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Utah Department of Health

CARDIOVASCULAR HEALTH DISPARITIES

February 23, 2010
In the News

Institute of Medicine Report on Hypertension
Burden of CVD

- CVD is the leading cause of death.
- An estimated 1 in 3 American adults is living with CVD.
- Heart disease, stroke, and high blood pressure are among the 15 leading causes of functional disabilities, or difficulty with the activities of daily living.
- The estimated direct and indirect cost of CVD for 2010 is $503.2 billion.

Source: AHA Statistical Update (2010)
Cardiovascular disease (ICD 10 I00-I99); Heart disease (ICD 10 I00-I09, I11, I13, I20-I51); Coronary heart disease (ICD 10 I11, I20-I25); Cerebrovascular disease/Stroke (ICD 10 I60-I69); High blood pressure (ICD 10 I10-I15); Hypertension/High Blood Pressure (ICD10 I10-I15)
Terms

Racial and ethnic minority populations
- American Indian/Alaska Native (AI/AN)
- African American/Black
- Asian
- Native Hawaiian/Pacific Islander (NH/PI)
- Hispanic/Latino

Some data sources combine Asian/PI
Some use term “Mexican American” and not Hispanic/Latino
Assessing Racial/Ethnic Disparities

1. Compare to general population (all races/ethnicities)
2. Compare to largest population (whites)
3. Compare proportion of cases to proportion of population

For CVD and risk factors, #1 and 2 are the most common strategies.
# Leading Causes of Death by Race, U.S., 2005

<table>
<thead>
<tr>
<th>Cause of Death</th>
<th>White</th>
<th>Black</th>
<th>AI/AN</th>
<th>Asian/PI</th>
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<tr>
<td>Chronic lower respiratory diseases</td>
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<td>7</td>
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<tr>
<td>Unintentional injuries</td>
<td>5</td>
<td>4</td>
<td>3</td>
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<tr>
<td>Alzheimer's</td>
<td>6</td>
<td>14</td>
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<tr>
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<td>5</td>
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<td>Influenza/pneumonia</td>
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<td>11</td>
<td>9</td>
<td>6</td>
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<tr>
<td>Nephritis, nephrotic syndrome and nephrosis</td>
<td>9</td>
<td>8</td>
<td>10</td>
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<tr>
<td>Suicide</td>
<td>10</td>
<td>17</td>
<td>8</td>
<td>9</td>
</tr>
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</table>

Source: NHCS, National Vital Statistics Reports, 58(8), 12/23/09
What Factors Put People at Risk for CVD?

- High cholesterol
- Nutrition
- Physical activity
- Tobacco use
- Diabetes
Impact of CVD Risk Factors

- **Tobacco**: Smoking increases risk of CHD death by 2 to 3X

- **Overweight/Obesity**: The odds of stroke death are 4.4x higher for people who are obese

- **Nutrition**: High salt, low omega-3, high trans fats are the major dietary risk factors

Source: AHA Statistical Update (2010)
Diabetes Mellitus (DM)

- At least 65% of people with DM die of some form of heart disease or stroke.
- Heart disease death rates among adults with DM are 2 to 4 times higher than the rates for adults without DM.
- The duration of DM affects CVD risk.
Diabetes Mellitus (DM)

Overweight/Obesity

Overweight

• Increases risk of CVD by 21% in men and 20% in women.

Obesity

• Increases risk of CVD by 46% in men and 64% in women.
• Non-Hispanic black and Mexican American women are more likely to be obese than non-Hispanic white women.
Tobacco Use & Smoking

- Increases risk of developing CHD by 2-4x
- Increases risk of dying from CHD by 2-3x
- Increases risk of stroke by 2x

The % of current tobacco users declined from 43.5% to 25.7% between 1997 and 2007.

Highest rates of using any tobacco products were among AI/AN (42.3%) and non-Hispanic whites (31.4%).

Across r/e groups, tobacco use was less prevalent among women than men.

Source: AHA Statistical Update (2010)
Secondhand Smoke

Exposure to SHS at home or at work increases risk of developing CHD for nonsmokers by 25 to 30%.

Prevalence of SHS at home was highest among non-Hispanic blacks and persons with lower incomes.

Source: AHA Statistical Update (2010)
Not Engaging in Vigorous PA, US

Source: AHA Statistical Update (2010)
What Environmental Factors Affect CVD Risk and Control?

