



2017 Coshocton Community Health Profile

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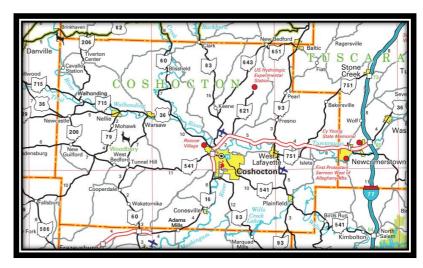
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TABLE OF CONTENTS

A SNAPSHOT OF COSHOCTON	3
COMMUNITY HEALTH ASSESSMENT PROCESS	5
CRITICAL HEALTH ISSUES	8
SUBSTANCE ABUSE	10
CANCER	11
DIABETES	12
CARDIOVASCULAR DISEASE	14
MENTAL HEALTH	15
Environmental Health	16
SUMMARY	19
Sources	20

A SNAPSHOT OF COSHOCTON, OHIO

Coshocton County borders Holmes, Tuscarawas, Guernsey, Muskingum, Licking and Knox counties in eastern Ohio. The county comprises 563.91 square miles and 22 townships. It is a rich historical area, with the word Coshocton being of Indian origin, meaning "union of waters".



There are three school districts in Coshocton County: Coshocton City Schools, Ridgewood Local, and River View Local.

Coshocton County is part of the region designated "Appalachia" by the federal government (Figure 1). This means that the county is eligible for specific funding opportunities currently managed by the Appalachian Regional Commission (ARC). Appalachia was first identified in 1965 as 360 counties bordering the Appalachian Mountains and sharing some socioeconomic conditions. The region has grown geographically, so that in 2017, there are 420 counties in 13 states that are part of this federally-designated area. Although identifying Appalachia only on the basis of geography dismisses the importance of culture, history, and numerous other social and environmental factors, it does allow for comparisons both within and outside of the region. There are documented health, environmental, and economic disparities that distinguish Appalachia from the rest of the country. These include high rates of obesity and diabetes, increasing problems with drug abuse, environmental contamination, and high unemployment rates.

The Coshocton City and Coshocton County health departments collaborated with the Appalachian Rural Health Institute (ARHI) at Ohio University on this Community Health Profile. Some information from reports completed by Coshocton County Memorial Hospital and the Coshocton Health Department in 2016 is included here, but these two documents provide a more comprehensive assessment of health and community needs. This profile enhances the 2016 needs assessments by including results from community engagement activities in early 2017 as well as additional public health indicators.

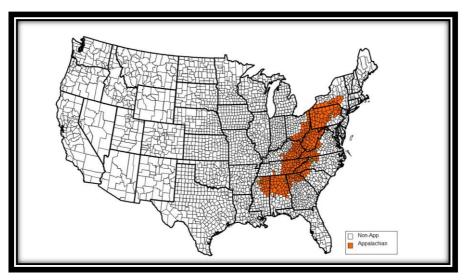


Figure 1. The Appalachian Region of the United States

A comprehensive presentation of the demographics of Coshocton County can be found on the County Needs Assessment completed by the Health Department in 2016; this section offers a snapshot of some of the important population indicators in the county. Annually, the Appalachian Regional Commission compiles economic information to compare the economic health of counties. ARC's 2016-2017 map (Figure 2) identifies Coshocton as "transitional," meaning that they are transitioning between strong and weak economies based on employment,

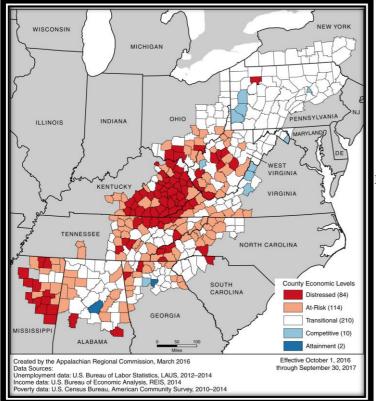


Figure 2. Economic Conditions in Appalachia (Source: Appalachian Regional Commission)

income, and poverty rates.

