

# 2013 Navajo Nation Health Survey Chinle Agency Results

Navajo Epidemiology Center  
Navajo Department of Health



# Navajo BRFSS Background

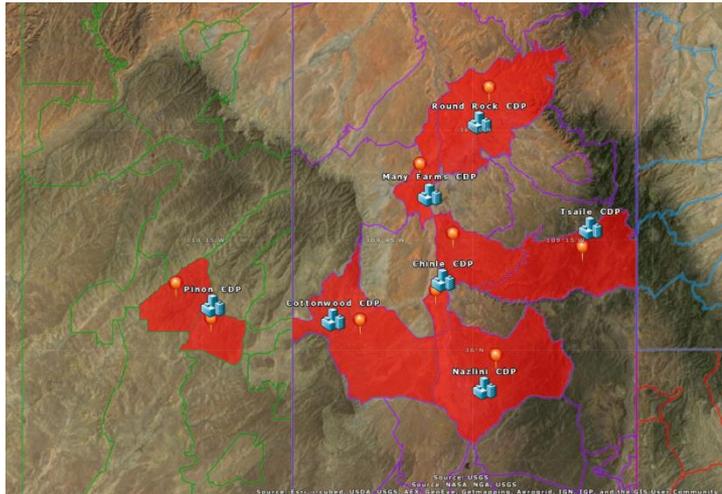
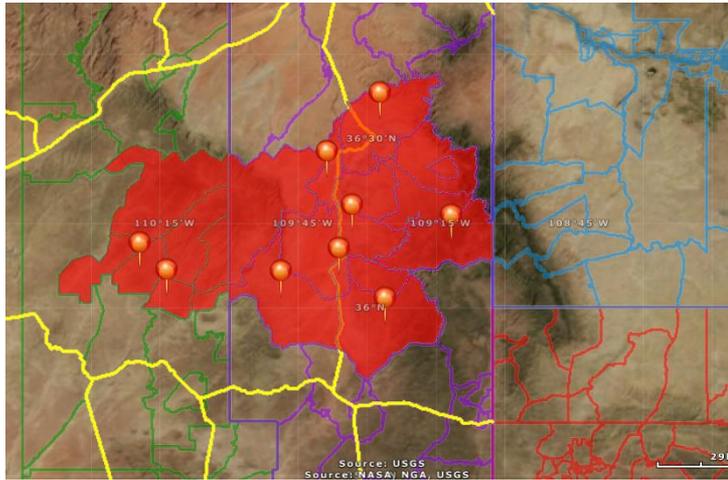
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- ▶ Study # NNR-11.348 (Approval July 24, 2012)
  - ▶ Navajo Behavioral Risk Factor Surveillance Survey
- ▶ Principal Investigator: Ramona Antone-Nez
- ▶ Project Manager: Simental R. Francisco
- ▶ Questions adapted from CDC's BRFSS
- ▶ Aim: Reliable and valid collection of Navajo-specific information by survey questionnaire directly from Navajo Nation residents that can be monitored over time
- ▶ Approved by all Agency Councils of the Navajo Nation
- ▶ Health data will be used to better prepare NDOH programs to effectively serve the public health needs of the Navajo Nation





# Sample Methodology of Household Selection



## Chinle Agency

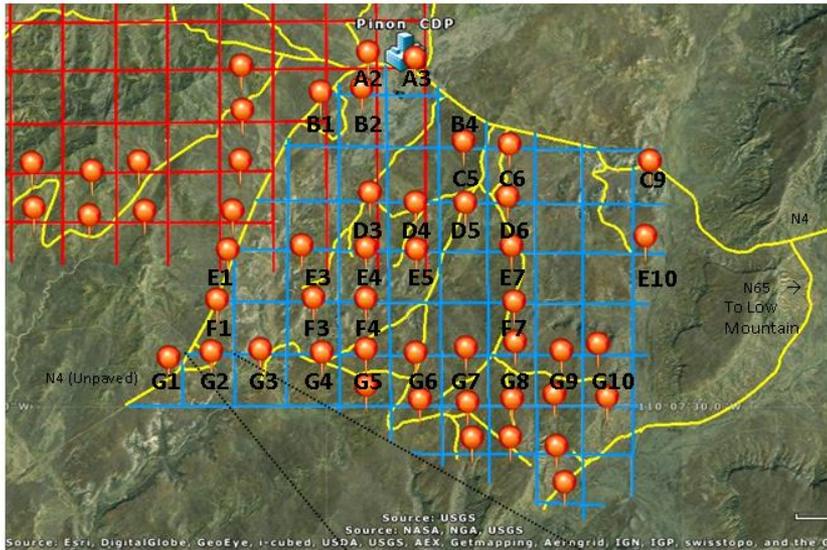
- ❖ 22 Census Block Groups (CBGs)
- ❖ The NNHS household sampling selection
  - ❖ 11 CBG based on a Probability Proportional to Size (PPS) with replacement, i.e., a CBG can be selected more than once. E.g. Pinon & Chinle

## Census Block Group Selection: 9 CBGs

- ❖ Total of 7 Census Designated Places (US Census)
  - ❖ Chinle, AZ (2 CBGs)
  - ❖ Cottonwood, AZ
  - ❖ Many Farms, AZ
  - ❖ Nazlini, AZ
  - ❖ Pinon, AZ (2 CBGs)
  - ❖ Round Rock, AZ
  - ❖ Tsaile/Wheatfields, AZ

# Map Atlas - Low Density Remote Areas

PINON Census Designated Place (LOW DENSITY Cell G1 & G2)



Field Study Area approx. 45 miles from Chinle, AZ via AZ191 & BIA Route N4 in **Pinon, AZ vicinity. Cell G1 & G2** can be accessed approx. 7.5 miles South along unpaved section of N4.

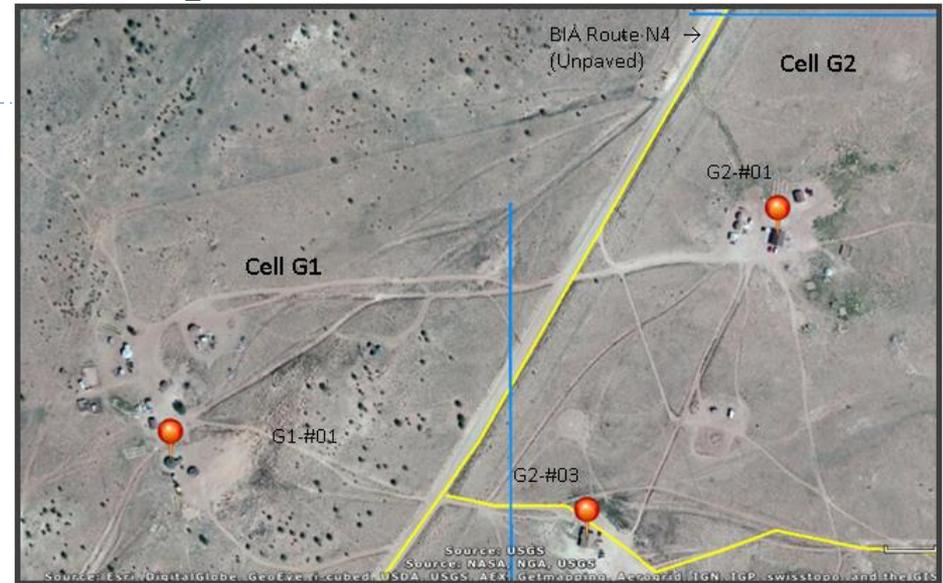
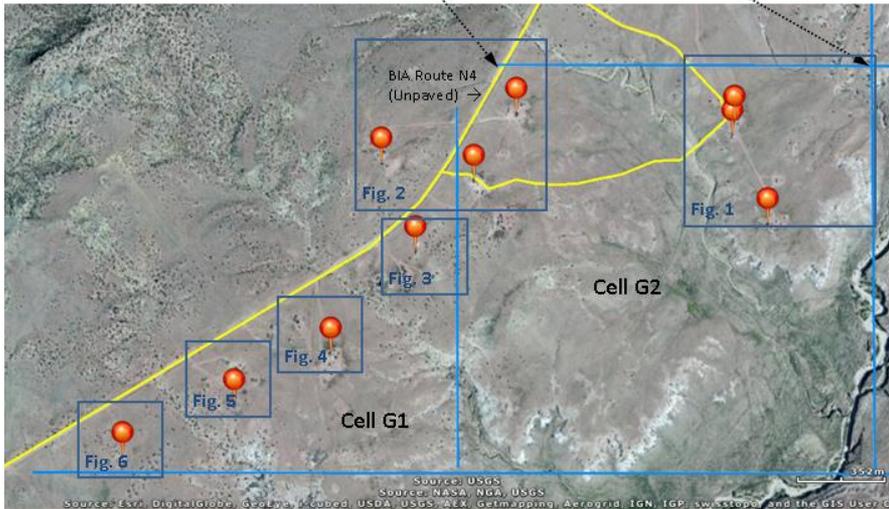
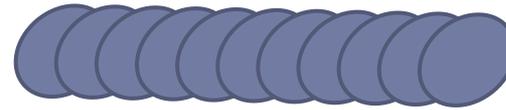


Figure 2. Houses #01 & #03 in Cell G2 are approx. 7.5 mile South along BIA Route N4. House #01 is located West of House #01 & #03 in adjacent Cell G1.

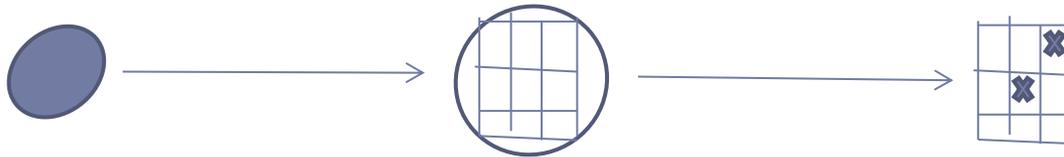


Cell—House No.	Latitude	Longitude	Notes
G1-01	36°00'41.57"N	110°18'14.38"W	
G1-02	36°00'30.00"N	110°18'08.97"W	
G1-03	36°00'10.00"N	110°18'37.83"W	
G1-04	36°00'03.10"N	110°18'55.60"W	
G1-05	36°00'16.73"N	110°18'22.45"W	
G2-01	36°00'48.06"N	110°17'52.88"W	
G2-02	36°00'45.18"N	110°17'18.46"W	
G2-03	36°00'39.30"N	110°17'59.63"W	
G2-04	36°00'33.66"N	110°17'12.85"W	
G2-05	36°00'47.04"N	110°17'18.13"W	

Step 1. Select 11 Block Groups PPES/WR



Step 2. Superimpose square mile grid and eliminate cells w/no structures on aerial map.



Step 3. Within each block group, stratify remaining cells by high density vs. low density:

High Density-Overlaps CDA



Low Density-Does not overlap CDA



Step 4a. Within each high density cell:  
Select 4 Cells PPES/WR.

Step 5. Within each selected cell, map occupied houses in the field using CHR knowledge.

Step 6a. Randomly select 20 houses in each high density cell.

Step 6a. Randomly select 4 houses in each low density cell.

Step 7. From each selected house: enumerate the adults and randomly select one.



# Informed Consent

- ▶ Purpose of the Research
- ▶ Expected Participation
- ▶ Risk and Benefit
- ▶ Confidentiality
- ▶ Rights as a Volunteer
- ▶ Contact Information
- ▶ Participant Signature

 **THE NAVAJO NATION** **RUSSELL BEGAYE PRESIDENT**  
**JONATHAN NEZ VICE PRESIDENT**

**NAVAJO DEPARTMENT OF HEALTH**  
**Navajo Behavioral Risk Factor Surveillance Survey**

**INFORMED CONSENT FORM**

**Purpose of the Research:** The Navajo Department of Health-Navajo Epidemiology Center is conducting a Navajo Behavioral Risk Factor Surveillance System (NBRFSS) Survey across the Navajo Nation. The survey has standard questions about current behaviors, knowledge and attitudes that affect health such as chronic health issues, infectious diseases and demographics. The purpose of NBRFSS is to assess health information to establish the Navajo health status data baseline and create the foundation for a health surveillance system on the Navajo Nation.

**Expected Participation:** Your participation will take 40-50 minutes to complete the survey. There are approximately 204 questions but will need to answer only questions applicable to you.

**Risk and Benefits:** You may feel uncomfortable with some of the questions on the survey. You may refuse or skip questions you are uncomfortable to answer. You can stop the interview at any time. The likely benefits to you are minimal; however, the overall benefit can help make improvements to the Navajo health programs.

**Confidentiality:** All information you provide is confidential and your identity is protected and will not be disclosed. The interviewer has signed a pledge to keep all information about you confidential. The information we collect will be stored with the Navajo Epidemiology Center, Window Rock, Arizona for a duration of 7 years.

**Rights as a Volunteer:** Your participation in the NBRFSS survey is voluntary. You may refuse to participate or stop any questions at any time, for any reason, without penalty or discrimination. The Law requires that child and dependent abuse be reported. Interviewees that disclose a current violent situation or suicidal thoughts will be referred to the appropriate tribal agencies for services.

