Community Health Needs Assessment & Implementation Plan

Introduction and Purpose
The Patient Protection and Affordable Care Act requires not-for-profit healthcare organizations to perform a Community Health Needs Assessment (CHNA) every three years and adopt an implementation strategy to meet the outstanding community health needs, identified therein, as a condition of maintaining the institution’s federal tax exemption effective March 21, 2012.

Wheaton Franciscan Healthcare – Iowa (WFH-IA) has worked to develop a stand-alone assessment and implementation plan for each of its three hospitals; Mercy Hospital (Mercy), Oelwein; Sartori Memorial Hospital (SMH), Cedar Falls and Covenant Medical Center (CMC), Waterloo. This plan is specific to CMC but, where resources or community needs may overlap, was created and considered based on work for all three site specific documents. It is designed to be a planning tool to assist in developing measurable strategic initiatives that can, over time, be improved and documented through third party data sources.

The findings and recommendations within this plan are a result of the health needs assessments collected throughout 2012. Consistent with the organizational mission, history and heritage, the plan reviews health need findings and proposed implementation plans for an eight county area. This assessment is focused primarily on Black Hawk County where the needs of the community were clear, and the ability of CMC and WFH-IA to make a difference align. Black Hawk County represents 48.8% of the WFH-IA service population (US Census Bureau, 2010).

Organization Overview
CMC, the flagship of the WFH-IA region, is located in Waterloo, Iowa. Serving an eight county area, CMC is one of the busiest hospitals in the state. It was created in 1986 as a result of the merger between Saint Francis Hospital and Schoitz Medical Center.

Today, it is the hub of a three hospital, 22 clinic network serving Northeast Iowa.

- 366-bed, full-service, multi-specialty hospital
- Accredited, regional and comprehensive inpatient rehabilitation program
- Accredited, inter-disciplinary Cancer Treatment Center
- Cardiology program with two catheterization labs and one electrophysiology lab
- Family birth center, and the area’s only Level II NICU
- The area’s only Level II Trauma Center, soon to be housed in a new 27,000 square feet, 24 patient room emergency department (opening Fall 2013)
CMC and WFH-IA are part of Wheaton Franciscan Healthcare (WFH), a Catholic and not-for-profit organization with nearly 100 health and shelter organizations in Wisconsin, Iowa, Colorado and Illinois.

In fiscal year (FY) 12, CMC had 10,575 inpatient discharges and 214,668 outpatient visits. Combined, these services represent a 3% increase over the prior year. Emergency visits for CMC were just over 29,930 visits; up over 1,900 from the prior year. People served by Charity Care in the year, which includes Covenant Clinic, was 9,764. The cost for Charity Care was $3.9M. While WFH-IA has two hospitals in Black Hawk County, CMC experiences the greatest share of inpatient discharges, outpatient and emergency room visits.

According to the Iowa Hospital Association, in FY 12, CMC had an economic impact of nearly $172M on the local economy in Black Hawk County. The hospital and the associates purchase a large amount of goods and services from local businesses. To get this value, the association uses the IMPLAN software tool which can analyze county level data using an economic input-output model. Employment and income (sum of payroll and employee benefits expense) are the important direct economic activities created from the hospital.

Our Mission
Wheaton Franciscan Healthcare is committed to living out the healing ministry of the Judeo-Christian tradition by providing exceptional and compassionate health care that promotes the dignity and well-being of the people we serve.
Community Health Needs Assessment

Methodology
In early 2012, CMC focused on creating a community needs assessment that combined existing, secondary data with primary interview and organizational experience. Working collaboratively with Allen Memorial Hospital and regional Iowa Health System hospitals, more than 50 interviews added a voice to data available through national, state, local and internal sources (see page 33 for a complete list of interviewees). The work, completed in about nine months, resulted in the trend analysis and problem identification as follows. Throughout this process, and this report, it was understood by the CMC team that the CHNA would result in three implementation plans, one for each hospital in the WFH-IA system, as required by the Patient Protection and Affordable Care Act. CMC, SMH and Mercy all service parts of the eight county area with Black Hawk County being the primary focus of this report.

Objective
The CHNA section of this study is intended to outline issues in the CMC service area for the purpose of creating a factual basis on which our improvement implementation plan will be written and executed. In the first part of the CHNA we look at the broadest issues and definitions of community.

Demographics and Socioeconomic Status
According to the U.S. Census Bureau estimates from 2011, Iowa has a population of three million people, with 131,549 living in Black Hawk County, the primary service area for CMC; 4% of the state’s population and a total of nearly 269,000 living in the entire eight county service areas. One-third of Iowa's 99 counties are expected to lose population (State Narrative for Iowa, Maternal and Child Health Services 2010 Annual Report).

According to census projections, Iowa will experience a modest 3% growth in population by 2015. The population will continue to shift from rural areas to urban areas. The majority of residents, 87%, are white with nearly 9% African American and nearly 4% of Hispanic or Latino origin. Persons of color account for 17% of the county’s population. Fifty-one percent of the population is female.

The Black Hawk County population grew 3% since the 2000 Census. Persons under five years of age account for 6.3% of the population, persons under 11 account for 21.3%; while persons over the age of 65 account for nearly 14% of the population. This age group accounts for 16% of those who sought medical care at CMC in FY 11.

According to a July 2012 Iowa Local Labor Force report produced by the Iowa Workforce Development, 71,800 people are employed in Black Hawk County, and 4,200 residents are unemployed. The per capita income in 2010 was $23,357 and median household income $44,178. The 2010 Census reports that 24.6% of those living in Black Hawk County had the level of education of a Bachelor’s degree or higher; while 88.8% were high school graduates. The rate of people living below the federal poverty level in the state is 11.6%; for Black Hawk County this rate is higher at nearly 17%. The number of Black Hawk County children living in poverty is 25%, much higher than national or state averages. About 33% of the county’s children are eligible for the free lunch program. This may be a direct correlation to the 37% of children living in single-parent households.
Access to Healthcare

The Kaiser Family Foundation reports that in 2009, 419,600 residents of Iowa were considered poor, living 100% below the federal poverty guideline. Of those, 144,000 were children, 244,000 were adults and 31,200 were elderly. In the state, 380,600 people were Medicaid beneficiaries; 60% of them are children. Contrary to the Medicaid numbers, 341,200 people are uninsured; 85% are adults. As for Medicare, 485,519 people received Medicare benefits. Eighty-seven percent were 65 and older.

The charts below detail the total number of people served through the Medicaid and Medicare programs at CMC. The numbers also include Covenant Clinic visits. In FY 12, the cost to provide the Medicaid program was just over $4M; the cost of the Medicare program was $5.9M.

<table>
<thead>
<tr>
<th>People Served through Medicaid</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 10</td>
<td>69,655</td>
</tr>
<tr>
<td>FY 11</td>
<td>70,140</td>
</tr>
<tr>
<td>FY 12</td>
<td>73,344</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>People Served through Medicare</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 10</td>
<td>192,203</td>
</tr>
<tr>
<td>FY 11</td>
<td>186,139</td>
</tr>
<tr>
<td>FY 12</td>
<td>198,804</td>
</tr>
</tbody>
</table>

Charity Care is free or discounted health services provided to those who cannot afford to pay and meet all of the criteria for financial assistance. Charity Care is based on actual cost, not charges, and does not include bad debt. In FY 10-12, CMC provided over $10.4M in Charity Care to its patients that met the criteria. With the economy changing as it has over the past few years, the Charity Care program has served over 27,000 in the community. The table below provides a snapshot of the Charity Care Program over the last three fiscal years for patients at CMC.

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>People Served</th>
<th>Charity Care Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 10</td>
<td>9,439</td>
<td>$2,900,000</td>
</tr>
<tr>
<td>FY 11</td>
<td>8,646</td>
<td>$3,500,000</td>
</tr>
<tr>
<td>FY 12</td>
<td>9,764</td>
<td>$3,900,000</td>
</tr>
</tbody>
</table>

The Charity Care guidelines were changed effective January 2009 for underinsured patients. The qualifying eligibility went from 400% of Federal Poverty Guideline (FPG) to 300%; the discount was also changed. It was determined that this category of individuals (underinsured between 300 & 400% of FPG) already receive a discount through their insurance coverage.