	Population				
	Coshocton County	Coshocton City	Ohio		
Total population, 2016	36,569	11,121	11,614,373		
Population change, 2010-2015	-0.9%	-0.8%	0.7%		
Persons under 5 years	6.2%	5.8%	6.0%		
Persons under 18 years	23.6%	21.7%	22.6%		
Persons 65 years on over	18.1%	20.5%	15.9%		
Population per square mile	65.4	1,387.4	282.3		
	Housing				
Owner-occupied, 2011-2015	74.4%	62.4%	66.3%		
Median housing value, 2011- 2015	\$96,500	\$85,100	\$129,900		
	Education				
High school graduate or higher	85.0%	86.5%	89.1%		
Bachelor's degree or higher	12.1%	15.2%	26.1%		
	Health				
People with disability, under 65, 2011-2015	10.4%	11.8%	9.9%		
Without health insurance	12.3%	10.7%	7.6%		
Employment and Income					
In civilian labor force, 16 years old, 2011-2015	58.1%	53.3%	63.3%		
Median household income, 2011-2015	\$41,701	\$36,372	\$49,429		
Persons in poverty (%)	16.1%	17.0%	15.8%		

COMMUNITY HEALTH ASSESSMENT PROCESS

In 2016 the Coshocton County Health Department completed a needs assessment compiling and describing information about population, available community services, and the most important community health needs. This assessment also included surveys at child care centers, preschools and maternal and child health centers, and an online survey disseminated to public employees of the county. The health data in the needs assessment provides extensive

information related to birth rates, infant mortality, and maternal and child health. In addition, the needs assessment identifies the six leading causes of death in the county as: 1) cancer; 2) heart disease; 3) lower respiratory diseases; 4) unintentional injuries; 5: stroke; and 6) diabetes. The 2016 Coshocton Memorial Hospital Needs Assessment also identified six priority health issues:

1) cardiovascular disease; 2) diabetes; 3) cancer; 4) chronic lower respiratory disease; 5) substance abuse; and 6) depression.

Using the previous work as the foundation, we applied the PRECEDE-PROCEED model to assess community health issues (Figure 3). The PRECEDE-PROCEED model was developed in the 1980s to help program planners determine community health intervention programs. This model is an extremely useful for critical analysis and helps provide structure to health assessment ensuring a comprehensive process. Ohio University partners have significant expertise in applying the model in community health assessments.

PRECEDE- PROCEED are acronyms that stand for Predisposing, Reinforcing and Enabling Constructs in Educational Diagnosis and Evaluation, and Policy, Regulatory and Organizational Constructs in Education and Environmental Development. The PRECEED component of the model includes the steps to assess conditions in communities. While the process does not always follow the phases in order, it always starts with the

2016 County Needs Assessments: Priority Health Issues⁴

Health Department (leading causes of death):

- 1. Cancer
- 2. Heart disease
- 3. Lower respiratory disease
- 4. Unintentional injuries
- 5. Stroke
- 6. Diabetes

Hospital (priorities):⁵

- 1. Cardiovascular disease
- 2. Diabetes
- 3. Cancer
- 4. Lower respiratory disease
- 5. Substance abuse
- 6. Depression

social assessment to identify priorities and needs in the community and community members are involved throughout. The PROCEED section of the model assists with the implementation and evaluation of the health program, providing information for what should be changed if the program were to be implemented again to make it more successful.

The PRECEDE-PROCEED model is based on the assumption that change should focus outcomes rather than activities and community members must be involved in planning. Behavioral change is a major component of the model and since this change is voluntary, those who are the targets of the change must participate in the process. The PRECEDE-PROCEED process starts with Phase 1, a social assessment. During this assessment, priorities are identified

pertaining to specific community issues. The community needs assessments conducted by the hospital and the health departments in 2016 are the main components of the social assessment.

