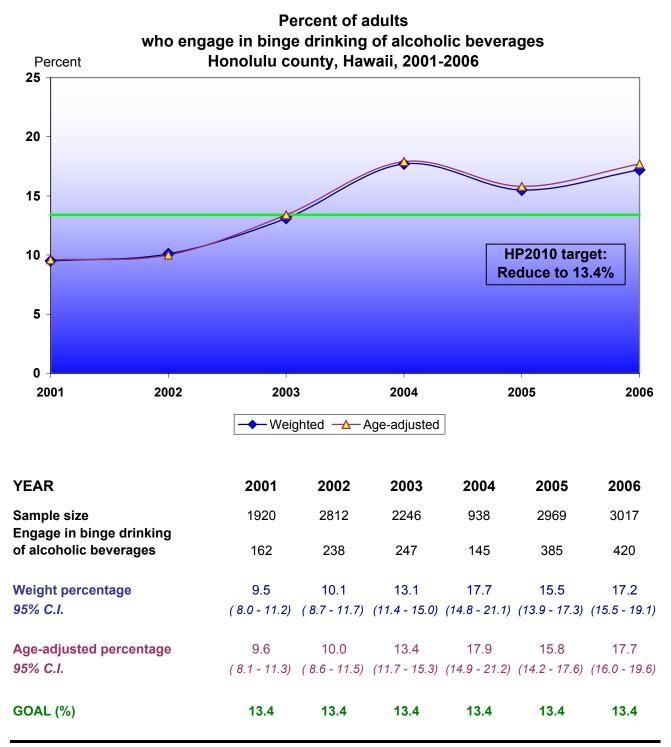


Percent of adults, in low income households,

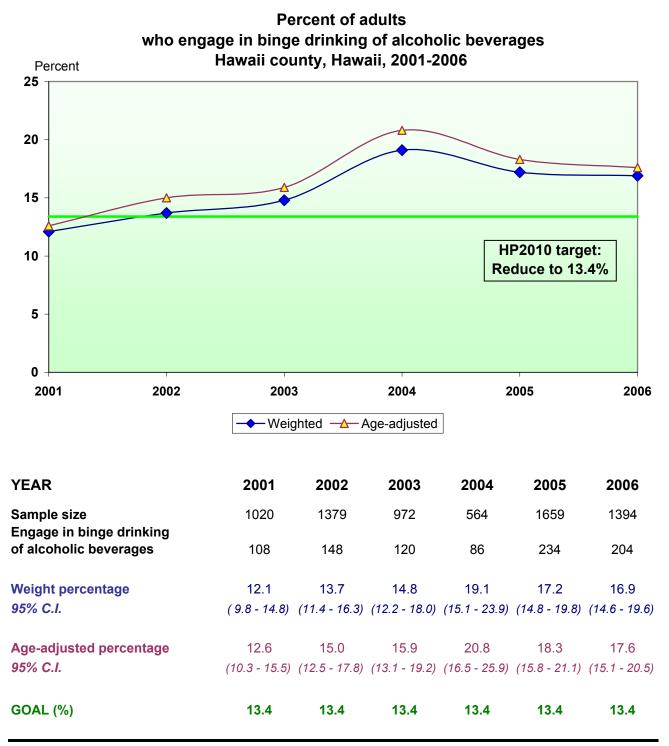
Source: Hawaii Behavioral Risk Factor Surveillance System



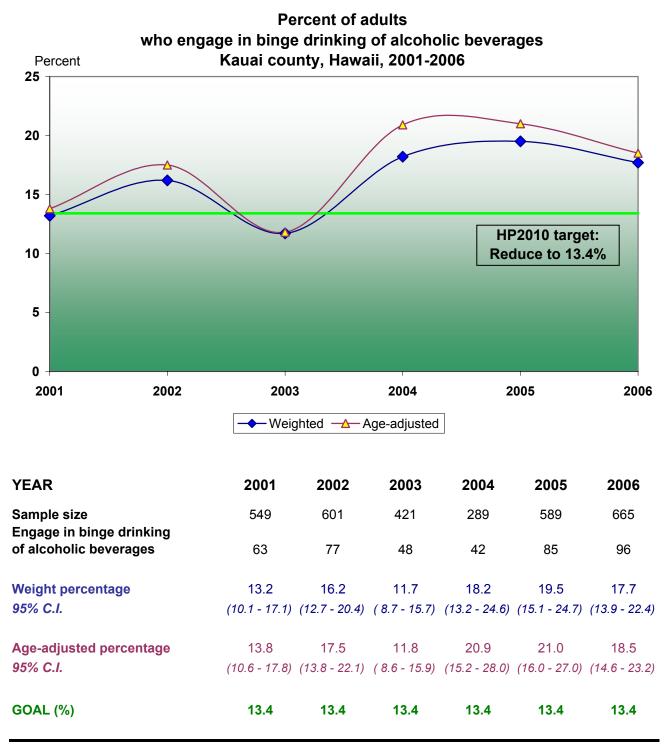
Source: Hawaii Behavioral Risk Factor Surveillance System



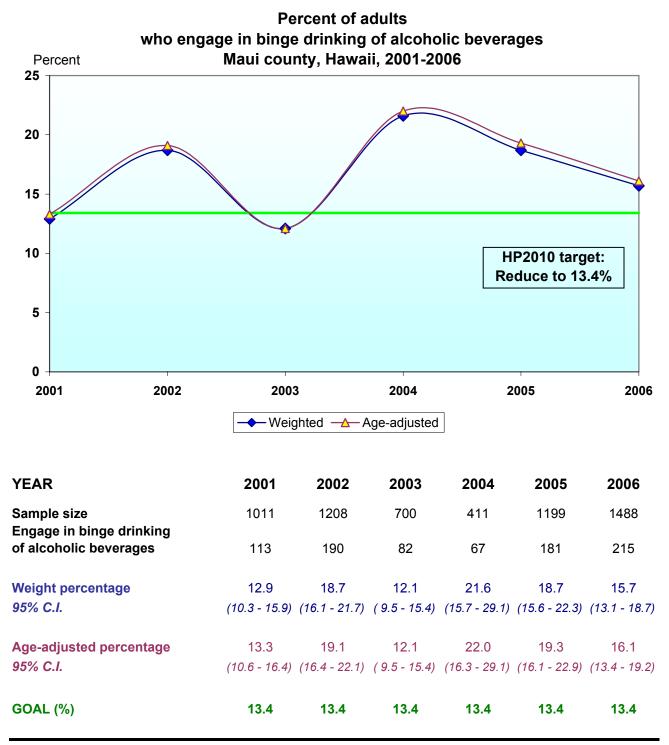
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

#### **TOBACCO USE**

We have data to observe 2 objectives in this area

#### **Objective 27-1:** *Reduce tobacco use by adults to* **12% Question used to obtain the data:**

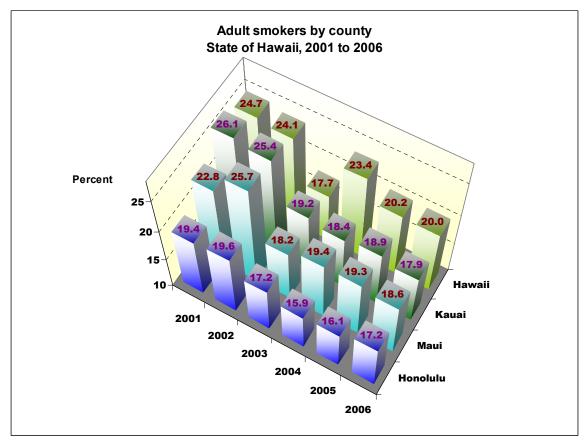
Have you smoked at least 100 cigarettes in your entire life? [If YES, then continue with the following question] Do you now smoke cigarettes everyday, some days, or not at all?

#### Objective 27-5: Increase smoking cessation attempts by adult smokers to 75% Question used to obtain the data:

During the past 12 months, have you stopped smoking for one day or longer because you were trying to quit smoking?

The proportion of smokers among adults in Hawaii has declined from 20.6% in 2001 to 17.7% in 2006. However, since 2003 until now yearly percentages have been around 17%, still far from the HP2010 goal of 12%. It will need a great effort to achieve this objective.

In 2001 and 2002, the rates of adult smokers in Hawaii, Kauai, and Maui were much higher than it is for Honolulu County. In recent years, they were still higher but not significantly different from Honolulu County (Figure 27a).



Although the smoking rate is going down for every ethnic group, Hawaiians still display a significant higher risk for smoking than others (Figure 27b). In 2006, the Hawaiian smoking rate is 27.2%; Filipinos have the lowest one at 14.1%.

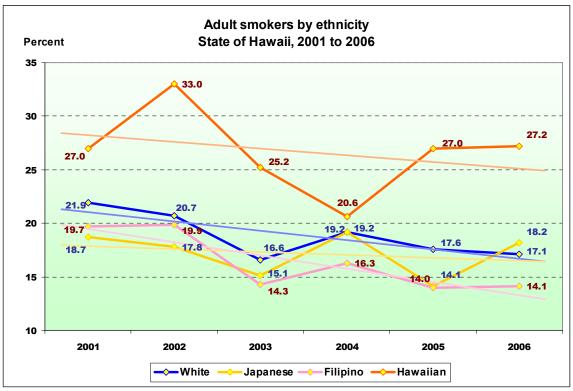
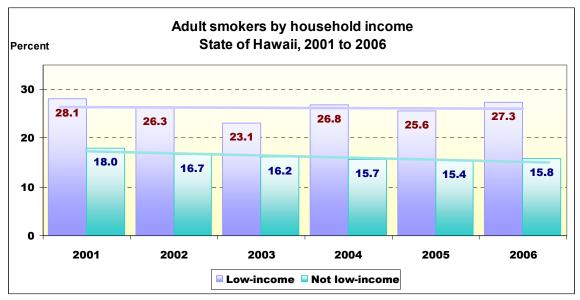


Fig. 27b

The proportion of smokers in low income households or among less educated is much higher than the better income or better educated groups respectively. These gaps are statistically different at alpha=5% test criterion (Figure 27c, 27d).



