

Community Health Needs Assessment 2016

SAINT JAMES HOSPITAL

known as OSF SAINT JAMES - JOHN W. ALBRECHT
MEDICAL CENTER

LIVINGSTON COUNTY

TABLE OF CONTENTS

Executive Summary	3
Introduction	5
Methods	6
Chapter 1. Community Themes/Demographic Profile	
1.1 Population.....	10
1.2 Age, Gender and Race Distribution	11
1.3 Household/Family	13
1.4 Economic Information.....	15
1.5 Education	17
1.6 Key Takeaways from Chapter 1	19
Chapter 2. Prevention Behaviors	
2.1 Accessibility.....	20
2.2 Wellness.....	30
2.3 Access to Information.....	38
2.4 Physical Environment	39
2.5 Health Status	39
2.6 Key Takeaways from Chapter 2	42
Chapter 3. Symptoms/Predictors	
3.1 Tobacco Use.....	43
3.2 Drug and Alcohol Abuse	44
3.3 Overweight and Obesity	45
3.4 Predictors of Heart Disease.....	46
3.5 Key Takeaways from Chapter 3	48
Chapter 4. Diseases/Morbidity	
4.1 Healthy Babies.....	49
4.2 Cardiovascular.....	51
4.3 Respiratory	54
4.4 Cancer	56
4.5 Diabetes	57
4.6 Infectious Diseases	59
4.7 Injuries	62
4.8 Mortality	64
4.9 Key Takeaways from Chapter 4.....	64
Chapter 5. Identification of Significant Health Needs	
5.1 Perceptions of Health Issues.....	65
5.2 Perceptions of Unhealthy Behaviors	67
5.3 Perceptions of Well Being	68
5.4 Summary of Community Health Issues	70
5.5 Community Resources	72
5.6 Prioritization of Significant Health Needs.....	72
Appendices	



Community Health Needs Assessment

July 2016

Collaboration for sustaining health equity

Executive Summary

The Livingston County Community Health-Needs Assessment is a collaborative undertaking by OSF Saint James – John W. Albrecht Medical Center to highlight the health needs and well-being of residents in Livingston County. Through this needs assessment, collaborative community partners have identified numerous health issues impacting individuals and families in the Livingston County region. Several themes are prevalent in this health-needs assessment – the demographic composition of the Livingston County region, the predictors for and prevalence of diseases, leading causes of mortality, accessibility to health services and healthy behaviors.

Results from this study can be used for strategic decision-making purposes as they directly relate to the health needs of the community. The study was designed to assess issues and trends impacting the communities served by the collaborative, as well as perceptions of targeted stakeholder groups.

This study includes a detailed analysis of secondary data to assess information regarding the health status of the community. In order to perform these analyses, information was collected from numerous secondary sources, including publically available sources as well as private sources of data. Additionally, primary data were collected for the general population and the at-risk or economically disadvantaged population. Areas of investigation included perceptions of the community health issues, unhealthy behaviors, issues with quality of life, healthy behaviors and access to medical care, dental care, prescription medications and mental-health counseling. Additionally, demographic

characteristics of respondents were utilized to provide insights into why certain segments of the population responded differently.

Ultimately, the identification and prioritization of the most important health-related issues in the Livingston County region were identified. The collaborative team considered health needs based on: (1) magnitude of the issue (i.e., what percentage of the population was impacted by the issue); (2) severity of the issue in terms of its relationship with morbidities and mortalities; (3) potential impact through collaboration. Using a modified version of the Hanlon Method, the collaborative team prioritized two significant health needs:

- ***Healthy Behaviors – defined as healthy eating and active living, and their impact on obesity***
- ***Behavioral Health – including mental health and substance abuse***

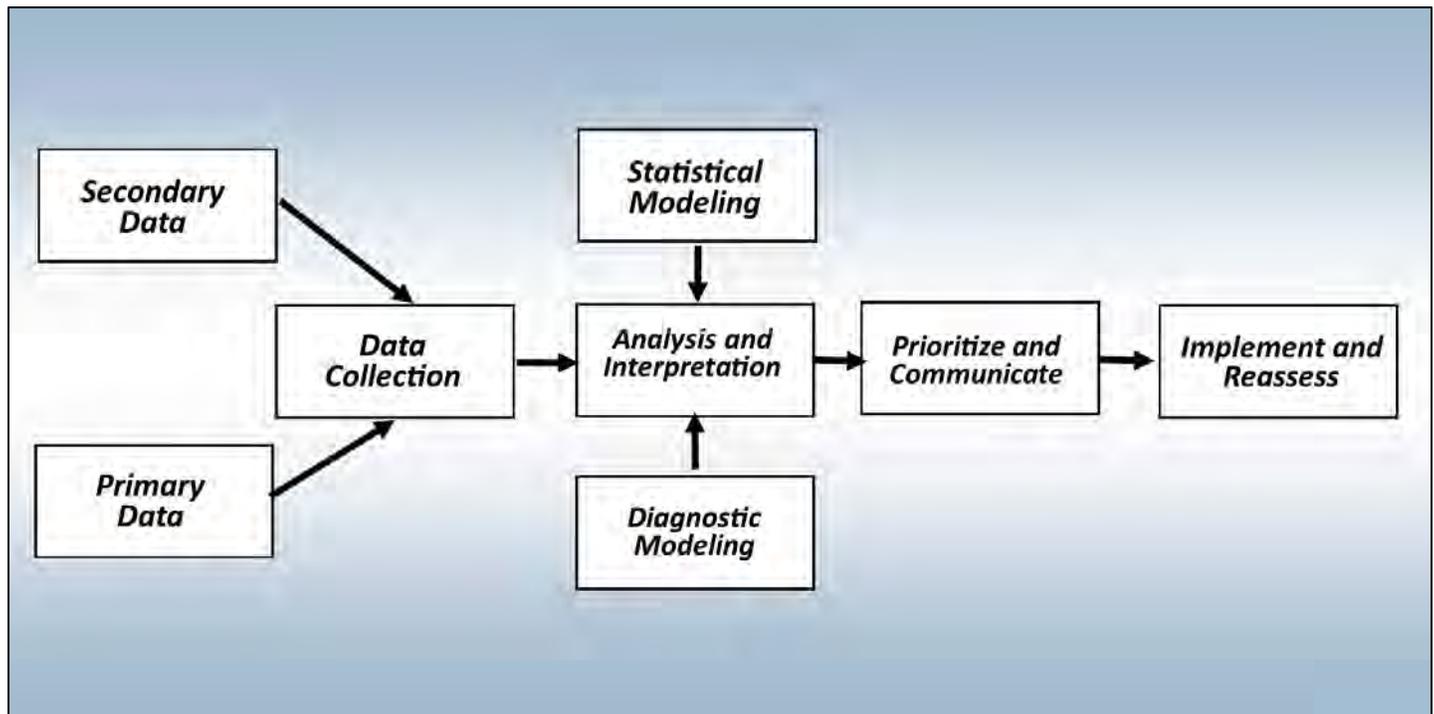
I. INTRODUCTION

Background

The Patient Protection and Affordable Care Act (Affordable Care Act), enacted March 23, 2010, added new requirements for tax-exempt hospitals to conduct community health-needs assessments and to adopt implementation strategies to meet the community health needs identified through the assessments. This community health-needs assessment (CHNA) takes into account input from specific individuals who represent the broad interests of the community served by OSF Saint James – John W. Albrecht Medical Center including those with special knowledge of or expertise in public health. For this study, a community health-needs assessment is defined as a systematic process involving the community, to identify and analyze community health needs and assets in order to prioritize these needs, create a plan, and act upon unmet community health needs. Results from this assessment will be made widely available to the public.

The structure of the CHNA is based on standards used by the Internal Revenue Service to develop Form 990, Schedule H–Hospitals, designated solely for tax-exempt hospitals. The fundamental areas of the community health-needs assessment are illustrated in Figure 1.

Figure 1. Community Health Needs Assessment Framework



Design of the Collaborative Team: Community Engagement, Broad Representation and Special Knowledge

In order to engage the entire community in the CHNA process, a collaborative team of health-professional experts and key community advocates was created. Members of the collaborative team were carefully selected to ensure representation of the broad interests of the community. Specifically,

team members included representatives from OSF Saint James – John W. Albrecht Medical Center, members of the Livingston County Health Department, and administrators from key community partner organizations. Engagement occurred throughout the entire process, resulting in shared ownership of the assessment. The entire collaborative team met in April and July 2015 and in the first quarter of 2016. Additionally, numerous meetings were held between the facilitators and specific individuals during the process.

Specifically, members of the **Collaborative Team** consisted of individuals with special knowledge of and expertise in the healthcare of the community. Individuals, affiliations, titles and expertise can be found in Appendix 1. Note that the collaborative team provided input for all sections of the CHNA.

Definition of the Community

In order to determine the geographic boundaries for OSF Saint James – John W. Albrecht Medical Center, analyses were completed to identify what percentage of inpatient and outpatient activity was represented by Livingston County. Data show that Livingston County alone represents 76.2% of all patients for the hospital.

In addition to defining the community by geographic boundaries, this study targets the at-risk population as an area of potential opportunity to improve the health of the community.

Purpose of the Community Health-Needs Assessment

In the initial meeting, the collaborative committee identified the purpose of this study. Specifically, this study has been designed to provide necessary information to health-care organizations, including hospitals, clinics and health departments, in order to create strategic plans in program design, access and delivery. Results of this study will act as a platform that allows health-care organizations to orchestrate limited resources to improve management of high-priority challenges. By working together, hospitals, clinics, agencies and health departments will use this CHNA to improve the quality of healthcare in Livingston County. When feasible, data are assessed longitudinally to identify trends and patterns by comparing with results from the 2013 CHNA and benchmarked with State of Illinois averages.

Community Feedback from Previous Assessments

The 2013 CHNA was made widely available to the community to allow for feedback. Specifically, the hospital posted both a full version and a summary version of the 2013 CHNA on its website. While no written feedback was received by individuals from the community via the available mechanism, verbal feedback was provided by key stakeholders from community-service organizations and incorporated as part of the collaborative process.

Summary of 2013 CHNA Identified Health Needs and Implementation Plans

The 2013 CHNA for Livingston County identified six significant health needs. These included: community misperceptions, dental health, healthy behaviors, mental health, obesity and substance abuse. Specific actions were taken to address these needs. Detailed discussions of goals and strategies to improve these health needs can be seen in Appendix 2.

II. METHODS

To complete the comprehensive community health-needs assessment, multiple sources were examined. Secondary statistical data were used to assess the community profile, morbidity rates and causes of mortality. Additionally, based on a sample of 608 survey respondents from Livingston County, a study was completed to examine perceptions of the community health issues, unhealthy behaviors, issues with quality of life, healthy behaviors and access to healthcare.

Secondary Data for the Community Health Needs Assessment

We first used existing secondary statistical data to develop an overall assessment of health-related issues in the community. Within each section of the report, there are definitions, importance of categories, data and interpretations. At the end of each chapter, there is a section on key takeaways.

Based on several retreats, a separate OSF Collaborative Team used COMP data to identify six primary categories of diseases, including: age related, cardiovascular, respiratory, cancer, diabetes and infections. In order to define each disease category, we used modified definitions developed by Sg2. Sg2 specializes in consulting for healthcare organizations. Their team of experts includes MDs, PhDs, RNs and healthcare leaders with extensive strategic, operational, clinical, academic, technological and financial experience.

Primary Data Collection

In addition to existing secondary data sources, primary survey data were also collected. This section describes the research methods used to collect, code, verify and analyze primary survey data. Specifically, we discuss the research design used for this study: survey design, data collection and data integrity.

A. Survey Instrument Design

Initially, all publicly available health-needs assessments in the U.S. were assessed to identify common themes and approaches to collecting community health-needs data. By leveraging best practices from these surveys, we created our own pilot survey in 2012, designed for use with both the general population and the at-risk community. To ensure that all critical areas were being addressed, the entire OSF collaborative team was involved in survey design/approval through several fact-finding sessions. Additionally, several focus groups were used to collect the qualitative information necessary to design survey items. Specifically, for the community health-needs assessment, five specific sets of items were included:

Ratings of health issues in the community – to assess the importance of various community health concerns. Survey items included assessments of topics such as cancer, diabetes and obesity. In all, there were 16 choices provided for survey respondents.

Ratings of unhealthy behaviors in the community – to assess the importance of various unhealthy behaviors. Survey items included assessments of topics such as violence, drug abuse and smoking. In all, there were 13 choices provided for survey respondents.

Ratings of issues concerning well-being – to assess the importance of various issues relating to well-being in the community. Survey items included assessments of topics such as access to healthcare, safer neighborhoods and effective public transportation. In all, there were 12 choices provided for survey respondents.

Accessibility to healthcare – to assess the degree to which residents could access healthcare when needed. Survey items included assessments of topics such as access to medical, dental and mental-healthcare, as well as access to prescription medications.

Healthy behaviors – to assess the degree to which residents exhibited healthy behaviors. The survey items included assessments of topics such as exercise and healthy eating habits.

Finally, demographic information was collected to assess background information necessary to segment markets in terms of the five categories discussed above.

After the initial survey was designed, a pilot study was created to test the psychometric properties and statistical validity of the survey instrument. The pilot study was conducted at the Heartland Community Health Clinic's facilities. The Heartland Clinic was chosen as it serves the at-risk population and also has a facility that serves a large percentage of the Latino population. A total of 230 surveys were collected. Results from the pilot survey revealed specific items to be included/excluded in the final survey instrument. Item selection criteria for the final survey included validity, reliability and frequency measures based on responses from the pilot sample. A copy of the final survey is included in Appendix 3.

B. Sample Size

In order to identify our potential population, we first identified the percentage of the Livingston County population that was living in poverty. Specifically, we multiplied the population of the county by its respective poverty rate to identify the minimum sample size to study the at-risk population. The poverty rate for Livingston County was 10.9 percent in 2014. The population used for the calculation was 38,746, yielding a total of 4,223 residents living in poverty in the Livingston County area.

We assumed a normal approximation to the hypergeometric distribution given the targeted sample size.

$$n = (Nz^2pq)/(E^2 (N-1) + z^2 pq)$$

where:

n = the required sample size

N = the population size

pq = population proportions (set at .05)

z = the value that specified the confidence interval (use 90% CI)

E =desired accuracy of sample proportions (set at +/- .05)

For the total Livingston County area, the minimum sample size for those living in poverty was 254. Note that for *aggregated* analyses (combination of at-risk and general populations); an additional 269 random surveys were needed from those not living in poverty in order to properly represent the views of the population in Livingston County.

