

# Lebanon County Community Health Needs Assessment 2015

## Overview of the Lebanon Community

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## Overview and Methods

This document provides an overview of findings from a community health needs assessment conducted on behalf of WellSpan Health. The assessment uses information from primary and secondary sources to identify health issues of consequence to the community. Estimates are presented for selected demographic and health indicators, including access to healthcare, health-related behavioral risks, and prevention behaviors and context. Appendix A contains a description of the data sources used for the assessment. Appendix B contains the questions respondents were asked for the Lancaster/Lebanon Behavioral Risk Factor Survey. Appendix C provides definitions of selected terms. Appendix D contains all data tables. Appendix E shows the results of multivariate analyses predicting obesity and current depression. Appendix F contains maps that display the locations of health facilities, parks, fast food restaurants, and grocery stores in terms of census indicators related to social determinants of health.

## Data Sources

The information presented in this summary comes from one of three sources. The primary source of comparative health information is provided by the Robert Wood Johnson Foundation County Health Rankings. These rankings provide county-level information on health factors and health outcomes. The performance of individual counties are compared to other Pennsylvania counties to provide a relative performance ranking.

The primary source of local, current information comes from a Community Health Needs Assessment (CHNA) survey. The CHNA survey information is based on a behavioral risk factor survey of 896 adult residents of Lebanon County. The survey interviewing took place from February 23 through May 5, 2015. The survey sample was designed to be representative of the adult, non-institutionalized population of the Lebanon County.

The third source of data comes from the Pennsylvania Department of Health, which is accessed via the EPI QMS data retrieval system.

## Community Priorities

This CHNA identifies community health needs based on the prevalence of health risks and health disparities. It focuses specifically on health risks that contribute to non-communicable disease that are among the leading causes of death and disability with some emphasis on how these risk factors are unevenly distributed across demographic groups. This approach shows the most significant health risks in Lebanon County relate to obesity, including obesity-related behaviors such as diet and exercise, and mental health in terms of both the number of people affected and the amount of death and disability each creates. High teen birth rates, lack of primary care physicians, and severe housing problems also appear as issues.

Reviewing the overall data shows that access indicators for Lebanon County are generally favorable, with most residents of the county reporting they have health care coverage, a personal physician, and most also reporting they have visited a doctor or dentist in the past year. Only 3 in 5 residents have dental insurance. Still, about one out of three residents in the county had some economic hardships and around one in ten skipped medical treatment due to cost in the past year. Behavioral risk indicators show that few residents exercise regularly and even fewer eat three servings of vegetables every day. They also show that about one in six residents is a current smoker and that around seven in ten are overweight or obese. Rates of health conditions such as diabetes, heart conditions, breathing conditions and cancer are not comparatively high, but a plurality of residents has high cholesterol and high blood pressure and one in six has been diagnosed with either an anxiety or depressive disorder. Finally, more than one in two residents exhibited some depressive symptoms, more than two in five say their

normal activities have been limited by their health, and about one in six has limited health literacy.

In Lebanon County, more than 50,000 adults experienced one or more depressive symptoms in the two weeks preceding the survey, were overweight or obese, had not exercised 30 minutes or more on five days in the week preceding the survey, and did not consume three vegetables each day.

There are notable health disparities within Lebanon County, with age, poverty, and race frequently showing differences between groups. Older residents are more likely to have better access to healthcare and have better rates on most prevention-related indicators. However, they are also more likely to have specific health conditions. Younger residents are more likely to have better rates for behavioral indicators, notably for overweight and obesity as well as physical activity. Poverty is also significantly associated with differential outcomes related to access, health conditions and prevention-related behaviors. Low-income or poor residents are more

likely to have poor access to healthcare as well as circulatory conditions, diabetes, mental health problems and money concerns. Race and ethnicity is also significantly associated with differential outcomes related to access and conditions, as well as stress about paying rent or mortgage.

A deeper look into the predictors of obesity and depression finds there are differences between demographic groups' likelihood of experiencing a state of poor physical and mental health, particularly related to poverty status. Yet, although some groups are significantly more likely to experience these conditions, it is also true that these conditions are found in all demographic and geographic communities.

Finally, although not direct measures of health, specific contextual factors that influence health and well-being appear as significant issues for the county. Lebanon receives its poorest relative county ranking for its physical environment, which includes poor air quality and problems related to housing and transportation.

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## Behavioral Risk Factor Survey

The Behavioral Health Risk Factor survey allows us to review a variety of health indicators specific to the county. These indicators fall into the broad categories of health care access, behavioral risk, health conditions, and prevention behaviors and context. Altogether, these indicators show that poor diet, lack of physical activity, obesity, and mental health concerns affect a majority of residents in Lebanon County.

Access indicators for Lebanon County are generally favorable, with most residents of the county reporting they have health care coverage, a personal physician, and most also reporting they have visited a doctor or dentist in the past year. However, less than half of residents have dental insurance (see Table 1). Still, about one out of three residents in the county had some economic hardships and around one in ten skipped medical treatment due to cost in the past year. Behavioral risk indicators show that few residents exercise regularly and even

fewer eat three servings of vegetables every day. They also show that about one in six residents is a current smoker and that around five in seven are overweight or obese.<sup>i</sup> Rates of health conditions such as diabetes, heart conditions, breathing conditions and cancer are not comparatively high, but a plurality of residents has high cholesterol and high blood pressure and one in six has been diagnosed with either an anxiety or depressive disorder. Finally, more than one in two residents exhibited some depressive symptoms, more than two in five say their normal activities have been limited by their health, and about one in six has limited health literacy.

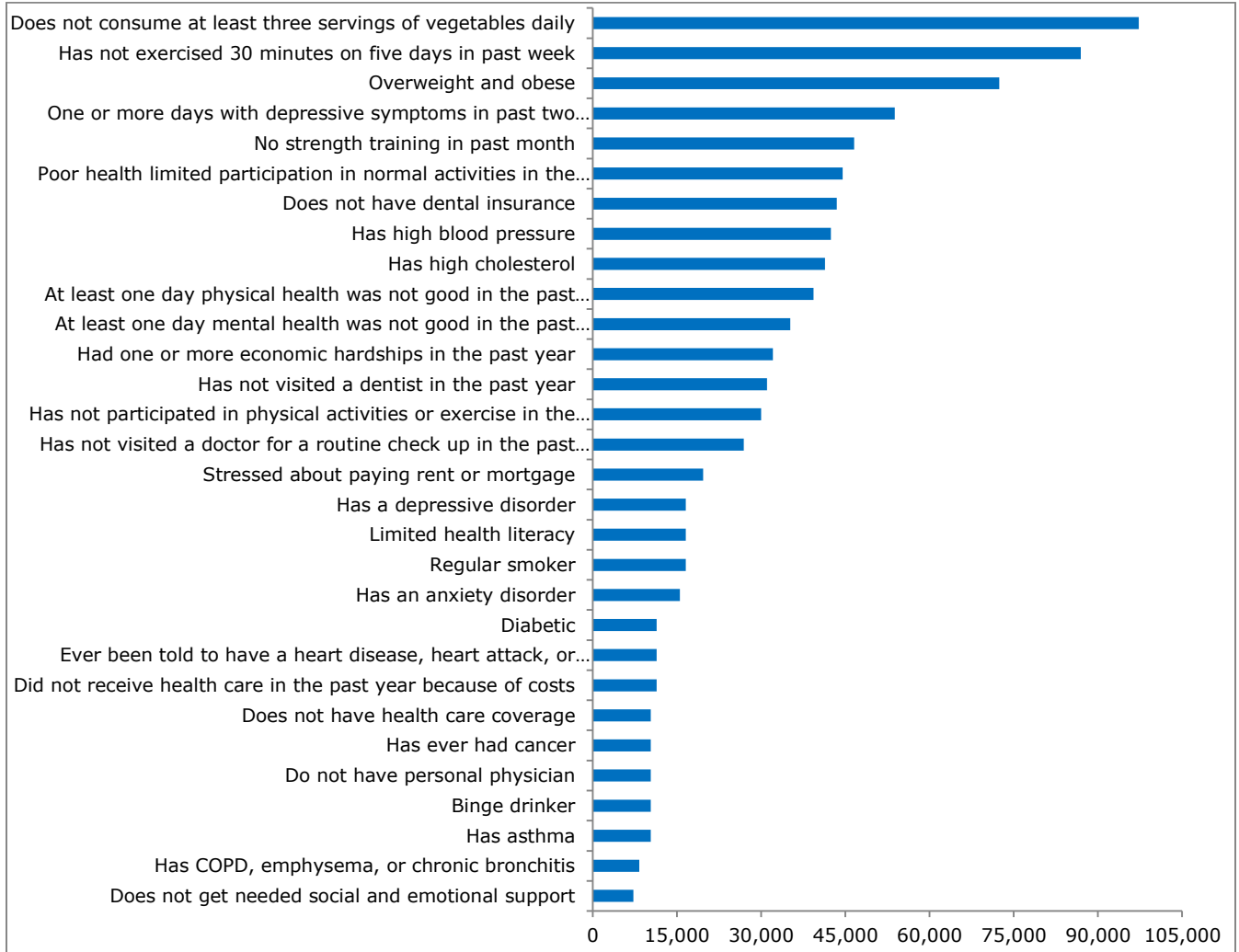
**Table 1. Summary of Health Indicators, Lebanon County, BFRSS**

<b><i>Access Indicators</i></b>	<b>2015</b>
Has a personal physician	90%
Has health care coverage	90%
Has dental insurance	58%
Economic hardships (one or more)	31%
Did not receive health care in past year because of cost	11%
<b><i>Behavioral Risk Indicators</i></b>	
Participated in physical activities or exercise in past month	71%
Body Mass Index Category (overweight and obese)	70%
Strength training in past month	45%
Exercised 30 minutes on five days in past week	16%
Smoking behavior (regular smoker)	16%
Binge drinking behavior	10%
Consumed three servings of vegetables daily	4%
<b><i>Conditions</i></b>	
Has high blood pressure	41%
Has high cholesterol	40%
Has a depressive disorder	16%
Has an anxiety disorder	15%
Respondent is diabetic	11%
Told has heart disease, heart attack, or stroke	11%
Has ever had cancer	10%
Has asthma	10%
Ever had COPD, emphysema, or chronic bronchitis	8%
PHQ-8 current depression indicator-currently depressed	6%
<b><i>Prevention Behaviors and Context</i></b>	
Gets needed social and emotional support	93%
Has ever had blood cholesterol checked	81%
Visited doctor for routine checkup in year	74%
Visited dentist in past year	70%
One or more days with depressive symptoms in past two weeks	52%
Poor health limited participation in normal activities in past month	43%
At least one day physical health was not good in past month	38%
At least one day mental health was not good in past month	34%
Stressed about paying rent or mortgage	19%
Limited health literacy	16%

## Residents Affected

The estimates produced by the Behavioral Risk Factor survey provide a tool for translating the proportion of citizens with a specific characteristic into an estimate of the number of adult residents with that characteristic. In aggregate terms, diet, exercise, obesity, and mental health issues affect large numbers of county residents. In

Lebanon County more than 50,000 adults experienced one or more depressive symptoms in the two weeks preceding the survey, were overweight or obese, had not exercised 30 minutes or more on five days in the week preceding the survey, and did not consume three vegetables each day (Figure 1).



**Figure 1. Total Adult Residents Reporting Condition, Lebanon County 2015.** The blue bars provide estimates of the adult population in 2015 that reported each behavior, condition, or experience. more than 45,000 adults had no strength training in the past month, experienced one or more depressive symptoms in the two weeks preceding the survey, were overweight or obese, had not exercised 30 minutes or more on five days in the week preceding the survey, and did not consume three vegetables each day. The estimated error for these estimates is  $\pm 4,036$  adults. (Total number of adult residents in Lebanon County: 2015=103,496).

## Health Risks and Disability-Adjusted Life Years

Long-term health risk and disability can be quantified by calculating disability-adjusted life years. Disability-adjusted life years (DALYs) calculations provide an estimate of the burden of disease by assessing premature mortality and disability, thus providing an overall view of the most important contributors to health loss. In the

United States, the leading causes of DALYs were all non-communicable diseases: heart disease, COPD, lung cancer, and major depressive disorders.<sup>ii</sup> The rates of these major causes of death and disability for Lebanon County and Pennsylvania are shown in Table 2.