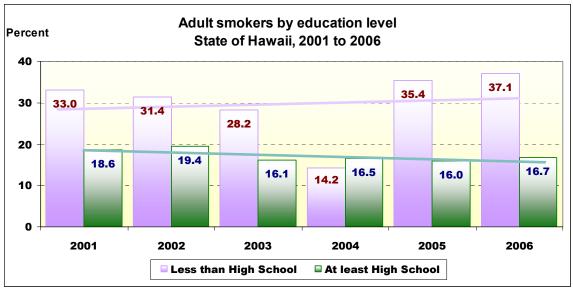


Fig. 27d

By gender, the six-year data show that the smoking rate of women seems not to have changed that much while that for men is really going down (Figure 27e). This result may suggest that men are more successful than women in trying to quit smoking or tobacco programs efforts in reaching their target audience is successful (Figure 27f).

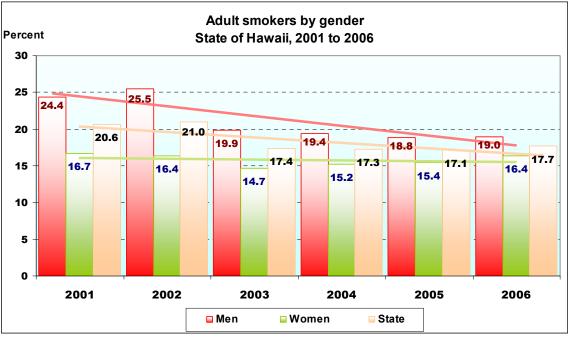
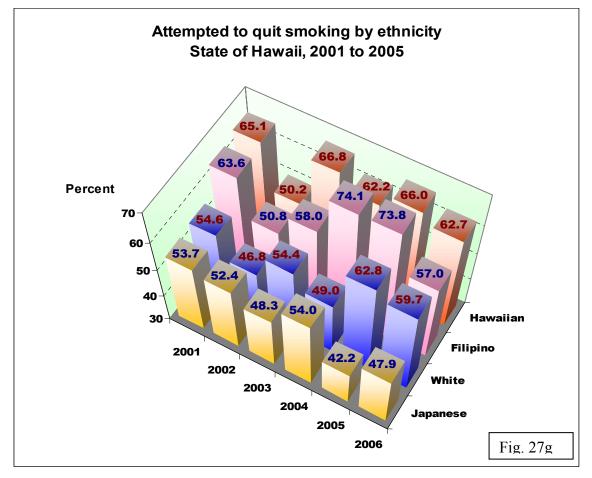


Fig. 27e

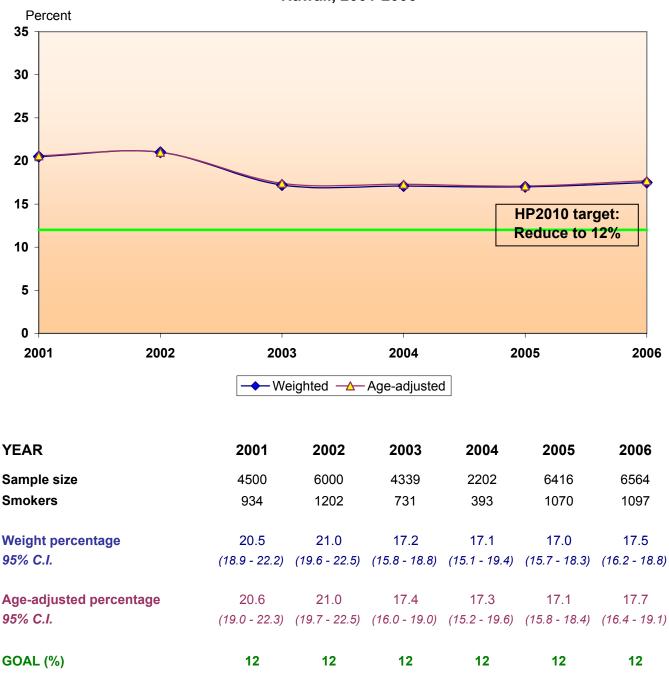


Fig. 27f

The percentage of Japanese smokers who have attempted to quit smoking is trending down. In 2006, the proportion of Japanese smokers who ever tried to quit smoking is the lowest at only 47.5% compared to the rest of the ethnic groups. It is lower than 57.0% for Filipino smokers and significantly lower than 59.7% for White smokers or 62.7% for Hawaiian smokers at alpha=5% test criterion (Figure 27g).



# **OBJECTIVE 27-1**



Percent of adults who smoke Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

-	H	awaii, 200	1-2006			
Percent 35						
30 -						
25						
20 -	~		<u>^</u>		<u>∧</u>	
15 -					P2010 targ educe to 1	
10 -						
5 -						
0 -			1		1	
2001 2002	2003	3	2004	2	005	2006
		ghted — <u>A</u> —A	\ge-adjusted			
YEAR	2001	2002	2003	2004	2005	2006
Sample size	1937	2605	1761	861	2577	2776
Smokers	463	648	342	177	478	503
Weight percentage	24.7	26.1	20.0	19.5	19.1	19.1
95% C.I.	(22.1 - 27.4)	(23.8 - 28.5)	(17.6 - 22.5)	(16.3 - 23.2)	(17.1 - 21.3)	(17.1 - 21.3)
Age-adjusted percentage	24.4	25.5	19.9	19.4	18.8	19.0
95% C.I.	(21.9 - 27.2)	(23.4 - 27.8)	(17.6 - 22.4)	(16.2 - 23.2)	(16.8 - 21.0)	(17.0 - 21.2)
GOAL (%)	12	12	12	12	12	12

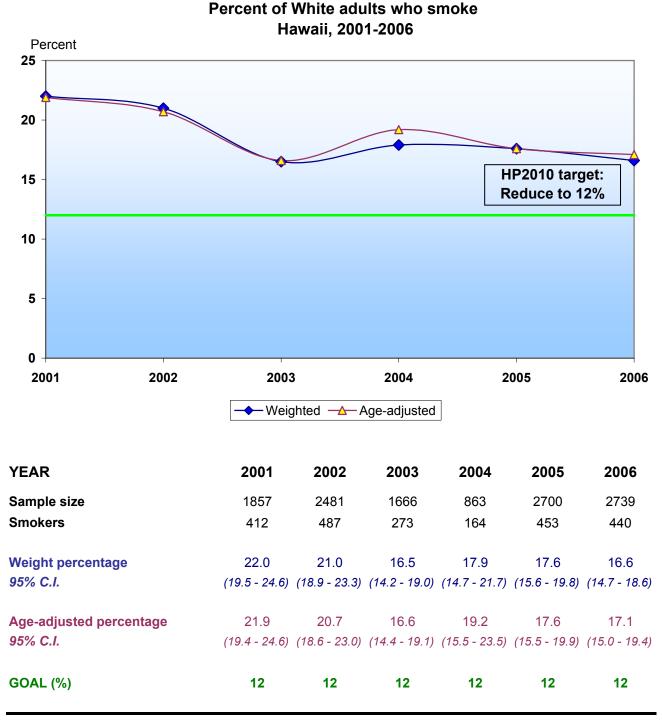
Percent of men who smoke

Source: Hawaii Behavioral Risk Factor Surveillance System

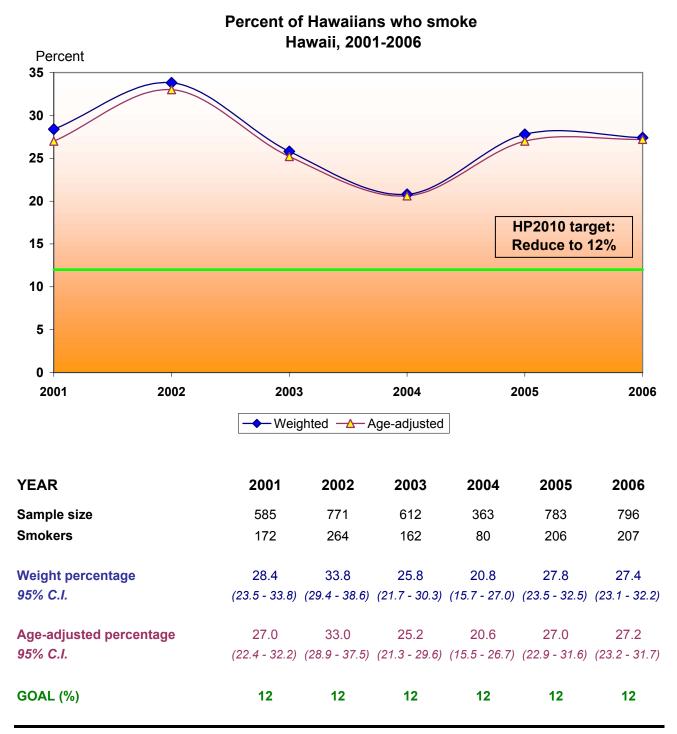
Percent							
25							
20 -							
15 -						♦ P2010 targ	
10 -					R	educe to 1	2%
5 -							
0	1					1	
2001	2002	2003	3	2004	2	005	2006
		Weię	ghted — <u>A</u> —A	Age-adjusted			
YEAR		2001	2002	2003	2004	2005	2006
Sample size		2563	3395	2578	1341	3839	3788
Smokers		471	554	389	216	592	594
Weight percentage		16.2	16.0	14.5	14.8	14.9	15.9
95% C.I.		(14.5 - 18.2)	(14.5 - 17.6)	(12.9 - 16.2)	(12.4 - 17.5)	(13.5 - 16.4)	(14.3 - 17.6)
Age-adjusted percen	itage	16.7	16.4	14.7	15.2	15.4	16.4
95% C.I.		(14.8 - 18.6)	(14.8 - 18.0)	(13.1 - 16.5)	(12.7 - 18.1)	(13.9 - 17.0)	(14.7 - 18.2)
		12	12	12	12	12	12