CMC, through Covenant Clinic, employs 108 physicians in this area. In the past five years, Covenant Clinic has recruited 32 primary care providers to Black Hawk County. However, the county is still considered a Health Professional Shortage Area (HPSA) as it relates to primary care providers. At the time of the assessment, Black Hawk County was short seven providers. If Black Hawk County was combined with the other seven counties that comprise the WFH-IA total service area (Benton, Bremer, Buchanan, Butler, Fayette, Grundy and Tama counties) the service area is short by 14 primary health care providers.
In addition to those in Black Hawk County, CMC serves a large number of rural Iowans. The health needs of rural Americans can be very different from those in metro areas. According to the National Rural Health Association (NRHA), rural Americans face a unique combination of factors that create disparities in urban areas. Economic factors, educational shortcomings, cultural and social differences, combined with the isolation of living in remote rural areas, conspire to impede the struggle for rural Americans to lead healthy lives. NRHA lists ten factors that can affect rural American’s access to health care:

- Shortage of health professionals in the area
- Unintentional accidents
- Lower income; poor
- Rely heavily on the Food Stamp Program
- Abuse of alcohol and tobacco
- Shortage of dentists in the area
- High incidence of hypertension
- Suicide rates among rural men is significantly higher
- Less likely to receive recommended treatments for acute myocardial infarctions (AMI) in rural hospitals
- Death and serious injury accidents account for 60% of total rural accidents versus 48% of urban

To address the access issue, Covenant Clinic has several offices within the Waterloo/Cedar Falls metro, as well as 13 clinic locations in surrounding rural communities extending access to the CMC service area. For this report, while focused on Black Hawk County, it is understood that efforts to improve overall health are not limited through county boundaries, and may through this network, impact surrounding counties and their populations.
Health Status

Narrowing the scope of this plan was necessary both in accordance with our organizational value of stewardship and to ensure the work proposed in the Implementation Plan were meaningful and achievable. The 2012 Robert Wood Johnson (RWJ) County Health Rankings provide a model to measure health factors and health outcomes. County rankings are based on mortality, morbidity, health behaviors, clinical care, social/economic factors and physical environment. The scope of the assessment and the resulting implementation plan is narrowed in focus to Black Hawk County, due to the poor rankings in both Outcomes and Factors from the 2012 RWJ Study (left). Health outcomes represent how healthy a county is while the health factors represent what influences the health of the county. Additionally, understanding the role of CMC in Black Hawk County as the hub for local care, it was felt surrounding counties would benefit from most efforts in Black Hawk.

The RWJ report for Black Hawk County, based on its criteria and methodology, highlighted six areas to explore. Of concern are the rankings for Black Hawk County with five of the six categories ranked 50 or higher.

<table>
<thead>
<tr>
<th>County</th>
<th>Population</th>
<th>% of MKT Pop</th>
<th>RWJ Rankings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Outcomes</td>
</tr>
<tr>
<td>Black Hawk</td>
<td>131,090</td>
<td>48.8%</td>
<td>73rd</td>
</tr>
<tr>
<td>Bremer</td>
<td>24,276</td>
<td>9.0%</td>
<td>12th</td>
</tr>
<tr>
<td>Butler</td>
<td>14,867</td>
<td>5.5%</td>
<td>63rd</td>
</tr>
<tr>
<td>Benton</td>
<td>26,076</td>
<td>9.7%</td>
<td>18th</td>
</tr>
<tr>
<td>Tama</td>
<td>17,767</td>
<td>6.6%</td>
<td>55th</td>
</tr>
<tr>
<td>Grundy</td>
<td>12,453</td>
<td>4.6%</td>
<td>26th</td>
</tr>
<tr>
<td>Fayette</td>
<td>20,880</td>
<td>7.8%</td>
<td>61st</td>
</tr>
<tr>
<td>Buchanan</td>
<td>20,958</td>
<td>7.8%</td>
<td>41st</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health Behaviors</th>
<th>Black Hawk County</th>
<th>National Benchmark</th>
<th>Iowa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult Smoking</td>
<td>21% (19-24%)</td>
<td>14%</td>
<td>19%</td>
</tr>
<tr>
<td>Adult Obesity</td>
<td>29% (26-32%)</td>
<td>25%</td>
<td>29%</td>
</tr>
<tr>
<td>Sexually Transmitted Infections</td>
<td>746/100,000</td>
<td>84</td>
<td>313</td>
</tr>
<tr>
<td>High School Graduation</td>
<td>85%</td>
<td>--</td>
<td>89%</td>
</tr>
<tr>
<td>Children in Poverty</td>
<td>25% (22-29%)</td>
<td>13%</td>
<td>16%</td>
</tr>
<tr>
<td>Violent Crime Rate</td>
<td>547/100,000</td>
<td>73</td>
<td>291</td>
</tr>
</tbody>
</table>
### Top 10 Leading Causes of Death

Black Hawk County ranks fourth in the state for total number of deaths according to the 2010 Vital Statistics of Iowa. The chart below reflects leading causes of death in the county, as compared to state and national averages.

<table>
<thead>
<tr>
<th>Black Hawk County</th>
<th>Iowa</th>
<th>National</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart Disease</td>
<td>29.4%</td>
<td>Heart Disease 25.2%</td>
</tr>
<tr>
<td>Malignant Neoplasms</td>
<td>17.7%</td>
<td>Malignant Neoplasms 22.6%</td>
</tr>
<tr>
<td>All Other Diseases</td>
<td>18.2%</td>
<td>All Other Diseases 14.4%</td>
</tr>
<tr>
<td>Chronic Lower Respiratory Disease</td>
<td>6.6%</td>
<td>Chronic Lower Respiratory Disease 6.6%</td>
</tr>
<tr>
<td>Cerebrovascular Disease</td>
<td>5.6%</td>
<td>Cerebrovascular Disease 5.9%</td>
</tr>
<tr>
<td>Alzheimer's Disease</td>
<td>3.9%</td>
<td>Alzheimer's Disease 4.6%</td>
</tr>
<tr>
<td>Accidents (Unintentional Injuries)</td>
<td>3.7%</td>
<td>Accidents (Unintentional Injuries) 4.6%</td>
</tr>
<tr>
<td>Diabetes Mellitus</td>
<td>2.4%</td>
<td>Diabetes Mellitus 2.5%</td>
</tr>
<tr>
<td>All Infective and Parasitic Disease</td>
<td>2.3%</td>
<td>Influenza and Pneumonia 2.3%</td>
</tr>
<tr>
<td>Nephritis, Nephrotic Syndrome and Nephrosis</td>
<td>1.5%</td>
<td>All Infective and Parasitic Disease 1.7%</td>
</tr>
<tr>
<td>All Other Deaths</td>
<td>9.1%</td>
<td>All Other Deaths 9.5%</td>
</tr>
</tbody>
</table>


The above data supports the need for CMC to address these issues in the implementation plan – specifically heart disease and cancer. RWJ outlines poor behaviors that attribute to these leading causes of death.

### Process

The compilation of this CHNA had two primary phases. The first was a review of commonly available secondary data from a variety of sources, which was quantitative in nature, including the RWJ County Health Rankings & Roadmaps, the Black Hawk County Health Department (BHCHD), the Iowa Hospital Association, and internal planning and utilization data. Much of this data forms the basis for identification of the top community health ‘needs’ and our implementation plan.