The data collection effort for this CHNA yielded a total of 608 usable responses. This met the threshold of the desired 90% confidence interval.

To provide a representative profile when assessing the aggregated population for the Livingston County region, the general population was combined with a portion of the at-risk population. To represent the at-risk population as a percentage of the aggregate population, a random-number generator was used to select at-risk cases to include in the general sample. This provided a total usable sample of 391 respondents for analyzing the aggregate population. Sample characteristics can be seen in Appendix 4.

C. Data Collection

To collect data in this study, two techniques were used. First, an online version of the survey was created. Second, a paper version of the survey was distributed. In order to be sensitive to the needs of respondents, surveys stressed assurance of complete anonymity. Note that versions of both the online survey and paper survey were translated into Spanish.

To target the at-risk population, surveys were distributed at all available organizations that specifically target low-income residents (e.g., food pantries). Since we specifically targeted the at-risk population as part of the data collection effort, this became a stratified sample, as we did not specifically target other groups based on their socio-economic status.

D. Data Integrity

Comprehensive analyses were performed to verify the integrity of the data for this research. Without proper validation of the raw data, any interpretation of results could be inaccurate and misleading if used for decision-making. Therefore, several tests were performed to ensure that the data were valid. These tests were performed before any analyses were undertaken. Data were checked for coding accuracy, using descriptive frequency statistics to verify that all data items were correct. This was followed by analyses of means and standard deviations and comparison of primary data statistics to existing secondary data.

E. Analytic Techniques

To ensure statistical validity, we used several different analytic techniques. Specifically, frequencies and descriptive statistics were used for identifying patterns in residents' ratings of various health concerns. Additionally, appropriate statistical techniques were used for identification of existing relationships between perceptions, behaviors and demographic data. Specifically, we used Pearson correlations, χ^2 tests and tetrachoric correlations when appropriate, given characteristics of the specific data being analyzed.

CHAPTER 1 OUTLINE

- 1.1 Population
- 1.2 Age, Gender and Race Distribution
- 1.3 Household/Family
- 1.4 Economic Information
- 1.5 Education
- 1.6 Key Takeaways from Chapter 1

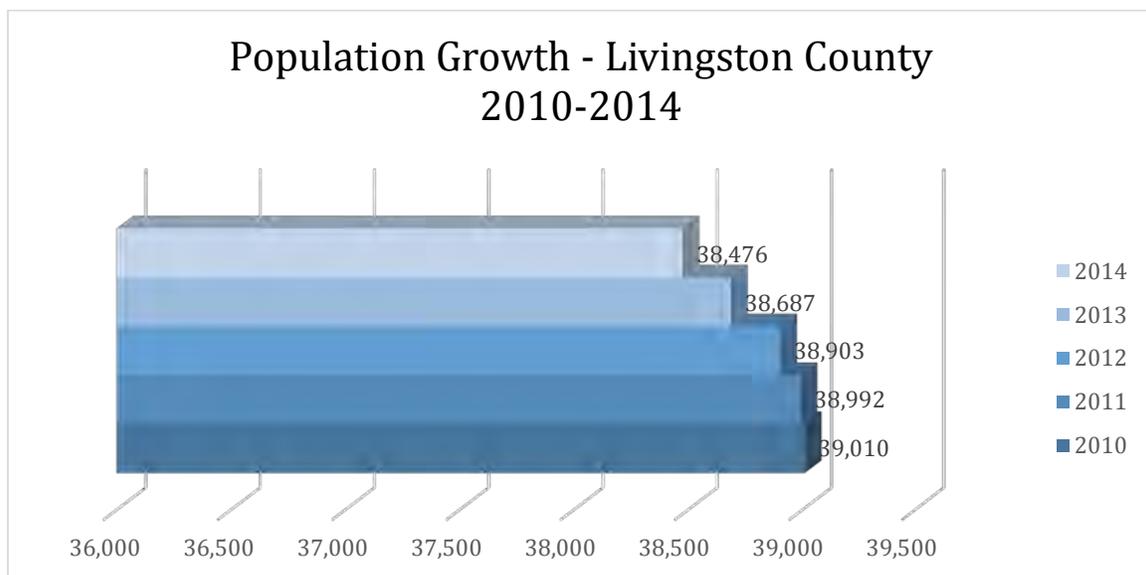
CHAPTER 1. DEMOGRAPHIC PROFILE

1.1 Population

Importance of the measure: Population data characterize individuals residing in Livingston County. Population data provide an overview of population growth trends and build a foundation for additional analysis of data.

Population Growth

Data from the last census indicate the population of Livingston County has slightly decreased (1.4%) between 2010 and 2014.



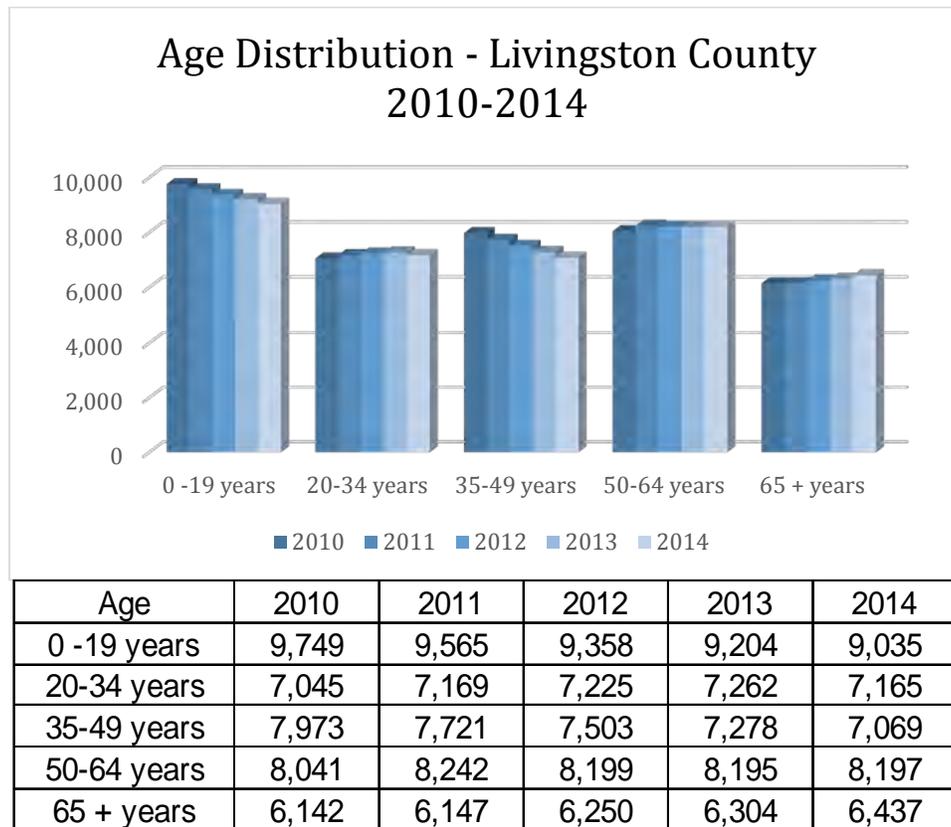
Source: US Census

1.2 Age, Gender and Race Distribution

Importance of the measure: Population data broken down by age, gender, and race groups provide a foundation to analyze the issues and trends that impact demographic factors including economic growth and the distribution of healthcare services. Understanding the cultural diversity of communities is essential when considering healthcare infrastructure and service delivery systems.

Age

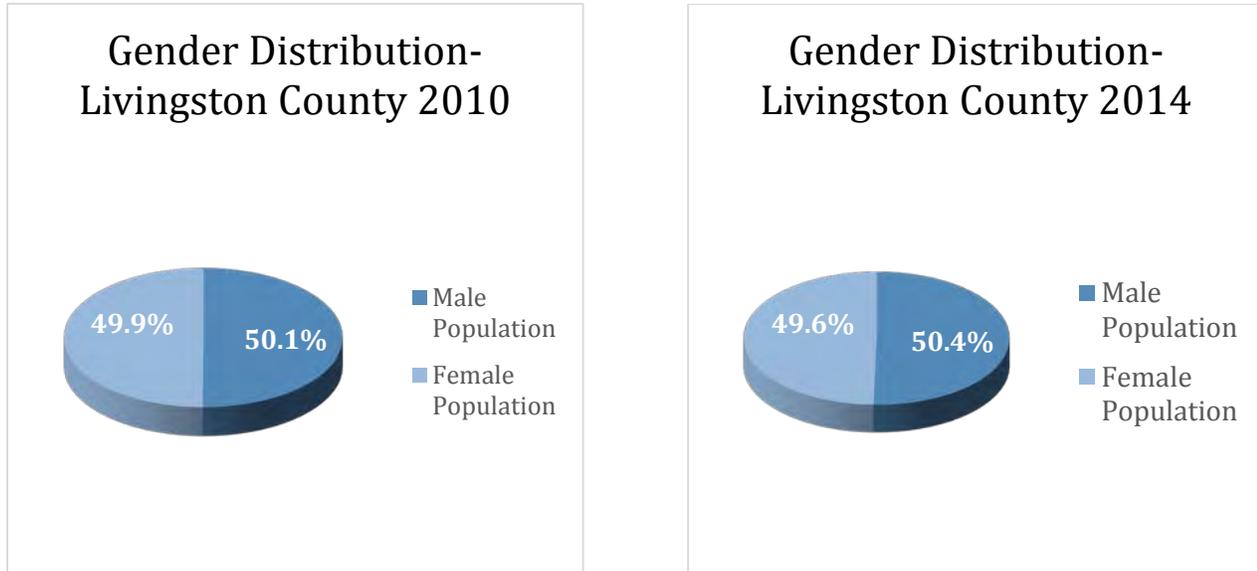
As indicated in the graph below, the percentage of individuals in Livingston County aged 65 and over experienced the largest increase between 2010 and 2014, and the percentage of individuals aged 35-49 experienced the largest decrease between 2010 and 2014.



Source: US Census

Gender

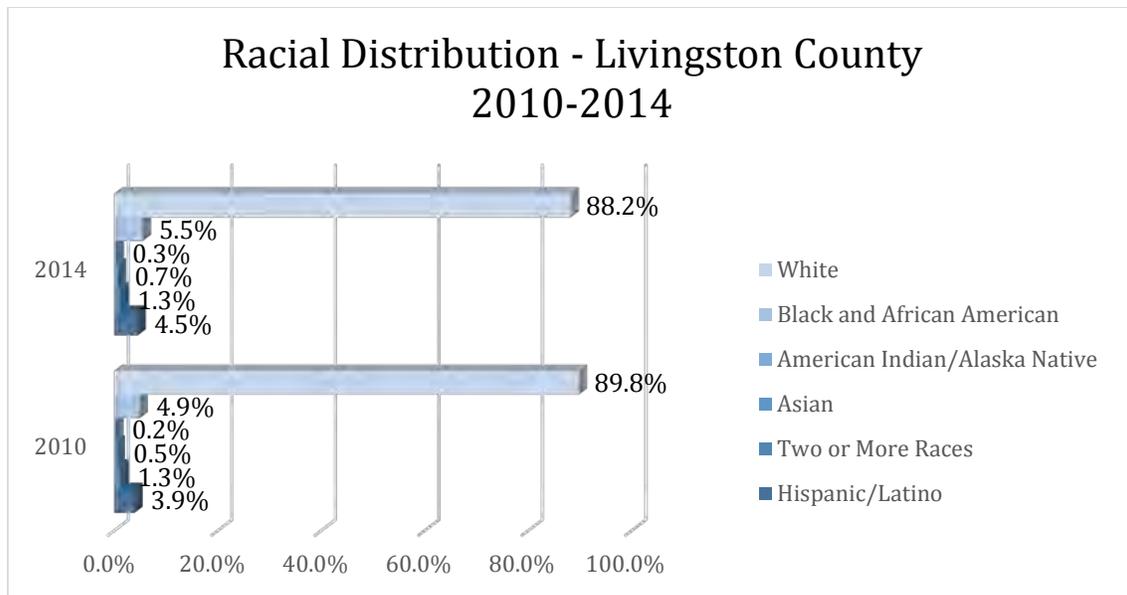
The gender distribution of Livingston County residents has remained relatively consistent between 2010 and 2014.



Source: US Census

Race

With regard to race and ethnic background, Livingston County is largely homogenous, yet in recent years, the county is becoming more diverse. Data from 2010 suggest that White ethnicity comprises nearly 90% of the population in Livingston County. However, the non-White population of Livingston County has been increasing (from 10.2% to 11.8% in 2014), with Black ethnicity comprising 5.5% of the population and Hispanic/Latino ethnicity comprising 4.5%.

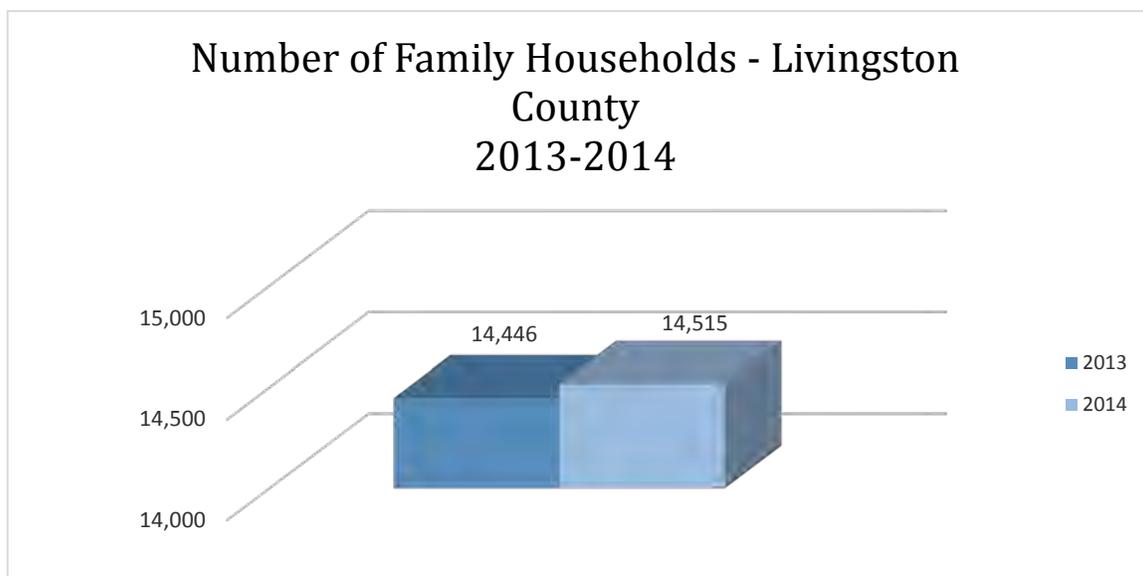


Source: US Census

1.3 Household/Family

Importance of the measure: Families are an important component of a robust society in Livingston County, as they dramatically impact the health and development of children and provide support and well-being for older adults.