This community
health profile documents
Phase 2, 3, and 4 of the
model. These phases
include steps to pinpoint
behavioral, environmental,

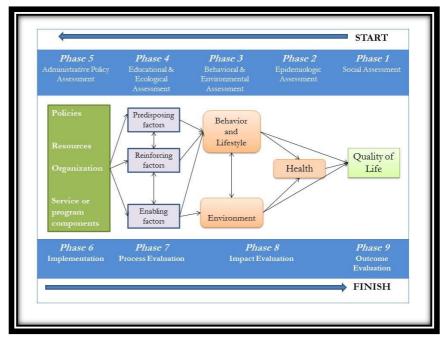


Figure 3. The Community Health Assessment Model

educational, and ecological factors that could be affecting community health in the county.

PRECEDE Components

The 2016 needs assessments identify health priorities and contain critical information related to existing conditions in the county. The information available in the needs assessments includes epidemiological and behavioral factors that could contribute to the health priorities. An additional assessment component involved engaging a broader range of community residents through a survey and focus groups in early 2017. The online survey assessed community perceptions of overall health, access to health care, important health issues in the county, and various aspects of health including behavioral factors. Health care and community service providers identified in the hospital needs assessment helped to disseminate the survey. Aditional dissemination included social media, email, or by word of mouth. This is a "snowball" sample which can lead to a high number of respondents, but is not necessarily representive of the population of interest.

Once the survey was completed, thirty residents participated in three focus group discussions. These discussions were designed to allow community members to offer insights on the survey results, specifically focusing on their ideas about the behavioral and environmental factors (Phases 3 & 4) that could be affecting health in the county. Participants also shared their opinions and perceptions about the important health issues in the county.

CRITICAL HEALTH ISSUES

The two community needs assessments identified important health issues in the county and these issues were explored further with the survey of residents. The table below compares how different groups ranked top health issues. This table shows that those who participated in the community survey believe that substance abuse is the most important health issue, while the hospital needs assessment identified it 5^{th} out of the 6^{th} issues. Cardiovascular disease is the most important issue identified in the hospital needs assessment; cancer is similar across all three sources as being one of the top issues.

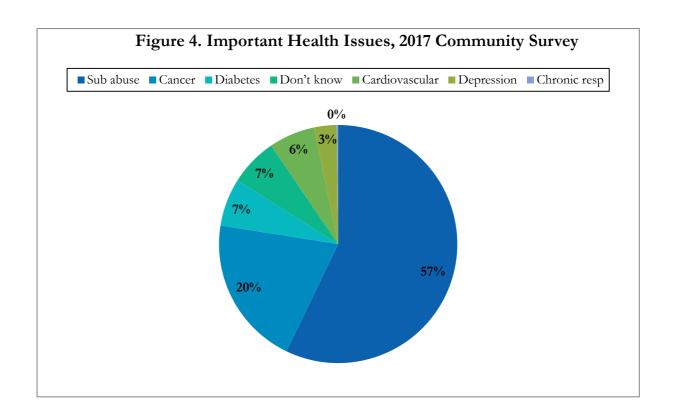
Issue	Community Survey ^a	Hospital Needs Assessment ^b	County Needs Assessment ^c
Substance abuse	1	5	NA
Cancer	2	3	1
Diabetes	3	2	NA
Cardiovascular disease	4	1	2
Depression	5	6	NA
Chronic low respiratory disease	6	4	3

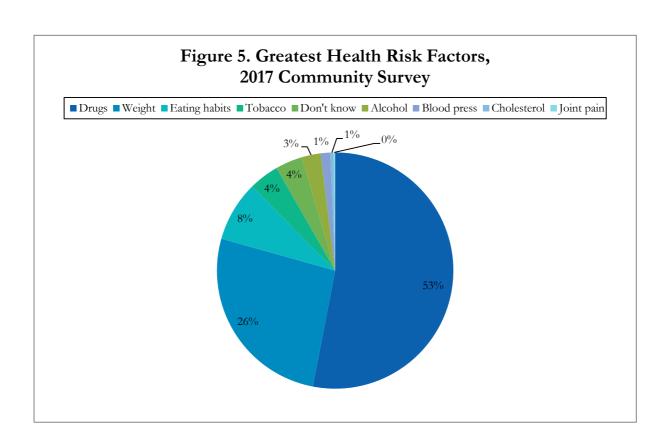
a. Based on the % ranking the issue as the most important health issue.

