



### St. Luke's Community Health Needs Study Survey Findings

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## St Lukes My Halth. My Hespital.



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#### **PROJECT OVERVIEW**

This report summarizes the findings from a survey study conducted by the Lehigh Valley Research Consortium (LVRC) from January 2011 through August 2011. The project was commissioned by St. Luke's Hospital and Health Network in order to gauge the community health needs of the Lehigh Valley Community and the St. Luke's network service areas. An additional aim was to respond to new legislative developments in the Patient Protection and Affordable Care Act of 2010 ("Affordable Care Act"), which require nonprofit health providers and hospitals to conduct periodic assessments of community health. In addition to survey findings reported here, an analysis of existing community health measures and secondary data can be found in a companion report, "Community Health in the Lehigh Valley: An Analysis of Secondary Datasources."

The LVRC (<u>www.lehighvalleyresearch.org</u>) operates within the Lehigh Valley Association of Independent Colleges (LVAIC). The Community Health Study was directed by Dr. Lanethea Mathews, Associate Professor of Political Science at Muhlenberg College. Additional contributors include: Dr. Michele Deegan, Director of the LVRC and Associate Professor of Political Science at Muhlenberg College; and Dr. Judith Lasker, NEH Distinguished Professor of Sociology and Chair of Sociology at Lehigh University. Research assistance was aptly provided by Soyeon Kim, Becky Wiseman, Susan Hansen, Allison Proswimmer, Lindsey Doane, Alyia Heller, Andrew Chew, Michaeal Weiner, Stephanie Zumda, and Stephanie Plumeri.

Portions of the Community Health Survey were funded by the United Way of the Greater Lehigh Valley.

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For more information about the LVRC, for additional copies of this report, and for access to the data collected for this project, please visit <u>http://www.lehighvalleyresearch.org</u>.

The views expressed in this report are those of the LVRC research team and do not reflect the views of the LVRC, LVAIC, LVAIC institutions, or the St. Luke's Hospital and Health Network.

#### **INFORMATION ABOUT METHOD & SAMPLE**

This study seeks to address two fundamental questions:

- 1. What are the most pressing community health needs facing the Lehigh Valley area?
- 2. What community health issues do Lehigh Valley residents identify as being the most significant and important to them?

In addition, the St. Luke's Hospital and Health Network sought to identify the most pressing community health needs facing their service-areas, including Lehigh and Northampton Counties, and portions of Bucks and Montgomery Counties (in the Quakertown area defined by the following zipcodes: 18930, 18077, 18955, 18073, 18041, 18951).<sup>1</sup> Finally, the research method and survey design for this study were shaped by emergent information about the community health needs assessment requirements for tax-exempt hospitals as a result of the Patient Protection and Affordable Care Act of 2010 ("Affordable Care Act").

With these goals in mind, the LVRC designed and administered a "Community Health Survey." The survey was designed in consultation with the St. Luke's Director of Community Health. When possible, survey questions replicate health measures used in national and statewide data collection systems including, for example, the Behavioral Risk Factors Surveillance Systems (BRFSS).

Four thousand nine hundred (4900) surveys were distributed to randomly selected household addresses in the geographic areas of interest to be completed by adults over the age of 18. Addresses were generated by Genesys Sampling Systems of Ft. Washington, PA. Five hundred and twenty-six (526) completed surveys were returned, comprising a response rate of approximately 11%. Given population, sample size and our response rate, the margin of error for findings reported here is +/- 4.5% at a 95% confidence interval; in other words, we are 99% confident that the results reported here are within approximately 4.5% of the true population of individuals within the geographic boundaries studied.

It is important to note, however, that the margin of error for particular sub-groups (e.g., only residents in Bucks County zipcodes, or only individuals living in particular municipalities) is larger due to smaller sample size. In order to present the truest picture possible, the data have been weighted by the following variables: county, race, Hispanic/non-Hispanic, income, education, and age. Weights were determined using the most recent demographic data available from the 2010 Census. Weighted data are presented in this report unless otherwise noted. Likewise, unless otherwise noted, statistically significant findings are reported at a p value of p < .01. In some cases, combined percentages may not add up to 100% due to rounding.

A summary of the geographic distribution of the sample is illustrated in Figure 1. Table 1 provides further summary of survey responses at the county and municipality levels. Given the research design of this study and the geographic distribution of the population in the Lehigh Valley area,

<sup>&</sup>lt;sup>1</sup> The St. Luke's Hospital and Health Network also serves portions of Carbon County. Carbon County completed a county-wide study in 2008, "Carbon County Partners for Progress; Carbon County Needs Assessment," and therefore was not included in the current study. The Carbon County needs assessment is available at <u>www.carboncountypartners.org</u>.

Lehigh and Northampton County residents comprise the vast majority of survey respondents. Fiftythree percent of respondents report living in Lehigh County, followed by 43% in Northampton County, 2.2% in the selected zipcodes of Montgomery County (18073, 18076, 18041), and 1.3% in the selected zipcodes of Bucks County (18930, 18077, 18955, 18951). Similar patterns are evident in the distribution of respondents across municipalities of the Lehigh Valley. The population density of Allentown relative to the Valley's other major cities and municipalities accounts for the high representation of Allentown residents in the sample.

#### D2 n 1821 2h Belfa Phillipsburg 08886 New Ringgold Bloo 08804 sville Hamburg 19526 Frenchtown Kul LEGEND County (High) State (High) State (High) 5-Digit ZIP Code 3-Digit ZIP Code 08555

#### FIGURE 1. GEOGRAPHIC DISTRIBUTION OF SURVEY SAMPLE (N=526)

Respondent County of Residence		City/Municipality of Residen	ice
Lehigh	53%	Allentown	15%
Northampton	43%	Bethlehem	9%
Bucks	1.3%	Bath	7%
Montgomery	2.2%	Upper Saucon	7%
Other County	0.5%	Easton	5%
-		Moore	4%
		Whitehall	3%
		Slatington	3%
		Upper Macungie	3%
		Northampton	3%
		Salisbury	3%
		North Whitehall	3%
		Bangor	2%
		South Whitehall	2%
		Lower Macungie	2%
		Pennsburg	2%
		Lower Milford	2%

#### TABLE 1. SAMPLE COUNTY AND CITY/MUNICIPALITY DISTRIBUTION (N=526)

Note: Bucks County zipcodes surveyed include: 18930, 18077, 18955, 18951. Montgomery County zipcodes surveyed include: 18073, 18076, 18041. Zipcodes in Lehigh and Northampton Counties were surveyed. The following municipalities comprise approximately 1% of the survey sample: Macunige, Hanover, Catasauqua, Emmaus, Wind Gap, Hellertown, Bethlehem Twp., Palmer, Walnutport, Fountain Hill, East Allen, Coopersburg, Lower Saucon, Williams, Lehigh, Upper Milford, Plainfield, Red Hill, North Catasauqua, Lynn, Wilson, Nazareth. The following municipalities comprise less than 1% of the sample: Quakertown, Kintnersville, Durham, Forks, Alburtis, Washingotn, Lowhill, Coplay, Washington, Upper Mount Bethel, Freemansburg, Orefiled, Allen, Pen Argyl, Springfied, East Bangor, Riegelsville, Hanover.

Figure 2 illustrates the geographic distribution of the survey sample by St. Luke's Hospital PSA area as defined by zipcode (because several zipcodes are included in more than one PSA, numbers do not equal 100%). Approximately 12% of survey respondents live in one of the zipcodes that comprise the Quakertown PSA; 53% live in the Bethlehem PSA area, and 52% live in the Allentown PSA area.

In order to better understand important regional differences in the Lehigh Valley, data was also parsed along the four key geographic divisions, defined below and pictured in Figure 3:

- 1. Northern Tier (including Slate and Cement Belts): 18014, 18091, 18072, 18064, 18013, 18032, 18069, 18031, 18066, 18080, 18088, 18067.
- 2. Bethlehem/Easton Region: 18040, 18045, 18042, 18020, 18055, 18015, 18017, 18018.
- 3. Allentown Region: 18037, 18106, 18101, 18109, 18103, 18052, 18102, 18104.
- 4. Southern Tier: 18049, 18062, 18036, 18951.



#### FIGURE 2. SURVEY SAMPLE ST. LUKE'S PSA AREA

Note: Quakertown PSA includes: 18930, 18077, 18955, 18034, 18073, 18076, 18041, 18036, 18951; Bethlehem PSA includes: 18014, 18091, 18040, 18072, 18064, 18045, 18042, 18020, 18013, 18055, 18109, 18015, 18017, 18018, 18067, 18103, 18052, 18102, 18104, 18036, 18951; Allentown PSA includes: 18049, 18032, 18069, 18031, 18037, 18106, 18062, 18066, 18080, 18088, 18101, 18109, 18015, 18017, 18018, 18067, 18103, 18052, 18102, 18104, 18036, 18036, 18651.



#### FIGURE 3. SURVEY SAMPLE REGIONAL SUB-POPULATIONS

The demographics of the survey sample are summarized in Table 2. As noted, respondents are proportionally distributed among men (47%) and women (53%) and are generally distributed along typical patterns in terms of age, marital status, education, and employment. Twenty-two percent of respondents reported family incomes of less than \$14,999 and an additional 22% report family incomes under \$25,000. Additionally, 14% of respondents were born outside the United States and 13% report their ethnicity as Hispanic or Latino.

Men	47%	Born in US	86%
Women	53%	Born Outside US	14%
vi oliteti	2370		11/0
Year of Birth		Own Home	81%
1921-1930	11%	Rent Home	20%
1931-1940	13%		
1941-1950	17%	White	84%
1951-1960	26%	Black/African American	3%
1961-1970	12%	American Indian/Alaskan Native	1%
1971-1980	9%	Asian	4%
1981-1990	13%	Other	9%
Married	59%	Hispanic	13%
Divorced/Separated	12%	Non-Hispanic	87%
Single/Never Married	11%	1	
Widowed	12%		
Long Term Partnered	7%		
C			
Education		Family Income	
Less than high school	12%	Less than \$15,000	22%
High School degree or GED	33%	Between \$15,000 and \$24,999	22%
Some college	18%	Between \$25,000 and \$39,999	21%
2 year college degree	5%	Between \$40,000 and \$59,999	18%
4 year college degree	19%	Between \$60,000 and \$99,999	9%
Post-College or graduate school	14%	\$100,000 and more	9%
Employment Status			
Employed	47%		
Self-Employed	4%		
Retired	31%		
Homemaker	6%		
Student	1%	Note: Due to rounding, numbers may not add up	
Out of work more than 1 year	4%	to 100%	
Out of work less than 1 year	3%		
•			

### TABLE 2. SAMPLE DEMOGRAPHICS (WEIGHTED) (N=526)

#### **EXECUTIVE SUMMARY**

The US Department of Health and Human Services *Community Health Status Report* for the counties of Lehigh, Northampton, Bucks, and Carbon in the state of Pennsylvania, notes that in terms of community health, the most vulnerable populations are defined by disability, education, employment status, mental health, and drug use. To some degree, the findings of the LVRC St. Luke's Community Health Survey confirm these findings, with some notable additions and clarifications.

Missing from the DHHS Community Health Status Reports is a focus on income and ethnicity, which are significant features of the findings reported here. In the most general of terms, the results of this Community Survey suggest that the vast majority of respondents in the Lehigh Valley area are in good health, have positive perceptions about their communities, and benefit from preventative health care measures, such as routine doctors visits, testing for common health conditions and other components of primary care. Despite this, however, there is a sizeable and consistent minority of respondents who are in poorer health, have more negative community perceptions, and have less access to preventive practices. This minority, moreover, is defined primarily in terms of the components that make up socioeconomic status, ethnicity, education, and income.