Percent of women who smoke Hawaii, 2001-2006

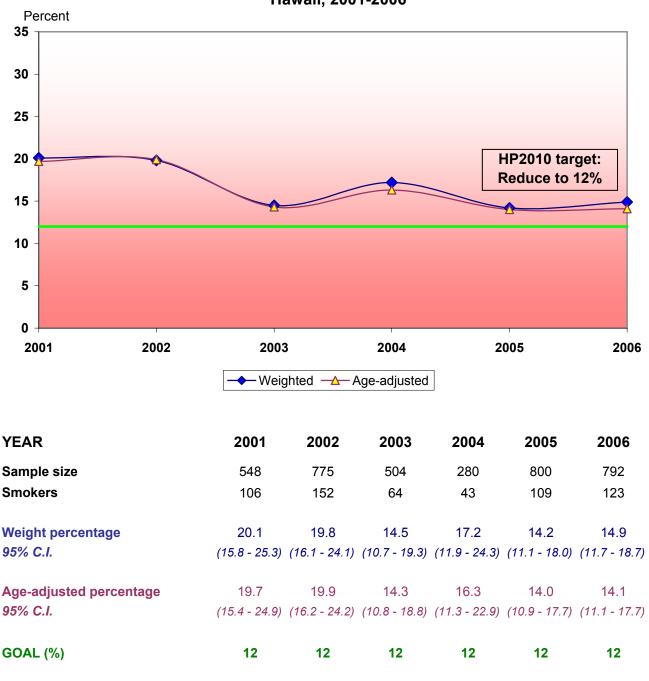
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System



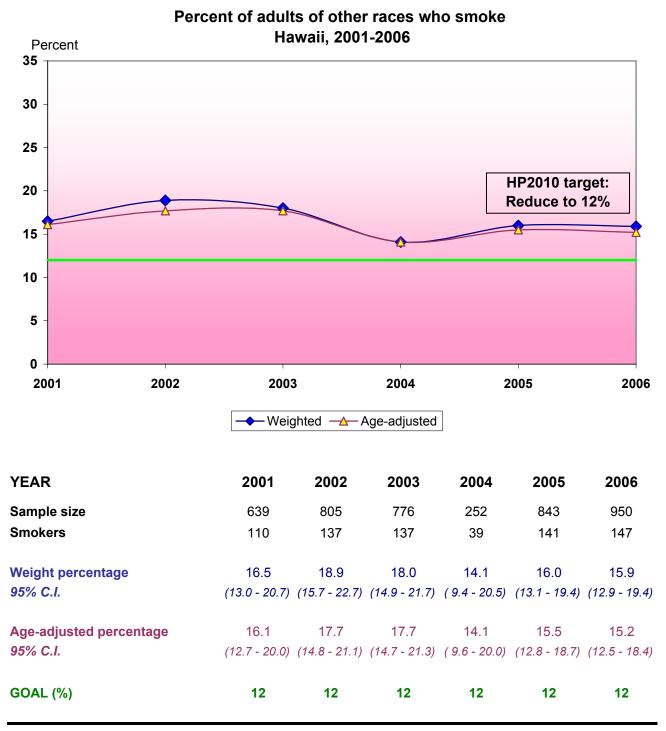
Percent of Filipinos who smoke Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

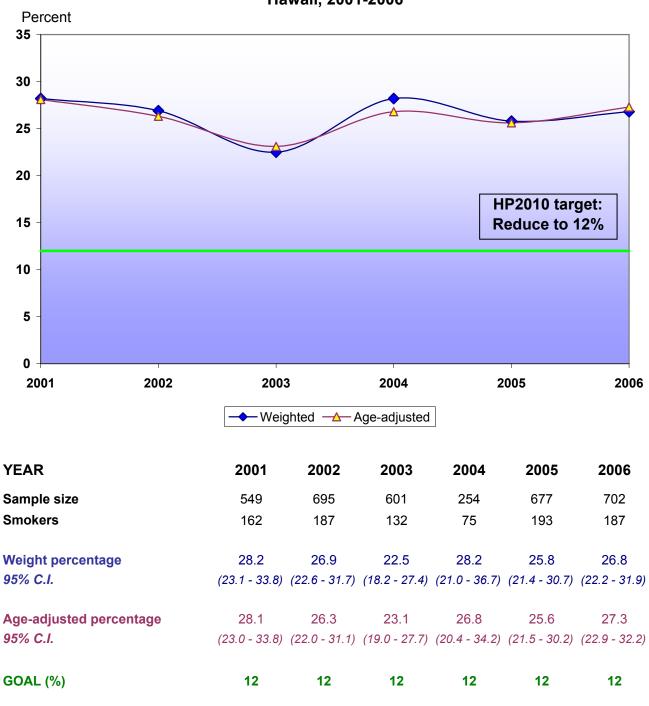
Percent <b>35</b> <del></del>							
55							
30 -							
25 -							
20						2010 targe duce to 12	
15	•			-		4	
10 -		-					
5 -							
0 2001	2002	200;	3	2004	2	2005	2006
	2002		3 ghted — <u>A</u> —A		-	2005	2006
	2002				-	2005	2006
	2002				-	2005	2006 2006
2001	2002		ghted 📥 A	Age-adjusted	]		
2001 YEAR	2002		ghted <u>~</u> A 2002	Age-adjusted	2004	2005	2006
2001 YEAR Sample size			ghted <u> </u>	Age-adjusted <b>2003</b> 781	<b>2004</b> 444	<b>2005</b> 1290	<b>2006</b> 1287
2001 YEAR Sample size Smokers		← Weig <b>2001</b> 871 134 16.8	ghted <u>↓</u> A 2002 1168 162 15.6	Age-adjusted 2003 781 95 13.6	<b>2004</b> 444 67 15.2	<b>2005</b> 1290 161	<b>2006</b> 1287 180 16.2
2001 YEAR Sample size Smokers Weight percentage	9	← Weig <b>2001</b> 871 134 16.8	ghted <u>↓</u> A 2002 1168 162 15.6	Age-adjusted 2003 781 95 13.6	<b>2004</b> 444 67 15.2	<b>2005</b> 1290 161 12.9	<b>2006</b> 1287 180 16.2
2001 YEAR Sample size Smokers Weight percentage 95% C.I.	9	← Weig 2001 871 134 16.8 (13.7 - 20.5) 18.7	ghted <u>▲</u> A 2002 1168 162 15.6 (12.9 - 18.6) 17.8	Age-adjusted 2003 781 95 13.6 (10.6 - 17.3) 15.1	<b>2004</b> 444 67 15.2 (11.3 - 20.1) 19.2	<b>2005</b> 1290 161 12.9 (10.7 - 15.4)	<b>2006</b> 1287 180 16.2 (13.5 - 19.4) 18.2

Percent of Japanese who smoke Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

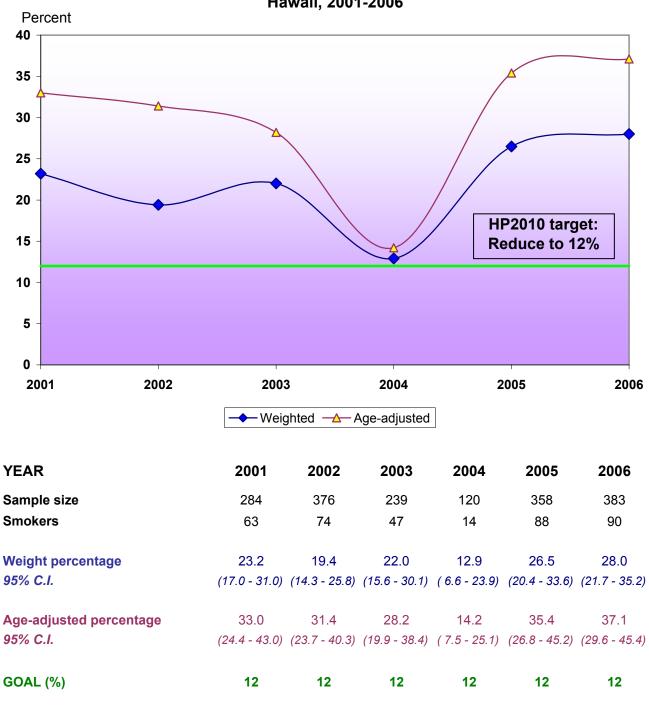


Source: Hawaii Behavioral Risk Factor Surveillance System



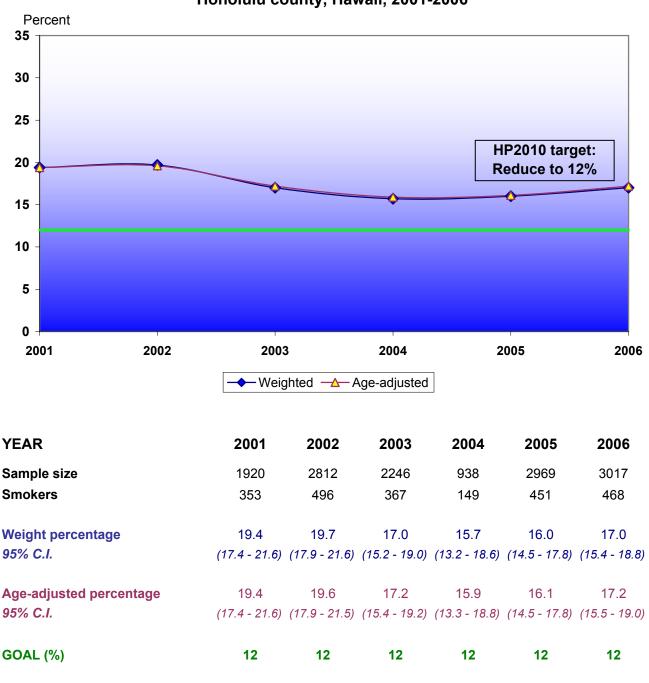
Percent of adults in low income households who smoke Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System



