2012 PRC Community Health Needs Assessment Report

Boone County, Indiana

Sponsored by Witham Health Services
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INTRODUCTION
Project Overview

Project Goals

This Community Health Needs Assessment is a systematic, data-driven approach to determining the health status, behaviors and needs of residents in Boone County, Indiana. Subsequently, this information may be used to inform decisions and guide efforts to improve community health and wellness.

A Community Health Needs Assessment provides information so that communities may identify issues of greatest concern and decide to commit resources to those areas, thereby making the greatest possible impact on community health status. This Community Health Needs Assessment will serve as a tool toward reaching three basic goals:

- **To improve residents’ health status, increase their life spans, and elevate their overall quality of life.** A healthy community is not only one where its residents suffer little from physical and mental illness, but also one where its residents enjoy a high quality of life.

- **To reduce the health disparities among residents.** By gathering demographic information along with health status and behavior data, it will be possible to identify population segments that are most at-risk for various diseases and injuries. Intervention plans aimed at targeting these individuals may then be developed to combat some of the socio-economic factors which have historically had a negative impact on residents’ health.

- **To increase accessibility to preventive services for all community residents.** More accessible preventive services will prove beneficial in accomplishing the first goal (improving health status, increasing life spans, and elevating the quality of life), as well as lowering the costs associated with caring for late-stage diseases resulting from a lack of preventive care.

This assessment was conducted on behalf of Witham Health Services by Professional Research Consultants, Inc. (PRC). PRC is a nationally-recognized healthcare consulting firm with extensive experience conducting Community Health Needs Assessments such as this in hundreds of communities across the United States since 1994.

Methodology

This assessment incorporates data from both quantitative and qualitative sources. Quantitative data input includes primary research (the PRC Community Health Survey) and secondary research (vital statistics and other existing health-related data); these quantitative components allow for comparison to benchmark data at the state and national levels. Qualitative data input includes primary research gathered through a series of Key Informant Focus Groups.
PRC Community Health Survey

Survey Instrument

The survey instrument used for this study is based largely on the Centers for Disease Control and Prevention (CDC) Behavioral Risk Factor Surveillance System (BRFSS), as well as various other public health surveys and customized questions addressing gaps in indicator data relative to health promotion and disease prevention objectives and other recognized health issues. The final survey instrument was developed by the Witham Health Services and PRC.

Community Defined for This Assessment

The study area for the survey effort (referred to as “Boone County” in this report) is defined as each of the residential ZIP Codes comprising the county, including 46052, 46071, 46075, 46077, and 46147. A geographic description is illustrated in the following map.

Sample Approach & Design

A precise and carefully executed methodology is critical in asserting the validity of the results gathered in the PRC Community Health Survey. Thus, to ensure the best representation of the population surveyed, a telephone interview methodology — one that incorporates both landline and cell phone interviews — was employed. The primary advantages of telephone interviewing are timeliness, efficiency and random-selection capabilities.

The sample design used for this effort consisted of a random sample of 750 individuals age 18 and older in Boone County. All administration of the surveys, data collection and data analysis was conducted by Professional Research Consultants, Inc. (PRC).
Sampling Error

For statistical purposes, the maximum rate of error associated with a sample size of 750 respondents is ±3.5% at the 95 percent level of confidence.

Expected Error Ranges for a Sample of 750 Respondents at the 95 Percent Level of Confidence

Note: ● The “response rate” (the percentage of a population giving a particular response) determines the error rate associated with that response.
Examples: ● If 50% of respondents said “yes,” one could be certain with a 95 percent level of confidence that between 46.5% and 53.5% (50% ± 3.5%) of the total population would respond “yes” if asked this question.

Sample Characteristics

To accurately represent the population studied, PRC strives to minimize bias through application of a proven telephone methodology and random-selection techniques. And, while this random sampling of the population produces a highly representative sample, it is a common and preferred practice to "weight" the raw data to improve this representativeness even further. This is accomplished by adjusting the results of a random sample to match the geographic distribution and demographic characteristics of the population surveyed (poststratification), so as to eliminate any naturally occurring bias. Specifically, once the raw data are gathered, respondents are examined by key demographic characteristics (namely gender, age, race, ethnicity, and poverty status) and a statistical application package applies weighting variables that produce a sample which more closely matches the population for these characteristics. Thus, while the integrity of each individual's responses is maintained, one respondent's responses may contribute to the whole the same weight as, for example, 1.1 respondents. Another respondent, whose demographic characteristics may have been slightly oversampled, may contribute the same weight as 0.9 respondents.

The following chart outlines the characteristics of the Boone County sample for key demographic variables, compared to actual population characteristics revealed in census data. [Note that the sample consisted solely of area residents age 18 and older; data on children were given by proxy by the person most responsible for that child's healthcare needs, and these children are not represented demographically in this chart.]
Further note that the poverty descriptions and segmentation used in this report are based on administrative poverty thresholds determined by the US Department of Health & Human Services. These guidelines define poverty status by household income level and number of persons in the household (e.g., the 2012 guidelines place the poverty threshold for a family of four at $23,050 annual household income or lower). In sample segmentation: “low income” refers to community members living in a household with defined poverty status or living just above the poverty level, earning up to twice the poverty threshold; “mid/high income” refers to those households living on incomes which are twice or more the federal poverty level.

The sample design and the quality control procedures used in the data collection ensure that the sample is representative. Thus, the findings may be generalized to the total population of community members in the defined area with a high degree of confidence.

Key Informant Focus Groups

As part of the community health assessment, three focus groups were held on July 25-26, 2012, including groups among: 1) physicians and other health providers; 2) social services representatives and other community leaders; and 3) members of the Witham Health Services Advisory Committee. In all, 52 key informants participated.

A list of recommended participants for the focus groups was provided by the sponsors. Potential participants were chosen because of their ability to identify primary concerns of the populations with whom they work, as well as of the community overall. Participants included a representative of public health, as well as several individuals who work with low-income, minority or other medically underserved populations, and those who work with persons with chronic disease conditions.

Focus group candidates were first contacted by letter to request their participation. Follow-up phone calls were then made to ascertain whether or not they would be able to attend. Confirmation calls were placed the day before the groups were scheduled to insure a reasonable turnout.

Audio from the focus groups sessions was recorded, from which verbatim comments in this report are taken. There are no names connected with the comments, as participants were asked to speak candidly and assured of confidentiality.
NOTE: These findings represent qualitative rather than quantitative data. The groups were designed to gather input from participants regarding their opinions and perceptions of the health of the residents in the area. Thus, these findings are based on perceptions, not facts.

Public Health, Vital Statistics & Other Data

A variety of existing (secondary) data sources was consulted to complement the research quality of this Community Health Needs Assessment. Data for Boone County were obtained from the following sources (specific citations are included with the graphs throughout this report):

- Centers for Disease Control & Prevention
- Indiana State Department of Health
- National Center for Health Statistics
- US Census Bureau
- US Department of Health and Human Services

Benchmark Data

Indiana Risk Factor Data

Statewide risk factor data are provided where available as an additional benchmark against which to compare local survey findings; these data are reported in the most recent BRFSS (Behavioral Risk Factor Surveillance System) Prevalence and Trend Data published by the Centers for Disease Control and Prevention and the US Department of Health & Human Services. State-level vital statistics are also provided for comparison of secondary data indicators.

Nationwide Risk Factor Data

Nationwide risk factor data, which are also provided in comparison charts, are taken from the 2011 PRC National Health Survey; the methodological approach for the national study is identical to that employed in this assessment, and these data may be generalized to the US population with a high degree of confidence. National-level vital statistics are also provided for comparison of secondary data indicators.

Healthy People 2020

Healthy People provides science-based, 10-year national objectives for improving the health of all Americans. The Healthy People initiative is grounded in the principle that setting national objectives and monitoring progress can motivate action. For three decades, Healthy People has established benchmarks and monitored progress over time in order to:

- Encourage collaborations across sectors.
- Guide individuals toward making informed health decisions.
- Measure the impact of prevention activities.

Healthy People 2020 is the product of an extensive stakeholder feedback process that is unparalleled in government and health. It integrates input from public health and
prevention experts, a wide range of federal, state and local government officials, a consortium of more than 2,000 organizations, and perhaps most importantly, the public. More than 8,000 comments were considered in drafting a comprehensive set of Healthy People 2020 objectives.

Information Gaps

While this assessment is quite comprehensive, it cannot measure all possible aspects of health in the community, nor can it adequately represent all possible populations of interest. It must be recognized that these information gaps might in some ways limit the ability to assess all of the community’s health needs.

For example, certain population groups — such as the homeless, institutionalized persons, or those who only speak a language other than English or Spanish — are not represented in the survey data. Other population groups — for example, pregnant women, lesbian/gay/bisexual/transgender residents, undocumented residents, and members of certain racial/ethnic or immigrant groups — might not be identifiable or might not be represented in numbers sufficient for independent analyses.

In terms of content, this assessment was designed to provide a comprehensive and broad picture of the health of the overall community. However, there are certainly a great number of medical conditions that are not specifically addressed.
Summary of Findings

Areas of Opportunity for Community Health Improvement

The following “health priorities” represent recommended areas of intervention, based on the information gathered through this Community Health Needs Assessment and the guidelines set forth in *Healthy People 2020*. From these data, opportunities for health improvement exist in the region with regard to the following health areas (see also the summary tables presented in the following section). These areas of concern are subject to the discretion of area providers, the steering committee, or other local organizations and community leaders as to actionability and priority.

### Areas of Opportunity Identified Through This Assessment

<table>
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<tr>
<th>Area</th>
<th>Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Access to Health Services</strong></td>
<td>• Barriers to Healthcare Access</td>
</tr>
<tr>
<td></td>
<td>o Poverty &amp; Meeting Basic Human Needs</td>
</tr>
<tr>
<td></td>
<td>o Cost of Services</td>
</tr>
<tr>
<td></td>
<td>o Inconvenient Office Hours</td>
</tr>
<tr>
<td></td>
<td>o ER Overutilization</td>
</tr>
<tr>
<td></td>
<td>o Lack of Transportation</td>
</tr>
<tr>
<td></td>
<td>• Limited Participation From Community Members</td>
</tr>
<tr>
<td><strong>Cancer</strong></td>
<td>• Cancer Deaths</td>
</tr>
<tr>
<td></td>
<td>o Lung Cancer</td>
</tr>
<tr>
<td></td>
<td>o Prostate Cancer</td>
</tr>
<tr>
<td></td>
<td>o Female Breast Cancer</td>
</tr>
<tr>
<td><strong>Dementias, Including Alzheimer’s Disease</strong></td>
<td>• Alzheimer’s Disease Deaths</td>
</tr>
<tr>
<td><strong>Diabetes</strong></td>
<td>• Diabetes Management</td>
</tr>
<tr>
<td></td>
<td>• Awareness/Utilization of Available Resources</td>
</tr>
<tr>
<td></td>
<td>• Screening for High Blood Sugar</td>
</tr>
<tr>
<td><strong>Educational &amp; Community-Based Programs</strong></td>
<td>• Greater Coordination Among Non-Profit Organizations</td>
</tr>
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<td></td>
<td>• Need for a Referral Source Website or Clearinghouse</td>
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<tr>
<td><strong>Mental Health &amp; Mental Disorders</strong></td>
<td>• Inadequate Number of Providers &amp; Treatment Facilities</td>
</tr>
<tr>
<td></td>
<td>• Mental Health Resources &amp; Services for Youth</td>
</tr>
<tr>
<td></td>
<td>• Stigma</td>
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<tr>
<td><strong>Nutrition &amp; Weight</strong></td>
<td>• Need for Nutrition Education</td>
</tr>
<tr>
<td></td>
<td>o Poor Eating Habits</td>
</tr>
<tr>
<td></td>
<td>o Reliance on Fast Food</td>
</tr>
<tr>
<td></td>
<td>• Hunger</td>
</tr>
<tr>
<td><strong>Substance Abuse</strong></td>
<td>• Prevalence of Alcohol &amp; Drug Use</td>
</tr>
<tr>
<td></td>
<td>o Economic &amp; Societal Impact</td>
</tr>
<tr>
<td></td>
<td>• Limited Treatment Facilities</td>
</tr>
<tr>
<td></td>
<td>o Seeking Professional Help for Substance Abuse</td>
</tr>
<tr>
<td><strong>Tobacco Use</strong></td>
<td>• Smoking Cessation</td>
</tr>
</tbody>
</table>
Top Community Health Concerns Among Community Key Informants

At the conclusion of each key informant focus group, participants were asked to write down what they individually perceive as the top five health priorities for the community, based on the group discussion as well as on their own experiences and perceptions. Their responses were collected, categorized and tallied to produce the top-ranked priorities as identified among key informants. These should be used to complement and corroborate findings that emerge from the quantitative dataset.

1. **Obesity & Nutrition**
   
   Mentioned resources available to address this issue: The Caring Center; YMCA; Boone County Healthy Coalition; Witham Health Services; Schools; Faith-Based Organizations; Shalom House; Boys and Girls Club; Parks; Health Clubs; Meals on Wheels

2. **Substance Abuse**
   
   Mentioned resources available to address this issue: Cummins Behavioral Health System; Aspire Indiana; Boone County Health Department; Schools; Faith-Based Organizations; Law Enforcement; Medical Providers; Boone County Cancer Society; Women’s Shelter

3. **Mental Health**
   
   Mentioned resources available to address this issue: Witham Health Services; Cummins Behavioral Health System; Aspire Indiana; Boone County Health Department; Boone County Mental Health

4. **Prevention & Health Education**
   
   Mentioned resources available to address this issue: Boone County Clinic; Boone County Health Department; Witham Health Services; Schools; Faith-Based Organizations; Law Enforcement; Medical Providers; Love, Inc.; Social Service Agencies

5. **Access to Health Services, Including Transportation**
   
   Mentioned resources available to address this issue: Community Clinics; Witham Health Services; Boone County Clinic; Love, Inc; Boone County Helpline; Boone County Senior Services
Summary Tables: Comparisons With Benchmark Data

The following tables provide an overview of indicators in Boone County, grouped to correspond with the Focus Areas presented in Healthy People 2020.

Reading the Summary Tables

- In the following charts, Boone County results are shown in the larger, blue column.
- The columns to the right of the Boone County column provide comparisons between the Boone County and any available state and national findings, and Healthy People 2020 targets. Symbols indicate whether the Boone County compares favorably (●), unfavorably (●), or comparably (●) to these external data.

Note that blank table cells signify that data are not available or are not reliable for that area and/or for that indicator.
<table>
<thead>
<tr>
<th>Access to Health Services</th>
<th>Boone County</th>
<th>Boone County vs. Benchmarks</th>
</tr>
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<tr>
<td></td>
<td>vs. IN</td>
<td>vs. US</td>
</tr>
<tr>
<td>% [Age 18-64] Lack Health Insurance</td>
<td>8.9</td>
<td>☀</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% [65+] With Medicare Supplement Insurance</td>
<td>86.6</td>
<td>☀</td>
</tr>
<tr>
<td>% [Insured] Insurance Covers Prescriptions</td>
<td>94.0</td>
<td>☁</td>
</tr>
<tr>
<td>% [Insured] Went Without Coverage in Past Year</td>
<td>2.7</td>
<td>☀</td>
</tr>
<tr>
<td>% Difficulty Accessing Healthcare in Past Year (Composite)</td>
<td>30.0</td>
<td>☀</td>
</tr>
<tr>
<td>% Inconvenient Hrs Prevented Dr Visit in Past Year</td>
<td>11.1</td>
<td>☀</td>
</tr>
<tr>
<td>% Cost Prevented Getting Prescription in Past Year</td>
<td>11.6</td>
<td>☀</td>
</tr>
<tr>
<td>% Cost Prevented Physician Visit in Past Year</td>
<td>9.8</td>
<td>☀</td>
</tr>
<tr>
<td>% Difficulty Getting Appointment in Past Year</td>
<td>10.4</td>
<td>☀</td>
</tr>
<tr>
<td>% Difficulty Finding Physician in Past Year</td>
<td>4.9</td>
<td>☀</td>
</tr>
<tr>
<td>% Transportation Hindered Dr Visit in Past Year</td>
<td>3.0</td>
<td>☀</td>
</tr>
<tr>
<td>% Skipped Prescription Doses to Save Costs</td>
<td>11.0</td>
<td>☀</td>
</tr>
<tr>
<td>% Difficulty Getting Child's Healthcare in Past Year</td>
<td>3.1</td>
<td>☁</td>
</tr>
<tr>
<td>% [Age 18+] Have a Specific Source of Ongoing Care</td>
<td>92.0</td>
<td>☀</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% [Age 18-64] Have a Specific Source of Ongoing Care</td>
<td>91.8</td>
<td>☀</td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% [Age 65+] Have a Specific Source of Ongoing Care</td>
<td>91.9</td>
<td>☀</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Have Had Routine Checkup in Past Year</td>
<td>71.1</td>
<td>☁</td>
</tr>
</tbody>
</table>
### Access to Health Services (continued)

<table>
<thead>
<tr>
<th>Metric</th>
<th>Boone County</th>
<th>vs. IN</th>
<th>vs. US</th>
<th>vs. HP2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Child Has Had Checkup in Past Year</td>
<td>95.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Two or More ER Visits in Past Year</td>
<td>5.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Aware That Many Screenings Are Covered by Insurance</td>
<td>63.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Aware of Local Palliative Programs</td>
<td>28.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Aware That Many Immunizations Are Covered by Insurance</td>
<td>67.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Rate Local Healthcare &quot;Fair/Poor&quot;</td>
<td>6.1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Arthritis, Osteoporosis & Chronic Back Conditions

<table>
<thead>
<tr>
<th>Condition</th>
<th>Boone County</th>
<th>vs. IN</th>
<th>vs. US</th>
<th>vs. HP2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>% [50+] Arthritis/Rheumatism</td>
<td>30.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% [50+] Osteoporosis</td>
<td>7.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Sciatica/Chronic Back Pain</td>
<td>16.7</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

### Cancer

<table>
<thead>
<tr>
<th>Condition</th>
<th>Boone County</th>
<th>vs. IN</th>
<th>vs. US</th>
<th>vs. HP2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer (Age-Adjusted Death Rate)</td>
<td>188.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lung Cancer (Age-Adjusted Death Rate)</td>
<td>63.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prostate Cancer (Age-Adjusted Death Rate)</td>
<td>35.9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Cancer (continued)

<table>
<thead>
<tr>
<th>Metric</th>
<th>Boone County</th>
<th>vs. IN</th>
<th>vs. US</th>
<th>vs. HP2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female Breast Cancer (Age-Adjusted Death Rate)</td>
<td>28.3</td>
<td>23.7</td>
<td>22.6</td>
<td>20.6</td>
</tr>
<tr>
<td>Colorectal Cancer (Age-Adjusted Death Rate)</td>
<td>17.0</td>
<td>17.6</td>
<td>16.4</td>
<td>14.5</td>
</tr>
<tr>
<td>% [Women 50-74] Mammogram in Past 2 Years</td>
<td>78.2</td>
<td>74.7</td>
<td>79.9</td>
<td>81.1</td>
</tr>
<tr>
<td>% [Women 21-65] Pap Smear in Past 3 Years</td>
<td>82.3</td>
<td>80.2</td>
<td>84.7</td>
<td>93.0</td>
</tr>
<tr>
<td>% [Age 50+] Sigmoid/Colonoscopy Ever</td>
<td>71.3</td>
<td>62.8</td>
<td>72.0</td>
<td></td>
</tr>
<tr>
<td>% [Age 50+] Blood Stool Test in Past 2 Years</td>
<td>31.1</td>
<td>15.8</td>
<td>28.3</td>
<td></td>
</tr>
<tr>
<td>% [Age 50-75] Colorectal Cancer Screening</td>
<td>73.1</td>
<td></td>
<td></td>
<td>70.5</td>
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</tbody>
</table>

### Chronic Kidney Disease

<table>
<thead>
<tr>
<th>Metric</th>
<th>Boone County</th>
<th>vs. IN</th>
<th>vs. US</th>
<th>vs. HP2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kidney Disease (Age-Adjusted Death Rate)</td>
<td>14.7</td>
<td>20.1</td>
<td>14.7</td>
<td></td>
</tr>
<tr>
<td>% Prevalence of Kidney Disease</td>
<td>2.7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Diabetes

<table>
<thead>
<tr>
<th>Metric</th>
<th>Boone County</th>
<th>vs. IN</th>
<th>vs. US</th>
<th>vs. HP2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes Mellitus (Age-Adjusted Death Rate)</td>
<td>19.5</td>
<td>24.1</td>
<td>21.7</td>
<td>19.6</td>
</tr>
<tr>
<td>% Diabetes/High Blood Sugar</td>
<td>9.2</td>
<td>10.2</td>
<td>10.1</td>
<td></td>
</tr>
</tbody>
</table>
### Dementias, Including Alzheimer's Disease

<table>
<thead>
<tr>
<th>Boone County vs. Benchmarks</th>
<th>Boone County</th>
<th>vs. IN</th>
<th>vs. US</th>
<th>vs. HP2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alzheimer's Disease (Age-Adjusted Death Rate)</td>
<td>35.1</td>
<td>26.4</td>
<td>23.5</td>
<td></td>
</tr>
</tbody>
</table>

Better: 🌞  | Similar: ☁️ | Worse: 🌡️

### Educational & Community-Based Programs

<table>
<thead>
<tr>
<th>Boone County vs. Benchmarks</th>
<th>Boone County</th>
<th>vs. IN</th>
<th>vs. US</th>
<th>vs. HP2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Attended Health Event in Past Year</td>
<td>27.4</td>
<td>22.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Better: 🌞  | Similar: ☁️ | Worse: 🌡️

### Family Planning

<table>
<thead>
<tr>
<th>Boone County vs. Benchmarks</th>
<th>Boone County</th>
<th>vs. IN</th>
<th>vs. US</th>
<th>vs. HP2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of Births to Unwed Mothers</td>
<td>23.9</td>
<td>40.3</td>
<td>40.4</td>
<td></td>
</tr>
<tr>
<td>% Births to Teenagers</td>
<td>6.9</td>
<td>11.3</td>
<td>10.3</td>
<td></td>
</tr>
</tbody>
</table>

Better: 🌞  | Similar: ☁️ | Worse: 🌡️

### General Health Status

<table>
<thead>
<tr>
<th>Boone County vs. Benchmarks</th>
<th>Boone County</th>
<th>vs. IN</th>
<th>vs. US</th>
<th>vs. HP2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>% &quot;Fair/Poor&quot; Physical Health</td>
<td>12.0</td>
<td>18.9</td>
<td>16.8</td>
<td></td>
</tr>
<tr>
<td>% Activity Limitations</td>
<td>16.7</td>
<td>24.4</td>
<td>17.0</td>
<td></td>
</tr>
</tbody>
</table>

Better: 🌞  | Similar: ☁️ | Worse: 🌡️
<table>
<thead>
<tr>
<th>Heart Disease &amp; Stroke</th>
<th>Boone County</th>
<th>Boone County vs. Benchmarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diseases of the Heart (Age-Adjusted Death Rate)</td>
<td>179.5</td>
<td>vs. IN vs. US vs. HP2020</td>
</tr>
<tr>
<td>Stroke (Age-Adjusted Death Rate)</td>
<td>37.4</td>
<td>198.8 185.8 152.7</td>
</tr>
<tr>
<td>% Heart Disease (Heart Attack, Angina, Coronary Disease)</td>
<td>6.5</td>
<td>4.8 4.0 3.3</td>
</tr>
<tr>
<td>% Stroke</td>
<td>1.8</td>
<td>3.4 2.7</td>
</tr>
<tr>
<td>% Blood Pressure Checked in Past 2 Years</td>
<td>97.2</td>
<td>94.7 94.9</td>
</tr>
<tr>
<td>% Told Have High Blood Pressure (Ever)</td>
<td>32.8</td>
<td>32.8 34.3 26.9</td>
</tr>
<tr>
<td>% [HBP] Taking Action to Control High Blood Pressure</td>
<td>96.2</td>
<td>89.1</td>
</tr>
<tr>
<td>% Cholesterol Checked in Past 5 Years</td>
<td>92.0</td>
<td>72.8 90.7 82.1</td>
</tr>
<tr>
<td>% Told Have High Cholesterol (Ever)</td>
<td>32.9</td>
<td>39.0 31.4 13.5</td>
</tr>
<tr>
<td>% [HBC] Taking Action to Control High Blood Cholesterol</td>
<td>88.0</td>
<td>89.1</td>
</tr>
<tr>
<td>% 1+ Cardiovascular Risk Factor</td>
<td>80.9</td>
<td>86.3</td>
</tr>
</tbody>
</table>

The symbols represent the comparison: 🌞 = better, ☁️ = similar, 🌡️ = worse.
### Immunization & Infectious Diseases

<table>
<thead>
<tr>
<th></th>
<th>Boone County</th>
<th>vs. IN</th>
<th>vs. US</th>
<th>vs. HP2020</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hepatitis C, non-A non-B Incidence per 100,000</strong></td>
<td>86.8</td>
<td>![similar]</td>
<td>![better]</td>
<td>![worse]</td>
</tr>
<tr>
<td><strong>% [Age 65+] Flu Shot in Past Year</strong></td>
<td>69.5</td>
<td>![better]</td>
<td>![similar]</td>
<td>![worse]</td>
</tr>
<tr>
<td><strong>% [High-Risk 18-64] Flu Shot in Past Year</strong></td>
<td>44.5</td>
<td>![similar]</td>
<td>![better]</td>
<td>![worse]</td>
</tr>
<tr>
<td><strong>% [Age 65+] Pneumonia Vaccine Ever</strong></td>
<td>70.5</td>
<td>![better]</td>
<td>![similar]</td>
<td>![worse]</td>
</tr>
<tr>
<td><strong>% [High-Risk 18-64] Pneumonia Vaccine Ever</strong></td>
<td>34.9</td>
<td>![better]</td>
<td>![similar]</td>
<td>![worse]</td>
</tr>
</tbody>
</table>

### Injury & Violence Prevention

<table>
<thead>
<tr>
<th></th>
<th>Boone County</th>
<th>vs. IN</th>
<th>vs. US</th>
<th>vs. HP2020</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unintentional Injury (Age-Adjusted Death Rate)</strong></td>
<td>27.5</td>
<td>![better]</td>
<td>![better]</td>
<td>![similar]</td>
</tr>
<tr>
<td><strong>Motor Vehicle Crashes (Age-Adjusted Death Rate)</strong></td>
<td>13.2</td>
<td>![similar]</td>
<td>![better]</td>
<td>![worse]</td>
</tr>
<tr>
<td><strong>% Child [Age 0-17] &quot;Always&quot; Uses Seat Belt/Car Seat</strong></td>
<td>95.4</td>
<td>![better]</td>
<td>![better]</td>
<td>![better]</td>
</tr>
<tr>
<td><strong>% Child [Age 5-17] &quot;Always&quot; Wears Bicycle Helmet</strong></td>
<td>37.0</td>
<td>![better]</td>
<td>![better]</td>
<td>![similar]</td>
</tr>
<tr>
<td><strong>% Ever Threatened With Violence by Intimate Partner</strong></td>
<td>8.5</td>
<td>![better]</td>
<td>![better]</td>
<td>![similar]</td>
</tr>
<tr>
<td><strong>% Victim of Domestic Violence (Ever)</strong></td>
<td>9.2</td>
<td>![better]</td>
<td>![better]</td>
<td>![similar]</td>
</tr>
</tbody>
</table>
### Maternal, Infant & Child Health

<table>
<thead>
<tr>
<th>Measure</th>
<th>Boone County</th>
<th>vs. IN</th>
<th>vs. US</th>
<th>vs. HP2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>% No Prenatal Care in First Trimester</td>
<td>20.6</td>
<td>☀</td>
<td>☁</td>
<td>☁</td>
</tr>
<tr>
<td></td>
<td></td>
<td>33.1</td>
<td>8.2</td>
<td>22.1</td>
</tr>
<tr>
<td>% of Low Birthweight Births</td>
<td>6.9</td>
<td>☀</td>
<td>☁</td>
<td>☁</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8.4</td>
<td>7.8</td>
<td>7.8</td>
</tr>
<tr>
<td>Infant Death Rate</td>
<td>6.2</td>
<td>☀</td>
<td>☁</td>
<td>☁</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7.4</td>
<td>6.5</td>
<td>6.0</td>
</tr>
</tbody>
</table>