The second phase was part of a community-wide collaboration in which area hospitals, including several under the Iowa Health Systems umbrella (Allen Memorial Hospital, Grundy County Memorial Hospital and Community Memorial Hospital) as well as Waverly Health Center and WFH-IA, to conduct interviews with more than 50 area organizations. In this phase, the hospital project participants conducted a number of organizational interviews regarding the health of our community. Those interviews added voice to the data and directly led to many of the specific recommendations in this plan.
Additionally, the Black Hawk County Community Health Improvement Plan (2010-2011) calls out these indicators in setting priorities:

- Low Birth Weight and Very Low Birth Weight (IDPH-Data Warehouse 2009)
- Percent of Medicaid enrolled children
- Percent of children eligible for free or reduced school lunch
- Percent of high school students smoking
- Mortality rate for female breast cancer in African Americans

The Iowa Department of Public Health (IDPH) compiled each county’s Community Health Needs Assessment and Health Improvement Plan (CHNA & HIP). The data was published in the *Understanding the Community Health Needs in Iowa*, May 2011. From the data, several issues are raised. Many of the needs that the counties identified are the same that are identified in the *Healthy People 2020* report.

### Ten Most Frequently Cited Healthy People 2020 Categories

<table>
<thead>
<tr>
<th>Community Health Need</th>
<th># Counties Citing it as a Need</th>
<th>IDPH Focus Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to Health Services</td>
<td>92</td>
<td>Health Infrastructure</td>
</tr>
<tr>
<td>Maternal, Infant and Child Health</td>
<td>87</td>
<td>Healthy Behaviors</td>
</tr>
<tr>
<td>Environmental Health</td>
<td>83</td>
<td>Environmental Health</td>
</tr>
<tr>
<td>Injury and Violence Prevention</td>
<td>79</td>
<td>Prevent Injuries</td>
</tr>
<tr>
<td>Nutrition and Weight Status</td>
<td>77</td>
<td>Healthy Behaviors</td>
</tr>
<tr>
<td>Immunizations and Infectious Disease</td>
<td>72</td>
<td>Prevent Epidemics</td>
</tr>
<tr>
<td>Preparedness</td>
<td>66</td>
<td>Emergency Response</td>
</tr>
<tr>
<td>Mental Health and Mental Disorders</td>
<td>61</td>
<td>Healthy Behaviors</td>
</tr>
<tr>
<td>Substance Abuse</td>
<td>58</td>
<td>Healthy Behaviors</td>
</tr>
<tr>
<td>Chronic Disease</td>
<td>48</td>
<td>Healthy Behaviors</td>
</tr>
</tbody>
</table>

*Understanding the Community Health Needs in Iowa, IDPH, May 2011*

A need identified by 92 of the 99 counties, and also a category in *Healthy People 2020*, was Access to Health Services. Nearly 50% of those counties also identify this as an unmet need. Unfortunately, some of the same issues that have been raised in Black Hawk County have been raised throughout the state and the nation. The BHCHD listed some of the items below on their CHNA & HIP as areas to address as well.

### Overview of Findings

Throughout the process of researching the quantitative and qualitative data, we have found several disparities in our community that need to be addressed. They fit within these thematic areas:

- Access and Education
- Health Behaviors & Community Wellness
  (Obesity, Physical Activity, Substance Abuse, etc.)
- Mental Health
- Geriatric Related Illnesses (Dementia, Alzheimer’s, etc.)
- Cardiovascular Disease
- Cancer
- Maternal, Infant and Child Health
- Sexually Transmitted Infections
- Dental Care
- Family Planning
- Violence
- Environmental Health (Lead Poisoning, Radon, etc.)
- Health Care for Veterans

In nearly every focus group/interview these areas were identified as topics where the healthcare industry could possibly affect change in our community. Not only are there gaps in these areas for Black Hawk County, but there are gaps across...
the state of Iowa as represented in the Understanding the Community Health Needs in Iowa from the IDPH. It is in these areas that we feel WFH-IA, specifically CMC, could have the greatest impact.

Listed below are key findings CMC anticipates sharing with SMH, also located in Black Hawk County serving much of the same geographic area, and under the same leadership and sponsorship of WFH-IA.

- Access and Education
- Health Behaviors & Community Wellness (Obesity, Physical Activity, Substance Abuse, etc.)
- Mental Health
- Cardiovascular Disease

CMC will also address these two key findings in its specific Implementation Plan:

- Cancer
- Maternal, Infant and Child Health

Exclusions
While every area in which we had findings is of concern, the call to show focused, measureable results as a long term outcome of this plan, along with our organizational value of stewardship, means not every identified disparity/need will be part of this plan. Some likely will be addressed by other providers in the area. Areas of exclusion in this plan include:

- Violence - outside the scope of our provider mission. However we have supported the following:
  - YWCA’s Week Without Violence annual workshop
  - UNI – Center for Violence Prevention
- Geriatric Related Illnesses (Dementia, Alzheimer’s, etc.) – Senior Behavioral Health offering at SMH; measurable outcomes for a Geriatric program not attainable.
- Sexually Transmitted Infections
  - CMC participated in a quality improvement process with BHCHD to help establish a campaign to communicate the growing rate of sexually transmitted infections in Black Hawk County and testing locations.
- Dental Care - outside the scope of our provider mission.
- Family Planning – CMC follows the Social Responsibilities of Catholic Healthcare Services
- Environmental Health (Lead Poisoning, Radon, etc.) - outside the scope of our provider mission.
- Declining High School Graduation Rates
  - As an entity, we collectively volunteer with Junior Achievement to go into local elementary, junior high and high schools to teach the curriculum as provided by Junior Achievement.
  - Last FY, WFH-IA offered a School at Work program which taught associates the basics needed so they could obtain their GED.
Implementation Plan Adoption and Approval

All the data, interviews and community input were compiled, reviewed and approved by the CMC Internal Workgroup, Planning, Marketing and Facilities Committee prior to recommendation and approval by the Board of Trustees. Our value of stewardship calls us to focus our efforts and resources on identified health needs that CMC can have the most impact.

This plan has been adopted into practice to help guide our efforts in community involvement. Our implementation process will help drive our community benefits under the six key findings in both the quantitative and qualitative data in the CHNA process. We feel this will make our communities stronger and better.
**Key Finding #1 - Access and Education**

**Access**

Through the community health needs assessment interviews, it was evident that nearly all organizations recognize access and education issues among their students, parishioners, clients and elderly residents.

According to the National Rural Health Association, rural Americans face a myriad of access issues when it comes to their healthcare. Geographic isolation, socio-economic status, health risk behaviors and limited job opportunities contribute to health disparities in rural communities. While 25% of the United States population lives in rural areas, higher rates of chronic illness and poor overall health are found in those communities when compared to urban populations. Rural residents are older, poor and have fewer physicians to care for them. This inequality is intensified as rural residents are less likely to have employer-provided health care coverage; and if they are poor, often not covered by Medicaid. Hence the need to have a Charity Care program as identified on page 4. These factors are limiting and can inhibit them from accessing healthcare.

Specific to education and truly understanding how to access services, there were two main themes: navigating the healthcare system and health literacy, especially among people 65+ and at time of discharge. Local agencies identified a real need to enhance communication and education to this group.

| **Details for Access to Health Services - Iowa** |
|----------------|----------------|
| **Access to Health Service** | **# Counties Citing it as a Need** |
| Lack of Transportation | 41 |
| Lack of Mental Health Services/ Providers | 35 |
| Lack of Insurance/ Underinsured | 23 |
| Economic Barriers to Health Access | 21 |
| Lack of Dental Services/ Providers | 17 |
| Lack of General Services/ Providers | 13 |
| Lack of Services/ Infrastructure | 11 |

*Understanding the Community Health Needs in Iowa, IDPH, May 2011*

**Health Literacy**

Access issues can also be attributed to lack of education or understanding of healthcare systems, and the language used to communicate diagnosis, treatment, medications and overall care. Many patients and families faced with healthcare issues struggle with comprehension of the communication given by the system in terms of the availability of care, treatments, medications and resources.