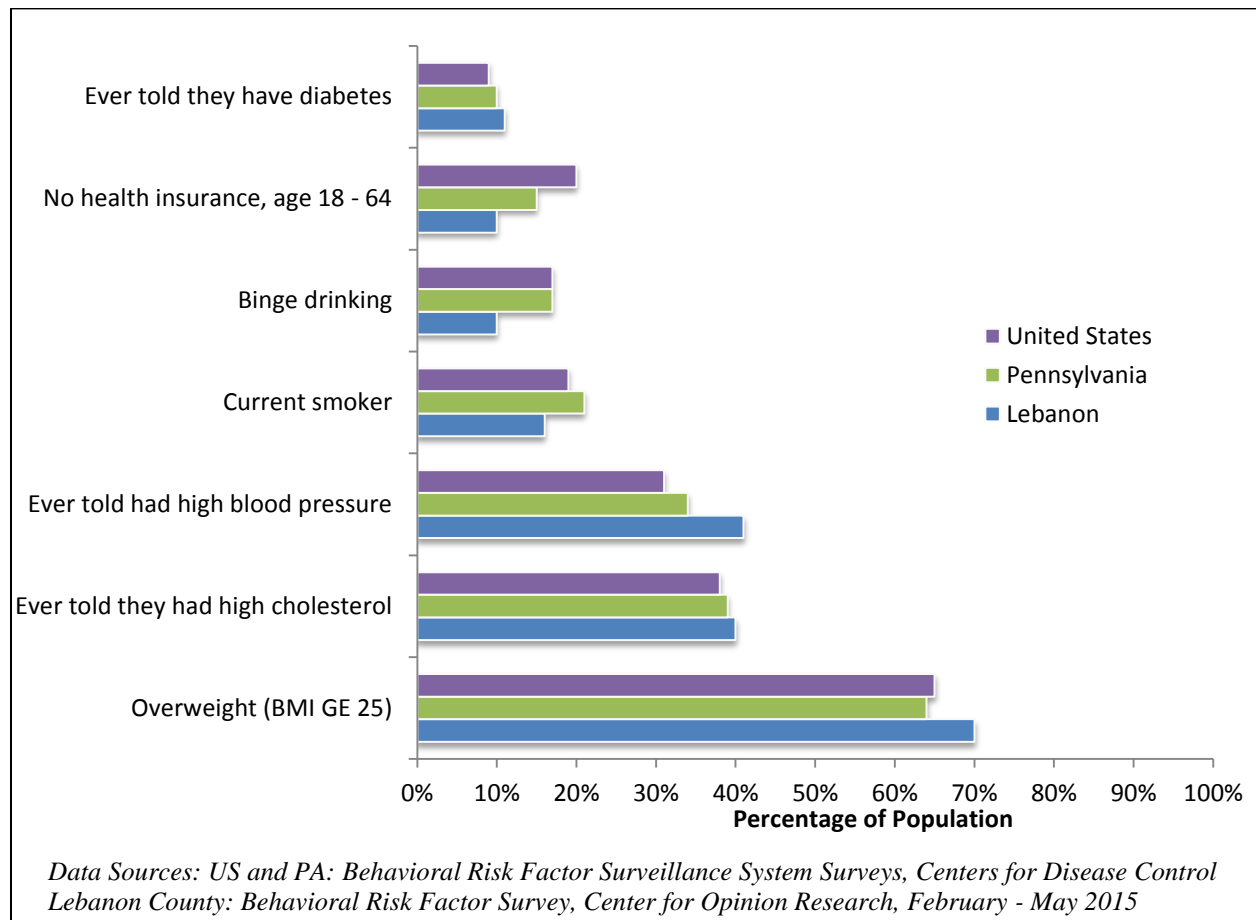
**Table 2. Rates of Major Causes of Death and Disability**

	Lebanon	Pennsylvania
Heart Disease	8%	7%
COPD	4%	7%
Lung Cancer	< 1%	< 1%
Depressive Disorder	17%	18%

*Source: 2011 - 2013 BRFSS and 2012 lung cancer incidence both accessed from EPI-QMS. Lebanon County is grouped with Dauphin County in EPI-QMS data from the PA Dept. of Health*

The disability-adjusted life years estimates might encourage a focus on these conditions, but such efforts would emphasize treatment and not causes; focusing on these conditions alone would do little to reduce lives lost and disability within a community. Instead, a public health focus on reducing DALY's encourages the prevention of disease instead of its treatment. Even though the specific conditions affect a small segment of the population, the risk factors that account for the most disease burden in the United States are dietary risks, smoking, and high BMI. Each contributes to cancer, cardiovascular and circulatory disorders, chronic respiratory diseases, and diabetes.<sup>iii</sup>

Chronic, non-communicable diseases pose a tremendous health burden throughout the world and within Lebanon County.<sup>iv</sup> The estimates for the county for diabetes, hypertension, high cholesterol, physical activity, nutrition and weight are higher than other Pennsylvania counties, exposing residents to significant long-term risk. Lebanon does compare favorably on rates of drinking and smoking (Figure 2).



**Figure 2. Behavioral Health Risks, Lebanon County 2015 Compared to US and PA Estimates.** This figure compares the prevalence of health risks in Lebanon County compared to the United States and Pennsylvania. Although the county has rates similar to the state and nation, the rates for smoking, health insurance access, and obesity do not meet health targets set by the Centers for Disease Control.



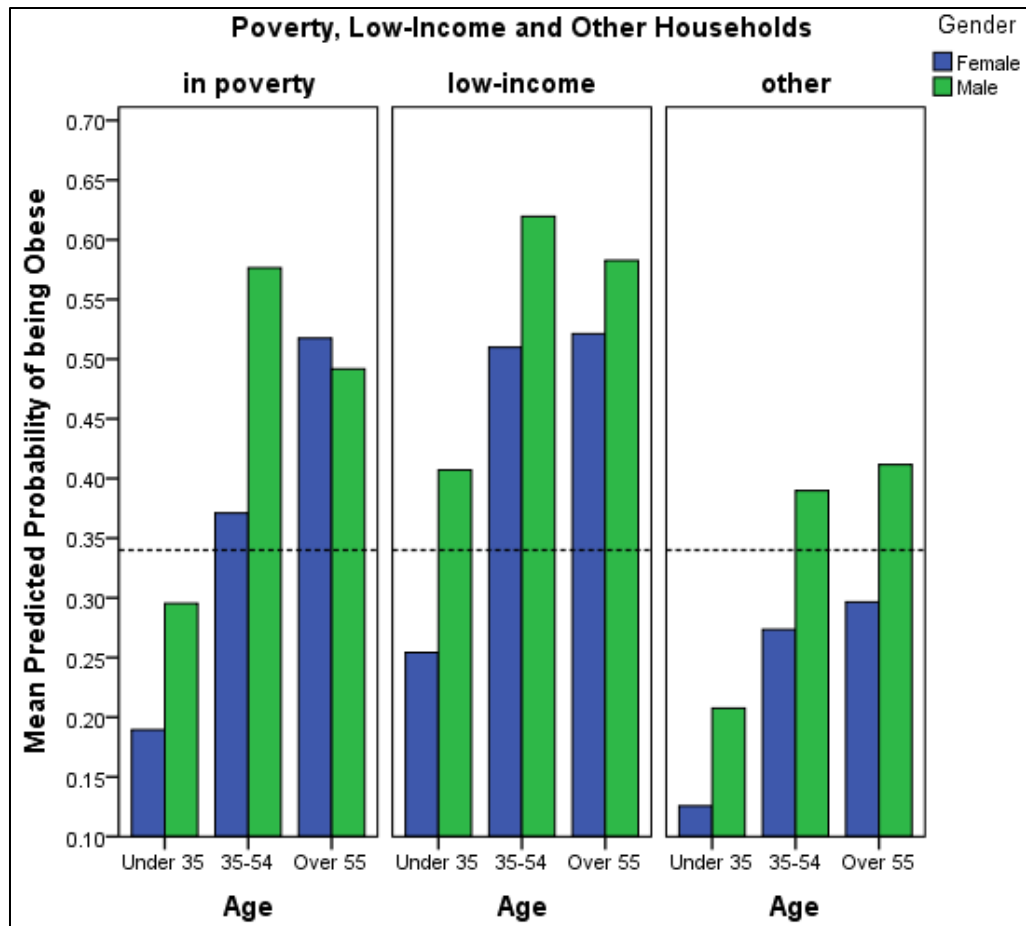
## Correlates of Obesity and Depression

Local indicator data highlights both obesity and mental well-being as important indicators of community health. Is it possible to learn something from those experiencing these conditions that can help inform community health planning? What substantive information does the survey provide about individuals that suffer from these problems that can guide our thinking about future strategies for addressing these problems?

More than one in three residents of Lebanon County are obese (35%). The likelihood of being obese differs a great deal depending on the household's poverty status. Women and younger people are less likely to be obese. Being diabetic nearly triples the likelihood that a respondent is obese, accounting for demographic characteristics. Unfortunately, the model itself does a relatively poor job of predicting who is obese from the observed data (see Appendix E for a more detailed explanation of this analysis).

Over half (52%) of Lebanon County residents have had at least some depressive symptoms in the two weeks prior to the survey.<sup>v</sup> If we measure "current depression" we find that about 6% of adults were suffering from depression at the time of the survey. The likelihood of being currently depressed changes with variables such as marital status, being diabetic, getting regular exercise, and social support.

Figure 3 displays the relationships between poverty status, gender, and age on obesity, accounting for other variables. This figure shows there are sizable differences in the likelihood of being obese and that older men, as well as those in poverty, are particularly at-risk (see Appendix E for more details about this analysis).



**Figure 3. Logistic Regression Results for Obesity, Lebanon County, Pennsylvania, 2015.**  
 This figure shows the mean predicted probability of being obese as measured by the poverty status, gender, and age.

This analysis of obesity reveals at least two important findings worth noting. First, there are differences between demographic groups on their likelihood of being obese, particularly related to poverty status (more on health disparities is considered in the next section of the report).

Second, although some groups are significantly more likely to be obese, it is also true that these conditions are found in all demographic and geographic communities, a contention supported by the large amount of unexplained variation in these models.

## Health Disparities

The CHNA identifies the presence of numerous health disparities, i.e., gaps in access, conditions, or behaviors that are larger for some demographic groups than for others. The area's health disparities, generally speaking, show clear patterns. First, poverty is significantly associated with differential outcomes related to access, conditions, and prevention behaviors. Second, age is significantly associated with differential outcomes related to all indicator groups. Race and ethnicity is also significantly associated with differential outcomes related to access and conditions.

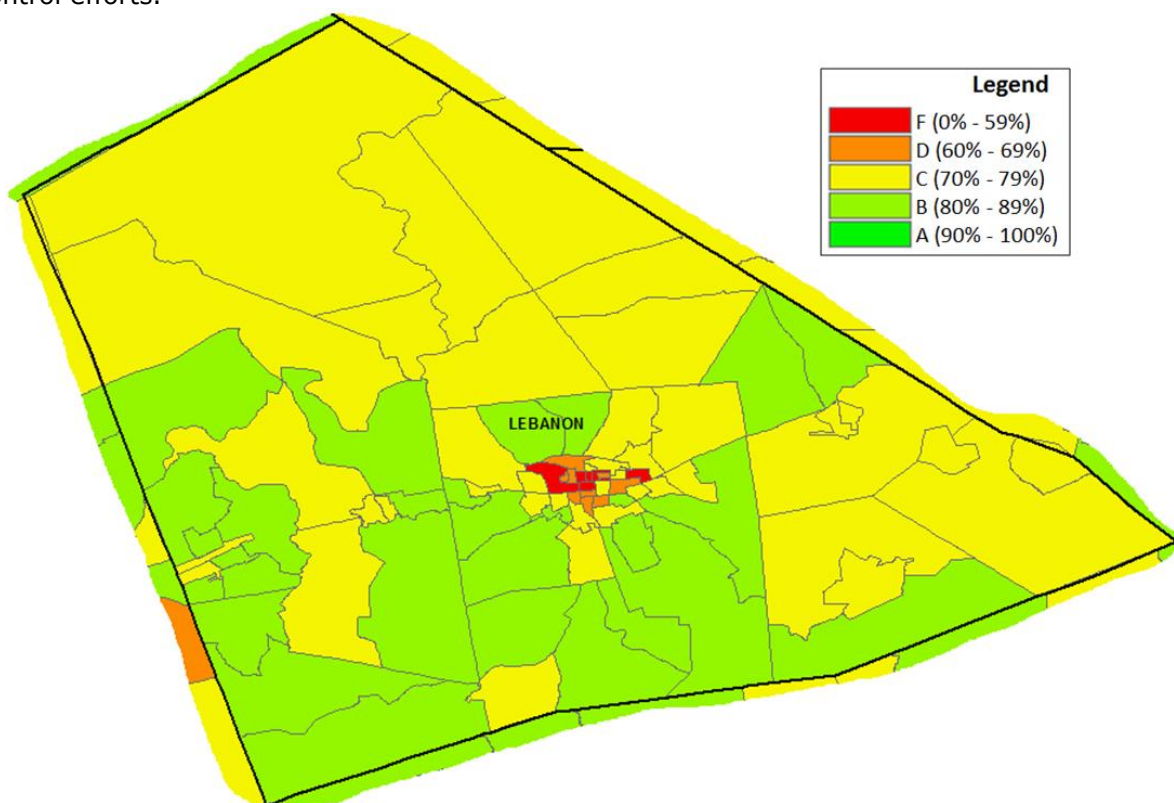
Figure 4 displays the relationships that exist between each survey indicator and demographic information such as poverty status, race and ethnicity, gender, and age (Appendix D provides cross tabulations that show the estimate of each indicator within each subgroup). The color coding identifies whether there is a significant relationship between each indicator and each demographic subgroup and how strong those differences are; the darkest coloring indicates the strongest associations.<sup>vi</sup>