Figures 4 and 5 below further suggest the importance that the public places on the health issue of substance abuse. Almost 60% of the survey respondents identified substance abuse as the most important health issue in the County and more than one-half believe that drugs are the greatest health risk factor.

b. As ranked by needs assessment participants and based on data.

c. Based on the annual cause of death. Other causes of death are unintentional injuries, stroke, and Alzheimer's disease





SUBSTANCE ABUSE

There is no doubt that substance
abuse, specifically opioid addiction is
becoming an increasingly important public
health issue, especially in Appalachia.
However, data from the state of Ohio show
alarmingly high rates of deaths from
substance abuse, in the southwestern part of
the state, with several Appalachian counties
having high rates as well. The community
survey identified substance abuse as the most
important health issue in the county. Almost 60%

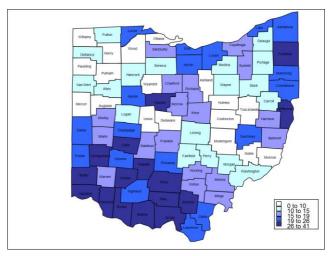


Figure 6. Age-Adjusted Substance Abuse Deaths per 100,000 People, 2010-2015

of the survey respondents indicated that they were most concerned about this issue.

Substance Abuse Indicators			
	Coshocton	Ohio	
	County		
Rank in Ohio for deaths by overdose, 2010-2015	74/88	NA	
Percentage of adults reporting excessive drinking	16%	19%	
Percentage of driving deaths that are the result of alcohol	39%	34%	
Percentage of adults who smoke	20%	22%	
Liquor sales, bottles per capita, 2015	1.7	4.8	
Alcohol-related vehicle fatalities, rate per 100,000	5.5	3.1	

According to the Ohio Department of Health substance abuse accounts for 9.2 deaths per 100,000 in Coshocton, whereas in a neighboring county, Guernsey County substance abuse accounts for 19.9 per 100,000. There were 18 reported deaths from unintentional drug overdoses on Coshocton County between 2010 and 2015. The map in Figure 6 offers a comparison of deaths related to substance abuse in Ohio. The lighter the shade, the lower the number of deaths.

There is discrepancy between perception of the substance abuse and secondary data related to it in Coshocton. This is an issue of great

concern to community members who seem to understand the complexity of the factors that lead to drug use as well as the challenges with addressing the problem. Focus group participants suggested that one reason that people in the community are so concerned about substance abuse

is related to the media coverage of this topic. In addition, focus group participants raise the issue of methamphetamines.

Focus Group Comments on Drugs

"I think drugs get a real high mark because it's in the Tribune...but realistically I think it goes back to health, fitness, your diabetes, a lot of times due to being overweight."

"Because we live in a small county when I get out of treatment, people know where to find me and as soon as I am home, they are knocking on my door...so some of it is inherent to a small community."

"Most of us probably know at least one person who has an addiction and then you hear it local through social media of what is going on locally"

CANCER

Results from the 2015 Ohio Cancer Incidence Surveillance system found the rate of cancer incidence in Coshocton County at 468.0 per 100,000 people compared to a state rate of 463.9 per 100,000. In addition, cancer mortality in Coshocton is 206.1 per 100,000 compared with the Ohio's mortality rate of 186.6 per 100,000. On average, 218 cases of cancer occur every year in Coshocton, killing 96 people on average. However, cancer incidence on the whole has decreased by 14% in Coshocton County since 2003, twice as much as Ohio.