The Institute of Medicine defines health literacy as “the degree to which individuals have the capacity to obtain, process and understand basic health information and services needed to make appropriate decisions.” According to the National Assessment of Adult Literacy survey (NAAL) conducted in 2003 by the U.S. Department of Education only 12% of the U.S. adult population is health proficient. By racial group percent ages vary: Caucasians (41%); Hispanic (35%); African American (19%) and other (5%) (Vernon, JA, Policy Brief: The High Economic Cost of Low Health Literacy in Iowa, November 2010).
About 90 million U.S. adults have literacy skills below high school level, impeding their ability to effectively use the healthcare system (National Adult Literacy Survey, 1992; Institute of Medicine, 2004). Estimates show 38% of Iowa adults read below high school level (33% - 47% in various cities). The prevalence of low literacy in the Cedar Valley is 38%, parallel to that of Iowa overall (Health Literacy Iowa).

This creates a barrier for patients when participating in their healthcare. Health illiteracy not only impacts the hospital’s readmission rates and overall costs, it is also a drain on the Iowa economy with a cost of between $1.9 billion to $4.2 billion annually. If efforts are not enhanced, the cost could reach between $15 to $33.7 billion over a ten year period (Vernon, JA, 2010).

Consequences & Risks
Disparities in access/education to health information, services and technology can result in:

- Low participation in preventive health advances health issues
- Lower usage rates of preventive services
- Less knowledge of chronic disease management
- Higher rates of hospitalization
- Poorer reported health status
- Poor compliance with care plans
- Increased health costs


Gaps

- No focused effort on helpful education to enhance health literacy or planning for general population, but even more so for the underserved/uninsured.
- Lack strong transportation options through the city and especially in rural communities.

Key Finding #1 - Access and Education Strategies

1:1 Provide community education on how to access health care, and improve decision making skills among consumers 40+ in the CMC service area.

1:2 Support area non-profit organizations who educate/support the elderly and underinsured/underserved populations.

1:3 Improve health care communication/understanding among health care providers, patients and caregivers.

1:4 Positively impact health outcomes at the primary care level through a patient-centered medical home approach to care.
Key Finding #2 - Health Behaviors and Community Wellness

Of concern is the lack of healthy behaviors throughout Iowa and Black Hawk County including obesity and the lack of physical activity; as well as substance abuse in various forms including alcohol, tobacco and illegal drugs.

**Obesity**

According to the Centers for Disease Control and Prevention (CDC), of Iowa’s 2.2 million adult population (2007), more than 37% of Iowa adults are overweight, and 28% are obese. This problem extends to Iowa’s youth population as well, with 11% of Iowa youth (grades 9-12) obese and 13% overweight, according to the 2007 Youth Risk Behavior Survey data. Although Black Hawk County rates align with national and state averages, it is concerning that 29% of adults in Black Hawk County are obese, as well as 45% of Waterloo public school students (Communities In Schools of Cedar Valley, Inc., 2011).

Contributing to these numbers are lifestyle behaviors with one in five adults reporting no leisure activities, and only one in five eating the recommended five or more fruits and vegetables a day (Black Hawk Health Department, CHNA & HIP, 2010-2011). These statistics clearly highlight the need for lifestyle changes to improve the health of our families and children. A renewed focus on policies and programs is underway in the state through the Healthy Kids Act (to improve nutrition and activity in the schools), the Iowans Fit for Life initiatives, as well as receiving the Blue Zone designation in the Waterloo/Cedar Falls metro. Throughout the CHNA process, residents felt such programs will likely have a positive impact on future health outcomes.

Within the *Healthy People 2020* report categories, analysis of specific needs cited by Iowa’s counties indicates there is a strong commonality in needs across the state consistent with findings in Black Hawk County. The parallel issues include:

- Obesity was cited as a health need by 74 counties with 63 currently addressing the issue (Healthindicators.gov)
- Obesity - percent of adults 18 years and over that report BMI >= 30 in Black Hawk County

<table>
<thead>
<tr>
<th>Nutrition and Weight Status</th>
<th># Counties Citing it as a Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obesity and Overweight</td>
<td>74</td>
</tr>
<tr>
<td>Nutrition</td>
<td>7</td>
</tr>
<tr>
<td>Food Access</td>
<td>3</td>
</tr>
</tbody>
</table>

According to the RWJ County Health Rankings, 11% of the population in Black Hawk County are living in poverty and have limited access to healthy foods – fruits and vegetables. Meanwhile, the state percentage is 6%. Living close to a grocery store is defined differently in metro and non-metro counties; in metro counties, it means living less than one mile from a grocery store, in non-metro counties, less than 10 miles. This measure comes from the United States Department of Agriculture (USDA) Food Environment Atlas, a resource which assembles statistics on food environment indicators to stimulate research on the determinants of food choices and diet quality. Nearly 15% of individuals in Black Hawk County are food insecure, lacking consistent access to a nutritious, well-balanced diet (USDA/Feeding America).
Conversely, 43% of all restaurants in Black Hawk County are fast food restaurants, further contributing to the obesity problem facing Iowans. Studies show an increase in obesity and diabetes prevalence with increased access to fast food outlets in a community. Food sources are not evenly distributed among consumers leading to food deserts. Food deserts are places where few or no retail food stores are available (Lang & Caraher 1998; Whitehead 1998; Furey et al. 2001; Land & Rayner 2002).

Obesity also affects the state's economy. According to the CDC, in Iowa, the medical costs associated with adult obesity were $783 million in 2003.

**Physical Activity**

Per the RWJ – County Health Rankings, Black Hawk County has nine per 100,000 recreational facilities. This measure represents the number of recreational facilities per 100,000 populations in a given county. Recreational facilities are defined as establishments primarily engaged in operating fitness and recreational sports activities, featuring exercise and other physical fitness conditioning or recreational sports activities such as swimming, skating or racquet sports.

The availability of recreational facilities can influence individuals’ and communities’ choices to engage in physical activity. Proximity to places with recreational opportunities is associated with higher physical activity levels, which in turn is associated with lower rates of adverse health outcomes associated with poor diet, lack of physical activity and obesity.

Using the Behavioral Risk Factor Surveillance System data (2009), a survey question was asked of 5,692 adult Iowans regarding their physical activity – how much physical activity (20+ minutes of vigorous physical activity) do you get three or more days per week? Seventy-eight percent answered negatively, noting they do not get physical activity three or more days per week.

The lack of physical activity, coupled with the obesity rate in Black Hawk County and the state, is cause for alarm. These two health behaviors go hand in hand, as the lack of physical activity can ultimately lead to obesity. Iowa’s Health Improvement Plan has a list of physical activity ideas that have been developed. The lead organizations on those ideas are the Iowa Department of Natural Resources and the Prevention of Disabilities Policy Council.

**Substance Abuse**

Under the RWJ County Health Rankings, 20% of the population in Black Hawk County, as compared to the national benchmark of 8%, reported they either binge drink, defined as consuming more than four (women) or five (men) alcoholic beverages on a single occasion in the past 30 days, or drink heavily, defined as drinking more than one (women) or two (men) drinks per day on average. According to a study by the CDC, researchers found the costs largely resulted from losses in workplace productivity (72% of the total cost), health care expenses for problems caused by excessive drinking (11% of the total cost), law enforcement and other criminal justice expenses related to excessive alcohol consumption (9% of the total cost), and motor vehicle crash costs from impaired driving (6% of the total cost). The study did not consider a number of other costs such as those due to pain and suffering by the excessive drinker or others who were affected by the drinking, and thus may be an underestimate. Researchers estimated that excessive drinking cost $746 per person in the United States in 2006.
Excessive drinking is a risk factor for a number of adverse health outcomes such as alcohol poisoning, hypertension, acute myocardial infarction, sexually transmitted infections, unintended pregnancy, fetal alcohol syndrome, sudden infant death syndrome, suicide, interpersonal violence and motor vehicle crashes. During local interviews, substance abuse was noted as a key issue impacting families both mentally and financially, while leading to abuse, divorce, etc. Businesses noted the loss of productivity often impacted their labor force.