**Contact Information:**  
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Navajo Department of Health  
P.O. Box 1390  
Window Rock, AZ 86515  
Telephone: (928) 697-2525 Fax: (928) 697-4826

**In the event of a research related injury to Participant Contact:**  
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Telephone: (928) 871-6254 Fax: (928) 871-6339

**Respondent Agreement:** By signing this form I acknowledge the interviewer provided information the NBRFSS purpose, risks, benefits, and volunteer. I agree to volunteer to participate in the NBRFSS.

Signature \_\_\_\_\_ Date \_\_\_\_\_ Witness \_\_\_\_\_ Date \_\_\_\_\_  
Survey No: \_\_\_\_\_

  
Navajo Epidemiology Center • P. O. Box 1390 • Window Rock, AZ 86515



# Survey Questionnaire

- ▶ 16 Core Sections
- ▶ 7 Optional Modules
- ▶ Additional Questions
  - ▶ Specific to Navajo Nation
- ▶ 204 Questions
  - ▶ Skip pattern
- ▶ Navajo Translation
  - ▶ Navajo speaking Interviewer

## 2013 Navajo Behavioral Risk Questionnaire

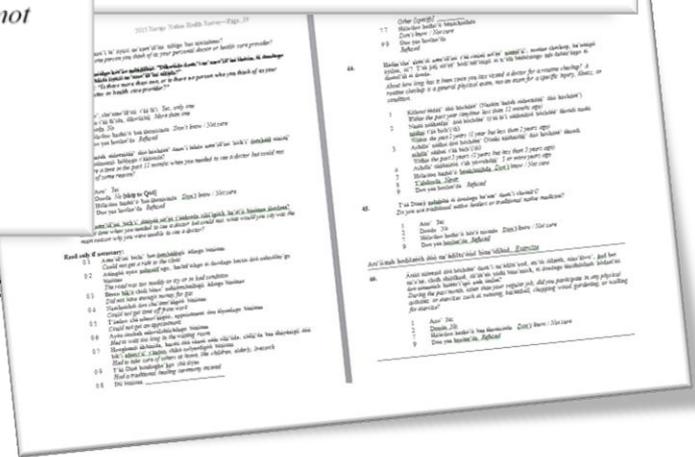
### Table of Contents

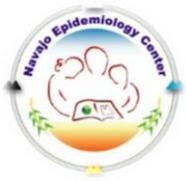
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Bilá'aashda'íí ádóone'í ílínígíí binah'j' haa nítshákees, <i>Reactions to Race</i> .....	14
K'ad hats'ístah shoo't'ehígíí, <i>General Health</i> .....	17
Ats'íis baa áháy'íí bee háká ana'á'w'íí bee há áhóót'í'ígíí Bina'ídkid, <i>Health Care Access</i> .....	18
Ats'ístah hodilzéeh dóó na'ádlts'óó bina'ídkid, <i>Exercise</i> .....	20
Ats'íis nabíjínish, <i>Physical Activity</i> .....	21
Ashjín fikan bil daadlanígíí dóó da'adánidí bik'ehgo ch 'iyáán da jókeedi bik't' aschinígíí, <i>Sugar Sweetened Beverages and Menu Labeling</i> .....	26
Nanise' dóó tsin bineest'a' dóó nanise'ch'í' ch 'iyáán, <i>Fruits and Vegetables</i> .....	27
Nizaadgóó aah dahaz'á dóó nitsago hah dahaz'áago bik'ee kani'jghá yileehígíí, <i>Chronic Health Conditions</i> .....	32
Diabetes (2009 Optional Module 2: Diabetes).....	37
Awoo' dóó azéé' bíl haz'áagóne' baa áháyánígíí, <i>Oral Health</i> .....	40
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Aah dahaz'á naamish hats'áa yimilt'a, <i>Disability</i> .....	42
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Azee' dóó tsi' ná'íiláhá bee atí'ázhdil'í, <i>Substance Abuse (YRBS)</i> .....	45
Daadláago íl honiildohígíí Jildá, <i>Alcohol Consumption</i> .....	47
Chidi be'ách'áah sis choo', <i>Seatbelt Use</i> .....	49
Tó hól honiildohíi choo'jigo chidi naabaas, <i>Drinking and Driving</i> .....	50
Ats'íis bid'óól dahdiniiséeh dóó ba'á't'e' haleeh há'déest'í'igo habe' dóó hwiisch'íd n'él', <i>Breast and Cervical Cancer</i> .....	51
ígi ats'íis bid'óól dahdiniiséeh dóó ba'á't'e' haleeh cancer há'déest'í'igo naalkaah,.....	54
anlínshii yaaí dahool'aah, <i>HIV/AIDS</i> .....	57

42. Naakits'áadah nídeezidáá' dóó hóshdéé' daats'í íahda azee'íil'íní bich'í' deesháál nínizíí' nít'éé' binimaanii hólóogot'áádooda?  
*Was there a time in the past 12 months when you needed to see a doctor but could not because of some reason?*

- 1 Aoo' Yes
- 2 Dooda **No [skip to Q44]**
- 7 Hóla/doo hazhó'ó baa ákonisinda *Don't know / Not sure*
- 9 Doo vaa hoolne'da *Refused*

- ▶ **Phase I – Chinle Agency Data Collection Accomplishment**
  - ▶ 713 total complete surveys (target sample N=1,220)
- ▶ **Phase 2 – Northern Navajo Agency Data Collection**
  - ▶ 497 total complete surveys (target sample N=1,442)





# NNHS Personnel

## Research Assistants (Survey Interviewers)

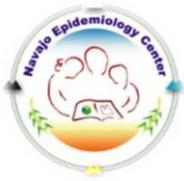
### ❖ 8 Interviewers

- ❖ Collect Informed Consent Form
- ❖ Interviewers conduct in-person survey by questionnaire

### ❖ Project Manager

- ❖ Coordinate NNHS data collection
- ❖ Survey Administration
- ❖ Daily Operation

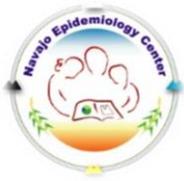




# Implementation Phases

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- ❖ **Phase 1 – Central (Chinle) Agency – Data Dissemination**
  - ❖ Supporting agency resolution obtained in 2010
  - ❖ N=1,220 target sample
- ❖ **Phase 2 – Northern (Shiprock) Navajo Agency – Data Entry**
  - ❖ NNAC Resolution No. NNAC-50-1214113 (12-14-13)
  - ❖ N=1,442 target sample
- ❖ **Phase 3 – Eastern, Fort Defiance & Western Agencies**
  - ❖ ENAC Resolution No. ENAC-06-2014-14 (06-07-14)
  - ❖ FDAC Resolution No. FDAC-15-10-002 (10-10-15)
  - ❖ WNAC Resolution No. 262-103-#9 (09-15-15)
  - ❖ N=1,598 (Eastern) / **N=1,220 (Fort Defiance)** / N=1,220 (Western)



# Challenges

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- ❖ Incentives for participation
- ❖ Navajo Translation
  - ❖ Navajo speaking – able to explain general health terminology
- ❖ Field Personnel
  - ❖ Qualified in survey questionnaire interviewing
  - ❖ 2010 Census Enumerators
- ❖ Non-response
  - ❖ Only 67% of houses identified from satellite images were occupied
  - ❖ Response rate among occupied houses was 57.7%
- ❖ Navajo Nation
  - ❖ I64 Review





# Methodology: Analysis

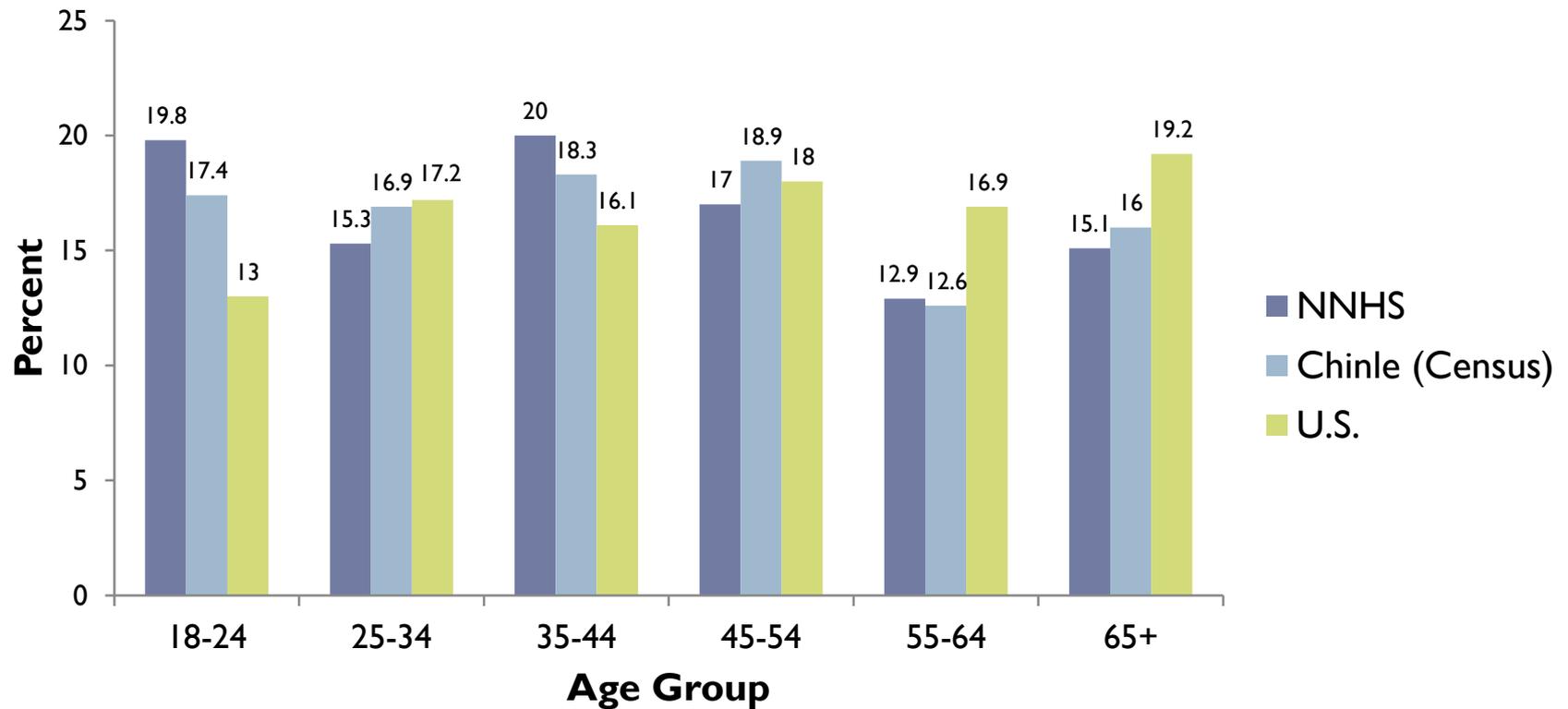
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- ▶ Analysis accounted for differences between respondents in their probability of being selected to participate
- ▶ Analysis accounted for the lack of independence between respondents in the same Census Block Group or square mile cell
- ▶ Analysis corrected for different rates of participation across age and sex groups by re-weighting the data to match the age and sex distribution of the Census for Chinle

