Comprehensive CVD Screening Information for Providers

Indian Health Service
National GPRA Program

Amy Patterson, PhD (California Area Office)

CVD Prevention: Comprehensive Assessment

- As of FY 2007, this is a new measure: *CVD Comprehensive Assessment*

- "During FY 2007, establish the baseline proportion of at risk patients who have a comprehensive assessment for all CVD-related risk factors."

Previous CVD GPRA Measure

- Previous GPRA Measure *CVD: Cholesterol Screening* became a **non-GPRA** measure as of FY 2007.

- Rates of cholesterol screening for patients ages 23 and older are still tracked by CRS, but not included in the GPRA report.

Comprehensive CVD Assessment Measure

- Denominator: Active ischemic heart disease (IHD) patients ages 22 and older, defined as all Active Clinical patients diagnosed with IHD prior to the Report Period
  - AND at least 2 visits during the Report Period
  - AND 2 IHD-related visits ever.

What is Comprehensive CVD Assessment?

- Comprehensive CVD includes all of the following:
  1. Blood Pressure documented at least **twice** in past 2 years
  2. LDL documented in past 5 years
  3. Tobacco Screening during the report period
  4. BMI Measurement
  5. Lifestyle adaptation counseling during report period

BMI calculations

- For patients under age 50, height and weight must be recorded within last 5 years, not required to be on the same day.
- For patients over age 50, height and weight must be recorded within last 2 years, not required to be on same day.

CVD Assessment in GPRA

- Only patients with **ALL FIVE** assessments will be counted in the numerator for CVD Comprehensive Screening.
- Accuracy and timeliness of data entry is particularly important for comprehensive measures.

Why CVD Assessment?

- Cardiovascular disease (CVD)- mainly heart disease and stroke- is the leading cause of death for both men and women among all racial and ethnic groups.
- About 950,000 Americans die of cardiovascular disease each year, which amounts to one death every 33 seconds.
- Heart disease and stroke are the first and third leading causes of death for both men and women in the United States, accounting for nearly 40% of all deaths.

CVD includes:

- coronary heart disease (CHD)
- stroke
- arteriosclerosis
- angina
- high blood pressure
- high cholesterol
- arrhythmia

CVD Statistics

- About 61 million Americans (almost one-fourth of the population) have some form of cardiovascular disease.
- Coronary heart disease (CHD) is a leading cause of premature, permanent disability among adults.

CHD/Heart Attacks

- Coronary heart disease (CHD) is the leading cause of death in the United States.
- Heart attacks kill nearly 500,000 men and women each year and cause nearly 12 million hospital days of care per year.
- The lifetime risk of having a CHD event is estimated to be 49% for men and 32% for women in the United States.

CVD in the AI/AN populations

- Heart disease and stroke are the first and sixth leading causes of death, respectively, among AI/AN people.

- CVD mortality is increasing among AI/ANs but decreasing in the general population.

CVD in the AI/AN populations

- Death rates from CVD are higher among American Indians and Alaska Natives than other U.S. groups. In the late 1990s:
  - Heart disease death rates were 20% higher among AI/AN people than the total U.S. population
  - Stroke death rates were 14% higher for AI/AN people than for the total U.S. population

Coronary Heart Disease in the AI/AN populations

- At present, CHD rates in American Indians exceed rates in other US populations and may more often be fatal.

- Unlike other ethnic groups, American Indians appear to have an increasing incidence of CHD, likely due to the high prevalence of diabetes.

Disparities and misclassification

- Previous data suggested that cardiovascular disease mortality rates were *lower* for American Indians and Alaska Natives than for the general US population.