<table>
<thead>
<tr>
<th>Substance Abuse</th>
<th># Counties Citing it as a Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Substance Abuse</td>
<td>19</td>
</tr>
<tr>
<td>Youth Substance Abuse</td>
<td>32</td>
</tr>
<tr>
<td>Youth Substance Abuse – Alcohol</td>
<td>18</td>
</tr>
<tr>
<td>Youth Substance Abuse – All</td>
<td>13</td>
</tr>
<tr>
<td>Youth Substance Abuse – Drugs</td>
<td>3</td>
</tr>
</tbody>
</table>

According to the I-SMART substance abuse data system, the number of clients screened and admitted for substance abuse treatment in Iowa remains high. IDPH reported 47,974 clients were screened and admitted in FY 11, more than double the number 19 years ago, and the highest number of clients ever admitted. The percent of clients primarily abusing alcohol reached an all-time low of 55.2% in 2011, while the percent of marijuana clients reached an all-time high of 25.7%. Meth admissions are back on the rise, up to 9.6%. Crack/cocaine admissions reached an all-time low of 1.9%, while heroin admissions reached an all-time high of .9%. The “other or unknown” category of admissions includes inhalants, synthetics, prescription drugs, other opiates, and unknown drugs. This category reached an all-time high in 2011 at 6.7% (http://www.iowa.gov/odcp/docs/2012DrugUseProfile.pdf).

The newest and fastest growing form of substance abuse by Iowans involves prescription and over-the-counter medicines. Teenagers tend to view these drugs as “safe,” and many parents are not yet aware of their potential for abuse. According to the Partnership at Drugfree.org, 2010 Partnership Attitudes Tracking Survey (PATS), one in four teens (25%) nationally report intentionally abusing prescription drugs to get high at least once in their lives.

According to the 2010 National Survey on Drug Use and Health (NSDUH), there were 2.4 million persons aged 12 or older who used psychotherapeutics non-medically for the first time within the past year, which averages out to around 6,000 initiates per day. In 2010, initiation of prescription drugs exceeded that of marijuana (http://www.iowa.gov/odcp/docs/2012DrugUseProfile.pdf).

According to the CDC, tobacco use remains the single largest preventable cause of disease, disability and death in the U.S. Between 2005 and 2010, more than three million Americans quit smoking, yet almost one in five adults still smoke, and one in five smokers will die in the U.S. from the habit. Tobacco usage among county residents coincides with national and state averages. However, smoking prevalence was highest in the Midwest at 21.8%, attributing to more chronic disease such as heart disease, lung cancer and emphysema, as well as low birth weight.
Consequences & Risks

- Alter gene expression and brain circuitry
- Affects human behavior
- Impairs an individual's ability to make voluntary decisions, leading to compulsive drug craving, seeking and use
- Cardiovascular disease, stroke, cancer, HIV/AIDS, hepatitis, mental health, prenatal affects, and lung disease
- Impacts personal/family life, leading to divorce, suicide, etc.

(http://www.drugabuse.gov/related-topics/medical-consequences-drug-abuse)

Key Finding #2 - Health Behaviors and Community Wellness Strategies

2:1 Reduce obesity/improve BMI rates among at-risk children through support of existing programs in the CMC service area.

2:2 Support programs to increase physical activity among school-aged kids within the CMC service area.

2:3 Improve health and access among the under-served population who have limited access to health education and facilities.

2:4 Educate high-risk populations about the impact of health behaviors on their overall health and well-being.

2:5 Reduce youth smoking rates among 10-18 year olds to lower lung cancer incidences in the CMC service area.
Key Finding #3 - Mental Health

Mental health and mental illness are commonly interchanged, and is becoming a growing health disparity throughout the country. Because of its explosive growth, experts believe a point of differentiation is necessary, as they represent two different psychological states. The Centers for Disease Control and Prevention (CDC) defines mental health as “a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community”. It is estimated that only about 17% of U.S adults are considered to be in a state of optimal mental health. There is emerging evidence that positive mental health is associated with improved health outcomes.

The CDC defines mental illness as “collectively all diagnosable mental disorders” or “health conditions that are characterized by alterations in thinking, mood, or behavior (or some combination thereof) associated with distress and/or impaired functioning.” Depression is the most common type of mental illness, affecting more than 26% of the U.S. adult population. It has been estimated that by the year 2020, depression will be the second leading cause of disability throughout the world. Evidence has shown that mental disorders, especially depressive disorders, are strongly related to the occurrence, successful treatment, and the course and risky behaviors that lead to chronic disease.

Mental illness was the number one health need assessed during local interviews, impacting every age group, from young children to the elderly. Social and economic pressures have greatly impacted the number of residents seeking mental health services throughout the state. Access to services was identified by 92 of the 99 counties in Iowa with more than 41% of the counties noting lack of transportation as a need. Another issue is the lack of mental health providers, beds and services, cited by 35 counties.

There are 232 psychiatrists in the state of Iowa and 52 are employed by the University of Iowa for research; many due to retire in the next decade. A shortage of beds throughout the state is evident as well, with only 170 beds. Based on population, Iowa should have 50 beds per 100,000 residents (on a need-based statistic); currently, that number is eight beds per 100,000 residents. Iowa’s emergency departments are a ‘revolving door’ due to the bed shortfall. After a short stay, patients are discharged only to be readmitted. Wait times for appointments are long. The emergency department at CMC averages 102 patients per month that are admitted to the Covenant psychiatric unit. By 2016, Black Hawk County Mental Health estimates approximately 5,000 new Medicaid patients will enter the mental health system (currently they have about 2,000 patients).

<table>
<thead>
<tr>
<th>Mental Health</th>
<th># Counties Citing it as a Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to Mental Health</td>
<td>35</td>
</tr>
<tr>
<td>General Mental Health</td>
<td>25</td>
</tr>
<tr>
<td>Suicide Prevention</td>
<td>22</td>
</tr>
<tr>
<td>Youth Mental Health</td>
<td>9</td>
</tr>
</tbody>
</table>

Untreated depression is the number one leading cause of suicide. An estimated 2-15% of people who have been diagnosed with major depression die by suicide. In 2010 in Iowa, suicide ranked twelfth as the leading cause of death; the rate was 1.3%. In Black Hawk County, in 2011, the rate per 100,000 was 10.6.
Consequences & Risks

- Vulnerability to poverty and ill-health
- Social and cultural exclusion and stigma
- Unnecessary disability (psychiatric)
- Unemployment
- Deficits in economic, social and cultural rights
- Denial, grief, frustration and exhaustion

(https://www.who.int/mental_health/media/en/712.pdf)

Key Finding #3 - Mental Health Strategies

3:1 Support the healthy, mental development of patients 0-5 years of age through use of a standardized developmental surveillance and online screening tool, and referral of children/families to community resources for appropriate follow-up care and support.

3:2 Create awareness of signs/symptoms, and reduce stigma of mental health issues among college students in the CMC service.

3:3 Provide ongoing support of legislative efforts to establish/maintain a crisis intervention center in the CMC service area for people experiencing a mental health crisis and in need of immediate/temporary assistance.

3:4 Improve access to mental health services by increasing number of psychiatrists in the CMC service area.

3:5 Improve access and safety of mental health patients seeking care at CMC emergency department by enhancing the environment.
Key Finding #4 - Cardiovascular Disease

According to the Iowa Chronic Disease Report Supplement, 2011, the IDPH reported nearly 7,000 Iowans died of heart disease in 2009. Coronary Heart Disease (CHD) has been the leading cause of death in Iowa since 1920 and is responsible for one of every five deaths in Iowa.

These are astounding statistics relevant to Iowa and Black Hawk County when the poor health behaviors of residents in both the state and the county far surpass the national benchmark outlined in the County Health Rankings. Smoking, obesity, physical inactivity and drinking are prevalent among adults ages 18 and older, putting residents at high risk for cardiovascular disease.

The IDPH reported that the trends in chronic heart disease are still of concern despite the overall decrease in CHD deaths in Iowa. The death rates for males aged 35-44, and both males and females aged 45-54, show an average 2% and 1% increase, respectively, over the past ten years.

