CCH Health Needs Assessment
Table of Contents

Introduction: Page 2
Purpose: Page 2
Participants: Page 2

Definition of Community: Page 3

Demographics of Clayton County: Page 3
  • Geographic Description: Page 3
  • Populations Description: Page 4
  • Community Assets and Wellness: Page 6
  • Health Ranking: Page 8
  • Existing Health Care Facilities and Resources within the Community that are Available to Respond to Health Needs of the Community: Page 12

Process to Complete Health Needs Assessment
  • How Data was Collected: Page 12
  • Health Needs Priorities: Page 14
  • Primary and Chronic Disease Needs and other Health Issues of Uninsured Persons, Low-income Persons and Minority Groups: Page 15
  • The Process of Identifying Health Needs: Page 15
  • The Process of Consulting with Persons Representing the Community Interests: Page 16
  • Information Gaps that Limit Facility’s Ability to Assess All Needs: Page 16

Process for CCH to Complete Needs Assessment: Page 16
Central Community Hospital
Community Health Needs Assessment
Fiscal Years 2016-2018

Introduction
Beginning in 1980, Central Community Hospital has participated in the community assessments aimed at uncovering and learning about health care and human service needs of Clayton County community members. Many organizations have been involved in this assessment and results were publicized and distributed to assist all organizations to develop programs needed in the communities. Throughout, it is our intention to credit the leadership of Clayton County VNA team for much of the content of CCH’s assessment. While some topic areas are not relevant to CCH, these topics are not included in this study. In addition, some additional information and findings are included here and not in the County study.

Purpose
The Community Health Needs Assessment is a report documenting a community-wide effort to assess the community’s health needs and decide how to meet them. For hospitals, it is a requirement to complete such an assessment every three years. The Iowa Department of Public Health standard is to compete the process every five years. Although the Clayton County Board of Health led the initiative, it is the commitment of many diverse stakeholders to complete the assessment. CCH participated in all aspects of steering, coordinating and completing the process.

Participants
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Linda Monroe, Elkader Medical Associates Clinic, Elkader and Monona
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Jill Kluesner, Community Circle of Care
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Melissa Fuhrman, Northeast Iowa Mental Health
Lana Erion, Cornerstone Family Practice
Kari Harbaugh, Family Resource Center
**Definition of Community**

Central Community Hospital is located in Elkader, Clayton County, IA. Their primary service area includes Elkader, 52043, Farmersburg, 52047, Monona, 52159 and St. Olaf, 52057. The secondary service area includes the communities of Elkport, 52044, Garnavillo, 52049, Luana, 52156 and McGregor, 52157.

**Demographics of Clayton County**

**Geographic description**

- **Location**
  - NE Iowa
  - Clayton County, Coordinates = 42.8520° N, 91.3203° W

- **Size**
  - According to the 2000 census, the county has a total area of 792.81 square miles (2,053.4 km²), of which 778.81 square miles (2,017.1 km²) (or 98.23%) is land and 14.00 square miles (36.3 km²) (or 1.77%) is water.

- **Population**
  - The 2010 census recorded a population of 18,129 in the county, with a population density of 23.272/sq mi (8.985/km²). There were 8,999 housing units, of which 7,599 were occupied.

- **Land Use**
  - Clayton County farmers harvested 151,423 acres of corn and 58,934 acres of soybeans, and produced 182,309 hogs and 81,051 head of cattle in 2007. Farms on average are smaller in Clayton County, at 270 acres, than the statewide average of 311 acres. Sales per farm in Clayton County were $99,905 in 2012.
- 81% of Clayton County is farmland. Average age of farmer is 53. 86.7% of farms are operated by families. 18.91 cattle/100 acres and 22.81% of all cows are milk cows.

http://www.extension.iastate.edu/Publications/PM2023-22.pdf

- Cost of Living Index was 78.8 (low, US average 100).