### Mental Health & Mental Disorders

<table>
<thead>
<tr>
<th>Measure</th>
<th>Boone County</th>
<th>vs. IN</th>
<th>vs. US</th>
<th>vs. HP2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>% &quot;Fair/Poor&quot; Mental Health</td>
<td>9.6</td>
<td>☁</td>
<td>☁</td>
<td>☁</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11.7</td>
<td>11.7</td>
<td>11.7</td>
</tr>
<tr>
<td>% Major Depression</td>
<td>9.5</td>
<td>☁</td>
<td>☁</td>
<td>☁</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11.7</td>
<td>11.7</td>
<td>11.7</td>
</tr>
<tr>
<td>% Symptoms of Chronic Depression (2+ Years)</td>
<td>20.0</td>
<td>☀</td>
<td>☀</td>
<td>☀</td>
</tr>
<tr>
<td></td>
<td></td>
<td>26.5</td>
<td>26.5</td>
<td>26.5</td>
</tr>
<tr>
<td>Suicide (Age-Adjusted Death Rate)</td>
<td>9.5</td>
<td>☀</td>
<td>☀</td>
<td>☀</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12.6</td>
<td>11.6</td>
<td>10.2</td>
</tr>
<tr>
<td>% [Those With Major Depression] Seeking Help</td>
<td>87.0</td>
<td>☁</td>
<td>☁</td>
<td>☁</td>
</tr>
<tr>
<td></td>
<td></td>
<td>82.0</td>
<td>75.1</td>
<td>75.1</td>
</tr>
<tr>
<td>% Typical Day Is &quot;Extremely/Very&quot; Stressful</td>
<td>9.3</td>
<td>☁</td>
<td>☁</td>
<td>☁</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11.5</td>
<td>11.5</td>
<td>11.5</td>
</tr>
<tr>
<td>% Child [Age 5-17] Takes Prescription for ADD/ADHD</td>
<td>6.3</td>
<td>☁</td>
<td>☁</td>
<td>☁</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6.5</td>
<td>6.5</td>
<td>6.5</td>
</tr>
<tr>
<td>Nutrition &amp; Weight Status</td>
<td>Boone County</td>
<td>Boone County vs. Benchmarks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------</td>
<td>-------------</td>
<td>--------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>vs. IN</td>
<td>vs. US</td>
<td>vs. HP2020</td>
<td></td>
</tr>
<tr>
<td>% Eat 5+ Servings of Fruit or Vegetables per Day</td>
<td>45.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Medical Advice on Nutrition in Past Year</td>
<td>42.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Healthy Weight (BMI 18.5-24.9)</td>
<td>36.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Overweight</td>
<td>61.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Obese</td>
<td>26.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Medical Advice on Weight in Past Year</td>
<td>25.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% [Overweights] Counseled About Weight in Past Year</td>
<td>33.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% [Obese Adults] Counseled About Weight in Past Year</td>
<td>51.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% [Overweights] Trying to Lose Weight Both Diet/Exercise</td>
<td>39.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% &quot;Always&quot; Purchase Organic Food When Available</td>
<td>4.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Do Not Have Organic Food Options Available Locally</td>
<td>2.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% &quot;Very/Somewhat Difficult&quot; to Obtain Affordable Fresh Produce</td>
<td>6.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% &quot;Always/Frequently/Sometimes&quot; Choose Between Food and Paying Bills</td>
<td>5.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Children [Age 5-17] Overweight</td>
<td>26.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Children [Age 5-17] Obese</td>
<td>16.1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Better: ☀️
- Similar: 🌧️
- Worse: 🌡️
### Oral Health

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Boone County %</th>
<th>vs. IN</th>
<th>vs. US</th>
<th>vs. HP2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>% [Age 18+] Dental Visit in Past Year</td>
<td>78.1</td>
<td>☀</td>
<td>☐</td>
<td>☀</td>
</tr>
<tr>
<td>% Child [Age 2-17] Dental Visit in Past Year</td>
<td>94.2</td>
<td>☀</td>
<td>☐</td>
<td>☀</td>
</tr>
<tr>
<td>% Have Dental Insurance</td>
<td>70.6</td>
<td>☀</td>
<td>☐</td>
<td>☀</td>
</tr>
</tbody>
</table>

### Physical Activity

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Boone County %</th>
<th>vs. IN</th>
<th>vs. US</th>
<th>vs. HP2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>% [Employed] Job Entails Mostly Sitting/Standing</td>
<td>64.2</td>
<td>☐</td>
<td>☀</td>
<td>☐</td>
</tr>
<tr>
<td>% No Leisure-Time Physical Activity</td>
<td>18.4</td>
<td>☀</td>
<td>☐</td>
<td>☀</td>
</tr>
<tr>
<td>% Meeting Physical Activity Guidelines</td>
<td>45.5</td>
<td>☐</td>
<td>☀</td>
<td>☐</td>
</tr>
<tr>
<td>% Moderate Physical Activity</td>
<td>24.7</td>
<td>☐</td>
<td>☀</td>
<td>☐</td>
</tr>
<tr>
<td>% Vigorous Physical Activity</td>
<td>34.3</td>
<td>☀</td>
<td>☐</td>
<td>☀</td>
</tr>
<tr>
<td>% Medical Advice on Physical Activity in Past Year</td>
<td>46.3</td>
<td>☐</td>
<td>☀</td>
<td>☐</td>
</tr>
<tr>
<td>% Agree That the Community Needs More Indoor Activity Spaces</td>
<td>35.6</td>
<td>☐</td>
<td>☀</td>
<td>☐</td>
</tr>
<tr>
<td>% &quot;The Community Provides Facilities/Programs for Youth&quot;</td>
<td>76.2</td>
<td>☐</td>
<td>☀</td>
<td>☐</td>
</tr>
<tr>
<td>% Child [Age 5-17] Watches TV 3+ Hours per Day</td>
<td>6.6</td>
<td>☀</td>
<td>☐</td>
<td>☀</td>
</tr>
<tr>
<td>% Child [Age 5-17] Uses Computer 3+ Hours per Day</td>
<td>6.6</td>
<td>☐</td>
<td>☀</td>
<td>☐</td>
</tr>
<tr>
<td>% Child [Age 5-17] 3+ Hours per Day of Total Screen Time</td>
<td>26.0</td>
<td>☀</td>
<td>☐</td>
<td>☀</td>
</tr>
<tr>
<td>Respiratory Diseases</td>
<td>Boone County</td>
<td>Boone County vs. Benchmarks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>--------------</td>
<td>-----------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>vs. IN</td>
<td>vs. US</td>
<td>vs. HP2020</td>
<td></td>
</tr>
<tr>
<td>CLRD (Age-Adjusted Death Rate)</td>
<td>44.0</td>
<td>♦</td>
<td>♦</td>
<td></td>
</tr>
<tr>
<td></td>
<td>54.1</td>
<td>♦</td>
<td>♦</td>
<td></td>
</tr>
<tr>
<td></td>
<td>42.4</td>
<td>♦</td>
<td>♦</td>
<td></td>
</tr>
<tr>
<td>Pneumonia/Influenza (Age-Adjusted Death Rate)</td>
<td>12.9</td>
<td>♦</td>
<td>♦</td>
<td></td>
</tr>
<tr>
<td></td>
<td>17.4</td>
<td>♦</td>
<td>♦</td>
<td></td>
</tr>
<tr>
<td></td>
<td>16.4</td>
<td>♦</td>
<td>♦</td>
<td></td>
</tr>
<tr>
<td>% Chronic Lung Disease</td>
<td>6.6</td>
<td>♦</td>
<td>♦</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8.4</td>
<td>♦</td>
<td>♦</td>
<td></td>
</tr>
<tr>
<td>% [Adult] Currently Has Asthma</td>
<td>6.7</td>
<td>♦</td>
<td>♦</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9.6</td>
<td>♦</td>
<td>♦</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7.5</td>
<td>♦</td>
<td>♦</td>
<td></td>
</tr>
<tr>
<td>% [Child 0-17] Currently Has Asthma</td>
<td>6.8</td>
<td>♦</td>
<td>♦</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6.8</td>
<td>♦</td>
<td>♦</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sexually Transmitted Diseases</th>
<th>Boone County</th>
<th>Boone County vs. Benchmarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>vs. IN</td>
<td>vs. US</td>
</tr>
<tr>
<td>Gonorrhea Incidence per 100,000</td>
<td>38.4</td>
<td>♦</td>
</tr>
<tr>
<td></td>
<td>137.8</td>
<td>♦</td>
</tr>
<tr>
<td></td>
<td>116.1</td>
<td>♦</td>
</tr>
<tr>
<td>Primary &amp; Secondary Syphilis Incidence per 100,000</td>
<td>0.0</td>
<td>♦</td>
</tr>
<tr>
<td></td>
<td>3.9</td>
<td>♦</td>
</tr>
<tr>
<td></td>
<td>3.8</td>
<td>♦</td>
</tr>
<tr>
<td>Chlamydia Incidence per 100,000</td>
<td>189.4</td>
<td>♦</td>
</tr>
<tr>
<td></td>
<td>328.8</td>
<td>♦</td>
</tr>
<tr>
<td></td>
<td>370.0</td>
<td>♦</td>
</tr>
<tr>
<td>% [Unmarried 18-64] 3+ Sexual Partners in Past Year</td>
<td>4.2</td>
<td>♦</td>
</tr>
<tr>
<td></td>
<td>7.1</td>
<td>♦</td>
</tr>
<tr>
<td>% [Unmarried 18-64] Using Condoms</td>
<td>33.8</td>
<td>♦</td>
</tr>
<tr>
<td></td>
<td>18.9</td>
<td>♦</td>
</tr>
</tbody>
</table>

Emojis

- ♦: Better
- ♦: Similar
- ♦: Worse
### Substance Abuse

<table>
<thead>
<tr>
<th>Measure</th>
<th>Boone County</th>
<th>vs. IN</th>
<th>vs. US</th>
<th>vs. HP2020</th>
</tr>
</thead>
</table>

### Tobacco Use

<table>
<thead>
<tr>
<th>Measure</th>
<th>Boone County</th>
<th>vs. IN</th>
<th>vs. US</th>
<th>vs. HP2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vision</td>
<td>Boone County</td>
<td>vs. IN</td>
<td>vs. US</td>
<td>vs. HP2020</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>--------------</td>
<td>--------</td>
<td>--------</td>
<td>------------</td>
</tr>
<tr>
<td>% Eye Exam in Past 2 Years</td>
<td>65.4</td>
<td></td>
<td></td>
<td>57.5</td>
</tr>
<tr>
<td>% Have Vision Care Coverage</td>
<td>74.5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- better
- similar
- worse
GENERAL HEALTH STATUS
Overall Health Status

Self-Reported Health Status

A total of 61.0% of Boone County adults rate their overall health as “excellent” or “very good.”

- Another 27.0% gave “good” ratings of their overall health.

![Pie chart showing distribution of health ratings]

However, 12.0% of Boone County adults believe that their overall health is “fair” or “poor.”

- Better than statewide findings.
- Better than the national percentage.

Experience “Fair” or “Poor” Overall Health

![Bar chart showing health status distribution]

NOTE:
- Differences noted in the text represent significant differences determined through statistical testing.
Adults more likely to report experiencing “fair” or “poor” overall health include:

- Seniors (those aged 65+).
- Residents living at lower incomes.
- Non-Whites.
- Other differences within demographic groups, as illustrated in the following chart, are not statistically significant.

### Experience “Fair” or “Poor” Overall Health
(Boone County, 2012)

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
<th>18 to 39</th>
<th>40 to 64</th>
<th>65+</th>
<th>Low Income</th>
<th>Mid/High Income</th>
<th>White</th>
<th>Other</th>
<th>Boone County</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>14.1%</td>
<td>10.0%</td>
<td>8.4%</td>
<td>11.6%</td>
<td>22.7%</td>
<td>28.0%</td>
<td>8.1%</td>
<td>10.9%</td>
<td>30.5%</td>
<td>12.0%</td>
</tr>
</tbody>
</table>

Sources: 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 5]

Notes: Asked of all respondents.
- Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., “White” reflects non-Hispanic White respondents).
- Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. “Low Income” includes households with incomes up to 200% of the federal poverty level. “Mid/High Income” includes households with incomes at 200% or more of the federal poverty level.
Activity Limitations

An individual can get a disabling impairment or chronic condition at any point in life. Compared with people without disabilities, people with disabilities are more likely to:

- Experience difficulties or delays in getting the health care they need.
- Not have had an annual dental visit.
- Not have had a mammogram in past 2 years.
- Not have had a Pap test within the past 3 years.
- Not engage in fitness activities.
- Use tobacco.
- Be overweight or obese.
- Have high blood pressure.
- Experience symptoms of psychological distress.
- Receive less social-emotional support.
- Have lower employment rates.

There are many social and physical factors that influence the health of people with disabilities. The following three areas for public health action have been identified, using the International Classification of Functioning, Disability, and Health (ICF) and the three World Health Organization (WHO) principles of action for addressing health determinants.

- **Improve the conditions of daily life** by encouraging communities to be accessible so all can live in, move through, and interact with their environment; encouraging community living; and removing barriers in the environment using both physical universal design concepts and operational policy shifts.

- **Address the inequitable distribution of resources among people with disabilities and those without disabilities** by increasing: appropriate health care for people with disabilities; education and work opportunities; social participation; and access to needed technologies and assistive supports.

- **Expand the knowledge base and raise awareness about determinants of health for people with disabilities** by increasing: the inclusion of people with disabilities in public health data collection efforts across the lifespan; the inclusion of people with disabilities in health promotion activities; and the expansion of disability and health training opportunities for public health and health care professionals.

  - Healthy People 2020 (www.healthypeople.gov)

---

**A total of 16.7% of Boone County adults are limited in some way in some activities due to a physical, mental or emotional problem.**

- More favorable than the prevalence statewide.
- Similar to the national prevalence.
Limited in Activities in Some Way Due to a Physical, Mental or Emotional Problem

In looking at responses by key demographic characteristics, note the following:

- Adults age 40 and older are much more often limited in activities (note the positive correlation with age).
- Lower-income respondents are more likely than their demographic counterpart to report activity limitations.

RELATED ISSUE:
See also Potentially Disabling Conditions in the Death, Disease & Chronic Conditions section of this report.
Among persons reporting activity limitations, these are most often attributed to musculoskeletal issues, such as arthritis/rheumatism, back/neck problems, difficulty walking, and fractures or bone/joint injuries.

- While nearly two in three adults with activity limitations (65.2%) did not miss work in the past year due to their impairment, 16.9% said they were unable to work at all in the past year as a result of the activity limitation.

### Type of Problem That Limits Activities
(Among Those Reporting Activity Limitations; Boone County, 2012)

<table>
<thead>
<tr>
<th>Type of Problem That Limits Activities</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arthritis/Rheumatism</td>
<td>18.9%</td>
</tr>
<tr>
<td>Back/Neck Problem</td>
<td>13.1%</td>
</tr>
<tr>
<td>Walking Problem</td>
<td>12.5%</td>
</tr>
<tr>
<td>Lung/Breathing Problem</td>
<td>7.3%</td>
</tr>
<tr>
<td>Fracture/Bone/Joint Injury</td>
<td>6.7%</td>
</tr>
<tr>
<td>Depression/Anxiety/Mental</td>
<td>3.7%</td>
</tr>
<tr>
<td>Various Other</td>
<td>37.8%</td>
</tr>
</tbody>
</table>

Sources:  ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 122]
Notes:  ● Asked of those respondents reporting activity limitations.
Mental Health & Mental Disorders

Mental health is a state of successful performance of mental function, resulting in productive activities, fulfilling relationships with other people, and the ability to adapt to change and to cope with challenges. Mental health is essential to personal well-being, family and interpersonal relationships, and the ability to contribute to community or society. Mental disorders are health conditions that are characterized by alterations in thinking, mood, and/or behavior that are associated with distress and/or impaired functioning. Mental disorders contribute to a host of problems that may include disability, pain, or death. Mental illness is the term that refers collectively to all diagnosable mental disorders.

Mental disorders are among the most common causes of disability. The resulting disease burden of mental illness is among the highest of all diseases. According to the national Institute of Mental Health (NIMH), in any given year, an estimated 13 million American adults (approximately 1 in 17) have a seriously debilitating mental illness. Mental health disorders are the leading cause of disability in the United States and Canada, accounting for 25% of all years of life lost to disability and premature mortality. Moreover, suicide is the 11th leading cause of death in the United States, accounting for the deaths of approximately 30,000 Americans each year.

Mental health and physical health are closely connected. Mental health plays a major role in people's ability to maintain good physical health. Mental illnesses, such as depression and anxiety, affect people’s ability to participate in health-promoting behaviors. In turn, problems with physical health, such as chronic diseases, can have a serious impact on mental health and decrease a person’s ability to participate in treatment and recovery.

The existing model for understanding mental health and mental disorders emphasizes the interaction of social, environmental, and genetic factors throughout the lifespan. In behavioral health, researchers identify: risk factors, which predispose individuals to mental illness; and protective factors, which protect them from developing mental disorders. Researchers now know that the prevention of mental, emotional, and behavioral (MEB) disorders is inherently interdisciplinary and draws on a variety of different strategies. Over the past 20 years, research on the prevention of mental disorders has progressed. The understanding of how the brain functions under normal conditions and in response to stressors, combined with knowledge of how the brain develops over time, has been essential to that progress. The major areas of progress include evidence that:

- MEB disorders are common and begin early in life.
- The greatest opportunity for prevention is among young people.
- There are multyear effects of multiple preventive interventions on reducing substance abuse, conduct disorder, antisocial behavior, aggression, and child maltreatment.
- The incidence of depression among pregnant women and adolescents can be reduced.
- School-based violence prevention can reduce the base rate of aggressive problems in an average school by 25 to 33%.
- There are potential indicated preventive interventions for schizophrenia.
- Improving family functioning and positive parenting can have positive outcomes on mental health and can reduce poverty-related risk.
- School-based preventive interventions aimed at improving social and emotional outcomes can also improve academic outcomes.
- Interventions targeting families dealing with adversities, such as parental depression or divorce, can be effective in reducing risk for depression among children and increasing effective parenting.
- Some preventive interventions have benefits that exceed costs, with the available evidence strongest for early childhood interventions.
- Implementation is complex, and it is important that interventions be relevant to the target audiences.

In addition to advancements in the prevention of mental disorders, there continues to be steady progress in treating mental disorders as new drugs and stronger evidence-based outcomes become available.

– Healthy People 2020 (www.healthypeople.gov)
Mental Health Status

Self-Reported Mental Health Status

A total of 7 in 10 (69.9%) Boone County adults rate their overall mental health as “excellent” or “very good.”

- Another 20.5% gave "good" ratings of their own mental health status.

```
Self-Reported Mental Health Status
(Boone County, 2012)

Excellent 34.0%
Very Good 35.9%
Good 20.5%
Fair 7.7%
Poor 1.9%
```

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 117]
Notes: ● Asked of all respondents.

A total of 9.6% of Boone County adults, however, believe that their overall mental health is “fair” or “poor.”

- Similar to the “fair/poor” response reported nationally.

```
Experience “Fair” or “Poor” Mental Health

Boone County               United States
9.6%                        11.7%
```

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 117]
● 2011 PRC National Health Survey, Professional Research Consultants, Inc.
Notes: ● Asked of all respondents.
Reports of “fair/poor” mental health are statistically high among Non-Whites and adults in the low income category.

Experience “Fair” or “Poor” Mental Health
(Boone County, 2012)

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 117]

Notes: ● Asked of all respondents.
● Hispansics can be of any race. Other race categories are non-Hispanic categorizations (e.g., “White” reflects non-Hispanic White respondents).
● Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. “Low Income” includes households with incomes up to 200% of the federal poverty level. “Mid/High Income” includes households with incomes at 200% or more of the federal poverty level.

Depression

Major Depression

A total of 9.5% of Boone County adults have been diagnosed with major depression by a physician.

● Similar to the national finding.

Have Been Diagnosed With Major Depression

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 12]
● 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes: ● Asked of all respondents.
The prevalence of major depression is notably higher among:

- Women.
- Adults between the ages of 40 and 64.
- Community members living at lower incomes.

### Have Been Diagnosed With Major Depression
(Boone County, 2012)

<table>
<thead>
<tr>
<th>Category</th>
<th>Men</th>
<th>Women</th>
<th>18 to 39</th>
<th>40 to 64</th>
<th>65+</th>
<th>Low Income</th>
<th>Mid/High Income</th>
<th>White</th>
<th>Other</th>
<th>Boone County</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6.3%</td>
<td>12.6%</td>
<td>6.2%</td>
<td>12.3%</td>
<td>7.9%</td>
<td>24.9%</td>
<td>5.8%</td>
<td>9.4%</td>
<td>12.6%</td>
<td>9.5%</td>
</tr>
</tbody>
</table>

**Have Experienced Symptoms of Chronic Depression**

A total of 20.0% of Boone County adults have had two or more years in their lives when they felt depressed or sad on most days, although they may have felt okay sometimes (chronic depression).

- More favorable than national findings.
Note that the prevalence of chronic depression is notably higher among:

- Women.
- Respondents age 40+.
- Adults with lower incomes.

### Have Experienced Symptoms of Chronic Depression
(Boone County, 2012)

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
<th>18 to 39</th>
<th>40 to 64</th>
<th>65+</th>
<th>Low Income</th>
<th>Mid/High Income</th>
<th>White</th>
<th>Other</th>
<th>Boone County</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15.2%</td>
<td>24.5%</td>
<td>14.8%</td>
<td>23.5%</td>
<td>21.7%</td>
<td>39.9%</td>
<td>14.6%</td>
<td>19.7%</td>
<td>22.6%</td>
<td>20.0%</td>
</tr>
</tbody>
</table>

**Sources:** 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 119]

**Notes:**
- Asked of all respondents.
- Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., "White" reflects non-Hispanic White respondents).
- Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. "Low Income" includes households with incomes up to 200% of the federal poverty level; "Mid/High Income" includes households with incomes at 200% or more of the federal poverty level.

### Stress

More than 4 in 10 Boone County adults consider their typical day to be “not very stressful” (30.2%) or “not at all stressful” (12.2%).

- Another 48.3% of survey respondents characterize their typical day as “moderately stressful.”

### Perceived Level of Stress On a Typical Day
(Boone County, 2012)

- Not At All Stressful: 12.2%
- Very Stressful: 6.9%
- Extremely Stressful: 2.4%
- Moderately Stressful: 48.3%
- Not Very Stressful: 30.2%

**Sources:** 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 119]

**Notes:** Asked of all respondents.
In contrast, 9.3% of Boone County adults experience “very” or “extremely” stressful days on a regular basis.

- Similar to national findings.

### Perceive Most Days As “Extremely” or “Very” Stressful

**Boone County**

- 9.3%

**United States**

- 11.5%

**Sources:**
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 119]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

**Notes:**
- Asked of all respondents.

Note that high stress levels are more prevalent among adults under age 65.

### Perceive Most Days as “Extremely” or “Very” Stressful

(Boone County, 2012)

**Sources:**
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 119]

**Notes:**
- Asked of all respondents.
- Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., “White” reflects non-Hispanic White respondents).
- Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. “Low Income” includes households with incomes up to 200% of the federal poverty level; “Mid/High Income” includes households with incomes at 200% or more of the federal poverty level.
Suicide

Between 2005 and 2009, there was an annual average age-adjusted suicide rate of 9.5 deaths per 100,000 population in Boone County.

- Lower than the statewide rate (2007-2009 data).
- Lower than the national rate (2007-2009 data).
- Satisfies the Healthy People 2020 target of 10.2 or lower.

**Suicide: Age-Adjusted Mortality**
(2007-2009 Annual Average Deaths per 100,000 Population)

<table>
<thead>
<tr>
<th></th>
<th>Boone County*</th>
<th>Indiana</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy People 2020 Target = 10.2 or Lower</td>
<td>9.5</td>
<td>12.6</td>
<td>11.6</td>
</tr>
</tbody>
</table>

**Notes:**
- Data extracted October 2012.
- Deaths are coded using the Ninth Revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-9).
- Rates are per 100,000 population, age-adjusted to the 2000 U.S. Standard Population.
- Boone County rate represents 2005-2009 data.

Mental Health Treatment

Among adults with diagnosed depression, 87.0% acknowledge that they have sought professional help for a mental or emotional problem.

- Similar to national findings.
- Satisfies the Healthy People 2020 target of 75.1% or higher.

**Have Sought Professional Help for a Mental or Emotional Problem**
(Among Those With Major Depression)

<table>
<thead>
<tr>
<th></th>
<th>Boone County</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy People 2020 Target = 75.1% or Higher</td>
<td>87.0%</td>
<td>82.0%</td>
</tr>
</tbody>
</table>

**Notes:**
- Asked of those respondents with major depression diagnosed by a physician.
Children & ADD/ADHD

Among Boone County adults with children age 5 to 17, 6.3% report that their child takes medication for ADD/ADHD.

- Almost identical to the national prevalence.

**Child Takes Medication for ADD/ADHD**

(Among Parents of Children 5-17)

- Boone County: Yes 6.5%, No 93.5%
- United States: Yes 6.3%, No 93.7%

**Sources:**
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc.
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

**Notes:**
- Asked of all respondents with children age 5 to 17.

---

**Related Focus Group Findings: Mental Health**

Many focus group participants discussed mental health in the community. The main issues discussed include:

- Inadequate number of psychiatrists and treatment facility options
- Youth services
- Stigma

During the focus groups, issues surrounding mental healthcare coverage came up several times. Participants believe the community suffers due to an **inadequate number of psychiatrists and treatment facilities** available to address residents’ behavioral health needs. Due to the insufficient number of behavioral health resources, community members utilize the emergency room, which participants agree is not the best option for psychiatric treatment. Even for those residents **with private insurance**, limited reimbursement rates make treatment costly.

Other community members remain unaware of the behavioral healthcare options accessible. The two major agencies providing outpatient services include Cummins Behavioral Health System and Aspire Indiana. These facilities have a sliding-fee schedule and accept many types of insurance (including Medicaid); however, both experience high turnover, so participants worry about the continuity of care individuals may experience. In addition, a limited number of psychiatrists work in the county, so residents must remain on waiting lists before an appointment becomes available.
“I think people get initial services, but there’s, I think, a real need for follow-up services and for more care than is available on just outpatient, come see a therapist one day a month. There are people who need observed medication administration and who need someone looking in on them every day, and so on and so forth. And those things are not available here.” — Advisory Committee Representative

**Psychiatric services for youth** experience even greater demand but have fewer resources, although local schools do have counselors and therapists on-site. A participant describes her frustrations with the current system:

“Sometimes it’s just an ungodly amount of all the kids that come into the office at one time. You’re just like, what in the world is going on? Then what do you do? I can call the medication line and what’s that going to do? I can call both the doctors that work out of Cummins and one of them is great about getting right back to me, but what’s that going to do? They have to see the patient before anything is done. How long of a wait is it to get into either one of them right now? It’s crazy to try to get the kids back in to change the medication.” — Healthcare Professional

Another participant expands on the waiting period before children can access services:

“For a psychiatric evaluation you’re going to look at probably six weeks at this point. That is hopefully going to move up yet again, but we keep adding more doc time because the need is great. We have a child and adolescent psychiatrist, and then our medical director also sees all the patients in our office. Hopefully we’ll increase that and actually have a nurse on staff as well.” — Healthcare Professional

Participants also believe that **stigma** impacts residents’ willingness to access behavioral healthcare, and agree that more education needs to occur in order to reduce the level of stigma attached with mental illness. In addition, parents may not seek treatment for their children because they do not realize the child suffers from depression or some other mental illness; education can target this knowledge deficit. An attendee describes how the cycle perpetuates across generations:

“Yeah, it’s generational ... They don’t know what they don’t know. They don’t know that they’re living in a cycle of – and that they too are depressed.” — Social Service Agency Representative
DEATH, DISEASE & CHRONIC CONDITIONS
Leading Causes of Death

Distribution of Deaths by Cause

Together, cardiovascular disease (heart disease and stroke) and cancers accounted for more than one-half of all deaths in Boone County between 2007-2009.

![Leading Causes of Death](chart.png)

Leading Causes of Death
(Boone County, 2007-2009)

- Cancer 24.9%
- Heart Disease 24.4%
- Other 28.1%
- CLRD 5.1%
- Alzheimer's Dis. 4.8%
- Influenza/Pneu. 1.8%
- Diabetes Mellitus 2.5%
- Unintentional Inj. 3.5%
- Stroke 4.8%

Sources:

Notes:
- Deaths are coded using the Tenth Revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10).
- CLRD is chronic lower respiratory disease.

Age-Adjusted Death Rates for Selected Causes

In order to compare mortality in the region with other localities (in this case, Indiana and the United States), it is necessary to look at rates of death — these are figures which represent the number of deaths in relation to the population size (such as deaths per 100,000 population, as is used here).

Furthermore, in order to compare localities without undue bias toward younger or older populations, the common convention is to adjust the data to some common baseline age distribution. Use of these “age-adjusted” rates provides the most valuable means of gauging mortality against benchmark data, as well as Healthy People 2020 targets.

The following chart outlines 2007-2009 annual average age-adjusted death rates per 100,000 population for selected causes of death in Boone County.
Age-adjusted mortality rates in Boone County are worse than national rates for cancer and Alzheimer’s disease.

Of the causes outlined in the following chart for which Healthy People 2020 objectives have been established, Boone County rates fail to satisfy the related goals for heart disease, stroke, cancer and motor vehicle accidents.