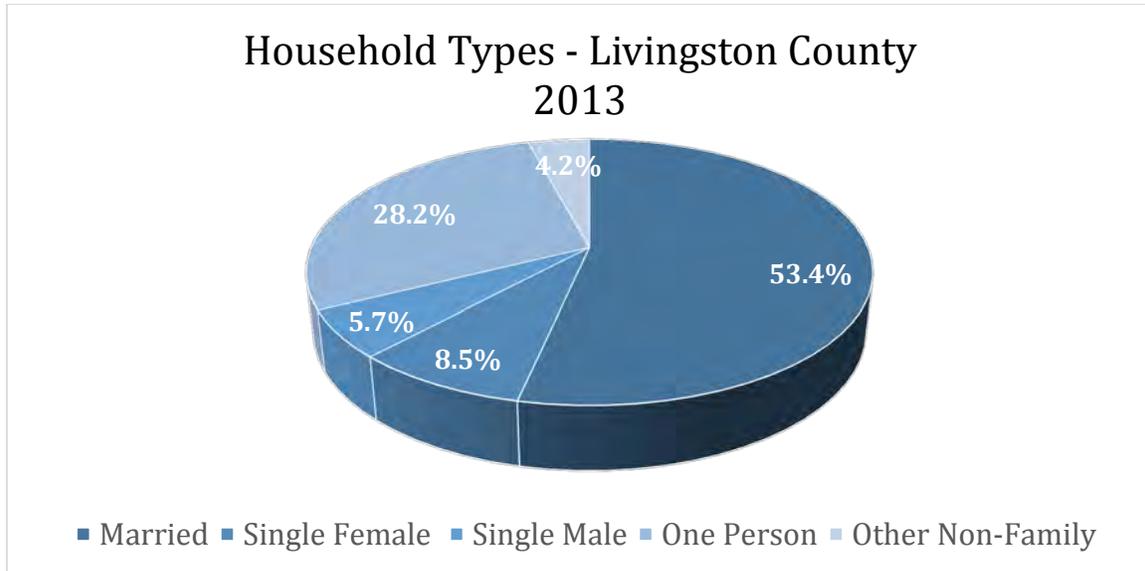
As indicated in the graph below, the number of family households within Livingston County increased by 0.5%.



Source: US Census

Family Composition

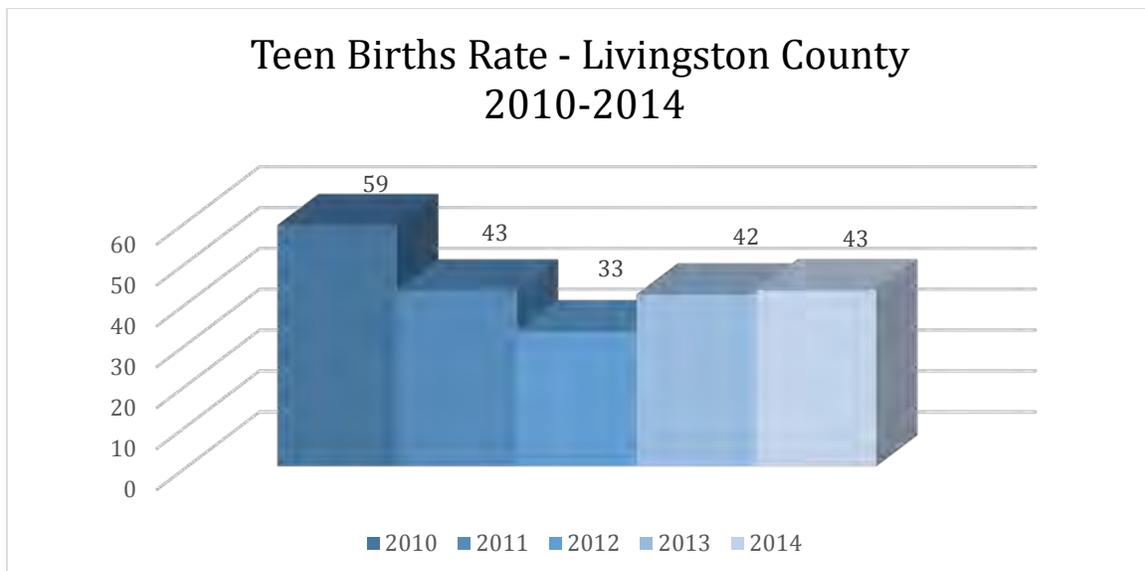
In Livingston County, data from 2013 suggest the percentage of two-parent families in Livingston County is over 50%. One-person households represent 28.2% of the county population.



Source: 2013 Statisticalatlas.com

Early Sexual Activity Leading to Births from Teenage Mothers

Livingston County experienced a decrease in teenage birth rate per 100,000 women. However, teen births are significantly higher than the Illinois average of 36 per 1,000 women.



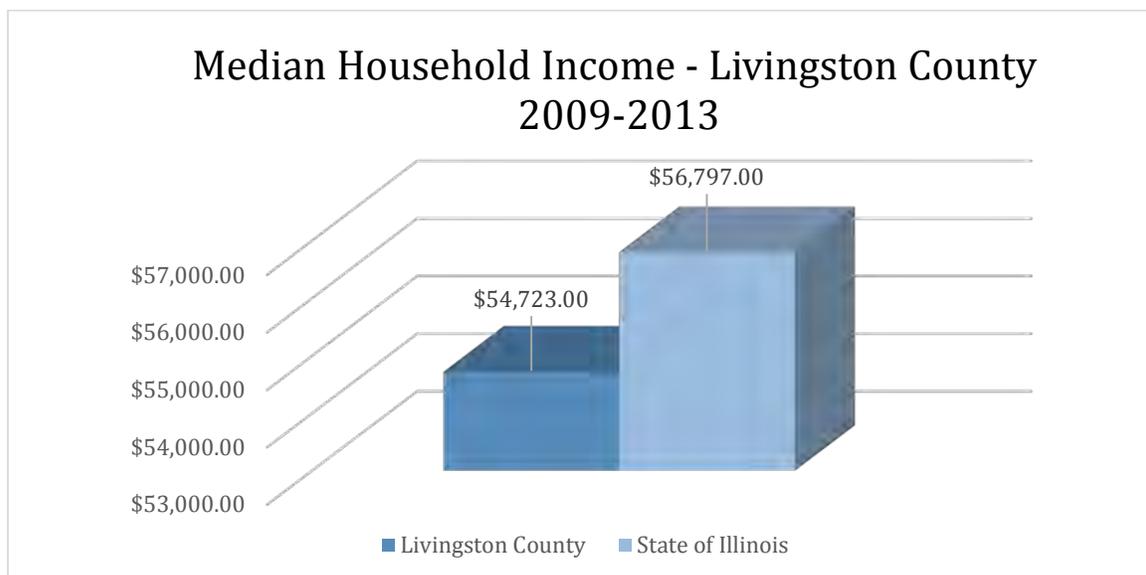
Source: Illinois Department of Public Health

1.4 Economic Information

Importance of the measure: Median income divides households into two segments with one-half of households earning more than the median income and the other half earning less. Because median income is not significantly impacted by unusually high or low-income values, it is considered a more reliable indicator than average income. To live in poverty means to lack sufficient income to meet one's basic needs. Accordingly, poverty is associated with numerous chronic social, health, education, and employment conditions.

Median Income Level

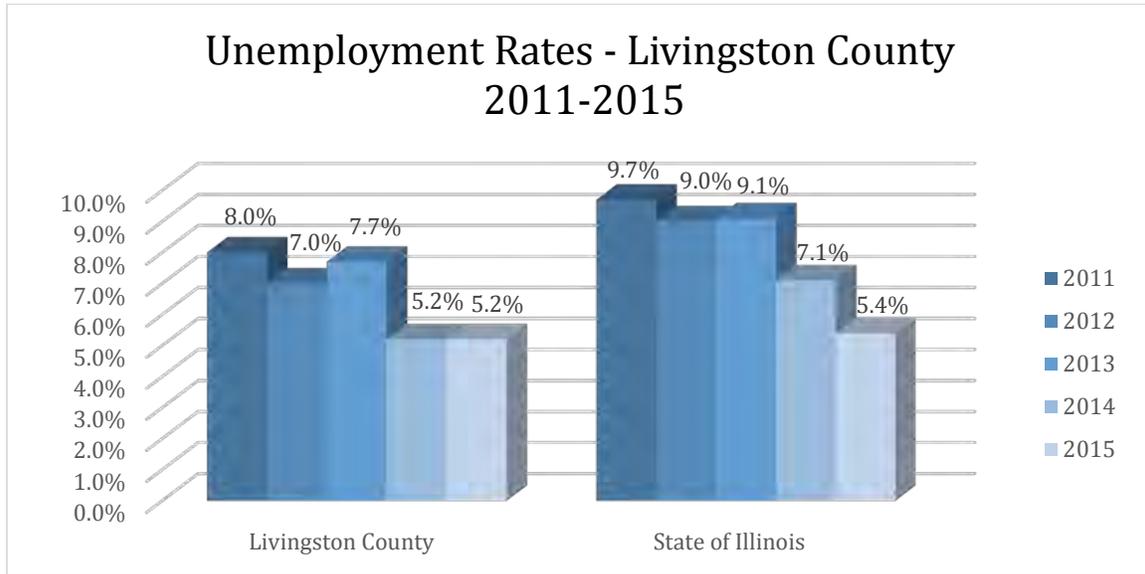
For 2009-2013, the median household income in Livingston County was 3.6% lower than the State of Illinois.



Source: US Census

Unemployment

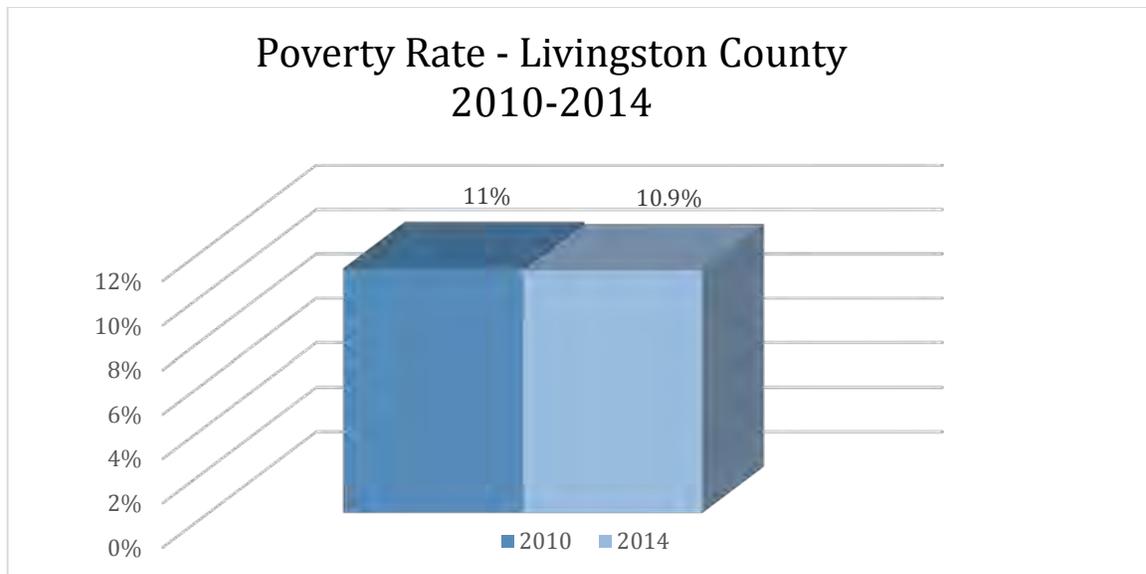
For the years 2011 to 2015, the Livingston County unemployment rate has been lower than the State of Illinois unemployment rate. Between 2013 and 2015, unemployment decreased from 7.7% to 5.2%.



Source: Bureau of Labor Statistics

Families in Poverty

Poverty has a significant impact on the development of children and youth. In Livingston County, the percentage of families living in poverty between 2010 and 2014 remained stable. In Livingston County, the overall poverty rate is 10.9%, which is lower than the State of Illinois poverty rate of 14.4%.



Source: US Census

1.5 Education

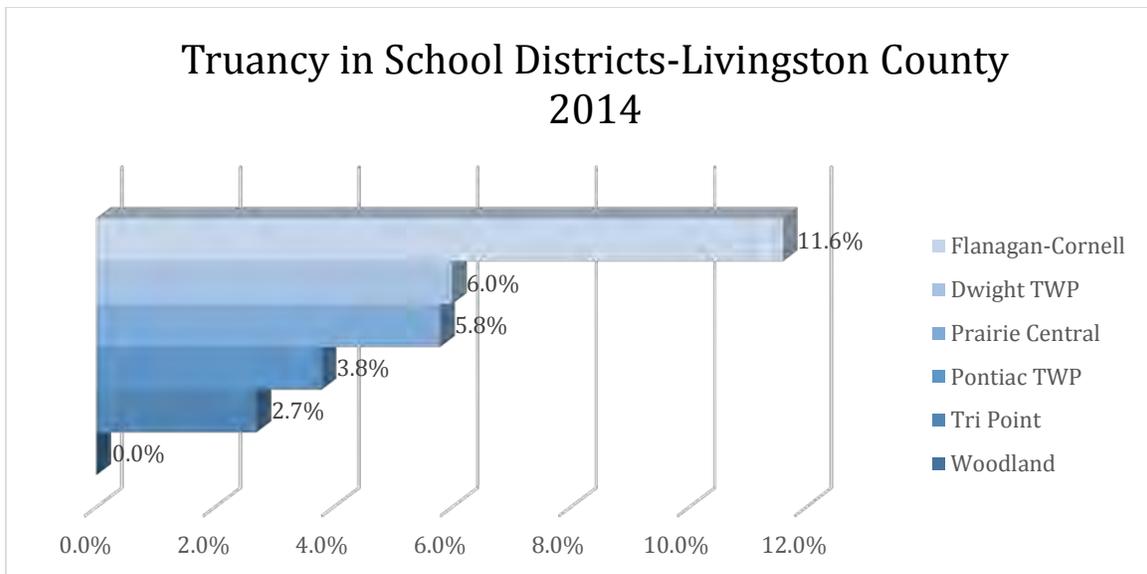
Importance of the measure: According to the National Center for Educational Statistics¹, “The better educated a person is, the more likely that person is to report being in ‘excellent’ or ‘very good’ health, regardless of income.” Research suggests that the higher the level of educational attainment and the more successful one is in school, the better one’s health will be and the greater likelihood of one selecting healthy lifestyle choices. Accordingly, years of education is strongly related to an individual’s propensity to earn a higher salary, gain better employment, and foster multifaceted success in life.