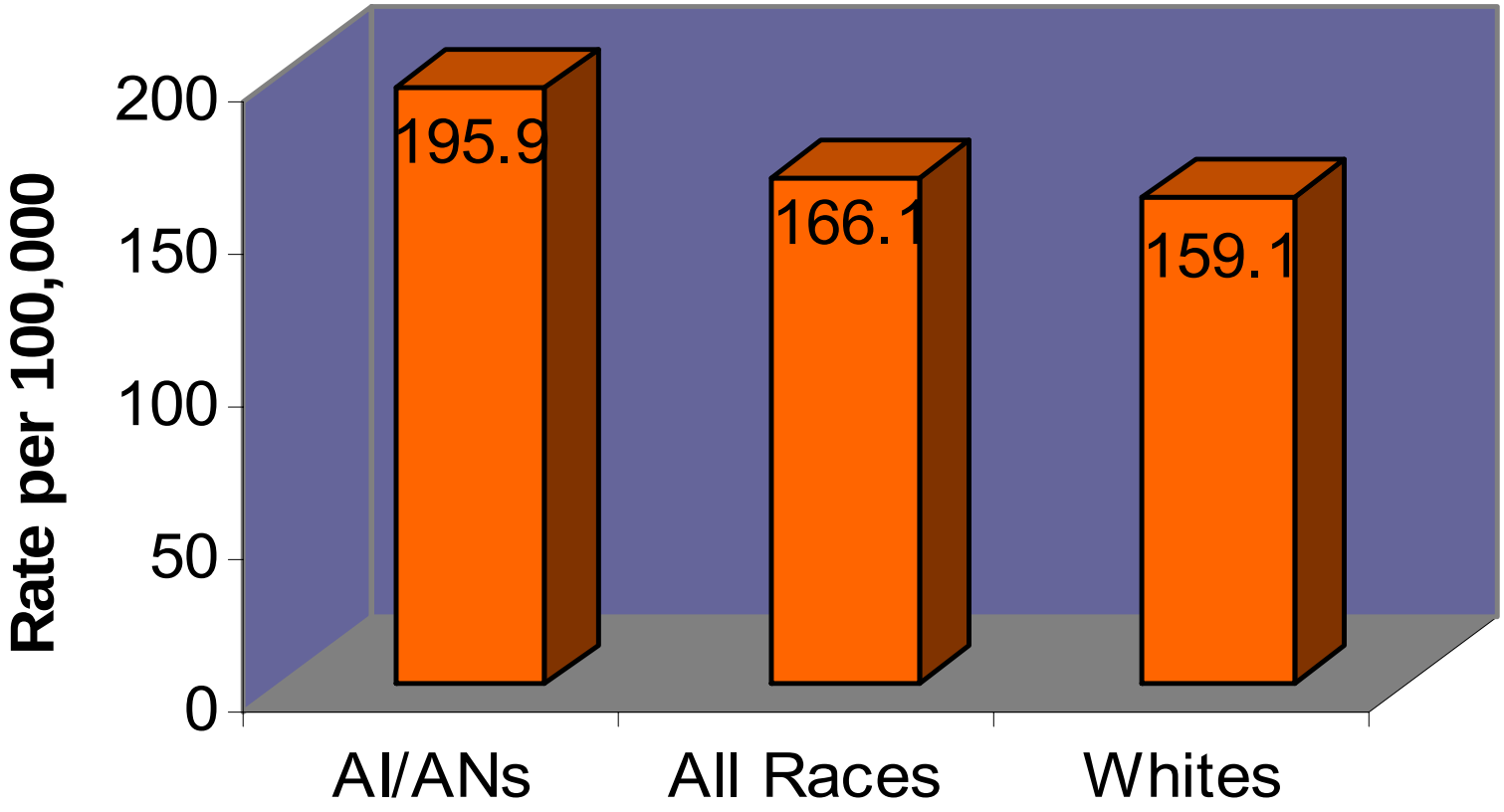
- However, researchers have discovered that this data may have been flawed due to racial misclassification.

Adjusting for misclassification

- A recent study that has adjusted data for misclassification shows a growing disparity between CVD mortality rates among AI/AN people compared to the US All Races and white populations.

- From 1996 to 1998, the age and misclassification-adjusted number of CVD deaths among AI/AN people was 195.9 per 100,000, compared with rates of 166.1 among US All Races, and 159.1 among whites.