- Physical environment
- Culture and social norms
- Policies that address risk factors, such as tobacco, nutrition, physical activity
- Health care system (access and quality)
CVD Disparities

1. Cardiovascular disparities are well documented among racial and ethnic minority groups in the US.
2. Disparities in CVD mortality are not echoed in Utah. However, several minority groups fare worse than all Utahns on important cardiovascular risk factors.
3. While CVD mortality continues its downward trend, it is declining more slowly among minorities, which could result in increased disparities.
CVD in African Americans

- 2X greater rate of first-ever stroke
- 1.3X greater rate of fatal stroke
- 1.5X greater rate of non-fatal stroke
- 1.5X greater rate of heart disease death
- 4.2X greater rate of end-stage kidney disease\n
Source: AHA Statistical Update (2010)
Stroke Mortality in the U.S.

Age-adjusted rate per 100,000 population

White: 41.7 Male, 41.1 Female
Black: 67.1 Male, 57.0 Female
Hispanic: 35.9 Male, 32.3 Female
Asian/PI: 39.8 Male, 34.9 Female
AI/AN: 25.8 Male, 30.9 Female

Source: AHA Statistical Update (2010)
High Blood Pressure (HBP)

- I in 3 Americans has high blood pressure.
- HBP is one of the most important contributors to racial and ethnic disparities in cardiovascular mortality in the US.

HBP in African Americans

Prevalence of HBP is among the highest in the world.

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<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>White</td>
<td>24.3%</td>
<td>28.1%</td>
<td>3.8%</td>
</tr>
<tr>
<td>African-American</td>
<td>35.8%</td>
<td>41.4%</td>
<td>5.8%</td>
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</table>

HBP in African Americans

Compared to whites, African Americans:
- Develop HBP at younger ages
- Have higher average BP levels.
- Are less likely to achieve established treatment targets for BP control

WHAT ABOUT UTAH?
CVD in Utah

We’re #1 !!!

And 3...

And 7....

Source: AHA Statistical Update (2010)
Leading Causes of Death, Utah, 1998-2008

Age-adjusted rates per 100,000 Population

- Heart Disease: 178.1
- Cancer: 141.7
- Stroke: 51
- Chronic Lower...: 34.6
- Unintentional Injuries: 33.3
- Diabetes: 30
- Influenza and...: 24.1
- Alzheimer's: 21.2
- Suicide: 15.2
- Nephritis, Nephrotic...: 11.3
<table>
<thead>
<tr>
<th>Type</th>
<th>All Utahns</th>
<th>African American</th>
<th>AI/AN</th>
<th>Asian</th>
<th>NH/PI</th>
<th>Hispanic</th>
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<tr>
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<td></td>
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<td>Lower</td>
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<tr>
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<tr>
<td>Coronary Heart</td>
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<td>Stroke</td>
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Utah CVD Morbidity

- How many Utahns are living with cardiovascular disease?
- What about outpatient treatment for chronic conditions?
- What about hospitalizations and ED visits?
- What about prehospital care?
- What about rehabilitation?
## Utah CVD Risk Factors

<table>
<thead>
<tr>
<th>Type</th>
<th>Desired Direction</th>
<th>African American</th>
<th>AI/AN</th>
<th>Asian</th>
<th>NH/PI</th>
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<tr>
<td>Cholesterol Screening</td>
<td>Higher</td>
<td>Lower</td>
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<tr>
<td>High Cholesterol</td>
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<td>Lower</td>
<td></td>
<td>Lower</td>
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<td>Diabetes</td>
<td>Lower</td>
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<td>Higher</td>
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<td>Tobacco Use</td>
<td>Lower</td>
<td>Higher</td>
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<tr>
<td>Physical Inactivity</td>
<td>Lower</td>
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<td>Obesity</td>
<td>Lower</td>
<td>Higher</td>
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<tr>
<td>Overweight</td>
<td>Lower</td>
<td>Higher</td>
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</table>
Cholesterol Screening in Utah


- All Utah Adults: 67.8%
- American Indian: 57.5%
- Asian: 65.0%
- Black or African American: 57.2%
- Native Hawaiian: 74.5%
- White: 69.1%
- Hispanic or Latino: 55.2%
- White, Non-Hispanic: 69.3%
- Other, Non-Hispanic: 65.8%
HBC in Utah


