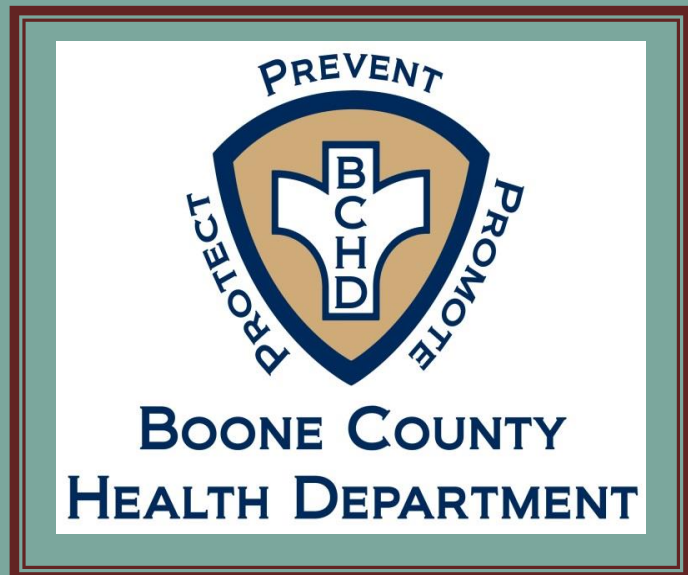


2022-2024



*"Mobilize community  
partners to provide  
collaborative services  
through a coordinated  
public health system  
and to promote  
healthy lifestyles"*

# BOONE COUNTY COMMUNITY HEALTH IMPROVEMENT PLAN (CHIP)



Boone County, Indiana  
2022-2024

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- Alzheimer's Association  
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Coalition
- Boone County Health Board
- Boone County Health  
Department
- Boone County Residents
- Boone County Senior Services,  
Inc.
- Boone County Sheriff's Office
- City of Lebanon
- Community Foundation of  
Boone County
- Cummins Behavioral Health  
Systems, Inc.
- Drug Free Boone County
- Indiana State Department of  
Health
- Integrative Wellness, LLC
- Lebanon Community Schools
- Mental Health America of  
Boone County
- Purdue Extension Boone  
County
- Tobacco Free Boone County
- Witham Family YMCA
- Witham Health Services

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## EXECUTIVE SUMMARY

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The Community Health Improvement Plan (CHIP) is the result of a collaborative effort among various community partners to prioritize the areas with opportunity for health improvements identified from the Community Health Assessment (CHA). Community partners were surveyed to help prioritize the focus areas for the CHIP and identify key stakeholders. These key stakeholders and the Boone County Health Department got together and developed goals, objects, and strategies for each priority area.

There were five focus areas from the CHA: Mental Health, Substance Use, Nutrition, Physical Activity and Weight, Diabetes, Heart Disease and Stroke.

Mental health is the leading health issue in Boone County. The 2021 Community Health Needs Assessment and Implementation Strategy (CHNAIS) states that one in four (25.6 percent) of Boone County adults reported having a depression diagnosis by a physician. The Boone County rate of depression diagnosis is higher than the Indiana rate of 21.0 percent and the United States rate of 20.6 percent.

Substance Use is the second leading health issue in Boone County. Boone County had an increase in the rate of unintentional drug related deaths by 4.7 in 2015, 2018, and 2022. The reported rate in 2022 in Boone County was 23.8 (Witham Hospital, 2022). Over one-third (36.1 percent) of Boone County citizens feel that substance Use has negatively affected their life, which is higher than the U.S. rate of 35.8 percent (Witham Hospital, 2021).

Nutrition, Physical Activity, and Weight are the three leading health issues in Boone County. Boone County reported a rate of 27.2 percent of adults that eat five or more fruits and vegetables per day which has decreased since 2019 (29.7 percent) (Witham Hospital, 2021). In Indiana, 21.2 percent of adults report meeting physical activity recommendations each week, with Boone County reporting that 23.7 percent stated that they engaged in the recommended physical activity each week (Witham Hospital, 2021). In Boone County, 46 percent of overweight respondents have received professional medical advice about diet, nutrition, physical activity, and/or weight management in the past year (Witham Hospital, 2021). However, 66.4 percent of Boone County is still considered overweight and obese (Witham Hospital, 2021).

Diabetes is the fourth leading health issue in Boone County. The rate of adults in Boone County with diabetes has increased from 9.9 percent (2018) to 11.8 percent (2021) (Witham Hospital, 2021). Diabetes is most prevalent among adults sixty-five and older (27.6 percent) and low-income individuals (22.1 percent) in Boone County (Witham Hospital, 2021).

Heart Disease and Stroke is the fifth leading health issue in Boone County. In Boone County, heart disease death rates were 364 per 100,000 adults thirty-five and older (CDC, 2020). This leaves individuals that live in Boone County at a medium risk of death caused by heart disease.

The table below shows the goals for each priority area in this plan.

<b>Priority Areas</b>	<b>Targeted Health Improvement Goal 2022-2024</b>
<b>Mental Health</b>	Reduce the stigma pertaining to mental health by collaborating to increase awareness and encourage use of existing services
<b>Substance Use</b>	Reduce youth and adult substance use and decrease the number of deaths in Boone County
<b>Nutrition, Physical Activity, &amp; Weight</b>	Increase the consumption of nutritious foods, increase physical activity, and reduce the number of obese individuals in Boone County
<b>Diabetes</b>	Reduce number of individuals with diabetes by increased awareness and providing additional education pertaining to the steps that can be taken to reduce the risk of diabetes
<b>Heart Disease and Stroke</b>	Decrease heart disease and stroke by educating affected individuals and encouraging consumption of higher-quality foods

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## PLAN OVERVIEW

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The Boone County Community Health Improvement Plan (CHIP) was developed by community partners who will assist with the implementation of activities for each priority area.

The plan contains goals, outcome objectives, strategies and activities to help accomplish the goals, timelines, responsible partners, and resources.

The plan is intended to serve as a roadmap to improve the overall health and well-being as well as improve the quality of life of the county residents.

The Healthy People 2030 and County Health Ranking were used as standards to indicate where we are now and where we intend to be over the course of the Plan cycle (2022-2024).

These standards were used to either identify or address social determinants of health and causes of poor health outcomes.

The action plan for this document involves community partners who would assist with the implementation and evaluation of activities.

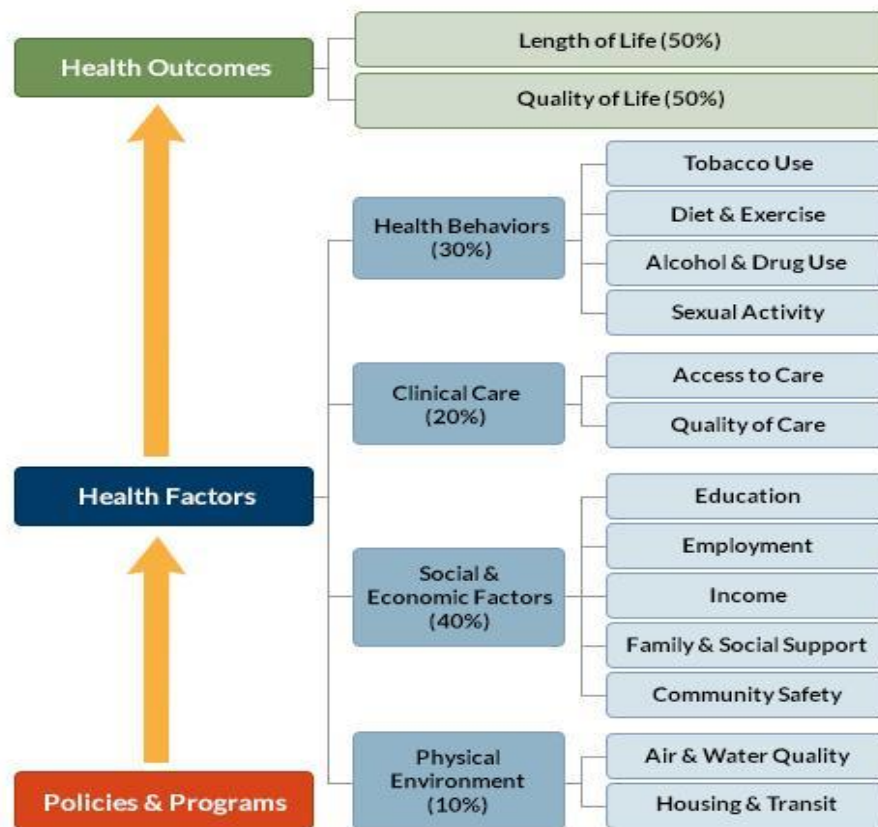
The plan would be evaluated annually and updated as goals and objectives are achieved for each priority area.