**Populations Description**

- **Counts**
  - Under 5 years (2011) 5.8% Clayton County, 6.5% Iowa
  - Under 18 years (2011) 22.7% Clayton County, 23.7% Iowa
  - 65 years and over (2011) 19.7% Clayton County, 14.9% Iowa
  - Age Range – Clayton County

- **Gender**
  - **Males**: 9,224 (49.4%)
  - **Females**: 9,454 (50.6%)

- **Age**
  - **Median resident age**: 40.2 years
  - **Iowa median age**: 36.6 years

- **Race, ethnicity**
  - White Non-Hispanic Alone (97.5%)
  - Hispanic or Latino (1.2%)
  - Two or more races (1.0%)
- Income
  o Per capita Income $22,303 Clayton County/$25,335 Iowa
  o Median household Income 2006-2010
    ▪ $45,873 Clayton County/$48,872 Iowa

- Poverty
  o Percentage of residents living in poverty in 2009: 11.3%
    ▪ 10.7% for White Non-Hispanic residents
    ▪ 28.6% for Black residents
    ▪ 45.8% for Hispanic or Latino residents
    ▪ 78.6% for American Indian residents
    ▪ 0.0% for Native Hawaiian and other Pacific Islander residents
    ▪ 62.5% for other race residents
    ▪ 36.1% for two or more races residents
  o Residents with income below the poverty level in 2009:
    ▪ Clayton County: 8.6%
    ▪ Whole state: 9.1%
  o Residents with income below 50% of the poverty level in 2009:
    ▪ Clayton County: 3.2%
    ▪ Whole state: 3.8%
  o Current college students: 382
    ▪ People 25 years of age or older with a high school degree or higher: 82.6%
    ▪ People 25 years of age or older with a bachelor's degree or higher: 12.8%
  o Unemployment in April 2010:
    ▪ Clayton County: 9.7%
    ▪ Iowa: 6.7%

- Employment
  o Private wage or salary: 72%
  o Government: 11%
  o Self-employed, not incorporated: 17%
  o Unpaid family work: 1%

- Industry
  o Manufacturing (19.8%)
  o Educational, health and social services (19.0%)
  o Agriculture, forestry, fishing and hunting, and mining (12.3%)
  o Retail trade (10.7%).

- Transportation to work
  o Alone in car: 69%
  o Carpool: 12%
  o Walk: 6%
Crime in the county:
Murders: 0
Rapes: 2
Robberies: 0
Assaults: 3
Burglaries: 29
Thefts: 44
Auto theft: 7

Community Assets and Wellness (please find attached Community Health Assets):

- Physical (parks, bike and walking lanes, rec. areas)
  - 10 area parks
  - 10 county parks
  - 2 state parks
  - 1 national park
  - Upper Mississippi River National Wildlife Refuge District Office
  - Driftless Area Wetland Centre
  - Mississippi river, Turkey and Volga River (boating, tubing, canoeing and kayaking)
  - Osborne Conservation Center (walking/running trails)
  - Public Fishing Areas
  - Scenic Walking and hiking trails in city and state parks throughout the county
  - 6 public swimming pools
  - Snowmobiling Trails
  - Mississippi River Trail (Bikes and hikers)
  - Turkey River Recreational Corridor
  - Geocaching
  - EWALU Stone Retreat Center

- Social (theaters, clubs, churches, libraries)
  - Elkader Opera House
  - 5 golf clubs
  - 4-H clubs
  - Girl Scouts
  - Cub/Boy Scouts
  - Rotary Club
  - Clayton County Economic Development
  - 52 churches
    (http://iowa.hometownlocator.com/features/cultural.class.church,scfips,19043.cfm)
- Regulatory (policies and laws – clean air law)
  o Clean Air Act - 40 CFR (Code of Federal Regulations) Part 58, Iowa is required to perform and submit to EPA an assessment of its air quality monitoring network every five years.
  o An Ordinance restricting the location of potential sources of contamination within close proximity to public water wells within Clayton County, Iowa - The purpose of this ordinance is to regulate and restrict potential courses of contamination within 200 feet of public water wells in Clayton County, Iowa, as required by Iowa Administrative code Section 567-43.3(7)(455B).
  o An Ordinance Establishing Solid Waste Control in Clayton County, Iowa - The purpose of this ordinance is to control solid waste in the unincorporated area of Clayton County

- Individual (artists, living treasures, leaders)
  o Clayton County is home to a vast array of area artists whose works are available locally. Public murals, gallery exhibits, live music and theatrical performances.
  o McGregor Marquette Center for the Arts
  o Postville home of John R Mott, winner of the 1946 Nobel Peace Prize
  o Froelich was named after John Froelich, forerunner of John Deer tractor
  o Littleport was formerly the rally ground for area Indians
  o Elkader named after Algerian freedom-fighter, Abd el Kader