Age-Adjusted Death Rates for Selected Causes
(2007-2009 Deaths per 100,000)

<table>
<thead>
<tr>
<th>Cause</th>
<th>Boone County</th>
<th>Indiana</th>
<th>US</th>
<th>HP2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malignant Neoplasms (Cancers)</td>
<td>188.2</td>
<td>192.9</td>
<td>175.6</td>
<td>160.6</td>
</tr>
<tr>
<td>Diseases of the Heart</td>
<td>179.5</td>
<td>198.8</td>
<td>185.8</td>
<td>152.7*</td>
</tr>
<tr>
<td>Chronic Lower Respiratory Disease (CLRD)</td>
<td>44</td>
<td>54.1</td>
<td>42.4</td>
<td>n/a</td>
</tr>
<tr>
<td>Cerebrovascular Disease (Stroke)</td>
<td>37.4</td>
<td>44.8</td>
<td>40.6</td>
<td>33.8</td>
</tr>
<tr>
<td>Alzheimer’s Disease</td>
<td>35.1</td>
<td>26.4</td>
<td>23.5</td>
<td>n/a</td>
</tr>
<tr>
<td>Unintentional Injuries</td>
<td>27.5</td>
<td>39.1</td>
<td>38.7</td>
<td>36</td>
</tr>
<tr>
<td>Diabetes Mellitus</td>
<td>19.5</td>
<td>24.1</td>
<td>21.7</td>
<td>19.6*</td>
</tr>
<tr>
<td>Kidney Diseases</td>
<td>14.7</td>
<td>20.1</td>
<td>14.7</td>
<td>n/a</td>
</tr>
<tr>
<td>Motor Vehicle Deaths*</td>
<td>13.2</td>
<td>13.2</td>
<td>13.0</td>
<td>12.4</td>
</tr>
<tr>
<td>Pneumonia/Influenza</td>
<td>12.9</td>
<td>17.4</td>
<td>16.4</td>
<td>n/a</td>
</tr>
<tr>
<td>Intentional Self-Harm (Suicide)*</td>
<td>9.5</td>
<td>12.6</td>
<td>11.6</td>
<td>10.2</td>
</tr>
</tbody>
</table>

Sources:

Note:
- Rates are per 100,000 population; age-adjusted to the 2000 US Standard Population and coded using ICD-10 codes.
- The Healthy People 2020 Heart Disease target is adjusted to account for all diseases of the heart; the Diabetes target is adjusted to reflect only diabetes mellitus-coded deaths.
- Local, state and national data are simple three-year averages (*suicide and motor vehicle accident rates represent 2005-2009 data for Boone County).
Cardiovascular Disease

Heart disease is the leading cause of death in the United States, with stroke following as the third leading cause. Together, heart disease and stroke are among the most widespread and costly health problems facing the nation today, accounting for more than $500 billion in healthcare expenditures and related expenses in 2010 alone. Fortunately, they are also among the most preventable.

The leading modifiable (controllable) risk factors for heart disease and stroke are:
- High blood pressure
- High cholesterol
- Cigarette smoking
- Diabetes
- Poor diet and physical inactivity
- Overweight and obesity

The risk of Americans developing and dying from cardiovascular disease would be substantially reduced if major improvements were made across the US population in diet and physical activity, control of high blood pressure and cholesterol, smoking cessation, and appropriate aspirin use.

The burden of cardiovascular disease is disproportionately distributed across the population. There are significant disparities in the following based on gender, age, race/ethnicity, geographic area, and socioeconomic status:
- Prevalence of risk factors
- Access to treatment
- Appropriate and timely treatment
- Treatment outcomes
- Mortality

Disease does not occur in isolation, and cardiovascular disease is no exception. Cardiovascular health is significantly influenced by the physical, social, and political environment, including: maternal and child health; access to educational opportunities; availability of healthy foods, physical education, and extracurricular activities in schools; opportunities for physical activity, including access to safe and walkable communities; access to healthy foods; quality of working conditions and worksite health; availability of community support and resources; and access to affordable, quality healthcare.

– Healthy People 2020 (www.healthypeople.gov)

Age-Adjusted Heart Disease & StrokeDeaths

Heart Disease Deaths

Between 2007 and 2009 there was an annual average age-adjusted heart disease mortality rate of 179.5 deaths per 100,000 population in Boone County.

- Lower than the statewide rate.
- Similar to the national rate.
- Fails to satisfy the Healthy People 2020 target (as adjusted to account for all diseases of the heart).
Heart Disease: Age-Adjusted Mortality
(2007-2009 Annual Average Deaths per 100,000 Population)

**Healthy People 2020 Target = 152.7 or Lower (Adjusted)**

<table>
<thead>
<tr>
<th>Boone County</th>
<th>Indiana</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>179.5</td>
<td>198.8</td>
<td>185.8</td>
</tr>
</tbody>
</table>

Sources: ● CDC WONDER Online Query System. Centers for Disease Control and Prevention, Epidemiology Program Office, Division of Public Health Surveillance and Informatics. Data extracted October 2012.

Notes: ● Deaths are coded using the Tenth Revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10).
● Rates are per 100,000 population, age-adjusted to the 2000 U.S. Standard Population.
● Local, state and national data are simple three-year averages.
● The Healthy People 2020 Heart Disease target is adjusted to account for all diseases of the heart.

While heart disease mortality rate has decreased overall in Boone County, it has not shown the clear and consistent trends seen across Indiana and the US.

Heart Disease: Age-Adjusted Mortality Trends
(Annual Average Deaths per 100,000 Population)

<table>
<thead>
<tr>
<th>Healthy People 2020 (Adjusted)</th>
<th>Boone County</th>
<th>Indiana</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-2002</td>
<td>152.7</td>
<td>221.7</td>
<td>259.6</td>
</tr>
<tr>
<td>2001-2003</td>
<td>152.7</td>
<td>220.3</td>
<td>250.9</td>
</tr>
<tr>
<td>2002-2004</td>
<td>152.7</td>
<td>220.1</td>
<td>240.9</td>
</tr>
<tr>
<td>2003-2005</td>
<td>152.7</td>
<td>214.2</td>
<td>232.2</td>
</tr>
<tr>
<td>2004-2006</td>
<td>152.7</td>
<td>230.6</td>
<td>222.5</td>
</tr>
<tr>
<td>2005-2007</td>
<td>152.7</td>
<td>235.4</td>
<td>234.2</td>
</tr>
<tr>
<td>2006-2008</td>
<td>152.7</td>
<td>214.1</td>
<td>206.2</td>
</tr>
<tr>
<td>2007-2009</td>
<td>152.7</td>
<td>179.5</td>
<td>198.8</td>
</tr>
</tbody>
</table>

Sources: ● CDC WONDER Online Query System. Centers for Disease Control and Prevention, Epidemiology Program Office, Division of Public Health Surveillance and Informatics. Data extracted October 2012.

Notes: ● Deaths are coded using the Tenth Revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10).
● Rates are per 100,000 population, age-adjusted to the 2000 U.S. Standard Population.
● Local, state and national data are simple three-year averages.
● The Healthy People 2020 Heart Disease target is adjusted to account for all diseases of the heart.
Between 2007 and 2009, there was an annual average age-adjusted stroke mortality rate of 37.4 deaths per 100,000 population in Boone County.

- More favorable than the Indiana rate.
- More favorable than the national rate.
- Fails to satisfy the Healthy People 2020 target of 33.8 or lower.

The stroke rate has trended downward over the past decade, in keeping with the trends reported across Indiana and the US overall.
Prevalence of Heart Disease

A total of 6.5% of surveyed adults report that they suffer from or have been diagnosed with heart disease, such as coronary heart disease, angina or heart attack.

- Similar to the national prevalence.

**Prevalence of Heart Disease**

Adults more likely to have been diagnosed with chronic heart disease include:

- Men.
- Seniors (age 65+).
- Low income respondents.

**Prevalence of Heart Disease**

(Boone County, 2012)
A total of 1.8% of surveyed adults report that they suffer from or have been diagnosed with cerebrovascular disease (a stroke).

- More favorable than statewide findings.
- Similar to national findings.

Prevalence of Stroke

Adults more likely to have been diagnosed with stroke include:

- Seniors (age 65+).
- Whites.

Sources:● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 36]
● 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
● Asked of all respondents.

Prevalence of Stroke
(Boone County, 2012)

Sources:● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 36]
Notes:
● Asked of all respondents.

- Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., "White" reflects non-Hispanic White respondents).
- Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. "Low Income" includes households with incomes up to 200% of the federal poverty level. "Mid/High Income" includes households with incomes at 200% or more of the federal poverty level.
Cardiovascular Risk Factors

Hypertension (High Blood Pressure)

Controlling risk factors for heart disease and stroke remains a challenge. High blood pressure and cholesterol are still major contributors to the national epidemic of cardiovascular disease. High blood pressure affects approximately 1 in 3 adults in the United States, and more than half of Americans with high blood pressure do not have it under control. High sodium intake is a known risk factor for high blood pressure and heart disease, yet about 90% of American adults exceed their recommendation for sodium intake.

– Healthy People 2020 (www.healthypeople.gov)

High Blood Pressure Testing

**A total of 97.2% of Boone County adults have had their blood pressure tested within the past two years.**

- More favorable than national findings.
- Satisfies the Healthy People 2020 target (94.9% or higher).

Have Had Blood Pressure Checked in the Past Two Years

<table>
<thead>
<tr>
<th>Healthy People 2020 Target = 94.9% or Higher</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
</tr>
<tr>
<td>80%</td>
</tr>
<tr>
<td>60%</td>
</tr>
<tr>
<td>40%</td>
</tr>
<tr>
<td>20%</td>
</tr>
<tr>
<td>0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Boone County</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>97.2%</td>
<td>94.7%</td>
</tr>
</tbody>
</table>

Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. (Item 54)
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Asked of all respondents.

Prevalence of Hypertension

**A total of 32.8% of adults have been told at some point that their blood pressure was high.**

- Identical to the Indiana prevalence.
- Similar to the national prevalence.
- Fails to satisfy the Healthy People 2020 target (26.9% or lower).

Among hypertensive adults, 76.6% have been diagnosed with high blood pressure more than once.
Prevalence of High Blood Pressure

Hypertension diagnoses are higher among:

- Adults age 40 and older, and especially those age 65+.
- Low income residents.

Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 149]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Asked of all respondents.
- Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., “White” reflects non-Hispanic White respondents).
- Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. “Low Income” includes households with incomes up to 200% of the federal poverty level. “Mid/High Income” includes households with incomes at 200% or more of the federal poverty level.
Among respondents who have been told that their blood pressure was high, 96.2% report that they are currently taking actions to control their condition.

- Better than national findings.

**Taking Action to Control Hypertension**
(Among Adults With High Blood Pressure)

<table>
<thead>
<tr>
<th>Boone County</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>96.2%</td>
<td>89.1%</td>
</tr>
</tbody>
</table>

**High Blood Cholesterol**

**Blood Cholesterol Testing**

A total of 92.0% of Boone County adults have had their blood cholesterol checked within the past five years.

- More favorable than Indiana findings.
- Similar to the national findings.
- Satisfies the Healthy People 2020 target (82.1% or higher).

**Have Had Blood Cholesterol Levels Checked in the Past Five Years**

<table>
<thead>
<tr>
<th>Boone County</th>
<th>Indiana</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>92.0%</td>
<td>72.8%</td>
<td>90.7%</td>
</tr>
</tbody>
</table>

**Notes:**
- Asked of all respondents.
The following demographic segment reports lower screening levels:

- Adults under age 40 (note the positive correlation with age).

### Have Had Blood Cholesterol Levels Checked in the Past Five Years
(Boone County, 2012)

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
<th>18 to 39</th>
<th>40 to 64</th>
<th>65+</th>
<th>Low Income</th>
<th>Mid/High Income</th>
<th>White</th>
<th>Other</th>
<th>Boone County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy People 2020 Target = 82.1% or Higher</td>
<td>92.8%</td>
<td>91.2%</td>
<td>84.7%</td>
<td>94.3%</td>
<td>98.2%</td>
<td>87.7%</td>
<td>93.1%</td>
<td>92.1%</td>
<td>89.7%</td>
<td>92.0%</td>
</tr>
</tbody>
</table>

**Sources:**
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 57]

**Notes:**
- Asked of all respondents.
- Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., “White” reflects non-Hispanic White respondents).
- Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. “Low Income” includes households with incomes up to 200% of the federal poverty level; “Mid/High Income” includes households with incomes at 200% or more of the federal poverty level.

### Self-Reported High Blood Cholesterol

- **A total of 32.9% of adults have been told by a health professional that their cholesterol level was high.**
  - More favorable than the Indiana findings.
  - Similar to the national prevalence.
  - More than twice the Healthy People 2020 target (13.5% or lower).

### Prevalence of High Blood Cholesterol

<table>
<thead>
<tr>
<th></th>
<th>Boone County</th>
<th>Indiana</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy People 2020 Target = 13.5% or Lower</td>
<td>32.9%</td>
<td>39.0%</td>
<td>31.4%</td>
</tr>
</tbody>
</table>

**Sources:**
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 150]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

**Notes:**
- Asked of all respondents.
- The Indiana data reflects those adults who have been tested for high cholesterol and who have been diagnosed with it.

Note that 12.2% of Boone County adults report not having high blood cholesterol, but: 1) they have never had their blood cholesterol levels tested; 2) they have not been screened in the
past 5 years; or 3) do not recall when their last screening was. For these individuals, current prevalence is unknown.

- Note the positive correlation between age and high blood cholesterol, with adults aged 40+ being statistically more likely to have a high blood cholesterol diagnosis.

- Note the higher prevalence among low income adults.

- Keep in mind that “unknowns” are relatively high in young adults, lower-income residents, and Non-Whites.

**Prevalence of High Blood Cholesterol**  
(Boone County, 2012)

- Healthy People 2020 Target = 13.5% or Lower

<table>
<thead>
<tr>
<th>Group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>33.7%</td>
</tr>
<tr>
<td>Women</td>
<td>32.1%</td>
</tr>
<tr>
<td>18 to 39</td>
<td>14.8%</td>
</tr>
<tr>
<td>40 to 64</td>
<td>39.7%</td>
</tr>
<tr>
<td>65+</td>
<td>50.9%</td>
</tr>
<tr>
<td>Low Income</td>
<td>42.3%</td>
</tr>
<tr>
<td>Mid/High Income</td>
<td>30.4%</td>
</tr>
<tr>
<td>White</td>
<td>32.6%</td>
</tr>
<tr>
<td>Other</td>
<td>37.0%</td>
</tr>
<tr>
<td>Boone County</td>
<td>32.9%</td>
</tr>
</tbody>
</table>

Sources:  
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 150]  

Notes:  
- Asked of all respondents.
- Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., “White” reflects non-Hispanic White respondents).
- Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. “Low Income” includes households with incomes up to 200% of the federal poverty level, “Mid/High Income” includes households with incomes at 200% or more of the federal poverty level.

Respondents reporting high cholesterol were further asked:

"Are you currently taking any action to help control your high cholesterol, such as taking medication, changing your diet, or exercising?"

**Taking Action to Control High Blood Cholesterol Levels**  
(Among Adults with High Cholesterol)

<table>
<thead>
<tr>
<th>Location</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boone County</td>
<td>88.0%</td>
</tr>
<tr>
<td>United States</td>
<td>89.1%</td>
</tr>
</tbody>
</table>

Sources:  
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 56]  
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:  
- Asked of all respondents who have been diagnosed with high blood cholesterol levels.
- In this case, the term “action” refers to medication, change in diet, and/or exercise.

Among adults who have been told that their blood cholesterol was high, 88.0% report that they are currently taking actions to control their cholesterol levels.

- Comparable to the percentage found nationwide.
Total Cardiovascular Risk

Individual level risk factors which put people at increased risk for cardiovascular diseases include:

- High Blood Pressure
- High Blood Cholesterol
- Tobacco Use
- Physical Inactivity
- Poor Nutrition
- Overweight/Obesity
- Diabetes

- National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention

Three health-related behaviors contribute markedly to cardiovascular disease:

**Poor nutrition.** People who are overweight have a higher risk for cardiovascular disease. Almost 60% of adults are overweight or obese. To maintain a proper body weight, experts recommend a well-balanced diet which is low in fat and high in fiber, accompanied by regular exercise.

**Lack of physical activity.** People who are not physically active have twice the risk for heart disease of those who are active. More than half of adults do not achieve recommended levels of physical activity.

**Tobacco use.** Smokers have twice the risk for heart attack of nonsmokers. Nearly one-fifth of all deaths from cardiovascular disease, or about 190,000 deaths a year nationally, are smoking-related. Every day, more than 3,000 young people become daily smokers in the US.

Modifying these behaviors is critical both for preventing and for controlling cardiovascular disease. Other steps that adults who have cardiovascular disease should take to reduce their risk of death and disability include adhering to treatment for high blood pressure and cholesterol, using aspirin as appropriate, and learning the symptoms of heart attack and stroke.

- National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention

**A total of 80.9% of Boone County adults report one or more cardiovascular risk factors, such as being overweight, smoking cigarettes, being physically inactive, or having high blood pressure or cholesterol.**

- More favorable than national findings.

**Present One or More Cardiovascular Risks or Behaviors**

<table>
<thead>
<tr>
<th>Boone County</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>80.9%</td>
<td>86.3%</td>
</tr>
</tbody>
</table>

**Sources:**
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 151]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

**Notes:**
- Asked of all respondents.
- Cardiovascular risk is defined as exhibiting one or more of the following: 1) no leisure-time physical activity; 2) regular/occasional cigarette smoking; 3) hypertension; 4) high blood cholesterol; and/or 5) being overweight/obese.
Adults more likely to exhibit cardiovascular risk factors include:

- Men.
- Adults age 40 and older, especially seniors.
- Low-income respondents.

**Present One or More Cardiovascular Risks or Behaviors**
(Boone County, 2012)

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
<th>18 to 39</th>
<th>40 to 64</th>
<th>65+</th>
<th>Low Income</th>
<th>Mid/High Income</th>
<th>White</th>
<th>Other</th>
<th>Boone County</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 to 39</td>
<td>88.5%</td>
<td>73.7%</td>
<td>68.3%</td>
<td>86.0%</td>
<td>93.0%</td>
<td>94.1%</td>
<td>78.9%</td>
<td>81.1%</td>
<td>76.4%</td>
<td>60.9%</td>
</tr>
<tr>
<td>40 to 64</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>65+</td>
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<tr>
<td>Low Income</td>
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<td>Mid/High Income</td>
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<td>White</td>
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<td></td>
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</tr>
</tbody>
</table>

Sources: 2012 PRC Community Health Survey, Professional Research Consultants, Inc. (Item 151)

Notes:
- Asked of all respondents.
- Cardiovascular risk is defined as exhibiting one or more of the following: 1) no leisure-time physical activity; 2) regular/occasional cigarette smoking; 3) hypertension; 4) high blood cholesterol; and/or 5) being overweight/obese.
- Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., “White” reflects non-Hispanic White respondents).
- Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. “Low Income” includes households with incomes up to 200% of the federal poverty level. "Mid/High Income" includes households with incomes at 200% or more of the federal poverty level.
Cancer

Continued advances in cancer research, detection, and treatment have resulted in a decline in both incidence and death rates for all cancers. Among people who develop cancer, more than half will be alive in five years. Yet, cancer remains a leading cause of death in the United States, second only to heart disease.

Many cancers are preventable by reducing risk factors such as: use of tobacco products; physical inactivity and poor nutrition; obesity; and ultraviolet light exposure. Other cancers can be prevented by getting vaccinated against human papillomavirus and hepatitis B virus. In the past decade, overweight and obesity have emerged as new risk factors for developing certain cancers, including colorectal, breast, uterine corpus (endometrial), and kidney cancers. The impact of the current weight trends on cancer incidence will not be fully known for several decades. Continued focus on preventing weight gain will lead to lower rates of cancer and many chronic diseases.

Screening is effective in identifying some types of cancers (see US Preventive Services Task Force [USPSTF] recommendations), including:

- Breast cancer (using mammography)
- Cervical cancer (using Pap tests)
- Colorectal cancer (using fecal occult blood testing, sigmoidoscopy, or colonoscopy)
- Healthy People 2020 (www.healthypeople.gov)

Age-Adjusted Cancer Deaths

All Cancer Deaths

Between 2007 and 2009, there was an annual average age-adjusted cancer mortality rate of 188.2 deaths per 100,000 population in Boone County.

- Similar to the statewide rate.
- Worse than the national rate.
- Fails to satisfy the Healthy People 2020 target of 160.6 or lower.

Cancer: Age-Adjusted Mortality
(2007-2009 Annual Average Deaths per 100,000 Population)

Healthy People 2020 Target = 160.6 or Lower

---

Sources:
- CDC WONDER Online Query System. Centers for Disease Control and Prevention, Epidemiology Program Office, Division of Public Health Surveillance and Informatics.
- Data extracted October 2012.

Notes:
- Deaths are coded using the Tenth Revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10).
- Rates are per 100,000 population, age-adjusted to the 2000 U.S. Standard Population.
- Local, state and national data are simple three-year averages.
Cancer mortality has overall decreased in the past decade in Boone County; the same trend is apparent both statewide and nationwide.

Cancer: Age-Adjusted Mortality Trends
(Annual Average Deaths per 100,000 Population)


Notes:
● Deaths are coded using the Tenth Revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10).
● Rates are per 100,000 population, age-adjusted to the 2000 U.S. Standard Population.
● State and national data are simple three-year averages.

Cancer Deaths by Site

Lung cancer is by far the leading cause of cancer deaths in Boone County.
Other leading sites include prostate cancer among men, breast cancer among women, and colorectal cancer (both genders).

As can be seen in the following chart (referencing 2007-2009 annual average age-adjusted death rates):

- The Boone County lung cancer death rate is similar to the state rate but less favorable than the national rate.
- The Boone County prostate cancer death rate is worse than both the state and national rates.
- The Boone County female breast cancer death rate is higher than both the Indiana and US rates.
- The Boone County colorectal cancer death rate is similar to both the state and national rates.

Note that each of the Boone County cancer death rates detailed in the following chart fails to satisfy the related Healthy People 2020 target.
Age-Adjusted Cancer Death Rates by Site
(2007-2009 Annual Average Deaths per 100,000 Population)

<table>
<thead>
<tr>
<th></th>
<th>Boone County</th>
<th>Indiana</th>
<th>US</th>
<th>HP2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung Cancer</td>
<td>63.4</td>
<td>60.9</td>
<td>49.5</td>
<td>45.5</td>
</tr>
<tr>
<td>Prostate Cancer</td>
<td>35.9</td>
<td>23.3</td>
<td>22.6</td>
<td>21.2</td>
</tr>
<tr>
<td>Female Breast Cancer</td>
<td>28.3</td>
<td>23.7</td>
<td>22.6</td>
<td>20.6</td>
</tr>
<tr>
<td>Colorectal Cancer</td>
<td>17.0</td>
<td>17.6</td>
<td>16.4</td>
<td>14.5</td>
</tr>
</tbody>
</table>


Prevalence of Cancer

Cancer Risk

Reducing the nation’s cancer burden requires reducing the prevalence of behavioral and environmental factors that increase cancer risk.

- All cancers caused by cigarette smoking could be prevented. At least one-third of cancer deaths that occur in the United States are due to cigarette smoking.
- According to the American Cancer Society, about one-third of cancer deaths that occur in the United States each year are due to nutrition and physical activity factors, including obesity.

– National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention

Cancer Screenings

The American Cancer Society recommends that both men and women get a cancer-related checkup during a regular doctor’s checkup. It should include examination for cancers of the thyroid, testicles, ovaries, lymph nodes, oral cavity, and skin, as well as health counseling about tobacco, sun exposure, diet and nutrition, risk factors, sexual practices, and environmental and occupational exposures.

Screening levels in the community were measured in the PRC Community Health Survey relative to four cancer sites: prostate cancer (prostate-specific antigen testing and digital rectal examination); female breast cancer (mammography); cervical cancer (Pap smear testing); and colorectal cancer (sigmoidoscopy and fecal occult blood testing).
Female Breast Cancer Screening

The US Preventive Services Task Force (USPSTF) recommends screening mammography, with or without clinical breast examination (CBE), every 1-2 years for women age 40 and older.

**Rationale:** The USPSTF found fair evidence that mammography screening every 12-33 months significantly reduces mortality from breast cancer. Evidence is strongest for women age 50-69, the age group generally included in screening trials. For women age 40-49, the evidence that screening mammography reduces mortality from breast cancer is weaker, and the absolute benefit of mammography is smaller, than it is for older women. Most, but not all, studies indicate a mortality benefit for women undergoing mammography at ages 40-49, but the delay in observed benefit in women younger than 50 makes it difficult to determine the incremental benefit of beginning screening at age 40 rather than at age 50.

The absolute benefit is smaller because the incidence of breast cancer is lower among women in their 40s than it is among older women. The USPSTF concluded that the evidence is also generalizable to women age 70 and older (who face a higher absolute risk for breast cancer) if their life expectancy is not compromised by comorbid disease. The absolute probability of benefits of regular mammography increase along a continuum with age, whereas the likelihood of harms from screening (false-positive results and unnecessary anxiety, biopsies, and cost) diminish from ages 40-70. The balance of benefits and potential harms, therefore, grows more favorable as women age. The precise age at which the potential benefits of mammography justify the possible harms is a subjective choice. The USPSTF did not find sufficient evidence to specify the optimal screening interval for women age 40-49.


Note that other organizations (e.g., American Cancer Society, American Academy of Family Physicians, American College of Physicians, National Cancer Institute) may have slightly different screening guidelines.

### Mammography

**Among women age 50-74, 78.2% had a mammogram within the past two years.**

- Similar to statewide findings (which represent all women 50+).
- Similar to national findings.
- Similar to the Healthy People 2020 target (81.1% or higher).

**Have Had a Mammogram in the Past Two Years**

(Among Women 50-74)

| Healthy People 2020 Target = 81.1% or Higher |
|-----------------|-----------------|-----------------|
| Women 40+ = 74.9% | 74.7% | 79.9% |

**Boone County** | **Indiana** | **United States**

<table>
<thead>
<tr>
<th>Boone County</th>
<th>Indiana</th>
<th>United States</th>
</tr>
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<tbody>
<tr>
<td>78.2%</td>
<td>74.7%</td>
<td>79.9%</td>
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</tbody>
</table>

**Notes:**
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Items 152-155]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.
- Reflects female respondents 50 to 74.
- *Note that state data reflects all women 50 and older (vs. women 50-74 in local, US and Healthy People data).
Cervical Cancer Screenings

The US Preventive Services Task Force (USPSTF) strongly recommends screening for cervical cancer in women who have been sexually active and have a cervix.

Rationale: The USPSTF found good evidence from multiple observational studies that screening with cervical cytology (Pap smears) reduces incidence of and mortality from cervical cancer. Direct evidence to determine the optimal starting and stopping age and interval for screening is limited. Indirect evidence suggests most of the benefit can be obtained by beginning screening within 3 years of onset of sexual activity or age 21 (whichever comes first) and screening at least every 3 years. The USPSTF concludes that the benefits of screening substantially outweigh potential harms.

The USPSTF recommends against routinely screening women older than age 65 for cervical cancer if they have had adequate recent screening with normal Pap smears and are not otherwise at high risk for cervical cancer.

Rationale: The USPSTF found limited evidence to determine the benefits of continued screening in women older than 65. The yield of screening is low in previously screened women older than 65 due to the declining incidence of high-grade cervical lesions after middle age. There is fair evidence that screening women older than 65 is associated with an increased risk for potential harms, including false-positive results and invasive procedures. The USPSTF concludes that the potential harms of screening are likely to exceed benefits among older women who have had normal results previously and who are not otherwise at high risk for cervical cancer.

The USPSTF recommends against routine Pap smear screening in women who have had a total hysterectomy for benign disease.

Rationale: The USPSTF found fair evidence that the yield of cytologic screening is very low in women after hysterectomy and poor evidence that screening to detect vaginal cancer improves health outcomes. The USPSTF concludes that potential harms of continued screening after hysterectomy are likely to exceed benefits.


Note that other organizations (e.g., American Cancer Society, American Academy of Family Physicians, American College of Physicians, National Cancer Institute) may have slightly different screening guidelines.

Pap Smear Testing

Among women age 21 to 65, 82.3% had a Pap smear within the past three years.

- Comparable to Indiana findings (which represents all women 18+).
- Comparable to national findings.
- Fails to satisfy the Healthy People 2020 target (93% or higher).

Have Had a Pap Smear in the Past Three Years
(Among Women 21-65)

Healthy People 2020 Target = 93.0% or Higher

Boone County Indiana* United States
82.3% 80.2% 84.7%

Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 154]
- Behavioral Risk Factor Surveillance System Data - Atlanta, Georgia - United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), 2010 Indiana data.
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Reflects female respondents age 21-65.
- *Note that the Indiana percentage represents all women 18 and older.
Colorectal Cancer Screenings

The USPSTF recommends screening for colorectal cancer using fecal occult blood testing, sigmoidoscopy, or colonoscopy in adults, beginning at age 50 years and continuing until age 75 years.

The evidence is convincing that screening for colorectal cancer with fecal occult blood testing, sigmoidoscopy, or colonoscopy detects early-stage cancer and adenomatous polyps. There is convincing evidence that screening with any of the three recommended tests (FOBT, sigmoidoscopy, colonoscopy) reduces colorectal cancer mortality in adults age 50 to 75 years. Follow-up of positive screening test results requires colonoscopy regardless of the screening test used.


Note that other organizations (e.g., American Cancer Society, American Academy of Family Physicians, American College of Physicians, National Cancer Institute) may have slightly different screening guidelines.

Colorectal Cancer Screening

Among adults age 50-75, 73.1% have had an appropriate colorectal cancer screening (fecal occult blood testing within the past year and/or sigmoidoscopy/colonoscopy [lower endoscopy] within the past 10 years).

- Comparable to the Healthy People 2020 target (70.5% or higher).

Have Had a Colorectal Cancer Screening

(Among Boone County Adults 50-75, 2011)

![Pie chart showing 73.1% have had a colorectal cancer screening and 26.9% have not.]