In 2009, the Iowa CHD death rate was higher than the new national Healthy People 2020 objective by 31 deaths per 100,000 (131.6/100,000 vs. 100.8/100,000). If Iowa could reduce CHD by three deaths per 100,000 people in each of the next ten years, the goal will be met.

In FY 12, CMC had 1,669 cardiovascular inpatient discharges and outpatient procedures. This number is not specific to Black Hawk County. While the data is not specific to disease states, it tells the types of procedures that were needed during the patients’ stay – cardiac surgery, diagnostic and therapeutic catheterizations, all peripheral vascular procedures, implantable cardioverter defibrillators and pacers and all medical cardiac related procedures.

### Selected Cardiovascular Disease

<table>
<thead>
<tr>
<th>Year</th>
<th>Major Cardiovascular Diseases</th>
<th>Diseases of Heart</th>
<th>Hypertension</th>
<th>Cerebrovascular</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>2009</td>
<td>9,232</td>
<td>33.6</td>
<td>6,912</td>
<td>25.2</td>
</tr>
<tr>
<td>2008</td>
<td>9,623</td>
<td>33.9</td>
<td>7,268</td>
<td>25.6</td>
</tr>
<tr>
<td>2007</td>
<td>9,200</td>
<td>34.0</td>
<td>6,843</td>
<td>25.3</td>
</tr>
<tr>
<td>2006</td>
<td>9,574</td>
<td>35.1</td>
<td>7,138</td>
<td>26.2</td>
</tr>
<tr>
<td>2005</td>
<td>10,199</td>
<td>36.7</td>
<td>7,425</td>
<td>26.7</td>
</tr>
<tr>
<td>2004</td>
<td>9,994</td>
<td>37.3</td>
<td>7,252</td>
<td>27.0</td>
</tr>
<tr>
<td>2003</td>
<td>10,735</td>
<td>38.4</td>
<td>7,825</td>
<td>28.0</td>
</tr>
<tr>
<td>2002</td>
<td>11,141</td>
<td>39.9</td>
<td>8,173</td>
<td>29.3</td>
</tr>
<tr>
<td>2001</td>
<td>11,256</td>
<td>40.6</td>
<td>8,223</td>
<td>29.6</td>
</tr>
<tr>
<td>2000</td>
<td>11,471</td>
<td>41.2</td>
<td>8,496</td>
<td>30.5</td>
</tr>
<tr>
<td>1999</td>
<td>11,829</td>
<td>41.7</td>
<td>8,672</td>
<td>30.6</td>
</tr>
<tr>
<td>1998</td>
<td>12,202</td>
<td>43.1</td>
<td>9,123</td>
<td>32.2</td>
</tr>
</tbody>
</table>

Iowa Department of Public Health Bureau; 2009 Vital Statistics of Iowa
Much can be deduced from the chart below, identifying audiences for targeted messaging on prevention of heart disease. Our implementation plan should focus on those demographic areas that had a higher prevalence of disease.

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>Had Any Heart Disease (Heart Attack or Myocardial Infarction, Angina or Coronary Heart Disease) %</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEX</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>8.2</td>
</tr>
<tr>
<td>Female</td>
<td>4.5</td>
</tr>
<tr>
<td>RACE/ETHNICITY</td>
<td></td>
</tr>
<tr>
<td>White/Non-Hispanic</td>
<td>6.4</td>
</tr>
<tr>
<td>Black/Non-Hispanic</td>
<td>7.0</td>
</tr>
<tr>
<td>Other/Non-Hispanic</td>
<td>6.0</td>
</tr>
<tr>
<td>Hispanic</td>
<td>4.5</td>
</tr>
<tr>
<td>AGE</td>
<td></td>
</tr>
<tr>
<td>18-24</td>
<td>0.9</td>
</tr>
<tr>
<td>25-34</td>
<td>0.0</td>
</tr>
<tr>
<td>35-44</td>
<td>1.5</td>
</tr>
<tr>
<td>45-54</td>
<td>4.8</td>
</tr>
<tr>
<td>55-64</td>
<td>7.9</td>
</tr>
<tr>
<td>65-74</td>
<td>17.0</td>
</tr>
<tr>
<td>75+</td>
<td>22.8</td>
</tr>
<tr>
<td>EDUCATION</td>
<td></td>
</tr>
<tr>
<td>Less Than H.S.</td>
<td>8.2</td>
</tr>
<tr>
<td>H.S. or G.E.D.</td>
<td>8.6</td>
</tr>
<tr>
<td>Some Post-H.S.</td>
<td>4.8</td>
</tr>
<tr>
<td>College Graduate</td>
<td>4.2</td>
</tr>
<tr>
<td>HOUSEHOLD INCOME</td>
<td></td>
</tr>
<tr>
<td>Less than $15,000</td>
<td>11.6</td>
</tr>
<tr>
<td>$15,000- 24,999</td>
<td>12.7</td>
</tr>
<tr>
<td>$25,000- 34,999</td>
<td>8.7</td>
</tr>
<tr>
<td>$35,000- 49,999</td>
<td>5.7</td>
</tr>
<tr>
<td>$50,000- 74,999</td>
<td>3.2</td>
</tr>
<tr>
<td>$75,000+</td>
<td>3.4</td>
</tr>
</tbody>
</table>

Source: IDPH, Heart Disease and Stroke in Iowa, Burden Report, 2009

In review of the demographics above of those who have suffered with heart disease, it can be determined that our focused efforts should target those whose household income is less than $24,999, and an education level equivalent to that of a high school diploma or GED. Based on the U.S. Census data, 88% of those in Black Hawk County were high school graduates (page 3). The per capita income and median household income for Black Hawk County falls in the $15,000 - $49,000 range.
It can be reasonably assessed that lower education and income levels could lead to unhealthy food choices with little to no physical activity (page 15). With 43% of the restaurants in Black Hawk County being fast food restaurants, it is a lot easier for those with lower income to access unhealthy food quicker and cheaper, which can ultimately contribute to heart disease. This proves that much of our efforts should focus on the awareness of heart disease for this demographic as it’s the number one cause of death in Black Hawk County with a rate of 29%.

Consequences & Risks

- Loss of life
- High cost of medication
- Depression and other health issues as a result of disease/treatment
- Other chronic illnesses
- Limited mobility
- Lifestyle changes

**Key Finding #4 - Cardiovascular Disease Strategies**

4:1 Improve the health of under-insured patients diagnosed with cardiovascular related diseases in the CMC service area.

4:2 Expand and enhance access to cardiac rehabilitation services for improved patient outcomes.

4:3 Improve awareness about the signs and symptoms of early heart attack care (EHAC) and acute coronary syndromes (ACS) to internal and external communities within the CMC service area.

4:4 Improve monitoring and communication systems in the field through enhanced technology for patients in transport to CMC Emergency Department.
Key Finding #5 - Cancer

Cancer has a tremendous impact in the state of Iowa. It is the second leading cause of death in Black Hawk County and in the state. The state cancer death rate is 22.6%; and 17.7% in Black Hawk County. In 2010, an estimated 6,400 Iowans died from cancer, 14 times the number caused by auto fatalities (http://www.public-health.uiowa.edu/shri/pubs/pdf/cancer_2010.pdf). These projections are based upon mortality data the State Health Registry of Iowa receives from the Iowa Department of Public Health. Black Hawk County leads the state in the number of new cancers and cancer deaths as compared to any other county. The tables below detail new cancers in females and males and the rate of all cancer related deaths in females and males in Iowa. The new cancers for both females and males are consistent nationally as it is for Iowa.

Per the American Cancer Society, African Americans are most adversely affected by cancer than any other racial group. Although declining, the mortality rate of African Americans is higher than any other racial group. The CDC estimated that in 2011, African American women would make up 34% of the new cases of breast cancer patients. It also projected that African American women would make up 22% of the estimated lung cancer deaths. The CDC estimated that African American men would make up 40% of the new prostate cancer diagnosis; and would be 29% of the lung cancer deaths. For African Americans, the death rates for lung cancer, the leading cause of cancer, are the highest in the Southern states and the Midwest (including Iowa).