- Cultural/historical (historic sites, celebrations, etc.)
  o 50 sites on the National Register of Historical Places (www.nps.org/nr)
  o PRCA rodeo/Rodeo Days– Every year in Edgewood
  o 4th of July – Garnavillo
  o Sweetcorn days & St. Patrick’s Day – Elkader
  o Germanfest – Guttenberg
  o Luana Daze Celebration – Luana
  o Strawberry Days – Strawberry Point
  o Uff-da days – St. Olaf
  o Volga City Truck Cruise – Volga
  o Clayton County Fair – distinction for being one of the oldest and best county fairs in Iowa
  o Heritage Days – Osbourne
  o Hay Days – Monona
  o Arts and Craft Festivals – Marquette/McGregor
Health Ranking

- 29 out of 99 for Clayton County overall Health Outcome (Length of Life and Quality of Life). This ranking improved to 29 vs 43 in 2013.
- 76 out of 99 for CC overall Health Factors (Health Behaviors 53, Clinical Care 79, Social and economic factors 62, and Physical Environment 64). This ranking remains the same.
- 60/17,463 had hospital stays that are preventable.
- 1 Primary Care Physician to every 2,973 people (Iowa 1,375)
- 12% of all days missed in CC were due to poor health

Cancer –

<table>
<thead>
<tr>
<th>Rankings</th>
<th>Good</th>
<th>Average</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Cancer</td>
<td>77th</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breast</td>
<td>99th</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lung</td>
<td>94th</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melanoma</td>
<td>39th</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lung</td>
<td>94th</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Hodgkins Lymphoma</td>
<td>46th</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral Cavity</td>
<td></td>
<td>22nd</td>
<td></td>
</tr>
<tr>
<td>Prostate</td>
<td>52nd</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colorectal</td>
<td>49th</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional info summarized and/or no ranking on below info:
- Bladder – 25 cases over a 5 yr period/4 cases below state average
- Brain/ONS Cancer - 9 cases over a 5 yr period/less than 1 above state average
- Breast – 71% obtain a mammography screening/significantly below state average
- 49yrs and Under-5 cases over 5 yr period/27 cases less than state average
- 50yrs and Over-43 cases over 5 yr period/108 cases less than state average
- All Ages-48 cases over 5 yr period/49 cases less than state average
- 99th overall for Incidence
- Kidney/RP Cancer – 24 cases over a 5 yr period/2 cases above state average
- Larynx - 5 cases over a 5 yr period/same as state average
- Leukemia – 14 cases over a 5 yr period/same as state average
- Liver/IBD Cancer – 7 cases over a 5 yr period/ less than 1 above state average
- Lung – 59 cases over a 5 yr period/22 cases less than state average
- Melanoma – 23 cases over a 5 yr period/less than 2 above state average
- Non-Hodgkin’s Lymphoma-25 cases over 5 yr period/less than 1 over state av.
- Oral Cavity – 18 cases over a 5 yr period/4 cases above state average
- Pancreas –20 cases over a 5 yr period/4 cases above state average
- Cervical – no report recorded
- Thyroid – 12 cases over a 5 yr period/3 cases above state average
- Prostate –82 cases over a 5 yr period/48 cases below state average
- Colorectal –71 cases over a 5 yr period

Notes regarding ranking: The county rank represents the ranking of the county among the 99 counties of Iowa, with a rank of “1” given to the county
with the largest rate (highest percentage of cases) and “99” to the county with the smallest rate (least percentage of cases). In general, ranks were presented for a data table when no counts in the table were less than five; i.e. when there were no very small numbers.