Truancy

Chronic truancy is a major challenge to the academic progress of children and young adults. The causes of truancy vary considerably for young children. Truancy of middle- and high-school students is more likely a result of the inappropriate behavior and decisions of individual students. Primary school truancy often results from decisions and actions of the parents or caregivers rather than the students themselves. The State of Illinois defines truancy as a student who is absent without valid cause for 5% or more of the previous 180 regular attendance days.

Flanagan-Cornell district has the largest percentage of students who were chronically truant in 2014, followed by Dwight Township and Prairie Central.

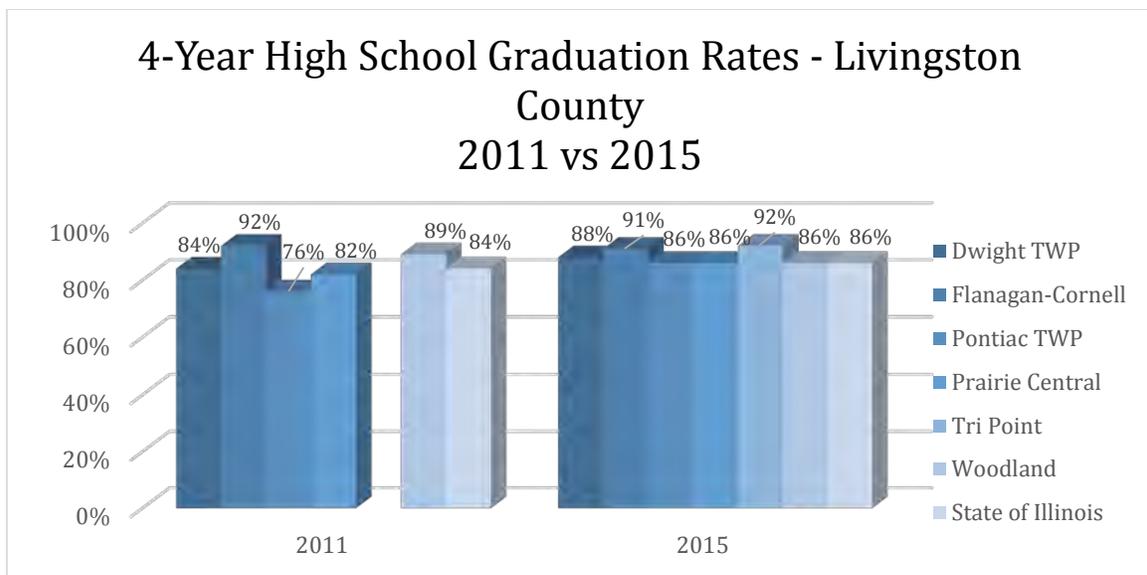
¹NCES 2005



Source: Illinois Report Card

High School Graduation Rates

In 2015, none of the districts in Livingston County reported high school graduation rates that were below the State average of 86%.



Source: Illinois State Board of Education, School Year 2011 & 2015 District Report Card Summary

1.6 Key Takeaways from Chapter 1

- ✓ **POPULATION DECREASED OVER THE LAST 5 YEARS.**
- ✓ **POPULATION IS AGING. THE LARGEST PERCENTAGE INCREASE IS IN RESIDENTS OVER AGE 65**
- ✓ **DECREASING WHITE POPULATION, INCREASING BLACK AND LATINO POPULATION**
- ✓ **TEEN BIRTHS PER 1,000 FEMALE POPULATION, AGES 15-19 HAVE INCREASED OVER THE LAST THREE YEARS AND ARE ABOVE THE AVERAGE ACROSS THE STATE OF ILLINOIS**
- ✓ **SINGLE FEMALE HEAD-OF-HOUSE-HOUSEHOLD REPRESENTS 8.5% OF THE POPULATION. HISTORICALLY, THIS DEMOGRAPHIC INCREASES THE LIKELIHOOD OF FAMILIES LIVING IN POVERTY**
- ✓ **UNEMPLOYMENT HAS DECREASED AND IS COMPARABLE TO STATE AVERAGES**
- ✓ **LIVINGSTON COUNTY SCHOOL DISTRICTS HAVE COMPARABLE GRADUATION RATES TO THE STATE AVERAGE**

CHAPTER 2 OUTLINE

- 2.1 Accessibility
- 2.2 Wellness
- 2.3 Access to Information
- 2.4 Physical Environment
- 2.5 Health Status
- 2.6 Key Takeaways from Chapter 2

CHAPTER 2. PREVENTION BEHAVIORS

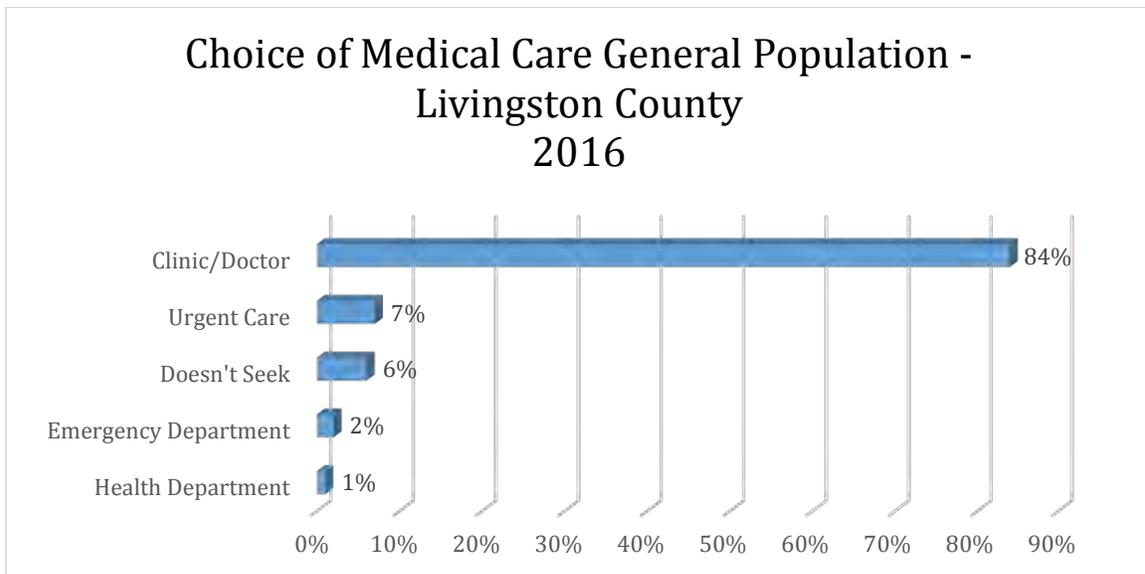
2.1 Accessibility

Importance of the measure: It is critical for healthcare services to be accessible. Therefore, accessibility to healthcare must address both the associated financial costs and the supply and demand of medical services.

Choice of Medical Care

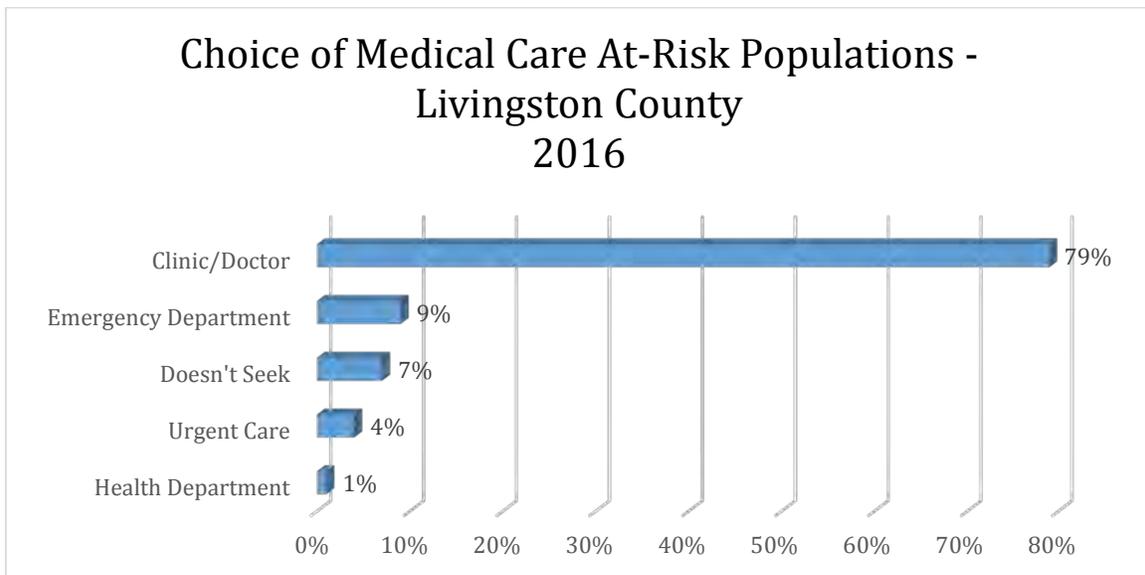
Survey respondents were asked to select the type of healthcare facility used when sick. Six different alternatives were presented, including clinic or doctor's office, emergency department, urgent-care facility, health department, no medical treatment, and other. The modified sample of 391 respondents was used for general population in order to more accurately reflect the demographic characteristics for Livingston County.

The most common response for source of medical care was clinic/doctor's office, chosen by 84% of survey respondents. This was followed by urgent care (7%), not seeking medical attention (6%), the emergency department at a hospital (2%), and the health department (1%). This distribution of facility choice is quite different from more urban locations in the OSF system, where there has been more significant usage of urgent care facilities. This may be a result of the relatively small number of urgent care facilities in Livingston County.



Source: CHNA Survey

For the at-risk population, the most common response for choice of medical care was also clinic/doctor's office (79%). This was followed by the emergency department at a hospital (9%), not seeking medical attention (7%), urgent care facilities (4%), and the health department (1%).



Source: CHNA Survey

Demographic Factors Related to Choice of Medical Care

Several demographic characteristics show significant relationships with an individual's choice of medical care. The following relationships were found using correlational analyses:

Clinic/Doctor's Office tends to be used more often by older people and those with White ethnicity.

Urgent Care is used more often by younger people.

Emergency Department tends to be used more often by people of Black and Latino ethnicities, and more often by those with lower education and income.

Do Not Seek Medical Care does not show significant demographic correlations.

Health Department does not show significant demographic correlations.

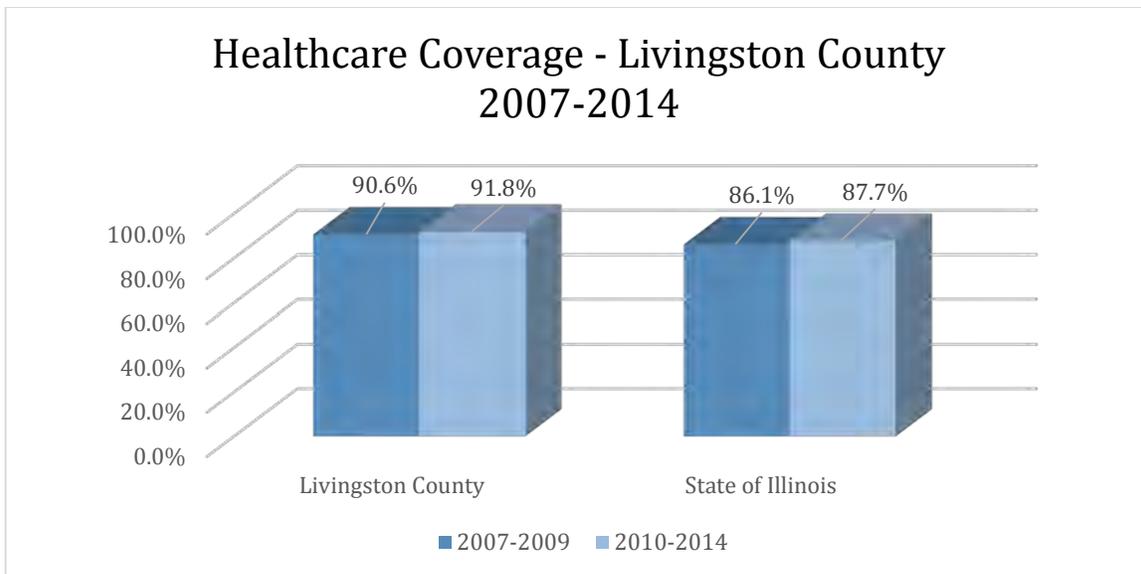
Comparison to 2013 CHNA Data

Compared to Livingston 2013 CHNA survey data, for the general population, there was a significant increase in use of clinic/doctor's office, from 78% to 84%, which resulted in a lower percentage of people choosing to seek care in an emergency department.

For the at-risk population, there was also an increase in use of clinic/doctor's office, from 70% to 79%. While there was a slight increase in ED usage from 7% to 9%, there was a reduction in the proportion of people who did not seek medical attention when needed. Specifically, choosing not to seek care declined from 11% in 2013 to 7% in 2016 for the at-risk population.