## NATIONAL STANDARDS

### COUNTY HEALTH RANKING MODEL

The County Health Rankings measure the health of nearly all counties in the nation and rank them within their respective states. The Rankings are compiled using county-level measures from a variety of national and state data sources. These measures are standardized and combined using scientifically-informed weights. They are based on a model of population health that emphasizes the many factors that, if improved, can help make communities healthier places to live, learn, work and play.

The County Health Rankings are based on summary composite scores calculated from the individual measures below.



## 2022 Health Factors – Indiana





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## COMMUNITY DESCRIPTION

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Boone County is located in the metropolitan Indianapolis region of Indiana. It includes 12 civil townships as follows: Center, Clinton, Eagle, Harrison, Jackson, Jefferson, Marion, Perry, Sugar Creek, Union, Washington, and Worth.

Lebanon is the county seat. According to the United States Census Bureau, the 2021 population of Boone County was 73,052. Boone County has experienced a 3.2 percent growth in population since 2020.

According to STATS Indiana, the 2021 median age is 38.1 years. In 2021, 25.8 percent of the population was below 18 years and 14.2 percent over 65 years.

The population is predominantly White (91.4 percent); Asian alone (3.8 percent); Hispanic or Latino population (of any race) is 3.6 percent, Black or African and American alone (2.7 percent); more than one race (1.8 percent); Indian and Alaska Native alone (0.3 percent).

The median household income in Boone County was \$89,444 in 2020, with the poverty rate at 6.2 percent among just children and 6.0 percent among individual people (2021 Boone County Community Health Needs Assessment).

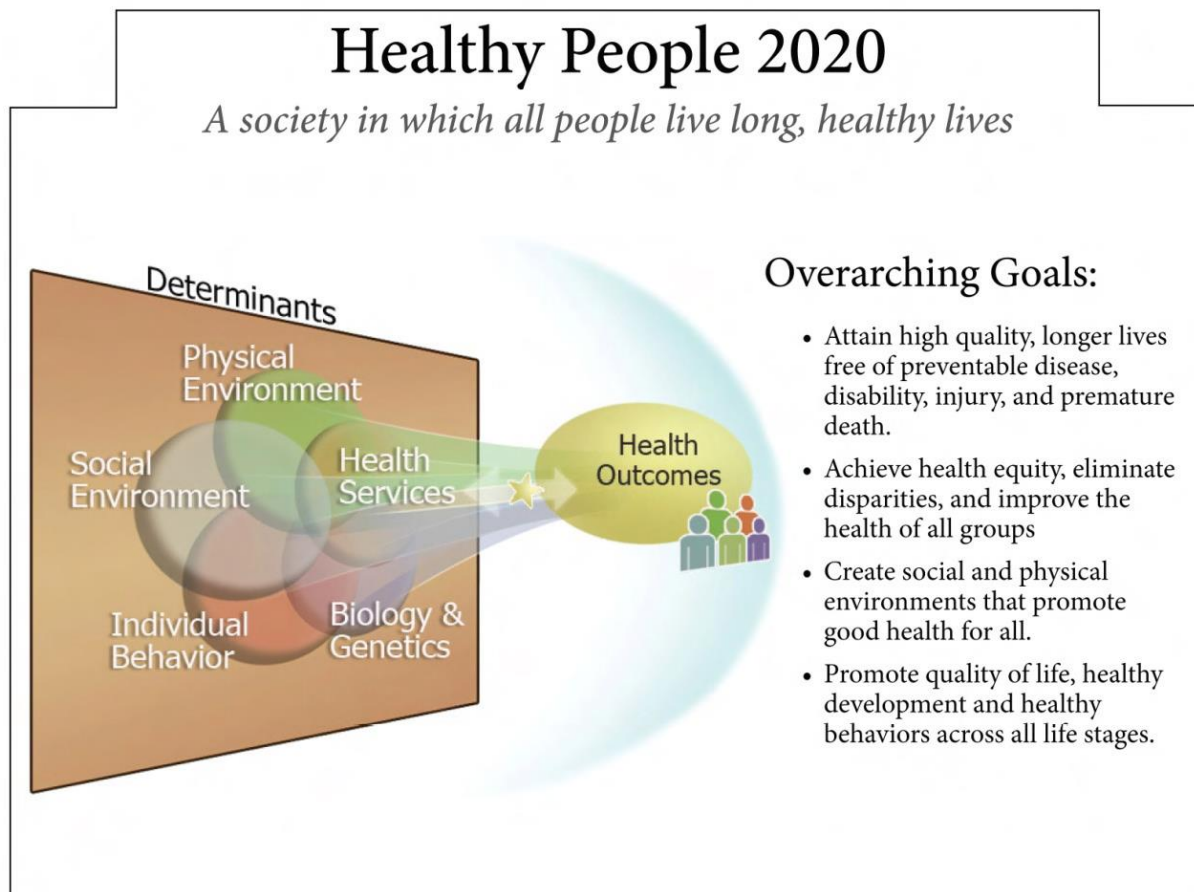
The unemployment rate in August of 2022 was 2.0 percent (STATS Indiana).

Between 2016-2020, 94.5 percent of Boone County residents 25 years and older held a high school diploma or higher and 50.8 percent held a bachelor's degree or higher degrees (USCB). STATS Indiana reports 850 births and 540 deaths in 2019 in Boone County.

## HEALTHY PEOPLE 2020 MODEL

Healthy People provides science-based, 10-year national objectives for improving the health of all Americans. Healthy People has established benchmarks and monitored progress over time in order to:

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



Health People 2020 Framework: <https://www.healthypeople.gov/sites/default/files/HP2020Framework.pdf>

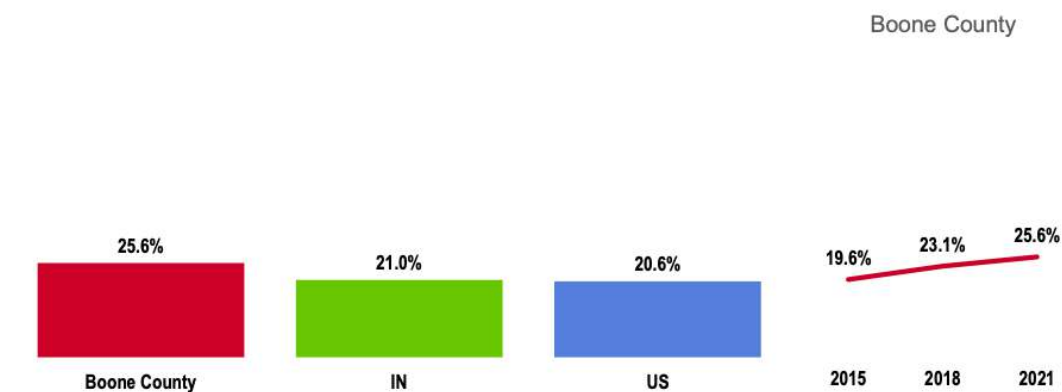
## MENTAL HEALTH

### MENTAL ILLNESS

Mental Illness is the leading health issue in Boone County. As of 2022, Indiana is ranked 43rd in the nation for illness pertaining to mental health for adults, with the 2022 youth ranking for illness pertaining to mental health at 26<sup>th</sup> in the nation (Mental Health America, 2022).

According to the 2021 Community Health Needs Assessment and Implementation Strategy (CHNAIS), one in four (25.6 percent) of Boone County adults reported having a depression diagnosis by a physician (Witham Hospital, 2022). Depression disorders include depression, major depression, dysthymia, or minor depression. The Boone County rate of depression diagnosis is higher than the Indiana rate of 21.0 percent and the United States rate of 20.6 percent. Since 2018, the rate of individuals in Boone County reporting a depression diagnosis has increased by 2.5 percent from 23.1 percent.

#### Have Been Diagnosed With a Depressive Disorder



Sources: • 2021 PRC Community Health Survey, PRC, Inc. [Item 93]  
• Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC); 2019 Indiana data.  
• 2020 PRC National Health Survey, PRC, Inc.

Notes: • Asked of all respondents.  
• Depressive disorders include depression, major depression, dysthymia, or minor depression.