<table>
<thead>
<tr>
<th>Ranking Mortality</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart Disease</td>
<td>40th</td>
</tr>
<tr>
<td>Stroke</td>
<td>49th</td>
</tr>
<tr>
<td>COPD</td>
<td>53rd</td>
</tr>
<tr>
<td>Diabetes</td>
<td>58th</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>76th</td>
</tr>
<tr>
<td>Infectious/Parasitic</td>
<td>76th</td>
</tr>
</tbody>
</table>

Additional info summarized and/or no ranking on below info:

- Diabetes – 8% have diabetes in Clayton County (7.8% IA); 90% of CC Residents obtain a diabetes screening
- Asthma – No ranking (7 cases)
- Alzheimer – No ranking (39 cases)
- Pneumonia – No ranking (22 cases)
- Infections/Parasitic – No ranking (14 cases)
- Nephritis – No ranking (10 cases)
- Liver – No ranking (7 cases)
- Adult Obesity Rate: 28.4% (27.3% IA)

Injury, Violence, Death –
- Violent Crime Rate in CC is 56/17,463
- Firearms – 8 mortalities
- Vehicle – Motorcycle mortality is 31 dying from Motor Vehicle Crashes in CC
  - Significantly higher than state average
- All Transportation – 27-mortality number
- Suicide – 11 mortalities (same as state average)
- Substance Abuse – 29% of CC report excessive drinking, 19% of CC report adult smoking
  - Tobacco, Alcohol and Drug use percentages are similar between state average and CC
  - More education awareness needs to be done to increase awareness of the effect of alcohol on youth and adults.
  - Biggest factor is 6% of 6th grades have participated in binge drinking.

Falls – 11 mortalities (a couple above state average)
- Hospitalization Rates – All ages (158) and Over 65 (634)
- Falls second highest cause of injury death in Iowa
- Iowa death rate from falls is higher than the national average
- In Iowa, unintentional fall deaths occurred at higher rates after the age of 55 and increased with age, highest among the 85 years and
older. Consistently across all age groups, Iowa males had a higher death rate than females.

- The cost of hospitalization care in Iowa for falls is $92 million annually
- Falls are the leading cause of injury hospitalization and ED visits
- The total charges for emergency visits in Iowa due to falls are $35 million per year.
- In the US falls are the leading cause of fatal injury and the most common cause of nonfatal trauma-related hospital admissions among older adults.

Environmental – In Iowa, public health officials are particularly concerned with the quality of their drinking water, recreational waters, indoor and outdoor air quality, lead poisoning, safe housing, and hazardous and solid waste. Poverty level in 200 was 14% for Clayton County

- Lead – Childhood lead poisoning has significant effects on the health of children and on community health. Lead has adverse effects on nearly all organ systems in the body. At very high blood lead levels, children can suffer severe brain damage or even die. 4.8% of children born in 2003 had elevated levels of Blood Lead. This number decreased in 2004 to 3.9%. 56% of all housing in Iowa in 2000 was built before 1950 with a greater likelihood of having lead-based paint.
- Air – No ozone days regarding air pollution (www.healthrankings.org)
- Water – The Turkey River flows through Elkader and Clayton County. It is heavily protected by the DNR as it is a “pristine” river. Elkader City upgraded water treatment plan after flooding occurred in the last 90s and early 2000.

Mental Health – Most sought after treatment for behavior problems were: aggression/rule-breaking & anxiety/depression. 75% received a primary diagnosis of an attention or conduct-related disorder.

Early Childhood Program – medical needs are not being met and all referenced an adult member of the household with medical needs.

Adolescence Sexual Health – The Adolescent Pregnancy Prevention Data reveals that 73 CC residents were served. In 2009 there were 10 mothers under age of 20, ranked 77th in state for adolescent births. 33% of Chlamydia and 25% of gonorrhea cases in CC occurred among teens 15-19.

HIV rate is less than .02%. 6 people living with HIV/AIDS in CC. No children have HIV/AIDS.

Clayton County reports 31% Physical Inactivity and 29% Adult Obesity.
Guttenberg Hospital reported that their Top ER Diagnoses were: Chest Pain, Abdominal Pain, Syncope, Open finger wound, URI. Top 5 Admissions Diagnosis: Pneumonia, CHF, UTI, Dehydration, COPD.

Central Community Hospital reported that their Top ER Diagnoses were: falls, lacerations, upper respiratory infections, chest pain, atrial fibrillation, pneumonia, abdominal pain and ankle sprain. Top five admissions to hospital were Pneumonia, COPD, CHF, chest pain and septicemia.

Information on Alcohol in Clayton County

Consequences:
- Alcohol related fatal crashes are significantly higher in CC than state.
- Drinking and driving is not uniformly discouraged; some residents feel it is not an issue.
- Underage consumption has increased from 24% to 47% in 2011.
- Treatment rates are lower in the county vs state.