### 2012 New Cancers in Females

<table>
<thead>
<tr>
<th>Type</th>
<th># of Cancers</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
<td>2250</td>
<td>26.5</td>
</tr>
<tr>
<td>Lung</td>
<td>1060</td>
<td>12.5</td>
</tr>
<tr>
<td>Colon &amp; Rectum</td>
<td>850</td>
<td>10.0</td>
</tr>
<tr>
<td>Uterus</td>
<td>600</td>
<td>7.1</td>
</tr>
<tr>
<td>Non-Hodgkin Lymphoma</td>
<td>370</td>
<td>4.3</td>
</tr>
<tr>
<td>Thyroid</td>
<td>350</td>
<td>4.1</td>
</tr>
<tr>
<td>Skin Melanoma</td>
<td>340</td>
<td>4.0</td>
</tr>
<tr>
<td>Leukemia</td>
<td>250</td>
<td>2.9</td>
</tr>
<tr>
<td>Ovary</td>
<td>240</td>
<td>2.8</td>
</tr>
<tr>
<td>Kidney &amp; Renal Pelvis</td>
<td>230</td>
<td>2.7</td>
</tr>
<tr>
<td>All Others</td>
<td>1960</td>
<td>23.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>8500</strong></td>
<td></td>
</tr>
</tbody>
</table>

### 2012 New Cancers in Males

<table>
<thead>
<tr>
<th>Type</th>
<th># of Cancers</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prostate</td>
<td>2250</td>
<td>25.0</td>
</tr>
<tr>
<td>Lung</td>
<td>1300</td>
<td>14.4</td>
</tr>
<tr>
<td>Colon &amp; Rectum</td>
<td>850</td>
<td>9.4</td>
</tr>
<tr>
<td>Bladder (invasive and noninvasive)</td>
<td>640</td>
<td>7.1</td>
</tr>
<tr>
<td>Non-Hodgkin Lymphoma</td>
<td>420</td>
<td>4.7</td>
</tr>
<tr>
<td>Skin Melanoma</td>
<td>420</td>
<td>4.1</td>
</tr>
<tr>
<td>Kidney &amp; Renal Pelvis</td>
<td>350</td>
<td>4.7</td>
</tr>
<tr>
<td>Leukemia</td>
<td>270</td>
<td>3.0</td>
</tr>
<tr>
<td>Oral Cavity</td>
<td>250</td>
<td>2.8</td>
</tr>
<tr>
<td>Pancreas</td>
<td>240</td>
<td>2.7</td>
</tr>
<tr>
<td>All Others</td>
<td>1970</td>
<td>21.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9000</strong></td>
<td></td>
</tr>
</tbody>
</table>

### 2012 Cancer Deaths in Females

<table>
<thead>
<tr>
<th>Type</th>
<th># of Cancers</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung</td>
<td>750</td>
<td>25.0</td>
</tr>
<tr>
<td>Breast</td>
<td>410</td>
<td>13.6</td>
</tr>
<tr>
<td>Colon &amp; Rectum</td>
<td>320</td>
<td>10.7</td>
</tr>
<tr>
<td>Pancreas</td>
<td>200</td>
<td>6.7</td>
</tr>
<tr>
<td>Ovary</td>
<td>180</td>
<td>6.0</td>
</tr>
<tr>
<td>Non-Hodgkin Lymphoma</td>
<td>120</td>
<td>4.0</td>
</tr>
<tr>
<td>Leukemia</td>
<td>110</td>
<td>3.7</td>
</tr>
<tr>
<td>Uterus</td>
<td>100</td>
<td>3.3</td>
</tr>
<tr>
<td>Brain</td>
<td>80</td>
<td>2.7</td>
</tr>
<tr>
<td>Multiple Myeloma</td>
<td>60</td>
<td>2.0</td>
</tr>
<tr>
<td>All Others</td>
<td>670</td>
<td>22.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3000</strong></td>
<td></td>
</tr>
</tbody>
</table>

### 2012 Cancer Deaths in Males

<table>
<thead>
<tr>
<th>Type</th>
<th># of Cancers</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung</td>
<td>990</td>
<td>29.1</td>
</tr>
<tr>
<td>Colon &amp; Rectum</td>
<td>310</td>
<td>9.1</td>
</tr>
<tr>
<td>Prostate</td>
<td>300</td>
<td>8.8</td>
</tr>
<tr>
<td>Pancreas</td>
<td>200</td>
<td>5.9</td>
</tr>
<tr>
<td>Leukemia</td>
<td>150</td>
<td>4.4</td>
</tr>
<tr>
<td>Esophagus</td>
<td>140</td>
<td>4.1</td>
</tr>
<tr>
<td>Bladder</td>
<td>130</td>
<td>3.8</td>
</tr>
<tr>
<td>Non-Hodgkin Lymphoma</td>
<td>130</td>
<td>3.8</td>
</tr>
<tr>
<td>Kidney &amp; Renal Pelvis</td>
<td>110</td>
<td>3.3</td>
</tr>
<tr>
<td>Brain</td>
<td>100</td>
<td>3.0</td>
</tr>
<tr>
<td>All Others</td>
<td>840</td>
<td>24.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3400</strong></td>
<td></td>
</tr>
</tbody>
</table>

*State Health Registry in Iowa, “Cancer in Iowa 2012”*
In the focus groups/interviews with community members, cancer was at the very core of most conversations. Many were concerned with the cancer diagnosis rates in the community, and thought important enough to address as part of our efforts. There were several discussions where participants felt like too many Black Hawk County residents were being diagnosed or dying from the disease. One of the groups interviewed felt there were high incidence rates of cancer in their church group, and often lead to depression. In another group, it was felt that there was a high incidence of cancer amongst their faculty members. The Iowa Cancer Consortium states doctors often cannot explain why one person develops cancer and another does not. While risk factors like family history or age cannot be avoided, the National Cancer Institute estimates that 50% to 75% of cancer deaths are caused by human behaviors (obesity, smoking, etc.).

### Consequences & Risks

- Financial impact through loss of job, cost of care, etc.
- Emotional hardship
- Loss of life
- Depression and other health issues as a result of disease/treatment

### Key Finding #5 - Cancer Strategies

5:1 Improve diagnosis and early treatment of colorectal cancer for under-insured/under-served patient population among 50-64 year olds in the CMC service area.

5:2 Improve early detection of breast cancer by providing access to free mammograms for under-insured/under-served patients in the CMC service area.

5:3 Provide education and strategies to enhance the health and well-being of various populations throughout the CMC service area in an effort to reduce risk of cancer occurrence and/or minimize cancer reoccurrence.

5:4 Reduce smoking rates among teens and adults to lower lung disease incidences in the CMC service area.

5:5 Improve health outcomes among cancer patients in the CMC service area.
Key Finding #6 - Maternal, Infant and Child Health

According to the Henry Kaiser Foundation (www.statehealthfacts.org), low birth weight is defined as a birth weight of less than 2,500 grams (5lb. 8oz.) regardless of gestational age, and is considered at risk for developing properly due to a lack of oxygen during labor. Low birth rate is calculated by taking the birth weight of less than 2,500 grams, dividing it by the number of resident live births for the same geographic area (for a specified time period, usually a calendar year) and multiplying by 100 to get a percent (naphsis.org).

The percentages of low birth rates in Iowa range from 3.8% to 8.4%. Iowa’s average is 6.8%; the national benchmark is 6.0%; and Black Hawk County is on the high end at 8%. This indicates a need to focus on some of the contributing factors identified - maternal exposure to health risks and an infant’s current and future mortality. Data collected from 2002 to 2008 found of the 11,827 live births in Black Hawk County, 943 babies had low birth weight according to County Health Rankings and Maps (www.countyhealthrankings.org).

Another issue cited in the Maternal and Child Health Services, Title V Block Grant, State Narrative for Iowa - Application for 2012/Annual Report for 2010; July 14, 2011, was access to prenatal care and labor and delivery services/providers in rural communities. Fourteen counties cited prenatal care as a need and another 10% cited a lack of providers and services as a need. Needs relating to a lack of providers/services included roughly equal numbers of counties where no labor and delivery services are available and those facing a lack of services and providers because of cuts in funding for maternal and child health. Rural residents are forced to urban hospitals for these services amplifying the access/transportation issue.

