

Five-County Area Cardiovascular Health Burden 2011 Fact Sheet

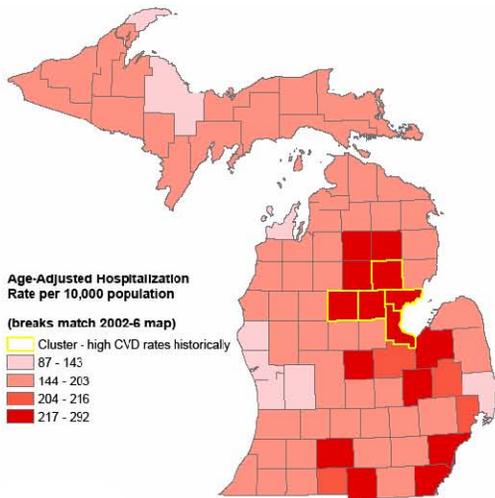
Introduction

Cardiovascular disease (heart diseases and stroke) is the number one cause of death in the United States and in Michigan. Michigan has consistently had a higher cardiovascular disease mortality rate when compared to the national rate and the burden has been much higher in certain geographical regions. Age-adjusted hospitalization and mortality rates in Michigan were mapped with 2002-2006 and 2004-2008 aggregate data for five major cardiovascular diseases (total cardiovascular disease, coronary heart disease, heart disease, heart failure, and stroke). These maps revealed a consistent pattern showing a five-county contiguous cluster with a disparate geographical burden. The five counties identified were Arenac, Bay Clare, Gladwin, and Ogemaw.

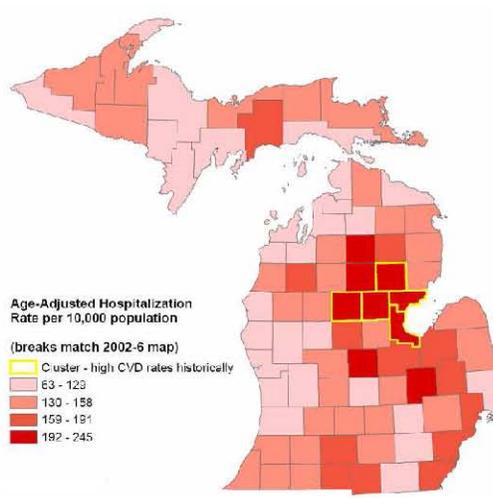
Hospitalization¹:

- The combined 2002-2006 and 2004-2008 age-adjusted rates showed Arenac, Bay Clare, Gladwin, and Ogemaw among the top ten counties with the highest cardiovascular disease, coronary heart disease, heart disease, and heart failure hospitalization rates.
- The 2004-2008 age-adjusted cardiovascular disease hospitalization rates per 10,000 and rank by county were as follows: Arenac (291.5, 1st), Bay (257.7, 2nd), Clare (256.1, 4th), Gladwin (236.1, 10th), and Ogemaw (257.3, 3rd). County rank for hospitalizations was consistent with 2002-2006 data.
- The following five maps show the distribution of hospitalization rates using 2004-2008 aggregate data with the five-county cluster highlighted and selected cardiovascular disease risk factors:

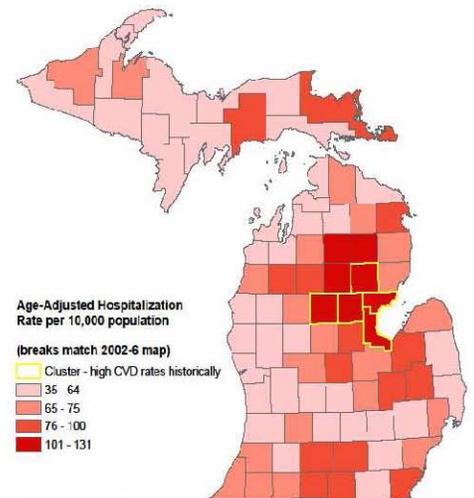
Cardiovascular Disease



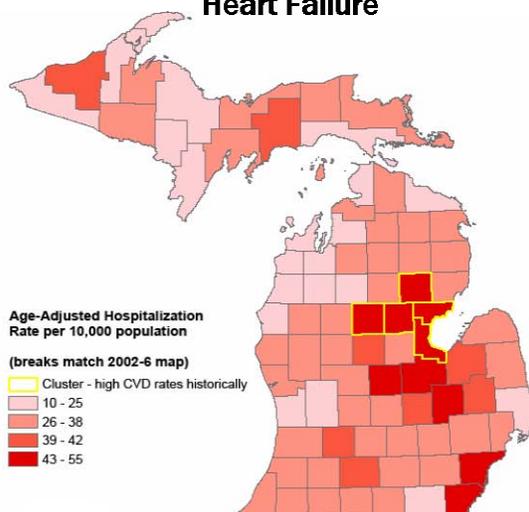
Heart Disease



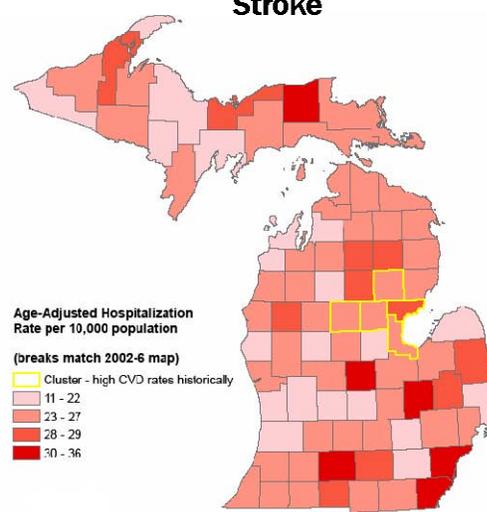
Coronary Heart Disease



Heart Failure



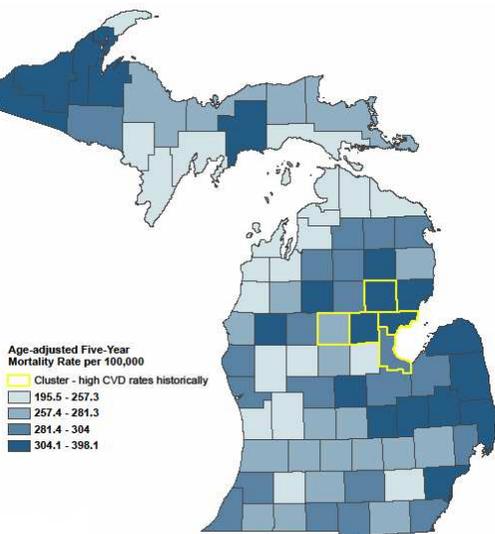
Stroke



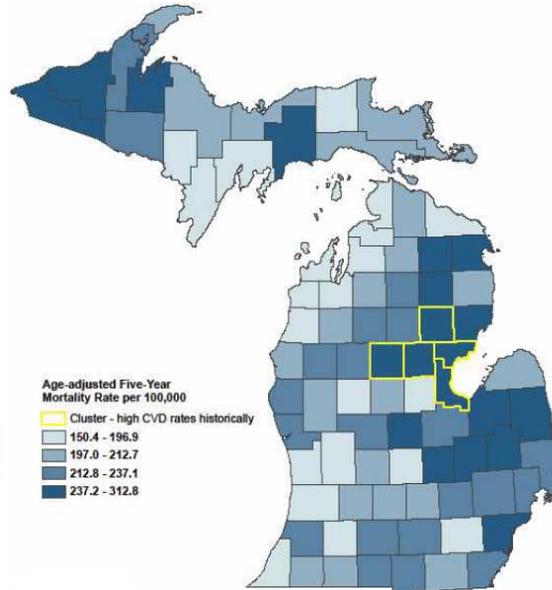
Mortality²:

- The five-county cluster also had some of the highest mortality rates for the previously stated diseases. The 2004-2008 age-adjusted cardiovascular disease mortality rate per 100,000 and rank by county were as follows: Arenac (377.1, 2nd), Bay (297.1, 29th), Clare (358.1, 5th), Gladwin (313.0, 16th), and Ogemaw (360.1, 4th).
- Four out of the five counties experienced an increase in mortality rate rank in 2004-2008 when compared to 2002-2006 data.
- Maps of age-adjusted mortality rates of the five major cardiovascular diseases are not pictured here, but show a similar burden distribution.
- Stroke hospitalization and mortality rates were not consistent with the other four measured diseases; the burden was not as great in the five county cluster.