CVD Mortality Rates 1996-1998



Source: Rhoades, 2005

CVD rates among American Indians compared to non-Indians

- One study comparing American Indians (n=1000) with non-Indians (n=905) in Montana found a higher prevalence of CVD among American Indians.

- Within this group, American Indians age 45 and older reported a significantly higher prevalence of CVD compared to non-Indians (18% vs. 10%).

More risk factors among AI/ANs

- In the same Montana study, among persons aged 18-44 years, American Indians reported higher rates of hypertension (15% vs. 10%), obesity (29% vs. 12%), and smoking (42% vs. 24%) than non-Indians.
- Among people age 45 or older, American Indians reported higher rates of diabetes (24% vs. 9%), obesity (38% vs. 16%), and smoking (32% vs. 13%) than non-Indians.

More risk factors among AI/ANs

- In a 2003 BRFSS survey, the prevalence of having two or more risk factors for CVD was highest among blacks (48.7%) and American Indians/Alaska Natives (46.7%) compared to other groups.

- Risk factors include: high blood pressure, high cholesterol, diabetes, current smoking, physical inactivity, and obesity.

Diabetes increases risk

- American Indians and most individuals with diabetes have a high prevalence of insulin resistance syndrome, which is a strong predictor of CHD.
- Among American Indians in the Strong Heart Study, diabetes was the strongest determinant of CVD.

Strong Heart Study findings

- The Strong Heart Study investigated CVD and its risk factors in American Indians in 13 communities in Arizona, Oklahoma, and South and North Dakota.
- CVD morbidity and mortality rates were higher in men than in women and were similar in the 3 geographic areas.

Strong Heart Study findings

- 56% of the CVD events in men and 78% of CVD events in women occurred in those with diabetes.
- Although diabetes is known to increase CVD risk factors, it has also been found to be a strong independent effect after adjustment for other risk factors.

Other independent risk factors for CVD

- Two of the major independent risk factors for cardiovascular disease are:
  - 1) high blood pressure
  - 2) high blood cholesterol

Blood Pressure and CVD

- Data from the past 20 years on blood pressure has confirmed that high blood pressure is associated with cardiovascular risk.
- Effects of high blood pressure include coronary heart disease, stroke, and cardiac abnormalities.

Hypertension

- Most people above the age of 35 have systolic (SBP)/diastolic (DBP) above optimal (< 120/< 80 mm Hg); and are therefore at increased CVD risk.

- During 1999–2000, nearly 30% of U.S. adults had high blood pressure (hypertension), and another 31% had pre-hypertension.

Blood Pressure and CVD Risk

- According to the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure:
  - The risk of CVD, beginning at 115/75 mm Hg, doubles with each increment of 20/10 mm Hg.
  - Individuals with a systolic BP of 120 to 139 mm Hg or a diastolic BP of 80 to 89 mm Hg should be considered as pre-hypertensive and require health-promoting lifestyle modifications to prevent CVD.

BP reduction

- A 12-13 point reduction in blood pressure can reduce:
  - heart attacks by 21%
  - strokes by 37%
  - and all deaths from CVD by 25%.

Cholesterol

- Cholesterol is carried through the blood bound to two types of "lipoproteins." Low-density lipoprotein (LDL) carries most of the cholesterol in the blood.
- High-density lipoprotein (HDL) helps remove cholesterol from the blood and helps prevent cholesterol from building up.
- High levels of LDL can cause cholesterol to deposit in blood vessels, clogging the arteries.

Cholesterol and CVD

- Elevated low-density lipoprotein cholesterol (LDL) and low levels of high-density lipoprotein cholesterol (HDL) are important risk factors for coronary heart disease.

- The risk for heart disease increases as levels of LDL increase and as levels of HDL decrease.