If not particularly surprising, these are significant findings for several reasons. Not only has the Lehigh Valley area experienced significant population growth in the past decade but, perhaps more importantly, the demographics of the population have changed dramatically. Based on data from the 2010 US Census, close to 20% of the Lehigh County population is Hispanic or Latino, followed by 11% in Northampton County. In terms of income, 24% of Lehigh County households and 20% of households in Northampton County report annual incomes of less than \$25,000. Fourteen percent of adult residents over age 25 have not obtained a high school diploma in Lehigh County; in Northampton County, 12% has less than a high school education. To the extent that demographic trends continue, community health in the Lehigh Valley is likely to remain stratified by income and ethnicity. Should the Hispanic population continue to grow as it is expected to, for instance, the community can expect to confront increasing health disparities defined by ethnicity.

This report details the findings related to several areas of community health, including respondent perceptions, access to health care and health insurance, healthy eating and exercise, chronic health conditions, preventive care, behavior health, oral health, and others. Here, the executive summary notes some of the most significant findings with respect to the most pressing community health issues facing the Lehigh Valley area.

• Hispanics living in the Lehigh Valley communicate significantly more negative perceptions and greater frequency of health related problems than do non-Hispanics across all geographic regions. In fact, the findings from this study suggest that *ethnicity is the single most important variable related to both respondents' perceptions and to their actual health*. Hispanics are significantly less likely to rate their community health care system positively and significantly more likely to give poor ratings to their overall personal health. Only 37% of Hispanic respondents rate their overall health in positive terms, compared to more than one-half of the survey sample overall. Hispanics are more likely to report frequent sick days, due both to physical and mental health problems; they are twice as likely to report two or more weeks of depression per year. Hispanic respondents are significantly more likely to suffer from asthma, but generally have lower rates of other common health problems such as high blood

pressure, high blood cholesterol, and arthritis, which are more prevalent in among white Non-Hispanic respondents—this accounts, in part, for the low rates of high cholesterol and arthritis in the Lehigh Valley compared to the state and nation as a whole.

Hispanics are twice as likely as all respondents to lack health insurance and four times as likely to use a hospital emergency room for routine medical assistance. More than 35% of Hispanics report having difficultly communicating with medical professionals due to language barriers. They are also much more likely to report forgoing medical care due to cost. Sixty-three percent of Hispanics, for example, say they have gone without eyeglasses due to cost. Finally, Hispanics are more likely to be overweight or obese, less likely to participate in frequent physical exercise, and less likely to consume at least three servings of fruits and vegetables on an average day.

- As income increases, so too do positive perceptions of one's own health. Income is dramatically related to feelings of depression and to one's propensity to take sick days due to "mental health problems." Low income respondents, that is, those reporting family incomes of less than \$25,000 per year, are significantly more likely to suffer from high blood pressure, high cholesterol, diabetes, and arthritis, and more likely to forgo medical care, including dental care, due to cost. Low -income women are significantly less likely to report having had a pap test screening for cervical cancer in the past two years, or a mammogram screening for breast cancer in the past 5 years. Income shares a complicated relationship with access to health care; for example, while low-income respondents are much more likely to lack health insurance, they are also more likely to report having had their cholesterol checked.
- Geographically, county, city, and St. Luke's PSA area matter less to community health differences than do broader regional patterns. In general, respondents living in the Allentown region (including Copy and Whitehall) and the Bethlehem/Easton region (including Hellertown) fare worse and report more negative perceptions of personal health than do respondents from the Northern Tier and Southern Tier of the Lehigh Valley. Respondents living in the Allentown and Bethlehem/Easton regions report higher rates of obesity, smoking, and binge drinking than do respondents from other regions in the area. The only exceptions to this trend are the prevalence of high blood pressure and high cholesterol, which tend to be lower in the city regions than in the surrounding suburban regions.
- Older adults tend to have more negative perceptions of personal overall health, are more likely to indicate that their health has grown worse over the past year, are more likely to report that their health limits them in someway, and report more frequent sick days than do younger adults. Perhaps more importantly, because some of their health needs tend be covered by Medicare, older adults have unique health needs when compared to the population as a whole. Respondents age 65 and older are significantly more likely to have high blood pressure, high cholesterol, diabetes, and arthritis. Older adults are significantly more likely to say it has been 5 or more years since they visited a dentist. They are also significantly less likely to report getting regular physical exercise. On a positive note, *survey respondents age 65 and older were more likely to report receiving key preventative measures, including screenings for colorectal cancer, and pneumonia and flu vaccines in comparison to national and statewide averages.*

- *Mental health disparities are greater than are physical health disparities.* A greater number of respondents report 8 or more sick days in the last month due to problems with mental health than with physical health. Mental health is significantly related to income, sex, and ethnicity. Low-income respondents, women, and Hispanics were much more likely to report experiencing depression than were other sub-groups of the population. Likewise, residents of the Allentown region were twice as likely to report feeling depressed than were residents of the Northern Tier region.
- Lehigh Valley residents tend to give more positive ratings to their overall personal health when compared to all Pennsylvanians. Nonetheless, survey respondents report a higher prevalence of diabetes than found in Pennsylvania and the nation. While only 9% of Pennsylvania adults have ever had diabetes, 14% of our survey respondents report currently having the health condition and an additional 3% say they have had diabetes in the past. According to the PA Department of Health, diabetes in the 6<sup>th</sup> leading cause of death in Lehigh and Northampton Counties; in Pennsylvania and the nation it is the 7<sup>th</sup> leading cause of death. Respondents to the Community Health Survey report *lower prevalence of arthritis* than the statewide average; 26% of survey respondents reporting currently having arthritis, compared to 31% across the state of Pennsylvania.
- Twenty-two percent of respondents say they have gone without eyeglasses due to cost considerations. A remarkable 63% of Hispanic respondents report going without glasses because of cost.
- Self-reported rates of physical exercise are somewhat lower among Lehigh Valley area residents than among all PA residents statewide. Similar to statewide patterns, income, education, sex, and ethnicity are significant determinants of exercise frequency. More starkly, *only 9% of survey respondents say they eat five or more servings of fruits and vegetables on an average day*, a rate significantly lower than state and nationwide estimates. Rates of obesity are slightly higher in Northampton County (29%) than in Lehigh County (27%); more than one-third of all survey respondents report being told by a medical professional that they are overweight or obese.
- In terms of oral and dental health, close to 20% of the Lehigh Valley population has not visited a dentist or dental clinic in over five years. Income is the single largest predictor of access to dental care among survey respondents; more than 30% of low-income respondents have not seen a dentist in more than 5 years.

In sum, the data from the *Community Health Survey* suggest that income, education, and ethnicity are intimately linked to health at both the individual level (that is, respondents' own evaluations of their personal health), and at the community level (that is, regional and other geographic disparities in health outcomes across different communities). Health disparities, thus, result from the complex interplay of socioeconomic factors (such as education and income) coupled with behavior, the social environment, and access to preventive health care services.

These findings suggest a "new look" at existing community health data available from sources such as the PA BRFSS, the CDC, and the PA Department of Health. For example, in the state of PA, the teenage birthrate for Hispanic mothers age 15 to 19 is 100.4 per 1000, significantly higher than the teenage birthrate for all women ages 15 to 19 statewide (31 per 1000), in Lehigh County (38) and in

Northampton County (24). While the current study did not ask specifically about teenage birthrate, it does identify additional areas of community health that confirm an important emphasis on ethnicity in the Lehigh Valley.

The findings summarized above suggest several targeted areas around which the community may choose to focus programmatic efforts, particularly for low-income individuals and Hispanics. These include: mental health, dental health, eye health (including access to eye exams and eye glasses), smoking cessation, alcohol education and intervention when necessary, and behaviors related to healthy eating, physical exercise, and obesity prevention. Given that many Hispanic respondents report trouble communicating with medical professionals due to language barriers, effective programs will be culturally and linguistically-appropriate and draw on partnerships and community coalitions working to address the root causes of health disparities.

Returning to the key questions that this study set out to address, the most pressing community health needs facing the Lehigh Valley area result from disparities in the social determinants of health, primarily ethnicity, income, and education, such that low-income and Hispanic residents, and residents with low levels of education, are less likely to be healthy, more likely to suffer from serious illnesses including mental health problems, and more likely to report problems with access to quality health care.

#### 1. QUALITY OF LIFE IN THE LEHIGH VALLEY

When considering the overall sample of respondents to the *Community Health Needs Survey*, the general picture that emerges is one of positive community perceptions. More than 75% of respondents agree that their community is a safe place to live, 78% of respondents agree that their community is a good place to raise kids, and 71% agree or strongly agree that their community is a good place to grow old. These results are consistent with those collected through the Muhlenberg College Polling Institute *Annual Quality of Life Study*, which has routinely found that large majorities believe the Lehigh Valley is a positive place to live.<sup>2</sup> Respondents overall also provided a positive view of the health care system. More than 70% said that they agree or strongly agree that their community has a good health care system; about 20% neither agree nor disagree with this statement; and only 8% disagree.

Respondents' views about the quality of life in their communities are not significantly influenced by county. Looking at the three primary cities in the Lehigh Valley area, there were a few differences, however. More than 70% of respondents in the cities of Allentown and Bethlehem agree that their communities have good health care systems, compared to about 58% of respondents from Easton. In contrast, respondents from Easton give more positive ratings than do respondents in Allentown and Bethlehem when it comes to rating their community as a good place to raise children, as a safe place to live, and as good place to grow old.

Comparing St. Luke's PSA areas, respondents across all three service areas report positive perceptions of the health care systems in their communities. Seventy-nine percent of respondents in the Quakertown PSA agree that their community has a good health care system; 74% in the Bethlehem PSA and 70% in the Allentown PSA also agree. Considering broader regional differences across the Lehigh Valley, there were no significance differences by region when it comes to respondents' evaluations of their community health care systems. Residents from the Allentown region, however, were more likely to disagree with positive statements about raising kids, growing old, and feeling safe than were residents in other regions of the Valley.

Additional important differences emerge when the data are parsed along other demographic variables. Women are slightly more likely to disagree that their community is a good place to raise kids than are men, for example, a finding generally consistent with national trends on gender and public policy issues. Moreover, women are much more likely to communicate negative views about growing old in their community; where as 76% of men indicated that their community is a good place to grow old, only 68% of women did so.<sup>3</sup> Finally, women are also more likely than men to disagree with the statement, "my community is a safe place to live." There are no significant differences between men and women when it comes to rating the overall quality of the health care system in their communities. Roughly 72% of both men and women strongly agree or agree that their community has a good health care system.

Respondent place of birth, Hispanic status, homeownership, employment status, and income all have a statistically significant impact on perceptions of one's community as a good place to live, to raise children, and to grow old; these variables also shape evaluations of the health care system. Homeowners, employed respondents, and respondents at higher levels of family income are most

<sup>&</sup>lt;sup>2</sup> <u>http://www.muhlenberg.edu/main/aboutus/polling/</u>

<sup>&</sup>lt;sup>3</sup> These gender differences were statistically significant at p<.01.

likely to communicate positive perceptions about their communities than are unmarried respondents, renters, unemployed or retired respondents, and respondents at lower income levels. These are not terribly surprising findings, given that these variables are also connected to socioeconomic well-being.

Although education and martial status are related to quality of life statements, these relationships are not as strong. Similarly, age is related to perceptions of the community health care system such that older respondents give stronger positive statements (strongly agree or agree) than do younger respondents on this measure.

Figures 4-6 provide graphical representation of some of these significant differences, showing that perceptions of life in the Lehigh Valley are stratified by place of birth, and by ethnicity. Those born outside the US were much less likely (about 20% less likely) to agree that their community is a good place to raise children, a good place to grow old, or a safe place to live. On these measures, there were important differences by county; for example, although there are no meaningful differences on perceptions of raising children in Northampton County, there were significant differences in Lehigh County. Among residents of Lehigh County, 80% of US born agree that their community is a good place to raise kids; only 51% of non-US born respondents similarly agree. There were also significant differences on perceptions of community safety; 21% fewer respondents born outside of the US give positive perceptions to community safety in Lehigh County.

#### FIGURE 4. PERCENT STRONGLY AGREE OR AGREE WITH QUALITY OF LIFE STATEMENTS, BY BORN IN US



\* Differences are significant at p>.01.