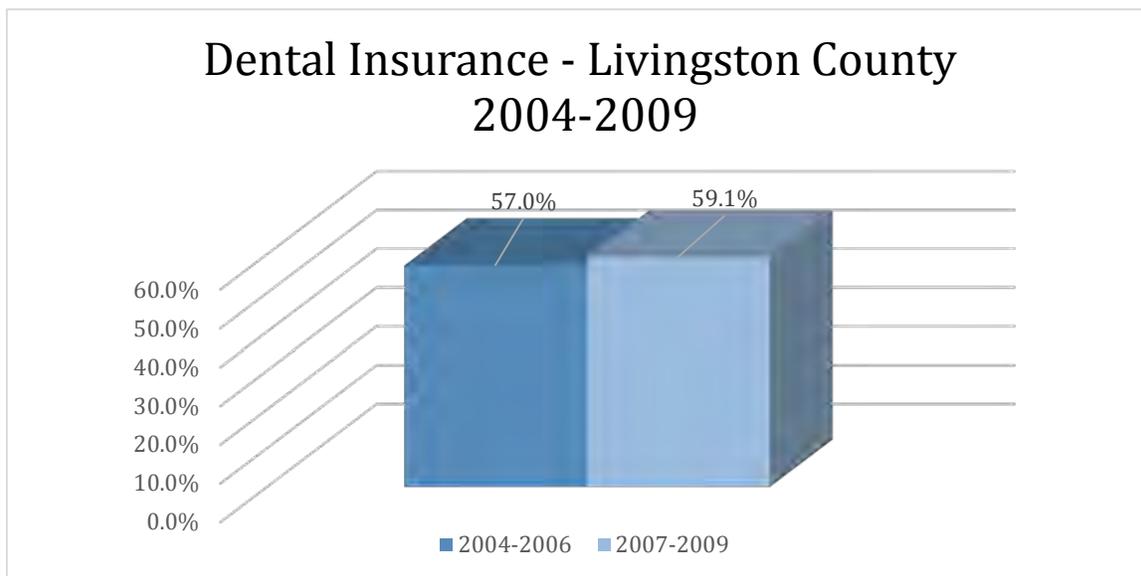
Insurance Coverage

With regard to medical insurance coverage, data gathered from the Illinois Behavioral Risk Factor Surveillance System show that residents in Livingston County possess healthcare coverage at a higher rate (91.8%) compared to the State of Illinois (87.7%).



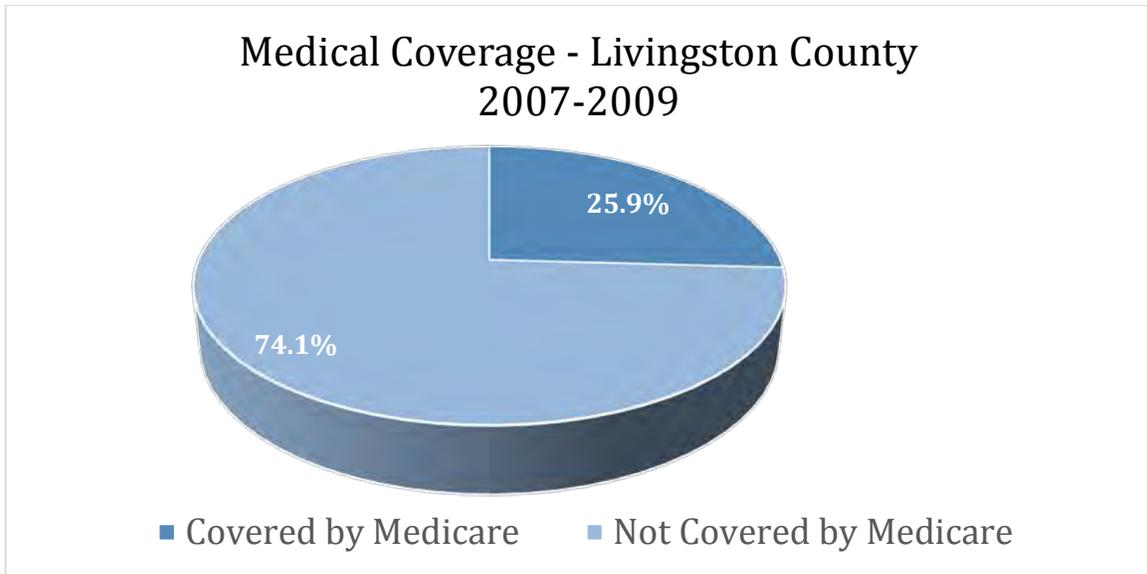
Source: Illinois Behavioral Risk Factor Surveillance System

With regard to dental insurance, 59.1% of Livingston County residents possessed dental insurance coverage in 2007-2009 compared to 57.0% of Livingston County residents in 2004-2006. These are the most recent data, as the BRFSS has not been updated for this metric since 2009.



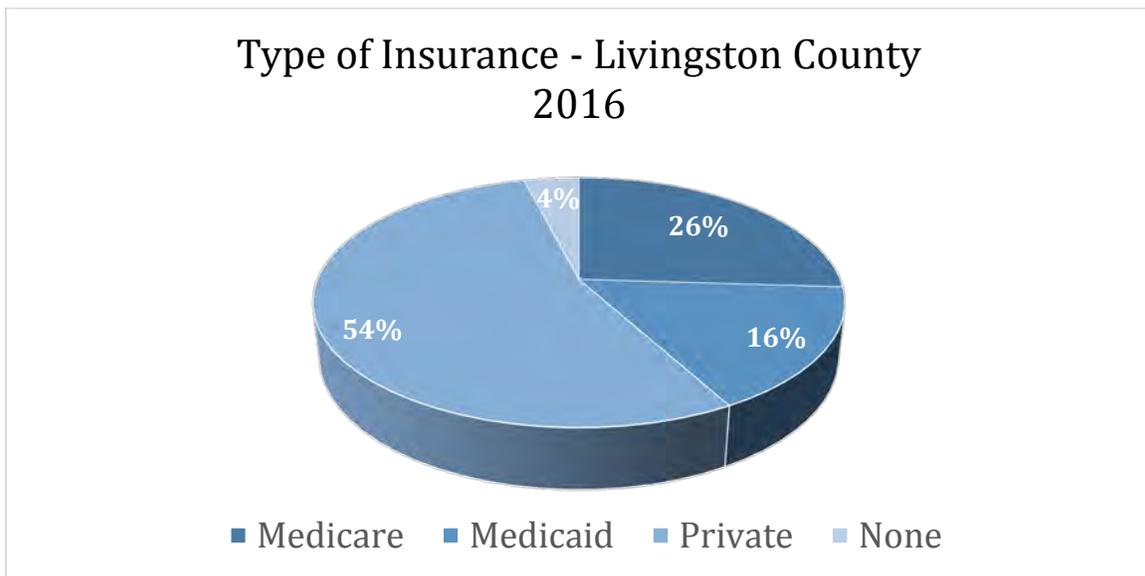
Source: Illinois Behavioral Risk Factor Surveillance System

With regard to Medicare Coverage, approximately 25.9% of Livingston County residents received Medicare coverage between 2007 and 2009. These are the most recent data, as the BRFSS has not been updated for this metric since 2009.



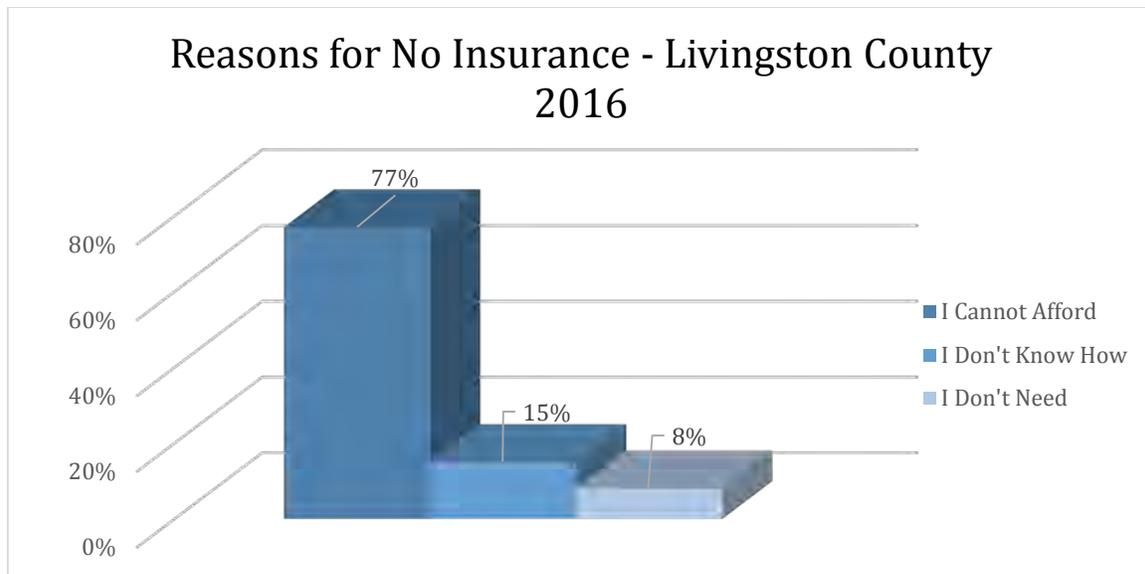
Source: Illinois Behavioral Risk Factor Surveillance System

A more precise analysis for insurance coverage is possible with data from the CHNA survey. According to survey data, 54% of the residents in Livingston County are covered by private insurance.



Source: CHNA Survey

Data from the survey show that for the 4% of individuals who do not have insurance, the most common reason was cost.



Source: CHNA Survey

Demographic Factors Related to Type of Insurance

Several demographic characteristics show significant relationships with an individual's type of insurance. The following relationships were found using correlational analyses:

Medicare tends to be used less frequently by those with higher education, and more frequently by men, those who are older and White.

Medicaid tends to be utilized at higher rates by women, younger people and people who have lower income and education levels.

Private Insurance is used more often by White people, and those with higher education and income. Private insurance tends to be used less by the homeless.

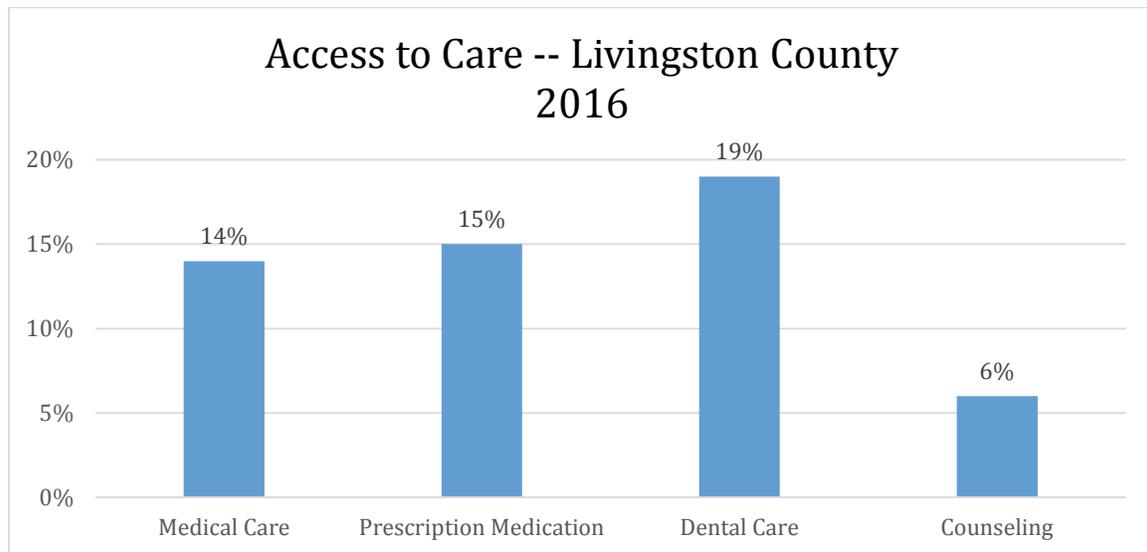
No Insurance tends to be reported less often by men and those with higher income. No insurance is reported more often by Black people and the homeless.

Comparison to 2013 CHNA Data

Compared to survey data from the 2013 CHNA, there has been an increase in the percentage of the population with private insurance (50-54%), Medicare (25-26%), and Medicaid (12-16%) in 2016. There has been a marked decrease in the percentage of individuals who have no insurance, from 13% to 4%.

Access to Care

In the CHNA survey, respondents were asked, “Was there a time when you needed care but were not able to get it?” Access to four types of care were assessed: medical care, prescription medications, dental care and counseling. Survey results show that 14% of the population did not have access to medical care when needed; 15% of the population did not have access to prescription medications when needed; 19% of the population did not have access to dental care when needed; and 6% of the population did not have access to counseling when needed.



Source: CHNA Survey

Demographic Factors Related to Access to Care

Several demographic characteristics show a significant relationship with an individual’s ability to access care when needed. The following relationships were found using correlational analyses:

Access to medical care tends to be higher for older people, White people, and those with higher education and income. Black residents are less likely to report access to medical care.

Access to prescription medications tends to be higher for people with higher education and income.

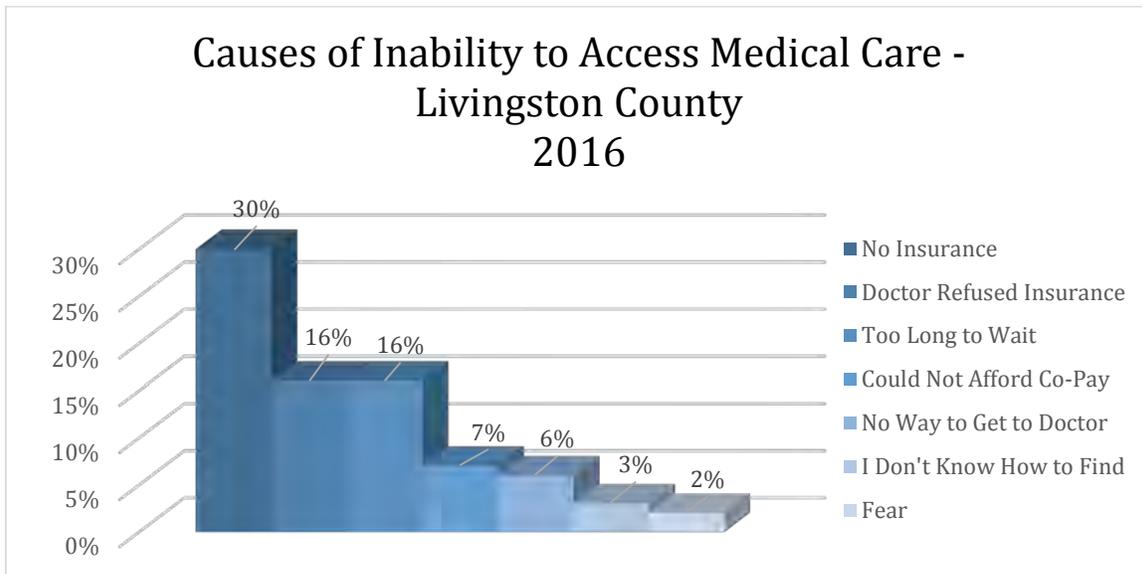
Access to dental care tends to be greater for people with the following characteristics: older people, and those with higher education and higher income. Homeless people are less likely to have access to dental care.

Access to counseling tends to be rated higher by people with higher income, but access is reported less often by Black and homeless individuals.