Source: Witham Health Services 2021 Community Health Needs Assessment

The 2021 Community Health Needs Assessment (CHNA) indicates that mental health is considered a “major problem” within Boone County because of the following:

- Access to Care/Services
- Awareness/Education
- Affordable Care/Services
- Denial/Stigma
- Lack of Providers
- Diagnoses/Treatment
- Lack of Providers
- Incidence/Prevalence
- Lack of Collaboration
- Family Dynamics

### Perceptions of Mental Health as a Problem in the Community (Key Informants, 2021)

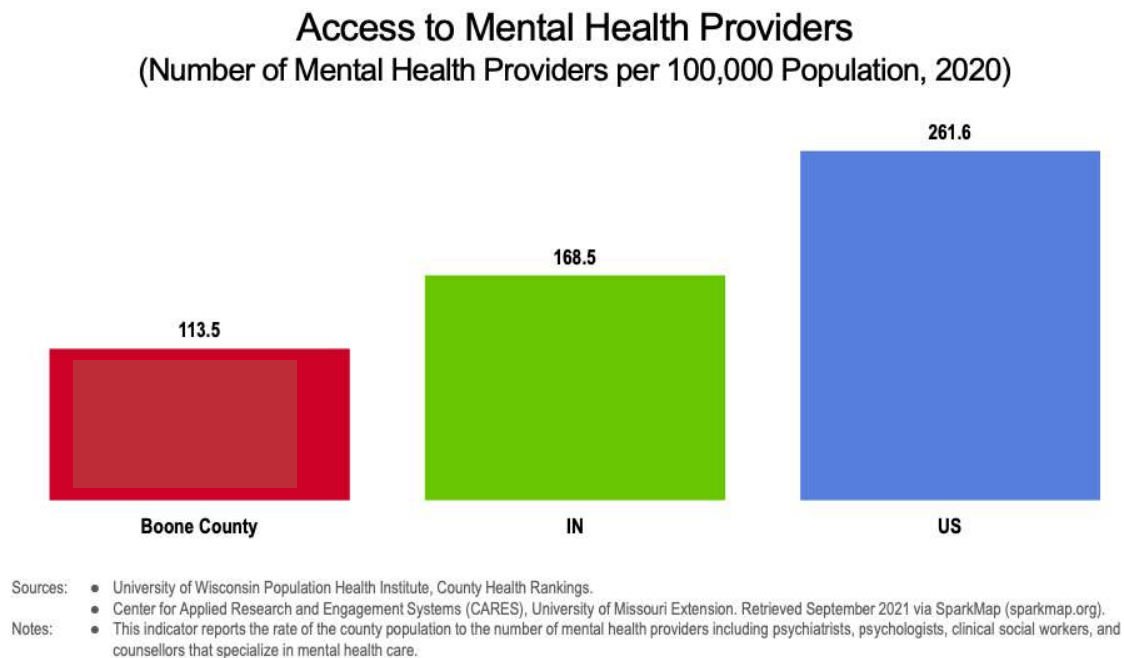


Sources: ● PRC Online Key Informant Survey, PRC, Inc.  
Notes: ● Asked of all respondents.

Source: Witham Health Services 2021 Community Health Needs Assessment

## MENTAL HEALTH TREATMENT

Witham Health Services' CHNAIS states that Boone County reported 113.5 mental health providers per 100,000 population (Witham Hospital, 2022). This is lower than the Indiana rate of 168.5 (55 less) providers and the US rate of 261.6 (148.1 less) providers per 100,000 population.

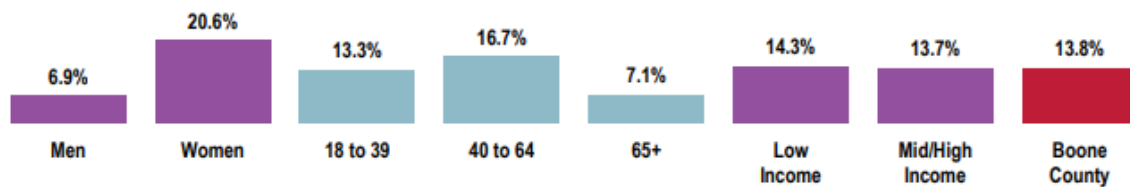


Source: Witham Health Services 2021 Community Health Needs Assessment

In September of 2021, a cross-sectional study was created with data drawn from the 2017-2018 National Health Interview Survey. Over fifty thousand adults in the United States were a part of this sample population. The majority, at 95.6 percent, reported that they had at least one barrier to healthcare access pertaining to their mental health (Coombs et. al., 2021). Following the study, the most prevalent barrier was identified as affordability.

According to the 2021 CHNA, Mental Health has increased since the start of the pandemic that took place in 2020 (Witham Hospital. Compared to men, women have had a 13.7 percent incline pertaining to their mental health. Individuals between the ages of forty years old to sixty-four years old have higher rates (16.7 percent) of mental health in comparison to those of other ages.

**Mental Health Has Gotten Worse  
Since the Beginning of the Pandemic  
(Boone County, 2021)**



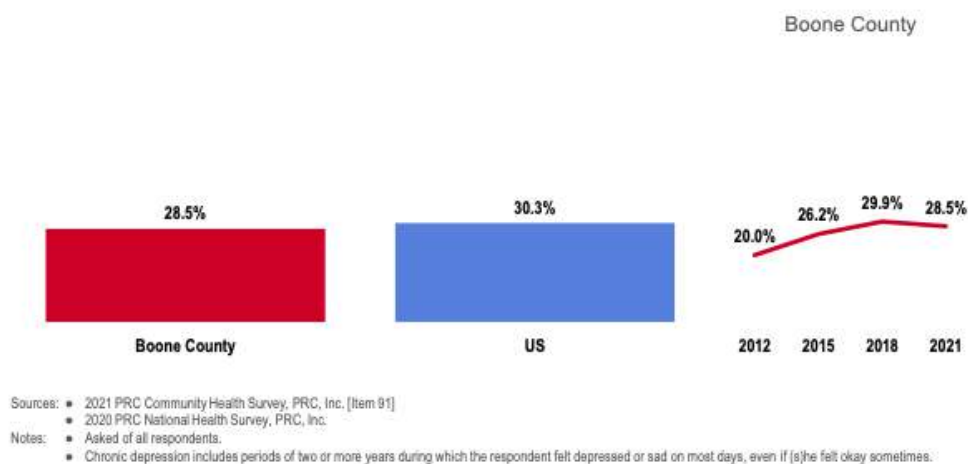
Sources: • 2021 PRC Community Health Survey, PRC, Inc. [Item 319]  
Notes: • Asked of all respondents.

Source: Witham Health Services 2021 Community Health Needs Assessment

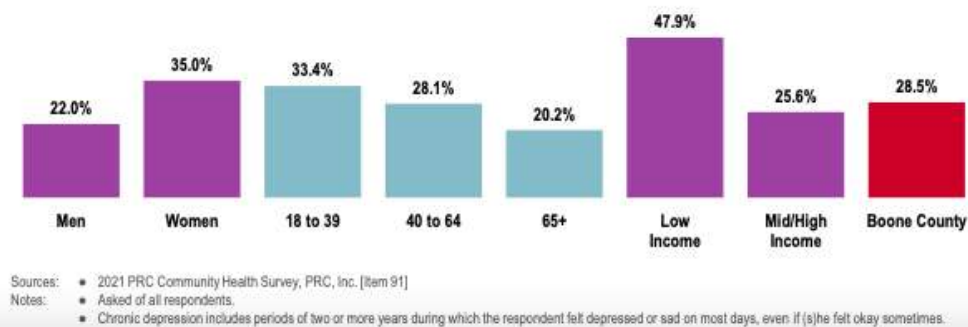
## CHRONIC DEPRESSION

A total of 28.5 percent of adults in Boone County have had two or more years in their lives when they felt depressed or sad on most days (Witham Hospital, 2022). However, it was likely that they didn't have symptoms of chronic depression other times. The Boone County rate is just 1.8 percent less than the US than national rates.

### Have Experienced Symptoms of Chronic Depression



### Have Experienced Symptoms of Chronic Depression (Boone County, 2021)



Source: Witham Health Services 2021 Community Health Needs Assessment

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## MENTAL HEALTH

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### GOAL

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- Respondents will report decreased depression symptoms, decrease suicide deaths in Boone County, and to increase the number of mental health providers for Boone County

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### OBJECTIVES

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- By the end of 2023, reduce the number of individuals who have depression symptoms and decrease suicide deaths in Boone County by increasing mental health resources for the county by 10 percent
- By the end of 2023, decrease the rate of 28.5 percent (2021 rate) of individuals that display symptoms of chronic depression (2+ years) to 22 percent
- Increase mental health resources from 113.5 mental health providers per 100,000 population to 140 mental health providers per 100,000 population by 2024
- Reduce suicide rate in Boone County 15.8 in 2021 to 12.5 or lower by 2024 through implementation and promotion of evidence-based programs
- Conduct quarterly meetings with county-wide mental health providers to develop an annual report on ongoing programs and activities

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### STRATEGIES

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- Offer Depression Screenings at Senior Expo and refer to InWell or appropriate providers
- Require depression screening PHQ9 for any patient on pain medication (Do No Harm Law)
- Depression screening for those 12 years and older to take place in all Witham primary care and specialty appointments at least 1 time each year
- Provide depression management and education to Boone County residents
- Partner with mental health organizations to improve identification and treatment of mental health issues such as depression and anxiety
- Partner with mental health organizations to improve identification and treatment of mental health issues that may lead to suicide