Healthy People 2020 Target = 70.5% or Higher

Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 158]

Notes:
- Asked of all respondents age 50 through 75.
- In this case, the term “colorectal screening” refers to adults age 50-75 receiving a FOBT (fecal occult blood test) in the past year and/or a lower endoscopy (sigmoidoscopy/colonoscopy) in the past 10 years.
Lower Endoscopy

Among adults age 50 and older, more than 7 in 10 (71.3%) have had a lower endoscopy (sigmoidoscopy or colonoscopy) at some point in their lives.

- More favorable than Indiana findings.
- Similar to national findings.

Have Ever Had a Lower Endoscopy Exam
(Among Adults 50+)

Blood Stool Testing

Among adults age 50 and older, 31.1% have had a blood stool test (aka “fecal occult blood test”) within the past two years.

- More favorable than the Indiana findings.
- Similar to national findings.
Respiratory Disease

Asthma and chronic obstructive pulmonary disease (COPD) are significant public health burdens. Specific methods of detection, intervention, and treatment exist that may reduce this burden and promote health.

Asthma is a chronic inflammatory disorder of the airways characterized by episodes of reversible breathing problems due to airway narrowing and obstruction. These episodes can range in severity from mild to life threatening. Symptoms of asthma include wheezing, coughing, chest tightness, and shortness of breath. Daily preventive treatment can prevent symptoms and attacks and enable individuals who have asthma to lead active lives.

COPD is a preventable and treatable disease characterized by airflow limitation that is not fully reversible. The airflow limitation is usually progressive and associated with an abnormal inflammatory response of the lung to noxious particles or gases (typically from exposure to cigarette smoke). Treatment can lessen symptoms and improve quality of life for those with COPD.

Several additional respiratory conditions and respiratory hazards, including infectious agents and occupational and environmental exposures, are covered in other areas of Healthy People 2020. Examples include tuberculosis, lung cancer, acquired immunodeficiency syndrome (AIDS), pneumonia, occupational lung disease, and smoking. Sleep Health is now a separate topic area of Healthy People 2020.

Currently in the United States, more than 23 million people have asthma. Approximately 13.6 million adults have been diagnosed with COPD, and an approximately equal number have not yet been diagnosed. The burden of respiratory diseases affects individuals and their families, schools, workplaces, neighborhoods, cities, and states. Because of the cost to the healthcare system, the burden of respiratory diseases also falls on society; it is paid for with higher health insurance rates, lost productivity, and tax dollars. Annual healthcare expenditures for asthma alone are estimated at $20.7 billion.

Asthma. The prevalence of asthma has increased since 1980. However, deaths from asthma have decreased since the mid-1990s. The causes of asthma are an active area of research and involve both genetic and environmental factors.

Risk factors for asthma currently being investigated include:

- Having a parent with asthma
- Sensitization to irritants and allergens
- Respiratory infections in childhood
- Overweight

Asthma affects people of every race, sex, and age. However, significant disparities in asthma morbidity and mortality exist, in particular for low-income and minority populations. Populations with higher rates of asthma include: children; women (among adults) and boys (among children); African Americans; Puerto Ricans; people living in the Northeast United States; people living below the Federal poverty level; and employees with certain exposures in the workplace.

While there is not a cure for asthma yet, there are diagnoses and treatment guidelines that are aimed at ensuring that all people with asthma live full and active lives.

[NOTE: COPD was changed to chronic lower respiratory disease (CLRD) with the introduction of ICD-10 codes. CLRD is used in vital statistics reporting, but COPD is still widely used and commonly found in surveillance reports.]
Between 2007 and 2009, there was an annual average age-adjusted CLRD mortality rate of 44.0 deaths per 100,000 population in Boone County.

- Lower than the statewide rate.
- Comparable to the national rate.

**CLRD: Age-Adjusted Mortality**
(2007-2009 Annual Average Deaths per 100,000 Population)

Despite fluctuations, CLRD mortality in Boone County is lower in recent reporting years than was found at the outset of the decade.

**CLRD: Age-Adjusted Mortality Trends**
(Annual Average Deaths per 100,000 Population)
Between 2007 and 2009, there was an annual average age-adjusted pneumonia influenza mortality rate of 12.9 deaths per 100,000 population in Boone County.

- Lower than found statewide.
- Lower than the national rate.

### Pneumonia/Influenza: Age-Adjusted Mortality
(2007-2009 Annual Average Deaths per 100,000 Population)

<table>
<thead>
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<th></th>
<th>Boone County</th>
<th>Indiana</th>
<th>United States</th>
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<tbody>
<tr>
<td>2007-2009</td>
<td>12.9</td>
<td>17.4</td>
<td>16.4</td>
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</table>

Boone County pneumonia/influenza mortality has decreased in the past decade. Across Indiana and the US rates have decreased as well.

### Pneumonia/Influenza: Age-Adjusted Mortality Trends
(Annual Average Deaths per 100,000 Population)

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<th></th>
<th>Boone County</th>
<th>Indiana</th>
<th>United States</th>
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<tr>
<td>2000-2002</td>
<td>20.3</td>
<td>20.9</td>
<td>22.7</td>
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<tr>
<td>2001-2003</td>
<td>19.0</td>
<td>21.0</td>
<td>22.2</td>
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<td>2002-2004</td>
<td>N/A</td>
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<td>2003-2005</td>
<td>14.0</td>
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<td>20.7</td>
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<tr>
<td>2004-2006</td>
<td>N/A</td>
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<td>19.3</td>
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<td>2005-2007</td>
<td>16.5</td>
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<td>18.1</td>
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<td>2006-2008</td>
<td>14.6</td>
<td>17.4</td>
<td>17.0</td>
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<td>2007-2009</td>
<td>12.9</td>
<td>17.4</td>
<td>16.4</td>
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</table>

Sources: CDC WONDER Online Query System. Centers for Disease Control and Prevention, Epidemiology Program Office, Division of Public Health Surveillance and Informatics. Data extracted October 2012.

Notes:
- Deaths are coded using the Tenth Revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10).
- Rates are per 100,000 population, age-adjusted to the 2000 U.S. Standard Population.
- Local, state and national data are simple three-year averages.
Prevalence of Respiratory Conditions

Chronic Lung Disease

A total of 6.6% of Boone County adults suffer from chronic lung disease.

- Similar to the national prevalence.

![Prevalence of Chronic Lung Disease](chart)

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 28]
● 2011 PRC National Health Survey, Professional Research Consultants, Inc.
Notes: ● Asked of all respondents.

Asthma

Adults

A total of 6.7% of Boone County adults currently suffer from asthma.

- Better than the statewide prevalence.
- Similar to the national prevalence.

Note that 69.2% of adults with asthma are currently being treated by a professional to manage their asthma.

![Currently Have Asthma](chart)

Sources: ● 2012 PRC Community Health Survey. Professional Research Consultants, Inc. [Items 39, 159]
● 2011 PRC National Health Survey, Professional Research Consultants, Inc.
Notes: ● Asked of all respondents.
The prevalence of asthma among Non-Whites in Boone County is statistically high.

**Currently Have Asthma**
(Boone County, 2012)

The vast majority of respondents with asthma did not visit a hospital emergency room or an urgent care center because of their asthma in the past year (96.0%).

**Number of Visits to an ER or UCC for Asthma-Related Care**
(Among Boone County Adults w/Asthma, 2012)
A total of 21.9% of respondents with asthma report at least one day in the past year on which they were unable to work or carry out their usual activities because of their asthma.

Number of Days in Past Year on Which Asthma Interfered With Work or Usual Activities
(Among Boone County Adults w/Asthma, 2012)

- Median: 0 Days
- None 78.1%
- One Day 9.6%
- Two Days 6.6%
- Three Days 1.1%
- Four/More Days 4.6%

Sources: • 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 41]
Notes: • Asked of all respondents with asthma.

Children

Among Boone County children under age 18, 6.8% currently have asthma.

- Identical to national findings.

Child Currently Has Asthma
(Among Parents of Children Age 0-17)

- 6.8% in Boone County
- 6.8% in United States

Sources: • 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 160]
Notes: • 2011 PRC National Health Survey, Professional Research Consultants, Inc. • Asked of all respondents with children 0 to 17 in the household.
Injury & Violence

Injuries and violence are widespread in society. Both unintentional injuries and those caused by acts of violence are among the top 15 killers for Americans of all ages. Many people accept them as "accidents," "acts of fate," or as "part of life." However, most events resulting in injury, disability, or death are predictable and preventable.

Injuries are the leading cause of death for Americans ages 1 to 44, and a leading cause of disability for all ages, regardless of sex, race/ethnicity, or socioeconomic status. More than 180,000 people die from injuries each year, and approximately 1 in 10 sustains a nonfatal injury serious enough to be treated in a hospital emergency department.

Beyond their immediate health consequences, injuries and violence have a significant impact on the well-being of Americans by contributing to:

- Premature death
- Disability
- Poor mental health
- High medical costs
- Lost productivity

The effects of injuries and violence extend beyond the injured person or victim of violence to family members, friends, coworkers, employers, and communities.

Numerous factors can affect the risk of unintentional injury and violence, including individual behaviors, physical environment, access to health services (ranging from pre-hospital and acute care to rehabilitation), and social environment (from parental monitoring and supervision of youth to peer group associations, neighborhoods, and communities).

Interventions addressing these social and physical factors have the potential to prevent unintentional injuries and violence. Efforts to prevent unintentional injury may focus on:

- Modifications of the environment
- Improvements in product safety
- Legislation and enforcement
- Education and behavior change
- Technology and engineering

Efforts to prevent violence may focus on:

- Changing social norms about the acceptability of violence
- Improving problem-solving skills (for example, parenting, conflict resolution, coping)
- Changing policies to address the social and economic conditions that often give rise to violence

Leading Causes of Accidental Death

Motor vehicle accidents, poisoning, and falls accounted for nearly two in three accidental deaths in Boone County between 2000-2009.

Healthy People 2020 (www.healthypeople.gov)
Leading Causes of Accidental Death
(Boone County, 2000-2009)

Motor Vehicle Accidents 40.9%
Poisoning/Noxious Substances 12.8%
Falls 11.0%
Other 35.4%

Sources: ● CDC WONDER Online Query System. Centers for Disease Control and Prevention, Epidemiology Program Office, Division of Public Health Surveillance and Informatics. Data extracted October 2012. Notes: ● Deaths are coded using the Tenth Revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10).

Unintentional Injury

Age-Adjusted Unintentional Injury Deaths

Between 2007 and 2009, there was an annual average age-adjusted unintentional injury mortality rate of 27.5 deaths per 100,000 population in Boone County.

- More favorable than the Indiana rate.
- More favorable than the national rate.
- Satisfies the Healthy People 2020 target (36.0 or lower).

Unintentional Injuries: Age-Adjusted Mortality
(2007-2009 Annual Average Deaths per 100,000 Population)

Healthy People 2020 Target = 36.0 or Lower

Boone County 27.5
Indiana 39.1
United States 38.7

Unintentional injury mortality in Boone County has fluctuated in the past decade, although in most recent reporting years there has been a downward trend. This is in contrast to the slowly increasing trends reported statewide and nationally.

Unintentional Injuries: Age-Adjusted Mortality Trends
(Annual Average Deaths per 100,000 Population)

Sources:
- CDC WONDER Online Query System. Centers for Disease Control and Prevention, Epidemiology Program Office, Division of Public Health Surveillance and Informatics. Data extracted October 2012.

Notes:
- Deaths are coded using the Tenth Revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10).
- Rates are per 100,000 population, age-adjusted to the 2000 U.S. Standard Population.
- Local, state and national data are simple three-year averages.

Motor Vehicle Safety

Age-Adjusted Motor-Vehicle Related Deaths

Between 2005 and 2009, there was an annual average age-adjusted motor vehicle crash mortality rate of 13.2 deaths per 100,000 population in Boone County.

- Identical to the state rate (2007-2009 data).
- Similar to the national rate (2007-2009 data).
- Fails to satisfy the Healthy People 2020 target (12.4 or lower).

Motor Vehicle Crashes: Age-Adjusted Mortality
(2007-2009 Annual Average Deaths per 100,000 Population)

Sources:
- CDC WONDER Online Query System. Centers for Disease Control and Prevention, Epidemiology Program Office, Division of Public Health Surveillance and Informatics. Data extracted October 2012.

Notes:
- Deaths are coded using the Tenth Revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10).
- Rates are per 100,000 population, age-adjusted to the 2000 U.S. Standard Population.
- Local, state and national data are simple three-year averages; (*Boone County rate represents 2005-2009 data).
The mortality rate in Boone County has not shown a clear trend over the past decade. Across Indiana and the US, mortality rates decreased overall.

Motor Vehicle Crashes: Age-Adjusted Mortality Trends
(Annual Average Deaths per 100,000 Population)

Seat Belt Usage - Children

A full 95.4% of Boone County parents report that their child (age 0 to 17) “always” wears a seat belt (or appropriate car seat for younger children) when riding in a vehicle.

- Statistically similar to what is found nationally.
Bicycle Safety

More than 3 in 10 (37.0%) Boone County children age 5 to 17 are reported to “always” wear a helmet when riding a bicycle.

- Similar to the national prevalence.

Child “Always” Wears a Helmet When Riding a Bicycle
(Among Parents of Children Age 5-17)

Intentional Injury (Violence)

Self-Reported Family Violence

A total of 8.5% of Boone County adults report that they have ever been threatened with physical violence by an intimate partner.

- More favorable than that reported nationally.

A total of 9.2% of respondents acknowledge that they have ever been hit, slapped, pushed, kicked, or otherwise hurt by an intimate partner.

- More favorable than national findings.

Have Ever Been Hit, Slapped, Pushed, Kicked, or Hurt in Any Way by an Intimate Partner
Reports of domestic violence are also notably higher among:

- **Women.**
- **Adults between the ages of 40 and 64.**
- **Those with lower incomes.**

### Have Ever Been Hit, Slapped, Pushed, Kicked, or Hurt in Any Way by an Intimate Partner

*(Boone County, 2012)*

<table>
<thead>
<tr>
<th>Category</th>
<th>Men</th>
<th>Women</th>
<th>18 to 39</th>
<th>40 to 64</th>
<th>65+</th>
<th>Low Income</th>
<th>Mid/High Income</th>
<th>White</th>
<th>Other</th>
<th>Boone County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>4.9%</td>
<td>13.3%</td>
<td>5.8%</td>
<td>13.6%</td>
<td>3.5%</td>
<td>24.3%</td>
<td>6.1%</td>
<td>8.9%</td>
<td>13.3%</td>
<td>9.2%</td>
</tr>
</tbody>
</table>

**Sources:**
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. (Item 60)

**Notes:**
- Asked of all respondents.
- Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., “White” reflects non-Hispanic White respondents).
- Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. “Low Income” includes households with incomes up to 200% of the federal poverty level; “Mid/High Income” includes households with incomes at 200% or more of the federal poverty level.
Diabetes mellitus occurs when the body cannot produce or respond appropriately to insulin. Insulin is a hormone that the body needs to absorb and use glucose (sugar) as fuel for the body’s cells. Without a properly functioning insulin signaling system, blood glucose levels become elevated and other metabolic abnormalities occur, leading to the development of serious, disabling complications. Many forms of diabetes exist; the three common types are Type 1, Type 2, and gestational diabetes.

Effective therapy can prevent or delay diabetic complications. However, almost 25% of Americans with diabetes mellitus are undiagnosed, and another 57 million Americans have blood glucose levels that greatly increase their risk of developing diabetes mellitus in the next several years. Few people receive effective preventative care, which makes diabetes mellitus an immense and complex public health challenge.

Diabetes mellitus affects an estimated 23.6 million people in the United States and is the 7th leading cause of death. Diabetes mellitus:

- Lowers life expectancy by up to 15 years.
- Increases the risk of heart disease by 2 to 4 times.
- Is the leading cause of kidney failure, lower limb amputations, and adult-onset blindness.

In addition to these human costs, the estimated total financial cost of diabetes mellitus in the US in 2007 was $174 billion, which includes the costs of medical care, disability, and premature death.

The rate of diabetes mellitus continues to increase both in the United States and throughout the world. Due to the steady rise in the number of persons with diabetes mellitus, and possibly earlier onset of type 2 diabetes mellitus, there is growing concern about the possibility that the increase in the number of persons with diabetes mellitus and the complexity of their care might overwhelm existing healthcare systems.

People from minority populations are more frequently affected by type 2 diabetes. Minority groups constitute 25% of all adult patients with diabetes in the US and represent the majority of children and adolescents with type 2 diabetes.

Lifestyle change has been proven effective in preventing or delaying the onset of type 2 diabetes in high-risk individuals.

- Healthy People 2020 (www.healthypeople.gov)

Age-Adjusted Diabetes Deaths

Between 2007 and 2009, there was an annual average age-adjusted diabetes mortality rate of 19.5 deaths per 100,000 population in Boone County.

- More favorable than that found statewide.
- More favorable than the national rate.
- Similar to the Healthy People 2020 target (19.6 or lower).
Diabetes: Age-Adjusted Mortality
(2007-2009 Annual Average Deaths per 100,000 Population)

Healthy People 2020 Target = 19.6 or Lower (Adjusted)

Diabetes mortality rates have decreased over the past decade.

Diabetes: Age-Adjusted Mortality Trends
(Annual Average Deaths per 100,000 Population)

Sources: ● CDC WONDER Online Query System. Centers for Disease Control and Prevention, Epidemiology Program Office, Division of Public Health Surveillance and Informatics. Data extracted October 2012.

Notes: ● Deaths are coded using the Tenth Revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10).
● Rates are per 100,000 population, age-adjusted to the 2000 U.S. Standard Population.
● Local, state and national data are simple three-year averages.
● The Healthy People 2020 target for Diabetes is adjusted to account for only diabetes mellitus coded deaths.

Healthy People 2020 (Adjusted)

- Healthy People 2020 Target = 19.6 or Lower (Adjusted)

Boone County
Indiana
United States
**Prevalence of Diabetes**

A total of 9.2% of Boone County adults report having been diagnosed with diabetes.

- Similar to the proportion statewide.
- Similar to the national proportion.

### Prevalence of Diabetes

![Bar chart showing prevalence of diabetes in Boone County, Indiana, and the United States.]

**Sources:**
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 42]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

**Notes:**
- Asked of all respondents.
- Local and national data exclude gestation diabetes (occurring only during pregnancy).

A higher prevalence of diabetes is reported among adults aged 40+ in Boone County, particularly seniors (note the positive correlation between diabetes and age).

The prevalence of diabetes is five times higher among low-income adults than among residents with higher incomes.

### Prevalence of Diabetes

(Boone County, 2012)

![Bar chart showing prevalence of diabetes in various groups.]

**Sources:**
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 42]

**Notes:**
- Asked of all respondents.
- Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., “White” reflects non-Hispanic White respondents).
- Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. “Low Income” includes households with incomes up to 200% of the federal poverty level. “Mid/High Income” includes households with incomes at 200% or more of the federal poverty level.
- Excludes gestation diabetes (occurring only during pregnancy).
Diabetes Management

Among adults with diabetes, most (90.6%) are currently taking insulin or some type of medication to manage their condition.

Taking Insulin or Other Medication for Diabetes
(Among Boone County Diabetics)

The majority of diabetics in the county check their blood for glucose or sugar either daily (21.3%) or multiple times a day (37.7%). Conversely, 13.1% never check their blood.

Frequency of Self-Checks for Glucose or Sugar
(Among Boone County Diabetics)

Sources: 2012 PRC Community Health Survey, Professional Research Consultants, Inc. (Item 46)
Notes: Asked of all diabetic respondents.

Professional Research Consultants, Inc.
Nearly half of diabetic adults (48.4%) check their feet for sores or irritations daily, while another 14.1% check their feet two or more times daily.

On the other hand, a total of 15.5% never check their feet for sores or irritations.

Frequency of Self-Checks for Foot Sores/Irritations
(Among Boone County Diabetics)

In the past year, 14.9% of diabetic adults saw a health professional about their diabetes on one occasion, while 23.3% had two diabetes-related visits, 14.6% had three visits, and 34.2% had four or more visits with a health professional for their diabetes.

- Note that 12.8% of diabetics did not see a professional about their diabetes in the past year.

Number of Diabetes-Related Visits to a Health Professional in the Past Year
(Among Boone County Diabetics)
**Diabetes Education**

Most diabetic adults have taken a course or class in how to manage diabetes (56.0%) and are aware of diabetes education classes or risk assessments offered in their community (76.7%).

---

**Diabetes Education**

(Among Boone County Diabetics, 2012)

---

**Have Taken a Course or Class on Diabetes Management**

- Yes: 56.0%
- No: 44.0%

---

**Aware of Local Diabetes Education/Risk Assessments**

- Yes: 76.7%
- No: 23.3%

---

**Pre-Diabetes/Borderline Diabetes**

A total of 6.1% of non-diabetics Boone County adults have been told by a doctor or other health professional that they have pre-diabetes or borderline diabetes.

---

**Have Been Diagnosed With Pre-Diabetes or Borderline Diabetes**

(Among Non-Diabetic Boone County Adults, 2012)

---

**Have Been Diagnosed With Pre-Diabetes or Borderline Diabetes**

- Yes: 6.1%
- No: 93.9%

---

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. (Items 49-50)

Notes: ● Asked of diabetic respondents.

---

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 43]

Notes: ● Asked of all respondents who are not diabetic.
Screening for Diabetes

The majority of non-diabetic adults (56.8%) has been tested for high blood sugar or diabetes within the past three years.

Have Been Tested for High Blood Sugar/Diabetes in the Past 3 Years
(Among Non-Diabetic Boone County Adults, 2012)

- Yes 56.8%
- No 43.2%

Sources: 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 44]
Notes: Asked of all respondents who are not diabetic.
Alzheimer’s Disease

Dementia is the loss of cognitive functioning—thinking, remembering, and reasoning—to such an extent that it interferes with a person’s daily life. Dementia is not a disease itself, but rather a set of symptoms. Memory loss is a common symptom of dementia, although memory loss by itself does not mean a person has dementia. Alzheimer’s disease is the most common cause of dementia, accounting for the majority of all diagnosed cases.

Alzheimer’s disease is the 6th leading cause of death among adults age 18 years and older. Estimates vary, but experts suggest that up to 5.1 million Americans age 65 years and older have Alzheimer’s disease. These numbers are predicted to more than double by 2050 unless more effective ways to treat and prevent Alzheimer’s disease are found.

– Healthy People 2020 (www.healthypeople.gov)

Age-Adjusted Alzheimer’s Disease Deaths

Between 2007 and 2009, there was an annual average age-adjusted Alzheimer’s disease mortality rate of 35.1 deaths per 100,000 population in Boone County.

- Less favorable than the statewide rate.
- Less favorable than the national rate.

Alzheimer’s Disease: Age-Adjusted Mortality
(2007-2009 Annual Average Deaths per 100,000 Population)

Sources: ● CDC WONDER Online Query System. Centers for Disease Control and Prevention, Epidemiology Program Office, Division of Public Health Surveillance and Informatics.
Data extracted October 2012.

Notes: ● Deaths are coded using the Tenth Revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10).
- Rates are per 100,000 population, age-adjusted to the 2000 U.S. Standard Population.
- Local, state and national data are simple three-year averages.
The county Alzheimer’s disease mortality rate declined sharply in the early to mid-2000s, but has since been slowly rising again. Across Indiana and the US, rates have increased steadily in recent years.

**Alzheimer’s Disease: Age-Adjusted Mortality Trends**

*(Annual Average Deaths per 100,000 Population)*

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Boone County</td>
<td>49.9</td>
<td>60.6</td>
<td>48.7</td>
<td>44.4</td>
<td>31.8</td>
<td>31.8</td>
<td>32.7</td>
<td>35.1</td>
</tr>
<tr>
<td>Indiana</td>
<td>21.4</td>
<td>22.6</td>
<td>23.8</td>
<td>24.1</td>
<td>24.6</td>
<td>24.7</td>
<td>25.9</td>
<td>26.4</td>
</tr>
<tr>
<td>United States</td>
<td>19.1</td>
<td>20.2</td>
<td>21.1</td>
<td>22.0</td>
<td>22.4</td>
<td>22.7</td>
<td>23.2</td>
<td>23.5</td>
</tr>
</tbody>
</table>

Sources: CDC WONDER Online Query System. Centers for Disease Control and Prevention, Epidemiology Program Office, Division of Public Health Surveillance and Informatics. Data extracted October 2012.

Notes: Deaths are coded using the Tenth Revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10). Rates are per 100,000 population, age-adjusted to the 2000 U.S. Standard Population.
Chronic kidney disease and end-stage renal disease are significant public health problems in the United States and a major source of suffering and poor quality of life for those afflicted. They are responsible for premature death and exact a high economic price from both the private and public sectors. Nearly 25% of the Medicare budget is used to treat people with chronic kidney disease and end-stage renal disease.

Genetic determinants have a large influence on the development and progression of chronic kidney disease. It is not possible to alter a person’s biology and genetic determinants; however, environmental influences and individual behaviors also have a significant influence on the development and progression of chronic kidney disease. As a result, some populations are disproportionately affected. Successful behavior modification is expected to have a positive influence on the disease.

Diabetes is the most common cause of kidney failure. The results of the Diabetes Prevention Program (DPP) funded by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) show that moderate exercise, a healthier diet, and weight reduction can prevent development of type 2 diabetes in persons at risk.

– Healthy People 2020 (www.healthypeople.gov)

### Age-Adjusted Kidney Disease Deaths

Between 2007 and 2009 there was an annual average age-adjusted kidney disease mortality rate of 14.7 deaths per 100,000 population in Boone County.

- Lower than the rate found statewide.
- Identical to the national rate.

### Kidney Disease: Age-Adjusted Mortality

(2007-2009 Annual Average Deaths per 100,000 Population)

<table>
<thead>
<tr>
<th></th>
<th>Boone County</th>
<th>Indiana</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>14.7</td>
<td>20.1</td>
<td>14.7</td>
</tr>
</tbody>
</table>

**Sources:**
- CDC WONDER Online Query System. Centers for Disease Control and Prevention, Epidemiology Program Office, Division of Public Health Surveillance and Informatics. Data extracted October 2012.
- Deaths are coded using the Tenth Revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10).
- Rates are per 100,000 population, age-adjusted to the 2000 U.S. Standard Population.
- Local, state and national data are simple three-year averages.
The Boone County age-adjusted kidney disease death rate has overall decreased in the past decade, although recent reporting years suggest it may be slowly rising again.

**Kidney Disease: Age-Adjusted Mortality Trends**
*(Annual Average Deaths per 100,000 Population)*

<table>
<thead>
<tr>
<th>Year</th>
<th>Boone County</th>
<th>Indiana</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-2002</td>
<td>16.7</td>
<td>19.0</td>
<td>13.9</td>
</tr>
<tr>
<td>2001-2003</td>
<td>20.6</td>
<td>19.5</td>
<td>14.2</td>
</tr>
<tr>
<td>2002-2004</td>
<td>19.1</td>
<td>19.6</td>
<td>14.3</td>
</tr>
<tr>
<td>2003-2005</td>
<td>15.8</td>
<td>19.6</td>
<td>14.3</td>
</tr>
<tr>
<td>2004-2006</td>
<td>11.9</td>
<td>20.0</td>
<td>14.3</td>
</tr>
<tr>
<td>2005-2007</td>
<td>N/A</td>
<td>20.0</td>
<td>14.4</td>
</tr>
<tr>
<td>2006-2008</td>
<td>14.1</td>
<td>20.1</td>
<td>14.6</td>
</tr>
<tr>
<td>2007-2009</td>
<td>14.7</td>
<td></td>
<td>14.7</td>
</tr>
</tbody>
</table>

Sources: CDC WONDER Online Query System. Centers for Disease Control and Prevention, Epidemiology Program Office, Division of Public Health Surveillance and Informatics. Data extracted October 2012.

Notes:
- Deaths are coded using the Tenth Revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10).
- Rates are per 100,000 population, age-adjusted to the 2000 U.S. Standard Population.
- State and national data are simple three-year averages.

**Prevalence of Kidney Disease**

*Among survey respondents, 2.7% currently suffer from kidney disease.*
There are more than 100 types of arthritis. Arthritis commonly occurs with other chronic conditions, such as diabetes, heart disease, and obesity. Interventions to treat the pain and reduce the functional limitations from arthritis are important, and may also enable people with these other chronic conditions to be more physically active. Arthritis affects 1 in 5 adults and continues to be the most common cause of disability. It costs more than $128 billion per year. All of the human and economic costs are projected to increase over time as the population ages. There are interventions that can reduce arthritis pain and functional limitations, but they remain underused. These include: increased physical activity; self-management education; and weight loss among overweight/obese adults.

Osteoporosis is a disease marked by reduced bone strength leading to an increased risk of fractures (broken bones). In the United States, an estimated 5.3 million people age 50 years and older have osteoporosis. Most of these people are women, but about 0.8 million are men. Just over 34 million more people, including 12 million men, have low bone mass, which puts them at increased risk for developing osteoporosis. Half of all women and as many as 1 in 4 men age 50 years and older will have an osteoporosis-related fracture in their lifetime.

Chronic back pain is common, costly, and potentially disabling. About 80% of Americans experience low back pain in their lifetime. It is estimated that each year:

- 15%-20% of the population develop protracted back pain.
- 2-8% have chronic back pain (pain that lasts more than 3 months).
- 3-4% of the population is temporarily disabled due to back pain.
- 1% of the working-age population is disabled completely and permanently as a result of low back pain.