Reasons for No Access – Medical Care

Survey respondents who reported they were not able to get medical care when needed were asked a follow-up question. The leading causes of the inability to gain access to medical care were no insurance

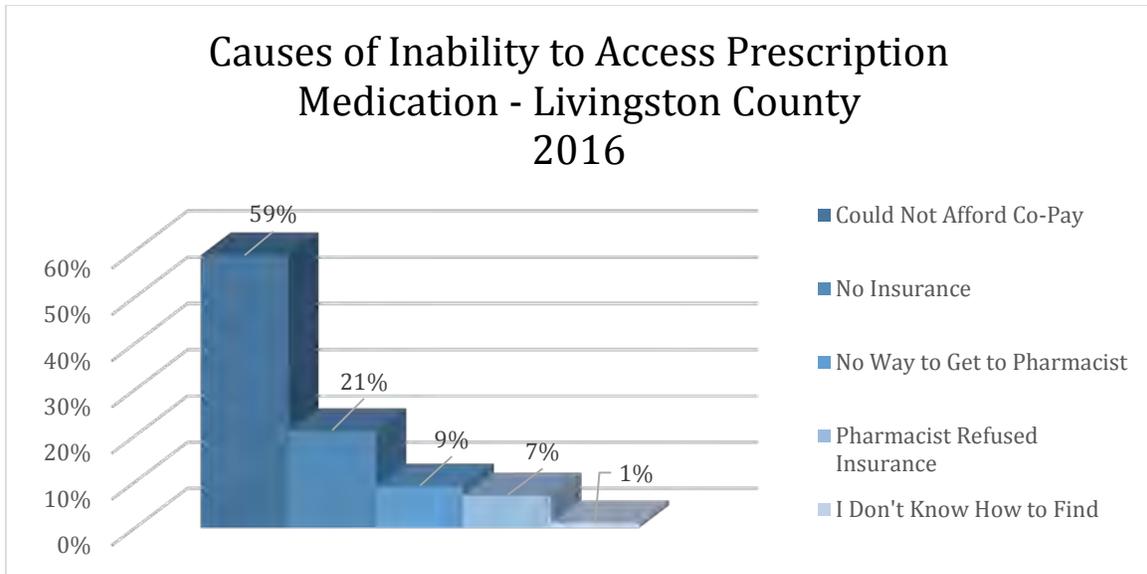
(30%), refusal of insurance by physician (16%) and too long to wait for an appointment (16%). This was followed by the inability to afford copayments or deductibles (7%), lack of ability to get to a provider (6%), lack of knowledge (3%) and fear (2%). Note that total percentages do not equal 100% as respondents could choose more than one answer or did not respond to the question.



Source: CHNA Survey

Reasons for No Access – Prescription Medication

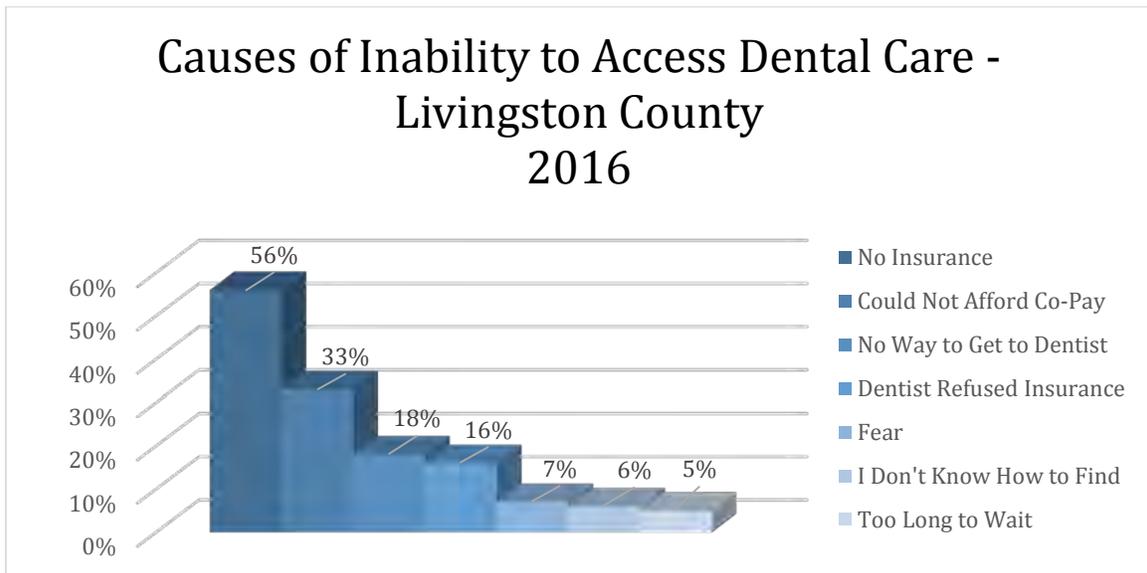
Survey respondents who reported they were not able to get prescription medications when needed were asked a follow-up question. In Livingston County, the leading causes of the inability to gain access to prescription medicine were the inability to afford copayments or deductibles (59%) and no insurance (21%). Note that total percentages do not equal 100% as respondents could choose more than one answer or did not respond to the question.



Source: CHNA Survey

Reasons for No Access – Dental Care

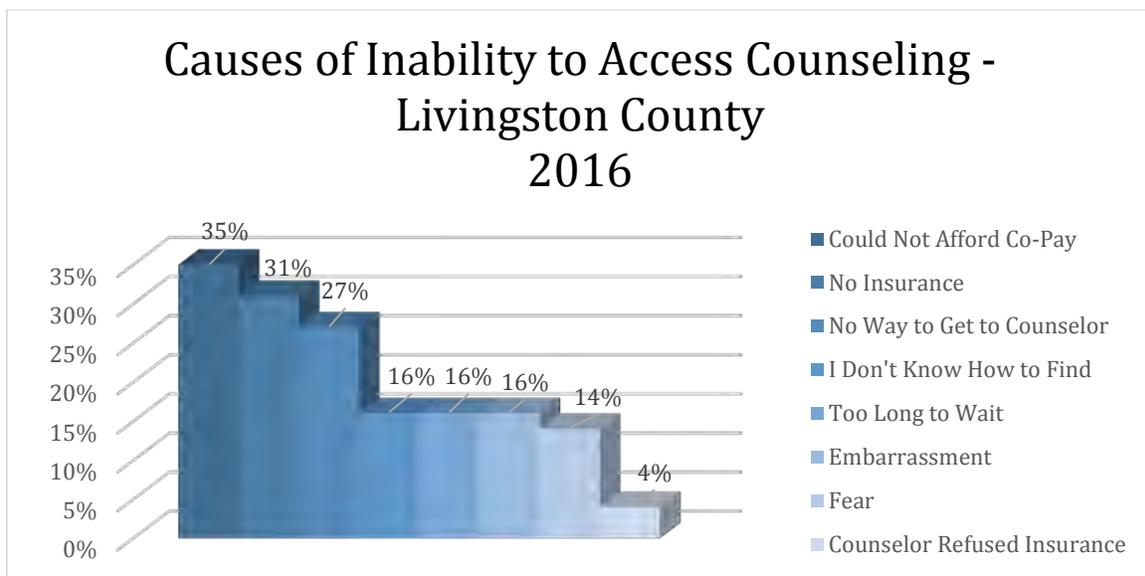
Survey respondents who reported they were not able to get dental care when needed were asked a follow-up question. The leading causes of inability to gain access to dental care were no insurance (56%), and the inability to afford copayments or deductibles (33%). No way to get to the dentist was also a frequently cited cause, with 18%. The dentist’s refusal of insurance (16%) was higher relative to fear at 7% and not knowing how to find care (6%), and having too long to wait (5%). Note that total percentages do not equal 100% as respondents could choose more than one answer.



Source: CHNA Survey

Reasons for No Access – Counseling

Survey respondents who reported they were not able to get counseling when needed were asked a follow-up question. In Livingston County, the leading causes of the inability to gain access to counseling were the inability to afford co-pay (35%), lack of insurance (31%), no way to get to the counselor (27%), the inability to find, too long to wait and embarrassment (each at 16%), fear (14%), and counselor refusing insurance (4%). Note that total percentages do not equal 100% as respondents could choose more than one answer.



Source: CHNA Survey

Comparisons to 2013 CHNA Data

Access to Medical Care – Compared to 2013, survey results show a slight increase in those that were able to get medical care when they needed it. In 2013, 83% of residents were able to get medical care when needed. In 2016, the percentage increased to 86%.

Access to Prescriptions Medication – Compared to 2013, survey results show an increase in those that were able to get prescription medications when they needed it. In 2013, 80% of residents were able to get prescription medications when needed. In 2016, the percentage increased to 85%.

Access to Dental Care – Compared to 2013, results show a slight increase in those that were able to access dental care when needed. In 2013, 77% of residents were able to get dental care when needed. In 2016, the percentage increased to 81%.

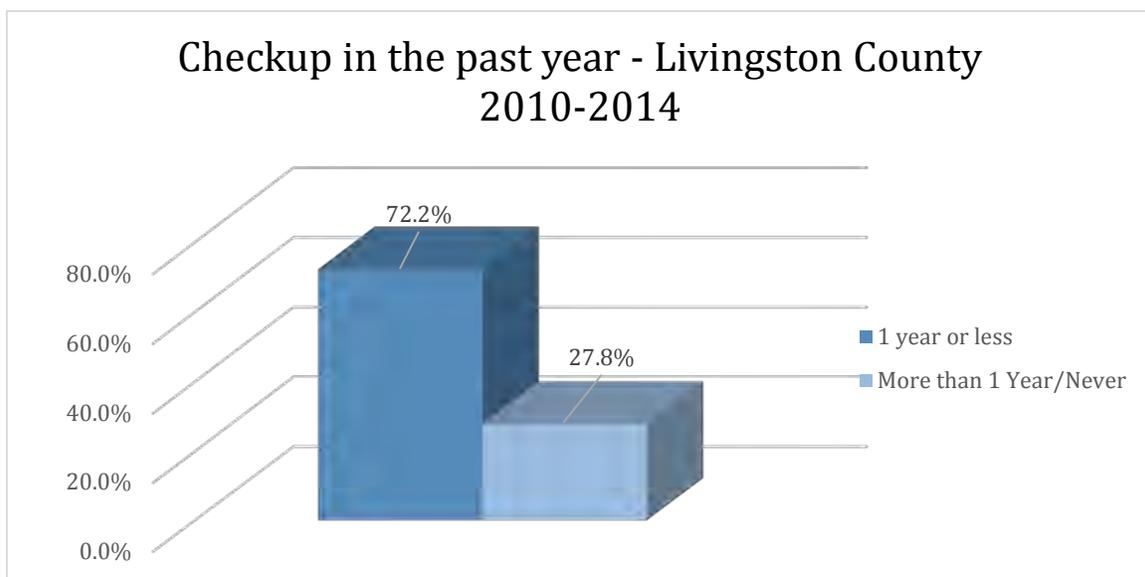
Access to Counseling – Compared to 2013, there was an increase in access to counseling. In 2013, 90% of respondents had access to counseling when needed, compared to 94% in 2016.

2.2 Wellness

Importance of the measure: Preventative healthcare measures, including scheduling a routine well-visit, getting a flu shot, engaging in a healthy lifestyle, and undertaking screenings for diseases are essential to combating morbidity and mortality while reducing healthcare costs.

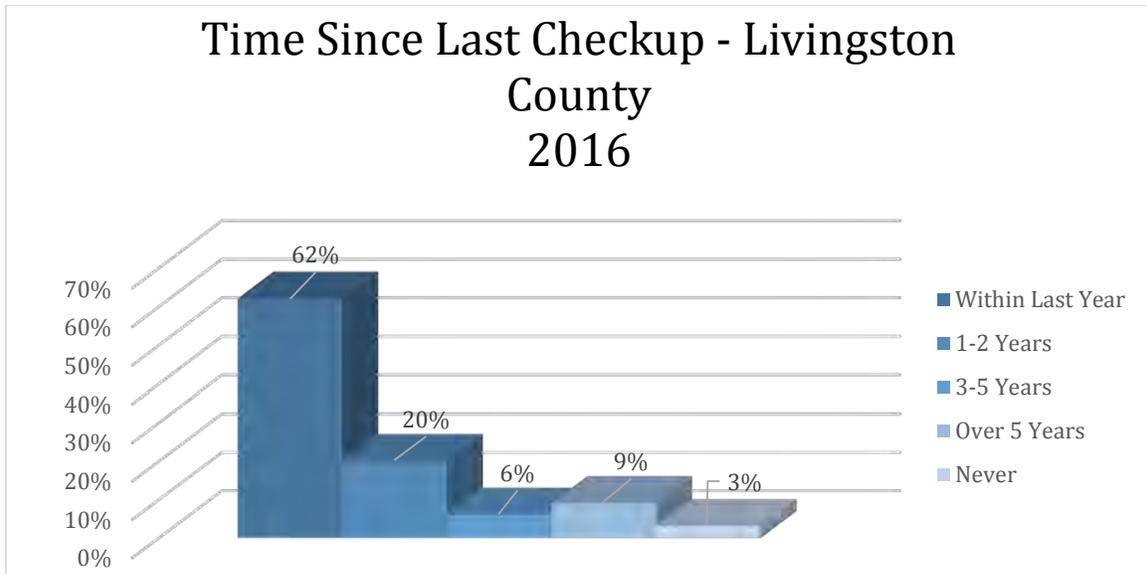
Frequency of Checkup

Numerous health problems can be minimized when detected early. Therefore, regularly scheduled checkups can be very important. According to the latest data from the Illinois BRFSS, 72.2% of residents in Livingston County report having had a routine checkup within the last year.



Source: Illinois Behavioral Risk Factor Surveillance System

Results from the CHNA survey show slightly lower percentages of residents getting a checkup. Survey results show that 62% of Livingston County residents have had a checkup in the last year.