Cancer Incidence, Mortality and Risk				
	Coshocton County	Ohio		
Cancer Incidence per 100,000 people, 2008-2012	468	463.9		
Cancer Mortality Rates per 100,000 people, 2008-2012	206.1	186.6		
Lung Cancer Incidence per 100,000 people, 2008-2012	78.8	71.7		
Lung Cancer Mortality per 100,000 people, 2008-2012	69.2	55.3		
Adult smoking rate	21%	30%		
With access to exercise opportunities	61%	83%		
Excessive drinking	16%	18%		

Between 2008 and 2012 the leading types of cancer included lung and bronchus, female breast, colon and rectum, prostate and bladder cancer. More than 30% of cancer deaths between 2008 and 2012 were from lung and bronchus cancer alone. It is notable that lung cancer rates are higher in Coshocton than the state as a whole, even though the percentage of those who report smoking is much lower.

Focus Group Comments on Cancer

"I don't think people see it [smoking] as an issue or think it is a problem that I smoke."

"There is a lot of cancer history in my family, and a lot of them drank well water growing up...and I think a lot of contamination issues, cause a lot of the cancer around here."

"At one point...when you looked at the top five reason that people die, cancer was higher here in Coshocton County than it was in the state as a whole...there are an awful lot of my friends that worked at that power plant that are already dead of cancer."

DIABETES

Many of the risk factors for cancer are also risk factors for diabetes, but there are additional factors that contribute to the prevalence of this disease.

More than one million adults in Ohio have diabetes; this means that more than 10 percent of the state's population has been diagnosed with diabetes. People with diabetes have unusually high blood sugar

Risk Factors for Diabetes				
Factor	Coshocton County	Ohio		
Adult obesity	34%	31%		
Physical inactivity	27%	25%		
Diagnosed with diabetes	14.6%	10.3%		

Source: CDC Diabetes Atlas,

https://www.cdc.gov/diabetes/atlas/countydata/atlas.html

levels because either the pancreas does not make enough insulin to be able to combat the glucose in the blood or because the body does not respond properly to the insulin produced by the pancreas. Diabetes increases the risk of developing heart disease, kidney failure, adult onset blindness and requiring limb amputations.

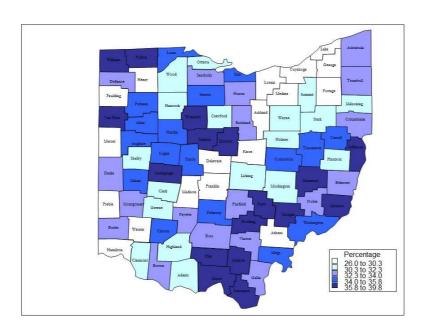


Figure 7. Obesity Percentages (over 30 BMI)

Almost 15% of the population of Coshocton County reported having diabetes in 2013. Since 2004 the prevalence of diabetes in Coshocton County has increased by more than 5%, and now has rates higher than that of Ohio. Moreover, in terms of comparatively to other counties in Ohio, Coshocton has a relatively low age adjusted death rate of 22.1 per 100,000,

however compared to national levels Coshocton's death rate is significantly higher (Figure 7).

Risk factors for diabetes include physical inactivity, obesity and unhealthy eating habits. According to the CDC 27% of Coshocton county (age adjusted rates) were physically inactive. This is a significant health issue which serves as a key opportunity for public health action that will not only improve the diabetes levels in Coshocton's population but also the levels of cardiovascular disease and cancer.

Focus Group Participants Comments on Diabetes Risk Factors

"Healthy food is a lot more expensive than the stuff that is not good for you."

"The culture..the Appalachian diet is meat and potatoes."

"The Coshocton Community Center has introduced a whole lot of free, healthy exercise classes and their rooms are packed."

CARDIOVASCULAR AND OTHER CHRONIC DISEASES

Cardiovascular disease is a medical term used to describe various heart conditions including angina, arrhythmia, cardiomyopathy, congenital heart defects and coronary artery disease. Heart disease and cancers are the leading causes of death in Coshocton County. Any type of heart disease can be severely debilitating and can have a significant impact on an individuals' ability to work and partake in social activities. Overall, with the exception of stroke,

the prevalence of chronic disease such as heart disease, diabetes, and COPD are higher in the region of the state that houses Coshocton County. The mortality rate due to heart disease of an estimated 246.5 per 100,000 people is higher in Coshocton County than the state rate of 186.4.