Furthermore, as seen in Figures 5-6 below, whereas 77% of respondents born in the US provide positive assessments of their community's health care system, only 45% of respondents born outside the US responded similarly (these differences are statistically significant at p>.01). Differences were most stark in Northampton County, in which 76% of respondents born in the US agree that their community has a good health care system, but only 35% of those born outside of the US similarly agree. Among those born outside of the US, 20% report their race as "Asian"; 50% of those born outside the US report their ethnicity as "Hispanic."



#### FIGURE 5. "MY COMMUNITY HAS A GOOD HEALTH CARE SYSTEM," BORN IN THE US

#### FIGURE 6 . "MY COMMUNITY HAS A GOOD HEALTH CARE SYSTEM," BORN OUTSIDE THE US



Following these patterns, Figure 7 shows statistically significant differences between Hispanics and Non-Hispanics on all four measures of quality of life. Race was also statistically significant such that whites were more likely to strongly agree or agree with positive statements about their communities than were non-whites. Whereas 77% of whites agree that their community has a good health care system, only 58% of blacks and 54% of Asians do. These results seem consistent with the *Allentown Community Health Opinion Survey* conducted by the Lehigh Valley Health Network in 2010, which

found that Latinos and Asians in Allentown were less likely to rate the city as a good or excellent place to live or to raise a family than were whites. In the current study, Hispanics in Lehigh County generally communicate more negative community perceptions than Hispanics in Northampton County. In fact, Hispanics in Northampton are more positive than non-Hispanics when it comes to perceptions about raising children in their communities.



#### FIGURES 7. PERCENT STRONGLY AGREE OR AGREE WITH QUALITY OF LIFE STATEMENTS, BY HISPANIC

\*Differences are statistically significant at p>.01

#### 2. GENERAL HEALTH OUTLOOK

When asked about their health in general terms respondents living the Lehigh Valley area paint a mixed view. About 47% of respondents indicate that their overall health is very good or excellent, 44% state that it is good, and about 10% report that their general health is poor or very poor. These figures are more positive than the statewide data reported through the Pennsylvania Behavioral Health Risk Favor Surveillance System (BRFSS), which notes that about 15% of PA residents report that their overall health is poor or very poor. Respondents were also asked to comment on whether their health has improved, remained the same, or become worse in the past year. The vast majority of respondents report that their health has remained the same; 21% indicate that it has improved, and 14% indicate that it has declined.

## FIGURE 8. "HOW WOULD YOU RATE YOUR OVERALL HEALTH?" ALL RESPONDENTS



#### FIGURE 9. "COMPARED TO ONE YEAR AGO, HOW WOULD YOU RATE YOUR HEALTH IN GENERAL NOW?" ALL RESPONDENTS



Figures 10 and 11 report respondents' perceptions of their overall health by county and within the three major cities of the Lehigh Valley. At the county level, 46% of respondents in Lehigh County and 49% in Northampton County rate their health as very good or excellent. Fewer respondents in Montgomery and even fewer in Bucks rated their health similarly, however, we are unable to make definitive claims about the statistical significance of these differences due to the small number of respondents from these areas. Similarly, respondents' perceptions of health did not differ dramatically by St. Luke's Service Area. Looking next to region, respondents from Allentown rate their health more negatively than do respondents from other regions; 13% of Allentown respondents rate their health as poor or very poor; this difference is statistically significant (at p < .10) when compared to respondents in the other three regions of the Valley; this figure is lower than the 15% statewide who report that their health is poor.

We did not find any meaningful dissimilarity in how respondents from different counties report changes in their health over the past year; in general, the vast majority of respondents from all geographic areas indicate that their health has remained about the same. The one exception is found when looking at respondents' perceptions of health by Lehigh Valley region. As seen in Figure 13, 18% of respondents from the Bethlehem/Easton region indicate that their health is somewhat worse or much worse than it was one year ago; by contrast, 13% of respondents in the Allentown region, 11% in the Southern Tier, and 8% in the Northern Tier rate changes in their health similarly. Interestingly, respondents in the Bethlehem/Easton region were also more likely to report that their health has gotten better, suggesting a bifurcation in responses from individuals in that region.



#### FIGURE 10. "HOW WOULD YOU RATE YOUR OVERALL HEALTH?" BY COUNTY



#### FIGURE 11. "HOW WOULD YOU RATE YOUR OVERALL HEALTH?" BY CITY





#### FIGURE 13. "HOW WOULD YOU RATE YOUR OVERALL HEALTH?" BY REGION



#### FIGURE 14. "COMPARED TO ONE YEAR AGO, HOW WOULD YOU RATE YOUR HEALTH IN GENERAL NOW?" BY REGION



Consistent with more negative perceptions about their quality of life, respondents born outside the US and Hispanic respondents rate their own overall health in more negative terms. Only 37% of respondents born outside of the US rate their own health as very good or excellent, compared to 49% of respondents born within the US. Similarly, respondents born outside the US were more likely to report that their overall health has become somewhat worse or much worse over the past year.

The gap between Hispanics and non-Hispanics is even more stark; while more than 1/2 of non-Hispanics report their own health to be very good or excellent, only 37% of Hispanics report similar perceptions of their health. Similarly, fewer Hispanics believe that their health has improved over the past year; 14% of Hispanic respondents believe that their overall health has declined in the past year, compared to 11% of non-Hispanics. These differences remain even when controlling for county, city, and St. Luke's PSA area. In Lehigh County, 36% of Hispanics report excellent or very good health; the figure in Northampton County is 50%. Approximately 40% of Hispanics in the Bethlehem PSA and 33% in the Allentown PSA report that their health is very good or excellent (the number of Hispanics in the Quakertown PSA is too few to report with any accuracy compared to double those numbers among non-Hispanics.

### FIGURE 15. OVERALL HEALTH RATINGS OF VERY GOOD OR EXCELLENT, BY BORN IN THE US



Looking next to income, unsurprisingly, as income increases, so too do respondents' perceptions of the overall quality of their health. Seventy percent of respondents with family incomes of \$100,000 or more report their overall health to be very good or excellent, compared to just 25% of those making between \$15,000 and \$24,999. Perhaps most significant is the size of the gap between the highest and lowest income categories. Of particular interest is that income is not as strongly related to respondents' perceptions about whether their health has improved, stayed the same, or declined over the past year. It is the case however, that a full 25% of respondents in the lowest income category report that their health has declined in the past year, compared to just 2% of those making more than \$60,000.

#### FIGURE 16. OVERALL HEALTH RATINGS OF VERY GOOD OR EXCELLENT, BY HISPANIC



#### FIGURES 17. OVERALL HEALTH RATINGS OF VERY GOOD OR EXCELLENT, BY INCOME



Age generally follows a similar pattern, with older respondents being less likely than younger respondents to rate their health as very good or excellent. It is important to note that due to the small number of survey respondents in the youngest age categories, we cannot draw firm conclusions about the statistical significance of the relationship between age and ratings of overall health. A general pattern is also evidenced by respondents' evaluations of changes in their overall health. Perhaps not surprisingly, older respondents are less likely to report that their health has improved and more likely to report that their health has declined in the past year. The vast majority of respondents in all categories, however, report that their health has remained about the same over the past year.



## FIGURE 18. OVERALL HEALTH RATINGS OF VERY GOOD OR EXCELLENT, BY AGE

FIGURE 19. IMPROVEMENT OR DECLINE IN OVERALL HEALTH, BY AGE



Respondents were asked to further elaborate on their overall health by indicating how many "sick days" they experienced in the past month due to problems with their physical health and with their mental health. A majority of respondents indicated that they experienced no (zero) sick days as a result of their physical health (58%) or their mental health (60%). Just under ¼ of the all respondents indicated that problems with their health led to 1 or 2 sick days in the past month; approximately 10% reported they had 3 to 7 sick days; and about 10% more indicated they experienced 8 or more sick days in the past month due to either problems with their physical health or their mental health. The mean value for number of sick days was between 3 and 7 days, which roughly matches the national mean of number of sick days (6) provided by the US Department Health and Human Services.

Among those who reported 3 or more sick days per month, age, income, and ethnicity are important determinative variables; this is especially the case among those who report 8 or more sick days per month. Twenty five percent of those reporting 8 or more sick days due to mental health problems, for example, reported family incomes of less than \$14,999 per year; an additional 16% report incomes under \$25,000. Similarly, Hispanics are more likely to report higher numbers of sick days due to mental health problems than are non-Hispanics.

An additional interesting note with respect to mental health is that although 60% of respondents indicate that they experience zero sick days as a result of problems with mental health, 32% report having had two or more weeks in the past year in which they felt sad, depressed, or loss of interest in things that they usually care about and enjoy. Figures 21-26 provide some additional information about these findings, looking at the pronounced relationships between income, sex, and ethnicity and respondents' likelihood of reporting two or more weeks per year of feeling sad, blue, or depressed. Hispanics are twice as likely as non-Hispanics to report feeling sad, blue, or depressed; women are almost twice as likely when compared to men to report these feelings. Residents of the Allentown region are almost twice as likely to report feeling depressed than are residents of the Northern Tier.



#### FIGURE 20. NUMBER OF SICK DAYS IN PAST MONTH DUE TO "MENTAL HEALTH"



#### FIGURE 21. TWO OR MORE WEEKS OF FEELING SAD, BLUE, OR DEPRESSED, ALL RESPONDENTS

## FIGURE 22. TWO OR MORE WEEKS OF FEELING SAD, BLUE, OR DEPRESSED, BY INCOME



Significant at p > .01

#### FIGURE 23. TWO OR MORE WEEKS OF FEELING SAD, BLUE, OR DEPRESSED, BY HISPANIC



## FIGURE 24. TWO OR MORE WEEKS OF FEELING SAD, BLUE, OR DEPRESSED, BY SEX



#### FIGURE 25. TWO OR MORE WEEKS FEELING BLUE, SAD, OR DEPRESSED BY MARITAL STATUS



## FIGURE 26. TWO OR MORE WEEKS FEELING BLUE, SAD, OR DEPRESSED BY LEHIGH VALLEY REGION



Although a majority of all respondents report that their health does not limit them in any way, close to 40% indicate that their health prevents or limits them in vigorous activities. Sixty percent of these individuals were born after 1950; these individuals were also more likely to report experiencing bodily pain and pain that interferes with daily activities.

Approximately 13% of survey respondents say they have fallen at least once in the past three months, although the numbers reporting injury from falls is much smaller. According to data from the Violence and Injury Prevention Program in the PA Department of Health, the number of

hospitalizations resulting from falls is generally related to age; as age increases, so does likelihood of injury from a fall—our findings are consistent in this regard.

Looking toward general preventative care measures, respondents were asked whether or not they have had their blood pressure and blood cholesterol measured by a health professional in the past two years. The vast majority, 97%, report having their blood pressure taken by a health professional<sup>4</sup>; 85% report having had their cholesterol measured—these results remained similarly high among all subgroups of our sample with only a few exceptions. Younger respondents, ages through 21 through 30, were much less likely to report having had their cholesterol measured when compared to respondents over 30.

Respondents were much less likely, in contrast, to indicate that they have ever had a test for colon cancer. Just over ½ of the respondents surveyed said they had been screened for colon cancer; 45% said they have never been screened. Among those over the age of 50, however, rates of colon cancer screening increase, ranging from about 63% among those ages 50 to 60, to 88% of those aged 60 to 70. These rates are consistent with statewide screening rates in the state of Pennsylvania reported by the CDC. Hispanics are less likely to have been screened for colon cancer than are non-Hispanics, and women are less likely to have been screened than have men.

Table 3 provides a summary of responses on a range of questions designed to measure the presence of common significant health conditions and problems in the population. Pennsylvania statewide data is provided when possible for comparison.