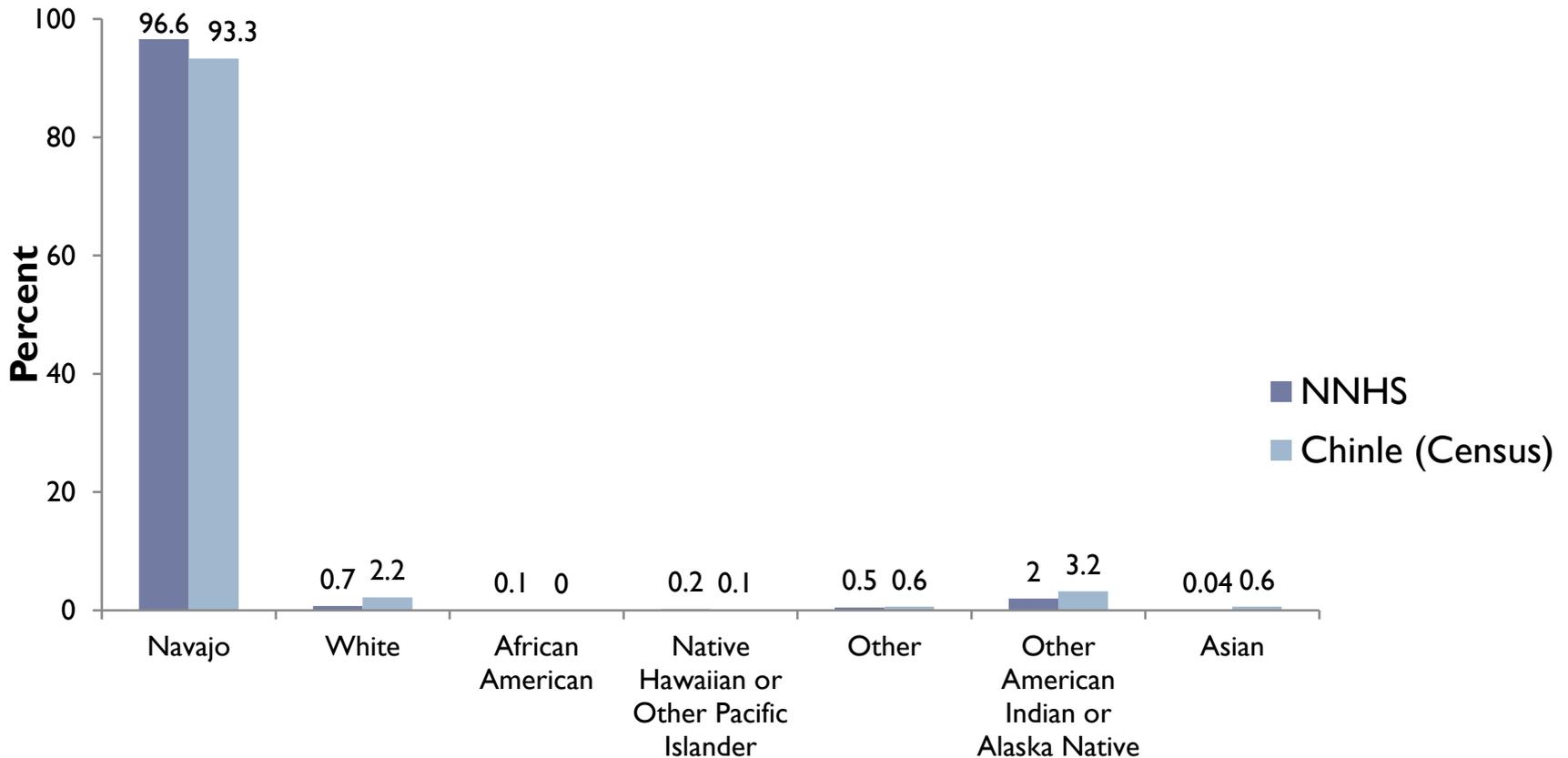


# DEMOGRAPHICS: What is your age?

## Age Distribution of Respondents



**DEMOGRAPHICS:** *Which one or more of the following would you say is your race?*

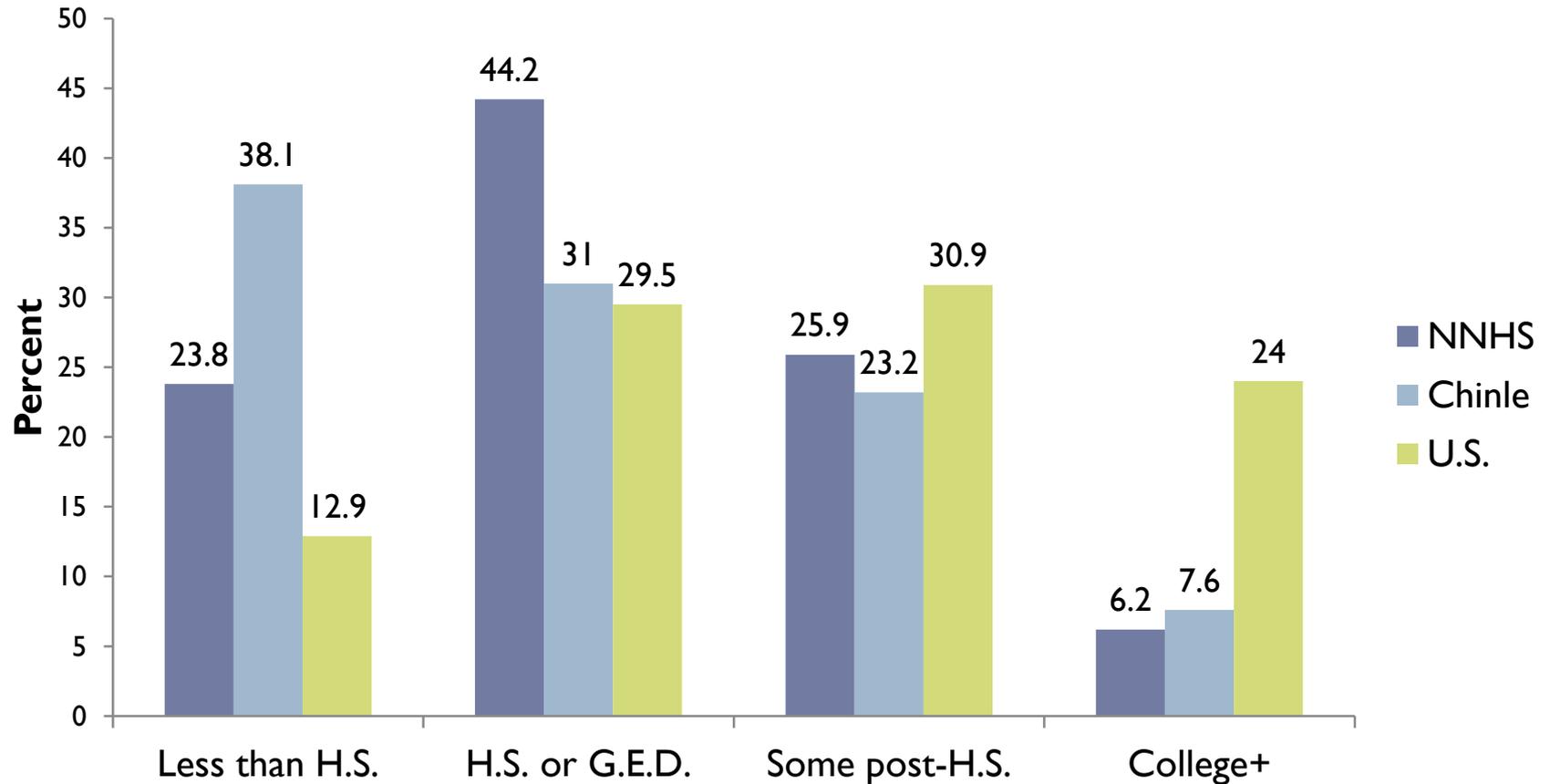


Note: According to the Navajo Population Profile, 92% of Chinle Agency population is Navajo alone or in Combination. However, that is for the entire population and not just 18 years and older.



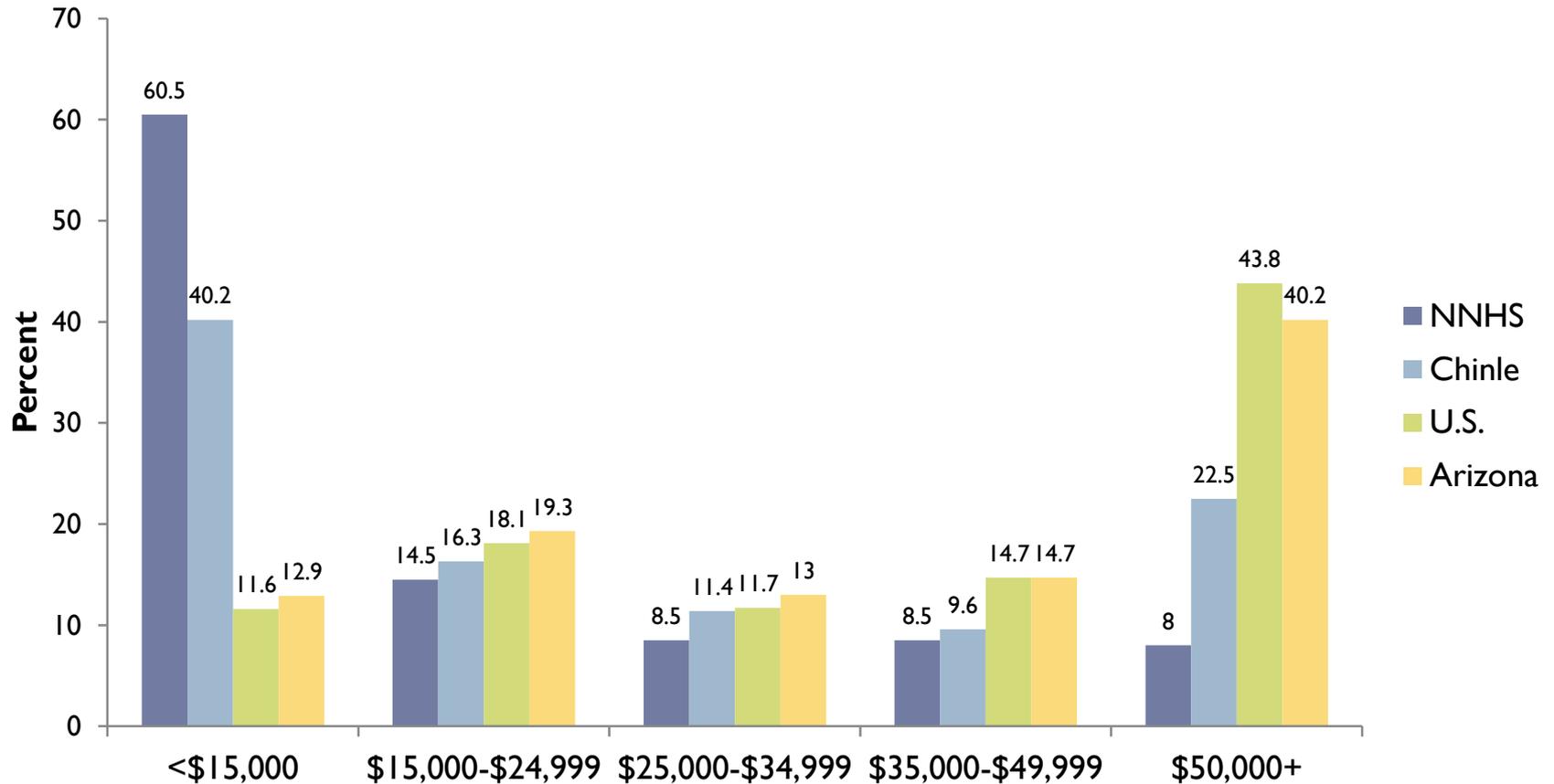
# DEMOGRAPHICS: *What is the highest grade or year of school you completed?*

Age Adjusted



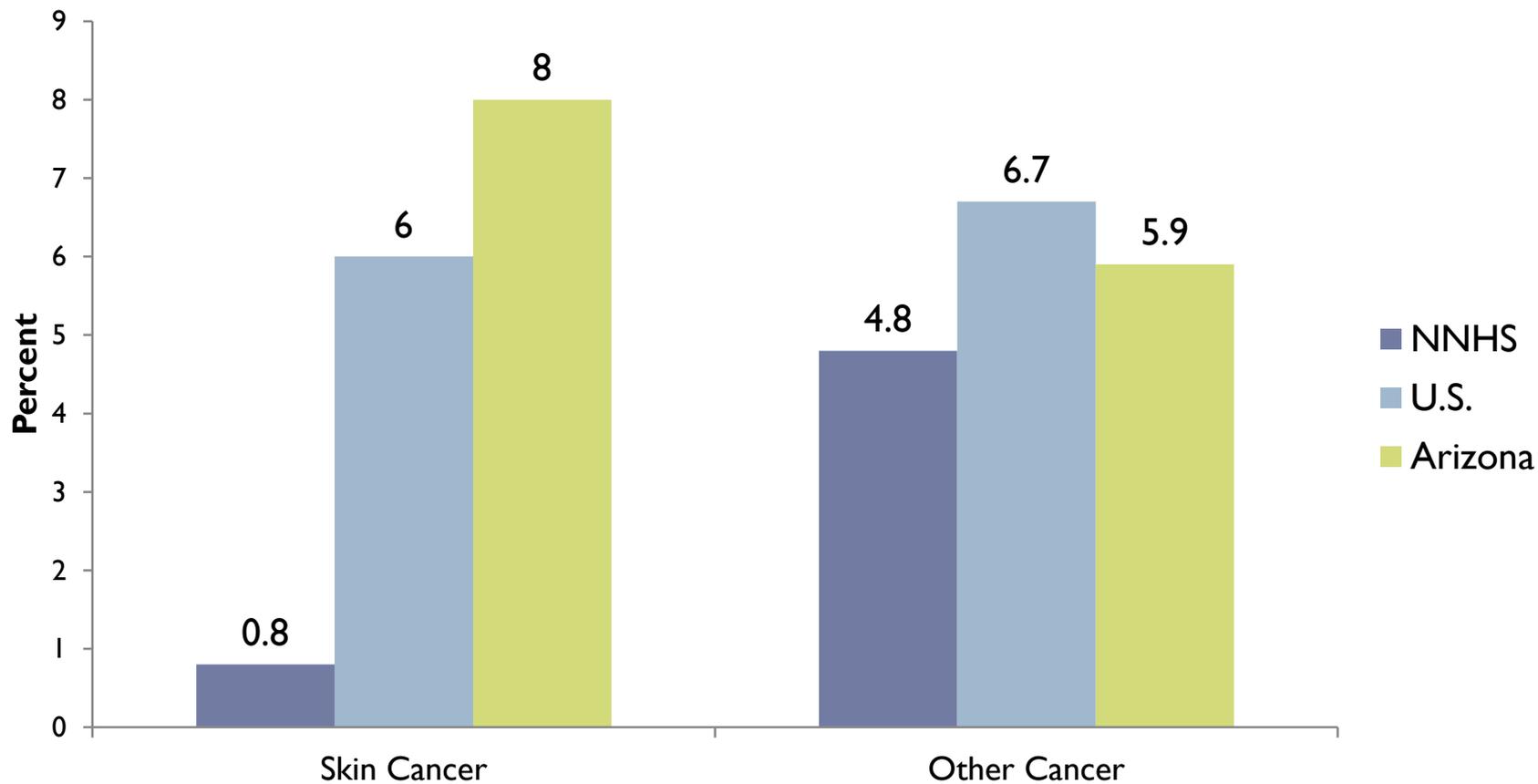
# Demographics: What is your annual household income from all sources