Risk factors for cardiovascular disease include high blood pressure, high cholesterol, smoking tobacco and physical inactivity. As we have already found, the physical inactivity levels in

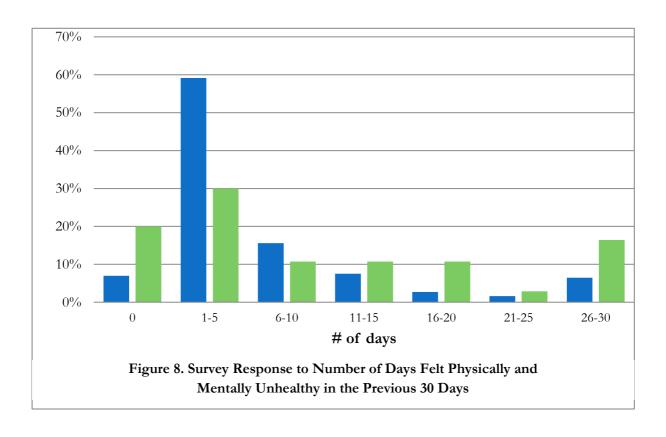
Chronic Disease Prevalence (%), 2012				
	Region 8	Ohio		
Heart disease	8.5	8.0		
Stroke	2.7	3.1		
Diabetes	13.2	11.7		
Cancer	8.5	6.6		
COPD	9.2	8.6		
Asthma	11.1	10.5		
Arthritis	33.2	30		

Region 8: Coshocton, Guernsey, Morgan, Muskingum, Noble, Perry Tuscarawas

Coshocton county are high, which provides a possible explanation as to why cardiovascular disease is the second leading cause of death in 2016. According to the BRFSS study 31.1% of adults over the age of 18 report having high blood pressure and almost 50% were receiving Medicare beneficiaries for high cholesterol levels in 2012. This is almost 6% higher than the national level. Furthermore, over 20% of adults in Coshocton County reported to be current smokers.

MENTAL HEALTH

The community survey indicates some concerns with mental health in Coshocton. When asked how many days in the past 30 days did you feel physically and mentally unhealthy, almost twice as many respondents indicated prolonged mental health problems (Figure 8). There are various risk factors associated with mental health such as depression, stress, or problems with emotions. Some of these are socioeconomic and can be related to employment status or income, while others can be seasonal in nature.



Focus Group Comments on Mental Health

"When I think of substance abuse I think of mental illness, because a lot of people have a lack of coping abilities, and that is where they turn to is drugs."

"In general the job market is fairly depressed and that has something to do with it."

"There is not much mental health services around here, and it is a big problem."

ENVIRONMENTAL HEALTH

Environmental health includes a range of issues that affect public health, such as sewage treatment systems, food safety, and vector control. In Coshocton County the environmental health program conducts inspections, issues licenses to operate, and responds to complaints. Indicators of environmental health include those related to housing stock and quality, exposures and illnesses associated with vectors that transmit disease such as mosquitoes and ticks, and pollution. The table below summarizes some of the available environmental health indicators and is not meant to be a comprehensive assessment of environmental conditions in the county.

Annually, facilities are required by federal law to report releases of pollution to the air, land, water and underground as part of the Toxic Release Inventory (TRI). In 2015, facilities in Coshocton County reported releases of 8,099,577 pounds of chemicals, half of which were nitrate compounds released into the Muskingum River. The total releases in Coshocton County account for about 7.5% of all releases in the state of Ohio. In 2014, Coshocton County ranked 6th is Ohio for total releases reported in the TRI.

There are eight public drinking water systems in Coshocton County serving about 40% of the county's population; all of these systems use groundwater as their source. The largest public system serves the residents of the city of Coshocton. According to the Safe Drinking Water Information System, the last health-based violation of the Coshocton City public water system was in 2011. Most of the residents of the county are not served by public drinking water systems; rather they have private wells as the main source of their drinking water.