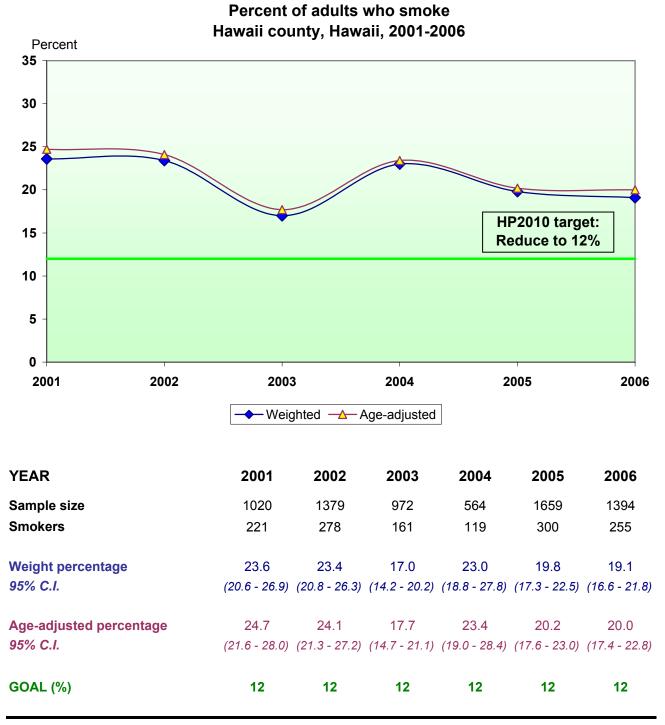
Percent of adults with less education who smoke Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

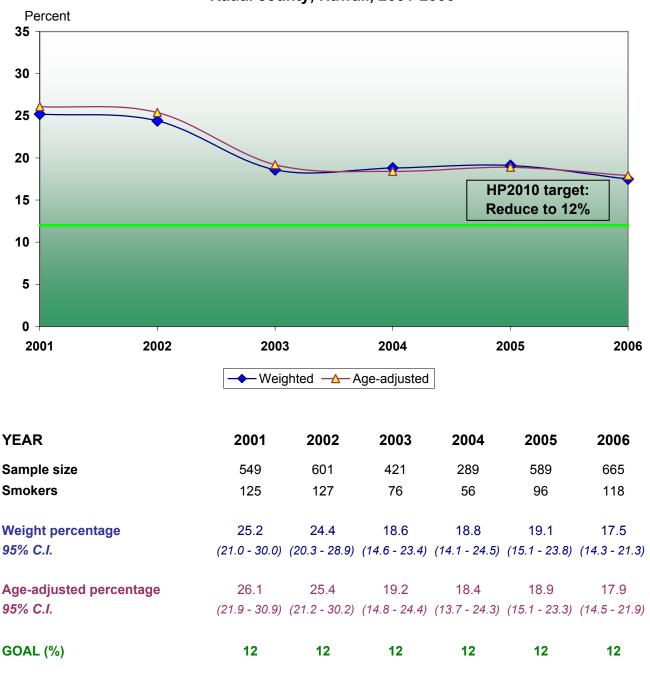


Percent of adults who smoke Honolulu county, Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

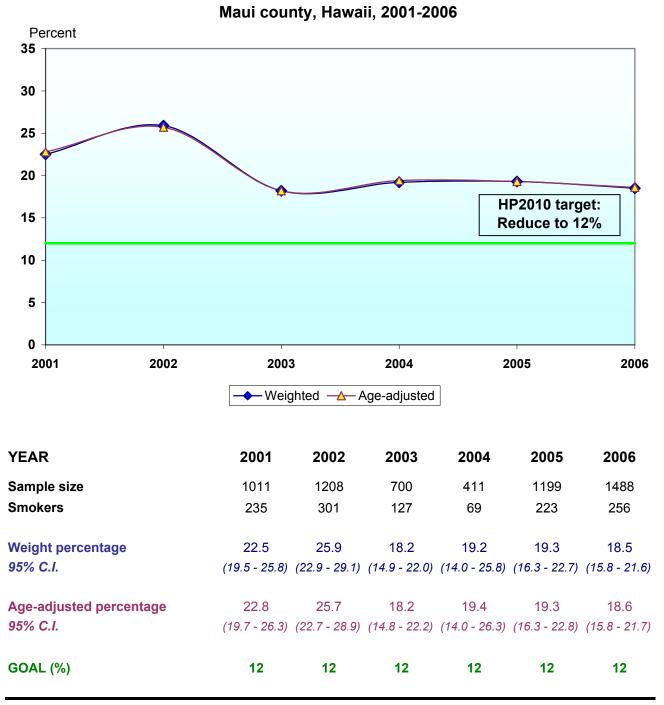


Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of adults who smoke Kauai county, Hawaii, 2001-2006

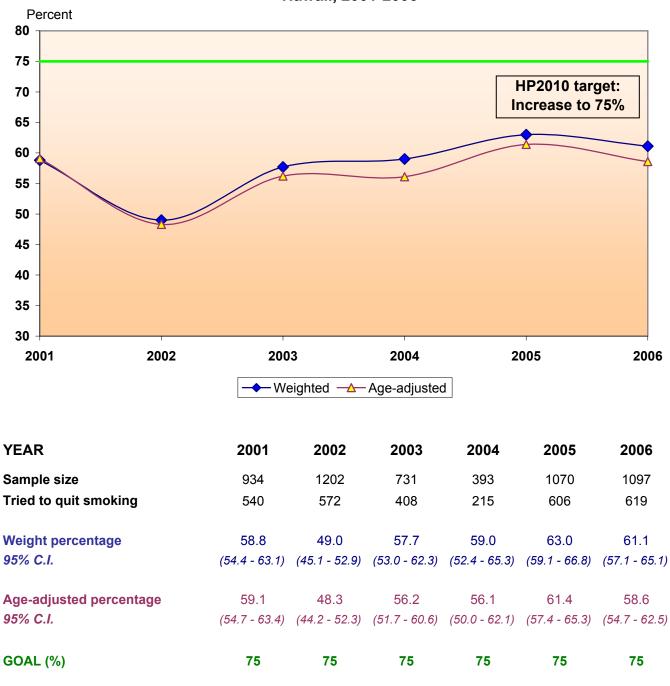
Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of adults who smoke

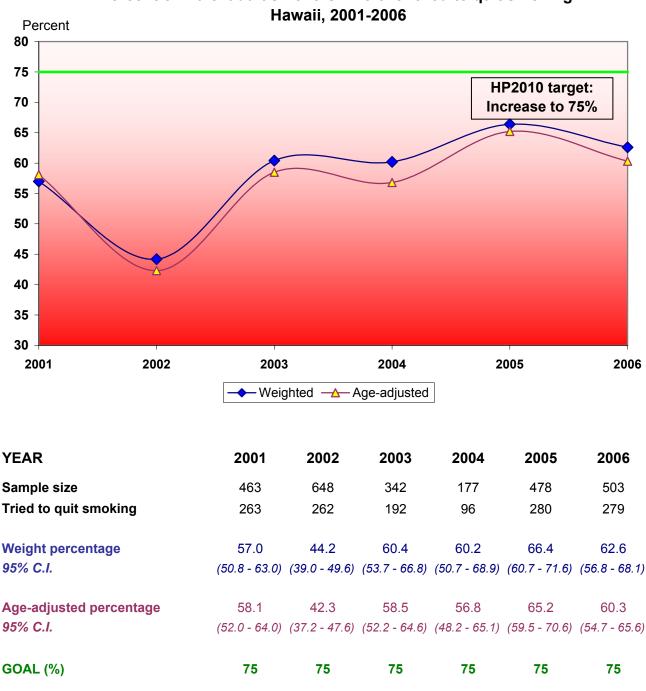
Source: Hawaii Behavioral Risk Factor Surveillance System

# **OBJECTIVE 27-5**



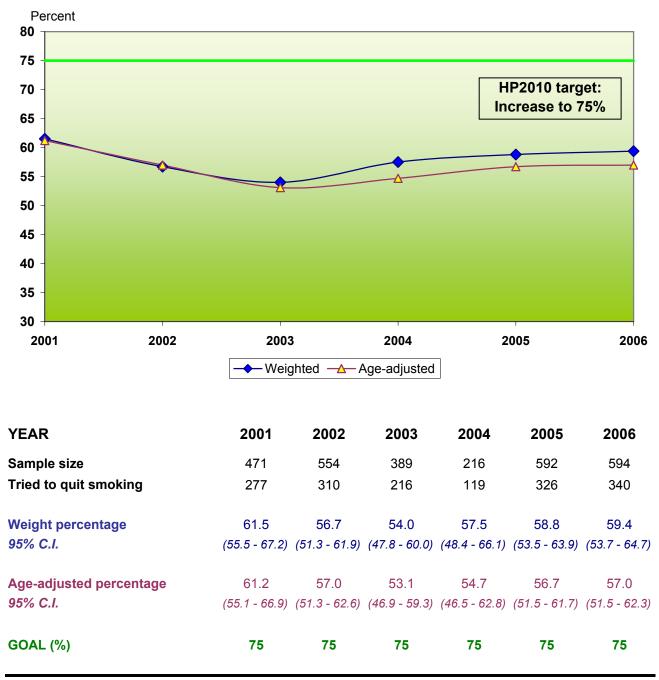
Percent of adult smokers who ever tried to quit smoking Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System