Results of Significance Testing for Selected Variables Lebanon County Community Health Assessment Survey				
	Demographic Groups			
	Poverty	Race/Eth	Gender	Age
<b>Access Indicators</b>				
Has health care coverage	Yellow	Orange	Light Blue	Yellow
Has a personal physician	White	Orange	Light Blue	Orange
Did not receive health care in past year because of cost	Orange	Orange	Light Blue	Light Blue
Has dental insurance	Light Blue	Yellow	White	Orange
Economic hardships	Orange	Orange	White	Orange
<b>Behavioral Indicators</b>				
Participated in physical activities or exercise in past month	Light Blue	White	White	Light Blue
Exercised 30 minutes on five days in past week	White	White	Light Blue	White
Strength training in past month	White	Light Blue	Light Blue	Light Blue
Smoking behavior	Light Blue	White	White	White
Body Mass Index Category (overweight and obese)	White	White	Light Blue	Yellow
Binge drinking behavior	White	White	Light Blue	Yellow
Consumed three servings of vegetables daily	White	White	White	White
<b>Conditions</b>				
Respondent is diabetic	White	White	White	Orange
Told has heart disease, heart attack, or stroke	Light Blue	Light Blue	Light Blue	Orange
Has COPD, emphysema, or chronic bronchitis	Yellow	White	White	Yellow
Has high cholesterol	White	Yellow	White	Orange
Has high blood pressure	White	Light Blue	White	Orange
Has asthma	Light Blue	White	Light Blue	White
Has ever had cancer	White	White	White	Orange
Has an anxiety disorder	Light Blue	Yellow	Light Blue	White
Has a depressive disorder	Yellow	White	White	White
PHQ-8 current depression indicator-currently depressed	White	Yellow	White	White
<b>Prevention Behaviors</b>				
At least one day physical health was not good in past month	Light Blue	White	White	White
At least one day mental health was not good in past month	Light Blue	White	Light Blue	Light Blue
Poor health limited participation in normal activities in past month	White	White	Light Blue	Orange
Visited doctor for routine check up in past year	White	White	Light Blue	Orange
Health Literacy Score	Light Blue	White	White	White
Visited dentist in past year	Orange	White	White	Light Blue
Has ever had blood cholesterol checked	Yellow	White	White	Orange
Gets needed social and emotional support	White	White	White	White
Days with depressive symptoms	Yellow	White	White	Light Blue
Stressed about paying rent or mortgage	Orange	Yellow	White	Light Blue
No significant difference	p. > .05			
Significantly different, weak association	p. < .05, sresid < 3			
Significantly different, moderate association	p. < .05, sresid > 3			
Significantly different, strong association	p. < .05, sresid > 4			

**Figure 4. Health Indicators by Selected Demographic Groups, Lebanon County, 2015.** This figure displays the relationships between each survey indicator and poverty status, race and ethnicity, gender, and age. The color coding identifies whether there is a significant relationship between each indicator and each demographic subgroup and how strong those differences are; the darkest coloring indicates the strongest associations.

Health disparity analysis identifies those demographic characteristics that are more often associated with poor health behaviors and conditions. Because these demographic disparities are often geographically concentrated, public health researchers have begun to focus on the characteristics of place and geography through social determinants analysis as a way to more effectively target public health interventions. Social determinants analysis attempts to geographically describe the physical environments where people live and work that can contribute to health outcomes and risks.<sup>vii</sup> Social determinants research highlighting the importance of poverty, residential segregation, stigma and discrimination, incarceration, and educational attainment on health outcomes provides a deeper understanding of the complex social and structural determinants of health and pinpoints additional opportunities for enhancing prevention and control efforts.<sup>viii</sup>

Social determinants analysis was conducted for each block group in Lebanon County. The scoring for the social determinants mapping is based on five factors: poverty, educational attainment, occupied housing units, employment, and race and ethnicity. Higher scores indicate that a block group has stronger social characteristics.<sup>ix</sup> Lebanon does not have any block groups that score an A. Lebanon has 33 block groups that rate a B (39%), 38 that rate a C (45%), 9 that rate a D (11%) and 5 that rate an F (6% of the 85 block groups in the county). These maps show that many areas within the county have social and economic characteristics that increase the risk of poor health (Figure 5). Appendix F provides additional maps that show the locations of health infrastructure in the county.



**Figure 5. Social Determinants Analysis of Health for Lebanon County.** *This figure displays the social determinants scores for each census tract in Lancaster County. Higher scores indicate that a census tract has stronger social characteristics. Lebanon has no block groups that score an A. Lebanon has nine block groups that rate a D and five that rate an F. Calculations by the Center for Opinion Research based on American Community Survey data.*

## Relative Health Rankings

Lebanon County ranks 11 out of 67 counties in health outcomes and 10 out of 67 counties in health factors, according to county health rankings data.<sup>x</sup> Compared to other counties in the state, Lebanon shows high rates of teen births, driving alone to work, adult obesity, and uninsured adults (Figure 6). Lebanon shows low rates of

educational attainment, dentists, and primary care physicians. Lebanon does relatively well on having low rates of unemployment, high rates of mental healthcare providers, low rates of preventable hospital stays and excessive drinking.



**Figure 6. Relative Health Rankings, Lebanon County, 2015.** This figure displays the relative ranking of Lebanon County to other Pennsylvania counties on individual health indicators. Lower scores closer to the left hand axis indicate stronger relative performance, in that fewer counties perform better on that indicator. Different colors represent different years. Not all indicators have data for all years. Calculations by the Center for Opinion Research based on Robert Wood Johnson Foundation County Health Rankings data.

The relative performance of Lebanon County on the grouped indicators reveals the indicator groups that need the greatest improvement (Table 3). Lebanon receives its poorest relative rankings for the physical environment, which includes poor air quality and problems related to housing and

transportation (see Appendix A, Table A-2). Quality of life is the second lowest performing set of factors for the county. Table 3 displays the health outcomes and factors for Lebanon County as well as the same ranks for the top performing counties in Pennsylvania.

**Table 3. Relative County Ranks on County Health Rankings Outcomes and Factors**

County	Length of Life	Quality of Life	Health Behaviors	Clinical Care	Social & Economic Factors	Physical Environment
Lebanon	9	18	16	13	10	20
<i>Top Performing PA Counties</i>						
Centre	2	7	1	12	4	23
Montgomery	4	10	4	2	1	62
Union	1	2	24	3	17	6

**Endnotes**

<sup>i</sup>The survey found that 57% of those with a BMI in the overweight category and 21% in the obese category wrongly believe their weight is “about average.” Most of those in the normal (88%) BMI group correctly classified their weight.

<sup>ii</sup> Low back pain appears in the top five leading causes of DALYs in the US, but is not included in this section because the CHNA did not include any questions specifically about low back pain.

<sup>iii</sup> Institute for Health Metrics and Evaluation. *GBD Profile: United States*. Retrieved from <http://www.healthmetricsandevaluation.org> on April 28, 2015.

<sup>iv</sup> Draft Political Declaration of the High-level Meeting on the prevention and control of non-communicable diseases, United Nations, 7 September 2011.

<sup>v</sup> Depression calculations were made using the PHQ-8 scale. Kroenke, K., T. Strine, R. Spitzer, J. Williams, J. Berry, A. Mokdad. (2008). The PHQ-8 as a measure of current depression in the general population. *J. Affect. Disorders*, doi:10.1016/j.jad.2008.06.026.

<sup>vi</sup> These patterns represent bivariate relationships within the data and do not account for simultaneous effects of multiple variables as the previous analysis of obesity and depression do.

<sup>vii</sup> <http://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health>

<sup>viii</sup> Dean, H., Williams, K., Fenton, K. (2013). From Theory to Action: Applying Social Determinants of Health to Public Health Practice. *Public Health Reports, Supplement 3* (128): 1 – 4.

<sup>ix</sup> The social determinants used for this initial effort includes data related to social position and material circumstances. Other social determinants such as social cohesion, psychosocial factors, health systems, policy, and norms and values are not considered here.

<sup>x</sup> Robert Wood Johnson Foundation. (2015). *2015 County Health Rankings Pennsylvania Data – v1\_0.xls [Data file]*. Retrieved from <http://www.countyhealthrankings.org/app/pennsylvania/2015/overview>.

## Description of Data Sources



The primary source of local, current data about Lebanon County comes from a Community Health Needs Assessment (CHNA) survey. The CHNA survey information is based on a behavioral risk factor survey of 896 adult residents of Lebanon County. The survey interviewing took place from February 23 through May 5, 2015. The survey sample was designed to be representative of the adult, non-institutionalized population of Lebanon County. Survey results were weighted (gender, education, race and age) using an iterative weighting algorithm to reflect the known distribution of those characteristics as reported by the American Community Survey for Lebanon County (see Table A-1).

The sample error is +/- 3.9 percentage points for Lebanon County when the design effects from weighting are considered. In addition to sampling error, this poll is also subject to other sources of non-sampling error. Generally speaking, two sources of error concern researchers most. Non-response bias is created when selected participants either choose not to participate in the survey or are unavailable for interviewing. Response errors are the product of the question and answer process. Surveys that rely on self-reported behaviors and attitudes are susceptible to biases related to the way respondents process and respond to survey questions.

**Table A-1.** Unweighted and Weighted Sample Estimates, Weighting Variables and Selected Health Indicators

Group	Parameter	Unweighted Estimate	Weighted Estimate
<b>Weighting Variables</b>			
Male	48.1	41.4	48.1
Female	51.9	58.6	51.9
HS or less	59.2	49.4	59.2
some college	21.4	24.1	21.4
College or more	19.4	26.5	19.4
White	91.4	96.5	91.4
Other	8.6	3.5	8.6
18 - 34	25.5	15.9	25.5
35 - 54	34.9	25.4	34.9
55 or older	39.6	58.7	39.6
<b>Health Indicators</b>			
Smoker	20%	13	15.9
Obese	31%	34.6	34.8
Binge Drink	17%	8.3	10.2
Diabetes	10%	12.7	9.5
Asthma (current)	9%	10.5	10.1
Annual Doc		79.5	73.8
Physical health not good 1+ day in past month	39%	39	38.5
Poverty		7.3	9.5
Cell Only		16.2	21.4

*Note: age, gender, race estimates are from US Census Bureau, 2009-2013 5-Yr ACS; health indicators are for Dauphin/Lebanon County only and come from the state's EPI-QMS system for years 2011 - 2013.*

The primary source of comparative health information is provided by the Robert Wood Johnson Foundation County Health Rankings. These rankings provide county-level information on health factors and health outcomes. Table A-2 provides a list of the measures used by the County Health Rankings.

The third source of data comes from the Bureau of Health Statistics and Research, Pennsylvania Department of Health, and is accessed through its Epidemiological Query and Mapping System (EpiQMS). The trend data that appears in Appendix D is based on the data available through this web portal and includes the Commonwealth of Pennsylvania's behavioral risk factor surveillance system

(BRFSS) survey and other health statistics. The BRFSS data displayed in the Pennsylvania EpiQMS system that was used to compile the trend data, starting in 2002, includes data gathered by Pennsylvania collecting samples of behavioral risk information for Local Health Partnerships at the county level. Due to the inclusion of these sample data, analysis of Pennsylvania BRFSS data presented by others may differ in sample sizes and have slightly different percent estimates and confidence bounds. Other health statistics gathered from the site were analyzed by Center for Opinion Research staff. The Department of Health specifically disclaims responsibility for any analyses, interpretations, or conclusions.

Table A-2.