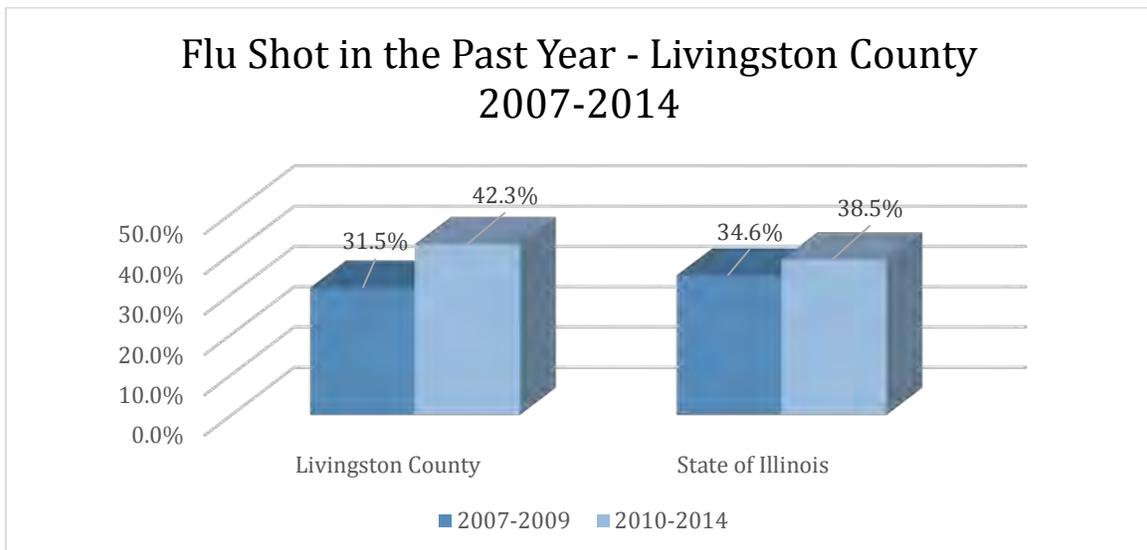
Source: CHNA Survey Data

Comparison to 2013 CHNA Data

There has been a decrease in the percentage of residents who have had a checkup in the past year, from 67% in 2013 to 62% in 2016.

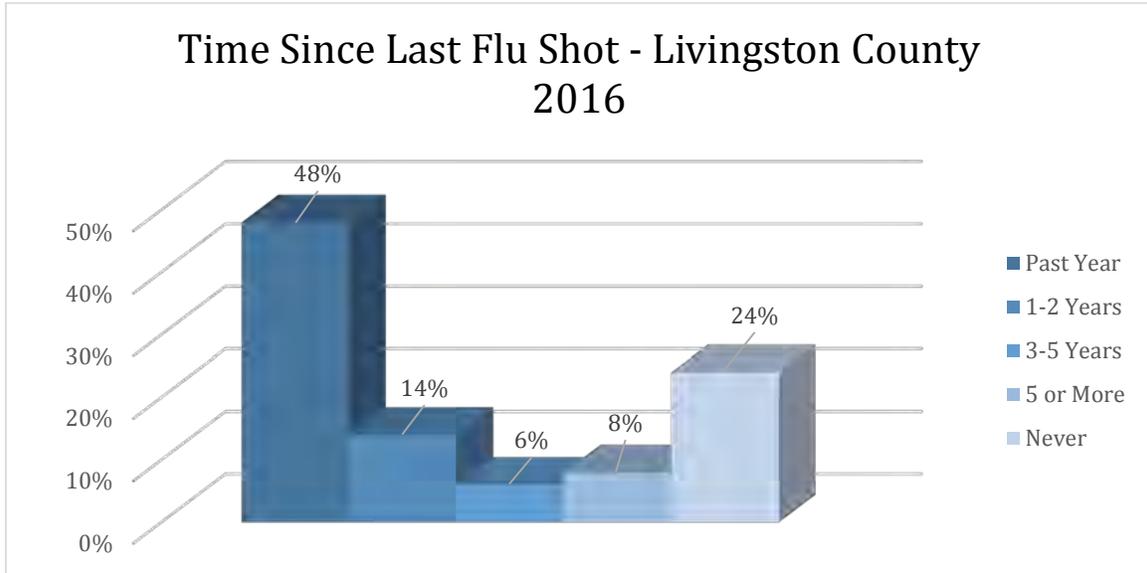
Frequency of Flu Shots

The overall health of a community is impacted by preventative measures including immunizations and vaccinations. The chart below shows that the percentage of people who have had a flu shot in the past year is 42.3% for Livingston County in 2010-2014 compared to 31.5% for 2007-2009. During the same timeframe, the State of Illinois also realized an increase.



Source: Illinois Behavioral Risk Factor Surveillance System

CHNA survey data provide additional insights into prevalence of flu shots, and a more positive result for Livingston County.



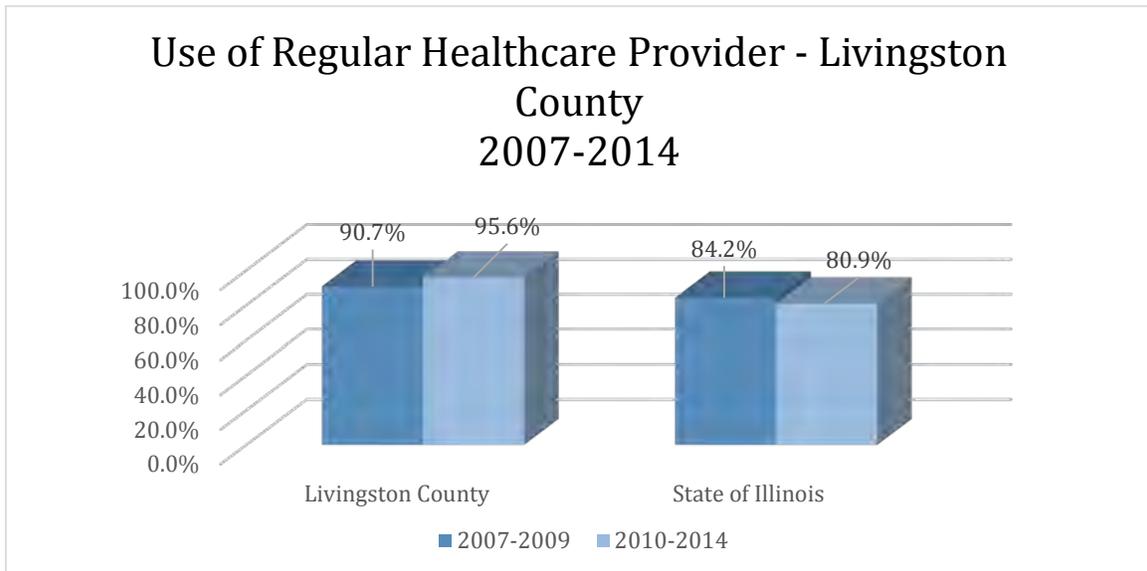
Source: CHNA Survey

Comparison to 2013 CHNA Data

There is no comparison with the 2013 CHNA, as the survey item for flu shot was added to the 2016 CHNA survey.

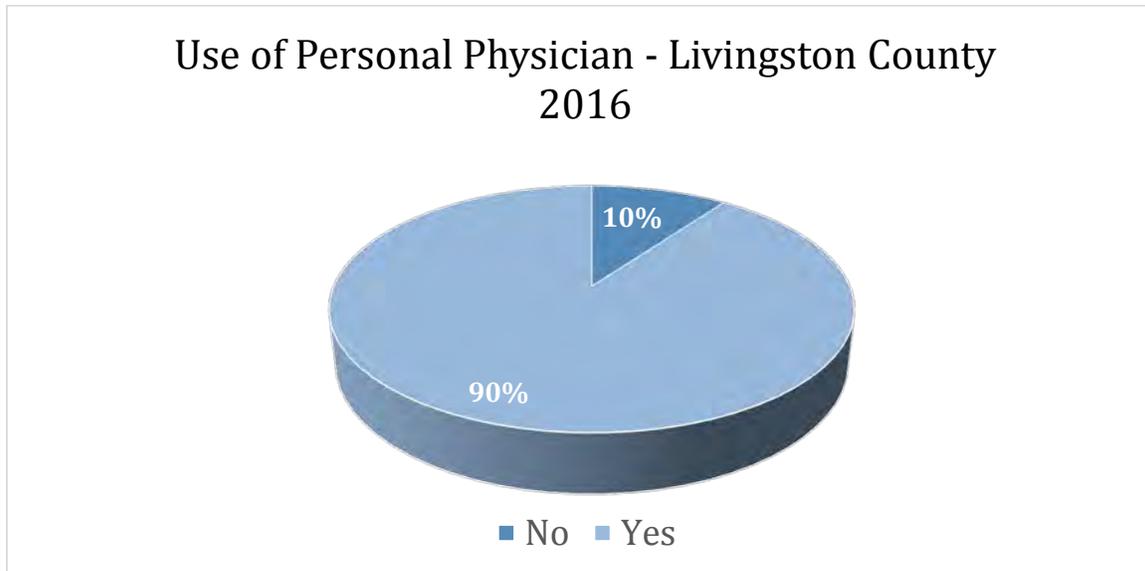
Usual Healthcare Provider

In Livingston County, the most recent secondary data indicate 95.6% of residents utilize a regular healthcare provider, up slightly from 2007-2009. The percentage of residents in Livingston County reporting a usual healthcare provider is higher than the State of Illinois average, which fell slightly.



Source: Illinois Behavioral Risk Factor Surveillance System

Similarly, the CHNA survey asked respondents if they had a personal physician. Having a personal physician suggests that individuals are more likely to get wellness check-ups and less likely to use an emergency department as a primary healthcare service. According to survey data, 90% of residents have a personal physician.



Source: CHNA Survey

Comparison to 2013 CHNA Data

The 2016 CHNA survey results for having a personal physician are slightly higher compared to the 2013 CHNA. Specifically, 88% of residents reported a personal physician in 2013 and 90% report the same in 2016.

Demographic Factors Related to Wellness

Multiple demographic characteristics show significant relationships with wellness. The following relationships were found using correlational analyses:

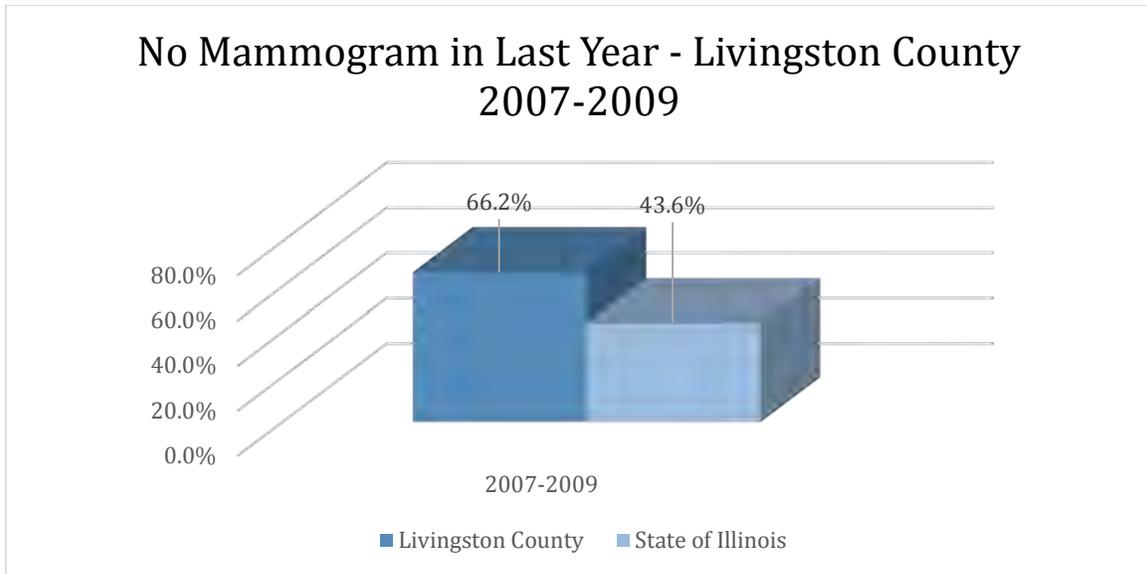
Frequency of checkup tends to be higher for older people and those with higher income.

Frequency of flu shot tends to be higher for older people, White people, and those with higher income.

Having a personal physician tends to be more likely for older people and those with higher income. Homeless people are less likely to report having a personal physician.

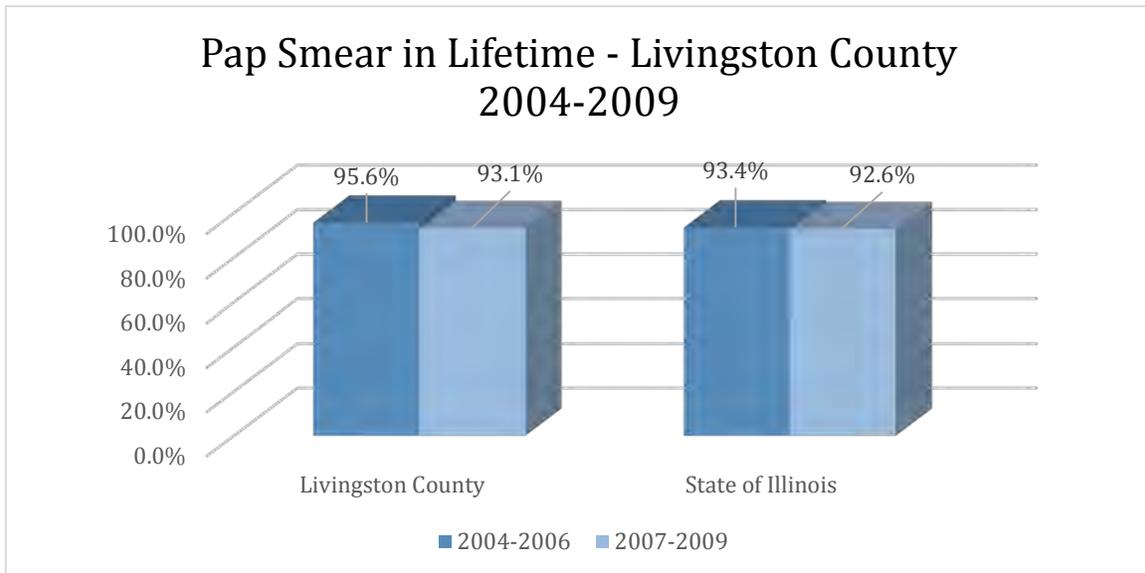
Women's Healthcare

Using the most recent available data from 2007-2009, 66.2% of residents from Livingston County reported they had not had a mammogram within the last year.



Source: Illinois Behavioral Risk Factor Surveillance System

Research suggests pap smears are important in detecting pre-cancerous cells in the uterus and cervix. The percentages of women who have ever had a pap smear has decreased slightly between 2004-2006 and 2007-2009. Compared to the State of Illinois, Livingston County is slightly higher.