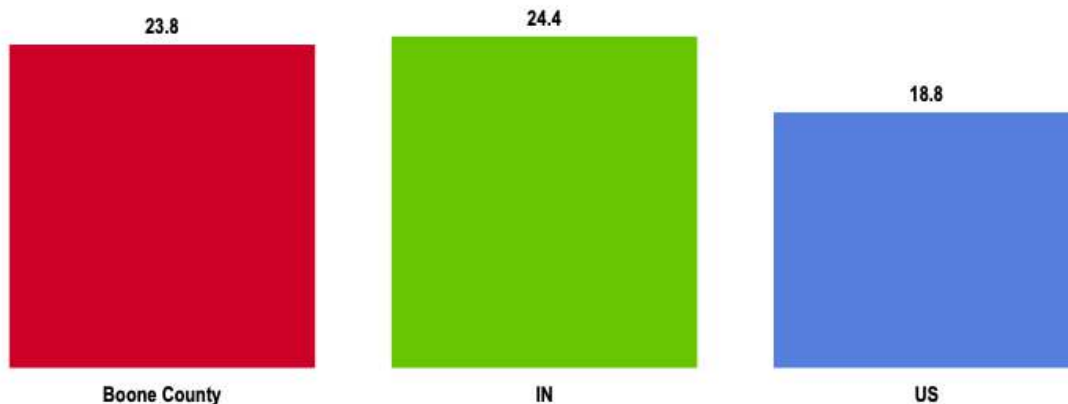
- Support QPR Training (Question, Persuade, and Refer) education programs available to school age children
- Partner with InWell for grant opportunities for mental health programs
- Develop a process to determine number of patients who are diagnosed with depression
  - Track percent of patients diagnosed with depression who receive intervention

## SUBSTANCE USE

### DRUG-RELATED DEATHS

Healthy People 2030 states, “more than 20 million adults and adolescents in the United States have had a substance use disorder in the past year” (U.S. Department of Health and Human Services (USDHHS), Office of Disease Prevention and Health Promotion (ODPHP), 2020). Substance use disorders consist of the use of illicit drugs, alcohol, or prescription drugs. These disorders are linked to many health issues and even death (USDHHS, ODPHP, 2020).

#### Unintentional Drug-Related Deaths: Age-Adjusted Mortality (2017-2019 Annual Average Deaths per 100,000 Population)



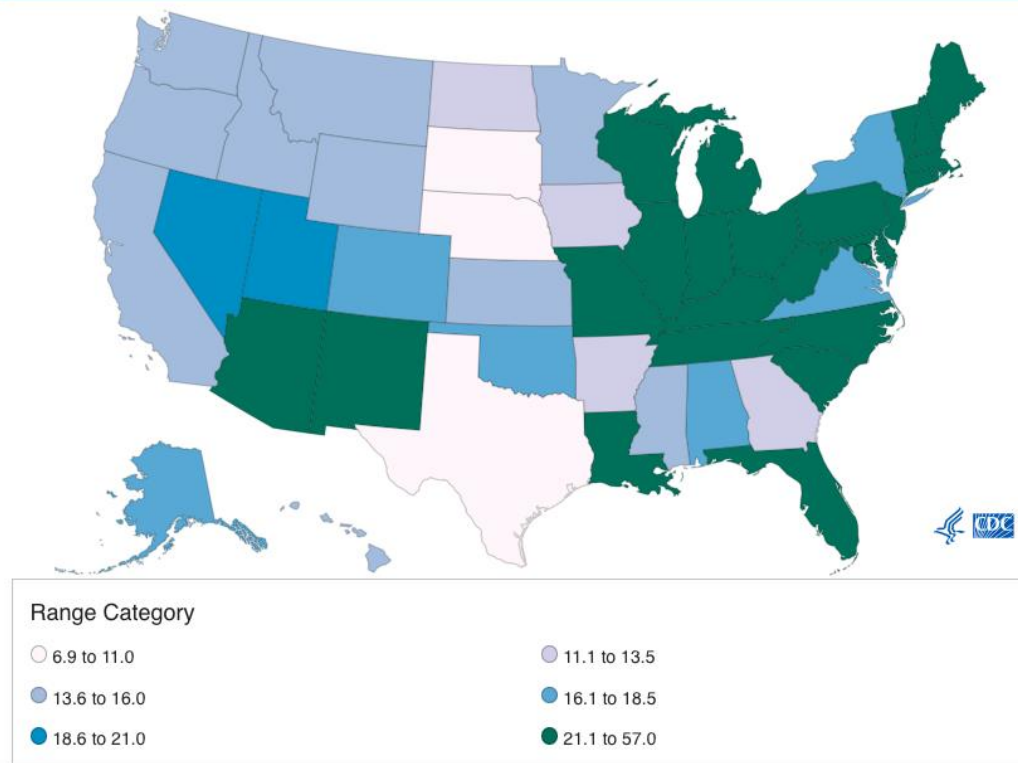
Source: Witham Health Services 2021 Community Health Needs Assessment

In Indiana, the drug overdose mortality rate is 36.7, with 2,321 deaths per 100,000 total population (CDC, 2022). Boone County reported an increase by 4.7 unintentional drug related deaths over the 2018 rate of 19.1 and 2015 rate of 14.4 per 100,000 population (Witham Hospital, 2022). As of 2022, the adjusted rate was 23.8, increasing the rate of unintentional drug related deaths by 4.7 once again (Witham Hospital, 2022).

According to the Centers for Disease Control and Prevention (CDC), since 1999, over 932,000 drug overdose deaths have occurred in the United States (CDC, 2022). In 2020 alone, 91,799 deaths from drug overdose occurred in the United States (CDC, 2022).

Opioids (synthetic opioids, other than methadone) are considered the main drug that causes overdoses in the United States. Synthetic opioids were involved in 82.3 percent of opioid-involved overdose deaths (CDC, 2022). Heroin and other opioids lead the county as the drug that causes the most issues in the community at 40.6 percent (Witham Hospital, 2021).

Number and Age-adjusted Rates of Drug Overdose Deaths by State, US 2020

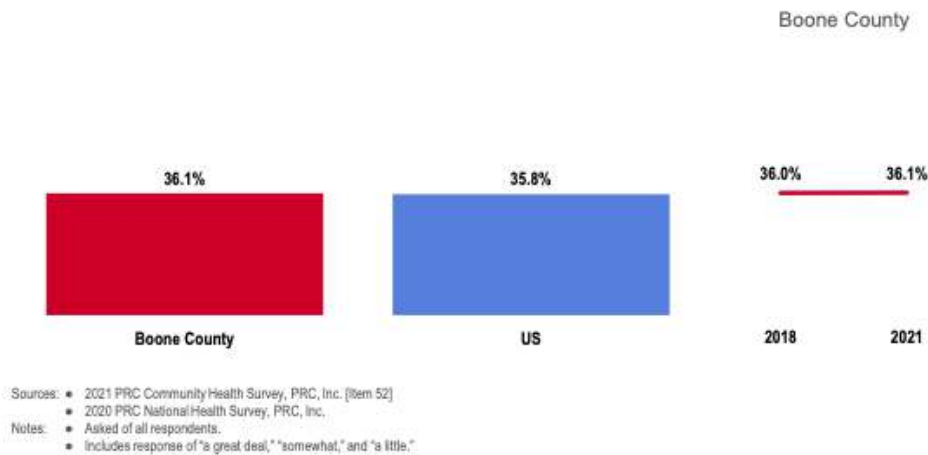


Source: Centers for Disease Control and Prevention

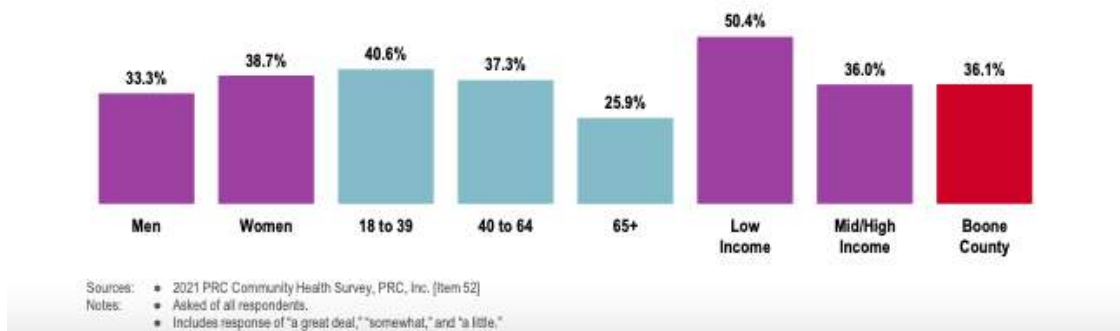
## EFFECTS OF SUBSTANCE USE

Over one-third (36.1 percent) of Boone County citizens feel that substance Use has negatively affected their life, which is higher than the U.S. rate of 35.8 percent (Witham Hospital, 2021). Most individuals in Boone County that have been affected by substance Use are considered low-income.