Health Outcomes										
Focus Area	Measure	Description	US Overall	PA Overall	PA Top Performers	Adams County	York County	Lancaster County	Lebanon County	Berks County
<b>Health Outcomes Rank</b>						<b>17</b>	<b>19</b>	<b>8</b>	<b>11</b>	<b>20</b>
<b>Length of life (50%)</b>	Premature death	Years of potential life lost before age 75 per 100,000 population (age-adjusted)	6811	6926	3765	5779	6036	5700	5764	6297
<b>Quality of life (50%)</b>	Poor or fair health	Percentage of adults reporting fair or poor health (age-adjusted)	12	14	8	13	13	11	12	12
	Poor physical health days	Average # of physically unhealthy days reported in past 30 days (age-adjusted)	3.7	3.5	2.5	4.2	3.3	2.9	3.2	3.3
	Poor mental health days	Average # of mentally unhealthy days reported in past 30 days (age-adjusted)	3.5	3.6	2.5	3.2	3.4	3.2	3.1	3.5
	Low birthweight	Percentage of live births with low birthweight (< 2500 grams)	8.1	8.3	4.9	7.5	8.0	6.8	7.5	7.7

Health Behaviors										
Focus Area	Measure	Description	US Overall	PA Overall	PA Top Performers	Adams County	York County	Lancaster County	Lebanon County	Berks County
<b>Health Behaviors Rank</b>						<b>31</b>	<b>32</b>	<b>9</b>	<b>16</b>	<b>25</b>
<b>Tobacco use (10%)</b>	Adult smoking	Percentage of adults who are current smokers	18	20	12	21	20	16	18	18
<b>Diet and exercise (10%)</b>	Adult obesity	Percentage of adults that report a BMI of 30 or more	28	29	23	31	32	29	32	30
	Food environment index	Index of factors that contribute to a healthy food environment [0 (worst)-10 (best)]	7.6	7.7	8.6	8.6	8.1	8.1	8.4	8.2
	Physical inactivity	Percentage of adults aged 20 and over reporting no leisure-time physical activity	30	24	17	25	22	21	23	25
	Access to exercise opportunities	Percentage of population with adequate access to locations for physical activity	77	85	100	61	78	75	86	89
<b>Alcohol and drug use (5%)</b>	Excessive drinking	Percentage of adults reporting binge or heavy drinking	15	17	8	17	16	15	13	16
	Alcohol-impaired driving deaths	Percentage of driving deaths with alcohol involvement	32	34	15	44	40	35	27	39
<b>Sexual activity (5%)</b>	Sexually transmitted infections	Number of newly diagnosed chlamydia cases per 100,000 population	458	431	77	192	352	224	250	404
	Teen births	Teen birth rate per 1,000 female population, ages 15-19	31	28	6	26	33	26	34	35

Clinical Care										
Focus Area	Measure	Description	US Overall	PA Overall	PA Top Performers	Adams County	York County	Lancaster County	Lebanon County	Berks County
<b>Clinical Care Rank</b>						<b>23</b>	<b>9</b>	<b>17</b>	<b>13</b>	<b>20</b>
<b>Access to care (10%)</b>	Uninsured	Percentage of population under age 65 without health insurance	18	12	8	12	11	15	12	13
	Primary care physicians	Ratio of population to primary care physicians	1,355:1	1249:1	224:1	1750:1	1390:1	1341:1	1691:1	1543:1
	Dentists	Ratio of population to dentists	1,663:1	1600:1	1085:1	3173:1	2051:1	2029:1	2258:1	1969:1
	Mental health providers	Ratio of population to mental health providers	753:1	623:1	261:1	1493:1	1155:1	934:1	470:1	913:1
<b>Quality of care (10%)</b>	Preventable hospital stays	# of hospital stays for ambulatory-care sensitive conditions per 1,000 Medicare enrollees	65	63	23	55	48	46	47	56
	Diabetic monitoring	% of diabetic Medicare enrollees ages 65-75 that receive HbA1c monitoring	84	86	93	88	90	90	89	89
	Mammography screening	% of female Medicare enrollees ages 67-69 that receive mammography screening	63.0	63.4	77.5	63.7	66.7	67.5	66.2	64.2

Social and Economic Environment										
Focus Area	Measure	Description	US Overall	PA Overall	PA Top Performers	Adams County	York County	Lancaster County	Lebanon County	Berks County
<b>Social &amp; Economic Factors Rank</b>						<b>9</b>	<b>20</b>	<b>8</b>	<b>10</b>	<b>49</b>
<b>Education (10%)</b>	High school graduation	Percentage of ninth-grade cohort that graduates in four years	80	85	95	91	88	89	86	84
	Some college	Percentage of adults ages 25-44 years with some post-secondary education	63	62	77.3	51	56	53	51	54
<b>Employment (10%)</b>	Unemployment	Percentage of population ages 16 and older unemployed but seeking work	8	7	5.5	6	7	6	6	7
<b>Income (10%)</b>	Children in poverty	Percentage of children under age 18 in poverty	23	19	8	15	17	15	16	21
	Income inequality	Ratio of household income at the 80th percentile to income at the 20th percentile	4.7	4.7	3.4	3.8	3.9	3.9	3.8	4.3
<b>Family and social support (5%)</b>	Children in single-parent households	Percentage of children that live in a household headed by single parent	21	33	18	28	31	22	30	35
	Social associations	Number of membership associations per 10,000 population	33.0	12.3	30.4	11.3	12.6	13.9	15.5	12.4
<b>Community safety (5%)</b>	Violent crime	Number of reported violent crime offenses per 100,000 population	387	357	83	147	254	177	193	323
	Injury deaths	Number of deaths due to injury per 100,000 population	59	66	39	63	61	54	54	63

Physical Environment (10%)										
Focus Area	Measure	Description	US Overall	PA Overall	PA Top Performers	Adams County	York County	Lancaster County	Lebanon County	Berks County
<b>Physical Environment Rank</b>						<b>44</b>	<b>36</b>	<b>22</b>	<b>20</b>	<b>34</b>
<b>Air and water quality (5%)</b>	Air pollution - particulate matter	Average daily density of fine particulate matter in micrograms per cubic meter (PM2.5)	11.1	12.9	11.5	12.8	12.6	12.4	12.5	12.1
	Drinking water violations	Percentage of population potentially exposed to water exceeding a violation limit during the past year	8	8	0	2	1	4	1	8
<b>Housing and transit (5%)</b>	Severe housing problems	Percentage of households with at least 1 of 4 housing problems: overcrowding, high housing costs, or lack of kitchen or plumbing facilities	19	15	6	14	13	15	13	15
	Driving alone to work	Percentage of the workforce that drives alone to work	76	77	50	82	85	79	82	80
	Long commute - driving alone	Among workers who commute in their car alone, the percentage that commute more than 30 minutes	34	34	16	38	35	26	32	30

Source: Robert Wood Johnson Foundation, (2015). 2015 County Health Rankings Pennsylvania Data. Retrieved from <http://www.countyhealthrankings.org/app/pennsylvania/2015/overview>.

**Marginal Frequency Report: Behavioral Risk Factor Survey**

**Health Status**

S1\_1. Would you say that in general your health is...

Excellent,	17%
Very good,	35%
Good,	30%
Fair, or	14%
Poor?	3%

**Health Days – Health Related Quality of Life**

S2\_1. Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health NOT good?

None	61%
1 or more days	37%
Don't know	1%

S2\_2. Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health NOT good?

None	65%
1 or more days	32%
Don't know	1%

S2\_3. During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?

	n=481
None	57%
1 or more days	39%

**Health Care Access**

S3\_1. Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare?

Yes	90%
No	9%

S3\_1A. [If do not have any health insurance] Do you plan to sign up for health insurance through the health insurance exchange, or through your employer?

	n=79
Yes	34%
No	57%
Don't Know	9%

S3\_1b. Why not?

	n=45
Stay healthy, do not get sick	12%
Cost: Too expensive, costs too much	10%
Not offered by current employer	4%
Cost: More affordable to pay out of pocket, pay as you go	4%
Eligibility: Not eligible	3%
Other	72%
Do not know	2%

*\*Totals may exceed 100% because multiple responses were accepted*

S3\_2A. Do you have one person you think of as your personal doctor or health care provider?

Yes, only one	83%
Yes, more than one	7%
No person as personal doctor	9%

S3\_3. Was there a time in the past 12 months when you needed to see a doctor but could not because of cost?

Yes	11%
No	89%

T3. Has a lack of transportation kept you from getting to a doctor's office or to any other health care appointment during the PAST YEAR?

Yes	3%
No	97%

S3\_4. About how long has it been since you last visited a doctor for a routine checkup? A routine checkup is a general physical exam, not an exam for a specific injury, illness, or condition.

Within past year (anytime less than 12 months ago)	74%
Within past 2 years (1 year ago but less than 2 years ago)	12%
Within past 5 years (2 years ago but less than 5 years ago)	6%
5 or more years ago	7%
Never	0%
Don't know	1%

S3\_5. How often do you have someone help you read materials you receive from your doctor or hospital...

Always,	4%
Often,	2%
Sometimes,	7%
Occasionally, or	14%
Never?	73%
NEVER visited provider	1%

S3\_6. How confident are you filling out medical forms by yourself...

	n=861
Extremely confident,	50%
Quite a bit,	25%
Somewhat,	16%
A little bit, or	6%
Not at all confident?	3%

S3\_7. How confident do you feel when leaving the doctor's office that you understand what the doctor has told you...

	n=861
Extremely confident,	61%
Quite a bit,	30%
Somewhat,	8%
A little bit, or	1%
Not at all confident?	0%

S3\_8. How confident do you feel when leaving the doctor's office that you can follow the doctor's instructions...

	n=859
Extremely confident,	67%
Quite a bit,	27%
Somewhat,	5%
A little bit, or	1%
Not at all confident?	0%

S3\_9. How often do you have problems learning about your medical condition because of difficulty understanding written information...

Always,	2%
Often,	2%
Sometimes,	12%
Occasionally, or	16%
Never?	67%
Not applicable	2%

**Exercise**

S5\_1. During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?

Yes	71%
No	29%

S5\_2. When you took part in this physical activity for how many MINUTES did you usually keep at it?

	n=602
<b>Mean</b>	50.3
<b>S.D.</b>	58.6

S5\_3. During the PAST MONTH, how many TIMES PER WEEK did you take part in these physical activities?

	n=598
<b>Mean</b>	4.7
<b>S.D.</b>	6.3

S5\_4. During the PAST MONTH, how many times PER WEEK did you do physical activities to STRENGTHEN your muscles? Do NOT count aerobic activities like walking, running, or bicycling. Count activities using your own body weight, like yoga, sit-ups or push-ups and those using weight machines, free weights, or elastic bands.

<b>Mean</b>	1.8
<b>S.D.</b>	4.1

T1. How often do you walk or bicycle to work...

Every day,	5%
Most days,	2%
Some days, or	3%
Never?	64%
Not currently employed	26%

T2. What is the main barrier that keeps you from walking or biking to work?

	n=559
Distance	62%
Work from home	7%
Physically unable, disabled	5%
Not currently employed, retired	3%
Time	3%
Choose not to	2%
Drive for work, job requirements	2%
Have a vehicle	2%
Walkability, bikability of route: highways, etc.	2%
Weather	2%
Safety	1%
Have materials that need to be transported to/for work	1%
Lack of energy, laziness	1%
Do not have a bike, Do not like riding a bike	1%
Age	1%
Other	7%

**Diabetes**

S12\_19. Are you MALE or FEMALE?

Male	48%
Female	52%

S6\_1A. Have you ever been told by a doctor that you have diabetes?

Yes	11%
No	88%
No, pre-diabetes or borderline diabetes	1%

S6\_1B. If "Yes" and respondent is female, ask: Was this only when you were pregnant?

	n=48
Yes	4%
No	96%

S6\_2. About how many times in the PAST 12 MONTHS have you seen a doctor, nurse, or other health professional for your diabetes?

	n=94
None	10%
1-3	41%
4-6	44%
7-10	1%
11 or more	5%

**Oral Health**

S7\_1. How long has it been since you last visited a dentist or a dental clinic for any reason? Include visits to dental specialists, such as orthodontists.

Within the past year	70%
More than one year	30%

S7\_2cod. What is the MAIN reason you have NOT visited the dentist in the last year?

	n=261
Dentures, false teeth, all teeth removed	26%
Cost, cannot afford it	15%
No need to go, teeth are fine	14%
No insurance	13%
Does not like the dentist, bad past experience	8%
No time, cannot get time off of work	7%
No dentist, unsure who to use for dental care	5%
Forgot to go, forgot to reschedule	3%
No reason	3%
Other	3%
Do not know	4%

S7\_3. How many of your permanent teeth have been removed because of tooth decay or gum disease? Include teeth lost to infection, but do NOT include teeth lost for other reasons, such as injury or orthodontics. NOTE: If wisdom teeth are removed because of tooth decay or gum disease, they should be included in the count for lost teeth.