Age Adjusted



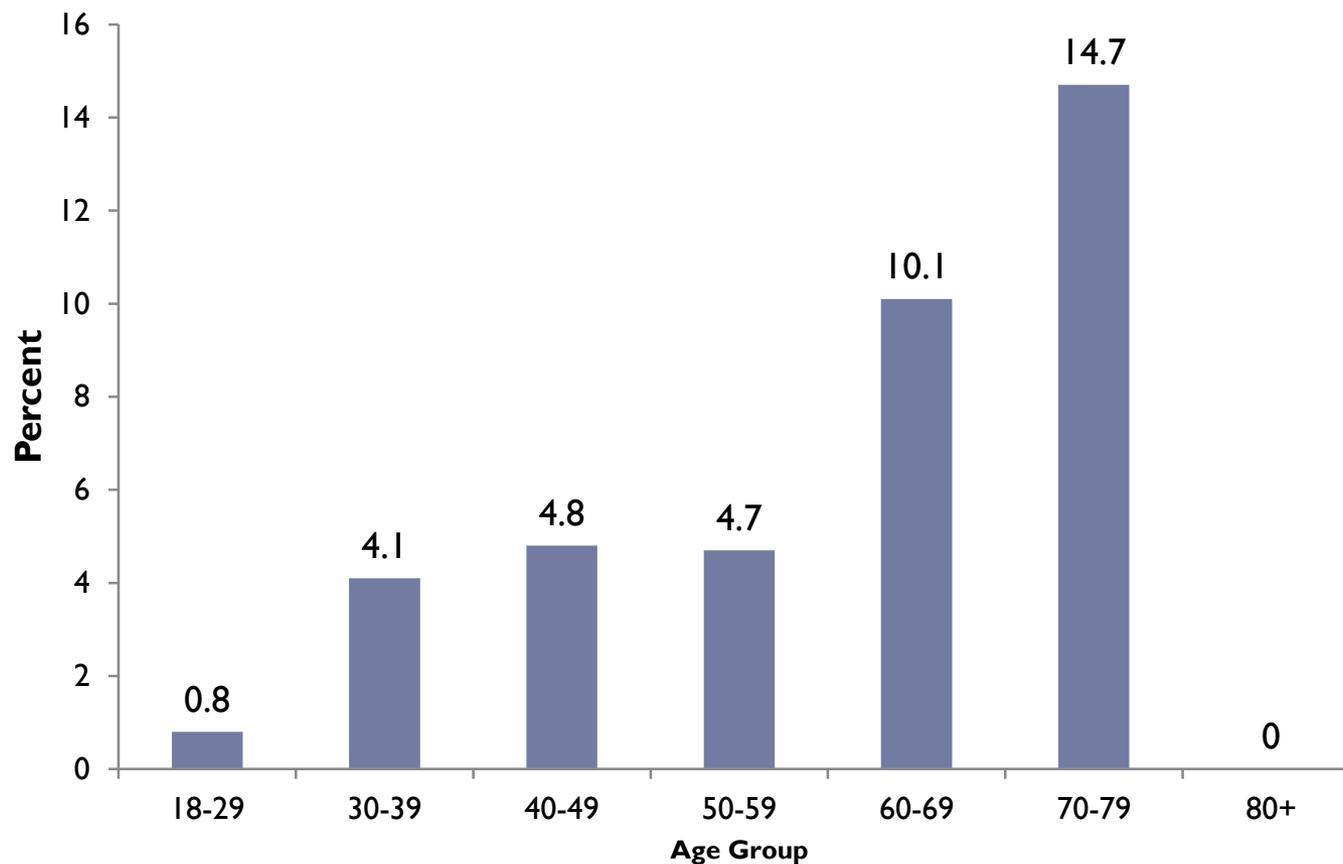
# CHRONIC DISEASES: *Has a doctor, nurse, or other health professional ever told you that you have...?*