### Life Has Been Negatively Affected by Substance Abuse (by Self or Someone Else)



### Life Has Been Negatively Affected by Substance Abuse (by Self or Someone Else) (Boone County, 2021)



Source: Witham Health Services 2021 Community Health Needs Assessment

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## SUBSTANCE USE

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### GOAL

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- Increase engagement and input from youth and adults about their needs in addressing health and addiction challenges while implementing strategies to decrease suicide and overdose related deaths

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### OBJECTIVES

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- By the end of 2023, reduce the rate of unintentional drug-related deaths by providing substance use disorder education through annual community events and highlighted social media stories to reduce the stigma, measuring impact through annual pre/post community surveys
- Decrease the rate of citizens that feel that substance Use has negatively affected in their life from 36.1 percent to 13 by 2024
- Decrease the overall overdose related deaths from 23.8 per 100,000 to 18.8 per 100,000 or lower
- Increase awareness about the mental health and addiction treatment systems and challenges faced regarding access to care
- Reinstate quarterly mental health and addiction provider collaborative meetings
- Reduce mental health and addiction stigma among youth by creating awareness and implementing youth based program in all Boone County school districts by 2024

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### STRATEGIES

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- Continue to share the availability of local resources to the public
- Educate healthcare professionals and community leaders about the challenges to access care
- Highlight the impact of mental health challenges and its impact on employers by obtaining information from employers
- Promote the Lyft transportation program
- Continue to inform the state about transportation barriers
- Prevention strategies with school age youth

- Expand counseling services to improve access to needed services
- Continue Mental Health in ED program
- Cooperate with law enforcement in provision of NARCAN for overdose persons
- Continue to educate physicians, staff and community on the “Do no harm” law
- Continue to provide Pain Clinics (Addiction Therapy, and Interventional Pain management)
- Continue to provide Sub Oxone clinic
- Support Boone County Substance Use Task Force to create and implement plan to improve scope of local services
- Support needed medical management for substance Use
- Support transitional programs
- Explore collaborative approach with local agencies in development of opioid rehab clinic(s)
- Partner with law enforcement and community agencies to educate public on impact of drinking
- Educate public on addictive behaviors
- Support DARE, Teen Challenge, and other substance Use education programs available to school age children

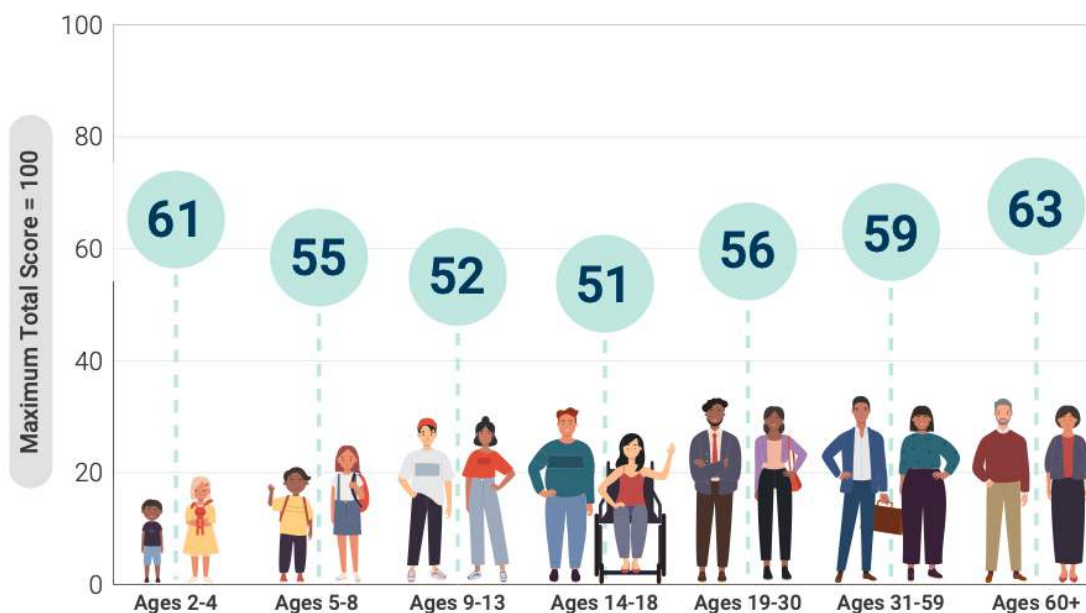
## NUTRITION, PHYSICAL ACTIVITY, & WEIGHT

### NUTRITION

Healthy People 2030 is focused on getting people to consume the recommended amount of healthy food to reduce their risk for chronic diseases and to improve their overall health (USDA, USDHHS, 2020).

The *Dietary Guidelines for Americans, 2020-2025*, states that a “healthy dietary pattern is associated with beneficial outcomes for all-cause mortality, cardiovascular disease, overweight and obesity, type 2 diabetes, bone health, and certain types of cancer (breast and colorectal)” (USDA, USDHHS, 2020).

#### Adherence of the U.S. Population to the *Dietary Guidelines* Across Life Stages, as Measured by Average Total Healthy Eating Index-2015 Scores



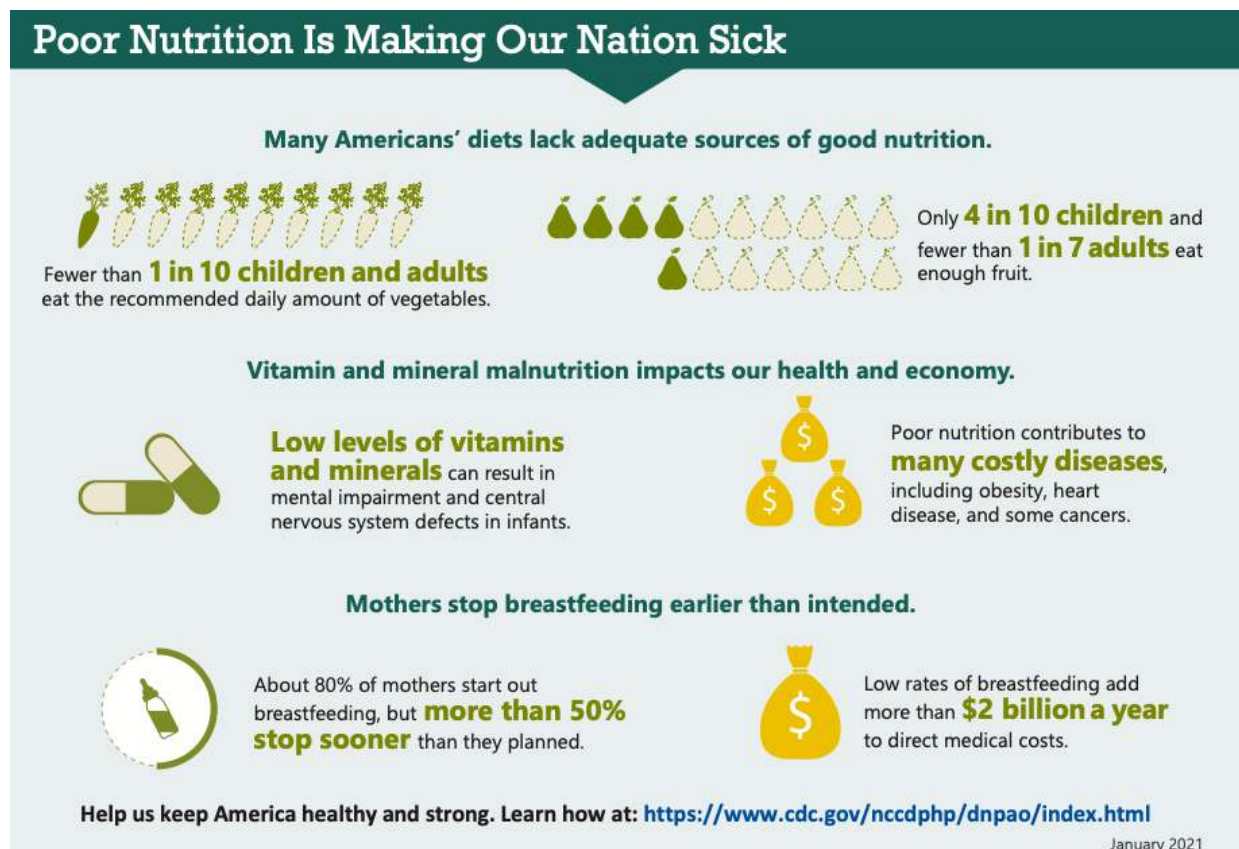
Source: U.S. Department of Agriculture and U.S. Department of Health and Human Services



Adults should be consuming 1.5 – 2 cups of fruits and 2 – 3 cups of vegetables each day, while consuming other foods that are relatively lower in calories (CDC, 2022). Some individuals are unable to afford healthy foods or don't have healthy foods readily accessible in their area.

Many Americans don't realize that while they aren't consuming foods that are recommended, they are also failing to consume the needed vitamins and minerals from these types of foods, resulting in malnutrition.

Boone County has reported a rate of 27.2 percent that eat five or more fruits and vegetables per day which is down from the 2019 rate of 29.7 percent (Witham Hospital, 2021). In comparison, the United States rate is 32.7 percent (Witham Hospital 2021).