Consumption
- Youth in 6th-8th grade consume alcohol at a greater rate than across the state.
- Adult binge drinking is 10% higher in county vs state.

Retail availability
- Retailers are doing fairly well with compliance checks.
- Perception high of easily available alcohol from retailers.

Social Availability
- Youth believe it is easy to obtain alcohol.
- Middle school students believe high school students have a problem; high school students do not see a problem.
- 88% of students surveyed said they could easily obtain alcohol from a friend or family member over 21.

Promotion
- Over half surveyed believe establishments heavily promote alcohol.
- Majority believe promotion is not a big incentive for underage drinking.

Individual Factors:
- Parents allow children to drink at home or at friend’s houses.
- There is an overwhelming desire to be accepted.

Community Norms:
- A shift in youth thinking that there is little or no harm in drinking, acceptance that drinking is normal and believe parents are indifferent.
- Youth feel parents are too lenient.
- More education is needed.
Existing Health Care Facilities and Resources within the Community that are Available to Respond to Health Needs of the Community:

- Central Community Hospital
- Elkader Care Center
- Medical Associates Clinic, Elkader and Monona
- Substance Abuse Services of Clayton County
- Clayton County VNA
- Northland Agency on Aging
- Clayton County Environmental Health and Zoning
- 5C
- Guttenberg Municipal Hospital
- Central Community School, Clayton Ridge School and MFL Mar Mac
- School nurses
- SHIIP volunteers
- Clayton County Emergency Management
- Clayton County EMS
- Clayton County Board of Health
- Northeast Iowa Community Action
- Clayton County Community Action
- Northeast Iowa Mental Health
- HAWC Partnership for Children

Process to Complete Health Needs Assessment

How Data Was Collected and Results

Representatives of 17 facilities listed above compiled Clayton County data on their services and populations served. They summarized their status and presented at county-wide community assessment meetings: 8/31/15, 9/16/15, 10/21/15, 12/9/15, 1/27/16. In addition five surveys were distributed and analyzed.

First, a Community Health Assets survey was completed by Clayton County Community Health Assessment and Health Improvement Program (CHNA-HIP) participants which is attached in the appendix.

Second, the Elkader Area Health Coalition (EACH) conducted a survey consisting of five questions regarding health status. The survey was sent to residents in Clayton County via Facebook, email, paper copies and mailings. Residents of all ages, race and income had the chance to complete the survey.

Third, the same survey was given to low income homes through the WIC Clinic in Clayton County.

Fourth, the Clayton County 911 Office and Central Community Hospital sent out a countywide EMS survey entitled EMS Delivery Model. The results are attached.

Fifth, the Central Schools BMI data analysis was released for 2009-2016 and is attached in Appendix A.
EACH survey summary of results: Most frequent answer to the question,
1. What health concerns do you have?—#1 cost, quality and access; #2 obesity; #3 diet and exercise.
2. What educational sessions would you like offered in the community?—#1 weight, diet, exercise; #2 stress/depression; #3 choosing health care/end of life.
3. How can we help you meet your health goals?—#1 availability of urgent care/primary care; #2 Wellness; #3 education for seniors on medications and home care.
4. Do you have any concerns about family member’s health?—#1 paying bills; #2 depression; #3 medication education.
5. What health care conditions affect you?—#1 mental health/depression; #2 diabetes; #3 obesity.

WIC Survey Results: Most frequent answer to question,
1. What health concerns do you have?—None
2. What educational sessions would you like offered in the community?—#1 mental health; #2 parenting classes; #3 exercise/eating right.
3. How can we help you meet your health goals?—#1 do not need help.
4. Do you have concerns about family member’s health?—#1 grandmother; #2 none.
5. Check following conditions that affect you. #1 mental health; #2 obesity; #3 falls.