Age Adjusted



# CHRONIC DISEASES: *Has a doctor, nurse, or other health professional ever told you that you have cancer (non-skin)?*

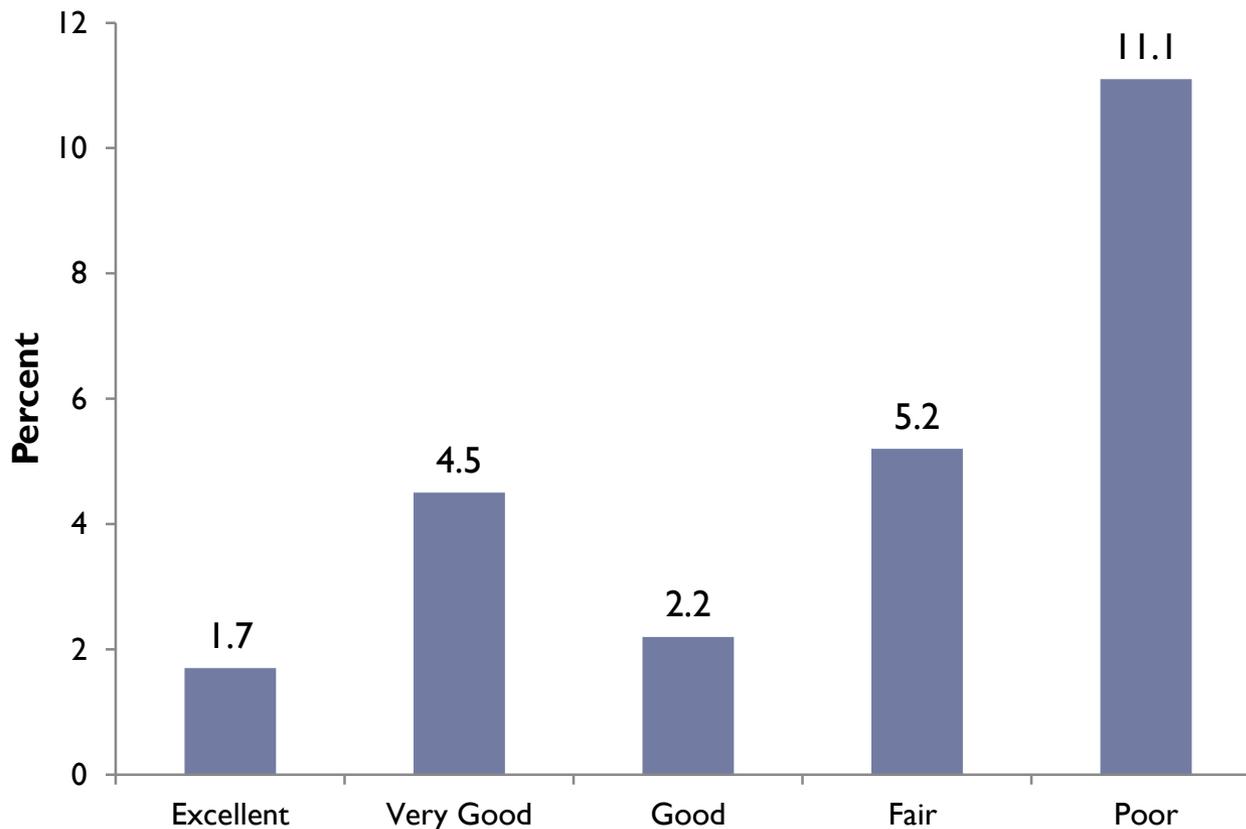
Age Adjusted



**CHRONIC DISEASES:** *Has a doctor, nurse, or other health professional ever told you that you have cancer (non-skin)?*

Age Adjusted

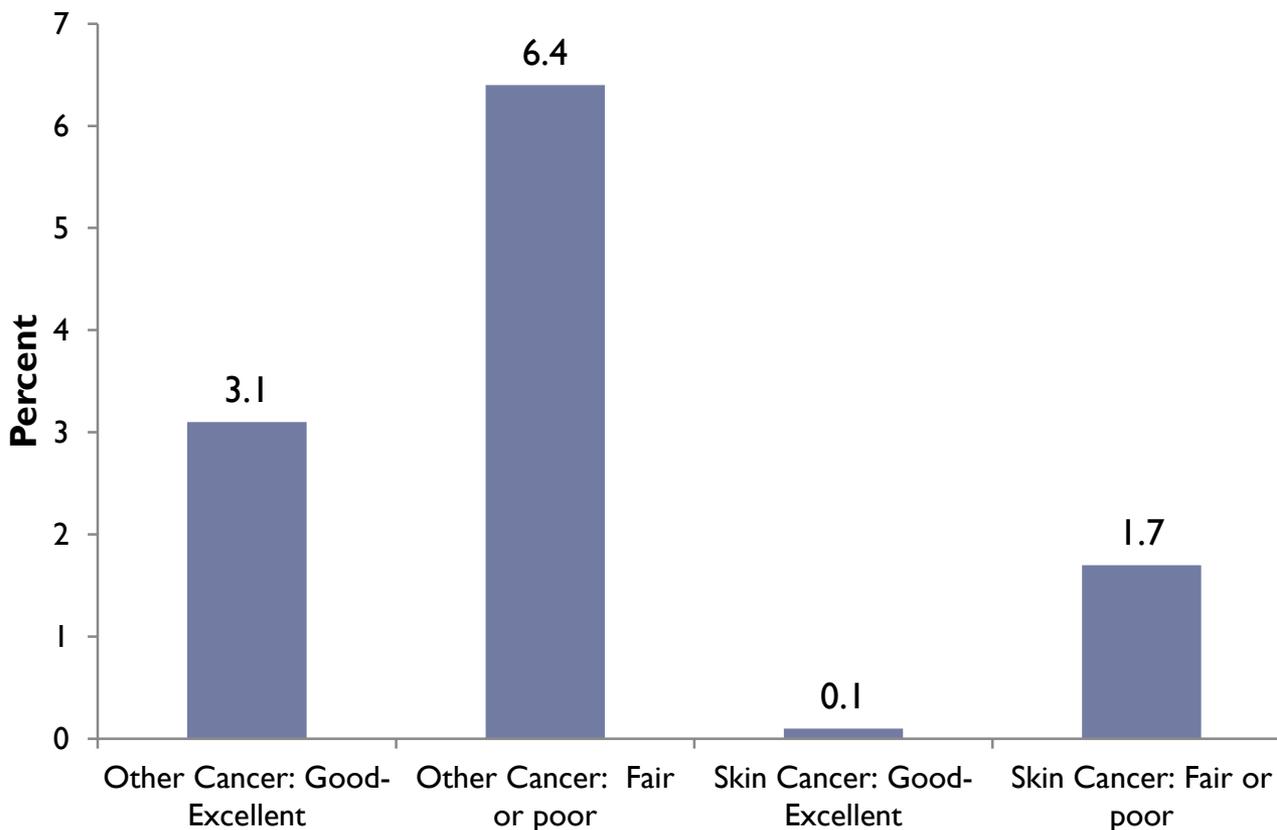
**How is your Health in General?**



# CHRONIC DISEASES: *Has a doctor, nurse, or other health professional ever told you that you have cancer ?*

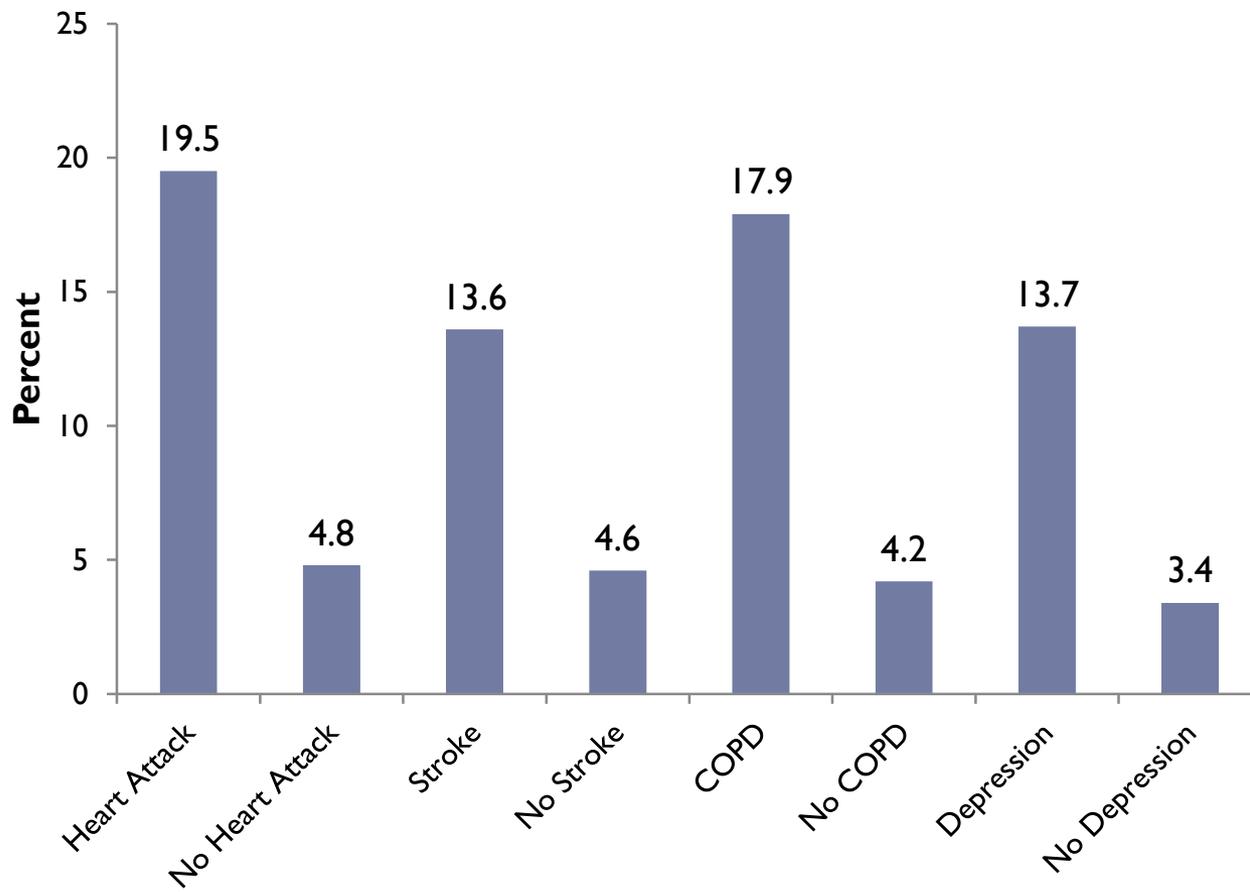
Age Adjusted

## How is your Health in General?



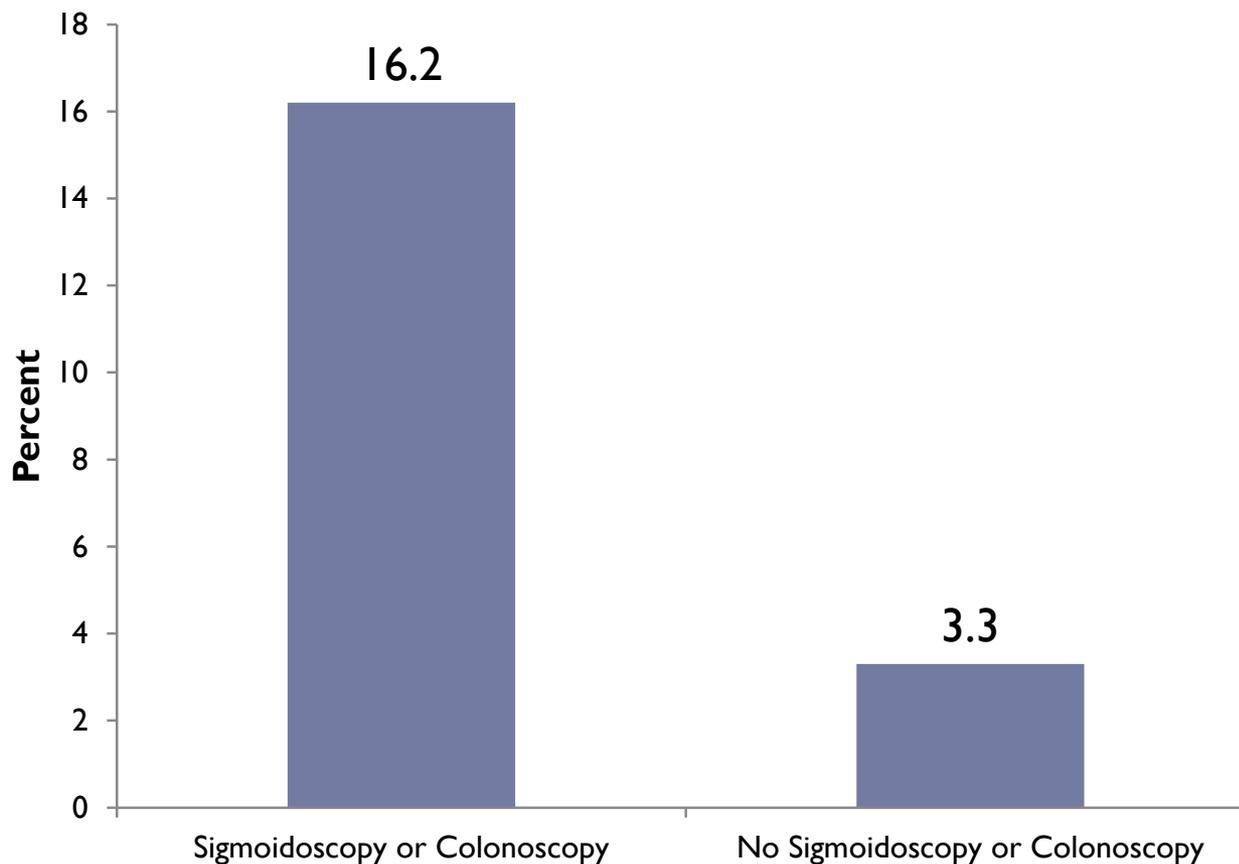
# CHRONIC DISEASES: *Has a doctor, nurse, or other health professional ever told you that you have cancer (non-skin) ?*

Age Adjusted



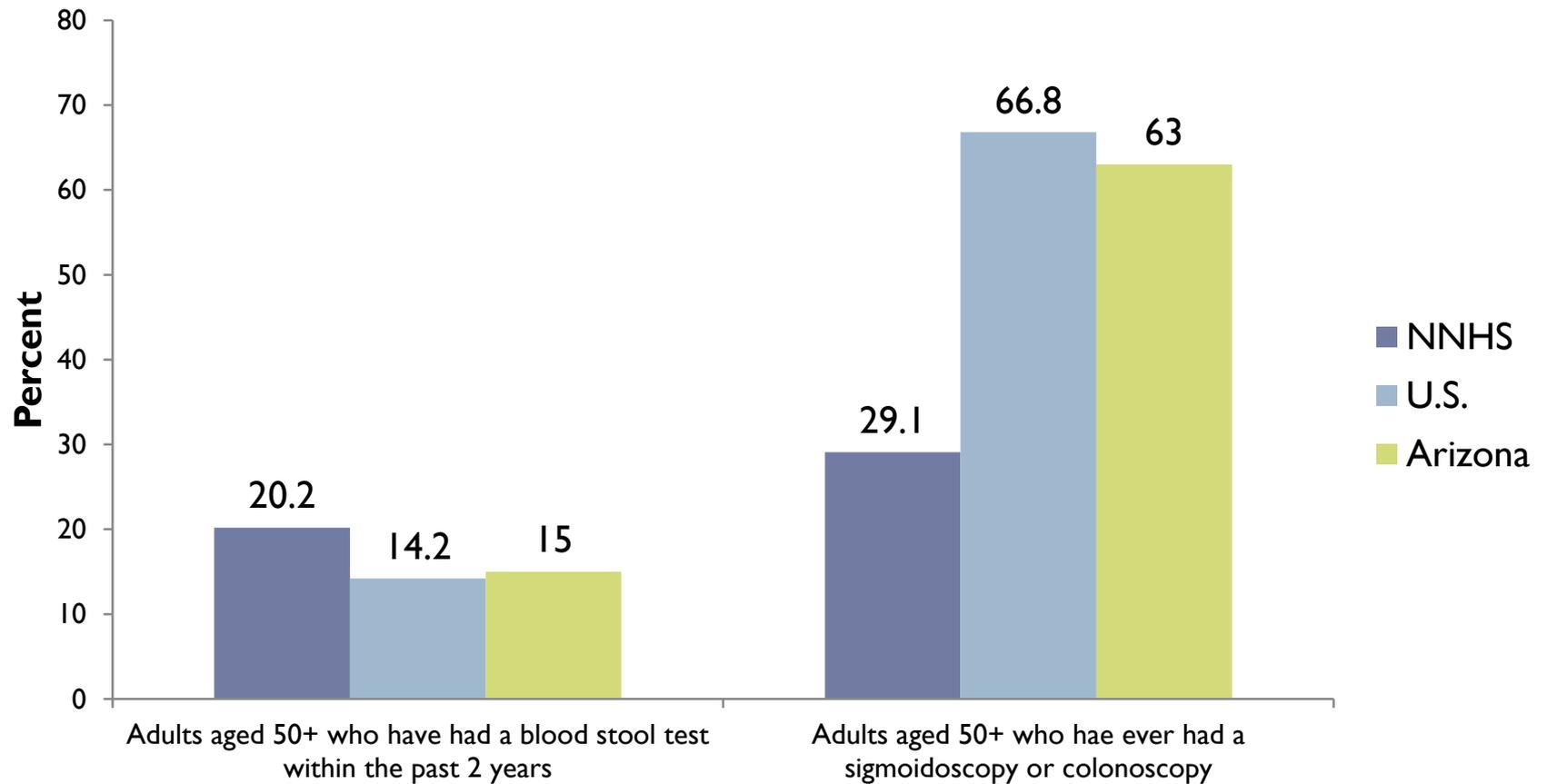
**CHRONIC DISEASES:** *Has a doctor, nurse, or other health professional ever told you that you have cancer (non-skin) ?*