Source: Centers for Disease Control and Prevention



## PHYSICAL ACTIVITY

Staying active is important for an individual's overall health, reducing the risk of chronic disease and leading to healthy aging. Physical fitness is linked to reducing risk of diseases such as heart disease, type 2 diabetes, obesity, and some cancers (CDC, 2022).

As of 2022, 27.2 percent of the adults in Indiana had reported that they hadn't had done any physical activity in the past month (CDC, 2022). Additionally, 17.8 percent of adults in Boone County reported that they didn't have leisure-time physical activity (any physical activities or exercises) in the last month (Witham Hospital, 2021).



Source: Centers for Disease Control and Prevention

Adults should move more than they sit each day when possible. To achieve the health benefits of physical activity, adults should engage in 150 minutes (2 hours and 30 minutes) to 300 minutes (5 hours) each week of moderate-intensity physical activity (USDHHS, 2018).

Children and adolescents aged 6 to 17 years old should be doing 60 minutes (one hour) or more of physical activity daily. Physical activity can include aerobic, muscle-strengthening, or bone-strengthening activities (USDHHS, 2018). Aerobic activities (cardio) are when people move the larger muscles in their body in a “rhythmic manner” for a designated period of time. Muscle-strengthening activities consist of movements that target major muscles in the body (USDHHS, 2018). Examples of the two are listed below.

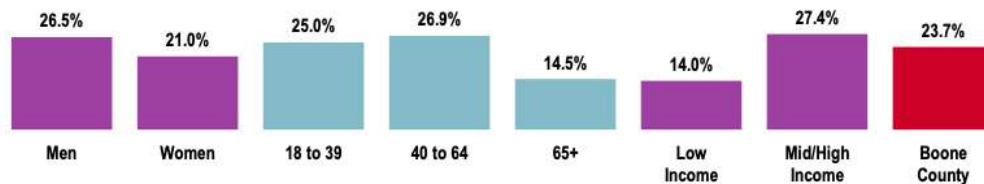
Aerobic Activities	Muscle-Strengthening Activities
<ul style="list-style-type: none"><li>■ Walking or hiking</li><li>■ Dancing</li><li>■ Swimming</li><li>■ Water aerobics</li><li>■ Jogging or running</li><li>■ Aerobic exercise classes</li><li>■ Some forms of yoga</li><li>■ Bicycle riding (stationary or outdoors)</li><li>■ Some yard work, such as raking and pushing a lawn mower</li><li>■ Sports like tennis or basketball</li><li>■ Walking as part of golf</li></ul>	<ul style="list-style-type: none"><li>■ Strengthening exercises using exercise bands, weight machines, or hand-held weights</li><li>■ Body-weight exercises (push-ups, pull-ups, planks, squats, lunges)</li><li>■ Digging, lifting, and carrying as part of gardening</li><li>■ Carrying groceries</li><li>■ Some yoga postures</li><li>■ Some forms of tai chi</li></ul>

Source: Centers for Disease Control and Prevention

In Indiana, 21.1 percent of adults report meeting physical activity recommendations each week, with Boone County reporting that 23.7 percent stated that they engaged in the recommended physical activity each week (Witham Hospital, 2021). According to the USDHHS, 45.8 percent of children in Boone County aged 2 to 17 reported having done the recommended 60 minutes of physical activity the seven days leading up to the interview (USDHHS, 2018).

**Meets Physical Activity Recommendations  
(Boone County, 2021)**

Healthy People 2030 = 28.4% or Higher



Sources:

- 2021 PRC Community Health Survey, PRC, Inc. [Item 126]
- US Department of Health and Human Services. Healthy People 2030. August 2020. <http://www.healthypeople.gov>

Notes:

- Asked of all respondents.
- Meeting both guidelines is defined as the number of persons age 18+ who report light or moderate aerobic activity for at least 150 minutes per week or who report vigorous physical activity 75 minutes per week or an equivalent combination of moderate and vigorous-intensity activity *and* report doing physical activities specifically designed to strengthen muscles at least twice per week.

Source: Witham Health Services 2021 Community Health Needs Assessment

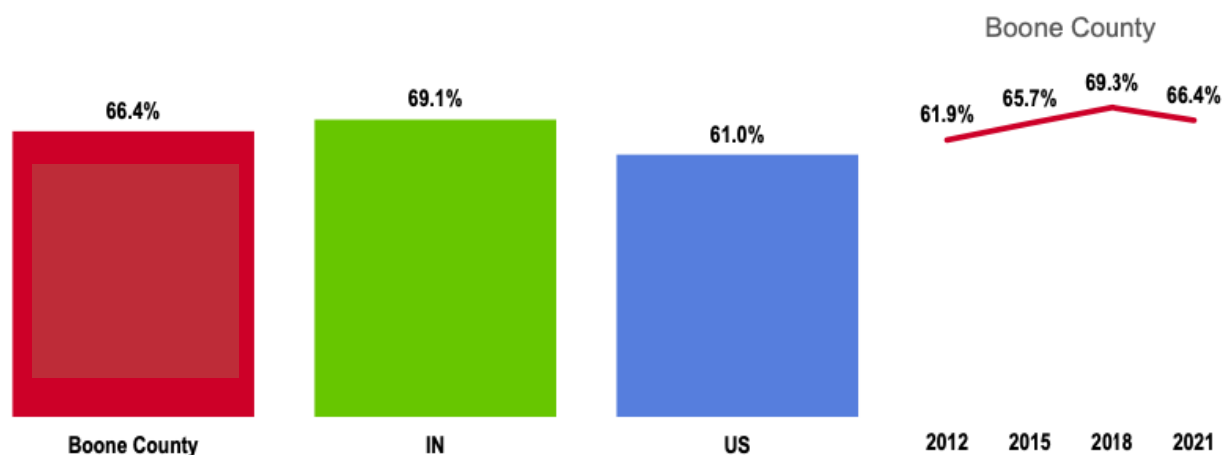
## WEIGHT

A healthy weight can be achieved by having healthy eating habits, staying active, reduced stress, and adequate sleep. Having healthy eating habits and staying active is important for an individual's overall health, reducing the risk of chronic diseases and cancer.

According to the USDA and the USDHHS (2020), in the United States 74 percent of adults are overweight (BMI of 25 or more) or obese (BMI of 30 or more) with adults aged forty years to fifty-nine years old with the highest rate of obesity (43 percent). Children in the United States are also at risk of obesity, with 40 percent being overweight or obese as of 2020.

In Boone County, 46 percent of overweight respondents have received professional medical advice about diet, nutrition, physical activity, and/or weight management in the past year (Witham Hospital, 2021). However, as of 2021, 66.4 percent of Boone County is still considered overweight and obese (Witham Hospital, 2021).

### Prevalence of Total Overweight (Overweight and Obese)



Source: Witham Health Services 2021 Community Health Needs Assessment

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## NUTRITION, PHYSICAL ACTIVITY, & WEIGHT

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### GOAL

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- Reduce the percent of overweight adults in Boone County and increase the number of fruit and vegetable servings consumed daily
- Increase the number of respondents that report the community provides enough recreation for youth year-round and meets physical activity guidelines
- Certify Boone County as a Blue Zone Community

### OBJECTIVE

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- Decrease Boone County's overweight rate from 66.4 percent to less than 61 percent by 2024
- Boone County to report the percentage of individuals meeting physical activity guidelines to meet or exceed HP 2030 benchmark of 28.4 percent
- By the end of 2024, provide at least three additional physical fitness programs/classes that are offered to citizens in Boone County at a free or discounted rate
- By the end of 2024, provide at least three additional nutrition education programs/classes that are available at a free or discounted rate

### STRATEGIES

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- Education regarding harm of obesity
- Promote healthy lifestyles through outreach opportunities
- Promote active lifestyles by offering Silver Sneakers to community
- Promote active lifestyles by offering Rock Steady Boxing
- Promote active lifestyles by offering Tai Chi for Health
- Offer healthy cooking classes to the community
- Offer Witham Walkers program
- Bring FACS classes from each school in Boone County to at least one Cooking for Wellness class
- Promote the planet fitness youth discount program
- Utilize and promote the senior mobile food pantry
- Restart food pantry coalition meetings

- Educate patrons of the food pantry on healthy choices and provide healthy meal bundles
- Promote active lifestyles by supporting community 5K and relays
- Physicians have parents complete physical activity questionnaire for themselves and child for early awareness
- Educate the community at events throughout the year about importance of being active and limiting screen time
- Promote physical activities with sponsorships and promotional items given (jump ropes, chalk, playing cards, balls, frisbees)
- Promote 5K and relays in the community to encourage physical activity
- Partner with the YMCA to promote activities
- Support Healthy Coalition programs
- Offer free group exercise classes
- Provide safe free access walking trail around pond at Witham
- Support organizations in Boone County that promote nutrition and education programs if possible
- Support and help promote the local Farmer's Markets that gives access to buying fresh produce when possible
- Support and help promote "Farm to Table" opportunities for purchasing fresh fruit and vegetables when possible
- Educate families on choosing fresh fruit and vegetables instead of processed foods (allocation of food dollars) and what food resources are available
- Partner with Purdue Extension for education programs
- Offer healthy options in the Witham Café and Pavilion Perk