EMS Delivery Model:
1. Type of delivery model: 70% volunteer; 15% municipal; 15% hospital based.
2. When engaged are you compensated: 43% on-call; 43% not compensated; 14% fully compensated.
3. Years as EMS provider: 40%: 8-16 years; 30% 16-24 years; 30%: 24-32 years.
4. Do mental health transfers put a strain on your system?—100% yes
5. What concerns do you have with behavioral health transports: tie up staff for transports; payment for services as they are usually 4-14 hour trips; officer availability to help with transfer; leave community with limited coverage putting communities at risk.
6. Time of day most difficult to cover: daytime 71%; weekends/holidays 14%
7. # of hours unable to obtain adequate staffing; 1-10 hrs: 30%; 10-24 hrs: 30%; 0 hours: 40%.
8. Do you support consolidation of small EMS agencies into larger regional services: 33% yes; 66% no.
9. Most significant concerns: staffing/recruitment 100%; funding is inadequate 43%; EMS not considered essential service by legislators 57%; training concerns (initial and ongoing) 43%; remaining concerns were equipment/supplies out of date, recertification requirements, dispatch procedures are not standardized; state regulatory issues.
10. Three reasons EMTs let their certifications lapse; burnout 86%; politics and bureaucratic issues 57%; time commitment is unreasonable 43% scope of practice transition is frustrating 29%; recertification requirements difficult 14%;
career opportunities for advancement limited 14%; retirement 14%; work is
difficult 14%.
11. Recertification requirements are reasonable: 86% yes; 14% greater than
necessary.
12. Cost of recertification: 86% reasonable; 14% more than necessary.
13. Access to locations for re-certifications: 70% somewhat difficult; 30% easy to
access.
Central Community School BMI data analysis indicated a downward trend in the average
overweight and obesity rate for K-6. See report in Appendix B.

Health Need Priorities
Seven priorities for health care needs were established by the stakeholders:
Promote Healthy Living: #1 mental health needs; #2 obesity in children and adults; #3
un-intended pregnancies; #4 substance abuse.
Prevent Injuries and Violence: #1 EMS Volunteer Crisis; #2 Falls in Elderly.
Protect Against Environmental Hazards: water fluoridation.
Promote Healthy Living:
• The number one priority for Clayton County was mental health needs. Not only
is there a lack of psychiatrists but there is a lack of mental health beds. EMS is
affected as they transport patients 1-14 hours away leaving communities
vulnerable. Number of Central Community Hospital mental health patients that
needed to be transferred was 11.
• Obesity is the number two problem affecting the county. This problem is evident
in all age groups in all parts of the service area and county. Childhood
overweight and obesity rates are higher than state (Clayton County 13%; Iowa is
10.7%). WIC statistics for Prevalence of Nutrition Risk for obesity are also
higher (Clayton County 12%; Iowa is 9.5%)
• Un-intended pregnancy is the number three priority. Clayton County teen births
steady at 20 with state average of 31. No Family Planning clinics in Clayton
County but women can access services in Decorah but there is no transportation
system.
• Substance abuse issues are the number four priority. This problem is evident in
middle school aged children through adults in all parts of the service area and
county. New drug cases in 2013 were 49; 50 in 2014 and 23 in 2015. Alcohol use
in youth and adults remain higher than state average. Adult excessive drinking
rates have increased steadily since 2011 from 26% to 33% in 2015. Iowa Youth
survey show past 30-day youth alcohol use was 12% with state average at 10%.
22% of Clayton County youth report smoking; state average is 17%. 17% of
Clayton County adults report smoking.

Prevent Injuries and Violence
• EMS Volunteer Crisis is the fifth priority. There is a crisis due to certification
and training issues because of new regulations and lack of interest by the younger
population in becoming an EMT.
• Falls, sixth priority, resulting in death are rising. There is an increase in
hospitalizations due to falls. Admissions to Central Community Hospital related
to falls was 64 for 2015. Falls related injuries and deaths have risen 20% in the
last decade. NEI3A reported a need for more support at home to assist individuals. 2015 County Health Ranking for physical activity was 26% (Iowa at 24%).

Protect Against Environmental Hazards
- Water fluoridation, seventh priority, is of concern in Clayton County as 11 community water systems in Clayton County are no longer fluoridated (65%). There is a need to educate city officials on state grants available to assist with cost of equipment.

Primary and Chronic Disease Needs and other Health Issues of Uninsured Persons, Low-income Persons and Minority Groups

The CHNA-HIP committee identified eight needs for the low income persons. Transportation to clinics and organizations that offer help is a primary challenge as often times they do not own a reliable car. They end up canceling needed appointments and are lost to the system. A key provider missing in Clayton County is a dentist willing to accept low-income persons. These persons lack dental care and education on dental hygiene, leading to tooth and mouth problems that can lead to systemic diseases. The high cost of utilities keeps some people from the doctor. In the winter utilities cannot be discontinued but during the summer many of these people do not have to pay for utilities. Food stamps are not utilized to purchase healthy foods; they purchase processed foods and very few fruits and vegetables. Many of these people do not have the cooking and baking skills to create healthy meals. This leads to obesity which can lead to hypertension and diabetes. This is a cycle that is hard to break.