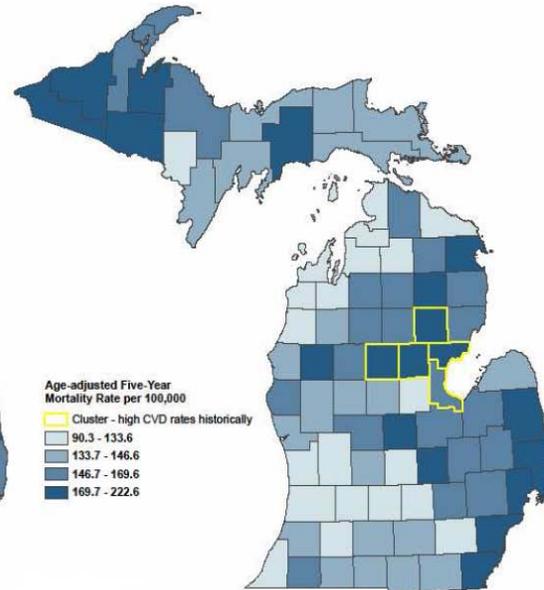
Cardiovascular Disease



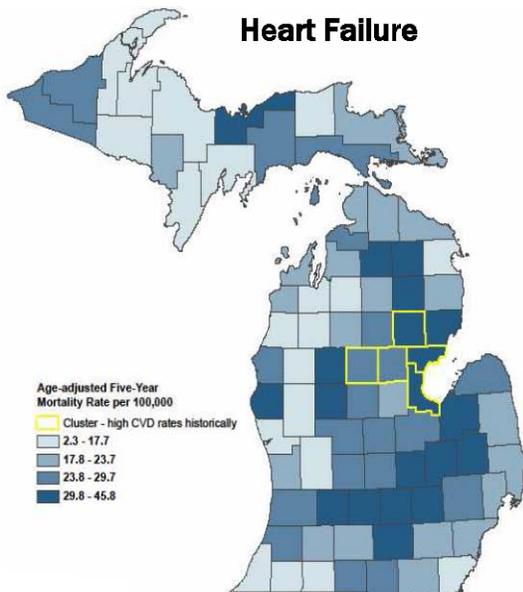
Heart Disease



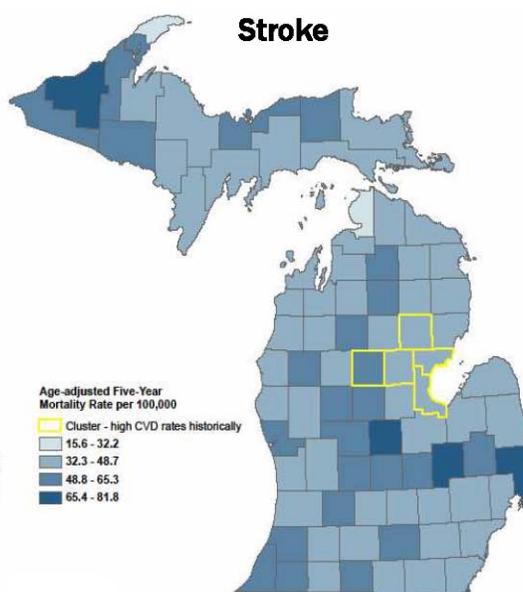
Coronary Heart Disease



Heart Failure



Stroke



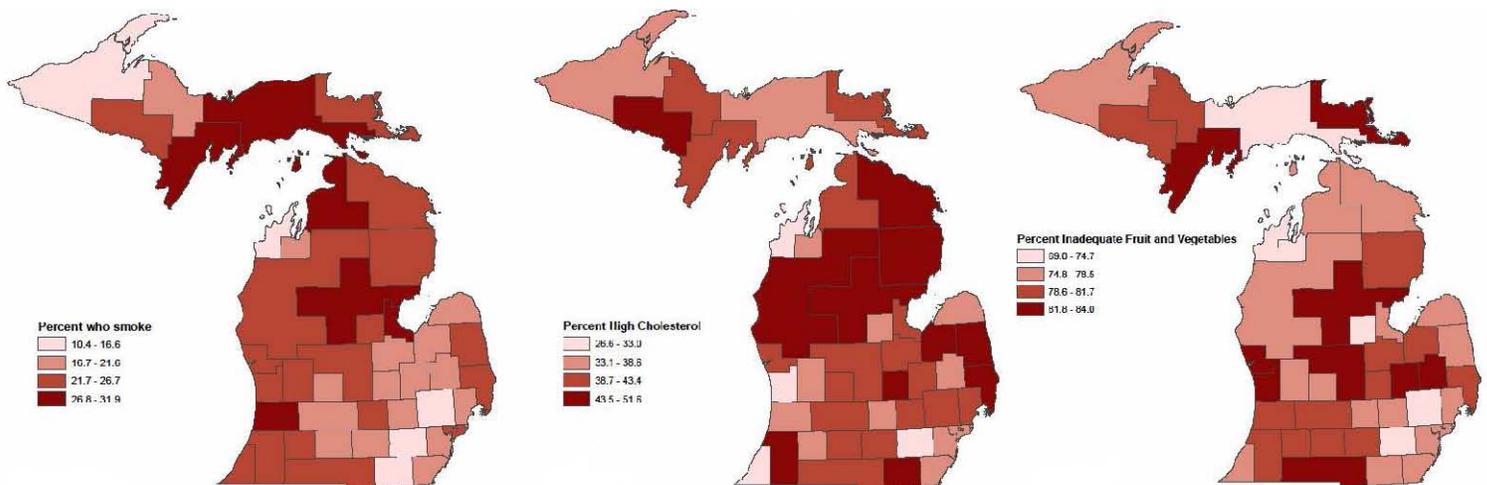
Health Behaviors and Resources ^{3,4,5,6:}

- Risk factor distribution maps show a high percent of residents in the five county cluster who smoke or were told by a doctor they have high cholesterol.¹
- A high percentage of people living in the local health department jurisdictions that encompass the five county cluster reported inadequate fruit and vegetable consumption.¹
- Five hospitals and three local health departments operate within the region.^{4,5}
- Population demographic distribution maps show a high unemployment rate and a low percent of residents with a high school or college education.⁶
- The following maps show the percent of residents by local health department jurisdiction in 2007-2009 that engage in cardiovascular health related risk factors:

Smoking

High Cholesterol Diagnosis

Inadequate Fruit & Vegetable Consumption in Adults



Conclusions

The 2004-2008 analysis revealed that the five-county cluster of Arenac, Bay, Clare, Gladwin, and Ogemaw counties remain among the counties with the highest hospitalization and mortality rates in the state, and their rates do not seem to be decreasing. It appears that the burden of some cardiovascular health-related risk factors in this region, such as high percent of residents that smoke, have high cholesterol and have inadequate fruits and vegetable consumption possibly contributing to the problem. These counties also appear to have socioeconomic disparities which correlate with poorer health conditions. The residents in these five counties do have access to health care. However, further analyses and outreach to local groups such as hospitals, public health, etc., is needed to help understand why rates are much higher compared to other Michigan counties.

In an effort to gather more information, leaders from the Michigan Department of Community Health and other experts will work together to develop relevant topics for a discussion in the form of town hall meetings in this region. Local leaders and other interested parties from the five counties will be invited to attend the meetings in order to gain a better understanding and obtain suggestions for reducing some probable causes or contributors of the high burden.

Resources

- ¹ Michigan Resident Death Files, Vital Records & Health Statistics Section, Michigan Department of Community Health, 2002-2008
- ² Michigan Resident Inpatient Files, Vital Records & Health Statistics Section, Michigan Department of Community Health 2002-2008
- ³ Michigan Behavioral Risk Factor Survey, 2007-2009
- ⁴ Michigan Health and Hospital Association, 2008
- ⁵ Michigan Center for Geographic Information, 2008
- ⁶ Area Resource File (ARF), 2005, U.S. Department of Health & Human Services, 2005