#### High Blood Pressure

According to the CDC, one out of every three, or 31.3%, US adults has high blood pressure while 23% of Americans have high blood pressure but are unaware of that fact. In Pennsylvania, between 27.9% and 29.1% of adults have high blood pressure according to the CDC. The PA BRFSS reports that 31% of Pennsylvanians have been told that they have high blood pressure—a figure closer to our survey findings, which suggest that 32% of Lehigh Valley area residents currently have high blood pressure and an additional 15% say they have had it in the past. Low-income respondents and those over the age of 65 are most likely to report having high blood pressure of having had it in the past. In our survey, more than one-half of low income respondents report having high blood pressure increase with age and are more common among adults living below the federal poverty level.<sup>5</sup>

Hispanics are less likely to say that they have ever had high blood pressure. In our sample, only 25% of Hispanics report currently having high blood pressure and only 7% say they have ever had high blood pressure in the past. Hispanic Americans tend to have lower rates of high blood pressure than do African Americans and whites. Nationally, approximately 31% of white men and 25% of Hispanic men have been diagnosed with high blood pressure. Statewide, approximately 19% of Hispanic adults report high blood pressure.<sup>6</sup> Previous research has also shown, however, that

<sup>5</sup> "High Blood Pressure Fact Sheet," CDC,

http://www.cdc.gov/dhdsp/data statistics/fact sheets/fs bloodpressure.htm.

<sup>&</sup>lt;sup>4</sup> According to the CDC, in 2006, 66.2% of adults who visited their doctor had their blood pressure checked. "High Blood Pressure Facts," CDC, <u>http://www.cdc.gov/bloodpressure.facts.htm</u>.

<sup>&</sup>lt;sup>6</sup> PA Department of Health, "2009 Behavioral Risks of Pennsylvania Adults"

Hispanics are less likely than whites and African-Americans to be aware of their high blood pressure, to have it treated, or to have it controlled.

Finally, geography in the Lehigh Valley seems to matter to respondents' likelihood of having high blood pressure. Thirty-six percent of respondents from Northampton County currently have high blood pressure and an additional 18% report having had it in the past. The Bethlehem/Easton and Allentown regions, in contrast, report lower levels of high blood pressure.

#### High Blood Cholesterol

According to the 2009 Behavioral Risks of Pennsylvania Adults Report, 39% of PA adults have been told at some point that they have high cholesterol. The CDC reports that approximately 28% of PA residents currently have high cholesterol. In general, cholesterol levels do not differ significantly among racial and ethnic groups and/or between men and women. As age increases, the numbers of individuals reporting high cholesterol tend to increase. Education and income are also often related, with college education and higher incomes contributing to significantly lower levels of high cholesterol.

The *Community Health Survey* findings confirm these trends. Twenty-five percent of survey respondents say that have high cholesterol, a figure slightly lower than the statewide figure. Low income respondents and respondents ages 65 and older are more likely to report high cholesterol. Although the differences are not necessarily statistically significant, respondents from the Allentown region were much less likely to report high cholesterol while those living in the Southwestern region were much more likely.

#### Heart Attack/Heart Disease

Heart disease is the leading cause of death in the United States as well as in the state of Pennsylvania. While cardiovascular disease death rates are relatively easy to collect—the cardiovascular disease mortality rate in PA is 278 per 100,000—the prevalence of heart disease itself and incidence rates of heart attacks are more difficult to access. The PA Behavioral Risk Factor Surveillance System (BRFSS) includes the question, "Has a doctor ever told you that you had a heart attack, heart disease or stroke?" Responses to the BRFSS question suggest that 6% to 7% of PA adults over the age of 35 have had a heart attack, heart disease, or stroke.<sup>7</sup> This figure has remained relatively constant since 2000.

The likelihood that an individual will report having had a heart attack, heart disease, or stroke increases with age. In the current study, individuals at least 65 years of age were almost twice as likely to say they have had a heart attack or heart disease than were young individuals.

<sup>&</sup>lt;sup>7</sup> Ulmer, Lisa, Zekarias Berhane, and Hamad Sindhi, "The Burden of Cardiovascular Disease in Pennsylvania," The Heart Disease and Stroke Program, PA Department to Health, Drexel University School of Public Health Evaluation Team, June 2010.

#### TABLE 3. "IN THE PAST FIVE YEARS, HAS A DOCTOR, NURSE, OR OTHER HEALTH PROFESSIONAL TOLD YOU THAT YOU HAVE ANY OF THE FOLLOWING HEALTH PROBLEMS OR CONDITIONS?

High Blood Pressure	Currently	In the Past
PA Residents (reported by CDC)	28%	
All Respondents	32%	15%
Lehigh County Residents#	30%	11%
Northampton County Residents <sup>#</sup>	36%	18%
Hispanic Respondents	25%	7%
Low Income Respondents (family income less than \$25,000 per	53%	12%
year)*		
Men	33%	17%
Women	31%	11%
Age 65+*	50%	18%
Allentown PSA	30%	15%
Bethlehem PSA	32%	13%
Quakertown PSA	27%	5%
Northern Tier Region#	36%	19%
Bethlehem/Easton Region <sup>#</sup>	22%	14%
Allentown Region#	19%	20%
Southwestern Region#	34%	9%
High Blood Cholesterol		
All Respondents	25%	22%
Lehigh County Residents	25%	23%
Northampton County Residents	25%	21%
Hispanic Respondents	27%	23%
Low Income Respondents (family income less than \$25,000 per year) <sup>#</sup>	35%	28%
Men*	27%	28%
Women*	24%	16%
Age 65+ *	34%	35%
Allentown PSA	25%	23%
Bethlehem PSA	26%	21%
Quakertown PSA	28%	20%
Northern Tier Region	22%	23%
Bethlehem/Easton Region	24%	21%
Allentown Region	19%	28%
Southwestern Region	37%	10%

\* = p < .01; # = p < .05; ^ = p < .10; ND= insufficient number to report findings. Findings reported in **RED** indicate significantly higher percentages compared to all respondents. Findings reported in **BLUE** indicate a significantly lower percentage compared to all respondents. Low income is defined as average family income before taxes of less than \$25,000 per year.

## TABLE 3. CONTINUED "IN THE PAST FIVE YEARS, HAS A DOCTOR, NURSE, OROTHER HEALTH PROFESSIONAL TOLD YOU THAT YOU HAVE ANY OF THEFOLLOWING HEALTH PROBLEMS OR CONDITIONS?

Heart Attack or Heart Disease	Currently	In the Past
PA Residents—ever told (reported by PA BRFSS)	6%-7%	
All Respondents	7%	7%
Lehigh County Residents	8%	5%
Northampton County Residents	7%	9%
Hispanic Respondents	ND	ND
Low Income Respondents (family income less than \$25,000 per	6%	12%
year)		
Men	7%	8%
Women	6%	4%
Age 65+ *	13%	16%
Allentown PSA	6%	7%
Bethlehem PSA	7%	7%
Quakertown PSA	ND	ND
Northern Tier Region	5%	9%
Bethlehem/Easton Region	7%	10%
Allentown Region	5%	7%
Southwestern Region	7%	ND

\* = p < .01; # = p < .05;  $^ = p < .10$ ; ND= insufficient number to report findings. Findings reported in **RED** indicate significantly higher percentages compared to all respondents. Findings reported in **BLUE** indicate a significantly lower percentage compared to all respondents. Low income is defined as average family income before taxes of less than \$25,000 per year.

#### Cancer

*The Community Health Survey* asked respondents whether they currently have or have ever had cancer in the past. Approximately 3% indicated that they currently have cancer and an additional 9% said they have had cancer in the past. Age was significantly related to a respondent's likelihood of reporting current or previous cases of cancer; 7% of respondents 65 years and older report current cancer and an additional 17% from this age category report previous cases of cancer.

#### Diabetes

In 2009, nine percent of Pennsylvania adults said that, at some time in their lives, they have had diabetes, according to the 2009 PA BRFSS findings. Diabetes incidence increases significantly with age; 20% of adults 65 and older say they have had diabetes. Low levels of education and low household income are also significantly related to diabetes. According to the PA BRFSS, 20% of adults with household incomes under \$25,000 have diabetes, compared to 14% of adults with incomes of \$50,000 or higher. Among racial and ethnic groups, Blacks/African Americans have higher rates of diabetes in PA (15%) when compared to non-Hispanic whites (9%) and Hispanics (6%). In the current study, respondent sex was significantly related to diabetes status; 19% of men report having diabetes compared to 9% of women. The overall prevalence of diabetes in the Lehigh Valley area is significantly higher than the statewide figure.

## TABLE 3. CONTINUED "IN THE PAST FIVE YEARS, HAS A DOCTOR, NURSE, OROTHER HEALTH PROFESSIONAL TOLD YOU THAT YOU HAVE ANY OF THEFOLLOWING HEALTH PROBLEMS OR CONDITIONS?

Cancer	Currently	In the Past
All Respondents	3%	9%
Lehigh County Residents	3%	8%
Northampton County Residents	3%	11%
Hispanic Respondents	ND	ND
Low Income Respondents (family income less than \$25,000 per	3%	6%
year)		
Men #	4%	11%
Women #	2%	7%
Age 65+ *	7%	17%
Allentown PSA	2%	8%
Bethlehem PSA	3%	9%
Quakertown PSA	ND	ND
Northern Tier Region	2%	11%
Bethlehem/Easton Region	5%	10%
Allentown Region	4%	9%
Southwestern Region	ND	3%
Diabetes		
PA Residents—ever told (reported by PA BRFSS)	9%	
All Respondents	14%	3%
Lehigh County Residents	16%	2%
Northampton County Residents	12%	3%
Hispanic Respondents	ND	ND
Low Income Respondents (family income less than \$25,000 per year)^	17%	5%
Men *	19%	3%
Women*	9%	2%
Age 65+ *	22%	4%
Allentown PSA	16%	2%
Bethlehem PSA	14%	2%
Quakertown PSA	8%	2%
Northern Tier Region	13%	3%
Bethlehem/Easton Region	13%	3%
Allentown Region	19%	1%
Southwestern Region	19%	3%

\* = p < .01; # = p < .05; ^ = p < .10; ND= insufficient number to report findings. Findings reported in **RED** indicate significantly higher percentages compared to all respondents. Findings reported in **BLUE** indicate a significantly lower percentage compared to all respondents. Low income is defined as average family income before taxes of less than \$25,000 per year.

#### Mental Health

The PA BRFSS Study occasionally asks respondents about the extent to which their mental health has been "not good" more than 1 day in the past month. When asked in this way, 34% of adults in PA respond affirmatively. In the current *Community Health Study*, when asked a slightly different question, 8% of adults say that they currently have mental health problems and an additional 8% say they have had similar problems in the past. Low-income respondents were significantly more likely to report current or past mental health problems. Likewise, women were four times as likely than men to report mental health problems. Although regional differences do not pass the highest levels of statistical significance, there are some interesting dissimilarities between respondents in the Allentown area, in which fewer respondents report mental health problems, and in the Bethlehem/Easton Region in which 14% report these problems. Likewise, Northampton County residents were more likely to report current mental health problems than were Lehigh County residents.

#### Asthma

According to the 2009 Pennsylvania Asthma Burden Report, which uses the PA BRFSS Study as its data source, the annual prevalence of asthma among adults in PA remained stable between 2003 and 2007, ranging from 8% to a high of 9% in 2007. The asthma burden is not statistically different in PA when compared to the nation as a whole. Women are more likely to report current or lifetime asthma than are men; 11% of women compared to 7% of men report having asthma currently, 15% and 10%, respectively, report having lifetime asthma. Statewide, the prevalence of asthma decreases as household income increases. Smoking and obesity are significantly related to the prevalence of asthma. Regionally, according to the 2009 Pennsylvania Asthma Burden Report, the South East District of PA has a higher rate of asthma prevalence at 10% than do other regions; this region includes Philadelphia, which has the highest asthma prevalence among both women (15%) and men (7%). The Asthma Burden Report includes county-level data for school age children with asthma, and for Medicaid patients with asthma, but does not include information about the general prevalence of asthma at the county or municipality level.

In the current Community Health Study, 7% of all respondents report having asthma currently and an additional 5% report having had asthma in the past. We did not find any statically significance differences by county; respondents from the southwestern region of the Lehigh Valley were more likely to report having asthma (10%), especially when compared to the Northern Tier Region (3%)—these differences were statistically significant at p<.05. Consistent with statewide and national findings, Hispanic respondents in the Lehigh Valley were more than twice as likely to report having asthma. Low income was also significantly more likely to be associated with asthma prevalence.