Age Adjusted



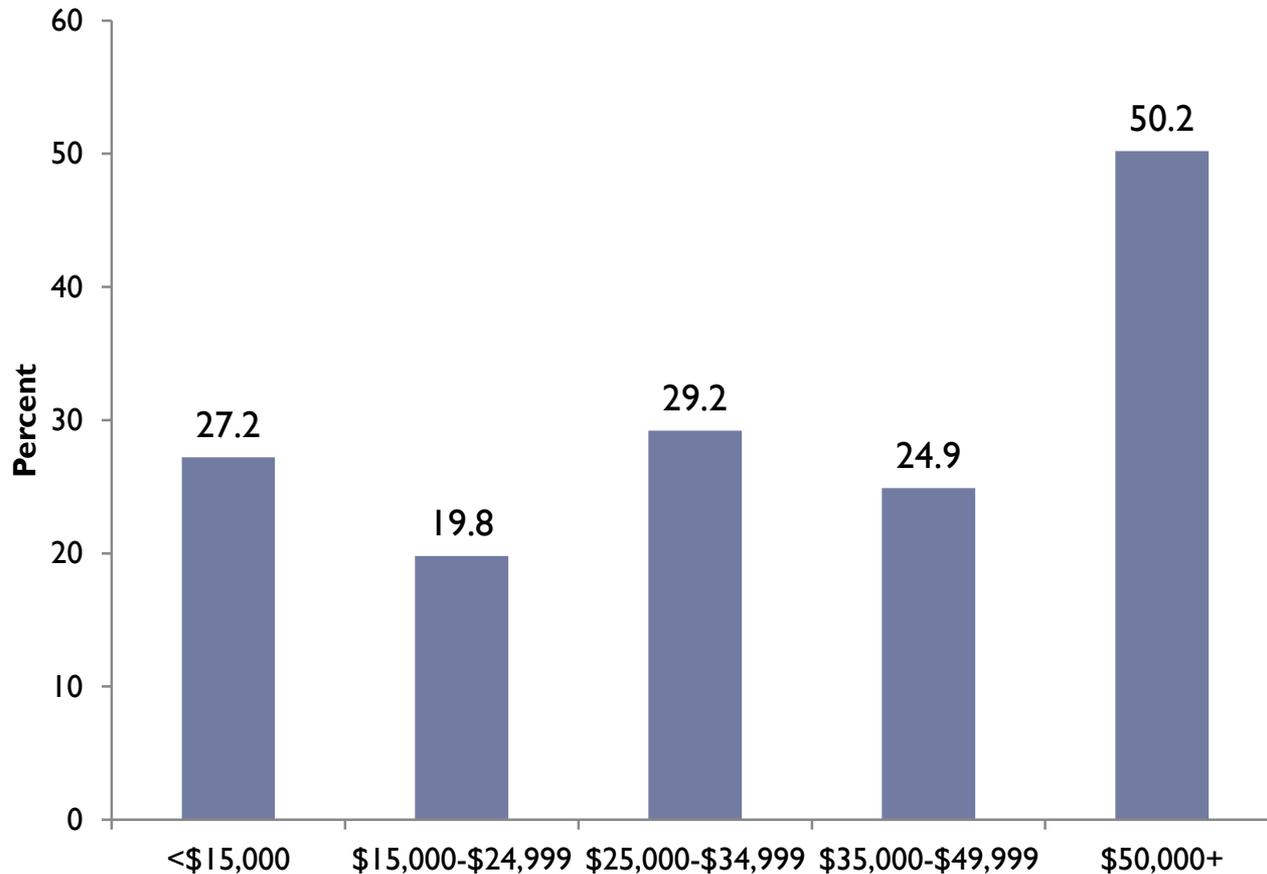
# Cancer Screening: Colorectal Cancer

Age Adjusted



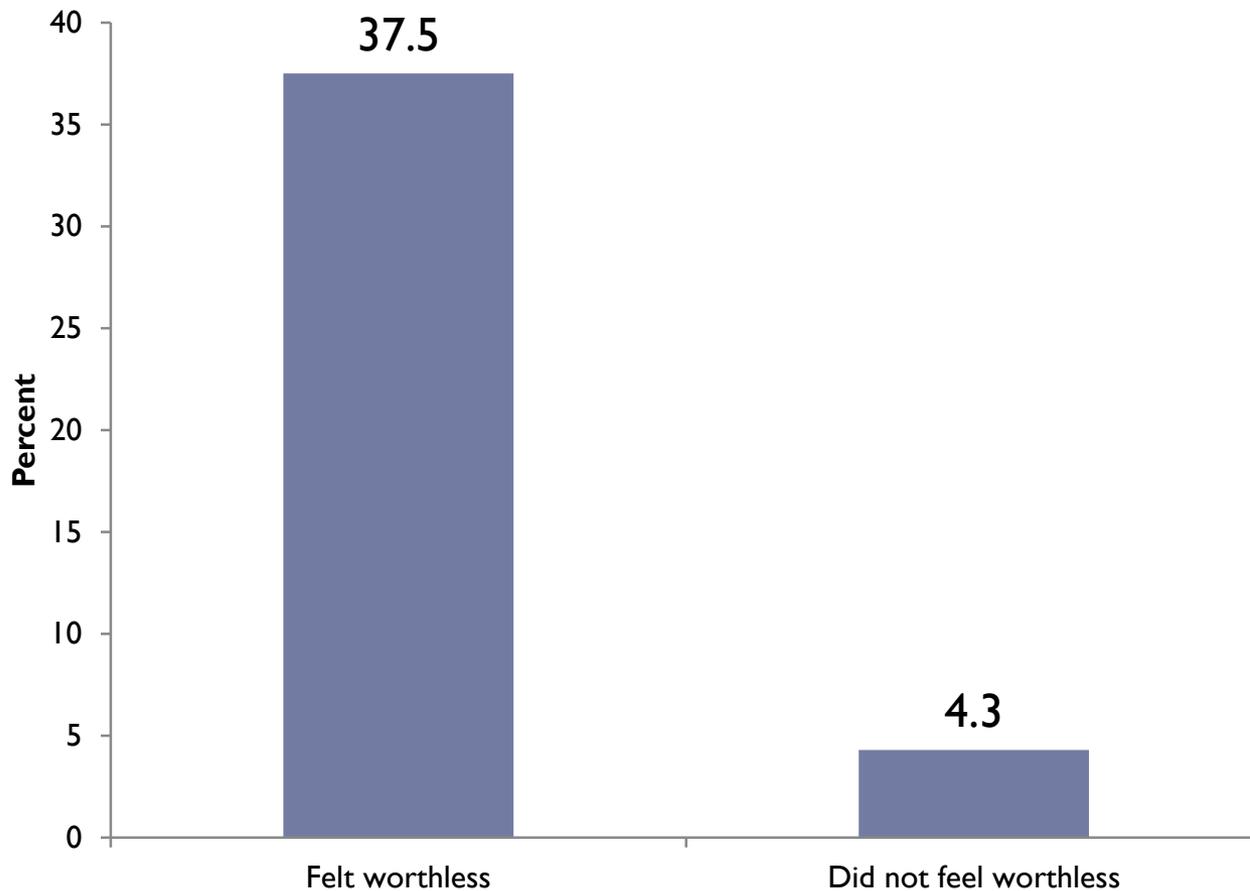
# Cancer Screening: Colorectal Cancer, Sigmoidoscopy or Colonoscopy

By Income Level: Age Adjusted



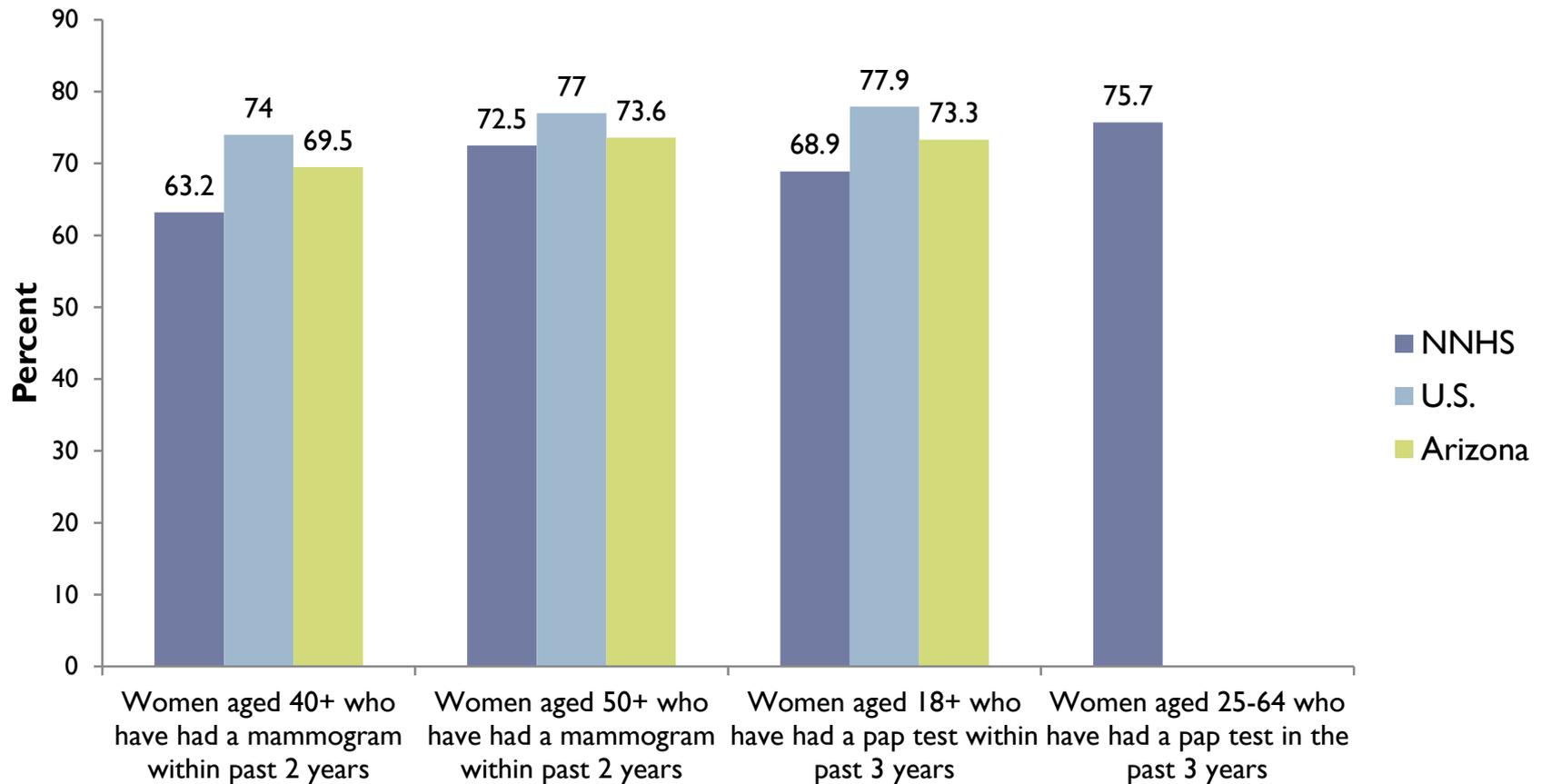
**CHRONIC DISEASES:** *Has a doctor, nurse, or other health professional ever told you that you have cancer (non-skin) ?*

Age Adjusted



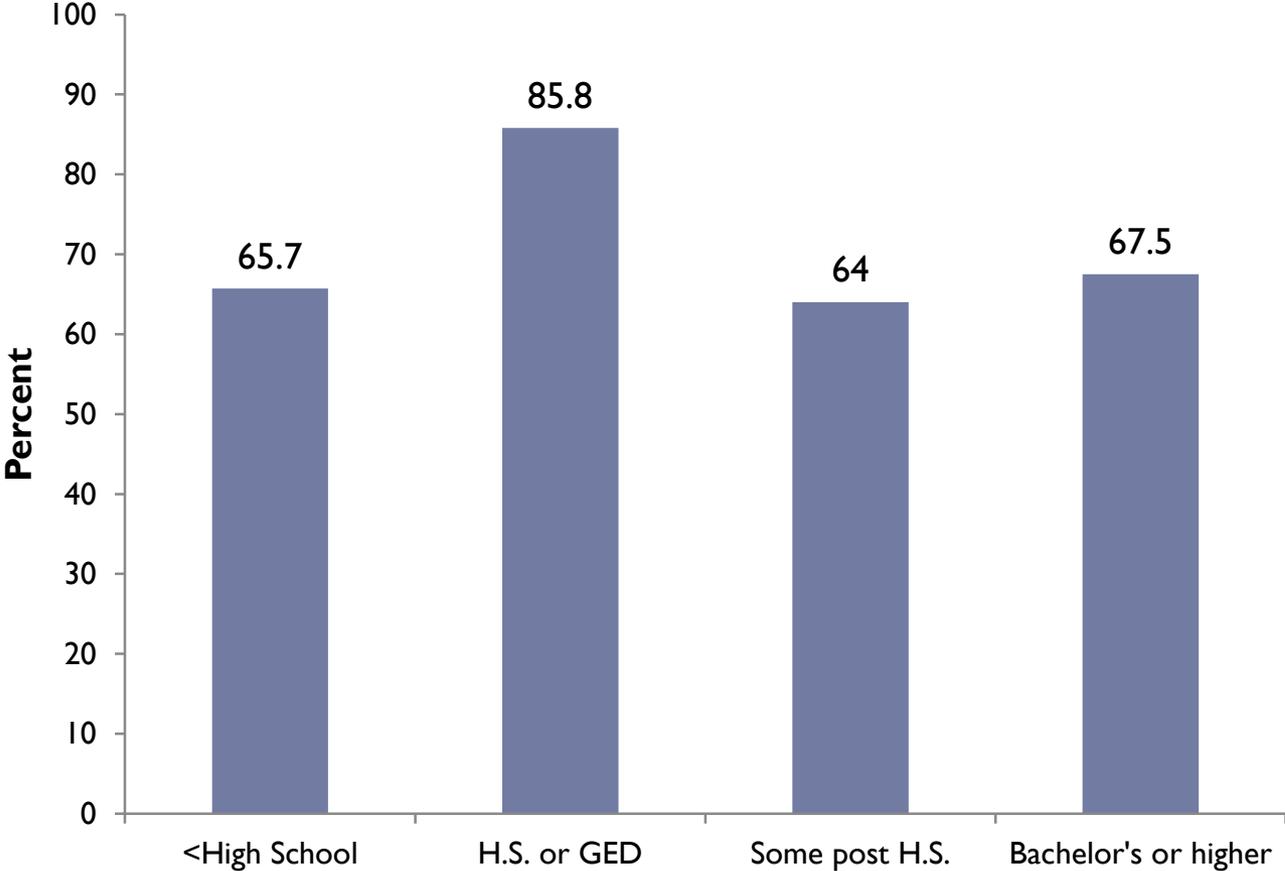
# CANCER SCEENING: Breast & Cervical Cancer Screening