Americans spend at least $50 billion each year on low back pain. Low back pain is the:

- 2nd leading cause of lost work time (after the common cold).
- 3rd most common reason to undergo a surgical procedure.
- 5th most frequent cause of hospitalization.

Arthritis, osteoporosis, and chronic back conditions all have major effects on quality of life, the ability to work, and basic activities of daily living.

– Healthy People 2020 (www.healthypeople.gov)

**Arthritis, Osteoporosis, & Chronic Pain**

**Prevalence of Arthritis/Rheumatism**

A total of 3 in 10 (30.3%) Boone County adults age 50 and older report suffering from arthritis or rheumatism.

- Similar to the national prevalence.

**RELATED ISSUE:** See also Activity Limitations in the General Health Status section of this report.
Prevalence of Arthritis/Rheumatism

(Among Adults 50+)

Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc.
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Reflects respondents 50 and older.

Prevalence of Osteoporosis

A total of 7.2% of survey respondents age 50 and older have osteoporosis.

- More favorable than is found nationwide.
- Similar to the Healthy People 2020 target of 5.3% or lower.

Prevalence of Osteoporosis

(Among Adults 50+)

Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc.
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Reflects respondents 50 and older.
A total of **16.7%** of survey respondents suffer from chronic back pain or sciatica.

- More favorable than that found nationwide.

### Prevalence of Sciatica/Chronic Back Pain

<table>
<thead>
<tr>
<th></th>
<th>Boone County</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>16.7%</strong></td>
<td></td>
<td><strong>21.5%</strong></td>
</tr>
</tbody>
</table>

**Sources:**
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc.
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

**Notes:**
- Asked of all respondents.
More than one-fourth (28.5%) of Boone County adults are aware of palliative care programs in their community.

Those less likely to express awareness of palliative care programs include:

- Men.
- Adults under age 40.
- Non-Whites.

### Aware of Palliative Care Programs in the Community
(Boone County, 2012)

<table>
<thead>
<tr>
<th>Group</th>
<th>Awareness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>24.6%</td>
</tr>
<tr>
<td>Women</td>
<td>32.2%</td>
</tr>
<tr>
<td>18 to 39</td>
<td>20.5%</td>
</tr>
<tr>
<td>40 to 64</td>
<td>31.2%</td>
</tr>
<tr>
<td>65+</td>
<td>34.1%</td>
</tr>
<tr>
<td>Low Income</td>
<td>23.6%</td>
</tr>
<tr>
<td>Mid/High Income</td>
<td>28.9%</td>
</tr>
<tr>
<td>White</td>
<td>29.5%</td>
</tr>
<tr>
<td>Other</td>
<td>12.5%</td>
</tr>
<tr>
<td>Boone County</td>
<td>28.5%</td>
</tr>
</tbody>
</table>

Sources: 2012 PRC Community Health Survey, Professional Research Consultants, Inc. (Item 54)
Notes:● Asked of all respondents.
● Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., “White” reflects non-Hispanic White respondents).
● Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. “Low Income” includes households with incomes up to 200% of the federal poverty level. “Mid/High Income” includes households with incomes at 200% or more of the federal poverty level.
● Palliative care is an area of healthcare focusing on relieving and preventing the suffering of patients with a terminal or chronic disease.
INFECTIOUS DISEASE
Vaccine-Preventable Conditions

The increase in life expectancy during the 20th century is largely due to improvements in child survival; this increase is associated with reductions in infectious disease mortality, due largely to immunization. However, infectious diseases remain a major cause of illness, disability, and death. Immunization recommendations in the United States currently target 17 vaccine-preventable diseases across the lifespan.

People in the US continue to get diseases that are vaccine-preventable. Viral hepatitis, influenza, and tuberculosis (TB) remain among the leading causes of illness and death across the nation and account for substantial spending on the related consequences of infection.

The infectious disease public health infrastructure, which carries out disease surveillance at the national, state, and local levels, is an essential tool in the fight against newly emerging and re-emerging infectious diseases. Other important defenses against infectious diseases include:

- Proper use of vaccines
- Antibiotics
- Screening and testing guidelines
- Scientific improvements in the diagnosis of infectious disease-related health concerns

Vaccines are among the most cost-effective clinical preventive services and are a core component of any preventive services package. Childhood immunization programs provide a very high return on investment. For example, for each birth cohort vaccinated with the routine immunization schedule, society:

- Saves 33,000 lives.
- Prevents 14 million cases of disease.
- Reduces direct healthcare costs by $9.9 billion.
- Saves $33.4 billion in indirect costs.

"Incidence rate" or "case rate" is the number of new cases of a disease occurring during a given period of time. It is usually expressed as cases per 100,000 population per year.

Acute & Chronic Hepatitis C

Boone County experienced an incidence rate of 86.8 cases of acute/chronic hepatitis C per 100,000 population between 2008 and 2010.

- Lower than the statewide rate.
- The Healthy People 2020 target is 0.2 or lower.
Incidence has increased in Boone County (and statewide) in recent years.

All Hepatitis C (Acute + Chronic) Incidence

(2008-2010 Annual Average Cases per 100,000 Population)

Sources: ● Indiana State Department of Health.

Notes: ● Rates are annual average new cases per 100,000 population.
● Includes all cases (acute and chronic) that are suspected, probable or confirmed.

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Healthy People 2020</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Boone County</td>
<td>62.5</td>
<td>75.5</td>
<td>86.8</td>
</tr>
<tr>
<td>Indiana</td>
<td>89.1</td>
<td>99.5</td>
<td>99.4</td>
</tr>
</tbody>
</table>

0 50 100 150
Influenza & Pneumonia Vaccination

Acute respiratory infections, including pneumonia and influenza, are the 8th leading cause of death in the nation, accounting for 56,000 deaths annually. Pneumonia mortality in children fell by 97% in the last century, but respiratory infectious diseases continue to be leading causes of pediatric hospitalization and outpatient visits in the US. On average, influenza leads to more than 200,000 hospitalizations and 36,000 deaths each year. The 2009 H1N1 influenza pandemic caused an estimated 270,000 hospitalizations and 12,270 deaths (1,270 of which were of people younger than age 18) between April 2009 and March 2010.

– Healthy People 2020 (www.healthypeople.gov)

Flu Vaccinations

Among Boone County seniors, 69.5% received a flu shot (or FluMist®) within the past year.

- More favorable than Indiana findings.
- Similar to national findings.
- Fails to satisfy the Healthy People 2020 target (90% or higher).

Have Had a Flu Vaccination in the Past Year
(Among Adults 65+)

---

FluMist® is a vaccine that is sprayed into the nose to help protect against influenza; it is an alternative to traditional flu shots.
High-Risk Adults

A total of 44.5% of high-risk adults age 18 to 64 received a flu vaccination (flu shot or FluMist®) within the past year.

- Similar to national findings.
- Fails to satisfy the Healthy People 2020 target (90% or higher).

Have Had a Flu Vaccination in the Past Year
(Among High-Risk Adults 18-64)

Pneumonia Vaccination

Among adults age 65 and older, 70.5% have received a pneumonia vaccination at some point in their lives.

- Identical to Indiana findings.
- Similar to national findings.
- Fails to satisfy the Healthy People 2020 target of 90% or higher.
A total of 34.9% of high-risk adults age 18 to 64 have ever received a pneumonia vaccination.

- Comparable to national findings.
- Fails to satisfy the Healthy People 2020 target (60% or higher).

**Have Ever Had a Pneumonia Vaccine**
(Among High-Risk Adults 18-64)

Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 170]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Asked of all high-risk respondents under 65.
- “High-Risk” includes adults age 18 to 64 who have been diagnosed with heart disease, diabetes or respiratory disease.
Sexually Transmitted Diseases

STDs refer to more than 25 infectious organisms that are transmitted primarily through sexual activity. Despite their burdens, costs, and complications, and the fact that they are largely preventable, STDs remain a significant public health problem in the United States. This problem is largely unrecognized by the public, policymakers, and health care professionals. STDs cause many harmful, often irreversible, and costly clinical complications, such as: reproductive health problems; fetal and perinatal health problems; cancer; and facilitation of the sexual transmission of HIV infection.

The Centers for Disease Control and Prevention (CDC) estimates that there are approximately 19 million new STD infections each year—almost half of them among young people ages 15 to 24. Because many cases of STDs go undiagnosed—and some common viral infections, such as human papillomavirus (HPV) and genital herpes, are not reported to CDC at all—the reported cases of chlamydia, gonorrhea, and syphilis represent only a fraction of the true burden of STDs in the US. Untreated STDs can lead to serious long-term health consequences, especially for adolescent girls and young women. CDC estimates that undiagnosed and untreated STDs cause at least 24,000 women in the United States each year to become infertile. Several factors contribute to the spread of STDs.

**Biological Factors.** STDs are acquired during unprotected sex with an infected partner. Biological factors that affect the spread of STDs include:

- **Asymptomatic nature of STDs.** The majority of STDs either do not produce any symptoms or signs, or they produce symptoms so mild that they are unnoticed; consequently, many infected persons do not know that they need medical care.
- **Gender disparities.** Women suffer more frequent and more serious STD complications than men do. Among the most serious STD complications are pelvic inflammatory disease, ectopic pregnancy (pregnancy outside of the uterus), infertility, and chronic pelvic pain.
- **Age disparities.** Compared to older adults, sexually active adolescents ages 15 to 19 and young adults ages 20 to 24 are at higher risk for getting STDs.
- **Lag time between infection and complications.** Often, a long interval, sometimes years, occurs between acquiring an STD and recognizing a clinically significant health problem.

**Social, Economic and Behavioral Factors.** The spread of STDs is directly affected by social, economic, and behavioral factors. Such factors may cause serious obstacles to STD prevention due to their influence on social and sexual networks, access to and provision of care, willingness to seek care, and social norms regarding sex and sexuality. Among certain vulnerable populations, historical experience with segregation and discrimination exacerbates the influence of these factors. Social, economic, and behavioral factors that affect the spread of STDs include:

- **Racial and ethnic disparities.** Certain racial and ethnic groups (mainly African American, Hispanic, and American Indian/Alaska Native populations) have high rates of STDs, compared with rates for whites.
- **Poverty and marginalization.** STDs disproportionately affect disenfranchised people and people in social networks where high-risk sexual behavior is common, and either access to care or health-seeking behavior is compromised.
- **Access to health care.** Access to high-quality health care is essential for early detection, treatment, and behavior-change counseling for STDs. Groups with the highest rates of STDs are often the same groups for whom access to or use of health services is most limited.
- **Substance abuse.** Many studies document the association of substance abuse with STDs. The introduction of new illicit substances into communities often can alter sexual behavior drastically in high-risk sexual networks, leading to the epidemic spread of STDs.
- **Sexuality and secrecy.** Perhaps the most important social factors contributing to the spread of STDs in the United States are the stigma associated with STDs and the general discomfort of discussing intimate aspects of life, especially those related to sex. These social factors separate the United States from industrialized countries with low rates of STDs.
- **Sexual networks.** Sexual networks refer to groups of people who can be considered “linked” by sequential or concurrent sexual partners. A person may have only 1 sex partner, but if that partner is a member of a risky sexual network, then the person is at higher risk for STDs than a similar individual from a nonrisky network.

– Healthy People 2020 (www.healthypeople.gov)
Gonorrhea

Between 2006 and 2010, the annual average gonorrhea incidence rate was 38.4 cases per 100,000 population in Boone County.

- Notably lower than the Indiana incidence rate.
- Notably lower than the national incidence rate.

The Boone County gonorrhea rate increased in recent years, while state and US rates were stable between the two reporting periods.

Sources: Indiana State Department of Health, Centers for Disease Control and Prevention, National Center for Health Statistics
Notes: Rates are annual average new cases per 100,000 population.
Between 2006 and 2008, the county reported no primary/secondary syphilis cases.

- Much lower than the Indiana incidence rate.
- Much lower than the national incidence rate.

Further, no cases of syphilis were reported in Boone County for the 2005-2007 reporting period.
Chlamydia

Between 2006 and 2008, the annual average chlamydia incidence rate was 189.4 cases per 100,000 population in Boone County.

- More favorable than the Indiana incidence rate.
- More favorable than the national incidence rate.

Chlamydia Incidence
(2006-2008 Annual Average Cases per 100,000 Population)

Sources: ● Indiana State Department of Health
● Centers for Disease Control and Prevention, National Center for Health Statistics
Notes: ● Rates are annual average new cases per 100,000 population

Chlamydia incidence increased between the 2005-2007 and 2006-2008 reporting periods in Boone County, as did the state and national incidence rates (although less sharply).

Chlamydia Incidence
(Annual Average Cases per 100,000 Population)

Sources: ● Indiana State Department of Health
● Centers for Disease Control and Prevention, National Center for Health Statistics
Notes: ● Rates are annual average new cases per 100,000 population
Safe Sexual Practices

Sexual Partners

Among unmarried Boone County adults under 65, the vast majority cites having one (50.4%) or no (39.6%) sexual partners in the past 12 months.

### Number of Sexual Partners in Past 12 Months

(Among Unmarried Adults 18-64; Boone County, 2012)

- None 39.6%
- One 50.4%
- Two 5.9%
- Three/More 4.2%

**Sources:**
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc.
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

**Notes:**
- Asked of all unmarried respondents under the age of 65.

However, 4.2% report three or more sexual partners in the past year.

- Comparable to the percentage reported nationally.

### Had Three or More Sexual Partners in the Past Year

(Among Unmarried Adults 18-64)

- Boone County: 4.2%
- United States: 7.1%

**Sources:**
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc.
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

**Notes:**
- Asked of all unmarried respondents under the age of 65.
Among Boone County adults who are under age 65 and unmarried, 33.8% report that a condom was used during their last sexual intercourse.

- Nearly twice the national figure.

**Condom Was Used During Last Sexual Intercourse**

(Among Unmarried Adults 18-64)

---

### Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc.
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

### Notes:
- Asked of all unmarried respondents under the age of 65.

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**Related Focus Group Findings: Sexual Health**

Sexually transmitted infections and teen pregnancy arose during the panels, with emphasis on:

- Sexually transmitted infections (STIs)

Participants worry about the sexual health of many youth in the community because of the limited number of programs and activities for adolescents and the high number of latchkey kids. Focus group members believe that youth are more likely to participate in high-risk behaviors when unsupervised and bored. Attendees describe **sexually transmitted infections (STIs)** as widespread in the community; furthermore, respondents believe the community has a high teen pregnancy rate. The Health Department does offer educational materials and free testing, as a participant describes:

“Well at the Health Department we see those folks. It’s Thursday, so from 9:00 to 11:00 and 2:00 to 4:00 today walk-in free clinic. Again you can lead a horse to water, but you can’t make them drink. On the prevention side it’s tough. It’s difficult, but they can walk downtown to our office and seek treatment and condoms, and we have a transportation system here in Boone County.”

— Healthcare Provider
BIRTHS
Prenatal Care

Improving the well-being of mothers, infants, and children is an important public health goal for the US. Their well-being determines the health of the next generation and can help predict future public health challenges for families, communities, and the healthcare system. The risk of maternal and infant mortality and pregnancy-related complications can be reduced by increasing access to quality preconception (before pregnancy) and inter-conception (between pregnancies) care. Moreover, healthy birth outcomes and early identification and treatment of health conditions among infants can prevent death or disability and enable children to reach their full potential. Many factors can affect pregnancy and childbirth, including preconception health status, age, access to appropriate healthcare, and poverty.

Infant and child health are similarly influenced by socio-demographic factors, such as family income, but are also linked to the physical and mental health of parents and caregivers. There are racial and ethnic disparities in mortality and morbidity for mothers and children, particularly for African Americans. These differences are likely the result of many factors, including social determinants (such as racial and ethnic disparities in infant mortality; family income; educational attainment among household members; and health insurance coverage) and physical determinants (i.e., the health, nutrition, and behaviors of the mother during pregnancy and early childhood).

- Healthy People 2020 (www.healthypeople.gov)

Between 2007 and 2009, 20.6% of all Boone County births did not receive prenatal care in the first trimester of pregnancy.

- More favorable than the Indiana proportion.
- Satisfies the Healthy People 2020 target (22.1% or lower).

Lack of Prenatal Care in the First Trimester
(Percentage of Live Births, 2007-2009)

Healthy People 2020 Target = 22.1% or Lower

Sources:
- Indiana State Department of Health

Note:
- Numbers are a percentage of all live births within each population.

Early and continuous prenatal care is the best assurance of infant health.
Lack of prenatal care has increased in Boone County in recent years, echoing the trend reported statewide.

**Lack of Prenatal Care in the First Trimester**
(Percentage of Live Births)

<table>
<thead>
<tr>
<th>Year</th>
<th>Healthy People 2020</th>
<th>Boone County</th>
<th>Indiana</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-2002</td>
<td>22.1%</td>
<td>12.9%</td>
<td>20.0%</td>
</tr>
<tr>
<td>2001-2003</td>
<td>22.1%</td>
<td>12.3%</td>
<td>19.9%</td>
</tr>
<tr>
<td>2002-2004</td>
<td>22.1%</td>
<td>12.1%</td>
<td>20.4%</td>
</tr>
<tr>
<td>2003-2005</td>
<td>22.1%</td>
<td>12.1%</td>
<td>21.4%</td>
</tr>
<tr>
<td>2004-2006</td>
<td>22.1%</td>
<td>12.1%</td>
<td>25.3%</td>
</tr>
<tr>
<td>2005-2007</td>
<td>22.1%</td>
<td>14.6%</td>
<td>29.4%</td>
</tr>
<tr>
<td>2006-2008</td>
<td>22.1%</td>
<td>18.1%</td>
<td>33.1%</td>
</tr>
<tr>
<td>2007-2009</td>
<td>22.1%</td>
<td>20.6%</td>
<td>29.4%</td>
</tr>
</tbody>
</table>

Sources:
- Indiana State Department of Health

Note:
- Numbers are a percentage of all live births within each population.
Birth Outcomes & Risks

Low-Weight Births

A total of 6.9% of 2007-2009 Boone County births were low-weight.

- Better than the Indiana proportion.
- Better than the national proportion.
- Satisfies the Healthy People 2020 target (7.8% or lower).

The proportion of low-weight births in Boone County has not shown a clear trend over the past decade.

---

Low birthweight babies, those who weigh less than 2,500 grams (5 pounds, 8 ounces) at birth, are much more prone to illness and neonatal death than are babies of normal birthweight.

Largely a result of receiving poor or inadequate prenatal care, many low-weight births and the consequent health problems are preventable.

---

Low birthweight babies, those who weigh less than 2,500 grams (5 pounds, 8 ounces) at birth, are much more prone to illness and neonatal death than are babies of normal birthweight.

Largely a result of receiving poor or inadequate prenatal care, many low-weight births and the consequent health problems are preventable.
Infant Mortality

Between 2007 and 2009, there was an annual average of 6.2 infant deaths per 1,000 live births.

- More favorable than the Indiana rate.
- Comparable to the national rate.
- Comparable to the Healthy People 2020 target of 6.0 per 1,000 live births.

**Infant Mortality Rate**

(2007–2009 Annual Average Infant Deaths per 1,000 Live Births)

Source: CDC WONDER Online Query System. Centers for Disease Control and Prevention, Epidemiology Program Office, Division of Public Health Surveillance and Informatics. Data extracted October 2012.

Notes: Rates are three-year averages of deaths of children under 1 year old per 1,000 live births; (*Boone County rate reflects 2005–2009 data).
Family Planning

Family planning is one of the 10 great public health achievements of the 20th century. The availability of family planning services allows individuals to achieve desired birth spacing and family size and contributes to improved health outcomes for infants, children, and women. Family planning services include contraceptive and broader reproductive health services (patient education and counseling), breast and pelvic examinations, breast and cervical cancer screening, sexually transmitted infection (STI) and HIV prevention education/counseling/testing/referral, and pregnancy diagnosis and counseling. For many women, a family planning clinic is their entry point into the healthcare system and is considered to be their usual source of care. This is especially true for women with incomes below the poverty level, women who are uninsured, Hispanic women, and Black women.

Unintended pregnancies (those reported by women as being mistimed or unwanted) are associated with many negative health and economic outcomes. In 2001, almost one-half of all pregnancies in the US were unintended. For women, negative outcomes associated with unintended pregnancy include:

- Delays in initiating prenatal care
- Reduced likelihood of breastfeeding
- Poor maternal mental health
- Lower mother-child relationship quality
- Increased risk of physical violence during pregnancy

Children born as a result of an unintended pregnancy are more likely to experience poor mental and physical health during childhood and poor educational and behavioral outcomes.

- Healthy People 2020 (www.healthypeople.gov)

Births to Unwed Mothers

According to the CDC, an unintended pregnancy is a pregnancy that is either mistimed or unwanted at the time of conception. It is a core concept in understanding the fertility of populations and the unmet need for contraception. Unintended pregnancy is associated with an increased risk of morbidity for women, and with health behaviors during pregnancy that are associated with adverse effects. For example, women with an unintended pregnancy may delay prenatal care, which may affect the health of the infant. Women of all ages may have unintended pregnancies, but some groups, such as teens, are at a higher risk.

Because it is impossible to measure the true incidence of unintended pregnancy in the US, the following indicator looks at births occurring among unmarried mothers as a proxy measure for pregnancies that are not intended (knowing that this is not always the case).

A full 23.9% of 2007-2009 births were to unwed mothers.

- Lower than the percentage reported statewide.
- Lower than that found nationally.
The percentage of births to unwed mothers in Boone County increased over the past decade, echoing the state and national trends.
Births to Teen Mothers

The negative outcomes associated with unintended pregnancies are compounded for adolescents. Teen mothers:

- Are less likely to graduate from high school or attain a GED by the time they reach age 30.
- Earn an average of approximately $3,500 less per year, when compared with those who delay childbearing.
- Receive nearly twice as much Federal aid for nearly twice as long.

Similarly, early fatherhood is associated with lower educational attainment and lower income. Children of teen parents are more likely to have lower cognitive attainment and exhibit more behavior problems. Sons of teen mothers are more likely to be incarcerated, and daughters are more likely to become adolescent mothers.

- Healthy People 2020 (www.healthypeople.gov)

A total of 6.9% of 2007-2009 Boone County births were to teenage mothers (under the age of 20).

- Lower than the Indiana proportion.
- Lower than the national proportion.

Births to Teen Mothers (Under 20)
(Percentage of Live Births, 2007-2009)

<table>
<thead>
<tr>
<th></th>
<th>Boone County</th>
<th>Indiana</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>6.9%</td>
<td>11.1%</td>
<td>10.3%</td>
</tr>
</tbody>
</table>

Sources:
- Indiana State Department of Health
- Centers for Disease Control and Prevention, National Vital Statistics System

Note:
- Numbers are a percentage of all live births within each population.
This percentage decreased slightly in Boone County over the past decade; the same can be said both statewide and nationwide.

### Births to Teen Mothers (Under 20)
(Percentage of Live Births)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Boone County</td>
<td>8.1%</td>
<td>7.1%</td>
<td>7.5%</td>
<td>6.8%</td>
<td>6.7%</td>
<td>6.8%</td>
<td>7.2%</td>
<td>6.9%</td>
</tr>
<tr>
<td>Indiana</td>
<td>11.9%</td>
<td>11.4%</td>
<td>11.4%</td>
<td>11.3%</td>
<td>11.3%</td>
<td>11.3%</td>
<td>11.3%</td>
<td>11.3%</td>
</tr>
<tr>
<td>United States</td>
<td>11.3%</td>
<td>10.8%</td>
<td>10.4%</td>
<td>10.2%</td>
<td>10.3%</td>
<td>10.3%</td>
<td>10.4%</td>
<td>10.3%</td>
</tr>
</tbody>
</table>

Source: ● Indiana State Department of Health
● Centers for Disease Control and Prevention, National Vital Statistics System
Note: ● Numbers are a percentage of all live births within each population.
MODIFIABLE HEALTH RISKS
Actual Causes Of Death

A 1999 study (an update to a landmark 1993 study), estimated that as many as 40% of premature deaths in the United States are attributed to behavioral factors. This study found that behavior patterns represent the single-most prominent domain of influence over health prospects in the United States. The daily choices we make with respect to diet, physical activity, and sex; the substance abuse and addictions to which we fall prey; our approach to safety; and our coping strategies in confronting stress are all important determinants of health.

The most prominent contributors to mortality in the United States in 2000 were tobacco (an estimated 435,000 deaths), diet and activity patterns (400,000), alcohol (85,000), microbial agents (75,000), toxic agents (55,000), motor vehicles (43,000), firearms (29,000), sexual behavior (20,000), and illicit use of drugs (17,000). Socioeconomic status and access to medical care are also important contributors, but difficult to quantify independent of the other factors cited. Because the studies reviewed used different approaches to derive estimates, the stated numbers should be viewed as first approximations.

These analyses show that smoking remains the leading cause of mortality. However, poor diet and physical inactivity may soon overtake tobacco as the leading cause of death. These findings, along with escalating healthcare costs and aging population, argue persuasively that the need to establish a more preventive orientation in the US healthcare and public health systems has become more urgent.

-paying-

While causes of death are typically described as the diseases or injuries immediately precipitating the end of life, a few important studies have shown that the actual causes of premature death (reflecting underlying risk factors) are often preventable.

<table>
<thead>
<tr>
<th>Leading Causes of Death</th>
<th>Underlying Risk Factors</th>
<th>(Actual Causes of Death)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiovascular disease</td>
<td>Tobacco use</td>
<td>Obesity</td>
</tr>
<tr>
<td></td>
<td>Elevated serum cholesterol</td>
<td>Diabetes</td>
</tr>
<tr>
<td></td>
<td>High blood pressure</td>
<td>Sedentary lifestyle</td>
</tr>
<tr>
<td>Cancer</td>
<td>Tobacco use</td>
<td>Alcohol</td>
</tr>
<tr>
<td></td>
<td>Improper diet</td>
<td>Occupational/environmental exposures</td>
</tr>
<tr>
<td>Cerebrovascular disease</td>
<td>High blood pressure</td>
<td>Elevated serum cholesterol</td>
</tr>
<tr>
<td></td>
<td>Tobacco use</td>
<td></td>
</tr>
<tr>
<td>Accidental injuries</td>
<td>Safety belt noncompliance</td>
<td>Occupational hazards</td>
</tr>
<tr>
<td></td>
<td>Alcohol/substance abuse</td>
<td>Stress/fatigue</td>
</tr>
<tr>
<td></td>
<td>Reckless driving</td>
<td></td>
</tr>
<tr>
<td>Chronic lung disease</td>
<td>Tobacco use</td>
<td>Occupational/environmental exposures</td>
</tr>
</tbody>
</table>


Factors Contributing to Premature Deaths in the United States

[Diagram showing the contribution of various factors to premature deaths]

Nutrition

Strong science exists supporting the health benefits of eating a healthful diet and maintaining a healthy body weight. Efforts to change diet and weight should address individual behaviors, as well as the policies and environments that support these behaviors in settings such as schools, worksites, healthcare organizations, and communities.

The goal of promoting healthful diets and healthy weight encompasses increasing household food security and eliminating hunger.

Americans with a healthful diet:

- Consume a variety of nutrient-dense foods within and across the food groups, especially whole grains, fruits, vegetables, low-fat or fat-free milk or milk products, and lean meats and other protein sources.
- Limit the intake of saturated and trans fats, cholesterol, added sugars, sodium (salt), and alcohol.
- Limit caloric intake to meet caloric needs.

Diet and body weight are related to health status. Good nutrition is important to the growth and development of children. A healthful diet also helps Americans reduce their risks for many health conditions, including: overweight and obesity; malnutrition; iron-deficiency anemia; heart disease; high blood pressure; dyslipidemia (poor lipid profiles); type 2 diabetes; osteoporosis; oral disease; constipation; diverticular disease; and some cancers.

Diet reflects the variety of foods and beverages consumed over time and in settings such as worksites, schools, restaurants, and the home. Interventions to support a healthier diet can help ensure that:

- Individuals have the knowledge and skills to make healthier choices.
- Healthier options are available and affordable.

Social Determinants of Diet. Demographic characteristics of those with a more healthful diet vary with the nutrient or food studied. However, most Americans need to improve some aspect of their diet.

Social factors thought to influence diet include:

- Knowledge and attitudes
- Skills
- Social support
- Societal and cultural norms
- Food and agricultural policies
- Food assistance programs
- Economic price systems

Physical Determinants of Diet. Access to and availability of healthier foods can help people follow healthful diets. For example, better access to retail venues that sell healthier options may have a positive impact on a person’s diet; these venues may be less available in low-income or rural neighborhoods.

The places where people eat appear to influence their diet. For example, foods eaten away from home often have more calories and are of lower nutritional quality than foods prepared at home.

Marketing also influences people’s—particularly children’s—food choices.

– Healthy People 2020 (www.healthypeople.gov)
To measure fruit and vegetable consumption, survey respondents were asked multiple questions, specifically about the foods and drinks they consumed on the day prior to the interview.

Daily Recommendation of Fruits/Vegetables

A total of 45.8% of Boone County adults report eating five or more servings of fruits and/or vegetables per day.

- Similar to national findings.

Consume Five or More Servings of Fruits/Vegetables Per Day

Area men are less likely to get the recommended servings of daily fruits/vegetables.