<table>
<thead>
<tr>
<th>Maternal, Infant and Child Health</th>
<th># of Counties Citing it as a Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Planning</td>
<td>29</td>
</tr>
<tr>
<td>Prenatal Care</td>
<td>14</td>
</tr>
<tr>
<td>Lack of Providers/ Services</td>
<td>10</td>
</tr>
<tr>
<td>Breastfeeding</td>
<td>6</td>
</tr>
<tr>
<td>Parental Education-Child Wellness</td>
<td>6</td>
</tr>
</tbody>
</table>

Understanding the Community Health Needs in Iowa, IDPH, May 2011

Consequences & Risks

- Medicaid programs pay for 40% of preterm births.
- Medicaid programs will spend $6.4 billion in the first seven years of life of preterm babies born in 2005.
- Preterm births cost society at least $26 billion per year. This includes money spent on medical care for short- and long-term health conditions, educational expenditures and lost productivity.
- Unhealthy behaviors and conditions of the mother (those with chronic conditions such as diabetes and hypertension, obesity, smoking, drinking, infections, etc.).
- Lack of early and regular prenatal care, proper nutrition, including prenatal vitamins (especially folic acid).

(Sources: March of Dimes, 2007; Institute of Medicine, 2006 G:\Community Benefit\CHNA and Implementation Plan\Data\Maternal Health\Cost of Low Birth weight Babies Postcard.mht)
Key Finding #6 - Maternal, Infant and Child Health Strategies

6:1 Improve health outcomes specifically birth weight and gestational age of infants born prematurely to mothers living in the CMC service area.
### Health Outcomes

<table>
<thead>
<tr>
<th></th>
<th>Black Hawk County</th>
<th>Error Margin</th>
<th>National Benchmark*</th>
<th>Iowa</th>
<th>Rank (of 99)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Premature death</td>
<td>6,227</td>
<td>5,733-6,720</td>
<td>5,466</td>
<td>6,012</td>
<td></td>
</tr>
<tr>
<td>Morbidity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor or fair health</td>
<td>13%</td>
<td>11-15%</td>
<td>10%</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>Poor physical health days</td>
<td>3.1</td>
<td>2.7-3.4</td>
<td>2.6</td>
<td>2.8</td>
<td></td>
</tr>
<tr>
<td>Poor mental health days</td>
<td>3.2</td>
<td>2.7-3.6</td>
<td>2.3</td>
<td>2.7</td>
<td></td>
</tr>
<tr>
<td>Low birth weight</td>
<td>8.0%</td>
<td>7.5-8.5%</td>
<td>6.0%</td>
<td>6.8%</td>
<td></td>
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</tbody>
</table>

### Health Factors

<table>
<thead>
<tr>
<th></th>
<th>Black Hawk County</th>
<th>Error Margin</th>
<th>National Benchmark*</th>
<th>Iowa</th>
<th>Rank (of 99)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Behaviors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adult smoking</td>
<td>21%</td>
<td>19-24%</td>
<td>14%</td>
<td>19%</td>
<td></td>
</tr>
<tr>
<td>Adult obesity</td>
<td>29%</td>
<td>26-32%</td>
<td>25%</td>
<td>29%</td>
<td></td>
</tr>
<tr>
<td>Physical inactivity</td>
<td>23%</td>
<td>21-26%</td>
<td>21%</td>
<td>25%</td>
<td></td>
</tr>
<tr>
<td>Excessive drinking</td>
<td>20%</td>
<td>18-23%</td>
<td>8%</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Motor vehicle crash death rate</td>
<td>14</td>
<td>11-16</td>
<td>12</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Sexually transmitted infections</td>
<td>746</td>
<td>84</td>
<td>313</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teen birth rate</td>
<td>33</td>
<td>32-35</td>
<td>22</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>Clinical Care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uninsured</td>
<td>11%</td>
<td>10-12%</td>
<td>11%</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Primary care physicians</td>
<td>634:1</td>
<td>631:1</td>
<td>984:1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preventable hospital stays</td>
<td>61</td>
<td>57-65</td>
<td>49</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td>Diabetic screening</td>
<td>90%</td>
<td>86-95%</td>
<td>89%</td>
<td>88%</td>
<td></td>
</tr>
<tr>
<td>Mammography screening</td>
<td>79%</td>
<td>73-84%</td>
<td>74%</td>
<td>71%</td>
<td></td>
</tr>
<tr>
<td>Social &amp; Economic Factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school graduation</td>
<td>85%</td>
<td></td>
<td>89%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some college</td>
<td>66%</td>
<td>63-70%</td>
<td>68%</td>
<td>67%</td>
<td></td>
</tr>
<tr>
<td>Unemployment</td>
<td>6.0%</td>
<td></td>
<td>5.4%</td>
<td>6.1%</td>
<td></td>
</tr>
<tr>
<td>Children in poverty</td>
<td>25%</td>
<td>22-29%</td>
<td>13%</td>
<td>16%</td>
<td></td>
</tr>
<tr>
<td>Inadequate social support</td>
<td>17%</td>
<td>14-19%</td>
<td>14%</td>
<td>16%</td>
<td></td>
</tr>
<tr>
<td>Children in single-parent households</td>
<td>37%</td>
<td>33-41%</td>
<td>20%</td>
<td>27%</td>
<td></td>
</tr>
<tr>
<td>Violent crime rate</td>
<td>547</td>
<td></td>
<td>73</td>
<td>291</td>
<td></td>
</tr>
<tr>
<td>Physical Environment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air pollution-particulate matter days</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air pollution-ozone days</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access to recreational facilities</td>
<td>9</td>
<td></td>
<td>16</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Limited access to healthy foods</td>
<td>11%</td>
<td>0%</td>
<td>6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fast food restaurants</td>
<td>43%</td>
<td></td>
<td>25%</td>
<td>44%</td>
<td></td>
</tr>
</tbody>
</table>

* 90th percentile, i.e., only 10% are better; Note: Blank values reflect unreliable or missing data
• Grundy Center Community School District
• Waterloo Community Schools
• Cedar Falls Community Schools
• Hawkeye Community College
• University of Northern Iowa
• Sumner-Fredericksburg Schools
• Upper Iowa University
• West Central Community Schools
• Ministerial Association
• Tripoli Community Schools
• Northeast Iowa Food Bank
• Tyson Fresh Meats, Inc.
• Grundy Center Ministerial Association
• Catholic Priests, Archdioceses of Dubuque
• Prairie Lakes Church
• Hawkeye Valley Area Agency on Aging
• Jesse Cosby Center
• Lutheran Pastors
• YWCA
• Salvation Army
• Black Hawk County Health Department
• Grundy County Veterans Affairs
• Grundy County Public Health Department
• Gladbrook Reinbeck School District
• Bartels Retirement Lutheran Community
• Waterloo Visiting Nursing Association/Bremer County

• Cedar Valley Friends of the Family
• Care Initiatives Hospice
• Cedar Valley Medical Specialists
• Waverly Health Center
• Together 4 Families
• Hillcrest Home
• Healthy Cedar Valley Coalition
• Black Hawk County Mental Health
• Family & Children’s Council
• New Aldaya
• Friendship Village
• The W-Waverly Sports and Wellness Center
• Big Brothers Big Sisters of NE Iowa
• I-HOPE Free Clinic
• Waverly-Shell Rock Area United Way
• Cedar Valley Promise
• Waverly Exchange Club
• EMA Free Clinic
• West Central Community Schools
• Waverly-Shell Rock Schools
• Redeemer Lutheran Church of Waverly
• St. Mary’s Catholic Church, Waverly
• Trinity United Methodist Church, Waverly
• Allen’s Women’s Health
• Covenant Prenatal & Women’s Health Clinic
• Palmer Homecare Service