## TABLE 3. CONTINUED "IN THE PAST FIVE YEARS, HAS A DOCTOR, NURSE, OROTHER HEALTH PROFESSIONAL TOLD YOU THAT YOU HAVE ANY OF THEFOLLOWING HEALTH PROBLEMS OR CONDITIONS?

Mental Health Problems	Currently	In the Past
All Respondents	8%	8%
Lehigh County Residents <sup>#</sup>	5%	11%
Northampton County Residents <sup>#</sup>	12%	6%
Hispanic Respondents	12%	14%
Low Income Respondents (family income less than \$25,000 per year)*	18%	17%
Men *	3%	5%
Women *	12%	11%
Age 65+ *	3%	6%
Allentown PSA	9%	11%
Bethlehem PSA	9%	8%
Quakertown PSA	5%	6%
Northern Tier Region^	11%	7%
Bethlehem/Easton Region^	14%	6%
Allentown Region^	4%	13%
Southwestern Region <sup>^</sup>	10%	7%
Asthma		
PA Residents— (reported in 2007 in PA BRFSS)	8%	
All Respondents	7%	5%
Lehigh County Residents	6%	5%
Northampton County Residents	6%	6%
Hispanic Respondents *	18%	5%
Low Income Respondents (family income less than \$25,000 per year)*	10%	4%
Men	4%	4%
Women	8%	6%
Age 65+	6%	6%
Allentown PSA	7%	4%
Bethlehem PSA	6%	5%
Quakertown PSA	5%	9%
Northern Tier Region <sup>#</sup>	3%	5%
Bethlehem/Easton Region#	9%	7%
Allentown Region#	7%	1%
Southwestern Region#	10%	ND

\* = p < .01; # = p < .05; ^ = p < .10; ND= insufficient number to report findings. Findings reported in **RED** indicate significantly higher percentages compared to all respondents. Findings reported in BLUE indicate a significantly lower percentage compared to all respondents. Low income is defined as average family income before taxes of less than \$25,000 per year.

#### Arthritis

The Centers for Disease Control reports that 22.2% of adults have self-reported doctor-diagnosed arthritis. Nationally, arthritis prevalence increases with age; arthritis is higher among women, among those with less than a high school education, among those who are obese, and among individuals who are physically inactive. Whites (23%) have higher rates of arthritis nationally than do Blacks/African Americans (22%) and Hispanics (16%). <sup>8</sup> Within the state of Pennsylvania, the 2009 PA BRFSS suggests that 31% of all adults have arthritis. Twenty-seven percent of men and 35% of women have self-reported, doctor-diagnosed arthritis. Similar to nationwide trends, whites (33%) have higher rates of arthritis in PA than do Blacks/African Americans (28%) and Hispanics (26%). Likewise, low levels of education are linked to higher prevalence of arthritis; 42% of adults with less than a high school education.

The current study found that 26% of all respondents in the Lehigh Valley area report having arthritis—this figure is 5% lower than the statewide 2009 average. Hispanics are less likely to report arthritis than are non-Hispanics; women, likewise, were more likely than men to report having arthritis. Low-income status and age are significantly related to a respondent's likelihood of self-reported doctor-diagnosed arthritis.

# TABLE 3. CONTINUED "IN THE PAST FIVE YEARS, HAS A DOCTOR, NURSE, OR OTHER HEALTH PROFESSIONAL TOLD YOU THAT YOU HAVE ANY OF THE FOLLOWING HEALTH PROBLEMS OR CONDITIONS?

Arthritis or rheumatic disease		
PA Residents (reported in 2009 PA BRFSS)	31%	
All Respondents	26%	6%
Lehigh County Residents	24%	5%
Northampton County Residents	27%	7%
Hispanic Respondents^	21%	11%
Low Income Respondents (family income less than \$25,000 per	38%	1%
year)*		
Men ^	21%	6%
Women ^	29%	5%
Age 65+ *	44%	10%
Allentown PSA	25%	5%
Bethlehem PSA	28%	7%
Quakertown PSA	24%	5%
Northern Tier Region	21%	4%
Bethlehem/Easton Region	28%	7%
Allentown Region	28%	4%
Southwestern Region	29%	3%

\* = p < .01; # = p < .05; ^ = p < .10; ND= insufficient number to report findings. Findings reported in **RED** indicate significantly higher percentages compared to all respondents. Findings reported in BLUE indicate a significantly lower percentage compared to all respondents. Low income is defined as average family income before taxes of less than \$25,000 per year.

<sup>&</sup>lt;sup>8</sup> Center for Disease Control and Prevention, *Morbidity and Mortality Weekly Report (MMWR)*, "Prevalence of Doctor-Diagnosed Arthritis and Arthritis-Attributable Activity Limitation—United States 2007-2009," *Weekly*, October 8, 2010/ 59(39); 1261-1265.

#### 3. HEALTH CARE AND HEALTH INSURANCE

There are several factors that contribute to an individual's access to care, including but not limited to, accessibility and proximity of primary care and hospital care; emergency treatment; health insurance; health literacy; ability to pay, transportation, communication issues related to language translation, etc. While health insurance does not necessarily guarantee adequate access to health care, it is an obvious critical component. Approximately 7% of survey respondents indicated that they do not have health insurance coverage and therefore pay cash for any medical treatment that requires payment. Ten percent indicated that there has been a time in the past year when they were at least temporarily without heath insurance. These findings are consistent with those provided by the PA Department of Insurance, which estimates that approximately 8% of the residents in the state of PA are uninsured.

The *County Health Rankings* for 2011, which uses data from the Census Bureau to determine insurance rates, suggest that, 12% of adults in Lehigh and 13% in Northampton lack health insurance. Looking to our survey, we found fewer percentages of Lehigh and Northampton residents, 6% and 7% respectively, pay cash for medical treatment. These differences could be due to several factors, including question wording and reporting mechanisms at the US Census, as well as the number of individuals who receive uncompensated care.



#### FIGURE 27. SOURCES OF HEALTH INSURANCE, ALL RESPONDENTS

Women are more likely than men to lack private insurance, to pay cash for medical treatment, and to receive Medicaid than are men. Similarly, approximately 19% of Hispanic respondents said they pay cash for medical treatment, compared to just 5% of non-Hispanics. Hispanics are much more likely to report receiving Medicaid than are non-Hispanics. These findings are generally consistent with statewide findings that suggest the percentage of Hispanics receiving Medicaid in Pennsylvania roughly doubled between 2005 and 2008.

These demographic subgroups are also the most likely to have experienced a time in the past year without health insurance. Twenty percent of Hispanic respondents, and 20% of low-income respondents, for example, say that they have gone without health insurance sometime during the past year; 12% of women say the same. Perhaps due to coverage provided by Medicare, respondents over the age of 65 were least likely to say they have gone without health insurance or been unable to see a doctor due to cost.

All respondents	10%
Lehigh County respondents	9%
Northampton County respondents	11%
Hispanic respondents #	20%
Low Income respondents *	20%
Men #	7%
Women #	13%
Age 65+	ND
#	-

#### TABLE 4. TIME DURING THE PAST YEAR WITHOUT HEALTH INSURANCE

\* = p<. 01; # = p < .05; ^ = p < .10; ND= insufficient number to report findings. Findings reported in **RED** indicate significantly higher percentages compared to all respondents.

Similarly, Hispanic respondents, low-income respondents and women were more likely than other subgroups to say that they have forgone seeing a doctor or obtaining medical care due to cost. As seen in Table 5, 22% of low-income respondents, 20% of Hispanics, and 13% of women say they have needed to see a doctor in the past year but have not on account of cost. Although not necessarily statistically significant, these same groups were also most likely to say that they have put off medical care due to the cost of a deductible.

## TABLE 5. INCIDENCE OF FORGONE MEDICAL CARE OVER PAST YEAR DUE TO COST

Time in past year that needed to see doctor but didn't due to cost	
PA Residents—(reported by PA BRFSS) 11%	
All respondents	11%
Lehigh County respondents	12%
Northampton County respondents	8%
Hispanic respondents #	20%
Low Income respondents *	22%
Men #	8%
Women #	13%
Age 65+ *	3%
Allentown PSA	10%
Bethlehem PSA	10%
Quakertown PSA	11%
Northern Tier Region	7%
Bethlehem/Easton Region	10%
Allentown Region	9%
Southwestern Region	ND
Time in past year that missed or postponed care because share of cost (deductible) was	
too high	
All respondents	8%
Lehigh County respondents	10%
Northampton County respondents	5%
Hispanic respondents	14%
Low Income respondents	16%
Men	6%
Women	9%
Age 65+	4%
Allentown PSA	9%
Allentown PSA Bethlehem PSA	9% 9%
Allentown PSA Bethlehem PSA Quakertown PSA	9% 9% 6%
Allentown PSA Bethlehem PSA Quakertown PSA Northern Tier Region	9% 9% 6% 6%
Allentown PSA Bethlehem PSA Quakertown PSA Northern Tier Region Bethlehem/Easton Region	9% 9% 6% 6% 6%
Allentown PSA Bethlehem PSA Quakertown PSA Northern Tier Region Bethlehem/Easton Region Allentown Region	9% 9% 6% 6% 6% 11%

\* = p < .01; # = p < .05; ^ = p < .10; ND= insufficient number to report findings. Findings reported in **RED** indicate significantly higher percentages compared to all respondents. Findings reported in BLUE indicate a significantly lower percentage compared to all respondents. Low income is defined as average family income before taxes of less than \$25,000 per year.

Statistical data on access and other barriers to vision and hearing care, including access to eyeglasses and hearing aids, is difficult to locate. Previous qualitative studies have suggested that cultural perceptions, including issues related to ethnicity and language, are powerful barriers to hearing and vision screenings.<sup>9</sup> The current *Community Health Survey* suggests that 22% of Lehigh Valley area respondents have forgone eyeglasses due to cost and an additional 7% have forgone a hearing aid for the same reason. Hispanics are three times as likely than the sample population as a whole to report going without eyeglasses; 63% of Hispanics say they have gone without eyeglasses due to cost.

Time in past year gone without eyeglasses due to cost	
All respondents	22%
Lehigh County respondents	19%
Northampton County respondents	25%
Hispanic respondents *	63%
Low Income respondents *	30%
Men #	17%
Women #	25%
Age 65+ *	11%
Allentown PSA	20%
Bethlehem PSA	22%
Quakertown PSA	16%
Northern Tier Region	23%
Bethlehem/Easton Region	24%
Allentown Region	15%
Southwestern Region	12%
0	
Time in the past year gone without hearing aid due to cost	
Time in the past year gone without hearing aid due to cost All respondents	7%
Time in the past year gone without hearing aid due to cost All respondents Lehigh County respondents	7% 7%
Time in the past year gone without hearing aid due to cost All respondents Lehigh County respondents Northampton County respondents	7% 7% 6%
Time in the past year gone without hearing aid due to cost         All respondents         Lehigh County respondents         Northampton County respondents         Hispanic respondents	7% 7% 6% ND
Time in the past year gone without hearing aid due to cost         All respondents         Lehigh County respondents         Northampton County respondents         Hispanic respondents         Low Income respondents	7% 7% 6% ND 6%
Time in the past year gone without hearing aid due to cost         All respondents         Lehigh County respondents         Northampton County respondents         Hispanic respondents         Low Income respondents         Men #	7% 7% 6% ND 6% 9%
Time in the past year gone without hearing aid due to cost         All respondents         Lehigh County respondents         Northampton County respondents         Hispanic respondents         Low Income respondents         Men #         Women #	7% 7% 6% ND 6% 9% 5%
Time in the past year gone without hearing aid due to cost         All respondents         Lehigh County respondents         Northampton County respondents         Hispanic respondents         Low Income respondents         Men #         Women #         Allentown PSA	7% 7% 6% ND 6% 9% 5% 5%
Time in the past year gone without hearing aid due to cost         All respondents         Lehigh County respondents         Northampton County respondents         Hispanic respondents         Low Income respondents         Men #         Women #         Allentown PSA         Bethlehem PSA	7% 7% 6% ND 6% 9% 5% 5% 8%
Time in the past year gone without hearing aid due to cost         All respondents         Lehigh County respondents         Northampton County respondents         Hispanic respondents         Low Income respondents         Men #         Women #         Allentown PSA         Bethlehem PSA         Quakertown PSA	7% 7% 6% ND 6% 9% 5% 5% 5% 8% 8%
Time in the past year gone without hearing aid due to cost         All respondents         Lehigh County respondents         Northampton County respondents         Hispanic respondents         Low Income respondents         Men #         Women #         Allentown PSA         Bethlehem PSA         Quakertown PSA         Northern Tier Region	7% 7% 6% ND 6% 9% 5% 5% 5% 8% 7% 4%
Time in the past year gone without hearing aid due to cost         All respondents         Lehigh County respondents         Northampton County respondents         Hispanic respondents         Low Income respondents         Men #         Allentown PSA         Bethlehem PSA         Quakertown PSA         Northern Tier Region         Bethlehem/Easton Region	7% 7% 6% ND 6% 9% 5% 5% 5% 5% 8% 7% 4% 8%
Time in the past year gone without hearing aid due to cost         All respondents         Lehigh County respondents         Northampton County respondents         Hispanic respondents         Low Income respondents         Men #         Women #         Allentown PSA         Bethlehem PSA         Quakertown PSA         Northern Tier Region         Bethlehem/Easton Region	7% 7% 6% ND 6% 9% 5% 5% 5% 8% 8% 7% 4% 8% 8%