Environmental Health Indicators					
Category	Indicator	Coshocton County	Coshocton City	Ohio	
Built Environment	Owner-occupied housing units, 2011-2015	74.4%	62.4%	66.3%	
	Median gross rent, 2011-2015	\$565	\$592	\$730	
	Median value of owner-occupied units, 2011-2015	\$96,500	\$85,100	\$129,900	
	Property crime rate per 100,000 people, 2014	1,433.0		2,683.1	

Environmental Health Indicators				
Category	Indicator	Coshocton County	Coshocton City	Ohio
	Households with severe housing problems, 2009-2013	12%	NA	9%
Vectors	Reported rabies exposures, 2015, city and county	53	53	19,565
	Human cases of West Nile Virus, 2016	0	0	18
	LaCrosse virus, 2014 # cases (rate/100,000)	3 (8.2)		31 (0.3)
	Lyme disease, 2014 # cases (rate/100,000)	1 (2.7)		120 (1.0)
Water	Community water systems (year-round service)	7	1	1,209
	Non-transient community water systems (not year- round, e.g. schools)	8		669
	Total reported toxic releases to surface water in pounds, 2015	4,924,933		7,445,639
Food	Escherichia coli, 2014 # cases (rate/100,000)	2 (5.5)		203 (1.8)
Air Quality & Pollution	Total reported toxics released to air in pounds, 2015	684,426		37,386,325

As Figure 9 shows, survey respondents identified neighborhood and housing quality (built environment) as the most important environmental health issue in Coshocton County following by mosquitoes, ticks, bed bugs and other insects or animals that spread disease. As the figure shows, most of the respondents believe the "built environment" is the greatest concern. Possible reasons for this identified by focus group participants includes a lack of attention and enforcement from local government.

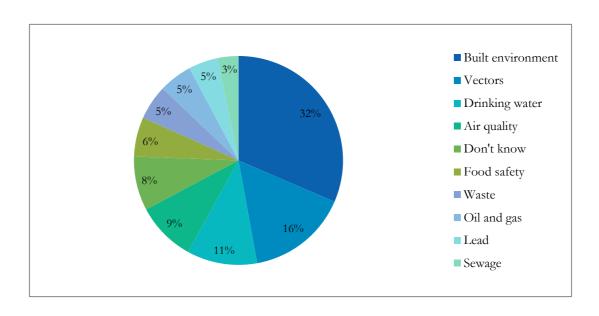


Figure 9. Survey Response to Most Important Environmental Health Problem

Focus Group Participants Comments on Environmental Health

'If you drive through Granville, it doesn't look like this, it is frustrating to drive down these streets and see that people can't even pick up their trash out of their own front yard."

"We have a lot of people who bought property really cheap, we don't have residential codes for the City of Coshocton which mean you don't have to meet any type of standard..electrical, plumbing, any structurally, nothing...there are no incentives to clean properties up."

'Bed bugs are common..even though they don't carry disease, people are more upset by them. more so than ticks which carry disease."

'I know in West Lafayette, you can't go outside in the summer any more, they've cut back on the fogging that you can't go outside at night, you get eaten alive."

"Everybody's [drinking water] wells are in spitting distance of somebody else's septic tank."

SUMMARY

Additional health issues are covered in detail in both the *Coshocton Memorial Hospital Needs*Assessment and the *Coshocton County Community Needs Assessment* and these two reports should be considered part of the overall community health assessment process. Specifically, the county needs assessment provides many important indicators of overall health including many related to maternal and child health and health care access, such as:

- Teen pregnancy rates;
- Smoking rates during pregnancy;
- Participation in prenatal care;
- Infant and child mortality;
- Behavioral risk factors;
- Access to primary care physicians and dental care; and
- Health insurance status of the county's population.

Both the county and the hospital needs assessments identify heart disease and cancers as the leading causes of death in the county. This health profile suggests more public concern with substance abuse in the county than these two leading causes of death.

This health profile also incorporates environmental health indicators and concerns into the community health assessment process. Those who participated in the survey clearly identify housing and neighborhood conditions as their main concerns related to environmental health. Indicators of environmental health

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The sources below are the main references used to compile the secondary information in this document; they do not represent a comprehensive set of sources available.

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