Age Adjusted



# CANCER SCEENING: Cervical Cancer Screening

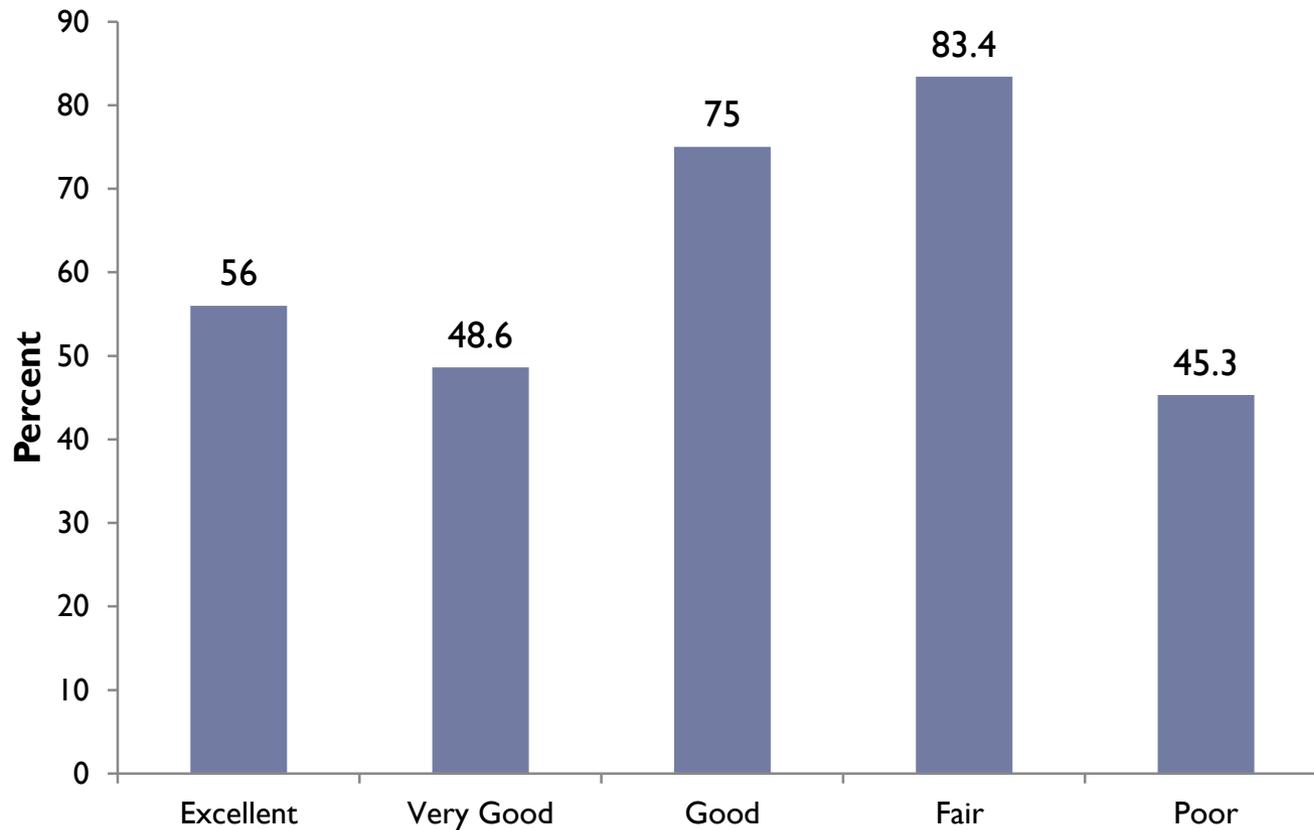
Age Adjusted



# CANCER SCEENING: Cervical Cancer Screening

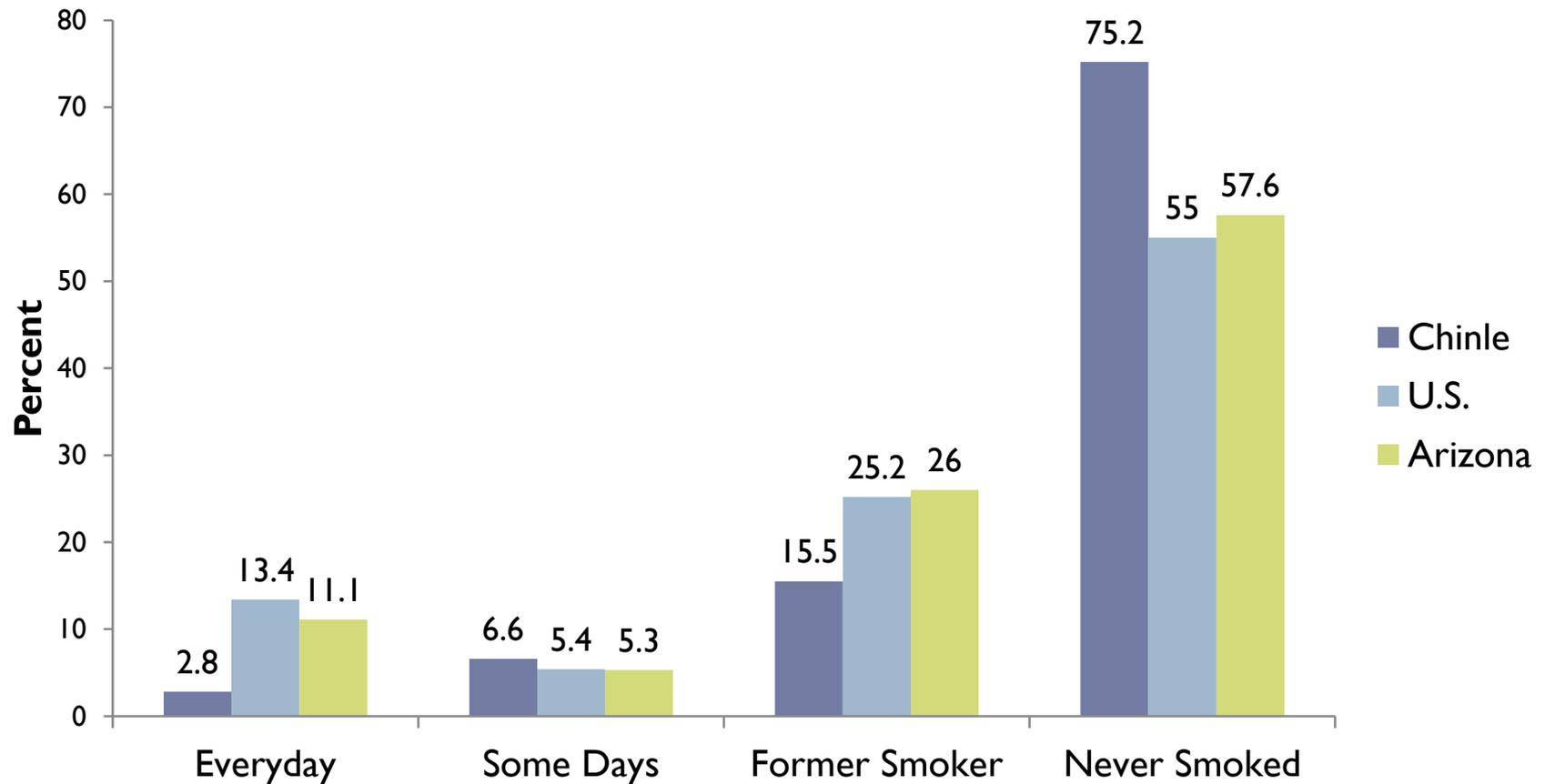
Age Adjusted

## How is your health in general?



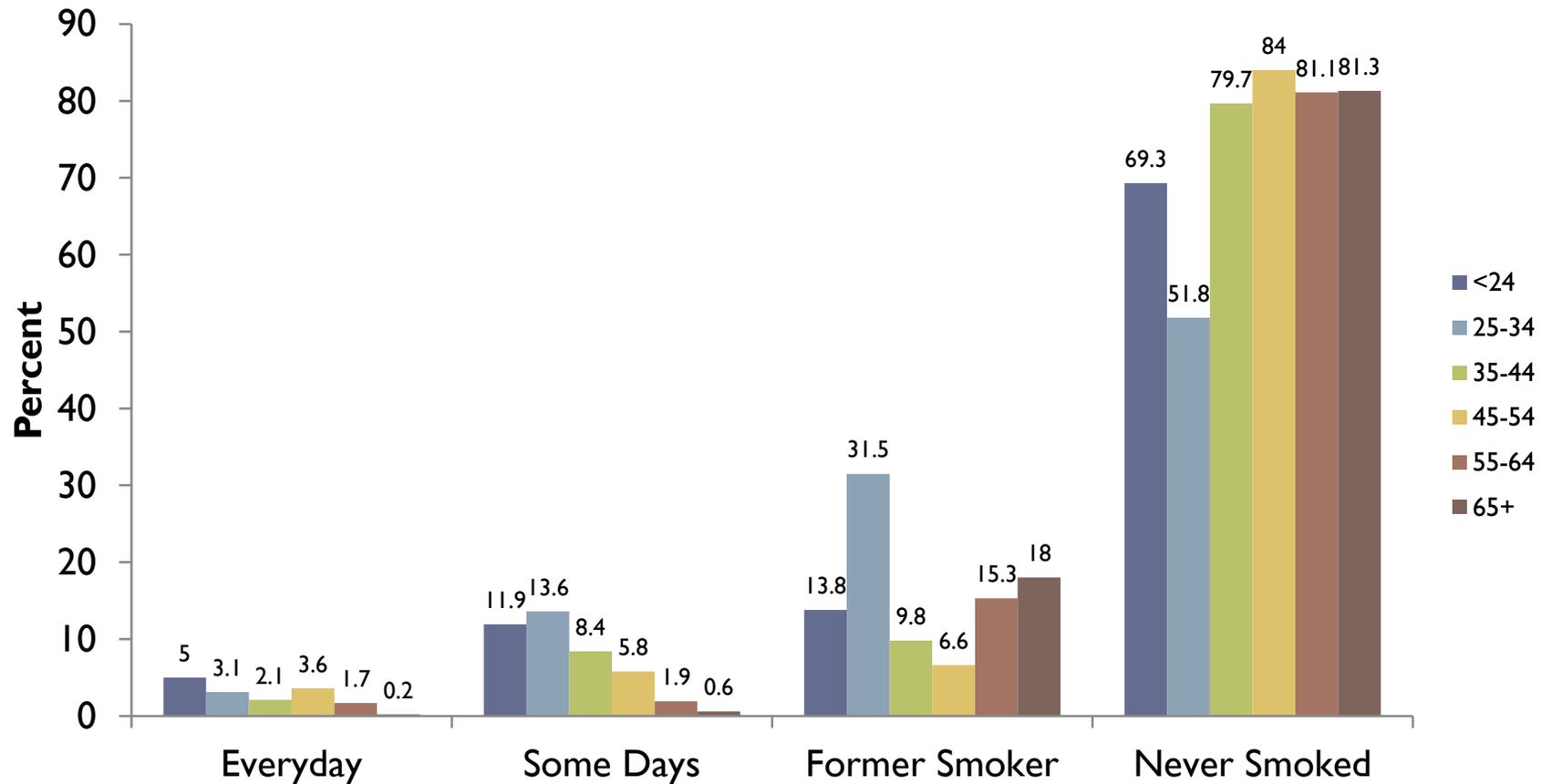
**TOBACCO USE:** *Do you now smoke cigarettes every day, some days, or not at all?*

**Cigarette Smoking, Age Adjusted**



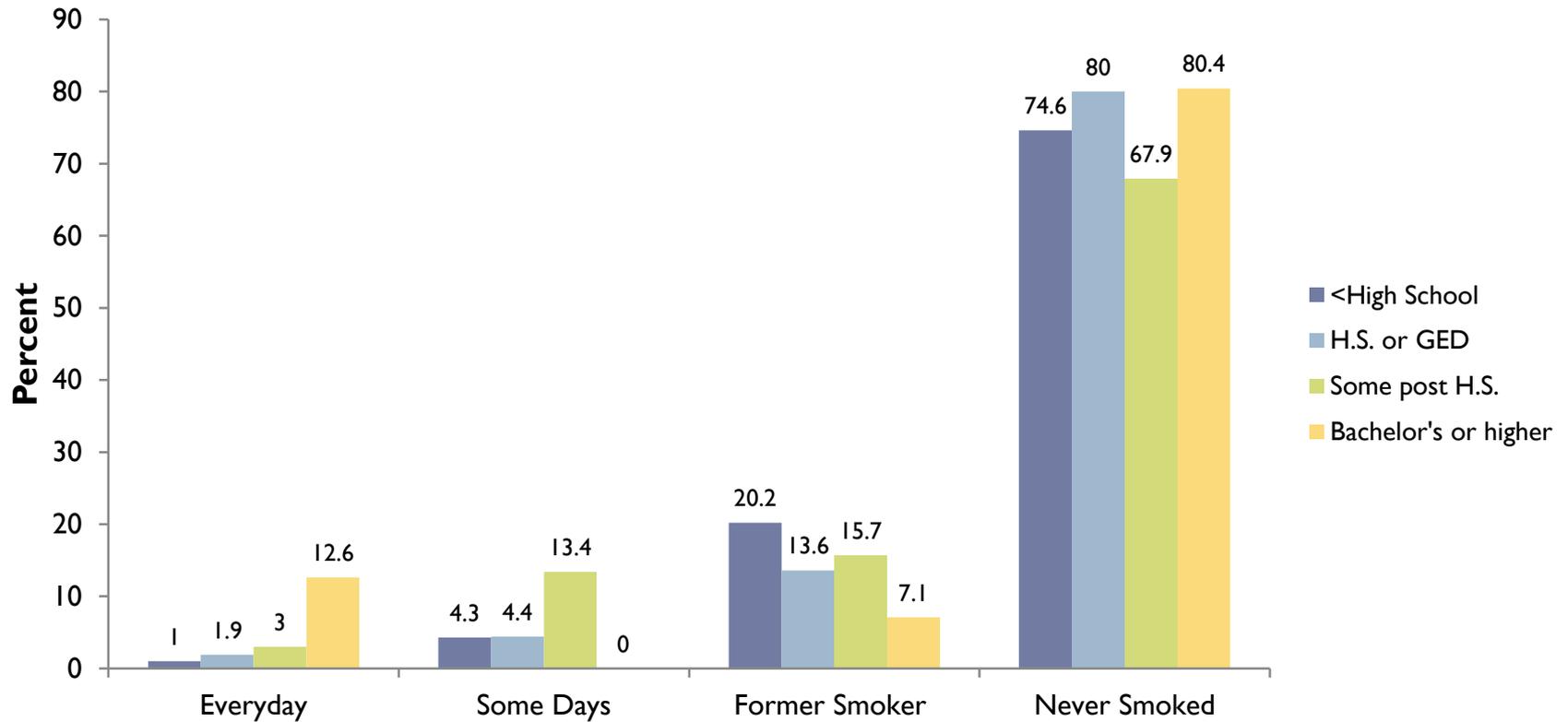
# TOBACCO USE: *Do you now smoke cigarettes every day, some days, or not at all?*