#### **TABLE 6. COST BARRIERS TO EYEGLASSES AND HEARING AIDS**

<sup>&</sup>lt;sup>9</sup> National Eye Institute, National Eye Health Education Program, "Identification of Variables that Influence the Receipt of Eye Care: Focus Group Report," August 25, 2005.

According to *Healthy People, 2010*, access to a regular primary care provider is an important component of access to health care in large part because it translates into access to preventive care. The vast majority (85%) of respondents indicate that there is a health care professional who they consider to be their *personal* doctor or provider. Fifteen percent of respondents report that they do not have a personal health care provider; this compares to an average of 11% statewide, as reported by the Pennsylvania Behavioral Risk Factor Surveillance System (BRFSS).

Among the 15% of respondents who say they do not have a personal provider, young and lowincome respondents comprise the largest groups. About 35% of respondents age 18 to 29 reports that they do not have a personal doctor; more than 26% of low-income respondents say the same.

These figures seems consistent with the finding that 90% of respondents report visiting a doctor's office most often when in need of medical advice or attention. The second most commonly reported place that respondents seek care is hospital emergency rooms (3%). Young respondents, women, respondents born outside of the US, Hispanics, and low-income respondents are most likely to report using the hospital emergency room as their main source of medical care.

Respondents were also asked to rate the degree of choice that they have in deciding where to go for medical care. The vast majority of respondents report having a great deal of choice (60%) or some choice (30%) in the places where they go for medical care; about 10% of respondents say they have very little or no choice. Respondents born outside of the US, however, report far less choice in the places where they receive medical care. More than 70% report having very little or no choice at all.

### FIGURE 28. USE HOSPITAL EMERGENCY ROOM MOST OFTEN WHEN SICK OR IN NEED IN MEDICAL ASSISTANCE



Low income is defined as average family income before taxes of less than \$25,000 per year.

#### FIGURE 29. VERY LITTLE OR NO CHOICE IN PLACE OF MEDICAL CARE, BY INCOME



Low income is defined as average family income before taxes of less than \$25,000 per year.

An additional component of access to health care is the ability to communicate with health care providers. As such, respondents were asked the extent to which language barriers create a problem when it comes to communicating with doctors and health care professionals. Approximately 10% of all survey respondents reported a major or minor problem communicating with health care providers. Groups that reported significantly higher percentages were, unsurprisingly, low-income and Hispanic respondents, and respondents born outside of the US. Figure 30 illustrates differences by county and by St. Luke's service area.

## FIGURE 30. MAJOR OR MINOR PROBLEM COMMUNICATING WITH DOCTORS/HEALTH CARE PROVIDERS DUE TO LANGUAGE BARRIERS



Access to quality health care includes access to preventative care measures. According to the PA BRFSS, about 70% of Pennsylvanians age 65 or older have received a pneumonia shot. This is generally consistent with our finding that 75% of respondents 65 or older report having received a pneumonia vaccination. This age group was also the most likely to report having received a flu shot or intranasal flu spray at some point during the past year. Table 7 shows that approximately 62% of survey respondents report having received a flu shot or nasal spray in the past year. Low-income respondents were significantly *more* likely to have received a flu shot or spray; those born outside the US were significantly less likely to have received the flu shot or spray.

#### TABLE 7. FLU SHOT OR SPRAY

All respondents	62%
Lehigh County	60%
Northampton County	61%
Hispanic respondents	61%
Low Income respondents *	74%
Born Outside of US*	47%
Men	64%
Women	58%
Age 65+ *	85%
Quakertown PSA	69%
Bethlehem PSA	57%
Allentown PSA	62%

\* = p < .01; # = p < .05;  $^{-} = p < .10$  insufficient number to report findings. Low income is defined as average family income before taxes of less than \$25,000 per year.



#### FIGURE 31. FLU SHOT/SPRAY BY AGE

Two additional preventative care questions were asked among female respondents, that is, whether or not each female respondent had received a pap smear test in the past three years and a mammogram test in the past two years. Screening for cervical and breast cancer has been identified (along with colorectal cancer screenings) by the US Preventative Services Task Force (USPSTF).<sup>10</sup> A majority of female respondents report receiving both screenings; approximately 73% of all women say they have had a pap test in the past three years and 56% report having had a mammogram in the past two years. As shown in Table 8, there were no significant differences in women's responses by county or other geographic divisions.

The US Department of Health and Human Services reports that approximately 76% of women over the age of 18 in the US received a pap test in 2008, down from a high of 81% who received this screening in 2000. Low-income women, that is, women reporting a family income of less than \$25,000 per year, were significantly less likely to report having had a pap smear test. In the current study, only 45% of low-income women report having had a pap smear in the past two years, compared to 73% of female respondents overall. Although low-income women were also less likely to report having had a mammogram in the past two years, this difference is not statistically significant. Hispanic women were more likely to report having had a mammogram than non-Hispanic women.

73%
78%
70%
70%
45%
80%
70%
75%
56%
57%
54%
60%
47%
77%
50%
55%
5570

#### TABLE 8. PAP SMEAR AND MAMMOGRAMS, ALL FEMALE RESPONDENTS

\* = p < .01; # = p < .05;  $^{\circ} = p < .10$ . Low income is defined as a family income of less than \$25,000 per year.

<sup>&</sup>lt;sup>10</sup> http://www.uspreventiveservicestaskforce.org/



FIGURE 32. PAP SMEAR SCREENING AND INCOME

Considering different age segments of the female respondent population, Figure 33 illustrates that 75% of women ages 40 to 64 say they have had a mammogram in the past two years, and 77% of women 65 and over say the same. Nationally, the US Department of Health and Human Services reports that approximately 67% of the adult female population in the US had a mammogram in the past two years, down from a high of 70% in 2000. According to the Kaiser Foundation, 75% of women over the age of 40 have had a mammogram in the past two years; 74% of women over 40 in the state of PA have done so.<sup>11</sup> Mammogram screenings are significantly lower among low-income women; in the current study, 62% of women ages 40 to 64 report having had a mammogram in the past two years.



#### FIGURES 33. MAMMOGRAMS AMONG WOMEN BY AGE AND INCOME

<sup>11</sup> statehealthfacts.org

#### 4. FITNESS AND EXERCISE

Close to 1/3 of all survey respondents report getting no exercise on average during a typical week. Just over 1/3 report that they get about 30 minutes of exercise one or two days per week, still well below the recommendations for physical activity. About 40% of respondents say they get 3 or more days of exercise per week and 15% say they exercise 5 or more days per week. When it comes to quantity of exercise, there were no significant differences by county, city, or St. Luke's PSA.

To put these findings within a broader context, the National Health Interview Survey suggests that, nationwide, about 33% of adults participate in some physical activity, and about 35% engage in physical activity on a regular basis.<sup>12</sup> Within the state of PA, the Department of Health notes that about 50% of adults in 2009 participated in sufficient moderate physical activity each week, that is, moderate activity for 30 minutes or more at least five days per week. Twenty-eight percent of PA adults in 2009 participated in sufficient vigorous activity, that is, three or more days of vigorous activity for at least 20 minutes. In contrast, 26% of PA adults reported no physical activity. Direct comparisons are difficult due to differences in question wording, but in general, survey results suggest that Lehigh Valley area residents are less physically active relative to residents statewide. The most generous interpretation of survey findings would conclude that about 41% of Lehigh Valley residents receive three or more days of exercise per week.



#### FIGURE 34. EXERCISE AT LEAST 30 MINUTES, ALL RESPONDENTS

As seen in Figure 35 below, there are several significant differences along demographic lines related to a respondent's likelihood of getting three or more days per week of exercise. High-income respondents are significantly more likely to get frequent exercise than are low-income respondents, for example. Likewise, men report more frequent exercise than women, those born within the US report more exercise than those born outside the US, and non-Hispanics report more exercise than Hispanics. Education is positively related to physical exercise, such that with each increment of education, respondents are significantly more likely to exercise three or more days per week.

<sup>&</sup>lt;sup>12</sup> Center for Disease Control and Prevention, National Center for Health Statistics, "Summary Health Statistics for US Adults: National Health Interview Survey, 2009."



#### FIGURE 35. 30 MINUTES OF EXERCISE PER DAY AT LEAST THREE DAYS PER WEEK

Healthy eating, like physical exercise, is an important dimension to respondent health. The CDC reports that approximately 36% percent of Americans eat 1 to 2 servings of vegetables per day, 36% eat 3 to 4 servings, and 24% report eating fruits and vegetables 5 or more times per day. Fruit and vegetable consumption in the state of Pennsylvania is similar to that found nationwide; 35% of Pennsylvanians eat vegetables and fruits 1 to 2 times per day, 36% consume vegetables and fruits 3 to 4 times per day, and 25% consume these foods five or more times per day.

In the current study, respondents report far fewer servings of fruits and vegetables per day. Approximately 5% of respondents report eating one to two servings of fruits and vegetables on an average day. An additional 36% report consuming between 3 and 4 servings. Just 9% of respondents report eating 5 or more servings of fruits and vegetables in a typical day. Women are more likely to consume high quantities of fruits and vegetables than are men.

#### FIGURE 36. NUMBER OF SERVINGS OF FRUITS AND VEGETABLES EATEN YESTERDAY, ALL RESPONDENTS



According to the CDC, about one third of the US adult population is obese. That figure ranges between 25 and 29% in the state of Pennsylvania for the year 2010. Based on the 2009 National Health Interview Survey, considering body mass index (BMI), 2% of adults age 18 and over were underweight, 36% were at a healthy weight, 35% were overweight (but not obese), and 27% were obese. Forty-two percent of women occupy a healthy weight compared to 30% of men. Women were more likely to be underweight then men; similar percentages of women and men were obese. Blacks and Hispanics, according to the CDC data, are more likely to be obese than are whites and Asians.

Using 2010 data, the CDC estimates that between 25% and 29% of Pennsylvanians are obese.<sup>13</sup> Obesity rates in Lehigh and Northampton counties are approximately 27% and 29%, respectively.