Consume Five or More Servings of Fruits/Vegetables Per Day (Boone County, 2012)
Organic Food

A total of 4.3% of Boone County adults said they “always” purchase organic food when that option is available.

- Another 8.1% “frequently” and 43.4% “sometimes” choose organic food when given the option.
- However, 44.2% of Boone County respondents said they would “never” choose the organic option.

Frequency of Purchasing Organic Food When Available
(Boone County, 2012)

No demographic group is more or less likely to report “always” purchasing organic food when available.

“Always” Purchase Organic Food When Available
(Boone County, 2012)
The vast majority of Boone County adults (97.1%) said they have grocery stores or convenience stores in their communities that offer organic food options, while just 2.9% do not.

**Have Grocery Stores or Convenience Stores Offering Organic Food Options in the Community**

(Boone County, 2012)

- **Yes 97.1%**
- **No 2.9%**

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 103]

Notes: ● Asked of all respondents.

Low income adults are less likely to have organic food available locally.

**Do Not Have Organic Food Options Available Locally**

(Boone County, 2012)

- Men 3.1%
- Women 2.8%
- 18 to 39 2.6%
- 40 to 64 2.1%
- 65+ 5.6%
- Low Income 6.2%
- Mid/High Income 1.4%
- White 2.9%
- Other 2.9%
- Boone County 2.9%

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 103]

Notes: ● Asked of all respondents.
- Hispansics can be of any race. Other race categories are non-Hispanic categorizations (e.g., “White” reflects non-Hispanic White respondents).
- Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. “Low Income” includes households with incomes up to 200% of the federal poverty level. “Mid/High Income” includes households with incomes at 200% or more of the federal poverty level.
Access to Affordable Fresh Produce

Most Boone County adults said it is “not too difficult” (21.0%) or “not at all difficult” (73.0%) to get to a grocery store and buy fresh produce like fruits and vegetables at a price they can afford.

- Another 4.8% of respondents said it is “somewhat difficult.”
- The remaining 1.3% of Boone County respondents said it is “very difficult” to obtain affordable fresh produce.

Level of Difficulty Obtaining Affordable Fresh Produce Locally
(Boone County, 2012)

Demographic groups more likely to report difficulties in obtaining affordably priced fresh produce include:

- Women.
- Low-income adults.

“Very/Somewhat” Difficult to Obtain Affordable Fresh Produce
(Boone County, 2012)
A total of 83.3% of adults said they “never” have to choose between buying food and paying bills.

- Another 10.9% of respondents “sometimes” have to choose between food and bills.
- The remaining 5.8% of Boone County respondents “frequently” or “always” have to decide whether to buy food or pay bills.

### Have to Choose Between Food and Paying Household Bills
(Boone County, 2012)

![Pie chart showing percentages of respondents who have to choose between food and bills.]

- **Never 83.3%**
- **Always 2.4%**
- **Frequently 3.4%**
- **Sometimes 10.9%**

**Sources:**
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 105]

**Notes:**
- Asked of all respondents.

Young adults (age 18-39) and low income respondents are faced with the decision between food and bills more often than their demographic counterparts (note the 47.7% response among low income adults).

### “Always/Frequently/Sometimes” Have to Choose Between Food and Paying Household Bills
(Boone County, 2012)

![Bar chart showing percentages of respondents who have to choose between food and bills by age group and income level.]

- **Men**
  - 14.8%
  - 18.7%
  - 20.2%
  - 16.7%
  - 10.7%
  - 10.7%
  - 16.1%
  - 16.7%
  - 27.6%
  - 16.7%
- **Women**
  - 14.8%
  - 18.7%
  - 20.2%
  - 16.7%
  - 10.7%
  - 10.7%
  - 16.1%
  - 16.7%
  - 27.6%
  - 16.7%
- **18 to 39**
  - 14.8%
  - 18.7%
  - 20.2%
  - 16.7%
  - 10.7%
  - 10.7%
  - 16.1%
  - 16.7%
  - 27.6%
  - 16.7%
- **40 to 64**
  - 14.8%
  - 18.7%
  - 20.2%
  - 16.7%
  - 10.7%
  - 10.7%
  - 16.1%
  - 16.7%
  - 27.6%
  - 16.7%
- **65+**
  - 14.8%
  - 18.7%
  - 20.2%
  - 16.7%
  - 10.7%
  - 10.7%
  - 16.1%
  - 16.7%
  - 27.6%
  - 16.7%
- **Low Income**
  - 14.8%
  - 18.7%
  - 20.2%
  - 16.7%
  - 10.7%
  - 10.7%
  - 16.1%
  - 16.7%
  - 27.6%
  - 16.7%
- **Mid/High Income**
  - 14.8%
  - 18.7%
  - 20.2%
  - 16.7%
  - 10.7%
  - 10.7%
  - 16.1%
  - 16.7%
  - 27.6%
  - 16.7%
- **White**
  - 14.8%
  - 18.7%
  - 20.2%
  - 16.7%
  - 10.7%
  - 10.7%
  - 16.1%
  - 16.7%
  - 27.6%
  - 16.7%
- **Other**
  - 14.8%
  - 18.7%
  - 20.2%
  - 16.7%
  - 10.7%
  - 10.7%
  - 16.1%
  - 16.7%
  - 27.6%
  - 16.7%
- **Boone County**
  - 14.8%
  - 18.7%
  - 20.2%
  - 16.7%
  - 10.7%
  - 10.7%
  - 16.1%
  - 16.7%
  - 27.6%
  - 16.7%

**Sources:**
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 105]

**Notes:**
- Asked of all respondents.
- Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., “White” reflects non-Hispanic White respondents).
- Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. “Low Income” includes households with incomes up to 200% of the federal poverty level. “Mid/High Income” includes households with incomes at 200% or more of the federal poverty level.
Health Advice About Diet & Nutrition

A total of 42.2% of survey respondents acknowledge that a physician counseled them about diet and nutrition in the past year.

- Similar to national findings.

Note: Among obese respondents, 58.5% report receiving diet/nutrition advice.

Related Focus Group Findings: Nutrition

Many focus group participants discussed nutrition. The main findings include:

- Poor eating habits
- Fast food establishments
- Nutrition education
- Hunger
  - Local elementary schools
  - Boys and Girls Club
  - The Caring Center

Participants believe residents in the community have **poor eating habits** and obesity represents a major concern for attendees. Overweight and obese residents are more likely to suffer from chronic diseases and have additional health issues. Attendees believe that residents’ weight continues to increase, as a participant describes:

“The fact is everyone is getting heavier including Boone County and including Zionsville. Zionsville weighs more than it did when I started on average. I remember an endocrinologist was speaking the other day and he said, ‘When you’re on call if they call you up and say, ‘We’re admitting Mr. Smith, he weighs 220, his sugar is 500’, you’ve got to stop and go, ‘220, pounds or kilos?’ You would’ve not had to ask that in 1980. Today you better stop and go, ‘Is that pounds or kilos?’”— Healthcare Professional
Focus group members believe that several factors lead to the increase in prevalence of overweight and obese residents. Participants describe the community as a “fat city” because of the limited healthy food options. Local grocery stores do not offer organic food and the community does not have Farmer’s Markets. Additionally, today’s portion sizes are much larger. For other community members, unhealthy fast food establishments represent the convenient option for busy families and single parents working multiple jobs. An attendee explains:

“The plate is two inches bigger in diameter, and it’s filled. And you go out here, and we want to go to the fast-food – and I’m talking of a guy who’s big. And my problem is not how much I eat, but when I eat it, how fast I eat it, and eating on the fly. I haven’t learned to say no to enough places and people, so I keep running and running, and you run through the drive-through.”
— Advisory Committee Representative

In addition, eating out represents the easy choice, but can offer little in terms of nutrition.

“I also think it’s fast and easy to eat unhealthy food and then you go to fast food restaurants, but even worse than that are family restaurants, your Chili’s your Applebee’s, places like that that have deep fried food, they have high sodium food. It’s just hard to go to places and eat out and eat healthy.”— Healthcare Professional

Focus group attendees also agree that nutrition education does not occur regularly in the community and that many households lack knowledge about how to prepare nutritious meals. Group participants consider this education to be critical in order for parents to teach the next generation. Participants believe that home economics courses need to return to school so that young people can learn about healthy food and cooking skills.

“Years ago, there was home economics in the school systems. Every woman, every girl, took home economics; the boys took shop. In home economics, those girls learned how to cook, how to bake, how to plan meals, how to keep obesity down and eat the right foods at the right time of day, and that’s all gone from our school systems now. I nearly got thrown out of a public welfare meeting because I mentioned bringing that back.”— Advisory Committee Representative

Participants also worry about the level of hunger in the county. There is concern for all of the community, but specifically for children and adolescents. Participants note the importance of good nutrition for children to maintain positive development and growth. Several community organizations have initiatives aimed at decreasing the level of hunger, including local food banks, school-based programs, The Caring Center, St. Vincent de Paul, Shalom House, and Boys and Girls Clubs.

Local elementary schools offer low-income students free or reduced-cost breakfast and lunches, but some of these children may eat only one meal a day during the school week. In addition, some low-income neighborhood schools have food pantries in the buildings. Children can also qualify to receive a food backpack, providing families with food for the weekend. The Boys and Girls Clubs also run programs to curb malnutrition in youth, as a participant explains:

“During the summer months when the kids are out of school, we served free breakfast, lunch, and dinner at no cost, and they don’t have to be members of the club. They come off the street and
eat. It’s anybody that needs that. Typically it’s people that are in our building, but the doors aren’t shut to the outdoors either, and then after school we serve a hot dinner meal five days a week when they’re in school, so any school breaks or summer, it’s three meals a day and then any days when they’re in school, it’s a hot dinner meal. It’s a very healthy, nutritious meal. It’s guidelines from DOE or the food program services here in Indiana.” — Social Service Agency Representative

The Caring Center also offers programs to combat hunger in Boone County:

“The Caring Center is committed to help in this area (hunger). Currently we distribute over 70 tons of food per year, to address proper nutrition and respond to it in the appropriate way we would need to double that. We also have started a support group called Table Talk. This program is to help families manage their food dollars and to discuss their food situation, review budgeting techniques and goal setting. After 4 meetings they are invited to a cooking club which is a hands-on learning experience to cook from scratch.” — Social Service Agency Representative
Physical Activity

Regular physical activity can improve the health and quality of life of Americans of all ages, regardless of the presence of a chronic disease or disability. Among adults and older adults, physical activity can lower the risk of: early death; coronary heart disease; stroke; high blood pressure; type 2 diabetes; breast and colon cancer; falls; and depression. Among children and adolescents, physical activity can: improve bone health; improve cardiorespiratory and muscular fitness; decrease levels of body fat; and reduce symptoms of depression. For people who are inactive, even small increases in physical activity are associated with health benefits.

Personal, social, economic, and environmental factors all play a role in physical activity levels among youth, adults, and older adults. Understanding the barriers to and facilitators of physical activity is important to ensure the effectiveness of interventions and other actions to improve levels of physical activity.

Factors positively associated with adult physical activity include: postsecondary education; higher income; enjoyment of exercise; expectation of benefits; belief in ability to exercise (self-efficacy); history of activity in adulthood; social support from peers, family, or spouse; access to and satisfaction with facilities; enjoyable scenery; and safe neighborhoods.

Factors negatively associated with adult physical activity include: advancing age; low income; lack of time; low motivation; rural residency; perception of great effort needed for exercise; overweight or obesity; perception of poor health; and being disabled. Older adults may have additional factors that keep them from being physically active, including lack of social support, lack of transportation to facilities, fear of injury, and cost of programs.

Among children ages 4 to 12, the following factors have a positive association with physical activity:
- Gender (boys)
- Belief in ability to be active (self-efficacy)
- Parental support

Among adolescents ages 13 to 18, the following factors have a positive association with physical activity:
- Parental education
- Gender (boys)
- Personal goals
- Physical education/school sports
- Belief in ability to be active (self-efficacy)
- Support of friends and family

Environmental influences positively associated with physical activity among children and adolescents include:
- Presence of sidewalks
- Having a destination/walking to a particular place
- Access to public transportation
- Low traffic density
- Access to neighborhood or school play area and/or recreational equipment

People with disabilities may be less likely to participate in physical activity due to physical, emotional, and psychological barriers. Barriers may include the inaccessibility of facilities and the lack of staff trained in working with people with disabilities.

– Healthy People 2020 (www.healthypeople.gov)
Level of Activity at Work

A majority of employed respondents report low levels of physical activity at work.

- A total of 64.2% of employed respondents report that their job entails mostly sitting or standing, similar to the US figure.
- 22.4% report that their job entails mostly walking (almost identical to the US prevalence).
- 13.4% report that their work is physically demanding (similar to the percentage reported nationally).

### Primary Level of Physical Activity At Work
(Among Employed Respondents)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Boone County</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sitting/Standing</td>
<td>64.2%</td>
<td>63.2%</td>
</tr>
<tr>
<td>Mostly Walking</td>
<td>22.4%</td>
<td>22.2%</td>
</tr>
<tr>
<td>Physically Demanding</td>
<td>13.4%</td>
<td>14.6%</td>
</tr>
</tbody>
</table>

---

Leisure-Time Physical Activity

A total of 18.4% of county adults report no leisure-time physical activity last month.

- More favorable than statewide findings.
- More favorable than national findings.
- Satisfies the Healthy People 2020 target (32.6% or lower).

### No Leisure-Time Physical Activity in the Past Month

Healthy People 2020 Target = 32.6% or Lower

<table>
<thead>
<tr>
<th>Location</th>
<th>Healthy People 2020 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boone County</td>
<td>18.4%</td>
</tr>
<tr>
<td>Indiana</td>
<td>29.2%</td>
</tr>
<tr>
<td>United States</td>
<td>28.7%</td>
</tr>
</tbody>
</table>
Lack of leisure-time physical activity in the area is higher among:

- Seniors (65+).
- Lower-income residents.

**No Leisure-Time Physical Activity in the Past Month**
(Boone County, 2012)

<table>
<thead>
<tr>
<th>Activity Level</th>
<th>Men</th>
<th>Women</th>
<th>18 to 39</th>
<th>40 to 64</th>
<th>65+</th>
<th>Low Income</th>
<th>Mid/High Income</th>
<th>White</th>
<th>Other</th>
<th>Boone County</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>18.3%</td>
<td>18.4%</td>
<td>18.0%</td>
<td>15.1%</td>
<td>27.4%</td>
<td>31.4%</td>
<td>13.9%</td>
<td>18.3%</td>
<td>21.7%</td>
<td>18.4%</td>
</tr>
</tbody>
</table>

**Activity Levels**

Adults (age 18–64) should do 2 hours and 30 minutes a week of moderate-intensity, or 1 hour and 15 minutes (75 minutes) a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic physical activity. Aerobic activity should be performed in episodes of at least 10 minutes, preferably spread throughout the week.

Additional health benefits are provided by increasing to 5 hours (300 minutes) a week of moderate-intensity aerobic physical activity, or 2 hours and 30 minutes a week of vigorous-intensity physical activity, or an equivalent combination of both.

Older adults (age 65 and older) should follow the adult guidelines. If this is not possible due to limiting chronic conditions, older adults should be as physically active as their abilities allow. They should avoid inactivity. Older adults should do exercises that maintain or improve balance if they are at risk of falling.

For all individuals, some activity is better than none. Physical activity is safe for almost everyone, and the health benefits of physical activity far outweigh the risks.


**Recommended Levels of Physical Activity**

A total of 45.5% of Boone County adults participate in regular, sustained moderate or vigorous physical activity (meeting physical activity recommendations).

- Comparable to statewide findings.
- Comparable to national findings.
Meets Physical Activity Recommendations

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 178]
● 2011 PRC National Health Survey, Professional Research Consultants, Inc.
● Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC); 2009 Indiana data.

Notes: ● Asked of all respondents.
● In this case the term “meets physical activity recommendations” refers to participation in moderate physical activity (exercise that produces only light sweating or a slight to moderate increase in breathing or heart rate ) at least 5 times a week for 30 minutes at a time, and/or vigorous physical activity (activities that cause heavy sweating or large increases in breathing or heart rate) at least 3 times a week for 20 minutes at a time.

Those less likely to meet physical activity requirements include:
- Seniors (65+).
- Lower-income respondents.

Meets Physical Activity Recommendations
(Boone County, 2012)

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 178]

Notes: ● Asked of all respondents.
● Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., “White” reflects non-Hispanic White respondents).
● Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. “Low Income” includes households with incomes up to 200% of the federal poverty level; “Mid/High Income” includes households with incomes at 200% or more of the federal poverty level.
● In this case the term “meets physical activity recommendations” refers to participation in moderate physical activity (exercise that produces only light sweating or a slight to moderate increase in breathing or heart rate ) at least 5 times a week for 30 minutes at a time, and/or vigorous physical activity (activities that cause heavy sweating or large increases in breathing or heart rate) at least 3 times a week for 20 minutes at a time.

The individual indicators of moderate and vigorous physical activity are shown here.

Moderate & Vigorous Physical Activity

In the past month:
A total of 24.7% of adults participated in moderate physical activity (5 times a week, 30 minutes at a time).
- Similar to the national level.
A total of 34.3% participated in vigorous physical activity (3 times a week, 20 minutes at a time).

- More favorable than statewide figure (not shown).
- Almost identical to the nationwide figure.

**Moderate & Vigorous Physical Activity**  
(Boone County, 2012)

Moderate Physical Activity

- Yes: 23.9%
- No: 75.3%

Vigorous Physical Activity

- Yes: 34.3%
- No: 65.7%

Health Advice About Physical Activity & Exercise

A total of 46.3% of Boone County adults report that their physician has asked about or given advice to them about physical activity in the past year.

- Similar to the national average.

Note: 58.9% of obese Boone County respondents say that they have talked with their doctor about physical activity/exercise in the past year.

**Have Received Advice About Exercise in the Past Year From a Physician, Nurse, or Other Health Professional**  
(By Weight Classification)

Boone County:
- Healthy Weight: 37.8%
- Overwt/Not Obese: 44.6%
- Obese: 58.9%
- All Adults: 46.3%

US:
- All Adults: 47.8%

Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 180-181]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Asked of all respondents.
Children’s Screen Time

Television Watching & Other Screen Time

Among children aged 5 through 17, 6.6% are reported to watch three or more hours of television per day; 6.6% are reported to spend three or more hours on other types of screen time for entertainment (video games, Internet, etc.).

- The percentage of children watching 3+ hours of television daily is more favorable than is found nationally; the percentage of children spending 3+ hours daily on other types of screen time is comparable to the national percentage.

Children’s Screen Time
(Among Parents of Children Ages 5-17; Boone County, 2012)

Total Screen Time

When combined, 26.0% of county children aged 5 to 17 spend 3+ hours on screen time (whether television or computer, Internet, video games, etc.) per day.

- Much lower than the national finding.
- Extensive screen time is statistically high among teenagers.

Children With Three or More Hours per School Day of Total Screen Time [TV, Computer, Video Games, Etc. for Entertainment]
(Among Parents of Children 5-17)

Sources: 2012 PRC Community Health Survey, Professional Research Consultants, Inc.  [Items 145-146, 182-183]
Notes:
- Asked of all respondents with children 5-17 at home.
- For this issue, respondents with children who are not in school were asked about “weekdays,” while parents of children in school were asked about typical “school days.”
- “Three or more hours” includes reported screen time of 180 minutes or more per day.
Related Focus Group Findings: Physical Activity

Many focus group participants discussed physical activity in the community, including issues such as:

- Sedentary lifestyle
- Fear and safety factors
- Cost of organized athletics
- Children
- Television and video games

Focus group attendees believe many community members live a sedentary lifestyle, even though many opportunities to be active do exist in the community. The local YMCA provides physical activity education and the community has a trail system. Trader’s Point Christian Church provides an indoor playground for children and is open to the public. Participants note that many parts of the county have adequate parks and sidewalks, but residents do not utilize them. Attendees believe fear and safety factors may cause some residents to avoid participating, but also feel overall the built environment does not encourage physical activity. A participant describes:

“One of the things that I certainly have to deal with is the safety factor for biking. There’s not bike trails around here. Most of the sidewalks are not good to even run on. I mean they’re very Rocky. I’d just as soon run on the road, which isn’t the safest choice, or I go into the country so that I can get away from cars because of the safety factor. I mean in a previous county I would ride my bike everywhere with one of the trailers on the back with my kids in it. There’s no way I would do that anywhere.” — Healthcare Professional

Organized athletics also represent an option for exercise, but some participants view the cost as a burden to families:

“There are a lot of single parents and then the next step I have to look at is how are they going to afford a YMCA membership? How are these kids going to get the exercise especially over the summer where maybe the parents can’t afford a certain daycare? Maybe they rely on an older sibling to take care of them to where they’re being lazy throughout the day, or I’m thinking of single parents working several jobs.” — Healthcare Professional

Focus group members feel very strongly that inactivity has a very harmful effect on children. Physical activity education must occur both in school and at-home, and parents must know the importance of exercise and encourage their children to be active. Attendees agree that children will not participate in physical activity on their own and need pressure from their parents. A participant describes her own children:

“If I let them sit inside all day, they absolutely would. It’s me as the parent that says, ‘Turn it off and go outside.’ I think, like I said, we can sidewalk all we want, but it’s educating the parents. It’s what happens in the school when they’re away from us most of the time. I mean my kid gets PE every third day, so what are we teaching them at school about the importance of physical activity.” — Social Service Agency Representative
A child’s day no longer includes regular physical activity because of the new technology. Children and adolescents watch more television and play more video games than ever before. For some parents technology becomes the easy choice to occupy their children.

“I think in the society we live in today everything is technology and they’re at home with their game systems, and I think when you have parents that aren’t very involved and they’re not pushing those kids to get outside and have outdoor activity, I think that’s one variable. If a child has the option to choose do I get to stay in and play my Xbox or do I get to go out in the hot sun and run around and play with the neighbor kids.” — Social Service Agency Representative

Recreational Opportunities

A total of 35.6% of Boone County adults “strongly agree” or “agree” with the statement, “to meet the health and wellness needs of its residents, my community needs more indoor public physical activity spaces such as gyms, recreation centers, or indoor pools.”

- 26.7% feel neutral about the statement.
- 37.7% “disagree” or “strongly disagree” with the statement.

Level of Agreement With the Statement: “My Community Needs More Indoor Public Physical Activity Spaces Such as Gyms, Recreation Centers or Indoor Pools”

(Boone County, 2012)

Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 115]

Notes:
- Asked of all respondents.
Agreement with the statement, “to meet the health and wellness needs of its residents, my community needs more indoor public physical activity spaces such as gyms, recreation centers, or indoor pools” is similar among demographic groups.

**Agree That “My Community Needs More Indoor Physical Activity Spaces”**
(Boone County, 2012)

More than three-fourths of Boone County adults “strongly agree” (25.4%) or “agree” (50.8%) with the statement, “I believe my community provides the facilities and programs needed for children and youth to be physically active throughout the year.”

- 10.9% of respondents neither agree nor disagree with the statement.
- 13.0% “disagree” or “strongly disagree” with the statement.

**Level of Agreement With the Statement: “My Community Provides the Facilities and Programs Needed for Children and Youth to be Physically Active Year-Round”**
(Boone County, 2012)
Agreement with the statement is statistically low among those between ages 40 and 64.

**Agree That “My Community Provides Facilities and Programs for Youth to be Active Year-Round”**
(Boone County, 2012)

<table>
<thead>
<tr>
<th>Category</th>
<th>Men</th>
<th>Women</th>
<th>18 to 39</th>
<th>40 to 64</th>
<th>65+</th>
<th>Low Income</th>
<th>Mid/High Income</th>
<th>White</th>
<th>Other</th>
<th>HHs w/ Children</th>
<th>Boone County</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>78.8%</td>
<td>73.6%</td>
<td>81.6%</td>
<td>71.1%</td>
<td>81.2%</td>
<td>71.2%</td>
<td>77.9%</td>
<td>76.2%</td>
<td>78.6%</td>
<td>78.4%</td>
<td>76.2%</td>
</tr>
</tbody>
</table>

Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 116]

Notes:
- Asked of all respondents.
- Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., “White” reflects non-Hispanic White respondents).
- Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. “Low Income” includes households with incomes up to 200% of the federal poverty level. “Mid/High Income” includes households with incomes at 200% or more of the federal poverty level.
Weight Status

Because weight is influenced by energy (calories) consumed and expended, interventions to improve weight can support changes in diet or physical activity. They can help change individuals’ knowledge and skills, reduce exposure to foods low in nutritional value and high in calories, or increase opportunities for physical activity. Interventions can help prevent unhealthy weight gain or facilitate weight loss among obese people. They can be delivered in multiple settings, including healthcare settings, worksites, or schools.

The social and physical factors affecting diet and physical activity (see Physical Activity topic area) may also have an impact on weight. Obesity is a problem throughout the population. However, among adults, the prevalence is highest for middle-aged people and for non-Hispanic black and Mexican American women. Among children and adolescents, the prevalence of obesity is highest among older and Mexican American children and non-Hispanic black girls. The association of income with obesity varies by age, gender, and race/ethnicity.

- Healthy People 2020 (www.healthypeople.gov)

Body Mass Index (BMI), which describes relative weight for height, is significantly correlated with total body fat content. The BMI should be used to assess overweight and obesity and to monitor changes in body weight. In addition, measurements of body weight alone can be used to determine efficacy of weight loss therapy. BMI is calculated as weight (kg)/height squared (m²). To estimate BMI using pounds and inches, use: [(weight (pounds))/height (inches²)] x 703.

In this report, overweight is defined as a BMI of 25.0 to 29.9 kg/m² and obesity as a BMI ≥ 30 kg/m². The rationale behind these definitions is based on epidemiological data that show increases in mortality with BMIs above 25 kg/m². The increase in mortality, however, tends to be modest until a BMI of 30 kg/m² is reached. For persons with a BMI ≥ 30 kg/m², mortality rates from all causes, and especially from cardiovascular disease, are generally increased by 50 to 100 percent above that of persons with BMIs in the range of 20 to 25 kg/m².


<table>
<thead>
<tr>
<th>Classification of Overweight and Obesity by BMI</th>
<th>BMI (kg/m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underweight</td>
<td>&lt;18.5</td>
</tr>
<tr>
<td>Normal</td>
<td>18.5 – 24.9</td>
</tr>
<tr>
<td>Overweight</td>
<td>25.0 – 29.9</td>
</tr>
<tr>
<td>Obese</td>
<td>≥ 30.0</td>
</tr>
</tbody>
</table>


Adult Weight Status

Healthy Weight

Based on self-reported heights and weights, 36.4% of Boone County adults are at a healthy weight.

- Similar to national findings.
- Similar to the Healthy People 2020 target (33.9% or higher).
Healthy Weight
(Percent of Adults With a Body Mass Index Between 18.5 and 24.9)

Healthy People 2020 Target = 33.9% or Higher

Boone County United States

36.4% 31.7%

Sources:
● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 186]
● 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
● Based on reported heights and weights, asked of all respondents.
● The definition of healthy weight is having a body mass index (BMI), a ratio of weight to height (kilograms divided by meters squared), between 18.5 and 24.9.

Overweight Status

Just over 6 in 10 Boone County adults (61.9%) are overweight.

- More favorable than the Indiana prevalence.
- More favorable than the US overweight prevalence.

Prevalence of Total Overweight
(Percent of Overweight or/Obese Adults; Body Mass Index of 25.0 or Higher)

Boone County Indiana United States

61.9% 65.6% 66.9%

Sources:
● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 186]
● 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
● Based on reported heights and weights, asked of all respondents.
● The definition of overweight is having a body mass index (BMI), a ratio of weight to height (kilograms divided by meters squared), greater than or equal to 25.0, regardless of gender. The definition for obesity is a BMI greater than or equal to 30.0.

Here, “overweight” includes those respondents with a BMI value ≥25.
Further, 26.9% of Boone County adults are obese.

- More favorable than Indiana findings.
- Similar to the US findings.
- Satisfies the Healthy People 2020 target (30.6% or lower).

**Prevalence of Obesity**

(Percent of Obese Adults; Body Mass Index of 30.0 or Higher)

![Graph showing prevalence of obesity in Boone County, Indiana, and United States](image)

<table>
<thead>
<tr>
<th></th>
<th>Boone County</th>
<th>Indiana</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy People 2020 Target = 30.6% or Lower</td>
<td>26.9%</td>
<td>30.8%</td>
<td>28.5%</td>
</tr>
</tbody>
</table>

Sources:  
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc.  
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:  
- Based on reported heights and weights, asked of all respondents.
- The definition of obesity is having a body mass index (BMI), a ratio of weight to height (kilograms divided by meters squared), greater than or equal to 30.0, regardless of gender.

Obesity is notably more prevalent among:

- Men.
- Respondents age 40+, particularly seniors.
- Whites.

**Prevalence of Obesity**

(Percent of Obese Adults; Body Mass Index of 30.0 or Higher; Boone County, 2012)

![Graph showing prevalence of obesity in Boone County by gender, age group, and income level](image)

<table>
<thead>
<tr>
<th></th>
<th>18 to 39</th>
<th>40 to 64</th>
<th>65+</th>
<th>Low Income</th>
<th>Mid/High Income</th>
<th>White</th>
<th>Other</th>
<th>Boone County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy People 2020 Target = 30.6% or Lower</td>
<td>30.8%</td>
<td>22.9%</td>
<td>18.9%</td>
<td>30.3%</td>
<td>33.5%</td>
<td>29.1%</td>
<td>28.2%</td>
<td>27.8%</td>
</tr>
</tbody>
</table>

Sources:  
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc.  