The Process for Identifying Health Needs
A representative from each of the 17 key stakeholders attended a meeting on 12/9/15 to identify the top health needs to address. The primary Clayton County issues that exceed the Iowa average are:

- Cancer: melanoma, oral cavity and pancreatic
- Heart disease
- Falls
- Accidents
- Motor vehicle crashes
- Motorcycle mortality
- Suicide
- Alcohol-related crashes
- Lead poisoning
- Mammogram screenings
- Adult smoking
- Adult obesity
- Excessive drinking
- Eating few vegetables
- Underage alcohol consumption
- 6th and 8th grade alcohol consumption
- Uninsured
o Inadequate social support
o Illiteracy
o Lack of dentists to care of Medicaid patients
o Physical inactivity
o Lack of care coordination
o Mental health

The group chose the following priorities:
  o Obesity
  o Substance abuse
  o Falls
  o Lack of water fluoridation
  o Lack of EMS personnel
  o Mental health
  o Un-intended pregnancies

**The Process for Consulting with Persons Representing the Community Interests**

The following organizations reviewed the top priorities established by the CHNA-HIP committee: Board of Health, Board of Supervisors, Central Community Hospital Board, Elkader City Manager and Mayor.

After obtaining further information and clarification, the following priorities were set: mental health, obesity in children and adults, unintended pregnancies, substance abuse, EMS volunteer crisis, falls in elderly and water fluoridation.

**Information Gaps that Limit Facility’s Ability to Assess All Needs**

After an extensive review of Iowa, county and city data, it was determined that specific city information is very limited and some county data is limited when comparing to the state or nation. CCH service area and county have a lack of trained personnel to collect, assess and summarize significant data. There is a lack of resources to offer mitigating programs for some of the identified health problems. Once needs have been identified, communicating the health needs is a challenge due to limited city and county organizations and boards interested in hearing the plan. The voice of the vulnerable populations is hard to reach due to lack of telephones and newspaper subscriptions.
**Process for CCH to Complete Needs Assessment**

1. The tax year that Central Community Hospital last conducted a Needs Assessment was in FY 2013. This was conducted with the Clayton County Visiting Nurses’ Associations leading the assessment as part of their public health requirement. Twice a year the CHNA-HIP committee meets to update the plan and list the improvements.

2. Central Community Hospital took into account input from persons who represent the community served by the hospital.

3. Central Community Hospital Needs Assessment was conducted with Guttenberg Municipal Hospital, Guttenberg, IA.

4. The Assessment is available to the public. It is on the CCH website. Should anyone ask for a copy, copies are available through the CCH Marketing Coordinator.

5. Central Community Hospital addressed the needs identified through the following:
   - Adoption of implementation strategy
   - Execution of implementation strategy
   - Inclusion of community benefit section in operational plans
   - Adoption of a budget for provision of services that address the needs identified in the Needs Assessment
   - Prioritization of health needs in the community
   - Prioritization of CCH services that will meet health needs of the community
Appendix A: Community Health Assets
Appendix B: Central Community School
BMI DATA ANALYSIS
Central Schools BMI Data Analysis

Summary
- Central has tracked K-6 students’ weight status since 2009-10.
- The average enrollment in grades K-6 was 248 from 2009-10 to 2015-16.
- There is a downward trend in the average overweight and obesity rate for K-6. When graphed the trend line shows a downward trend, with an R² value of .7959, meaning that the year (independent variable) explains 79.6% of the obesity rate meaning that 20.4% is due to some other factor(s).
- Non-participation in the study is one source of error. However, even when non-participation is taken into account, the downward trend remains, although not as strong as the actual measurements show.