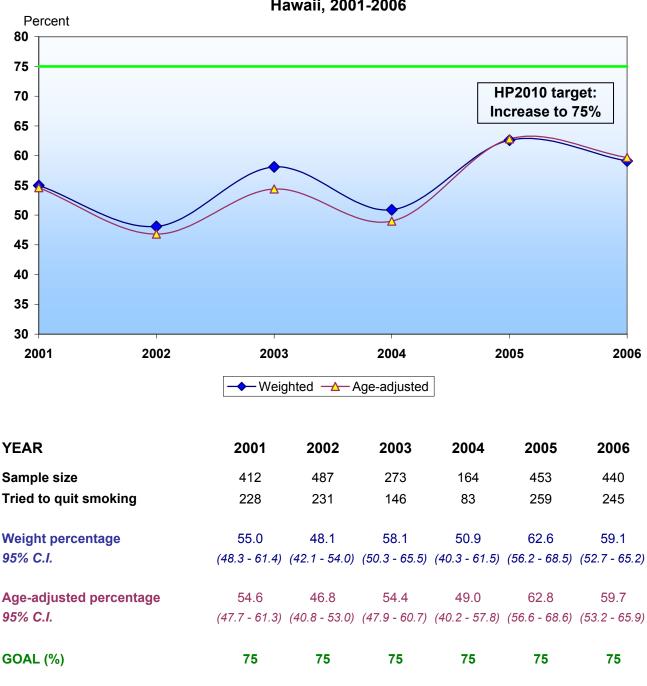
Percent of male adult smokers who ever tried to quit smoking

Source: Hawaii Behavioral Risk Factor Surveillance System



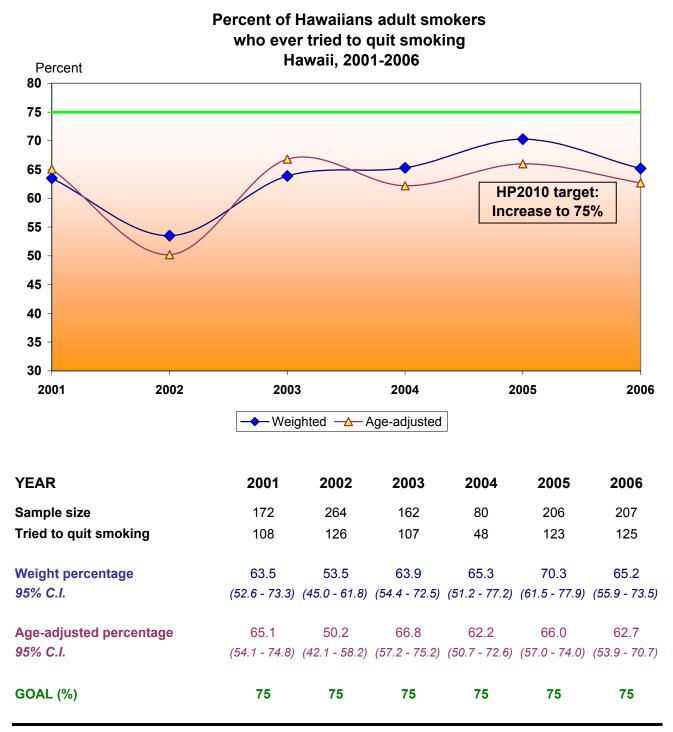
Percent of female adult smokers who ever tried to quit smoking Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

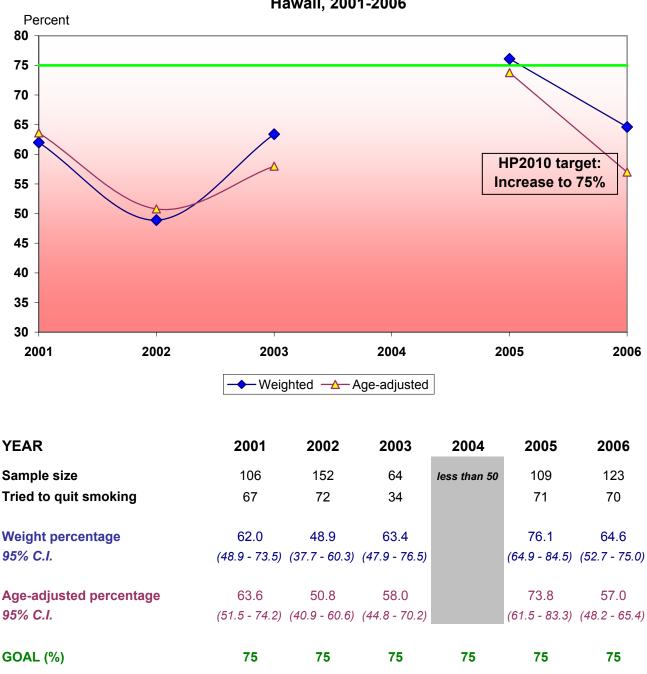


Percent of White adult smokers who ever tried to quit smoking Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

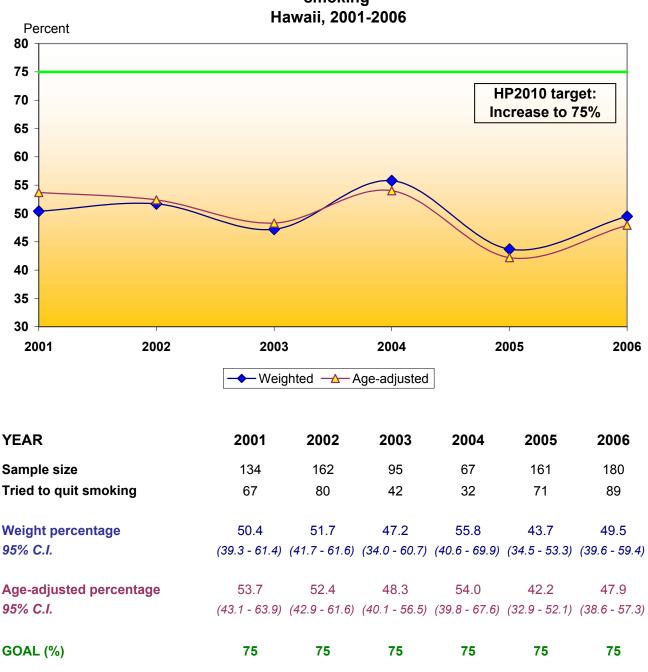


Source: Hawaii Behavioral Risk Factor Surveillance System



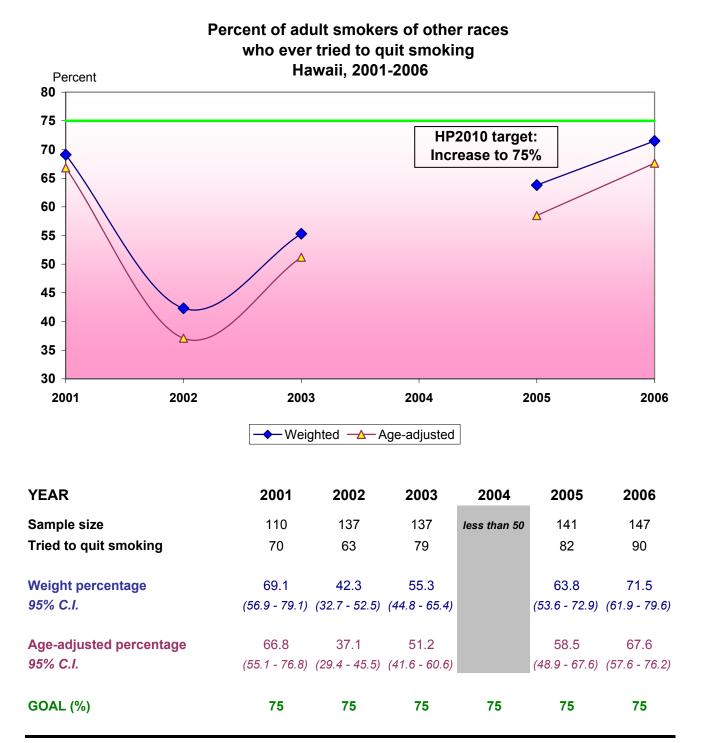
Percent of Filipino adult smokers who ever tried to quit smoking Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

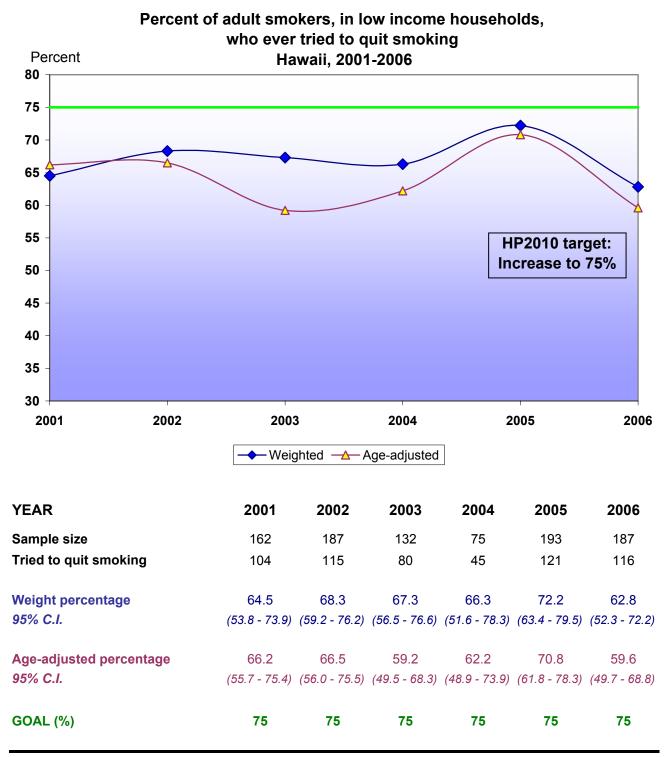


Percent of Japanese adult smokers who ever tried to quit smoking Hawaii, 2001-2006