Notes:  
- Based on reported heights and weights, asked of all respondents.
- Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., “White” reflects non-Hispanic White respondents).
- Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. “Low Income” includes households with incomes up to 200% of the federal poverty level; “Mid/High Income” includes households with incomes at 200% or more of the federal poverty level.
- The definition of obesity is having a body mass index (BMI), a ratio of weight to height (kilograms divided by meters squared), greater than or equal to 30.0, regardless of gender.
Actual vs. Perceived Body Weight

A total of 3.8% of obese adults and 31.6% of overweight (but not obese) adults feel that their current weight is “about right.”

- 64.1% of overweight (but not obese) adults see themselves as “somewhat overweight.”
- 32.0% of obese adults see themselves as “very overweight.”

**Actual vs. Perceived Weight Status**
(Among Adults Who Are Overweight/Obese Based on BMI; Boone County, 2012)

<table>
<thead>
<tr>
<th>Perception</th>
<th>Among Adults Overweight But Not Obese (BMI 25.0-29.9)</th>
<th>Among Obese Adults (BMI 30+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Very/Somewhat Underweight”</td>
<td>0.6%</td>
<td>2.5%</td>
</tr>
<tr>
<td>“About the Right Weight”</td>
<td>31.6%</td>
<td>3.8%</td>
</tr>
<tr>
<td>“Somewhat Overweight”</td>
<td>64.1%</td>
<td>61.8%</td>
</tr>
<tr>
<td>“Very Overweight”</td>
<td>3.6%</td>
<td>32.0%</td>
</tr>
</tbody>
</table>

Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. (Item 114)

Notes:
- BMI is based on reported heights and weights, asked of all respondents.
- The definition of overweight is having a body mass index (BMI), a ratio of weight to height (kilograms divided by meters squared), greater than or equal to 25.0, regardless of gender. The definition for obesity is a BMI greater than or equal to 30.0.

Relationship of Overweight With Other Health Issues

Obese (and often overweight) adults are more likely to report a number of adverse health conditions.

Among these are:

- Hypertension (high blood pressure).
- High cholesterol.
- Arthritis/rheumatism.
- Activity limitations.
- Chronic depression.
- Diabetes.
- “Fair” or “poor” physical health.
Weight Management

Health Advice

One in four (25.2%) adults have been given advice about their weight by a doctor, nurse or other health professional in the past year.

- Statistically similar to the national findings.

- Note that 51.3% of obese adults have been given advice about their weight by a health professional in the past year (while nearly one-half have not).
  - This satisfies the Healthy People 2020 target of 31.8% or higher.
Individuals who are at a healthy weight are less likely to:

- Develop chronic disease risk factors, such as high blood pressure and dyslipidemia.
- Develop chronic diseases, such as type 2 diabetes, heart disease, osteoarthritis, and some cancers.
- Experience complications during pregnancy.
- Die at an earlier age.

All Americans should avoid unhealthy weight gain, and those whose weight is too high may also need to lose weight.

– Healthy People 2020 (www.healthypeople.gov)

**A total of 39.2% of Boone County adults who are overweight say that they are both modifying their diet and increasing their physical activity to try to lose weight.**

- Similar to national findings.
- Note: 46.6% of obese Boone County adults report that they are trying to lose weight through a combination of diet and exercise, higher than the national norm.

### Trying to Lose Weight by Both Modifying Diet and Increasing Physical Activity

(By Weight Classification)

<table>
<thead>
<tr>
<th></th>
<th>Boone County 2012</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overweight/Obese</td>
<td>39.2%</td>
<td>38.6%</td>
</tr>
<tr>
<td>Obese</td>
<td>46.6%</td>
<td>41.1%</td>
</tr>
</tbody>
</table>

Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. (Item 187)
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Based on reported heights and weights, asked of all respondents.
Childhood Overweight & Obesity

In children and teens, body mass index (BMI) is used to assess weight status – underweight, healthy weight, overweight, or obese. After BMI is calculated for children and teens, the BMI number is plotted on the CDC BMI-for-age growth charts (for either girls or boys) to obtain a percentile ranking. Percentiles are the most commonly used indicator to assess the size and growth patterns of individual children in the United States. The percentile indicates the relative position of the child’s BMI number among children of the same sex and age.

BMI-for-age weight status categories and the corresponding percentiles are shown below:

- **Underweight** .......................... <5th percentile
- **Healthy Weight** .......................... ≥5th and <85th percentile
- **Overweight** .......................... ≥85th and <95th percentile
- **Obese** .......................... ≥95th percentile

*Centers for Disease Control and Prevention.*

Based on the heights/weights reported by surveyed parents, 26.4% of Boone County children age 5 to 17 are overweight or obese (≥85th percentile).

- Similar to the national prevalence.
- Statistically similar by child’s gender; statistically high among children age 5-12.

### Child Total Overweight Prevalence

(Percent of Children 5-17 Who Are Overweight/Obese; Body Mass Index in the 85th Percentile or Higher)

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>Age 5-12</th>
<th>Age 13-17</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Boone County</strong></td>
<td>23.5%</td>
<td>29.1%</td>
<td>37.0%</td>
<td>12.3%</td>
<td>26.4%</td>
</tr>
<tr>
<td><strong>US</strong></td>
<td>30.7%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 190]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Asked of all respondents with children age 5-17 at home.
- Overweight among children is estimated based on children’s Body Mass Index status at or above the 85th percentile of US growth charts by gender and age.
Further, 16.1% of Boone County children age 5 to 17 are obese (≥95th percentile).

- Similar to the national percentage.
- Similar to the Healthy People 2020 target (14.6% or lower for children age 2-19).
- Statistically similar by child’s gender; statistically high among children age 5-12.

### Child Obesity Prevalence

(Percent of Children 5-17 Who Are Obese; Body Mass Index in the 95th Percentile or Higher)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Boys</th>
<th>Girls</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-12</td>
<td>15.3%</td>
<td>16.8%</td>
<td>16.1%</td>
</tr>
<tr>
<td>13-17</td>
<td>25.6%</td>
<td>3.5%</td>
<td>18.9%</td>
</tr>
<tr>
<td>US</td>
<td>16.1%</td>
<td>18.9%</td>
<td></td>
</tr>
</tbody>
</table>

**Sources:**
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. (Item 190)
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

**Notes:**
- Asked of all respondents with children age 5-17 at home.
- Obesity among children is determined by children's Body Mass Index status equal to or above the 95th percentile of US growth charts by gender and age.

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**Actual vs. Perceived Body Weight**

Interestingly, among parents of children age 5-17 who are overweight or obese, just over half (51.0%) see their child as being at “about the right weight.”

- A total of 37.9% perceive their overweight/obese child as “somewhat” or “very overweight.”

### Children’s Actual vs. Perceived Weight Status

(By Weight; Boone County Children 5-17, 2012)

<table>
<thead>
<tr>
<th>Actual Status</th>
<th>Parent Perceives Child as</th>
<th>Among Children Who Are Not Overweight/Obese</th>
<th>Among Overweight/Obese Children (Based on BMI 85th Percentile)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Very/Somewhat Underweight&quot;</td>
<td>9.8%</td>
<td>85.4%</td>
<td>33.7%</td>
</tr>
<tr>
<td>&quot;About the Right Weight&quot;</td>
<td>4.8%</td>
<td>51.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>&quot;Somewhat Overweight&quot;</td>
<td>4.2%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Sources:**
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. (Item 142)

**Notes:**
- Asked of all respondents with children age 5-17 at home.
- Overweight in children is defined as a Body Mass Index (BMI) value at or above the 85th percentile of US growth charts by gender and age; obesity in children is defined as a BMI value at or above the 95th percentile.
Informed of “Overweight” Status

Only 7.7% of parents with overweight/obese children age 5-17 report that a health professional or someone from their child’s school informed them that their child was overweight in the past year.

Parent Has Been Told in the Past Year by a School or Health Professional That Their Child Is Overweight
(By Weight; Boone County Children 5-17, 2012)

Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 143]

Notes:
- Asked of all respondents with children age 5-17 at home.
- Overweight in children is defined as a Body Mass Index (BMI) value at or above the 85th percentile of US growth charts by gender and age.
- Obesity in children is defined as a BMI value at or above the 95th percentile.
Substance Abuse

In 2005, an estimated 22 million Americans struggled with a drug or alcohol problem. Almost 95% of people with substance use problems are considered unaware of their problem. Of those who recognize their problem, 273,000 have made an unsuccessful effort to obtain treatment. These estimates highlight the importance of increasing prevention efforts and improving access to treatment for substance abuse and co-occurring disorders.

Substance abuse has a major impact on individuals, families, and communities. The effects of substance abuse are cumulative, significantly contributing to costly social, physical, mental, and public health problems. These problems include:

- Teenage pregnancy
- Human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS)
- Other sexually transmitted diseases (STDs)
- Domestic violence
- Child abuse
- Motor vehicle crashes
- Physical fights
- Crime
- Homicide
- Suicide

The field has made progress in addressing substance abuse, particularly among youth. According to data from the national Institute of Drug Abuse (NIDA) Monitoring the Future (MTF) survey, which is an ongoing study of the behaviors and values of America’s youth between 2004 and 2009, a drop in drug use (including amphetamines, methamphetamine, cocaine, hallucinogens, and LSD) was reported among students in 8th, 10th, and 12th grades. Note that, despite a decreasing trend in marijuana use which began in the mid-1990s, the trend has stalled in recent years among these youth. Use of alcohol among students in these three grades also decreased during this time.

Substance abuse refers to a set of related conditions associated with the consumption of mind- and behavior-altering substances that have negative behavioral and health outcomes. Social attitudes and political and legal responses to the consumption of alcohol and illicit drugs make substance abuse one of the most complex public health issues. In addition to the considerable health implications, substance abuse has been a flash-point in the criminal justice system and a major focal point in discussions about social values: people argue over whether substance abuse is a disease with genetic and biological foundations or a matter of personal choice.

Advances in research have led to the development of evidence-based strategies to effectively address substance abuse. Improvements in brain-imaging technologies and the development of medications that assist in treatment have gradually shifted the research community’s perspective on substance abuse. There is now a deeper understanding of substance abuse as a disorder that develops in adolescence and, for some individuals, will develop into a chronic illness that will require lifelong monitoring and care.

Improved evaluation of community-level prevention has enhanced researchers’ understanding of environmental and social factors that contribute to the initiation and abuse of alcohol and illicit drugs, leading to a more sophisticated understanding of how to implement evidence-based strategies in specific social and cultural settings.

A stronger emphasis on evaluation has expanded evidence-based practices for drug and alcohol treatment. Improvements have focused on the development of better clinical interventions through research and increasing the skills and qualifications of treatment providers.

– Healthy People 2020 (www.healthypeople.gov)
High-Risk Alcohol Use

Current Drinking

A total of 58.5% of area adults had at least one drink of alcohol in the past month (current drinkers).

- Less favorable than the statewide proportion.
- Almost identical to the national proportion.

![Current Drinkers Chart](chart.png)

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 197]
● 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Asked of all respondents.
- Current drinkers had at least one alcoholic drink in the past month.

Current drinking is more prevalent among men, adults under age 65, and middle/high income respondents.

![Current Drinkers Chart (Boone County, 2012)](chart.png)

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 197]

Notes:
- Asked of all respondents.
- Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., “White” reflects non-Hispanic White respondents).
- Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. “Low Income” includes households with incomes up to 200% of the federal poverty level. “Mid/High Income” includes households with incomes at 200% or more of the federal poverty level.
- Current drinkers had at least one alcoholic drink in the past month.

“Current drinkers” include survey respondents who had at least one drink of alcohol in the month preceding the interview. For the purposes of this study, a “drink” is considered one can or bottle of beer, one glass of wine, one can or bottle of wine cooler, one cocktail, or one shot of liquor.
A total of 3.1% of area adults averaged two or more drinks of alcohol per day in the past month (chronic drinkers).

- Better than the statewide proportion.
- Better than the national proportion.

**Chronic Drinkers**

Boone County: 3.1%
Indiana: 6.0%
United States: 5.6%

**Sources:**
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 198]

**Notes:**
- Asked of all respondents.
- Chronic drinkers are defined as having 60+ alcoholic drinks in the past month.
- The state definition for chronic drinkers is males consuming 2+ drinks per day and females consuming 1+ drink per day.

**RELATED ISSUE:** See also Stress in the Mental Health & Mental Disorders section of this report.
“Binge drinkers” include:

1) MEN who report drinking 5 or more alcoholic drinks on any single occasion during the past month; and

2) WOMEN who report drinking 4 or more alcoholic drinks on any single occasion during the past month.

A total of **11.9%** of Boone County adults are binge drinkers.

- More favorable than Indiana findings.
- More favorable than national findings.
- Satisfies the Healthy People 2020 target (24.3% or lower).

Binge drinking is more prevalent among:

- Men (especially those under age 40).
- Adults under age 40.
- Respondents in the middle/high income category.

**Binge Drinkers**
(Boone County, 2012)
Drinking & Driving

Just 0.9% of Boone County adults acknowledge having driven a vehicle in the past month after they had perhaps too much to drink.

- More favorable than the national findings.

Have Driven in the Past Month After Perhaps Having Too Much to Drink

Illicit Drug Use

A total of 1.2% of Boone County adults acknowledge using an illicit drug in the past month.

- Similar to the proportion found nationally.
- Satisfies the Healthy People 2020 target of 7.1% or lower.

Illicit Drug Use in the Past Month

**Note:** As a self-reported measure – and because this indicator reflects potentially illegal behavior – it is reasonable to expect that it might be underreported, and that the actual incidence of drinking and driving in the community is likely higher.

**Note:** As a self-reported measure – and because this indicator reflects potentially illegal behavior – it is reasonable to expect that it might be underreported, and that actual illicit drug use in the community is likely higher.

Sources:
- 2012 PRC Community Health Survey. Professional Research Consultants, Inc. [Item 70]
- 2011 PRC National Health Survey. Professional Research Consultants, Inc.

Notes:
- Asked of all respondents.
Alcohol & Drug Treatment

A total of 2.0% of Boone County adults report that they have sought professional help for an alcohol or drug problem at some point in their lives.

- Less favorable than national findings.

Have Ever Sought Professional Help for an Alcohol/Drug-Related Problem

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 72]
● 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes: ● Asked of all respondents.

Just 0.2% of Boone County adults said there was a time in the past year when they needed professional help for an alcohol or drug-related problem, but did not get it.

- The two respondents who acknowledged needing (but not receiving) help for an alcohol or drug problem cited cost or a lack of insurance and a desire for no one to know about the problem as the reasons they did not seek help.

Needed Professional Help for Substance Abuse in the Past Year But Was Unable to Get It
(Boone County, 2012)

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 73]

Notes: ● Asked of all respondents.
Focus group participants are concerned with substance abuse in the community, with discussion centered on:

- Prevalence of drug use
- Limited treatment facilities
- Negative impact on the community

A number of focus group participants worry about the prevalence of substance abuse in the community, especially alcohol, methamphetamines, heroin and prescription drugs. Substance abuse occurs across all demographics, although group participants agree that the community is in denial that abuse occurs in higher income groups. In addition, attendees worry about substance abuse occurring in the elderly population and believe that youth have easy access to prescription drugs.

“Substance abuse has been and always will be a problem, whether it’s here, or Zionsville, or San Diego. We can legislate against it. People will continue to make the choice, break the law, whether you want to look at it as an addictive personality, a weak person. They follow peer pressure and so on and so on. It takes its toll, whether it’s from kids not going to school, people not eating right, and the cost of the mental health issues where it altered their brains, through incarceration, to what we have to do with them when we have them in jail.” — Social Service Agency Representative

Other participants consider substance use to be accepted in the community:

“A rite of passage to underage drinking, and binge drinking on the weekends. I mean, it’s something that I think has been passed down from generation to generation, with some acceptance from parents who would prefer – using the ‘Well, I’d rather have them drink at my house than go out and do it on the road or with other people’ or whatever the case may be.” — Advisory Committee Representative

Attendees believe the community needs more alcohol and drug prevention messaging and additional substance abuse treatment facilities. No inpatient treatment center exists in the community, so jail becomes the detox unit. Cummins Behavioral Health System provides groups for substance abuse and the Boone County Clinic administers Vivitrol injections to treat alcohol and opioid dependence. New Life Recovery is one of the only half-way houses for recovering addicts. New Life Recovery has 21 beds and residents must pay rent and try to obtain employment during their stay. A participant further explains New Life Recovery:

“There’s nothing in the community that addresses the detox, even here at New Life that I’m a part of. We would take them after they are sober and after they’re dry. And then the second thing would be we only administer there to men. We have nothing for the ladies, the females, who have that type of an addiction as far as alcohol and drug abuse.” — Advisory Committee Representative

Focus group attendees feel that substance abuse negatively impacts the community in both economic and behavioral ways. Residents who use drugs may be unable to obtain work, or maintain employment:
Marcia is in charge of the Workforce One here. She told me last week she had over 300 jobs available, and she can’t get enough people to fill those because they can’t pass a drug test. Two weeks ago Wal-Mart hired six people, and only two of them could pass a drug test. So we have some major issues with not just some of the young people, but some of the others too.” — Advisory Committee Representative

Many residents who abuse drugs or alcohol engage in high risk behaviors which endanger their lives and those around them as well. A participant describes:

“Adults and adolescents who engage in these behaviors are more likely to not use seat belts, to drive after drinking alcohol, carry weapons, and engage in physical fights or even worse suicide. Physical health is something that is not addressed in these situations by the abuser.” — Social Service Agency Representative.
Tobacco use is the single most preventable cause of death and disease in the United States. Each year, approximately 443,000 Americans die from tobacco-related illnesses. For every person who dies from tobacco use, 20 more people suffer with at least one serious tobacco-related illness. In addition, tobacco use costs the US $193 billion annually in direct medical expenses and lost productivity.

Scientific knowledge about the health effects of tobacco use has increased greatly since the first Surgeon General’s report on tobacco was released in 1964.

Tobacco use causes:
- Cancer
- Heart disease
- Lung diseases (including emphysema, bronchitis, and chronic airway obstruction)
- Premature birth, low birth weight, stillbirth, and infant death

There is no risk-free level of exposure to secondhand smoke. Secondhand smoke causes heart disease and lung cancer in adults and a number of health problems in infants and children, including: severe asthma attacks; respiratory infections; ear infections; and sudden infant death syndrome (SIDS).

Smokeless tobacco causes a number of serious oral health problems, including cancer of the mouth and gums, periodontitis, and tooth loss. Cigar use causes cancer of the larynx, mouth, esophagus, and lung.

— Healthy People 2020 (www.healthypeople.gov)

Cigarette Smoking

Cigarette Smoking Prevalence

A total of 17.8% of Boone County adults currently smoke cigarettes, either regularly (13.6% every day) or occasionally (4.2% on some days).

Cigarette Smoking Prevalence (Boone County, 2012)

- Regular Smoker 13.6%
- Occasional Smoker 4.2%
- Former Smoker 22.1%
- Never Smoked 60.1%

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 191]
Notes: ● Asked of all respondents.

- Better than statewide findings.
- Similar to national findings.
- Fails to satisfy the Healthy People 2020 target (12% or lower).
Cigarette smoking is more prevalent among:

- Adults under 40.
- Lower-income residents.
- Non-Whites.

Note also:

- 18.5% of women of child-bearing age (ages 18 to 44) currently smoke. This is notable given that tobacco use increases the risk of infertility, as well as the risks for miscarriage, stillbirth and low birthweight for women who smoke during pregnancy.
Environmental Tobacco Smoke

A total of 13.7% of Boone County adults (including smokers and non-smokers) report that a member of their household has smoked cigarettes in the home an average of 4+ times per week over the past month.

- Nearly identical to national findings.

- Note that 3.3% of Boone County non-smokers are exposed to cigarette smoke at home, which is more favorable than the percentage found nationally.

### Member of Household Smokes at Home

![Chart showing the percentage of non-smokers exposed to smoke at home in Boone County and the United States.]

**Non-smokers exposed to smoke in the home: 3.3%**

Boone County: 13.7%
United States: 13.6%

**Sources:**
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Items 65, 193]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

**Notes:**
- Asked of all respondents.
- "Smokes at home" refers to someone smoking cigarettes, cigars, or a pipe in the home an average of four or more times per week in the past month.

- Notably higher among young adults, residents with lower incomes, and Non-Whites.

### Member of Household Smokes At Home

(Boone County, 2012)

![Chart showing the percentage of non-smokers exposed to smoke at home by gender, age, and income level in Boone County.]

- **Men:** 14.5%  
- **Women:** 13.0%  
- **18 to 39:** 17.6%  
- **40 to 64:** 13.0%  
- **65+:** 8.6%  
- **Low Income:** 34.6%  
- **Mid/High Income:** 8.8%  
- **White:** 12.4%  
- **Other:** 37.7%  
- **Boone County:** 13.7%

**Sources:**
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 64]

**Notes:**
- Asked of all respondents.
- Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., “White” reflects non-Hispanic White respondents).
- Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. “Low Income” includes households with incomes up to 200% of the federal poverty level. “Mid/High Income” includes households with incomes at 200% or more of the federal poverty level.
- “Smokes at home” refers to someone smoking cigarettes, cigars, or a pipe in the home an average of four or more times per week in the past month.
Among households with children, 8.2% have someone who smokes cigarettes in the home.

- Comparable to national findings.

**Percentage of Households With Children In Which Someone Smokes in the Home**

![Percentage Chart]

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 194]
● 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes: ● Asked among parents of children age 0-17.
● “Smokes at home” refers to someone smoking cigarettes, cigars, or a pipe in the home an average of four or more times per week in the past month.

**Smoking Cessation**

Preventing tobacco use and helping tobacco users quit can improve the health and quality of life for Americans of all ages. People who stop smoking greatly reduce their risk of disease and premature death. Benefits are greater for people who stop at earlier ages, but quitting tobacco use is beneficial at any age.

Many factors influence tobacco use, disease, and mortality. Risk factors include race/ethnicity, age, education, and socioeconomic status. Significant disparities in tobacco use exist geographically; such disparities typically result from differences among states in smoke-free protections, tobacco prices, and program funding for tobacco prevention.

- Healthy People 2020 (www.healthypeople.gov)

**Health Advice About Smoking Cessation**

A total of 69.7% of smokers say that a doctor, nurse or other health professional has recommended in the past year that they quit smoking.

- Similar to the national percentage.

**Advised by a Healthcare Professional in the Past Year to Quit Smoking (Among Current Smokers)**

![Advised Chart]

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 64]
● 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes: ● Asked of all current smokers.
Smoking Cessation Attempts

A total of 4 in 10 regular smokers (40.0%) went without smoking for one day or longer in the past year because they were trying to quit smoking.

- Less favorable than the national percentage.
- Half the Healthy People 2020 target (80% or higher).

Have Stopped Smoking for One Day or Longer In the Past Year in an Attempt to Quit Smoking (Among Everyday Smokers)

<table>
<thead>
<tr>
<th>Healthy People 2020 Target = 80% or Higher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boone County</td>
</tr>
<tr>
<td>40.0%</td>
</tr>
</tbody>
</table>

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 63]
● 2011 PRC National Health Survey, Professional Research Consultants, Inc.
Notes: ● Asked of respondents who smoke cigarettes every day.

Awareness of the Indiana Tobacco Quit Line

A total of 54.9% of Boone County adults expressed an awareness of the Indiana Tobacco Quit Line, 1-800-QUIT-NOW.

Awareness is statistically low among young adults, mid/high income residents, and non-smokers.

Aware of the Indiana Tobacco Quit Line: 1-800-QUIT-NOW (Boone County, 2012)

<table>
<thead>
<tr>
<th>Men</th>
<th>Women</th>
<th>18 to 39</th>
<th>40 to 64</th>
<th>65+</th>
<th>Low Income</th>
<th>Mid/High Income</th>
<th>White</th>
<th>Other</th>
<th>Smokers</th>
<th>Non-Smokers</th>
<th>Boone County</th>
</tr>
</thead>
<tbody>
<tr>
<td>54.4%</td>
<td>55.3%</td>
<td>61.6%</td>
<td>52.7%</td>
<td>48.8%</td>
<td>64.3%</td>
<td>53.5%</td>
<td>54.3%</td>
<td>64.9%</td>
<td>77.6%</td>
<td>49.9%</td>
<td>54.9%</td>
</tr>
</tbody>
</table>

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Items 66, 195]
Notes: ● Asked of all respondents.
- Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., “White” reflects non-Hispanic White respondents).
- Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. "Low Income" includes households with incomes up to 200% of the federal poverty level. "Mid/High Income" includes households with incomes at 200% or more of the federal poverty level.
Related Focus Group Findings: Tobacco

Many focus group participants are concerned with tobacco use in the community. The main issues included:

- Use among low income populations and adolescents
- Severe health consequences
- Smoking cessation resources

Attendees worry about the prevalence of **tobacco use among low income populations and adolescents** and the **severe health consequences** of long-term tobacco use and second-hand smoke inhalation. Local schools need to provide prevention programs because education must occur before individuals begin smoking. An attendee explains:

> "The tobacco industry knows if they don’t have you by the age of 23, 24 they’re not likely to get you and so the emphasis really is on our adolescents, which is unfortunate. They spend a lot of money targeting them and we have a very small budget in which to fight the battle, but it can be won.” — Healthcare Professional

Participants know of several **smoking cessation resources** available to residents, but recognize the addictive nature of tobacco. Medicaid programs offer smoking cessation programs to residents over 18 years of age and Indiana enforces a statewide smoke-free law. Participants report that the 1-800-QUIT-NOW line saw a large increase in calls after the law went into effect in July of 2012. Boone County Health Department also offers a free smoking education program for juveniles who get caught illegally using tobacco products. A participant describes the course:

> "They learn all the reasons why they need to quit now and so they have to come to class four weeks, one-hour classes. They have homework, and then once they complete that it’s off their record and no further penalties. It’s an uphill battle, you all know that. It’s again very addictive. You hear a lot of people say worse than heroin. On average it takes six attempts for someone to be successful with quitting.” — Healthcare Professional
ACCESS TO HEALTH SERVICES
Health Insurance Coverage

Survey respondents were asked a series of questions to determine their healthcare insurance coverage, if any, from either private or government-sponsored sources.

A total of 82.4% of Boone County adults age 18 to 64 report having healthcare coverage through private insurance. Another 8.7% report coverage through a government-sponsored program (e.g., Medicaid, Medicare, military benefits).

Healthcare Insurance Coverage
(Among Adults 18-64; Boone County, 2012)

<table>
<thead>
<tr>
<th>Type of Coverage</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insured, Employer-Based</td>
<td>75.3%</td>
</tr>
<tr>
<td>Insured, Self-Purchase</td>
<td>7.0%</td>
</tr>
<tr>
<td>Insured, Unknown Type</td>
<td>0.1%</td>
</tr>
<tr>
<td>Medicaid</td>
<td>2.5%</td>
</tr>
<tr>
<td>Medicare</td>
<td>2.6%</td>
</tr>
<tr>
<td>VA/Military</td>
<td>2.0%</td>
</tr>
<tr>
<td>Medicaid &amp; Medicare</td>
<td>0.5%</td>
</tr>
<tr>
<td>Other Gov’t Coverage</td>
<td>1.1%</td>
</tr>
<tr>
<td>No Insurance/ Self-Pay</td>
<td>8.9%</td>
</tr>
</tbody>
</table>

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 201]
Notes: ● Reflects respondents age 18 to 64.

Screening Coverage

Most respondents (63.3%) are aware that some screenings, such as mammograms, colonoscopies, and bone density tests, are now covered by most insurance plans, at no cost to the patient, due to new federal healthcare requirements.

Awareness of screening coverage is statistically high among women.
More than two-thirds of respondents (67.8%) are aware that many immunizations are now covered by most health insurance plans, due to new federal health care requirements.

Awareness of immunization coverage is statistically low among respondents aged 40 to 64.
Prescription Drug Coverage

Among insured adults, 94.0% report having prescription coverage as part of their insurance plan.

- Nearly identical to the national prevalence.

Health Insurance Covers Prescriptions at Least in Part
(Among Insured Respondents)

Source: 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 88]

Notes: Asked of all respondents with healthcare insurance coverage.

Supplemental Coverage

Among Medicare recipients, the majority (86.6%) has additional, supplemental healthcare coverage.

- More favorable than that reported among Medicare recipients nationwide.

Have Supplemental Coverage in Addition to Medicare
(Among Adults 65+)

Source: 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 87]

Notes: Asked of respondents age 65+.
Lack of Health Insurance Coverage

Among adults age 18 to 64, 8.9% report having no insurance coverage for healthcare expenses.

- Much better than the state finding.
- Better than the national finding.
- The Healthy People 2020 target is universal coverage (0% uninsured).

The following population segments are more likely to be without healthcare insurance coverage:

- Residents living at lower incomes.
- Non-Whites.

Lack of Healthcare Insurance Coverage

(Among Adults 18-64)

Healthy People 2020 Target = 0.0% (Universal Coverage)

Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 201]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Asked of all respondents under the age of 65.
- Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., “White” reflects non-Hispanic White respondents).
- Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. “Low Income” includes households with incomes up to 200% of the federal poverty level; “Mid/High Income” includes households with incomes at 200% or more of the federal poverty level.
As might be expected, uninsured adults in Boone County are less likely to receive routine care and preventive health screenings, and are more likely to have experienced difficulties accessing healthcare.