In the current *Lehigh Valley Community Health Study*, more than one-third of respondents indicate that they have been identified as obese or overweight by a doctor at some point in their lifetime. Using respondents' self-reported height and weight, respondent Body Mass Index (BMI = (weight in pounds)\*703/(height in inches)<sup>2</sup>), is reported in Figure 37. Classifications as underweight, normal weight, overweight, and obese were made using the following recommendations with respect to BMI:

Underweight	Below 18.5
Normal Weight	18.5-24.9
Overweight	25.0-29.9
Obese	30.0 and Above

<sup>&</sup>lt;sup>13</sup> http://www.cdc.gov/obesity/data/trends.html#State



#### FIGURE 37. BODY MASS INDEX AND WEIGHT STATUS, ALL RESPONDENTS

Figure 38 illustrates how respondent obesity is related to several key variables, including region, sex, ethnicity, and income. Education has a dramatic effect on respondents' likelihood of being overweight or obese. Fifty percent of respondents with less than a high school education are obese and an additional 28% are overweight; comparatively, just 20% of respondents with a college education are obese. Sex is also statically significant. Men are more likely to be overweight and obese than are women.



#### FIGURE 38. OBESITY AND OVERWEIGHT STATUS

#### Alcohol and Tobacco Use

Nationwide, about 20% of the adult population currently smokes cigarettes. Approximately 28% of adults in the state of Pennsylvania smoke, according to the County Health Rankings and PA BRFSS Report. In Lehigh County, 24% of adults smoke; in Northampton, 17% of adults smoke. Smoking prevalence is higher among men, among whites, and among respondents with lower levels of education.

In the current study, 13% of respondents report that they currently smoke. Low-income was significantly related to smoking; 28% of low-income respondents say that they currently smoke, compared to just 4% of high-income respondents. Hispanic (37%) respondents were twice as likely to report smoking than non-Hispanics (14%). Education is also significantly related to smoking; 26% respondents with less than a high school education report being smokers compared to 11% of respondents with at least some college education.

Looking next to alcohol use, the CDC notes BRFSS data suggests more than one half of the US adult population drank alcohol in the past 30 days, approximately 5% drank heavily, and 15% binge drank. The CDC defines heavy drinking as two drinks per day on average for men and more than one drink per day on average for women. Binge drinking is defined as 5 or more drinks during a single occasion for men and 4 or more drinks during a single occasion for women.

In the state of Pennsylvania, approximately 23% of men and 12% of women have engaged in binge drinking, according to the 2008-2010 BRFSS report. Binge drinking is more prevalent among individuals ages 18 to 44 than among older individuals.

Eighty-eight percent of respondents to the *Community Health Study* survey reported consuming one or fewer alcoholic drinks each day. An additional 10% of respondents report consuming between 2 and 3 alcoholic drinks on average each day; slightly over 2% report consuming more than 3. Twelve percent of respondents say that they have engaged in one episode of binge drinking in the past month; 9% have engage in three or more such episodes.

## FIGURE 39. EPISODES OF BINGE DRINKING (5 OR MORE DRINKS ON ONE OCCASION) ALL RESPONDENT'S



Figure 40 below shows important differences in respondents' self-reported binge drinking by education, sex, ethnicity, region, and St. Luke's PSA area. As seen in this Figure, and consistent with PA BRFSS findings, respondents with lower levels of education are more likely to report more frequent episodes of binge drinking; men have more frequent episodes of binge drinking than do women. Survey findings also suggest that respondents' living in the Allentown region have more frequent occasions of binge drinking than do respondents in other regions.



#### FIGURE 40. BINGE DRINKING PATTERNS

#### 5. ORAL HEALTH

Respondents to the *Community Health Study* survey were asked several questions related to oral and dental health. A majority of respondents, 70%, report visiting a dentist in the past year and an additional 12% report seeing a dentist in the past two years. For 18% of respondents, however, it has been at least 5 years since they last say a dentist or visited a dental clinic. Forty percent of respondents report paying for cash when obtaining dental care; 51% say they have private insurance and 6% use Medicare. Eighteen percent of respondents report needing but forging dental care in the past year due to cost.

Of particular importance, income, age, region, and county are significantly related to respondent dental care. Thirty one percent of respondents of low-income, reporting annual family incomes of \$25,000 or less, say it has been more than 5 years since visiting a dentist or dental clinic, compared to only 3% of respondents reporting high family incomes. Respondents from Northampton County (13%) are more likely to say it has been 5 or more years since visiting a dentist than respondents from Lehigh County (8%). Fifteen percent of respondents age 65 and older say it has been five or more years since they have sought or received dental care.

#### FIGURE 41. "HOW LONG HAS IT BEEN SINCE YOU LAST VISITED A DENTIST OR DENTAL CLINIC FOR ANY REASON?"



#### **CONCLUDING NOTE: FUTURE RESEARCH DIRECTIONS**

The Executive Summary in the earlier part of this report highlights the most significant findings from the *Community Health Study*. By way of conclusion, it is worth briefly mentioning the implications of these findings in terms of shaping future efforts to study and improve community health.

When viewed in comparison to state and nationwide measures on community health, the Lehigh Valley fares quite well. Residents communicate positive perceptions about their communities in general and about the availability and quality of health care more specifically. And, the prevalence of common health conditions is generally no greater in the Lehigh Valley than in PA and the nation as a whole, with just a few exceptions (foremost, the prevalence of diabetes). While many respondents to the *Community Health Study* communicate positive views, nonetheless, findings suggests that a significant portion of the population, defined by ethnicity, income, and education, have significantly more negative perceptions and a greater number of health risks and problems. In addition, to the extent that this population is concentrated in the regions comprising Allentown and Bethlehem and Easton, this study reveals critical geographical patterns in health equity, raising important questions about residential segregation and concentrated poverty in the Lehigh Valley.

The data summarized in this report provide information critical to improving community health. The findings suggest that expanding access to quality, affordable healthcare requires an integrated approach that includes not just physical health, but also mental and oral health, and that this approach must be grounded in the neighborhoods in which underserved populations live. In addition, these findings suggest needed support in developing providers' capacities to serve diverse populations and general awareness about the challenges confronting health equity.

Future research should seek to better understand the causal relationships between income, ethnicity, education, location, and health outcomes. The effects of ethnicity on health, for example, cannot be subsumed by income or education; ethnicity is not simply a proxy for income. These variables are interrelated, but independently effect respondent perceptions and health and are, therefore, probably best understood as co-determinants of health in the Lehigh Valley.

#### Note: The following are *weighted* frequencies. Total N=526, or about an 11% response rate.

Part I. General Questions		
1. My community has a good health care system. (N=523)		
	Strongly agree	22.6%
	Agree	50.3
	Neither agree nor disagree	19.5
	Disagree	6.3
	Strongly disagree	1.4
2. My community is a good place to raise children. (N=521)		
	Strongly agree	27.1%
	Agree	51.3
	Neither agree nor disagree	14.2
	Disagree	4.7
	Strongly disagree	2.7
3. My community is a good place to grow old. (N=522)		
	Strongly agree	23.9%
	Agree	47.9
	Neither agree nor disagree	17.1
	Disagree	8.8
	Strongly disagree	2.3
4. My community is a safe place to live. (N=516)		
	Strongly agree	22.6%
	Agree	54.0
	Neither agree nor disagree	15.0
	Disagree	6.8
	Strongly disagree	1.5
Part 2. General Health Questions		
5. How would you rate your overall health? (N=524)		
	Excellent	10.4%
	Very good	36.5
	Good	43.5
	Poor	9.4
	Very poor	0.2
		0.2
6 Compared to one year ago, how would you rate your health in general now?		
	Much better	6.4%
	Somewhat better	14 7
	About the same	65.4
	Somewhat worse	12 9
	Much worse	0.6
7 Thinking about your physical health, which includes physical illness and injury for how ma	any days during the PAST MONTH would we	u sav that
your physical health was not good? (N=526)		n say ulat
	No sick days	57.8%
	1-2 sick days	22.2
	3-7 sick days	10.1
	8 or more sick days	9.9

8. Thinking about your mental health, which includes stress, depression, and problem would you say that your mental health was not good? (N=526)	ms with emotions	s, how many days during the PAST ${ t N}$	IONTH
		No sick days	59.6%
		1-2 sick days	19.4
		3-7 sick days	10.1
		8 or more sick days	11.0
		,	
9. Has your health limited you in any of your daily activities over the PAST month and (N=526)	d, if so, which kir	nds of activities have you been limite	d in?
Limited in VIGOROUS activities, such as running, lifting heavy of	bjects, participat	ing in strenuous sports.	38.9%
Limited in MODERATE activities, such as moving a table, pushir	ng a vacuum, bo	wling, or playing golf.	17.0
Limited in LIGHT activities, such as carrying a bag of groceries,	walking one blo	ck, or bathing.	10.5
Not limited in any activities.			48.2
10. How much bodily pain have you had during the PAST MONTH? (N=525)			
		None	17.5%
		Verv mild	32.8
		Mild	36.0
		Severe	12.1
		Verv severe	1.7
11. How much did pain interfere with your usual activities (including work housewo	rk. self-care, and	recreation) during the PAST MONT	H? (N=525)
		Not at all	48.7%
		Slightly	22.7
		Moderately	13.7
		Quite a bit	11.0
		Extremely	4.0
		Extremely	1.0
12. In the PAST THREE MONTHS, have many times have you fallen? ( $N=519$ )			
TZ. In the FAST TIMEE FIORTIS, have many times have you failer (N=315)		None	87.1%
		1 or 2 times	Q 1
		3 or 1 times	2.4
		More than 4 times	1 1
			1.1
12 Have you had your blood proceure taken by a dactor purce or bealth profession	nal in the DACT		
15. Have you had your blood pressure taken by a doctor, hurse of health professio		Vec	07.20/
		Ne.	97.5%
		NO	2.7
14 Harrison had some bland skale store bland in the DACT TWO VEADCO (N=E10			
14. Have you had your blood cholesterol checked in the PAST TWO TEARS? (N=515	")	X	05.00
		Yes	85.0%
		NO	15.0
15. In the PAST YEAR, have you had two or more weeks during which you felt sad, by things you usually cared about or enjoyed? $(N=514)$	olue or depresse	d, or when you lost interest or pleas	ure in
timings you usually carea about or enjoyed: (11-51+1)		Yee	32 40%
		No	67.6
			07.0
16. Have you ever had a screening test for colon cancer? (N=519)			E4.200
		Tes	51.3%
		INO Denth lan sur	44.9
		Don't know	3.8
In the PAST FIVE YEARS, has a doctor, nurse, or other health professional told you that you have any of the following health problems or conditions?	Currently	In the Past	No
17 High blood pressure (N=516)	31.80%	11 50%	53.60%
17.  High blood chalecteral (N=510)	2/ 9	21.6	53.0%
19 Heart attack or any other heart disease (N=513)	67	65	86.8
15.11 and all act, of any other heart disease ( $11-515$ )	5.7	0.0	00.0

20. Cancer (N=509)	2.9	9.1	88.0
21. Diabetes (N=513)	13.5	2.5	83.9
22. Mental health problems (N=516)	8.3	8.4	83.3
23. Emphysema or bronchitis (N=512)	5.3	9.1	85.6
24. Asthma (N=511)	6.5	5.4	88.0
25. Other lung disease (N=506)	3.9	1.9	94.2
26. Arthritis or rheumatic disease (N=513)	25.8	5.5	68.7
27. Other chronic condition (N=475)	16.8	2.0	81.2
Part 3. Health Care and Health Insurance Questions			
28. What kind of health insurance do you use to pay for MOST of your medical	care?		
		Private insurance	73.1%
		Veterans' Administration	3.4
		No coverage; pay cash	6.6
		Medicare	27.8
		Medicaid	6.7
		Don't know	1.0
29. NOTE: Individuals without health insurance in Q#28 were asked the prima individuals said the primary reason was that they could not afford it; 3 said the it; and 6 said they were unable to secure Medicaid.	ry reasons why; only ey didn't know how to	26 respondents fit this criteria. O o get insurance; 2 said an employe	f them, 22 er didn't provide
	2 (11 510)		
30. Was there a time in the PAST YEAR when you did not have health insurance	ce? (N=518)	V.	0.00
		Yes	9.8%
21. Are there any children under are 10 in your household who do not ourron	the have health incur		90.2
51. Are there any children under age 19 in your household who do not curren	illy have health insur-	Voc	1 60%
		Ne	1.0%
		NO	50.4
32 Do you have a person that you think of as YOUR PERSONAL doctor or hea	Ith care provider? (N	l=515)	
52. Do you have a person that you think of as TOONT ENSONNE doctor of hea		Yes	85%
		No	15.0
		110	15.0
33. Was there a time in the PAST YEAR that you needed to see a doctor, but c	could not because of	cost? (N= 515)	
		Yes	10.5%
		No	89.5
34. Was there a time in the PAST YEAR that you have gone without getting eye	eglasses because the	ey cost too much? (N=518)	
		Yes	21.5%
		No	78.5
35. Was there a time in the PAST YEAR that you have gone without getting a h	earing aid because t	hey cost too much? (N=507)	
		Yes	6.5%
		No	93.5
36. How much choice do you have in where you go for medical care? (N=502	2)		
		Great deal of choice	60.3%
		Some choice	29.6
		Very little choice	6.4
		No choice	3.7
37. How long has it been since you last visited a doctor for a routine checkup?	? (N=514)		
		Within the past year	81.7%
		Within the past 2 years	10.4
		Within the past 5 years	3.0
		5 or more years ago	2.8
		Don't know	2.1