None	53%
1 to 5	21%
6 or more but not all	14%
All	9%
Don't know	2%

S7\_4. How long has it been since you had your teeth cleaned by a dentist or dental hygienist?

	n=787
Within the past year (anytime less than 12 months ago)	70%
Within the past 2 years (1 year ago but less than 2 years ago)	12%
Within the past 5 years (2 years ago but less than 5 years ago)	6%
5 or more years ago	10%
Never	0%
Don't know	1%

S7\_5. Do you have any kind of insurance coverage that pays for some or all of your routine dental care?

Yes	58%
No	40%
Do Not Know	2%



**Cardiovascular Disease Prevalence**

S8\_1. Has a doctor, nurse, or other health professional EVER told you that you had...

	Yes	No	DK
A heart attack, also called a myocardial infarction?	5%	94%	1%
Angina or coronary heart disease?	5%	93%	1%
A stroke?	3%	97%	0%
Chronic obstructive pulmonary disease, emphysema, or chronic bronchitis?	8%	91%	0%

S8\_5. Blood cholesterol is a fatty substance found in the blood. Have you EVER had your blood CHOLESTEROL checked?

Yes	81%
No	17%
Do Not Know	2%

S8\_6. Has a doctor, nurse, or other health professional EVER told you that your blood CHOLESTEROL is high?

	n=725
Yes	40%
No	59%
Do Not Know	1%

S8\_7. Has a doctor, nurse, or other health professional EVER told you that you had HIGH blood PRESSURE?

Yes	41%
No	58%

S8\_12. Has a doctor or other health professional EVER advised you to TAKE MEDICATION to help lower or control your high blood pressure?

	n=357
Yes	78%
No	22%

**Asthma**

S9\_1. Has a doctor, nurse, or other health professional EVER told you that you had... ASTHMA?

Yes	14%
No	85%
Don't know	1%

S9\_2. Do you still have asthma?

	n=121
Yes	73%
No	22%
Don't know	5%

**Tobacco Use**

S11\_1. Have you smoked at least 100 cigarettes in your entire life?

Yes	43%
No	56%

S11\_2. Do you now smoke cigarettes every day, some days, or not at all?

	n=377
Every day	26%
Some days	11%
Not at all	63%

S11\_3. During the past 12 months, have you stopped smoking for one day or longer because you were trying to quit smoking?

	n=138
Yes	61%
No	39%

S11\_5. Do you currently use chewing tobacco, snuff, or snus every day, some days, or not at all? [NOTE: Snus (Swedish for snuff) is a moist smokeless tobacco, usually sold in small pouches that are placed under the lip against the gum].

Every day	2%
Some days	2%
Not at all	95%

**Demographics**

reAGE. What is your AGE?

Under 35	26%
35-54	35%
Over 55	40%

HISP. Are you Hispanic or Latino, or NOT?

Yes	7%
No	93%

reRACE. Racial group

White	91%
Nonwhite	9%

S12\_6. What is your CURRENT marital status, are you married, divorced, widowed, or separated?

Married,	58%
Divorced,	11%
Widowed,	8%
Separated,	2%
Never married	16%
A member of an unmarried couple	6%

NumC. How many children LESS than 18 years of age live in your household?

None	66%
1-2	25%
3-4	8%
5 or more	2%

**Care Givers**

CG1. Some people play the role of caregiver as part of their daily lives, which means they are responsible for meeting the physical and psychological needs of others. Do you act as a caregiver for another ADULT, such as a spouse, sibling, aunt, uncle, parent, or grandparent?

Yes	17%
No	83%

CG1A. Do you care for someone regularly, on a daily basis?

	n=150
Yes	58%
No	42%

reEDUC. What is the HIGHEST grade or year of school you completed?

HS or less	59%
Some college	21%
College degree	19%

S12\_9. Are you currently...

Employed for wages,	53%
Self-employed,	7%
Out of work for MORE than one year	1%
Out of work for LESS than one year	1%
A Homemaker,	6%
A Student,	4%
Retired, or	23%
Unable to work?	5%

INCOME. Is your annual household income from all sources above or below \$25,000?

Under \$10,000	3%
\$10-\$15,000	5%
\$15-20,000	6%
\$20-25,000	5%
\$25 - 35,000	13%
\$35 - 50,000	20%
\$50 - 75,000	15%
Over \$75,000	25%
Don't know	8%

BMIcat. Body Mass Index Score (*\*Note: BMI Score calculated using respondent height and weight*)

Underweight	5%
Normal	26%
Overweight	35%
Obese	35%

S12\_15. Do you now consider yourself to be...

Overweight,	44%
Underweight, or	4%
About average?	52%

**Alcohol Consumption**

S13\_1. During the past 30 days, have you had at least one drink of any alcoholic beverage such as beer, wine, a malt beverage or liquor?

Yes	43%
No	57%

S13\_2a. During the past 30 days, how many DAYS per WEEK OR per MONTH did you have at least one drink of any alcoholic beverage?

	n=375
No drinks in past 30 days	1%
Per WEEK response	50%
Per MONTH response	48%
Don't know	1%

S13\_2b. Days per week response

	n=189
1	36%
2-3	42%
4-5	13%
6 or more	8%
Don't know	2%

S13\_2c. Days per month response

	n=181
1-3	70%
4-6	13%
7-9	3%
10-15	9%
16-20	1%
21-25	1%
26 or more days	4%

S13\_3. One drink is equivalent to a 12-ounce beer, a 5-ounce glass of wine, or a drink with one shot of liquor. During the past 30 days, on the days when you drank, about how many drinks did you drink on the average? NOTE: A 40 ounce beer would count as 3 drinks, or a cocktail drink with 2 shots would count as 2 drinks.

	n=374
1-3	83%
4-6	11%
7-9	1%
10-15	2%
16 or more drinks	2%
Don't know	1%

S13\_4. . Considering all types of alcoholic beverages, how many times during the past 30 days did you have FIVE (men) / FOUR (women) or more drinks on an occasion?

No binge drinking	90%
Binge drinker	10%

S13\_5. During the past 30 days, what is the largest number of drinks you had on any occasion?

	n=373
1-3	70%
4-6	14%
7-9	6%
10-15	5%
16 or more drinks	2%
Don't know	3%

**Substance Abuse**

IntSA1. Did any of the following happen to you during the past 12 months? During the past 12 months, did you...

	Yes	No
Use illegal drugs one or more times?	3%	97%
Have a child under 18 who used drugs or had a drinking problem?	1%	99%
Use painkillers NOT prescribed for you (such as: OxyContin, Vicodin)?	2%	98%
Use stimulants NOT prescribed for you (such as: Adderall, Ritalin)?	1%	99%
Use tranquilizers NOT prescribed for you (such as: Xanax, Valium, Ativan, Klonopin)?	0%	100%
Take someone else's medicines for any reason?	2%	98%

**Immunization**

S14\_1. Now I will ask you questions about seasonal flu. A flu shot is an influenza vaccine injected into your arm. During the past 12 months, have you had a seasonal flu shot?

Yes	54%
No	46%

S14\_6cod. What is the MAIN reason you have NOT received a flu vaccination for this current flu season?

	n=402
No reason, does not want to, just did not	18%
Side effects, causes the flu, makes you sick	17%
Healthy, never or rarely gets the flu or sick	16%
Not effective, does not believe in it	16%
No need, not necessary, not high risk	10%
Afraid, does not like needles, shots, or doctors	8%
Cost, no insurance	2%
Too busy, no time	2%
Allergic	2%
Lack of availability, doctor does not have it	1%
Other	5%
Do not know	3%

*\*Next two sections (Falls, Aging) asked only of respondents aged 45 years or older  
 n=511*

S15\_1. The next questions ask about recent falls. By a fall, we mean when a person unintentionally comes to rest on the ground or another lower level. In the past 3 months, how many times have you fallen?

None	78%
1-2	17%
3-4	3%
5 or more times	1%

S15\_2a. How many of these falls caused an injury? By an injury, we mean the fall caused you to limit your regular activities for at least a day or to go see a doctor.

	n=110
None (or 1 fall & no injury)	68%
1	21%
2	8%
3 or more times	4%

**Aging**

IntA1. Do you have difficulty with any of the following? Please respond with: No difficulty, some difficulty, a lot of difficulty, or unable to do this. First, do you have difficulty...

	No difficulty	Some difficulty	A lot of difficulty	Unable to do this
With self-care, such as washing all over or dressing?	94%	5%	0%	0%
Raising a 2 liter bottle of water or soda from waist to eye level?	93%	6%	0%	0%
Using your hands and fingers, such as picking up small objects, for example, a button or pencil, or opening or closing containers or bottles?	85%	12%	3%	0%
Walking or climbing steps?	70%	22%	7%	2%
Doing errands alone such as visiting a doctor's office or shopping?	90%	5%	3%	2%

A2. Do you have someone who helps you take care of the daily activities that are difficult for you?

	n=184
Yes	44%
No	56%

A3. During the past 12 months, do you think you were treated poorly or discriminated against because of your age?

Yes	4%
No	95%
Don't Know	1%

**End of Life**

EL1. Have you, personally, had experience with palliative care, end-of-life care, or hospice care either for yourself or a family member?

Yes 28%  
 No 72%

IntEL2 Do you have any of the following legal documents that are used in end-of-life situations? Do you have...

	Yes	No	DK
A living will?	38%	61%	1%
An advanced directive related to health care treatment?	22%	71%	7%
A power of attorney?	33%	66%	1%
A health care proxy?	16%	74%	10%

**Cancer Screening**

S20\_6. Have you EVER been told by a doctor, nurse, or other health professional that you had CANCER?

Yes 10%  
 No 90%

S20\_7. How many different types of cancer have you had?

n=90  
 1 type 93%  
 2 types 7%

S20\_8cod. What type of cancer was it?

n=90  
 Skin (Not melanoma) 20%  
 Cervical (cervix) 13%  
 Prostate 12%  
 Breast 11%  
 Melanoma 8%  
 Colon (intestine) includes large intestine 8%  
 Bladder 4%  
 Lymphoma (Non-Hodgkin's) 3%  
 Endometrial (uterus) 3%  
 Lung 3%  
 Leukemia (blood) 2%  
 Ovarian (ovary) 2%  
 Thyroid 2%  
 Renal (kidney) 2%  
 Lymphoma (Hodgkin's disease) 1%  
 Pancreatic (pancreas) 1%  
 Other 1%  
 Do not know 5%

**HIV/AIDS**

S21\_1. Except for tests you may have had as part of blood donations, have you ever been tested for HIV?

n=651  
 Yes 38%  
 No 59%  
 Don't Know 3%

S21\_1A. Did your HIV testing take place during the past 12 months?

n=250  
 Yes 23%  
 No 76%  
 Don't Know 1%

S21\_1B. Have you ever been tested for Hepatitis C?

Yes	29%
No	59%
Don't Know	12%

### **Emotional Support and Life Satisfaction**

S22\_1. The next two questions are about emotional support and your satisfaction with life. How often do you get the social and emotional support you need...

Always,	54%
Usually,	27%
Sometimes,	11%
Rarely, or	2%
Never?	5%

S22\_2. In general, how satisfied are you with your life...

Very satisfied,	50%
Satisfied,	44%
Dissatisfied, or	4%
Very dissatisfied?	1%
Don't know	1%

### **Anxiety and Depression**

IntM17. Now, I am going to ask you some questions about your mood. When answering these questions, please think about how many days each of the following has occurred in the past 2 weeks. Over the last 2 weeks, how many days have you...

Days with depressive symptoms:

None	48%
One or more	52%

M17\_9. Has a doctor or other healthcare provider EVER told you that you have an ANXIETY disorder (including acute stress disorder, anxiety, generalized anxiety disorder, obsessive-compulsive disorder, panic disorder, phobia, posttraumatic stress disorder, or social anxiety disorder)?

Yes	15%
No	85%

M17\_10. Has a doctor or other healthcare provider EVER told you that you have a DEPRESSIVE disorder (including depression, major depression, dysthymia, or minor depression)?

Yes	16%
No	84%

### **Social Context**

M19\_1. Now, I am going to ask you about several factors that can affect a person's health. Do you own or rent your home?

Own	68%
Rent	23%
Other arrangement	8%

M19\_2. How often in the past 12 months would you say you were worried or stressed about having enough money to pay your (rent/mortgage)? Would you say you were worried or stressed...

	n=793
Always,	3%
Usually,	2%
Sometimes,	13%
Rarely, OR	12%
Never?	65%
Not applicable	5%

IntM19\_9. Now I'm going to ask you about various events that happen to people. I'm interested in those that happened to you at any point during the last 12 months, that is since [fill one year ago's date]. Did any of the following hardships happen to you in the last 12 months?