### Preventive Healthcare
(By Insured Status; Boone County, 2012)

<table>
<thead>
<tr>
<th>Preventive Healthcare</th>
<th>Uninsured</th>
<th>Insured</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood Pressure Test in Past 2 Yrs</td>
<td>87.8%</td>
<td>98.0%</td>
</tr>
<tr>
<td>Cholesterol Test in Past 5 Yrs</td>
<td>86.9%</td>
<td>92.4%</td>
</tr>
<tr>
<td>Specific Source of Ongoing Care</td>
<td>66.5%</td>
<td>94.1%</td>
</tr>
<tr>
<td>Checkup in Past Year</td>
<td>51.4%</td>
<td>72.7%</td>
</tr>
<tr>
<td>Access Difficulties</td>
<td>61.3%</td>
<td>27.5%</td>
</tr>
</tbody>
</table>

**Sources:** 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Items 18, 54, 57, 203, 206]

**Notes:** Asked of all respondents.

### Recent Lack of Coverage (Insurance Instability)

Among currently insured adults in Boone County, 2.7% report that they were without healthcare coverage at some point in the past year.

- More favorable than US findings.

### Went Without Healthcare Insurance Coverage At Some Point in the Past Year
(Among Insured Adults)

<table>
<thead>
<tr>
<th>Coverage At Some Point in the Past Year</th>
<th>Boone County</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uninsured</td>
<td>2.7%</td>
<td>4.8%</td>
</tr>
</tbody>
</table>

**Sources:** 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 89]

**Notes:** Asked of all insured respondents.
Among insured adults, lower-income residents and Non-Whites are more likely to have gone without healthcare insurance coverage at some point in the past year.

Went Without Healthcare Insurance Coverage At Some Point in the Past Year
(Among Insured Adults; Boone County, 2012)

Sources: 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 89]

Notes:
- Asked of all insured respondents.
- Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., “White” reflects non-Hispanic White respondents).
- Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. “Low Income” includes households with incomes up to 200% of the federal poverty level; “Mid/High Income” includes households with incomes at 200% or more of the federal poverty level.
Difficulties Accessing Healthcare

Access to comprehensive, quality health care services is important for the achievement of health equity and for increasing the quality of a healthy life for everyone. It impacts: overall physical, social, and mental health status; prevention of disease and disability; detection and treatment of health conditions; quality of life; preventable death; and life expectancy.

Access to health services means the timely use of personal health services to achieve the best health outcomes. It requires three distinct steps: 1) Gaining entry into the health care system; 2) Accessing a health care location where needed services are provided; and 3) Finding a health care provider with whom the patient can communicate and trust.

– Healthy People 2020 (www.healthypeople.gov)

Difficulties Accessing Services

A total of 30.0% of Boone County adults report some type of difficulty or delay in obtaining healthcare services in the past year.

- More favorable than national findings.

Experienced Difficulties or Delays of Some Kind in Receiving Needed Healthcare in the Past Year

![Chart showing percentage of Boone County and United States adults experiencing difficulties accessing healthcare.]

Boone County: 30.0%
United States: 37.3%

Sources: 
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 206]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes: 
- Asked of all respondents.
- Represents the percentage of respondents experiencing one or more barriers to accessing healthcare in the past 12 months.

Note that the following demographic groups more often report difficulties accessing healthcare services:

- Women.
- Adults under the age of 40.
- Lower-income residents.
- Non-Whites.
To better understand healthcare access barriers, survey participants were asked whether any of six types of barriers to access prevented them from seeing a physician or obtaining a needed prescription in the past year. Again, these percentages reflect the total population, regardless of whether medical care was needed or sought.

Barriers to Healthcare Access

Of the tested barriers, prescription costs impacted the greatest share of Boone County adults (11.6% say that cost prevented them from filling a prescription in the past year).

- The proportion of Boone County adults impacted was statistically better than that found nationwide for each of the tested barriers.
As might be expected, Boone County adults without health insurance are more likely to report most access barriers when compared to the insured population, particularly those related to cost.

### Barriers to Healthcare Access
(By Insured Status, Adults 18+; Boone County, 2012)

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Uninsured</th>
<th>Insured</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost (Doctor Visit)</td>
<td>48.3%</td>
<td>6.7%</td>
</tr>
<tr>
<td>Cost (Prescriptions)</td>
<td>44.2%</td>
<td>8.8%</td>
</tr>
<tr>
<td>Finding a Doctor</td>
<td>9.0%</td>
<td>6.6%</td>
</tr>
<tr>
<td>Getting a Dr Appointment</td>
<td>6.6%</td>
<td>4.7%</td>
</tr>
<tr>
<td>Inconvenient Office Hours</td>
<td>8.6%</td>
<td>10.5%</td>
</tr>
<tr>
<td>Lack of Transportation</td>
<td>12.6%</td>
<td>11.0%</td>
</tr>
</tbody>
</table>

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Items 7-12]
Notes: ● Asked of all respondents.

### Prescriptions

Among all Boone County adults, 11.0% skipped or reduced medication doses in the past year in order to stretch a prescription and save money.

- More favorable than national findings.

### Skipped or Reduced Prescription Doses in Order to Stretch Prescriptions and Save Money

<table>
<thead>
<tr>
<th>Location</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boone County</td>
<td>11.0%</td>
</tr>
<tr>
<td>United States</td>
<td>14.8%</td>
</tr>
</tbody>
</table>

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 13]
Notes: ● 2011 PRC National Health Survey, Professional Research Consultants, Inc.
● Asked of all respondents.
Adults more likely to have skipped or reduced their prescription doses include:

- Adults age 18 to 64.
- Respondents with lower incomes.
- Uninsured adults.

**Skipped or Reduced Prescription Doses in Order to Stretch Prescriptions and Save Money**

(Boone County, 2012)

Surveyed parents were also asked if, within the past year, they experienced any trouble receiving medical care for a randomly-selected child in their household.

**Accessing Healthcare for Children**

A total of 3.1% of parents say there was a time in the past year when they needed medical care for their child, but were unable to get it.

- Statistically similar to what is reported nationwide.
- Similar by child’s age.

**Had Trouble Obtaining Medical Care for Child in the Past Year**

(Among Parents of Children 0-17)

Parents experiencing difficulties cited **cost or a lack of insurance**, lack of convenient **office hours**, and **long waits for appointments** as the reasons.
Related Focus Group Findings: Access to Healthcare Services

Many focus group participants are concerned with access to healthcare, with discussion centered on these issues:

- Basic needs not fulfilled
- Barriers to accessing healthcare
  - Poverty
  - Cost
  - Hours of operation
  - Emergency room overutilization
  - Transportation
- Limited participation from community members

Throughout the focus groups, participants discussed the importance of access to healthcare services and the ways in which financial status affects access. Group attendees agreed that income levels fluctuate throughout the county, and higher-income residents tend to live in Zionsville. These income differences create disparities in health outcomes. Many low income community members do not have the ability to meet their basic needs, so these residents do not think about long-term health consequences or the importance of preventative healthcare. Attendees worry because parents do not value their own health, or do not know the importance of regular preventative care, so their children suffer. A participant explains the current situation:

“They aren't thinking about those things at the moment. They're thinking about some survival issues, where the next meal's coming from ... They're working with living paycheck to paycheck or no paycheck to no paycheck.” — Social Service Agency Representative

Focus group participants believe that residents encounter several barriers when trying to access healthcare services in the community. The high level of poverty in the community means that many residents do not have insurance; the prohibitive cost of healthcare services may limit an individual’s access. The Boone County Community Clinic offers services for the under- and uninsured residents; however, the wait list is extensive and it may take weeks before an appointment becomes available. The Witham Health Service’s Cancer Institute provides free cancer screenings as well.

Participants also describe providers’ hours of operation as a roadblock to accessing healthcare. Clinics operate from 8 a.m. to 5 p.m. and individuals who work more than one job, or shift work, may struggle to make an appointment during that time period. Individuals without easy access to a physician often end up in the emergency room, along with the uninsured population. For those individuals who cannot afford to take time off, the ER becomes their primary care provider. One participant describes the lack of options after hours:

“To me it's an evening thing. That's when the ER has to give expensive care to minor problems. I don't think we have a good evening clinic alternative anywhere, even in Zionsville, even in Anson.” — Healthcare Professional
Participants also view **transportation** as an obstacle to accessing healthcare and other services. Residents can utilize the Boone Area Transit system, but they must provide 24-hour notice. A one-way trip costs $5 (Medicaid recipients pay $1). Boone County Senior Services provides this service, and seniors receive priority and travel by donation only. This transit system is overwhelmed by the local need and only operates during traditional business hours. A participant describes the service:

“There’s a payment scale, and it depends on where you’re going and what the needs are. Of course, in-county for senior transit, it’s by donation only — or by donation basis, depending upon where you’re going and how many stops, and there is a suggested fee amount... But we take preschoolers on up, and babies on up.” — Advisory Committee Representative

In addition to struggling with access to healthcare services, many participants worry that community members **do not participate in the wellness activities** and prevention programs that are available, and accessible, to the community. Residents do not take advantage of the available services even though attendees think residents are aware of the options. A participant describes:

“Sometimes people just don’t reach out for those things and like I said, you can have blinders to services, but I guess it’s getting people comfortable using the services. I hate to think that anybody could just open their phone book and not realize that there’s plenty of doctors and dentists and optometrists and mental health services and what have you, but being able to just take that first step is somewhat challenging.” — Social Service Agency Representative

Stigma, or feelings of embarrassment, may also keep people from accessing the social service programs. With the high unemployment rate, families who previously had steady incomes may now face unknown financial times:

“That’s where the stigma is. I think generational poverty, you go into their homes. They’ll tell you anything you want to know. They’re not ashamed of anything they have, so there’s no shame in being mentally ill and there’s no shame in being poor. It’s that whole middle group is where the stigma is ... They don’t want anyone to know that they don’t have any money and that they can’t afford food or child care or clothes.” — Social Service Agency Representative
Primary Care Services

Improving health care services depends in part on ensuring that people have a usual and ongoing source of care. People with a usual source of care have better health outcomes and fewer disparities and costs. Having a primary care provider (PCP) as the usual source of care is especially important. PCPs can develop meaningful and sustained relationships with patients and provide integrated services while practicing in the context of family and community. Having a usual PCP is associated with:

- Greater patient trust in the provider
- Good patient-provider communication
- Increased likelihood that patients will receive appropriate care

Improving health care services includes increasing access to and use of evidence-based preventive services. Clinical preventive services are services that: prevent illness by detecting early warning signs or symptoms before they develop into a disease (primary prevention); or detect a disease at an earlier, and often more treatable, stage (secondary prevention).

— Healthy People 2020 (www.healthypeople.gov)

Specific Source of Ongoing Care

A total of 92.0% of Boone County adults were determined to have a specific source of ongoing medical care (a “medical home”).

- Much better than national findings.
- Fails to satisfy the Healthy People 2010 objective (95% or higher).

Have a Specific Source of Ongoing Medical Care

![Bar chart showing comparison between Boone County and United States on having a specific source of ongoing medical care.]

- [All Ages] Healthy People 2020 Target = 95% or Higher
- Boone County: 92.0%
- United States: 76.3%

Sources:  
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc.  [Item 203]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:  
- Asked of all respondents.

When viewed by demographic characteristics, the following population segments are less likely to have a specific source of care:

- Men.
- Lower-income adults.
- Non-Whites.
Among adults age 18-64, 91.8% have a specific source for ongoing medical care, more favorable than national findings.

- Satisfies the Healthy People 2020 target for this age group (89.4% or higher).

Among adults 65+, 91.9% have a specific source for care, more favorable than the percentage reported among seniors nationally.

- Fails to satisfy the Healthy People 2020 target of 100% for seniors.

**Have a Specific Source of Ongoing Medical Care**
(Boone County, 2012)

[All Ages] Healthy People 2020 Target = 95.0% or Higher
[18-64] Healthy People 2020 Target = 89.4% or Higher
[65+] Healthy People 2020 Target = 100%

---

**Type of Place Used for Medical Care**

When asked where they usually go if they are sick or need advice about their health, two in three respondents (66.7%) identified a particular doctor’s office.

One in four says they usually go to some type of clinic, while 0.5% rely on a hospital emergency room for their care.

- Community locations of “other” facilities include Lebanon, Boone County, Indianapolis, Zionsville, Anson, and Lafayette.

**Particular Place Utilized for Medical Care**
(Boone County, 2012)

---

**Sources:**
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. (Items 203-205)
- **Notes:**
  - Asked of all respondents.
  - Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., “White” reflects non-Hispanic White respondents).
  - Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. “Low Income” includes households with incomes up to 200% of the federal poverty level. “Mid/High Income” includes households with incomes at 200% or more of the federal poverty level.
Utilization of Primary Care Services

**Adults**

More than 7 in 10 adults (71.1%) visited a physician for a routine checkup in the past year.

- Comparable to national findings.

### Have Visited a Physician for a Checkup in the Past Year

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boone County</td>
<td>71.1%</td>
</tr>
<tr>
<td>United States</td>
<td>67.3%</td>
</tr>
</tbody>
</table>

**Sources:**
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 18]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

**Notes:**
- Asked of all respondents.

Adults under age 40 and Non-Whites are less likely to have received routine care in the past year (note the positive correlation with age).

### Have Visited a Physician for a Checkup in the Past Year

(Boone County, 2012)

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>67.9%</td>
</tr>
<tr>
<td>Women</td>
<td>74.1%</td>
</tr>
<tr>
<td>18 to 39</td>
<td>61.9%</td>
</tr>
<tr>
<td>40 to 64</td>
<td>71.2%</td>
</tr>
<tr>
<td>65+</td>
<td>90.3%</td>
</tr>
<tr>
<td>Low Income</td>
<td>62.4%</td>
</tr>
<tr>
<td>Mid/High Income</td>
<td>71.4%</td>
</tr>
<tr>
<td>White</td>
<td>72.2%</td>
</tr>
<tr>
<td>Other</td>
<td>50.6%</td>
</tr>
<tr>
<td>Boone County</td>
<td>71.1%</td>
</tr>
</tbody>
</table>

**Sources:**
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 18]

**Notes:**
- Asked of all respondents.
- Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., “White” reflects non-Hispanic White respondents).
- Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. “Low Income” includes households with incomes up to 200% of the federal poverty level. “Mid/High Income” includes households with incomes at 200% or more of the federal poverty level.
Among surveyed parents, 95.0% report that their child has had a routine checkup in the past year.

- More favorable than national findings.

Note that routine checkups are highest in Boone County among children under age 5.

### Child Has Visited a Physician for a Routine Checkup in the Past Year

(Among Parents of Children 0-17)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boone County 0-4</td>
<td>100.0%</td>
</tr>
<tr>
<td>Boone County 5-12</td>
<td>95.4%</td>
</tr>
<tr>
<td>Boone County 13-17</td>
<td>90.3%</td>
</tr>
<tr>
<td>Boone County</td>
<td>95.0%</td>
</tr>
<tr>
<td>US</td>
<td>87.0%</td>
</tr>
</tbody>
</table>

**Sources:**
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. (Item 134)
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

**Notes:**
- Asked of all respondents with children 0 to 17 in the household.
A total of 5.3% of Boone County adults have gone to a hospital emergency room more than once in the past year about their own health.

- Similar to the national level.

**Have Used a Hospital Emergency Room More Than Once in the Past Year**

Of those using a hospital ER, 47.4% say this was due to an emergency or life-threatening situation, while 35.0% indicated that the visit was during after-hours or on the weekend. A total of 10.4% cited difficulties accessing primary care for various reasons.

ER use is high among seniors, low-income respondents and Non-Whites.

**Have Used a Hospital Emergency Room More Than Once in the Past Year**

(Boone County, 2012)
Oral Health

The health of the mouth and surrounding craniofacial (skull and face) structures is central to a person’s overall health and well-being. Oral and craniofacial diseases and conditions include: dental caries (tooth decay); periodontal (gum) diseases; cleft lip and palate; oral and facial pain; and oral and pharyngeal (mouth and throat) cancers.

The significant improvement in the oral health of Americans over the past 50 years is a public health success story. Most of the gains are a result of effective prevention and treatment efforts. One major success is community water fluoridation, which now benefits about 7 out of 10 Americans who get water through public water systems. However, some Americans do not have access to preventive programs. People who have the least access to preventive services and dental treatment have greater rates of oral diseases. A person’s ability to access oral healthcare is associated with factors such as education level, income, race, and ethnicity.

Oral health is essential to overall health. Good oral health improves a person’s ability to speak, smile, smell, taste, touch, chew, swallow, and make facial expressions to show feelings and emotions. However, oral diseases, from cavities to oral cancer, cause pain and disability for many Americans. Good self-care, such as brushing with fluoride toothpaste, daily flossing, and professional treatment, is key to good oral health. Health behaviors that can lead to poor oral health include:

- Tobacco use
- Excessive alcohol use
- Poor dietary choices

Barriers that can limit a person’s use of preventive interventions and treatments include:

- Limited access to and availability of dental services
- Lack of awareness of the need for care
- Cost
- Fear of dental procedures

There are also social determinants that affect oral health. In general, people with lower levels of education and income, and people from specific racial/ethnic groups, have higher rates of disease. People with disabilities and other health conditions, like diabetes, are more likely to have poor oral health.

Community water fluoridation and school-based dental sealant programs are 2 leading evidence-based interventions to prevent tooth decay.

Major improvements have occurred in the nation’s oral health, but some challenges remain and new concerns have emerged. One important emerging oral health issue is the increase of tooth decay in preschool children. A recent CDC publication reported that, over the past decade, dental caries (tooth decay) in children ages 2 to 5 have increased.

Lack of access to dental care for all ages remains a public health challenge. This issue was highlighted in a 2008 Government Accountability Office (GAO) report that described difficulties in accessing dental care for low-income children. In addition, the Institute of Medicine (IOM) has convened an expert panel to evaluate factors that influence access to dental care.

Potential strategies to address these issues include:

- Implementing and evaluating activities that have an impact on health behavior.
- Promoting interventions to reduce tooth decay, such as dental sealants and fluoride use.
- Evaluating and improving methods of monitoring oral diseases and conditions.
- Increasing the capacity of State dental health programs to provide preventive oral health services.
- Increasing the number of community health centers with an oral health component.

— Healthy People 2020 (www.healthypeople.gov)
Dental Care

Adults

78.1% of adults visited a dentist or dental clinic (for any reason) in the past year.

- More favorable than statewide findings.
- More favorable than national findings.
- Satisfies the Healthy People 2020 target (49% or higher).

Have Visited a Dentist or Dental Clinic Within the Past Year

Healthy People 2020 Target = 49.0% or Higher

Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 23]

Notes:
- Asked of all respondents.

Persons living in the higher income category report much higher utilization of oral health services.

As might be expected, persons without dental insurance report much lower utilization of oral health services than those with dental coverage.
Of those using who have not had dental care in the past year, 33.2% said they did not need care, while 19.3% cited a lack of insurance, 18.8% mentioned the cost of services, and 9.9% said they didn’t have time.

**Reason for Lack of Recent Dental Care**
(Adults Without a Dental Visit in the Past Year, 2012)

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Didn’t Need Care</td>
<td>33.2%</td>
</tr>
<tr>
<td>Lack of Insurance</td>
<td>19.3%</td>
</tr>
<tr>
<td>Cost of Services</td>
<td>18.8%</td>
</tr>
<tr>
<td>No Time</td>
<td>9.9%</td>
</tr>
<tr>
<td>Uncertain</td>
<td>3.7%</td>
</tr>
<tr>
<td>Other</td>
<td>15.1%</td>
</tr>
</tbody>
</table>

**Children**

A total of 94.2% of parents report that their child (age 2 to 17) has been to a dentist or dental clinic within the past year.

- More favorable than national findings.
- Satisfies the Healthy People 2020 target (49% or higher).

**Child Has Visited a Dentist or Dental Clinic Within the Past Year**
(Among Parents of Children 2-17)

- **Boone County**: 94.2%
- **United States**: 79.2%

**Sources**: 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 24]

**Notes**: Asked of those respondents who have not visited a dentist or dental clinic in the past year.
Dental Insurance

A total of 7 in 10 Boone County adults (70.6%) have dental insurance that covers all or part of their dental care costs.

- Higher than the national finding.

Have Insurance Coverage That Pays All or Part of Dental Care Costs

- Boone County: 70.6%
- United States: 60.8%

Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 25]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Asked of all respondents.
A total of 65.4% of residents had an eye exam in the past two years during which their pupils were dilated.

- Statistically higher than national findings.

Recent vision care in Boone County is more often reported among:

- Respondents age 40+ (note the positive correlation between age and recent eye exams).
Vision Insurance

Three-fourths of Boone County adults (74.5%) have health insurance coverage that pays for at least part of their vision care.

Lower income respondents are significantly less likely to have insurance that pays for at least part of their vision care.

Have Some Type of Health Insurance Coverage That Pays for Vision Care
(Boone County, 2012)

Men: 75.1%, Women: 73.9%, 18 to 39: 72.8%, 40 to 64: 77.0%, 65+: 71.3%, Low Income: 58.5%, Mid/High Income: 79.9%, White: 75.0%, Other: 63.9%, Boone County: 74.5%
HEALTH EDUCATION & OUTREACH
Healthcare Information Sources

Family physicians and the Internet are residents’ primary sources of healthcare information.

- 44.9% of Boone County adults cited their family physician as their primary source of healthcare information.

- The Internet received the second-highest response, with 23.3%.
  - Other sources mentioned include friends and relatives (6.5%), work (5.3%), and books and magazines (4.0%).

- Just 1.1% of survey respondents say that they do not receive any healthcare information.

**Primary Source of Healthcare Information**
(Boone County, 2012)

- Family Doctor 44.9%
- Internet 23.3%
- Friends/Relatives 6.5%
- Work 5.3%
- Books/Magazines 4.0%
- Other 14.9%
- Don’t Receive Any 1.1%

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 124]
Notes: ● Asked of all respondents.
Participation in Health Promotion Events

A total of 27.4% of Boone County adults participated in some type of organized health promotion activity in the past year, such as health fairs, health screenings, or seminars.

- Higher than the national prevalence.

- Note that 64.7% of adults who participated in a health promotion activity in the past year indicate that it was offered through their employer.

- Half of those who recently participated in a health promotion activity (51.1%) report that it was sponsored by a local hospital.

Educational and community-based programs play a key role in preventing disease and injury, improving health, and enhancing quality of life.

Health status and related-health behaviors are determined by influences at multiple levels: personal, organizational/institutional, environmental, and policy. Because significant and dynamic interrelationships exist among these different levels of health determinants, educational and community-based programs are most likely to succeed in improving health and wellness when they address influences at all levels and in a variety of environments/settings.

Education and community-based programs and strategies are designed to reach people outside of traditional healthcare settings. These settings may include schools, worksites, healthcare facilities, and/or communities.

Using nontraditional settings can help encourage informal information sharing within communities through peer social interaction. Reaching out to people in different settings also allows for greater tailoring of health information and education.

Educational and community-based programs encourage and enhance health and wellness by educating communities on topics such as: chronic diseases; injury and violence prevention; mental illness/behavioral health; unintended pregnancy; oral health; tobacco use; substance abuse; nutrition; and obesity prevention.

– Healthy People 2020 (www.healthypeople.gov)
The following chart outlines participation by various demographic characteristics.

Note that adults under 65, residents with higher incomes, Whites, and those with insurance more often report participation in health promotion activities.

**Participated in a Health Promotion Activity in the Past Year**
(Boone County, 2012)

**Sources:**
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 125]

**Notes:**
- Asked of all respondents.
- Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., “White” reflects non-Hispanic White respondents).
- Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. “Low Income” includes households with incomes up to 200% of the federal poverty level. “Mid/High Income” includes households with incomes at 200% or more of the federal poverty level.
LOCAL HEALTHCARE
Perceptions of Local Healthcare Services

Nearly three in four Boone County adults (73.2%) rate the overall healthcare services available in their community as “excellent” or “very good.”

- Another 20.8% gave “good” ratings.

However, 6.1% of residents characterize local healthcare services as “fair” or “poor.”

- Less than half that reported nationally.
The following residents are more critical of local healthcare services:

- Residents with lower incomes.
- Non-Whites.
- Uninsured adults.

**Perceive Local Healthcare Services as “Fair/Poor”**
(Boone County, 2012)

<table>
<thead>
<tr>
<th>Category</th>
<th>Men</th>
<th>Women</th>
<th>18 to 39</th>
<th>40 to 64</th>
<th>65+</th>
<th>Low Income</th>
<th>Mid/High Income</th>
<th>White</th>
<th>Other</th>
<th>Insured</th>
<th>Uninsured</th>
<th>Boone County</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6.4%</td>
<td>5.8%</td>
<td>6.3%</td>
<td>6.8%</td>
<td>3.2%</td>
<td>14.8%</td>
<td>4.1%</td>
<td>5.1%</td>
<td>22.9%</td>
<td>4.1%</td>
<td>30.1%</td>
<td>6.1%</td>
</tr>
</tbody>
</table>

Sources: 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 6]

Notes:
- Asked of all respondents.
- Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., “White” reflects non-Hispanic White respondents).
- Income categories reflect respondent’s household income as a ratio to the federal poverty level (FPL) for their household size. “Low Income” includes households with incomes up to 200% of the federal poverty level. “Mid/High Income” includes households with incomes at 200% or more of the federal poverty level.
Other Issues

Related Focus Group Findings: Collaboration

Participants spent time discussing the varying levels of collaboration occurring in the community between non-profit organizations, schools, healthcare providers and hospitals. Common themes surrounding discussion on collaboration were:

- Excellent coordination among non-profit agencies
- Referral source website
- Community engagement

Attendees spoke about the excellent coordination occurring among non-profit organizations and the strong willingness to collaborate. Many non-profit agencies refer back and forth to obtain the best care for their clients. Participants recognize that the key to success for non-profits is successful collaboration, and that these efforts help streamline processes. The Boone County Healthy Coalition is one successful collaborative effort, as is Love, Inc., which brings churches together to act as a clearinghouse. Another attendee describes the HERS for Her program, which involves several local entities:

“HERS for Her. It’s something that the community clinic applied for a grant to the Indiana State Department of Health … Basically in providing all kinds of services from physical activity and membership to the YMCA, all kinds of testing services, counseling. They’ve hired some new staff to deal with those. We meet monthly. There are partners from the health department, the YMCA, all kinds of various services. I think that’s a great example of cooperation within our agencies.” — Social Service Agency Representative

Other participants think organizations in Boone County collaborate to some degree, but that this area needs improvement. Attendees believe agencies and hospitals need to communicate better about the available resources. Focus group members want additional education for physicians from social service agencies about their programs. A physician describes his need:

“We all bump into people who have really incredible needs and I need to be able to make contact with that person’s need pretty quickly, otherwise the ball gets dropped. Now if I put it in their hands, the phone number, make the referral to them, I’ve kind of felt like I’ve done my part and I can’t do anything about their motivation, but at least that’s the first step in getting people access to what’s out there. I don’t even know what’s out there, and I think a lot of doctors are certainly in my situation. We’d like to utilize your services more, but just finding the path that we need to go has really been difficult.” — Healthcare Professional

Participants agree that a referral source website or some type of system where agencies and residents can access information about the resources currently available is needed in the county. Although focus group members recognize that a Boone County Resource Guide exists, they agree that it is frequently out of date. Other participants describe the United Way 211 Helpline as critical in connecting residents with local agencies. One participant describes the calls the helpline receives:
“There are six counties that go through 211 and the great thing about that too is every quarter we get reports on how many people in Boone County needed help on some aspect and just to give you an idea, last year, over 31,000 Boone County residents called 211 for services, and if you put that to dollars, that’s over $470,000.00 and again, the top three is housing, utilities, and mental health.” — Social Service Agency Representative

Healthcare professionals would like a regularly updated referral source website to be accessible from the Witham Health Services Intranet so that providers have easy access. A provider describes the ideal situation:

“You would have to have a dedicated person who every two months went back through and said, ‘You need to update it as there has been a change’ and things like that, and/or even just link to our own individual organizations web pages or community pages or frequently asked questions pages that are kept up-to-date.” — Healthcare Professional

Focus group members believe that in order to continue to excel in collaboration, community members must be a part of the process. Participants agree that residents are very generous with funding health programs and engage regularly in volunteer and civic commitments. There are many opportunities to be active in improving community health in Boone County.

Related Focus Group Findings: Elderly Residents

Many focus group participants discussed the services available to senior citizens. The main issues included:

- Accessibility of healthcare services, transportation and nutrition.

Participants have concerns about the health of elderly residents, especially their access to healthcare services, transportation and nutrition. Many seniors have multiple healthcare needs but do not know what services exist and are reluctant to ask for assistance. The Boone County Senior Services represents a very robust program for Boone County residents over 60 years of age, providing personal care and homemaker services, a friendly visitor program and transportation in and out of Boone County. Meals-On-Wheels also operates in the community to ensure that seniors receive proper nutrition. A participant explains the benefits of the program:

“Meals-On-Wheels is a great program. It’s with the hospitals and provides the meals, and there are two large routes, approximately 50 people a day here in Lebanon, but people in Center Township are coming in and volunteering their services and delivering those meals. And when we go and visit those people, we see if there’s a change. Most of the people, we see every day, and you can see immediately.” — Advisory Committee Representative