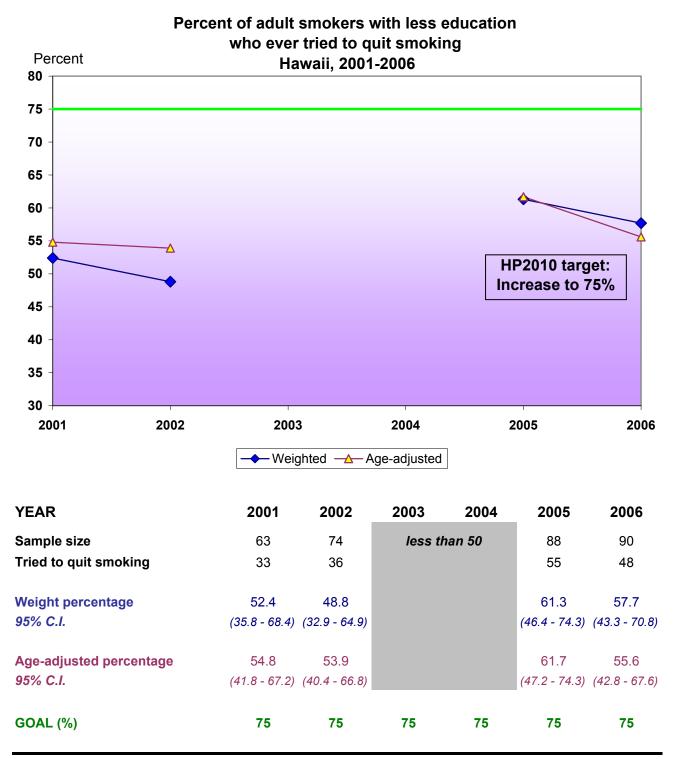
Source: Hawaii Behavioral Risk Factor Surveillance System



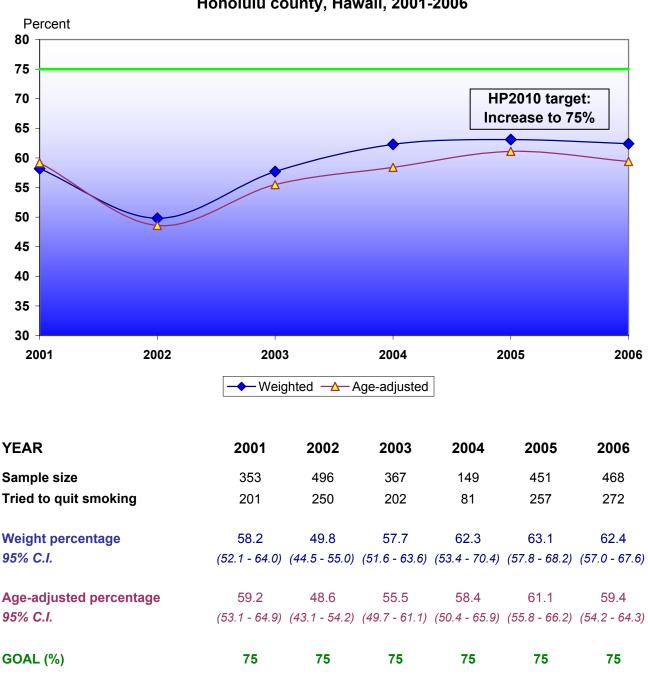
Source: Hawaii Behavioral Risk Factor Surveillance System



Source: Hawaii Behavioral Risk Factor Surveillance System

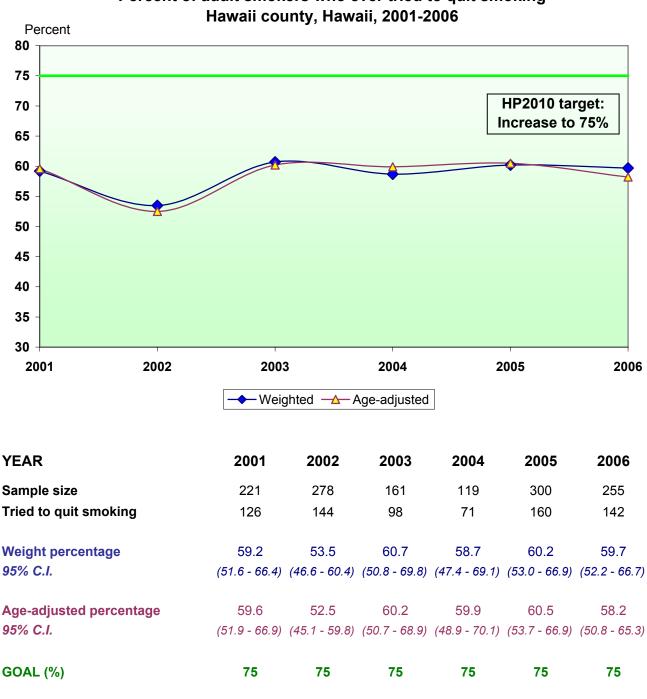


Source: Hawaii Behavioral Risk Factor Surveillance System



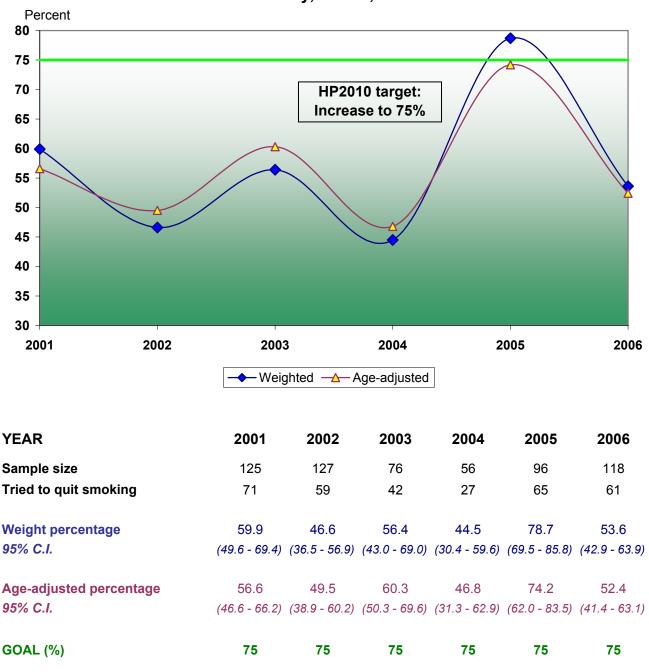
Percent of adult smokers who ever tried to quit smoking Honolulu county, Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System



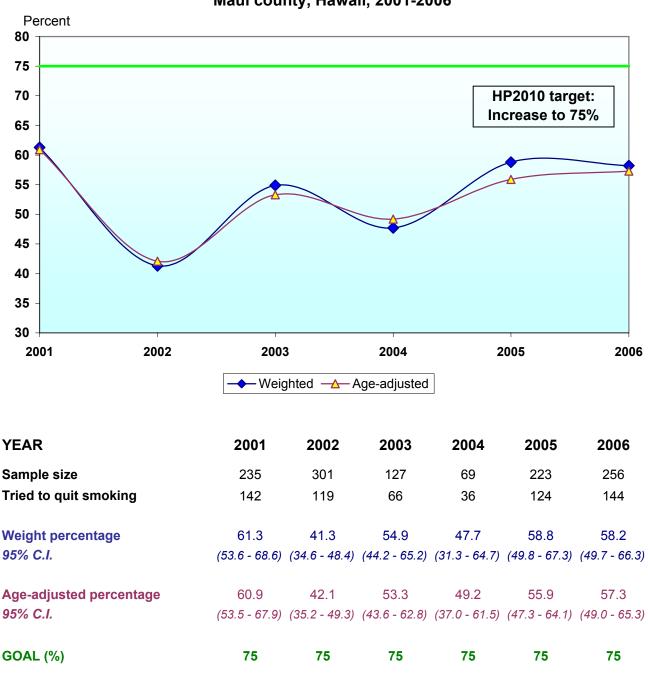
Percent of adult smokers who ever tried to quit smoking

Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of adult smokers who ever tried to quit smoking Kauai county, Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System



Percent of adult smokers who ever tried to quit smoking Maui county, Hawaii, 2001-2006

Source: Hawaii Behavioral Risk Factor Surveillance System

# APPENDIX A

### • Access to Quality Health service Objective 1.1:

Increase the proportion of persons under age 65 years with health insurance to **100%**.

**Baseline:** 83 percent of persons under age 65 years were covered by health insurance in 1997 (age adjusted to the year 2000 standard population).

Target setting method: Total coverage.

# Question used to obtain the data:

Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plan such as Medicare? (HLTHPLAN)

Age-adjusted by distribution #22

# **Objective 1.4c:**

Increase the proportion of adults aged 18 years and older who have a specific source of ongoing care to **96%** 

**Baseline:** 85 percent of persons aged 18 and older with specific source of ongoing care in 1998 (age adjusted to the year 2000 standard population).

Target setting method: Better than the best.

Question used to obtain the data:

Do you have one person [or more than one] you think of as your personal doctor or health care provider? (PERSDOC2) Age-adjusted by distribution #9

### • Cancer

#### **Objective 3-11a**

Increase the proportion of women aged 18 years and older who have ever received a Pap test to **97%** 

**Baseline:** In 1998, 92 percent of women 18 years and older who have ever received a Pap test (Age adjusted to the year 2000 standard population, includes women without a uterine cervix).

Target setting method: Better than the best

Question used to obtain the data: Have you ever had a pap smear? (HADPAP for 01:02:03; HADPAP2 for 04:05:06) Age-adjusted by distribution #9 **Objective 3-11b** 

Increase the proportion of women aged 18 years and older who have ever received a Pap test within the preceding 3 years to **90%** 

**Baseline:** In 1998, 79 percent of women 18 years and older who received a Pap test in the preceding 3 years. (Age adjusted to the year 2000 standard population, includes women without a uterine cervix).

Target setting method: Better than the best

#### **Question used to obtain the data:**

How long has it been since your last pap smear? (LASTPAP for 01:02:03; LASTPAP2 for 04:05:06) Age-adjusted by distribution #9

# **Objective 3-12a**

Increase the proportion of adults aged 50 years and older who have received a fecal occult blood test (FOBT) within the preceding 2 years to **33**% (revised from 50%)

**Baseline:** In 2000, 24 percent of adults 50 years and older who have ever received a Fecal Occult Blood Test (Age adjusted to the year 2000 standard population). *Baseline year and baseline are revised from 1998 and 35% after the November 2000 publication.* 

### Target setting method: Better than the best

# **Question used to obtain the data:**

A blood stool test is a test that may use a special kit at home to determine whether the stool contains blood. Have you ever had this test using a home kit? How long has it been since your last blood stool test using a home kit? (BLDSTOOL, LSTBLDS2) Age-adjusted by distribution #17

### **Objective 3-12b**

Increase the proportion of adults aged 50 years and older who have ever received a sigmoidoscopy to **50%** 

**Baseline:** In 1998, 37 percent of adults 50 years and older who have ever received a sigmoidoscopy (Age adjusted to the year 2000 standard population).