By Age Group



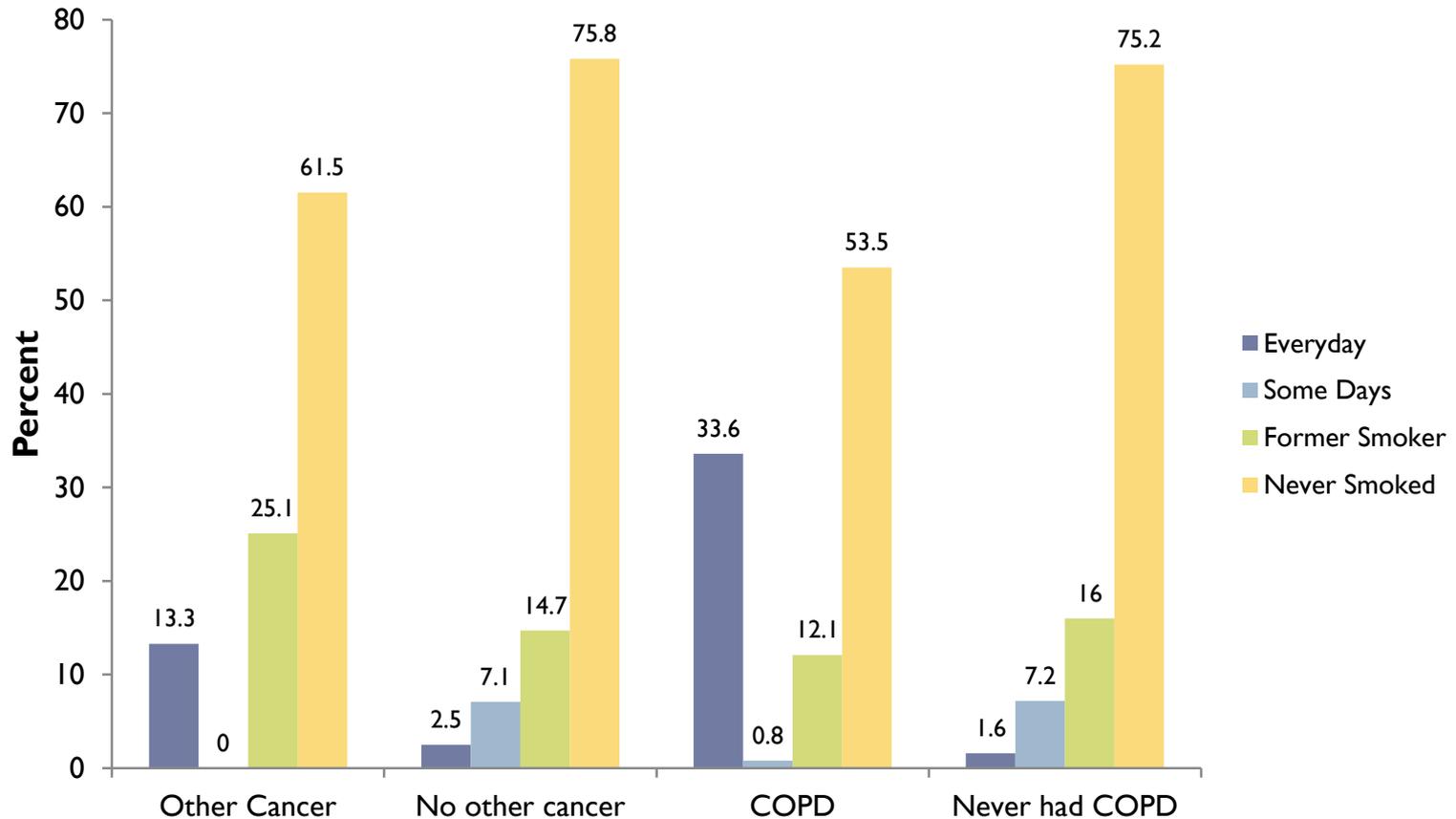
# TOBACCO USE: *Do you now smoke cigarettes every day, some days, or not at all?*

By Education Level



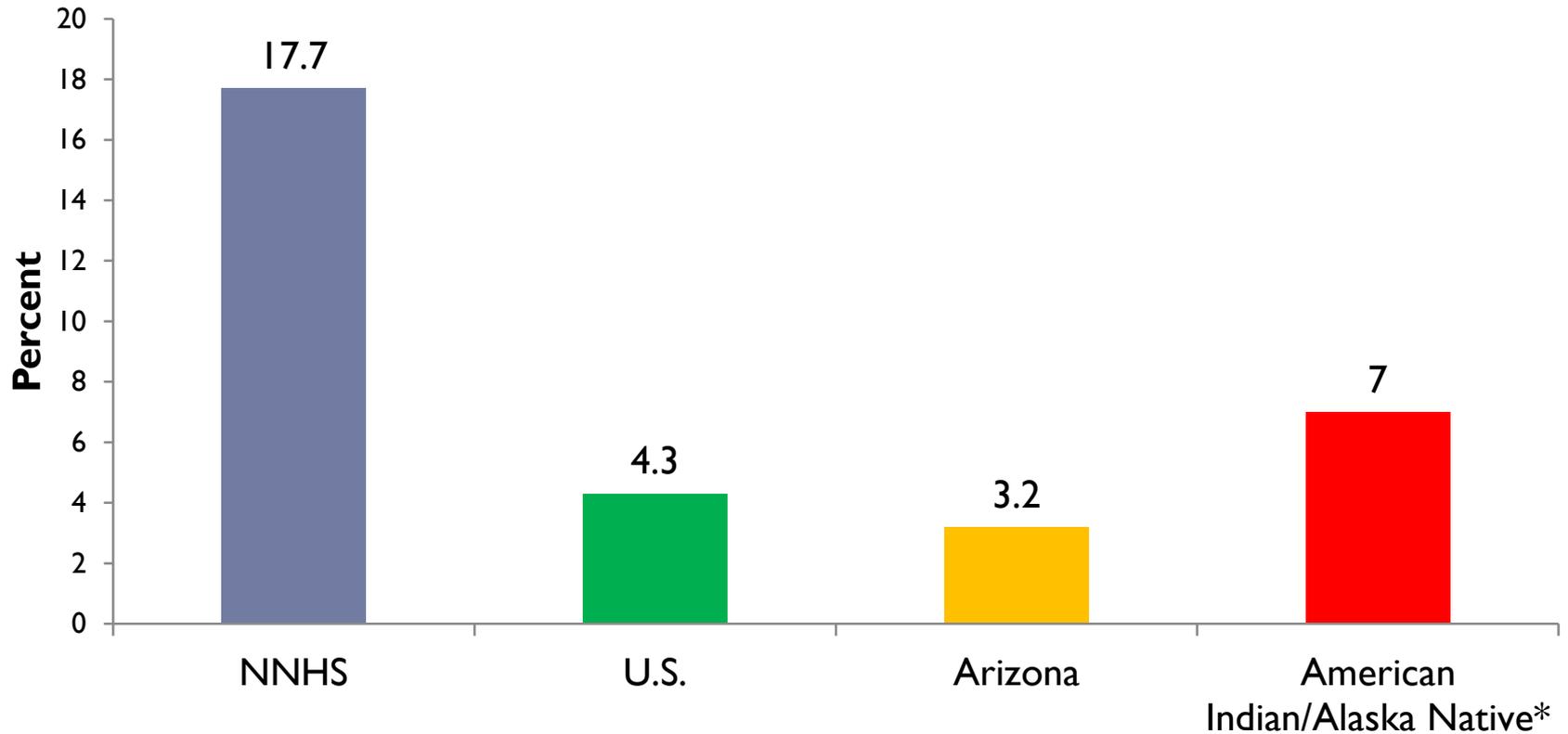
# TOBACCO USE: *Do you now smoke cigarettes every day, some days, or not at all?*

## By Chronic Diseases



# TOBACCO USE: *Do you currently use chewing tobacco?*

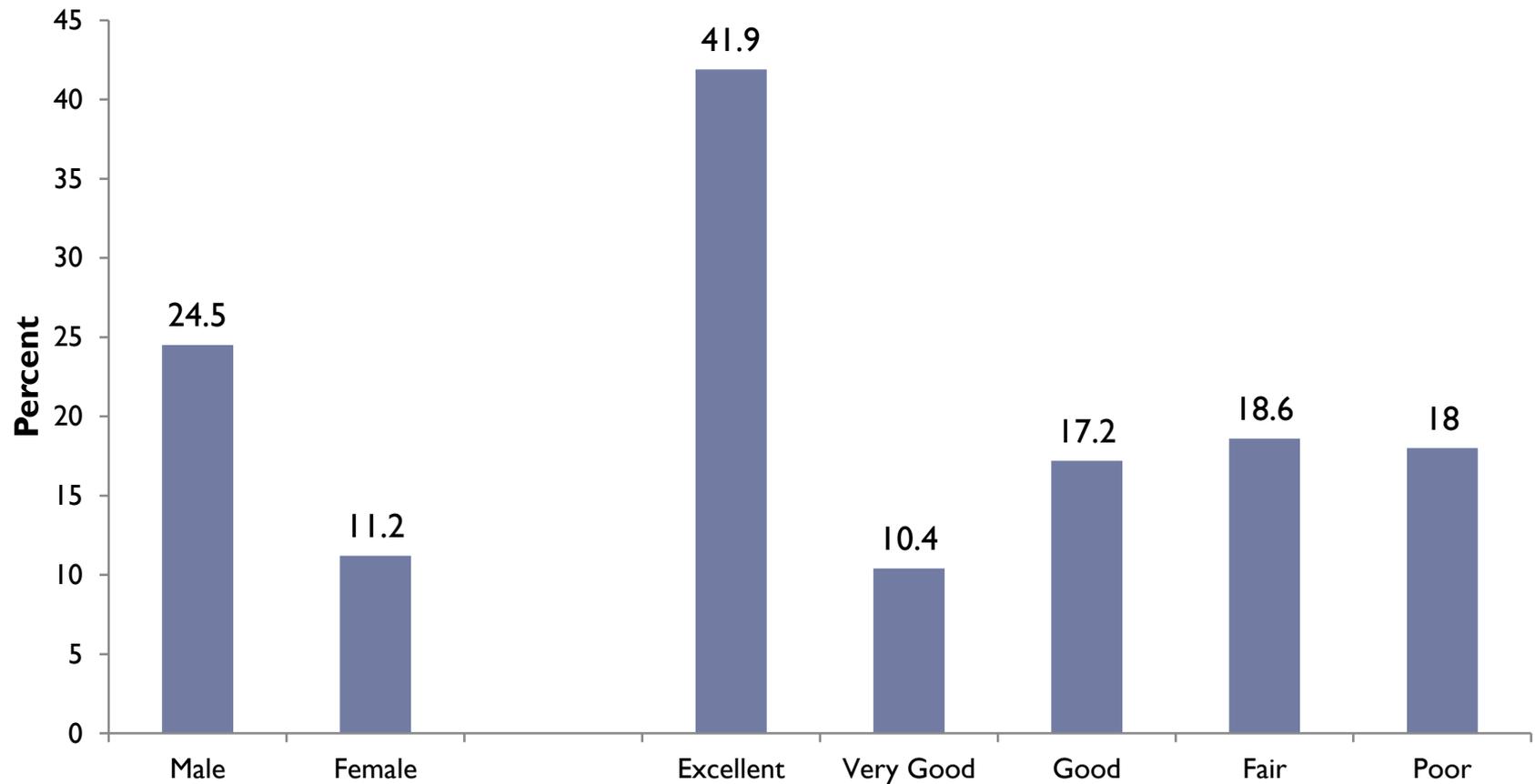
Every Day or Some Days, Age Adjusted



\* Source is 2007 SAMHSA National Survey on Drug Use and Health

## TOBACCO USE: *Do you currently use chewing tobacco?*

Age Adjusted: Gender and General Health

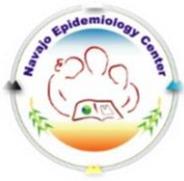




# Phase 3 – Implementation

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- ❖ **Sample Design of Household Selection**
  - ❖ Methodology (a method used in a particular area of study)
  - ❖ Maps & Table of GPS Coordinates of selected sites
- ❖ **Community Outreach & Education**
  - ❖ NN Chapters
  - ❖ Agency Advisory Committee
  - ❖ Steering Committee
- ❖ **Temporary Research Assistant Positions**
  - ❖ Recruitment
    - ❖ Job Vacancy Announcement (NN Department of Personnel Management)
    - ❖ Applicants from Fort Defiance, Eastern & Western Agency, preferred
  - ❖ Selection of applicants
  - ❖ Training
  - ❖ Deploy NNHS Team into worksite location(s)
- ❖ **GSA Vehicles for field travel**
- ❖ **Media Blitz (Local Newspaper Ad/Community Event; Radio Station PSAs; Public Health TV (IHS/638))**



# Next Steps

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## Phase 1 Central (Chinle) Agency

- ✓ **Data Entry**
  - ❖ Validation of responses
  - ❖ Prepare preliminary data results
- ✓ **Data Work Session**
  - ❖ Partnering tribal programs
  - ❖ Public health providers (I.H.S./NN/Individuals)
- ❖ **Dissemination Plan**
  - ❖ Agency Advisory Committee
    - ❖ Establish AAC representative of partnerships to review study results
    - ❖ Technical assistance with interpretation of study results with communities surveyed
    - ❖ Recommend improvements (data into action) on health status
- ❖ **Community Outreach**
  - ❖ Community interpretation of NNHS results
  - ❖ Recommend improvements (data into action) on health status
  - ❖ Encourage ownership of NNHS results

## Phase 2 – Northern Navajo Agency

- ❖ **Data Entry**
  - ❖ Validation of responses
  - ❖ Prepare preliminary data results
- ❖ **Data Work Session**
  - ❖ Collaborate with public health providers (I.H.S./Navajo Nation/Others)
  - ❖ First look at preliminary data results
- ❖ **Dissemination Plan**
  - ❖ Communicate the data findings
  - ❖ Community outreach to promote community involvement
- ❖ **Community Interpretation**
  - ❖ Engage the community in interpreting some of the key findings of the NNHS



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