- All Utah Adults: 23.9%
- American: 14.2%
  - Asian: 21.8%
- Black or African: 11.1%
- Native: 16.7%
- White: 24.5%
- Hispanic or Latino: 17.1%
- White, Non-Hispanic: 24.7%
- Other, Non-Hispanic: 17.4%
DM in UT

Utahns With Diabetes, 2003-2008

- All Utah Adults: 6.4%
- American...: 11.8%
- Asian: 6.0%
- Black or African...: 9.8%
- Native...: 7.0%
- White: 6.1%
- Hispanic or Latino: 9.7%
- White, Non-Hispanic: 6.0%
- Other, Non-Hispanic: 9.4%

(Age-adjusted) Percentage of Adults

Source: Utah Diabetes Prevention and Control Program
Overweight/Obesity in Utah

(Age-adjusted) Percentage of adults

Source: Utah Physical Activity, Nutrition, and Obesity Program
Utah Obesity Study

- Place of birth and duration of residence in U.S. are associated with obesity among Hispanic/Latino females in Utah.
- Risk of obesity increased with acculturation measures, even after controlling for SES, demographic, and lifestyle variables.

Tobacco Use in Utah

Current Cigarette Smoking, Utah, 2003-2008

- All Utah Adults: 10.6%
- American Indian or Alaska Native: 19.5%
- Asian: 0.4%
- Black or African American: 21.1%
- Native American: 9.6%
- White: 10.2%
- Hispanic or Latino: 12.7%
- White, Non-Hispanic: 10.2%
- Other, Non-Hispanic: 15.2%

(Age-adjusted) Percentage of Adults
Which measures are most likely to improve cardiovascular health for minorities and eliminate disparities?

- Universal access to care?
- Quality improvement?
- Public policies?
Disparities in CVD Treatment

Higher Prevalence of Risk Factors

Greater Likelihood of Stroke and Heart Attack

Higher Mortality Rates

The American College of Cardiology Foundation and Kaiser Family Foundation concluded that racial/ethnic differences in cardiovascular procedures persist even after adjusting for potentially confounding factors.

Disparities in BP Control

7,670 African American deaths per year

Disparities in Diabetes Management

1/3 of adults with DM received all 5 risk factor interventions recommended for tx in 2001

After controlling for confounding factors, blacks were 38% less likely and Hispanics were 33% less likely than whites and non-Hispanics to receive all recommended risk factor interventions

Source: AHA Statistical Update (2010)
Access to Care

- Veteran’s Administration study (2007): when access barriers were removed, the gap in HBP control decreased between white and African American populations.

- Millet study (British, 2008): Even when access to care is ensured and pay-for-performance incentives are in place, additional efforts are needed to improve quality of care among minority ethnic groups.

Quality of Care


- 60% of cardiologists believe that evidence documenting r/e disparities in cardiovascular care is “strong” or “very strong.”
- 34% believe that patients receive different treatment based on race.
- Physicians who were black, female, or who had large numbers of minority patients in their practices were more likely to report that disparities existed.

Quality of Care

When comparing cardiologists with cardiovascular surgeons, surgeons were less likely to:

- rate the evidence for r/e disparities as strong or somewhat strong
- report that r/e disparities exist in cardiovascular care in general or in their practice settings
- attribute non-patient factors to those disparities

The combination of increasing awareness, improving quality, and increasing patient demand for and participation in high quality care will likely help to reduce disparities.

Quality of Care

- General QI programs are unlikely to be effective unless they specifically address racial and ethnic disparities.
- Pilot disparities strategies with individual health plans and hospitals and then use as models for the overall system.

“I think the problem is not so much that we treat patients differently, but that we treat patients the same. Maybe we should treat people differently because they have different needs.”

Thomas Sequist, MD, MPH, associate professor at Harvard Medical School and internist at the Harvard Vanguard Medical Associates.
What Can We Do?

- Comprehensive primary and secondary prevention of risk factors
- Educate providers about the populations they serve and about health disparities relating to those populations.
- Promote understanding and use of the CLAS Standards in health care organizations.
- Support policies that increase the availability of and access to health care data by race and ethnicity
- Establish baselines and targets for disparities in quality improvement interventions.
What Can We Do?

World Health Organization (WHO):
- Comprehensive tobacco control policies
- Taxation to reduce intake of foods high in fat, sugar, and salt
- Policies that promote safe walking and cycling
- Providing healthy school meals for children
- Integrating approaches that address healthy diet, physical activity, and tobacco use

Source: World Health Organization, Fact Sheet No. 317
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