### Target setting method: Better than the best

#### **Question used to obtain the data:**

Sigmoidoscopy and colonoscopy are exams in which a tube is inserted in the rectum to view the bowel for signs of cancer or other health problems. Have you ever had either of these exams? (HADSIGM2 for 01:02:03; HADSIGM3 for 04:05:06) Age-adjusted by distribution #17

# **Objective 3-13**

Increase the proportion of women aged 40 years and older who have received a mammogram within the preceding 2 years to **70%** 

**Baseline:** In 1998, 67 percent of women 40 years and older who have ever received a mammogram within the preceding 2 years (Age adjusted to the year 2000 standard population).

### Target setting method: Better than the best

# **Question used to obtain the data:**

Have you ever had a mammogram? How long has it been since your last mammogram? (HADMAM, HOWLONG) Age-adjusted by distribution #15

# • Diabetes

*Due to the revision after November 2000 publication, the target and baseline of some of the following objectives are revised.(\*)* 

#### **Objective 5-1**

Increase the proportion of persons with diabetes who receive formal diabetes education to 60%

**Baseline:** In 1998, 45 percent with diabetes who received formal diabetes education (Age adjusted to the year 2000 standard population).

#### Target setting method: Better than the best

#### Question used to obtain the data:

Have you ever taken a course or class in how to manage your diabetes yourself? (DIABEDU)

Age-adjusted by distribution #9

# **Objective 5-3**

*Reduce the overall rate of diabetes that is clinically diagnosed to* **2.5%** (25 overall cases per 1,000 population)

**Baseline:** 40 overall cases (including new and existing cases) of diabetes per 1,000 population occurred in 1997 (Age adjusted to the year 2000 standard population).

Target setting method: Better than the best

#### Question used to obtain the data:

Have you ever been told by a doctor, a nurse or a health professional that you have diabetes? (DIABETES for 01:02:03; DIABETES for 04:05:06) Age-adjusted by distribution #9

### **Objective 5-12**

Increase the proportion of adults with diabetes who have a glycosylated hemoglobin measurement at least once a year to **65%** (\*: revised from 50%)

**Baseline:** 59 percent of adults aged 18 years and older with diabetes had a glycosylated hemoglobin measurement at least once a year (mean value of data from 39 States in 1998, age adjusted to the year 2000 standard population) (\*: revised from 24%)

### Target setting method: Better than the best

### **Question used to obtain the data:**

About how many times in the last year has a doctor, nurse, or other health professional checked you for glycosylated hemoglobin "A one C"? (CHKHEMO2 for 01:02:03; CHKHEMO3 for 04:05:06) Age-adjusted by distribution #9

# **Objective 5-13**

Increase the proportion of adults (aged 18+) with diabetes who have an annual dilated eye examination to **76%** (\*: revised from 75%)

**Baseline:** 49 percent of adults aged 18 years and older with diabetes had an annual dilated eye examination in 1998 (Age adjusted to the year 2000 standard population) (\*: *revised from 47%*).

### Target setting method: Better than the best

**Question used to obtain the data:** 

When was the last time you had an eye exam in which the pupils were dilated? (EYEEXAM)

Age-adjusted by distribution #9

#### **Objective 5-14**

Increase the proportion of adults with diabetes who have at least an annual foot examination to **91%** (\*: revised from 75%)

**Baseline:** 68 percent of adults aged 18 years and older with diabetes had at least an annual foot examination (mean value of data from 39 States in 1998, age adjusted to the year 2000 standard population) (\*: revised from 55%).

# Target setting method: Better than the best

**Question used to obtain the data:** 

About how many times in the last year has a other health professional checked your feet for any sores or irritations? (FEETCHK) Age-adjusted by distribution #9

# • Heart Disease and Stroke

# **Objective 12-9**

Reduce the proportion of adults (aged 20+) with high blood pressure to **14%** (revised from 16%)

**Baseline:** 26 percent of adults aged 20 years and older had high blood pressure in 1988-1994 (age adjusted to the year 2000 standard population). *Baseline is revised from 28% after the November 2000 publication.* 

### Target setting method: Better than the best

#### **Question used to obtain the data:**

Have you ever been told by a doctor, nurse or other health professional that you have high blood pressure? (BPHIGH2 for 01; BPHIGH3 for 03; BPHIGH4 for 05) Age-adjusted by distribution #11

# **Objective 12-14**

Reduce the proportion of adults (aged 20+) with high total blood cholesterol levels to **17%** 

**Baseline:** 21 percent of adults aged 20 years and older had total blood cholesterol levels of 240 mg/dL or greater in 1988-1994 (age adjusted to the year 2000 standard population).

# Target setting method: Better than the best

Question used to obtain the data:

Have you ever been told by a doctor, nurse or other professional health that your blood cholesterol is high? (Use calculated variable \_RFCHOL for 01:03:05) Age-adjusted by distribution #11

#### **Objective 12-15**

Increase the proportion of adults who have had their blood cholesterol checked within the preceding 5 years to 80%

**Baseline:** 67 percent of adults aged 18 years and older had their blood cholesterol checked within the preceding 5 years in 1998 (age adjusted to the year 2000 standard population).

# Target setting method: Better than the best

Question used to obtain the data:

About how long has it been since you last had your blood cholesterol checked? (Use calculated variable \_CHOLCHK for 01:03:05) Age-adjusted by distribution #9

# • Immunization

### Objective 14-29a & 14-29b

Increase the proportion of adults aged 65 years and older who are vaccinated annually against influenza and ever vaccinated against pneumococcal disease to **90%** 

Age-adjusted by distribution #18

## Objective 14-29c & 14-29d

Increase the proportion of adults aged 18 to 64 who are vaccinated annually against influenza and ever vaccinated against pneumococcal disease to **60%** Age-adjusted by distribution #22

# Baseline: In 1998

64 percent of adults aged 65 years and older had annually influenza vaccine

46 percents of adults aged 65 years and older ever had pneumococcal vacine

26 percent of adults aged 18 to 64 years had annually influenza vaccine

13 percents of adults aged 18 to 64 years ever had pneumococcal vacine

Age adjusted to the year 2000 standard population.

# Target setting method: Better than the best

## Questions used to obtain the data for these objectives above:

During the past 12 months have you had a flu shot? (FLUSHOT for 01:02:03, FLUSHOT2 for 04, FLUSHOT3 for 05:06) Have you ever had a pneumonia shot? (PNEUVAC2 for 01:02:03:04, PNEUVAC3 for 05:06)

# Nutrition and Overweight Objective 19.1

Objective 19-1

Increase the proportion of adults (aged 20+) who are at healthy weight to **60% Objective 19-2** 

Reduce the proportion of adults (aged 20+) who are obese to 15%

**Baseline:** 42 percent of adults aged 20 were at healthy weight, 23% were identified as obese in 1988 – 1994 (age adjusted to the year 2000 standard population).

### Target setting method: Better than the best

# Questions used to obtain the data for the two above objectives:

About how much do you weight without shoes? About how tall are you without shoes? (Use calculated variable \_BMI2 for 01:02, \_BMI3 for 03, \_BMI4 for 04:05:06) Age-adjusted by distribution #11

### **Objective 19-5**

Increase the proportion of persons (aged 2 years and older) who consume at least two daily servings of fruit to **75%** 

**Baseline:** 28 percent of persons aged 2 years and older consumed at least two daily servings of fruit in 1994 – 1996 (age adjusted to the year 2000 standard population).

### Target setting method: Better than the best

**Question used to obtain the data:** 

Not counting juice, how often do you eat fruit? (FRUIT for 01:02:03:04:05) Age-adjusted by distribution #9

#### **Objective 19-6**

Increase the proportion of persons (aged 2 years and older) who consume at least three daily servings of vegetables, with at least one-third being dark green or orange vegetables to **50%** 

**Baseline:** 3 percent of persons aged 2 years and older consumed at least three daily servings of vegetables, with at least one third of these servings being dark green or orange vegetables in 1994 – 1996 (age adjusted to the year 2000 standard population).

### Target setting method: Better than the best

#### **Questions used to obtain the data:**

How often do you eat green salad? How often do you eat carrots? Not counting carrots, potatoes or green salad, how many servings of vegetables do you usually eat? (GREENSAL, CARROTTS, VEGETABL for 01 to 05) Age-adjusted by distribution #9

# • Oral health

#### **Objective 21-3**

Increase the proportion of adults (aged 35 - 44) who have never had a permanent tooth extracted because of dental caries or periodontal disease to **40** % (revised from 42%.)

### **Objective 21-4**

Reduce the proportion of older adults (aged 65 to 74) who have had all their natural teeth extracted to **22%** (revised from 20%)

**Baseline:** 30 percent of adults aged 35 to 44 years had never had a permanent toot extracted because of dental caries or periodontal disease in 1988 – 1994. *Baseline is revised from 31% after the November 2000 publication.* 

28% of adults aged 65 to 74 years lost all of their natural teeth in 1997. . *Baseline is revised from 26% after the November 2000 publication.* 

## Target setting method: Better than the best

### Question used to obtain the data:

How many of your permanent teeth have been removed because of tooth decay or gum disease? Do not include teeth lost for other reasons such as injury or orthodontics.

(RMVTEETH for 02:04:06)

# **Objective 21-10**

Increase the proportion of children and adults who use the oral health care system each year to 56%

## **Question used to obtain the data:**

How long has it been since you last visited a dentist or a dental clinic for any reason?