	Yes	No
M19_9a. Did you fall behind in paying your rent or mortgage?	7%	93%
M19_9b. Were you evicted from your apartment or house?	1%	99%
M19_9c. Did you have any UTILITIES, such as water, heat, or electricity, shut off because you couldn't afford the bill?	2%	98%
M19_9e. Were you unable to purchase needed FOOD because you couldn't afford it?	5%	95%
M19_9f. Were you unable to get needed MEDICAL CARE because you couldn't afford it?	7%	93%
M19_9g. Did you lack health insurance coverage?	12%	88%
M19_9h. For financial reasons, did you have to temporarily live with others or in a shelter or on the street?	5%	95%
M19_9i. Were you let go or permanently laid off from your job?	5%	95%
M19_9j. Did you experience a reduction in pay for any reason?	10%	90%
M19_9k. Were you unemployed and looking for work for as long as a month?	10%	90%

M19\_9h2cod1. Where did you live?

	n=44
Family home	76%
Friends home	15%
No where	4%
Other	8%

*\*Totals may exceed 100% because multiple responses were accepted*

**Fruits and Vegetables**

IntQ18. These next questions are about the foods you usually eat or drink. During the PAST WEEK, how often did you eat or drink each one, for example, twice a WEEK, three times a WEEK, and so forth. We are only interested in the foods YOU ate. Please include all foods you ate both at home and away from home. During the PAST WEEK, how often did you...

	None	1-2 times	3-4 times	5-7 times	More than once per day	Never eat/ drink item/DK
Drink fruit juices such as orange, grapefruit, or tomato?	33%	22%	17%	26%	2%	1%
Eat fruit, not counting juice?	7%	19%	20%	44%	9%	0%
Eat green salad?	23%	31%	24%	19%	2%	1%
Eat potatoes not including French fries, fried potatoes, or potato chips?	21%	46%	24%	9%	0%	1%
Eat carrots?	34%	39%	15%	11%	0%	2%

Q18\_6. Not counting carrots, potatoes, or salad, how many SERVINGS of VEGETABLES did you eat during the PAST WEEK? (Example: A serving of vegetables at both lunch and dinner would be two servings.)

None	5%
1-2	10%
3-4	21%
5-7	37%
8 or more servings	25%
Do not know	2%



**Fast Food**

FF1. How many days in the past WEEK did you prepare your evening meal at home?

None	5%
1-2 days	9%
3-4 days	16%
5-6 days	29%
Every day	41%

IntFF2. How many days in the past week did you purchase or receive food from the following sources:

	None	1-2 days	3-5 days	6-7 days
A senior center or food pantry?	97%	2%	0%	0%
A Wal-Mart, Target, or other big box store?	66%	29%	4%	1%
A convenience store, or corner store?	74%	20%	5%	2%
A farmer's market?	79%	19%	1%	1%
A grocery store such as Giant, Weis, Food Lion?	19%	63%	15%	3%
A fast food or chain restaurant?	51%	41%	7%	1%

NUMA. Including yourself, how many adults 18 years of age or OLDER CURRENTLY live in this household?

1	21%
2	53%
3-4	22%
5 or more	3%

## Definitions of Selected Terms

**Age-adjusted Rate:** Age-adjustment is the process by which differences in the age composition of two or more populations are removed, to allow comparisons between these populations in the frequency with which an age-related health event occurs.<sup>1</sup>

**ALA Grades:** The American Lung Association grades counties in which the EPA has placed the necessary monitoring equipment and creates weighted annual averages for both high ozone days and high particle pollution days.

**Binge Drinker:** Males having five or more drinks on one occasion or females having four or more drinks on one occasion.<sup>1</sup>

**Body Mass Index (BMI):** Number calculated from a person's weight and height. BMI provides a reliable indicator of body fatness for most people and is used to screen for weight categories that may lead to health problems.<sup>2</sup>

**Confidence Intervals:** Interval determining the variability of a rate, ratio or percent.<sup>1</sup>

**Current smoker:** During COR interviewing, respondents who said they had smoked more than 100 cigarettes in their life were asked about the frequency of their current smoking habits. If the respondent confirmed to smoking occasionally or every day, they were labeled as smokers.

**Days with depressive symptoms:** During COR interviewing, respondents were asked a series of questions relating to their mood over the past month. These questions each received values that were then compiled to create a composite score for days with depressive symptoms.

**Economic hardships:** During COR interviewing, respondents were asked a series of questions relating to economic hardships experienced within the past year, such as falling behind on rent payments or being unable to pay for food, utilities, gasoline or medical care. These questions each received values that were then compiled to create a composite score for economic hardships experienced in the past year.

**Gets needed social and emotional support:** During COR interviewing, respondents were asked how often they received the social and emotional support they need. If respondents answered "Always", "Usually" or "Sometimes", they were marked as getting needed social and emotional support. If they answered "Rarely" or "Never", they were marked as not getting needed support.

**Healthy literacy:** During COR interviewing, respondents were asked a series of questions relating to their own confidence in understanding medical information, which was used to create a composite score that determined the threshold of health literacy.

**Healthy People 2020:** Healthy People provides science-based, 10-year national objectives for improving the health of all Americans.<sup>3</sup>

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Definitions have been directly obtained from the following sources:

<sup>1</sup> "EpiQMS Help." Epidemiologic Query and Mapping System, Pennsylvania Department of Health, <http://app2.health.state.pa.us/epiqms/EpiQMSHelp/DGEpiQMSHELP.htm>.

<sup>2</sup> "Body Mass Index." Healthy Weight, Assessing Your Weight, Centers for Disease Control and Prevention, <http://www.cdc.gov/healthyweight/assessing/bmi/>.

<sup>3</sup> Healthy People 2020, <http://www.healthypeople.gov>.

**Low birth Weight:** Birth weight of less than 2,500 grams.<sup>4</sup>

**Obese:** Has a BMI over 30.<sup>1</sup>

**Overweight:** Has a BMI between 25 and 30.<sup>1</sup>

**Physical activity:** During COR interviewing, respondents were marked as engaging in physical activity if the respondent said to have exercised at least 30 minutes on five days of the past week.

**Poverty Status of Household:** During COR interviewing, respondents were asked to indicate their income level, as well as the number of people in their household. Three categories of poverty status (in poverty, low-income and other) were created based on the 2011 US Department of Health and Human Services (HHS) Poverty Guidelines. The category "In Poverty" was created based on these guidelines. Respondents were marked as "Low-income" if their income level fell within 100% and 200% of the HSS guidelines.<sup>5</sup>

**Rate:** A rate is a measure of the frequency of an event per population unit. The use of rates, rather than raw numbers, is important for comparison among populations, since the number of events depends, in part, on the size of the population.<sup>1</sup>

**Statistical significance:** The difference between two independent rates is statistically significant if the confidence intervals for two independent rates do not overlap.<sup>1</sup>

**Stressed about paying for food:** During COR interviewing, respondents were asked how often in the past 12 months they were stressed about having enough money to buy nutritious meals. If they answered "Always", "Usually" or "Sometimes", as opposed to "Rarely" or "Never", they were marked as being stressed about paying for food.

**Stressed about paying for rent or mortgage:** During COR interviewing, respondents were asked how often in the past 12 months they were stressed about having enough money to pay their rent or mortgage. If they answered "Always", "Usually" or "Sometimes", as opposed to "Rarely" or "Never", they were marked as being stressed about paying rent or mortgage.

**Unemployed persons :** Persons aged 16 years and older who had no employment during the reference week, were available for work, except for temporary illness, and had made specific efforts to find employment sometime during the 4-week period ending with the reference week. Persons who were waiting to be recalled to a job from which they had been laid off need not have been looking for work to be classified as unemployed.<sup>4</sup>

**Unemployment rate:** The unemployment rate represents the number unemployed as a percent of the labor force.<sup>4</sup>

**Vegetable Consumption:** During COR interviewing, respondents were asked how many servings of vegetables they had eaten during the past week, to determine whether they consumed three or more servings of vegetables per day on average during that week.

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<sup>4</sup> "Economic Indicators." Definitions, UNICEF, [http://www.unicef.org/infobycountry/stats\\_popup7.html](http://www.unicef.org/infobycountry/stats_popup7.html).

<sup>5</sup> "2011 HHS Poverty guidelines." United States Department of Health and Human Services. <http://aspe.hhs.gov/poverty/11poverty.shtml>.

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**Behavioral Risk Factors--Pennsylvania Department of Health Statistics**

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## Logistic Regression Analyses

The logistic regression model for obesity was statistically significant,  $\chi^2(23) = 102.871$ ,  $p < .001$ . The model explained 18% (Nagelkerke  $R^2$ ) of the variance in obesity and correctly classified 68% of cases. The largest effects were found for poverty status, gender, age,

and having diabetes (Table E-1). Model sensitivity (the percent of cases that are obese that were accurately predicted) was 28% and model specificity (the percent of cases that were not obese that were accurately predicted) was 90%.

**Table E-1. Logistic Regression Analysis for Adults who are Obese**

	Variables in the Equation		
	B	Std. Error	Sig.
Poverty, low-income, and other households			0.019
In poverty	0.15	0.388	0.698
Low-income	0.613	0.22	0.005
Race and Ethnicity			0.208
Non-Hispanic White	-0.073	0.35	0.834
Non-Hispanic Black	1.032	0.899	0.251
Non-Hispanic Other	-2.765	1.658	0.095
Male	0.477	0.175	0.007
Age Range			0.001
Under 35 years old	-0.791	0.26	0.002
35-54 years old	0.087	0.206	0.673
Educational Attainment			0.199
High school or less	0.377	0.235	0.108
Some college	0.45	0.271	0.097
Health Literacy	0.113	0.234	0.630
Married	-0.127	0.186	0.495
Economic Hardships			0.668
One economic hardship	-0.104	0.25	0.678
Two or more economic hardships	0.113	0.306	0.713
Gets needed social and emotional support	0.736	0.378	0.051
Exercised 30 minutes on five days in past week	0.085	0.239	0.721
Respondent is diabetic	1.046	0.251	0.000
Told has heart disease, heart attack, or stroke	-0.001	0.28	0.997
Has asthma	0.311	0.274	0.256
PHQ-8 Depression Scale Symptom Category			0.170
No symptoms	-3.829	1.932	0.048
Mild symptoms	-3.639	1.938	0.060
Moderate symptoms	-3.647	1.966	0.064
Moderately severe symptoms	-2.852	2.04	0.162
Constant	1.88	2.034	0.355

\*Nagelkerke R Square = 0.179

\*Percentage correct = 68.4

\*-2 Log likelihood = 853.524

The logistic regression model for depression was statistically significant,  $\chi^2(19) = 55.667$ ,  $p < .001$ . The model explained 20% (Nagelkerke  $R^2$ ) of the variance in depression and correctly classified 95% of cases. The largest effects were found for

marital status, social support, exercise behavior, and having diabetes (Table E-2). Model sensitivity (the percent of cases that are depressed that were accurately predicted) was 12% and model specificity was 99%.

**Table E-2. Logistic Regression Analysis for Adults who are Depressed**

	Variables in the Equation		
	B	Std. Error	Sig.
Poverty, low-income, and other households			0.454
In poverty	0.481	0.702	0.494
Low-income	0.54	0.439	0.219
Race and Ethnicity			0.243
Non-Hispanic White	18.985	5695.033	0.997
Non-Hispanic Black	20.924	5695.033	0.997
Non-Hispanic Other	19.764	5695.033	0.997
Male	0.41	0.366	0.263
Age Range			0.138
Under 35 years old	-0.259	0.562	0.645
35-54 years old	0.602	0.419	0.151
Educational Attainment			0.559
High school or less	-0.491	0.461	0.287
Some college	-0.281	0.532	0.598
Health Literacy	0.396	0.425	0.352
Married	-0.768	0.365	0.035
Economic Hardships			0.223
One economic hardship	-0.697	0.461	0.130
Two or more economic hardships	-0.1	0.526	0.849
Gets needed social and emotional support	-1.274	0.453	0.005
Exercised 30 minutes on five days in past week	-1.507	0.725	0.038
Respondent is diabetic	0.872	0.389	0.025
Told has heart disease, heart attack, or stroke	-0.215	0.539	0.689
Has asthma	0.042	0.56	0.940
Constant	-20.141	5695.033	0.997