38. Was there a time in the PAST YEAR when you missed or postponed medical care because of any	of the following?	
Didn't have health insurance	6.8%	
Insurance didn't cover what I needed	5.3	
My share of cost was too high (deductible/co-pay)	7.9	
Doctor would not take my insurance	2.7	
Hospital would not take my insurance	0.6	
Didn't have way to get there	5.1	
Didn't know where to go	2.6	
Couldn't get an appointment	5.7	
Didn't have sitter to watch child/parent	3.2	
Couldn't get time off from work	4.5	
Didn't think problem was serious	11.0	
Other reason	4.4	
39. Where do you go MOST OFTEN when you are sick or need advice about your health? (N=519)		
	Doctor's office	90.0%
	Local health department	0.8
	Hospital outpatient clinic	1.7
	Hospital emergency room	2.8
	Urgent care center	1.1
	Open door/free clinic	0.2
	Other	3.5
		5.5
40. How long do you usually have to wait for a medical appointment when you are sick? ( $N=501$ )		
	Less than 1 day	46.6%
	1 to 3 days	30.07
	A to 7 days	63
	1 to 2 weeks	17
	More than 2 weeks	2.8
		2.0
41 Over the PAST YEAR to what extent have you had a problem due to difficulty communicating with	doctors or other health care provid	ers because
of language barriers? (N=489)	rubciors of other health care provid	EIS DECAUSE
on language barriers: (N=+05)	Major problem	1 9%
	Minor problem	1.570 8.4
	Not a problem	80.7
		05.7
42 Over the DAST VEAP, to what extent have you had a problem or difficulty getting care because of	vour race or othnic background? (N	 
42. Over the FAST TLAN, to what extent have you had a problem of difficulty getting care because of	Major problem	1 10%
	Minor problem	2.6
		2.0
		50.5
12 During the PAST YEAR have you had a flu chat ar introposal flu energy? (N=417)		
45. During the FAST TEAN, have you had a nu shot of intranasal hu spray? (N=417)	Vac	61.60/
	Tes Na	
	NO Davit har our	37.7
	Don't know	0.7
	und in different formethin flored at (NI-	
44. nave you ever had a pheumonia shot? This is usually given only once or twice in a person's life a	and is different from the flu shot. (N=	-515)
	Tes	35.8%
	NO Danit ha and	52.3
	Don't know	12.0
45. WUMEN UNLY: Have you had a PAP smear in the PAST THREE YEARS? (N=284)	X	70.4~
	Yes	/3.4%
	No	26.1
	Don't know	0.5

46. WOMEN ONLY: Have you had a mammogram in the PAST TWO YEARS? (N=284)		
	Yes	55.6%
	No	43.3
	Don't know	1.0
Part 4. Fitness & Health		
47. On average, how many days a week do you exercise for at least 30 minutes? (N=518)		
	1 to 2 days per week	30.8%
	3 to 4 days per week	26.1
	5 or more days per week	14.7
	0 days per week	28.3
48. Have you ever been told by a doctor that you are overweight or obese? (N=518)		
	Yes	33.9%
	No	66.1
49. How many total servings of fruits and/or vegetables did you eat yesterday? (N=503)		
	0 servings	6.1%
	1 to 2 servings	49.5
	3 to 4 servings	36.3
	5 to 7 servings	7.8
	More than 7 servings	0.5
50. On average, how many hours of sleep do you get in a 24 hour period? (N=507)		
	Fewer than 4	0.7%
	4	4.2
	5	8.5
	6	24.4
	7	28.4
	8	25.2
	9 or more	8.7
		0.7
NOTE: Questions # 51 and 52 ask respondents to list height and weight. These variables will be	used to compute BMI indices in rel	ation to the body
more, questions # 51 and 52 ask respondents to list height and weight. These variables will be	a used to compute DM indices in rea	ation to the body
mass much provided by the national institutes of health.		
53 Do you smake? $(N=518)$		
	Vec	13.4%
	No	96.6
	NO	00.0
E4. Do you surrently you showing tabacco or on ff and if as how often? (N=E00)		
54. Do you currently use criewing tobacco of shull and, it so, now often? (N=500)		+ 07
	Tes Na	1%
$\Gamma \Gamma$ Or some the horizontal state is the last second state $A(\lambda) = A(\lambda)$	NO	99%
55. On average, now many accondic drinks do you consume each day? (N=463)	Neg	70 407
	None	/0.4%
		1/.1
	2	6.9
	3	3.1
	4	1.5
	5	0.3
	6	0.6

56. Considering all types of alcoholic beverages, how many times during the PAST MONTH did you have 5 or more drinks on one occasion? (N=492)

No episodes	75.3%
1 episode	11.7

	2 episodes	4.3
	3 or more episodes	8.7
Part 5. Oral Health		
57. How long has it been since you last visited a dentist or dental clinic for any reason? (N=511)		
	Within the past year	70.1%
	Within past 2 years	12.3
	Within past 5 years	7.2
	5 or more years	10.4
	-	
58. How do you pay for dental care?		
	Private insurance	51.0%
	Veteran's Administration	0.3
	Pay cash; no insurance	39.9
	Medicaid	6.3
59. Was there a time in the PAST YEAR when you needed to get dental care, but could not find a der	tist or could not afford the cost? (N=	=507)
	Yes	17.8%
	No	82.0
Part 6. Household & Transportation Questions		

60. In the PAST MONTH, I was not able to afford enough food to eat. (N=508)		
	Yes	4.9%
	No	95.1
61. In the PAST MONTH, I was not able to eat the kinds of food I wanted. (N=508)		
	Yes	14.2%
	No	85.4
62. In the PAST MONTH, I was not able to afford healthy foods. (N=509)		
	Yes	11.9%
	No	87.8
63. In the PAST MONTH, I had to make sacrifices in other bills to afford the food I needed. (N=	509)	
	Yes	15.3%
	No	84.4
64. For most of your local trips, how do you travel?		
Drive a car	84.0%	
Ride in a car as a passenger	12.0	
Take public transportation	3.7	
Take a senior bus, shuttle or minibus	1.6	
Tax a taxi	0.3	
Walk	6.4	
Other	3.0	
65. When you have trouble getting the transportation you need, what would you say is the mai	n reason? (N=216)	
Have to rely on others	30.4%	
Can't afford it	10.4	
Not available when I need it	6.2	
Unfamiliar with transportation options or system	5.3	
Car doesn't work/problems with vehicle	32.0	
Having trouble getting around without someone to help	0.8	
Transportation does not go where I need to go	2.0	
Other	12.9	

66 Do you provide care for any of the following individuals?		
	Spouse	14.8%
	Parent	2.5
	Friend/Neighbor	1.8
	Minor child (under 18)	20.3
		5.6
	Adult Child	2.0
	Other femily member	5.0
	Other family member	2.0
	INONE	49.4
67. If you do provide care for an individual listed above (in Q# 66), what kinds of help could y	You use more of in your care giving?	
Financial support	20.3%	
Organized support groups	3.4	
Information on services	6.4	
Legal Assistance	1.3	
Equipment (clothing, toys, home modifications, etc.)	4.8	
Formal support or advice form therapist, counselor, doctor, etc.	4.9	
Informal advice or emotional support (from family, friends, etc.)	5.9	
Respite, free time for myself	9.7	
Other	3.5	
Part 7. Personal Information		
68. What is your home town/municipality? (please see attached)		
69. What is your home zin code? (please see attached)		
03. What is your nome zip code? (please see allached)		
70 What year yere yer harp $2(N-401)$		
70. What year were you born? (N=491)	1021 1020	11.007
	1921-1930	11.0%
	1931-1940	12.5
	1941-1950	17.1
	1951-1960	25.8
	1961-1970	11.8
	1971-1980	9.1
	1981-1990	12.7
71. Are you: (N=511)		
	Male	46.5%
	Female	53.5
72. How many people live in your household, including yourself? (N=500)		
	1	23.5%
	2	37.1
	3	15.6
	4	15.0
		5.0
	6	2.0
	7	2.1
	/	0.4
	ŏ	0.6
/3. How many children living in your home are 18 years or younger (N=466)		
	0	67.8%
	1	13.1
	2	13.9
	3	4.2
	4	0.8

		5	0.0
		6	0.2
74. Were you born in the United	d States? (N=499)		
,		Yes	86.3%
		No	13.7
75. Do you own or rent your h	ome? (N=477)		
,,		Own	80.5%
		Rent	19.5
75. Which of the following best	describes you? (N=504)		
	· · · ·	White	83.8%
		Black/African American	2.5
		American Indian/Native Alaskan	0.9
		Asian	4.2
		Other	8.6
76. What is you ethnicity? Note	: recoded to Hispanic and Non-Hispanic (N=361)		
		Hispanic	13.4%
		Non-Hispanic	86.6
		·	
78. Marital Status (N=509)			
	Married	58.8%	
	Divorced/Separated	11.7	
	Single/Never Married	11.1	
	Widowed	11.5	
	Long term relationship/Partnered	7.0	
79. Employment Status (N=50	01)		
	Employed	46.9%	
	Self employed	3.8	
	Retired	30.8	
	Homemaker	6.1	
	Student	1.1	
	Out of work more than 1 year	4.1	
	Out of work less than 1 year	2.6	
	Unable to work	4.6	
80. Over the past 12 months,	have you		
•	Been laid off	4.1%	
	Taken a pay cut	6.6	
	Had work hours reduced	7.4	
	Taken on an additional job	5.7	
	Received unemployment compensation	6.8	
	Been seeking employment	15.2	
	Been volunteering	17.5	
	5		
81. What was your FAMILY inco	ome before taxes in 2010? (N=466)		
,	Less than \$14,999	9.4%	
	Between \$15,000 and \$24,999	12.8	
	Between \$25,000 and \$39,999	21.3	
	Between \$40,000 and \$59,999	17.5	
	Between \$60,000 and \$99.999	17.6	
	More than \$100.000	21.4	
	· ,		

82. What was your PERSONAL income before taxes in 2010? (N=462)	
Less than \$14,999	21.8%
Between \$15,000 and \$24,999	21.5
Between \$25,000 and \$39,999	20.8
Between \$40,000 and \$59,999	17.9
Between \$60,000 and \$99,999	9.2
More than \$100,000	8.9
83. What is the highest level of education you have completed? (N=504)	
Some high school	11.7%
High school degree or GED	32.9
Some college	18.0
2 year college degree (Associate's Degree)	4.7
4 year college degree (Bachelor's Degree)	19.0
Post College or Graduate School	13.7

GEOGRAPHIC INFORMATION		
County (N=505)		
	Lehigh	52.8%
	Northampton	43.3%
	Bucks	1.3%
	Montgomery	2.2%
	Other County	0.5%
Municipality (Note: Additional municipality and zip code data available)		
	Allentown	15.4%
	Bethlehem	8.5%
	Easton	5.0%





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