(LASTDEN2 for 02:04 LASTDEN3 for 06)

Age-adjusted by distribution #9

# • Physical Activity

Objective 22-1

Reduce the proportion of adults who engage in no leisure-time physical activity to **20%** 

**Baseline:** 40 percent of adults aged 18 years and older engaged in no-leisure-time physical activity in 1997 (age adjusted to the year 2000 standard population).

# Target setting method: Better than the best

### **Question used to obtain the data:**

During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?

(Use the calculated variable \_TOTINDA for 00:01:02, use EXERANY for 98:99)

Age-adjusted by distribution #9

### **Objective 22-2**

Increase the proportion of adults who engage regularly, preferably daily, in moderate physical activity for at least 30 minutes per day to **50%** (revised from 30%)

**Baseline:** 32 percent of adults aged 18 years and older engaged in moderate physical activity for at least 30 minutes 5 or more days per week in 1997 (age adjusted to the year 2000 standard population). *Baseline is revised from 15% after the November 2000 publication to include adults who met the definition for vigorous physical activity.* 

# Target setting method: Better than the best

# Questions used to obtain the data:

How many days per week do you do these moderate activities for at least 10 minutes at a time? On days when you do moderate activities for at least 10 minutes at a time, how much total time per day do you spend doing these activities? (Use the calculated variable \_RFPAMOD for 01:02:03:04:05 [04 recoded]) Age-adjusted by distribution #9

### **Objective 22-3**

Increase the proportion of adults who engage in vigorous physical activity that promotes the development and maintenance of cardiorespiratory fitness 3 or more days per week for 20 or more minutes per occasion to **30%** 

**Baseline:** 23 percent of adults aged 18 years and older engaged in vigorous physical activity for at least 3 or more days per week for 20 or more minutes per occasion in 1997 (age adjusted to the year 2000 standard population).

### Target setting method: Better than the best

### **Questions used to obtain the data:**

How many days per week do you do these vigorous activities for at least 10 minutes at a time?

On days when you do vigorous activities for at least 10 minutes at a time, how much total time per day do you spend doing these activities? (Use the calculated variable \_RFPAVIG for 01:02:03:04:05 [04 recoded]) Age-adjusted by distribution #9

Substance abuse

Objective 26-11c

Reduce the proportion of persons engaging in binge drinking of alcoholic beverages to **13.4%** (change from 6% due to new baseline)

**Baseline:** 24.3 percent of adults aged 18 years and older engaged in Binge Drinking during the past month in 2002 (age adjusted to the year 2000 standard population).

# Target setting method: Better than the best

### Question used to obtain the data:

From 2001 to 2005:

Considering all types of alcoholic beverages, during the past 30 days, how many times did you have 5 or more drinks on the same occasion? By "occasion," we mean at the same time or within a couple of hours of each other.

In 2006:

Considering all types of alcoholic beverages, during the past 30 days, how many times did you have X (X=5 for men, X=4 for women) or more drinks on the same occasion? By "occasion," we mean at the same time or within a couple of hours of each other.

(Use the calculated variable \_RFBING for 01, \_RFBING2 for 02:03:04; \_RFBING3 for 05; \_RFBING4 for 06)

Age-adjusted by distribution #9

• Tobacco Use

# **Objective 27-1**

Reduce tobacco use by adults to **12%** 

Question used to obtain the data:

Have you smoked at least 100 cigarettes in your entire life? [If YES, then continue with the following question] Do you now smoke cigarettes everyday, some days, or not at all? (\_SMOKER2 for 01:02:03:04, \_SMOKER3 for 05:06) Age-adjusted by distribution #9 **Baseline:** 24 percent of adults aged 18 years and older smoked cigarette in 1998 (age adjusted to the year 2000 standard population).

Target setting method: Better than the best

### **Objective 27-5**

Increase smoking cessation attempts by adult smokers to 75%

**Baseline:** In 1998, 41 percent of adult smokers aged 18 years and older stopped smoking for 1 day or longer because they were trying to quit (age adjusted to the year 2000 standard population).

# Target setting method: Better than the best

#### **Question used to obtain the data:**

During the past 12 months, have you stopped smoking for one day or longer because you were trying to quit smoking? (STOPSMK2 for 01:02:03:04:05:06) Age-adjusted by distribution #9

# **APPENDIX B**

# Age distribution and age-adjustment weights used in this report (from HEALTHY PEOPLE 2010 Statistical Notes Number 2: Age Adjustment Using the 2000 projected U.S. Population

Richard J. Klein, M.P.H., and Charlotte A. Schoenborn, M.P.H.)

# **Distribution #9:**

Age	Population in	Age Adjustment
	thousands	weight
18 years and over	203,851	1.000000
18-24 years	26,258	0.128810
25-34 years	37,233	0.182648
35-44 years	44,659	0.219077
45-54 years	60,991	0.299194
65 years and over	34,710	0.170271

# Distribution #11:

Age	Population in	Age Adjustment
	thousands	weight
20 years and over	195,850	1.000000
20-29 years	35,979	0.183707
30-39 years	41,691	0.212872
40-49 years	42,285	0.215905
50-59 years	30,531	0.155890
60-69 years	20,064	0.102446
70-79 years	16,141	0.082415
80 years and over	9,159	0.046765

# **Distribution #14:**

Age	Population in	Age Adjustment
	thousands	weight
25 years and over	177,593	1.000000
25-34 years	37,233	0.209654
35-44 years	44,659	0.251468
45-64 years	60,991	0.343431
65 years and over	34,710	0.195447

# **Distribution** #15:

Age	Population in	Age Adjustment
	thousands	weight
40 years and over	118,180	1.000000
40-49 years	42,285	0.357802
50-64 years	41,185	0.348494
65 years and over	34,710	0.293704

# Distribution #17:

Age	Population in	Age Adjustment
	thousands	weight
50 years and over	75,895	1.000000
50-64 years	41,185	0.542658
65 years and over	34,710	0.457342

# **Distribution #18:**

Age	Population in	Age Adjustment
	thousands	weight
65 years and over	34,710	1.000000
65-74 years	18,136	0.522501
75 years and over	16,574	0.477499

# Distribution #22:

Age	Population in	Age Adjustment
	thousands	weight
18 -64 years	169,141	1.000000
18-24 years	26,258	0.155243
25-34 years	37,233	0.220130
35-44 years	44,659	0.264034
45-64 years	60,991	0.360593

**Poverty Thresholds 2006** (from www.census.gov/hhes/www/poverty/threshld.html)

Poverty Thresholds for 2006 by Size of Family and Number of Related Children Under 18 Years

		Related children under 18 years							
Size of family unit	None	One	Two	Three	Four	Five	Six	Seven	Eight or more
One person (unrelated individual)									
Under 65 years	10,488								
65 years and over	9,669								
Two persons									
Householder under 65 years	13,500	13,896							
Householder 65 years and over	12,186	13,843							
Three persons	15,769	16,227	16,242						
Four persons	20,794	21,134	20,444	20,516					
Five persons	25,076	25,441	24,662	24,059	23,691				
Six persons	28,842	28,957	28,360	27,788	26,938	26,434			
Seven persons	33,187	33,394	32,680	32,182	31,254	30,172	28,985		
Eight persons	37,117	37,444	36,770	36,180	35,342	34,278	33,171	32,890	
Nine persons or more	44,649	44,865	44,269	43,768	42,945	41,813	40,790	40,536	38,975

Source: U.S. Census Bureau.

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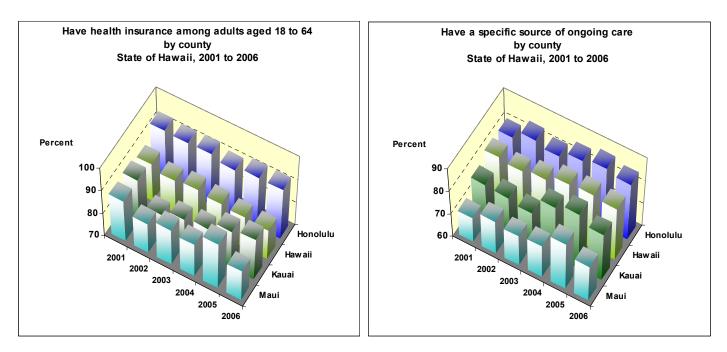
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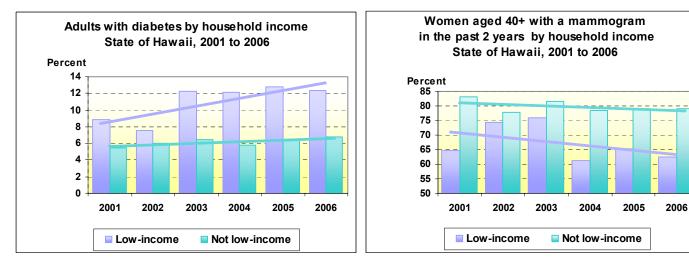
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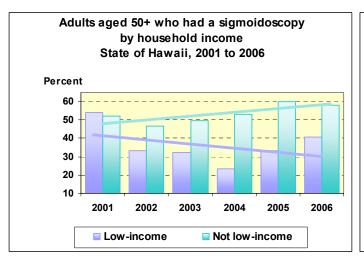
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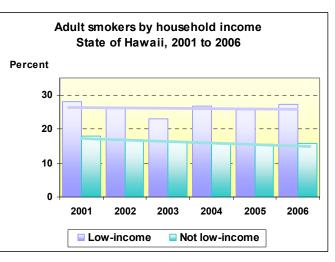
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# Age Adjustment Using the 2000 Projected U.S. Population Richard J. Klein, M.P.H., and Charlotte A. Schoenborn, M.P.H.









# Recent Tracking of Hawaii's Progress Toward Healthy People 2010 Derived from HBRFSS 2001-2006

This publication is available on the World Wide Web at the Hawaii Behavioral Risk Factor Surveillance System site <u>http://www.hawaii.gov/health/statistics/brfss/index.html</u>.

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