Cholesterol Levels

- Nearly 107 million American adults have total blood cholesterol values of 200 mg/dL and higher, and 37.7 million American adults have levels of 240 or above.
- In adults, total cholesterol levels of 240 mg/dL or higher are considered high, and levels from 200 to 239 mg/dL are considered borderline-high.

High Cholesterol is prevalent among AI/ANs

- Among American Indians ages 45–74:
  - 37.7% of men and 37.6 % of women have total blood cholesterol levels of 200 mg/dL or higher (borderline high)
  - 8.6% of men and 12.7% of women have levels of 240 mg/dL or higher (high)

USPSTF Recommendations

- The U.S. Preventive Services Task Force (USPSTF) strongly recommends that clinicians routinely screen men aged 35 years and older and women aged 45 years and older for lipid disorders and treat abnormal lipids in people who are at increased risk of coronary heart disease.

Cholesterol and CVD risk reduction

- A 10% decrease in total blood cholesterol levels may reduce the incidence of heart disease by as much as 30%.

Tobacco and CVD risk

- Smokers' risk of developing coronary heart disease is 2–4 times that of nonsmokers.
- Smokers have twice the risk of heart attack as nonsmokers.
- One-fifth of the annual deaths from CVD are attributable to smoking

Smoking and CVD

- Cigarette smoking is a powerful independent risk factor for sudden cardiac death in patients with coronary heart disease.
- Cigarette smoking also acts with other risk factors to greatly increase the risk for coronary heart disease.
- Exposure to other people's smoke increases the risk of heart disease even for nonsmokers.

Weight and CVD

- People with excess body fat, especially around the waist, are more likely to develop heart disease and stroke even if they have no other risk factors.

- Excess weight also raises blood pressure and blood cholesterol and triglyceride levels, and lowers HDL cholesterol levels.

Physical activity and CVD

- Regular physical activity decreases the risk of cardiovascular disease mortality in general and of coronary heart disease mortality in particular.

- Regular physical activity prevents or delays the development of high blood pressure, and exercise reduces blood pressure in people with hypertension.

Lifestyle Counseling

- The CDC recommends that risk factors for heart disease and stroke, including diabetes, tobacco use, physical inactivity, poor nutrition, and overweight and obesity, be addressed through lifestyle changes and appropriate use of medications.

Depression and CVD

- About 1 in 20 adults experience major depression in a given year.
- About 1 in 3 people who have survived a heart attack experience depression in a given year.
- Although depression screening is not part of the comprehensive CVD measure, screening and effective treatment for depression in CVD patients is extremely important.

Depression and CVD

- People with heart disease are more likely to suffer from depression than otherwise healthy people.
- Conversely, people with depression are also at greater risk for developing heart disease.
- People with heart disease who are depressed have an increased risk of death after a heart attack compared to those who are not depressed

Depression and CVD

- Depression and anxiety disorders may affect heart rhythms, increase blood pressure, and alter blood clotting.
- Depression can also lead to elevated insulin and cholesterol levels.
- Depression or anxiety may result in chronically elevated levels of stress hormones, such as cortisol and adrenaline. The body's metabolism is diverted away from the type of tissue repair needed in heart disease.

Treating CVD-related depression

- Treatment may include:
  - prescription antidepressant medications, particularly the selective serotonin reuptake inhibitors.
  - psychotherapy, or "talk" therapy
  - exercise

Depression Screening and the CVD measure

- Although Depression screening is not currently included in the GRPA CVD comprehensive screening measure, it may be added in the future.

- Rates of depression screening for IHD patients age 22 and older are tracked by CRS
  - includes patients screened for depression or diagnosed with a mood disorder during the Report Period, including documented refusals in past year.

IHS GPRA Measure Contacts

- James Galloway, MD PAO (Measure Lead) James.Galloway@IHS.GOV
- Francis Frazier, HQ (GPRA Lead) Francis.Frazier@IHS.GOV
- Theresa Cullen, OIT Theresa.Cullen@IHS.GOV
- Amy Patterson, CAO Amy.Patterson@IHS.GOV