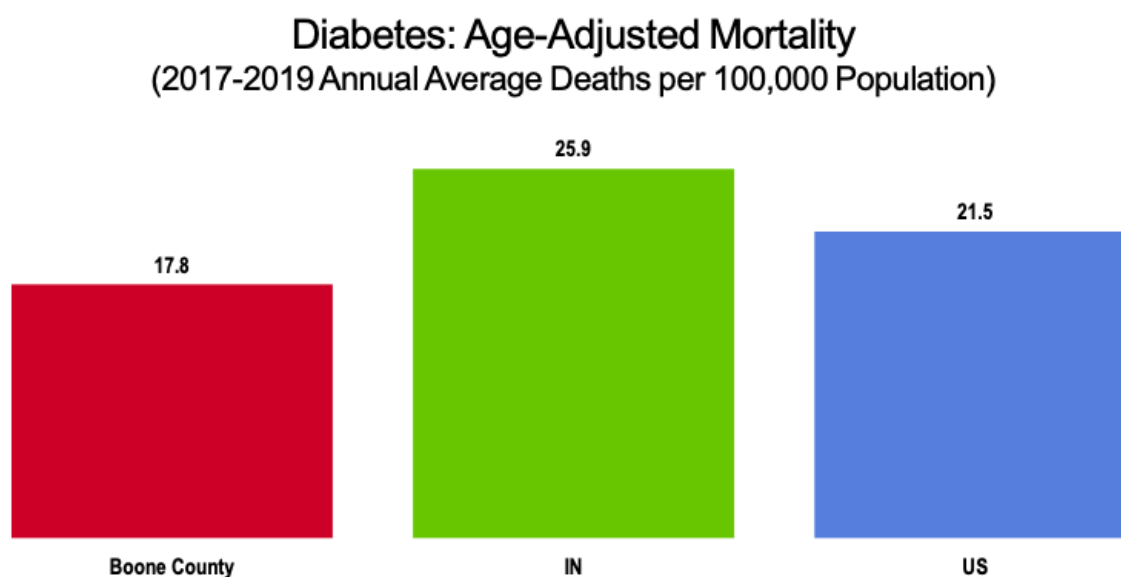
## DIABETES

### DIABETES

Diabetes is the seventh leading cause of death in the United States and affects more than 37 million adults around the United States (CDC, 2022). It is caused by a lack of insulin made by the body, resulting in an abundant amount of blood sugar present in the bloodstream. If blood sugar isn't regulated over time, heart disease, vision loss, and kidney disease can occur (CDC, 2022).

In Indiana, more than 738,000 children and adults suffer from all forms of diabetes (American Diabetes Association, 2022). According to the CDC, one in five individuals that are affected don't know that they have it. An estimated 160,000 individuals residing in Indiana have diabetes and don't know it (American Diabetes Association, 2022).

The following chart shows that the mortality rate of individuals with diabetes in Boone County (17.8 percent) is lower than both the state (25.9 percent) and national rate (21.5 percent) (Witham Hospital, 2021).



Source: Witham Health Services 2021 Community Health Needs Assessment

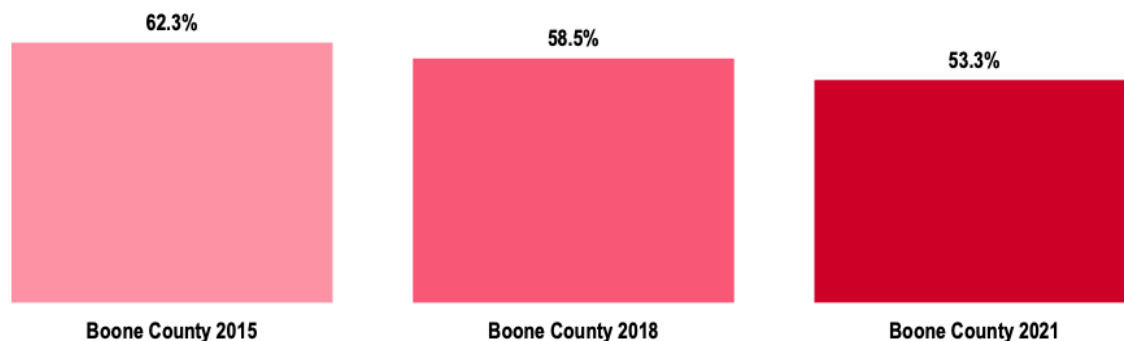


## PREDIABETES

Prediabetes develops because of higher-than-normal blood sugar levels, but the levels aren't high enough to be diagnosed as type two diabetes. In the United States, more than one in three American adults have prediabetes. However, over 80 percent don't know that they have it, resulting in putting them more at risk for type two diabetes, heart disease, and stroke (CDC, 2021). The CDC created a National Diabetes Prevention Program that is available as an educational resource for those effected by diabetes. This program explains what lifestyle changes can be made to reverse or delay any form of diabetes (CDC, 2021).

The following chart shows that the rate of individuals in Boone County that have taken a course in diabetes management has declined since 2015. According to the CHNAIS, the rate of Boone County adults with diabetes has increased from 9.9 percent (2018) to 11.8 percent (2021) (Witham Hospital, 2021). As of 2021, diabetes is most prevalent among adults sixty-five and older (27.6 percent), and low-income individuals (22.1 percent) in Boone County (Witham Hospital, 2021).

### Have Taken a Course in Diabetes Management (Boone County Diabetics, 2021)



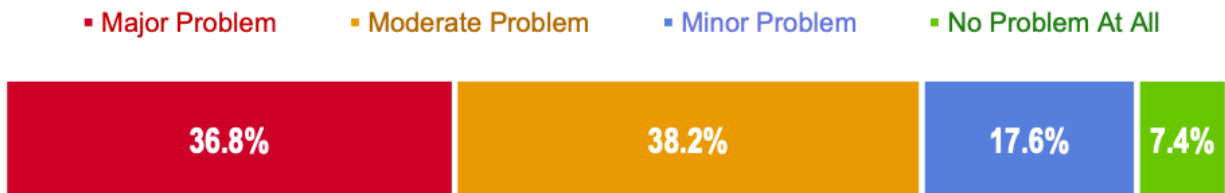
Source: Witham Health Services 2021 Community Health Needs Assessment



The 2021 Community Health Needs Assessment (CHNA) indicates that diabetes is considered more of a “moderate problem” within Boone County because of the following:

- Awareness/Education
- Disease Management
- Obesity
- Access to Affordable Healthy Foods
- Prevention/Screenings
- Affordable Medications/Supplies

**Perceptions of Diabetes  
as a Problem in the Community  
(Key Informants, 2021)**



Source: Witham Health Services 2021 Community Health Needs Assessment

## **TYPES OF DIABETES**

There are two different types of diabetes, type 1 and type 2.

Type 1 diabetes is caused by the pancreas not making insulin or a very little amount. Insulin allows blood sugar to enter the cells in the body to be used as energy. Without insulin, blood sugar can't get into cells, resulting in a buildup in the bloodstream. This type of diabetes is most prevalent in the younger population (children, teens, and young adults) (CDC, 2022).

Type 2 diabetes occurs when cells stop responding normally to insulin, known as insulin resistance. The pancreas ends up making more insulin to attempt to get the cells to respond, resulting in high blood sugar. Symptoms of type 2 diabetes can be overlooked and difficult to identify. Blood tests can tell you if you have diabetes or not. Type 2 diabetes is more prevalent in people over 45 (CDC, 2021).

According to the CDC, it is important to schedule regular checkups with healthcare providers such as your primary care doctor, foot doctor, dentist, eye doctor, registered dietitian nutritionist, diabetes educator, and pharmacist (CDC, 2022). Checking your blood regularly, staying physically active, controlling blood pressure, and controlling cholesterol are also important in order to prevent any type of diabetes (CDC, 2022). Staying on top of your health and in contact with healthcare providers is the best way to refrain from contracting diabetes.

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## DIABETES

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### GOAL

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- Reduce diagnosis of borderline pre-diabetes

### OBJECTIVES

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- By the end of 2024, reduce the number of individuals who have pre-diabetes in Boone County from 11.4 percent to 8.4 percent
- Decrease the rate of adults with diabetes in Boone County
- Increase education on strategies to prevent diabetes
- Decrease percentage of patients diagnosed with borderline pre-diabetes
- Maintain a rate of adults reporting to less than or equal to the 9.7 percent rate for the United States
- Increase number of Boone County residents with primary care physicians by distributing informational flyers throughout the county with doctors currently accepting new patients

### STRATEGIES

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- Refer pre-diabetic patients for education/programs regarding prediabetes management and prevention
- Continue Rapid A1-C Screenings in office
- Provide education on pre-diabetes, signs and symptoms
- Provide education on how to prevent pre-diabetes
- Provide education on how to reverse pre-diabetes
- Utilize and promote dining with diabetes
- Utilize and promote diabetes classes offered at the YMCA for ages 18+
- Utilize and promote Cooking for Wellness classes
- Utilize and promote Boone County Senior Services for transportation individuals of all ages to doctors appointments

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## HEART DISEASE AND STROKE

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### HEART DISEASE

As of 2020, heart disease is the leading cause of death in the United States (USDOHH, ODPHP, 2020).