\*Nagelkerke R Square = 0.201

\*Percentage correct = 94.6

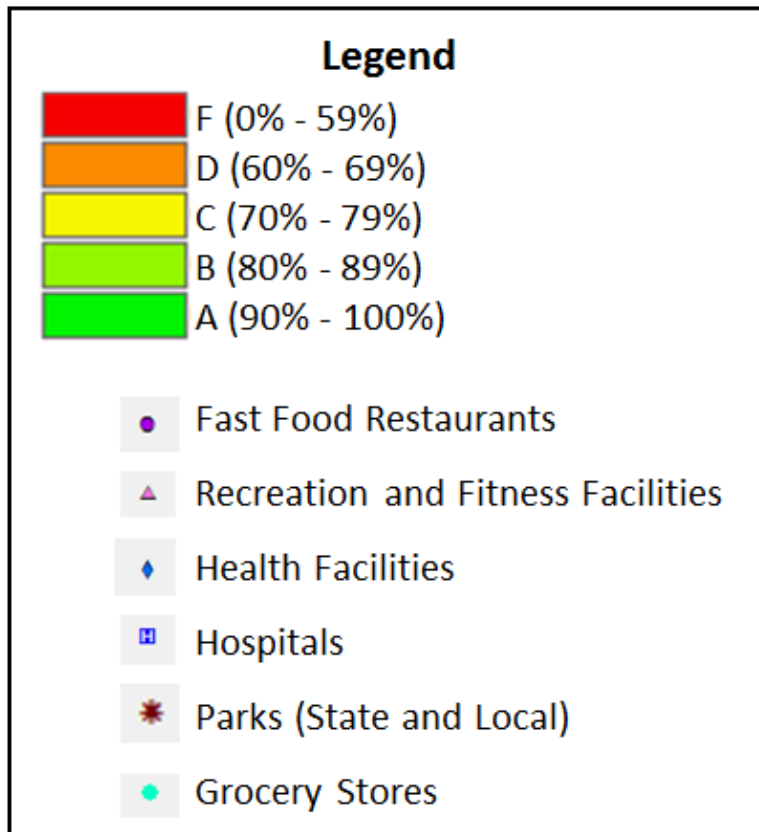
\*-2 Log likelihood = 276.031

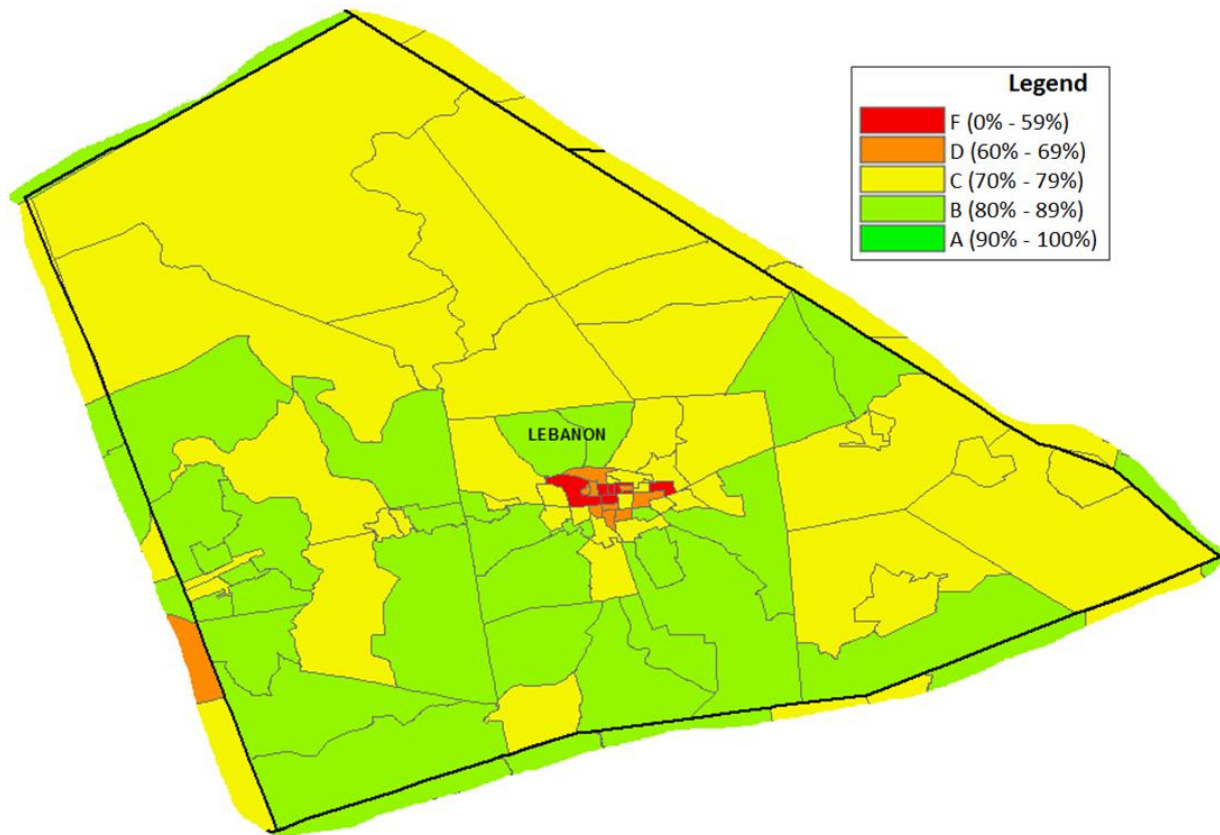


## Social Determinants Mapping

Social determinants analysis attempts to geographically describe the physical environments where people live and work that can contribute to health outcomes and risks. Social determinants research highlighting the importance of poverty, residential segregation, stigma and discrimination, incarceration, and educational attainment on health outcomes provides a deeper understanding of the complex social and structural determinants of health and pinpoints additional opportunities for enhancing prevention and control efforts.

This CHNA for the first time includes social determinants analysis for each block group in Lebanon County. The scoring for the social determinants mapping is based on five factors: poverty, educational attainment, occupied housing units, employment, and race and ethnicity. Higher scores indicate that a block group has stronger social characteristics. Lebanon does not have any block groups that score an A. Lebanon has 33 block groups that rate a B (39%), 38 that rate a C (45%), 9 that rate a D (11%) and 5 that rate an F (6% of the 85 block groups in the county). These maps show that many areas within the county have social and economic characteristics that increase the risk of poor health.





**Figure 1. Social Determinants Analysis of Health for Lebanon County.** *This figure displays the social determinants scores for each census tract in Lebanon County. Higher scores indicate that a census tract has stronger social characteristics. Lebanon has no block groups that score an A. Lebanon has nine block groups that rate a D and five that rate an F. Calculations by the Center for Opinion Research based on American Community Survey data.*

### Fast Food Restaurants

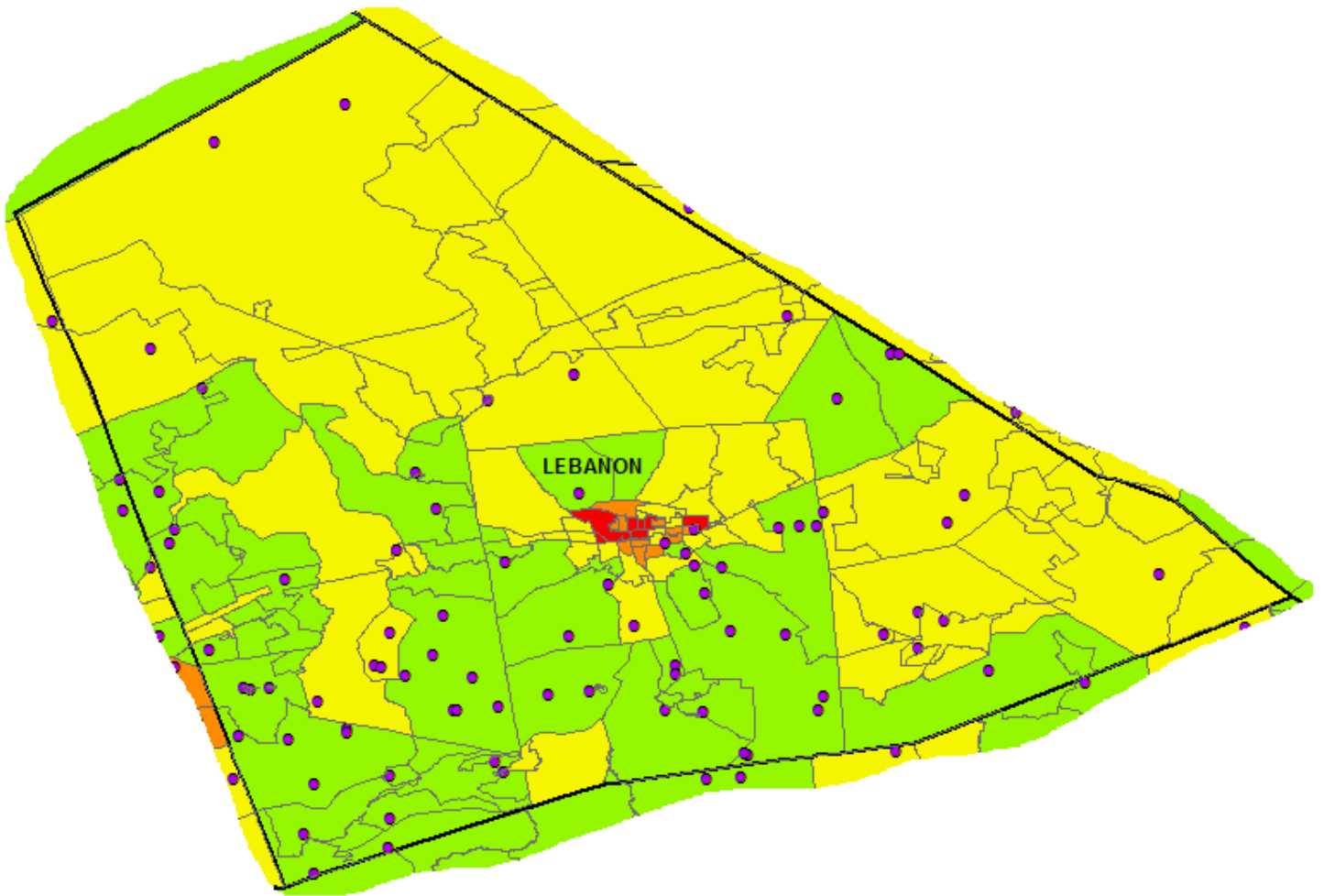


Figure 2. Fast food restaurants in Lebanon County, PA.

### Recreation and Fitness Facilities

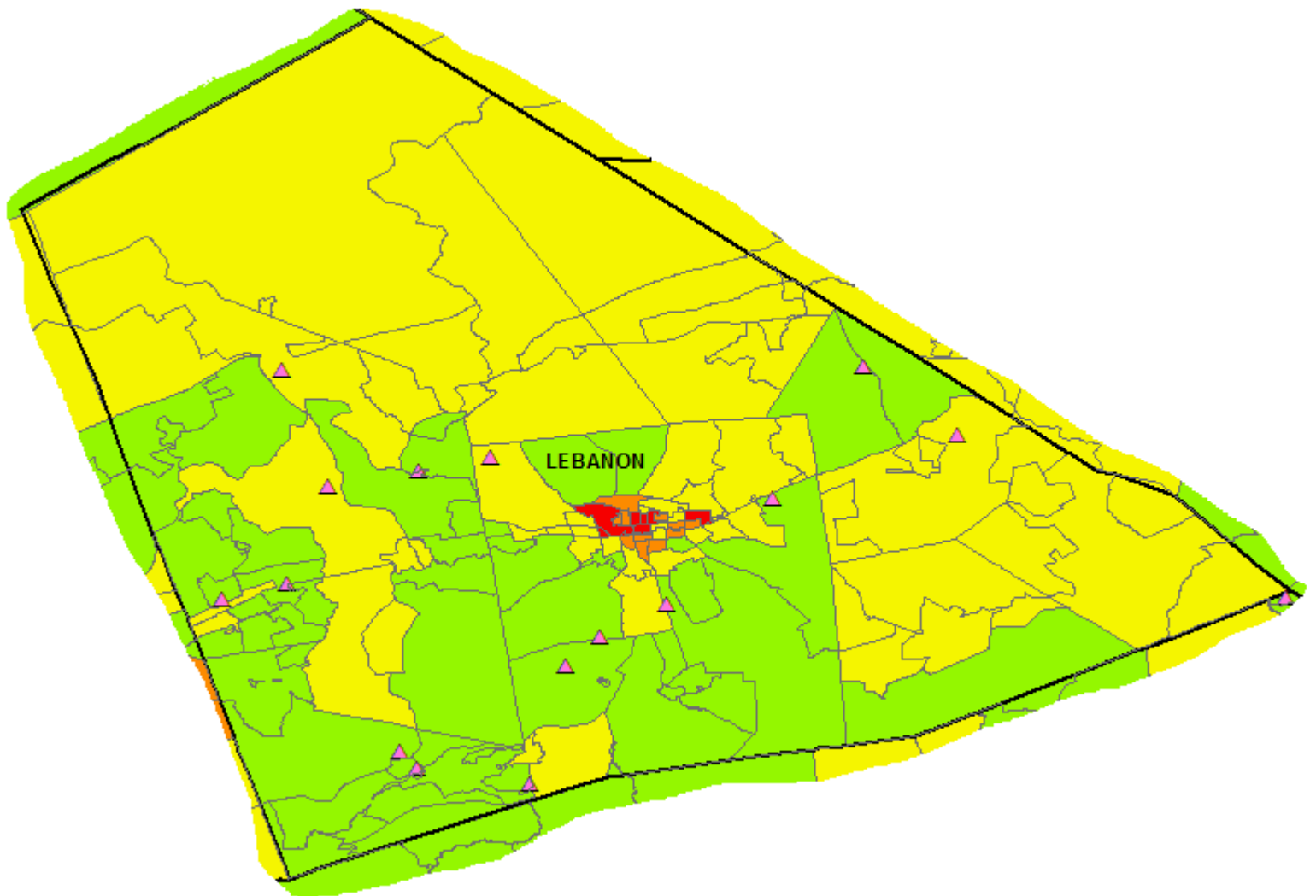


Figure 3. Recreation and Fitness Facilities in Lebanon County, PA.