Methods
Central Schools have tracked the weight status of all elementary students since the 2009-10 school year. The same nurse takes height and weight measurements on all participating students grades K-6 in her office. She follows methods she was taught by the Iowa Department of Public Health (IDPH) when participating in an earlier project to measure Body Mass Index (BMI) of middle school and high school students. She uses an electronic scale and stadiometer provided by IDPH during that earlier project. The IDPH uses methods published by the CDC in Guidelines for Measuring Heights and Weights and Calculation of Body Mass Index-for-Age. Each year measurements are taken in September, when students typically wear lightweight clothing and students are asked to remove their shoes. Students are given privacy by allowing one student in the office at a time. Results are not shared with the student unless asked for.

Beginning in 2012-13 the school began asking parents to grant passive permission for their children to participate in weight status measurements, meaning parents return a slip to the school if they do not want their children to participate in the testing. As a result participation rates dropped slightly to 89 percent in 2012-13 from a previous low of 98 percent. However, participation rates rebounded to 96 percent in 2013-14 and have remained above 90 percent ever since. Average enrollment over the 7 year period was 249 students. Participation rates are shown in Figure 1.
Results

- Average overweight plus obesity rates from 2009 to 2015 are shown in Table 1. **There is a downward trend in the average overweight and obesity rate for K-6.** When graphed the trend line shows a downward trend, with an the $R^2$ value of .7959, meaning that the year (independent variable) explains 79.6 percent of the obesity rate meaning that 20.4 percent is due to some other factor(s). This trend is visualized in Figure 2.

<table>
<thead>
<tr>
<th>School year</th>
<th>Percent overweight or obese</th>
<th>Range of overweight and obese between classes</th>
<th>Total number of students participating</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-10</td>
<td>36%</td>
<td>19%-48%</td>
<td>241</td>
</tr>
<tr>
<td>2010-11</td>
<td>38%</td>
<td>19%-47%</td>
<td>242</td>
</tr>
<tr>
<td>2011-12</td>
<td>33%</td>
<td>21%-43%</td>
<td>257</td>
</tr>
<tr>
<td>2012-13</td>
<td>34%</td>
<td>21%-50%</td>
<td>221</td>
</tr>
<tr>
<td>2013-14</td>
<td>29%</td>
<td>17%-39%</td>
<td>240</td>
</tr>
<tr>
<td>2014-15</td>
<td>31%</td>
<td>20%-42%</td>
<td>232</td>
</tr>
<tr>
<td>2015-16</td>
<td>28%</td>
<td>13%-46%</td>
<td>231</td>
</tr>
</tbody>
</table>
Overweight plus obesity rates calculated by grade and by year ranged from 13% to 50%. Range by year is shown in Table 1. Variation in overweight or obese rates across grade and years may be explained by the fact that the classes are small, ranging from 27 to 38 students per grade in 2015-16.

There is high variability in the overweight and obesity rate from one class to another. Figure 3 shows the overweight or obese rate by class in 2015-16. Large differences between one class and another again is possibly explained by small class size.

Some classes have a wide variation in overweight and obesity rates from one year to another, such as the class of 2023. However, the actual changes are small in number, with the actual number of children in one class entering or exiting the normal weight category never changing by more than five in one year (data not presented here).
Socioeconomic status may explain some of the variation on overweight and obesity rates. It is known that students of lower socioeconomic status are more likely to be overweight or obese. The percent of Central Elementary students participating in free or reduced lunch has increased from 32.2 percent in 2009-10 to 37.6 percent in 2012-13 and has since declined slightly (data not shown). Central School’s free and reduced lunch rate was 35.03% in 2015-16.

Finally, non-participation in the study is a source of error in the overweight and obesity rates. To determine if non-participation could affect the apparent trend in decreasing overweight/obesity rates, an experiment with numbers was conducted. The overweight and obesity rate was recalculated assuming all of the students who didn’t participate in the data collection were overweight or obese. This is the maximum overweight or obese rate possible. The purpose of the experiment is to see if there is still a downward trend in the maximum possible overweight/obese.

Figure 4 shows the maximum possible overweight/obese rate in red and the rate actually measured in blue. A trend line was added to each in the corresponding color. Even in the hypothetical situation where it is assumed all non-participating students are overweight or obese (red line), there is still a slight/very weak downward trend. This shows that even when non-participation in the data collection is taken into account, the downward trend is still occurring, although not as strongly as the actual measurements show.
Figure 4: Measured Overweight or Obese Rate and Hypothetical Maximum Rate if All Students not Participating were Overweight or Obese