The CDC states that heart disease is the leading cause of death for both men and women, along with “most racial and ethnic groups in the United States” (CDC, 2022).

The most common heart disease is coronary heart disease and killed over three hundred thousand individuals in 2020 (CDC, 2022).

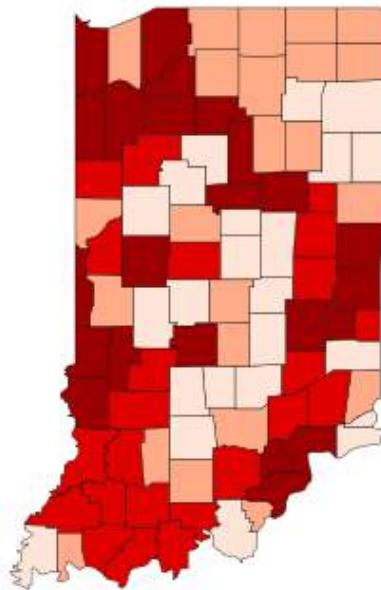
One in five, almost seven hundred thousand individuals, died from a heart disease in 2020 (CDC, 2022). White men are more at risk (22.7 percent) of contracting heart disease, while American Indian or Alaskan Natives at the lowest risk (12.7 percent) of contracting heart disease (CDC, 2022).

The American Heart Association’s (AHA), “life’s simple 7” (seven life goals) should be used as a guideline to live a healthy life (AHA, 2021). The seven goals of a healthy diet include, “eating a healthy diet, exercising regularly, avoiding excess weight, not smoking, and keeping blood pressure, cholesterol and blood sugar within a healthy range” (AHA, 2021). The Indiana Department of Health recommends having a healthy diet, exercise regularly to maintain a healthy weight, and limit use of products containing tobacco (IDOH, 2022).

According to the IDOH, risk factors pertaining to heart disease include high blood pressure, high cholesterol, diabetes, physical inactivity, poor nutrition, obesity, smoking, and excessive alcohol intake (IDOH, 2022). In Indiana in 2017, a rate of 35.2 percent was reported to have high blood pressure and a rate of 32.8 percent were reported to have high cholesterol (IDOH, 2022).

The data listed below is based on data averages from between 2017 and 2019. During this time, multiple counties in Indiana had high death rates that were between 378 – 475 per 100,000 in individuals thirty-five years and older (CDC, 2020).

In Boone County, heart disease death rates were 364 per 100,000 adults thirty-five years and older (CDC, 2020). This leaves individuals that live in Boone County at a medium risk of death caused by heart disease.

**Indiana****Heart Disease  
Death Rate per 100,000\***

Source: Centers for Disease Control and Prevention

## STROKE

As of 2020, stroke is the fifth leading cause of death in the United States (USDOHH, ODPHP, 2020). A stroke occurs when the supply of blood in the brain is blocked or when a blood vessel that is in the brain bursts (IDOH, 2022). Eighty-seven percent of strokes are called ischemic strokes, where blood flow to the brain is blocked (CDC, 2022). Strokes result in damage to the brain, which can be long-term, or terminal.

Individuals at risk of stroke may have one of the following conditions: high blood pressure, high cholesterol, heart disease, diabetes, or sickle cell disease (IDOH, 2022).

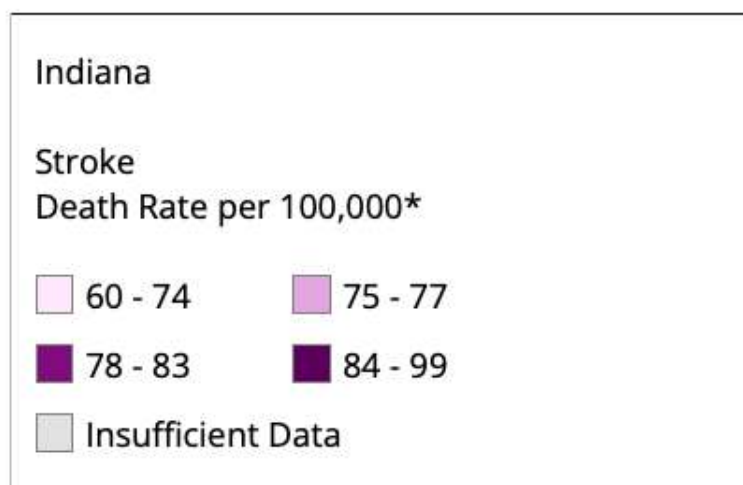
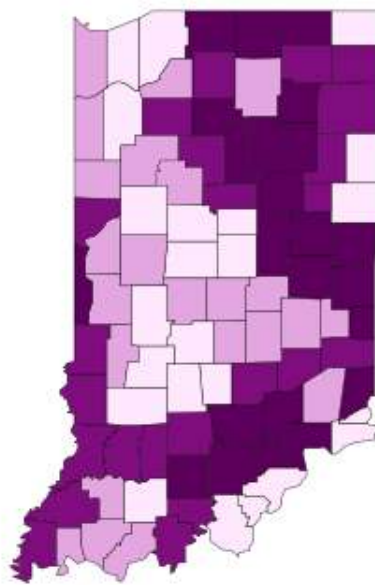
The Indiana Department of Health recommends limiting alcohol use, exercising regularly, eating a healthy diet, avoiding tobacco use, and checking both cholesterol and blood pressure (IDOH, 2022).

Each year, over seven-hundred and ninety thousand people in the United States had a stroke (CDC, 2022). Approximately one in four of these individuals have had a previous stroke before. America's Health Rankings (AHR) state that around 55,000 more women than men have a stroke each year, totaling to the 58 percent of deaths that were recorded in 2015 (AHR, 2017).

According to the CDC, stroke is more prevalent among the black population compared to the white population in the United States, with black individuals having the highest rate of death caused by stroke (CDC, 2022). Adults that reside in the southeast region of the United States and have low socioeconomic status are both more at risk of suffering from a stroke (AHR, 2017).

The stroke death rate data listed below is based on averages from between 2017 and 2019. During this time, multiple counties in Indiana had high stroke death rates that were between 84 – 99 per 100,000 in individuals thirty-five years and older (CDC, 2020).

In Boone County, stroke death rates were 74 per 100,000 in individuals thirty-five years and older (CDC, 2020). This leaves residents of Boone County at a low risk of death caused by stroke.



Source: Centers for Disease Control and Prevention

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## HEART DISEASE AND STROKE

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### GOAL

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- To decrease death rate and diagnosis of heart disease in Boone County

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### OBJECTIVES

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- By the end of 2024, decrease the death rate for heart disease in Boone County from 190.7 to 185
- By the end of 2024, decrease the percentage of people that have been told they have High Blood Pressure (HBP) from 34.7 percent to 30 percent in Boone County
- By the end of 2024, increase percentage of people that have taken action to control HBP from 92.4 percent to 95 percent in Boone County
- Decrease stroke death rate in Boone County from 37.7 to 33
- Increase the number of Boone County residents with primary care physicians by distributing informational flyers throughout the county with doctors currently accepting new patients

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### STRATEGIES

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- Provide medical intervention to save lives of acute cardiac distress
- Provide Cath lab services
- Provide education to community on heart disease and stroke
- Provide heart scans
- Improve medical management by increasing heart and stroke related programs
- Provide cardiac rehab services
- Provide adult fitness program in rehab department
- Monitor blood pressure
- Utilize and promote dining with diabetes
- Utilize and promote diabetes classes offered at the YMCA for ages 18+
- Utilize and promote Cooking for Wellness classes
- Utilize and promote Boone County Senior Services for transportation individuals of all ages to doctors appointments
- Promote heart cans, preventative testing, and heart month through Witham Health Services



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## NEXT STEPS

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Each priority area will have ongoing review and evaluation conducted by community partners involved with implementation.

Additionally, the Boone County Healthy Coalition Advisory Committee will meet annually to evaluate work plans by tracking progress made towards achieving listed goals and objectives. During the evaluation process, all ineffective strategies will be revised and the CHIP will be updated.

If you are interested in more information on how to get involved with the CHIP or Boone County Healthy Coalition, please contact:

Boone County Health Department  
Nursing & Vital Records Division  
116 W. Washington St.  
B 202  
Lebanon, IN 46052  
(765) 482-3942

<http://www.boonecounty.in.gov/health>  
[bchc06@gmail.com](mailto:bchc06@gmail.com)

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