Health Facilities

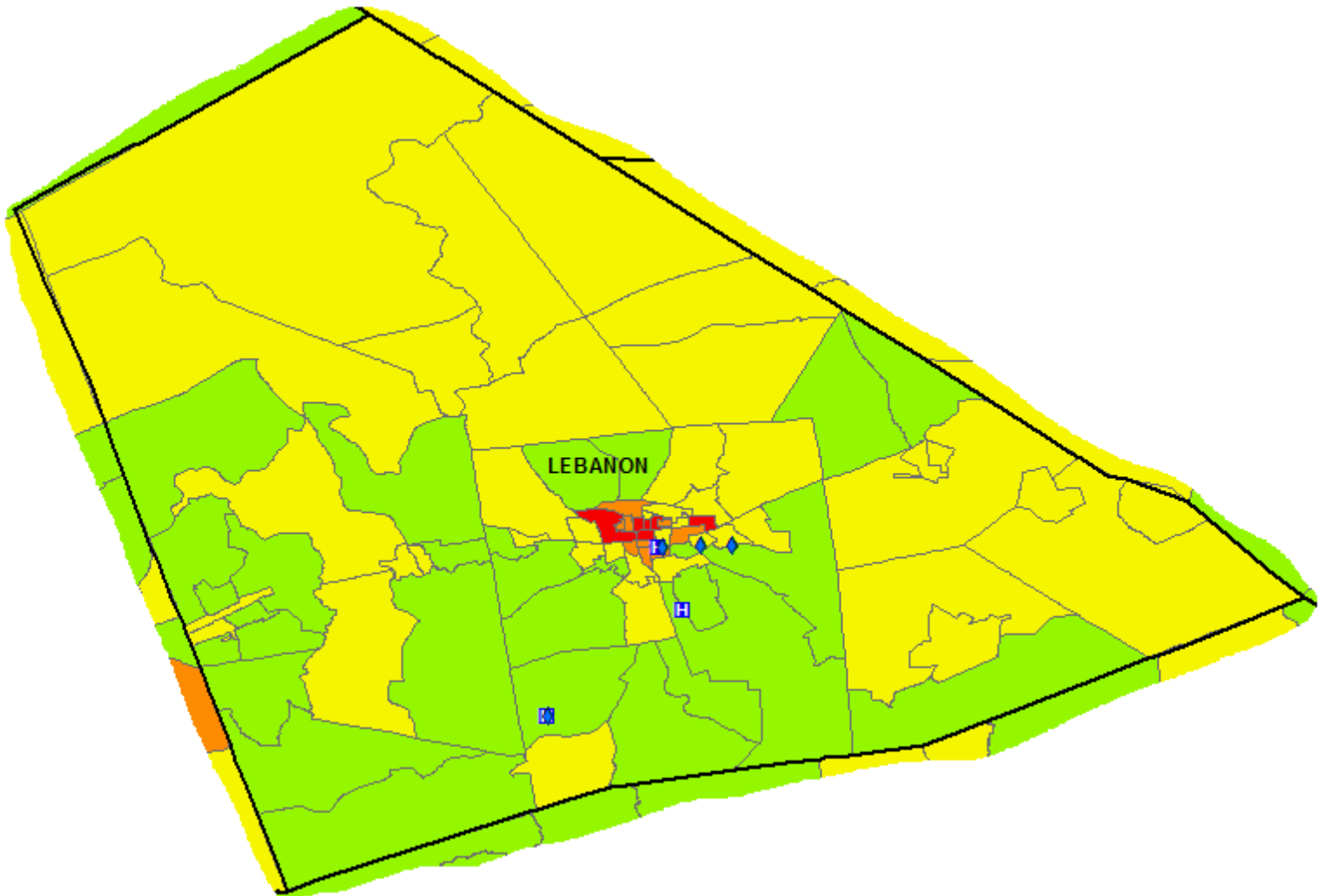


Figure 4. Health Facilities in Lebanon County, PA.

### Grocery Stores

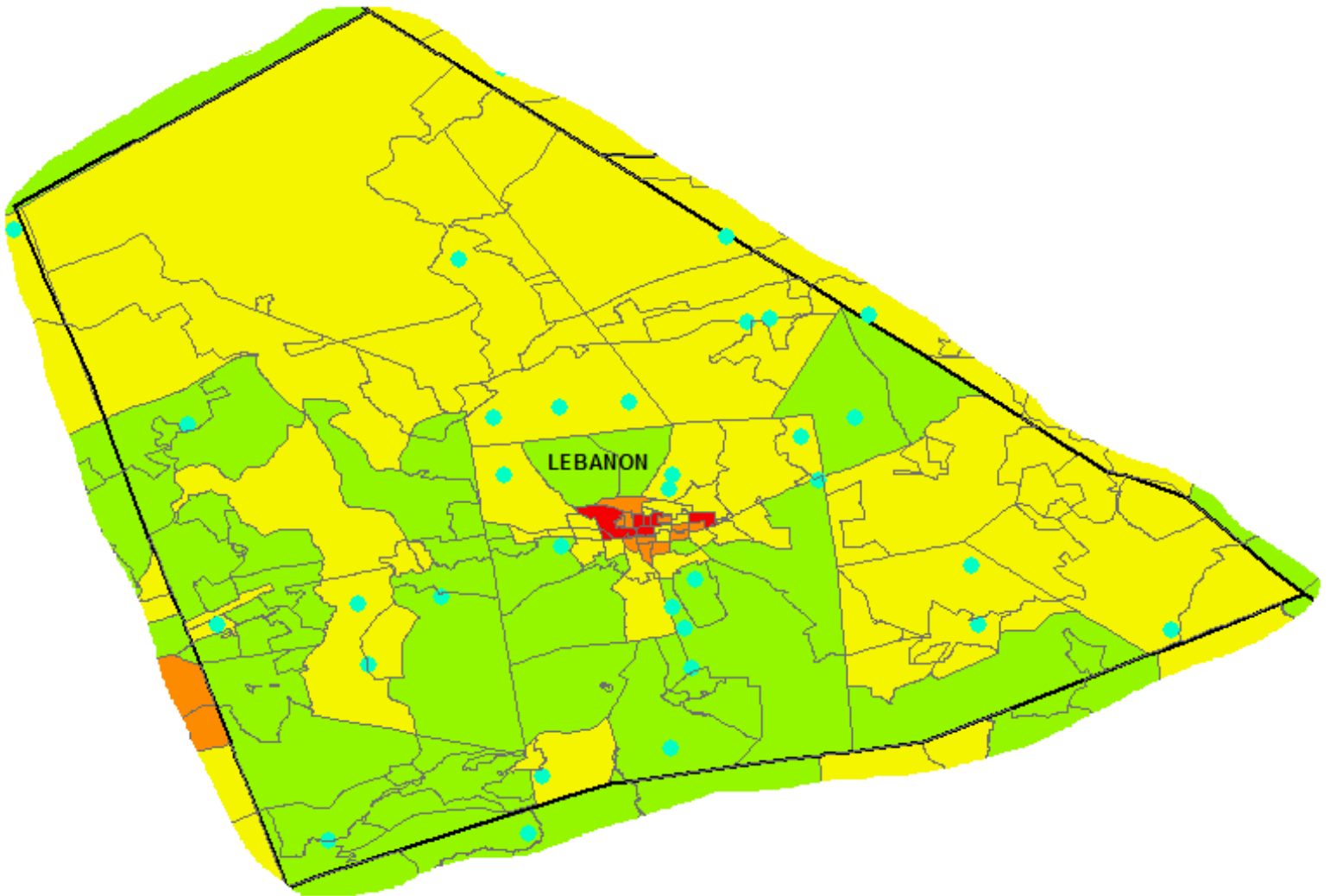
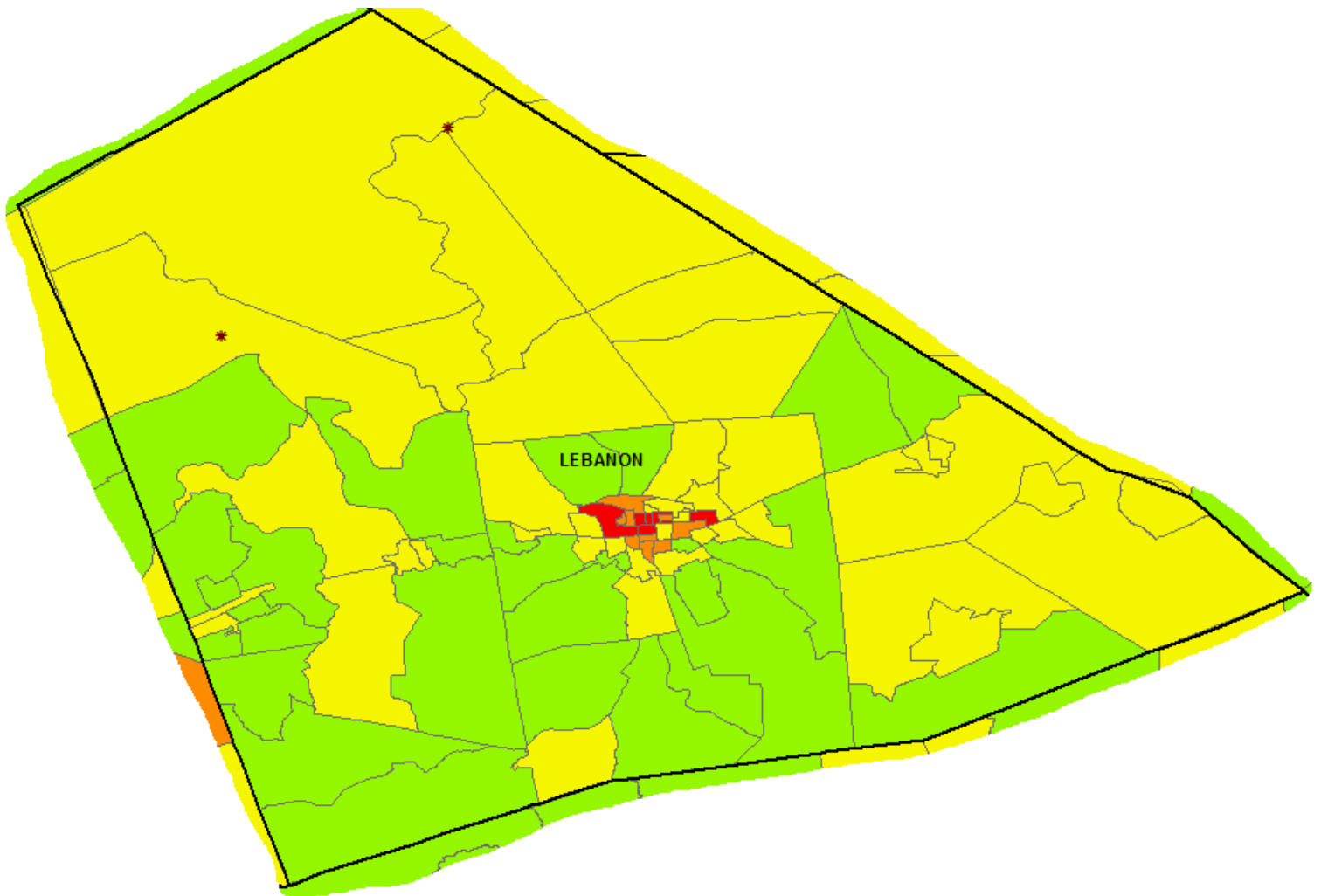


Figure 5. Grocery Stores in Lebanon County, PA.

Parks (State)



**Figure 6. State Parks in Lebanon County, PA.** *\*Note: Lebanon County GIS department did not disclose GIS mapping data for local and municipal parks in Lebanon County.*