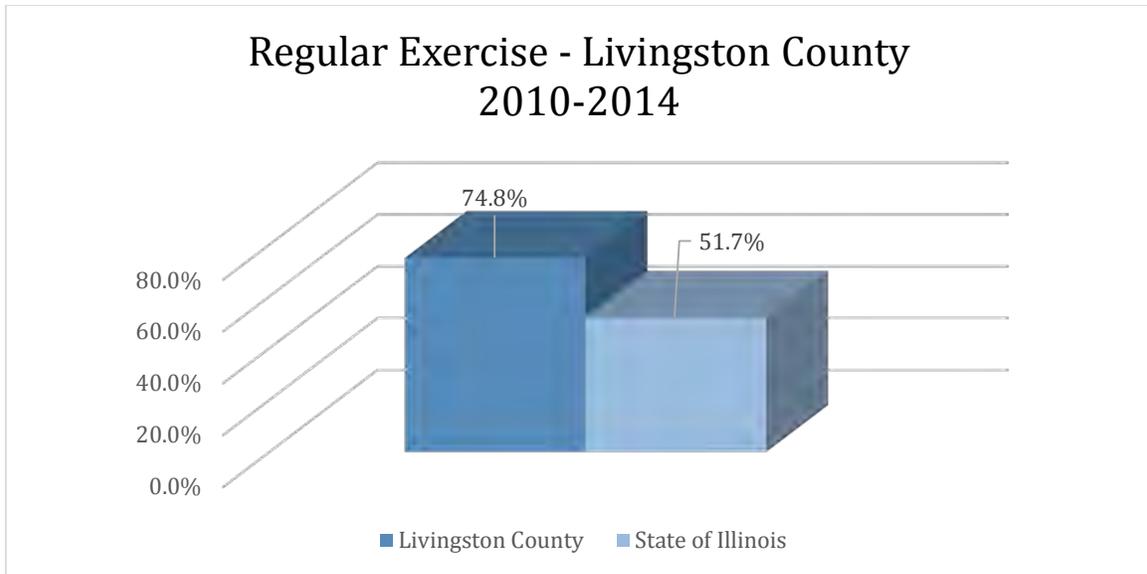
Source: Illinois Behavioral Risk Factor Surveillance System

Healthy Lifestyle

A healthy lifestyle, comprised of regular physical activity and balanced diet, has been shown to increase physical, mental, and emotional well-being.

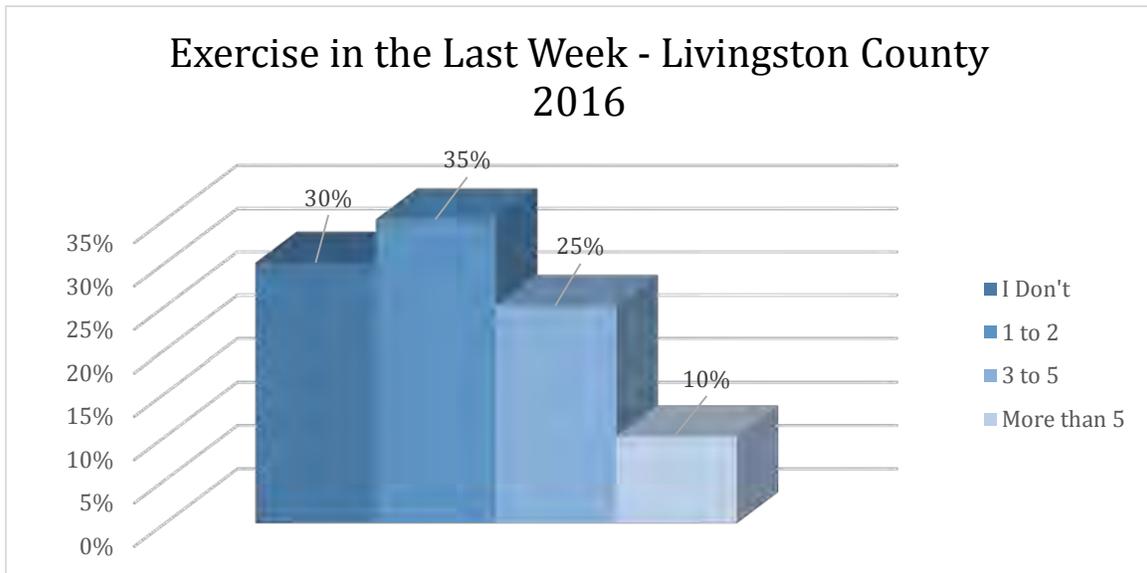
Physical Exercise

According to recent data, almost 75% of the residents in Livingston County exercise. The percentage of individuals who exercise in Livingston County is higher than the State of Illinois.



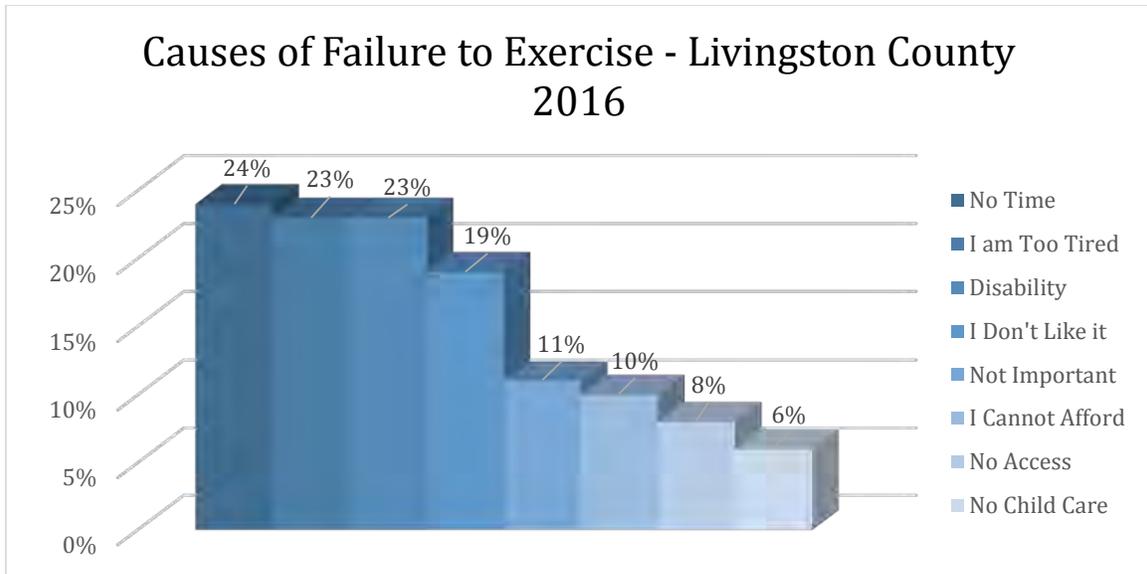
Source: Illinois Behavioral Risk Factor Surveillance System

CHNA survey data allow for a more detailed assessment of exercise. Specifically, 30% of respondents indicated that they do not exercise at all, while the largest percentage of residents exercise 1-2 times per week.



Source: CHNA Survey

To find out why some residents do not exercise at all, a follow up question was asked. The most common reasons for not exercising are not having enough time or energy and disability.



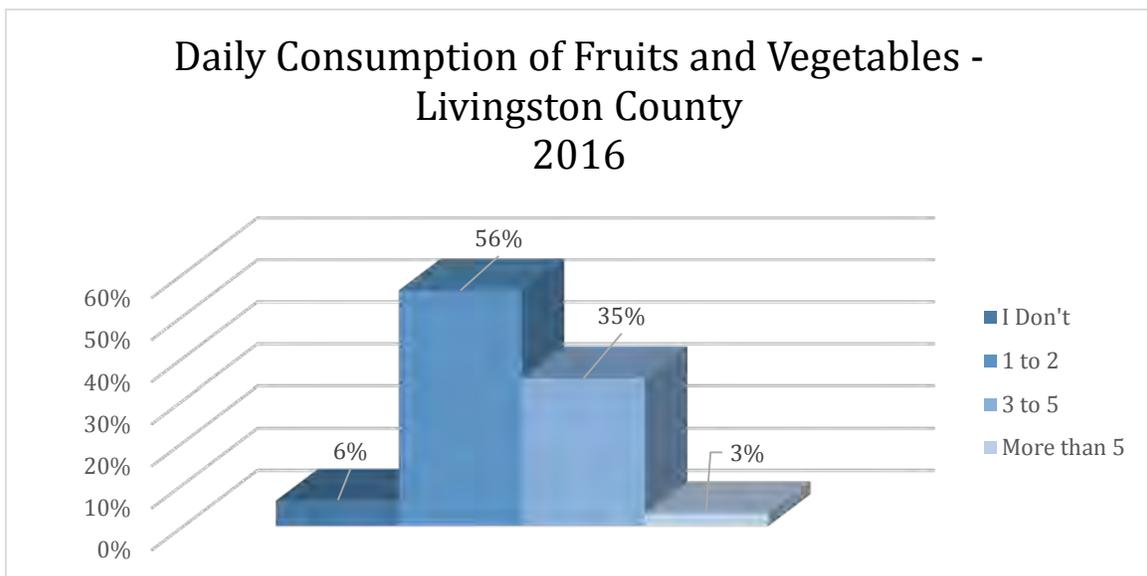
Source: CHNA Survey

Comparison to 2013 CHNA Data

Exercise behaviors have improved; data from the 2016 CHNA survey indicate that in 2013, 41% of survey respondents indicated they did not exercise. In 2016, 30% of respondents indicated they did not exercise.

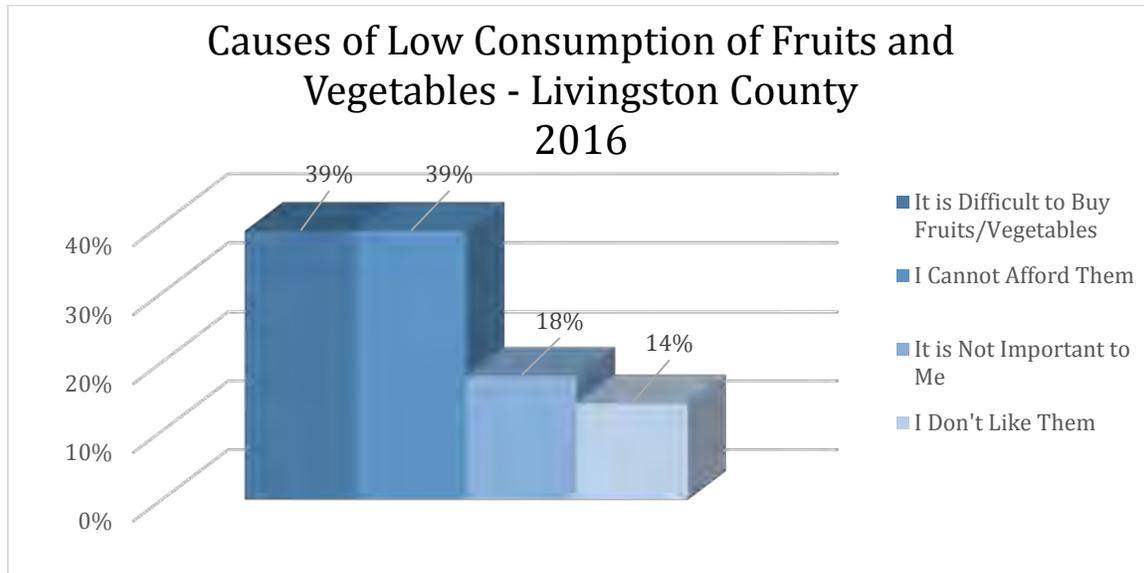
Healthy Eating

Nutrition and diet are critical to preventative care. Well over half (62%) of Livingston County residents report no consumption or low consumption (1-2 servings per day) of fruits and vegetables per day. Note that the percentage of Livingston County residents who consume five or more servings per day is only 3%.



Source: CHNA Survey

Those individuals who indicated they do not eat any fruits or vegetables were asked a follow up question. Reasons most frequently given for failing to eat more fruits and vegetables are the difficulty to buy fruits and vegetables (39%) and the expense involved (39%).



Source: CHNA Survey

Comparison to 2013 CHNA Data

Compared to the 2013 CHNA, healthy eating is improving. Specifically, in 2013, 71% of survey respondents ate two or fewer servings of fruits and vegetables per day. In 2016, 62% eat two or fewer servings of fruits and vegetables per day.

Demographic Factors Related to Healthy Lifestyle

There are multiple demographic characteristics showing significant relationships with healthy lifestyle.

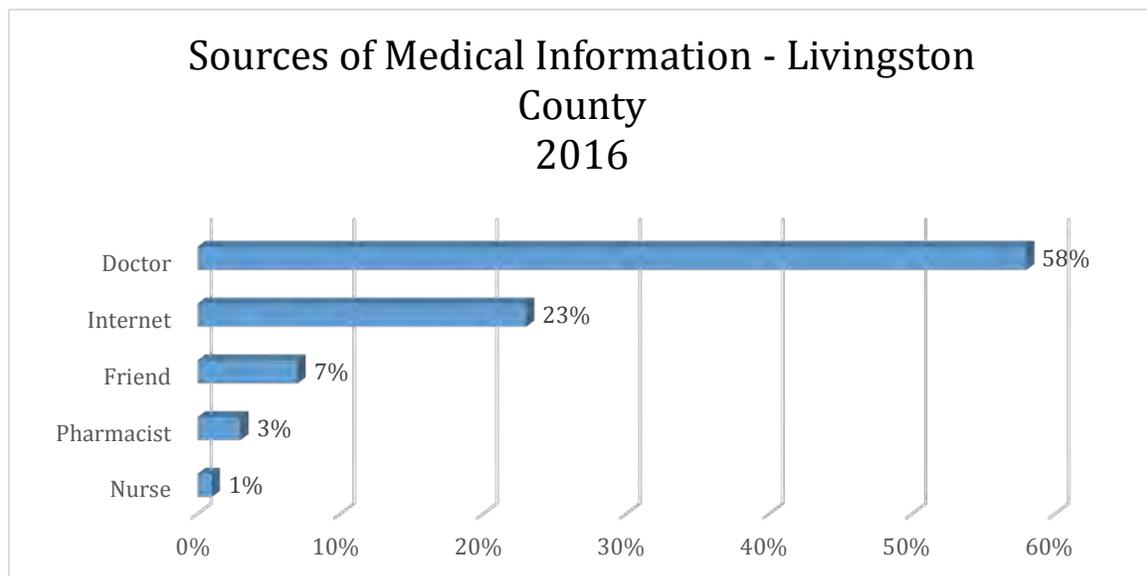
Frequency of exercise tends to be higher for people with higher education and income.

Frequency of fruit and vegetable consumption tends to be higher for women and people with higher education and higher income.

2.3 Access to Information

Importance of the measure: It is important to understand how people access medical information. The more proactive the population becomes in managing its own health, the more important access to accurate information becomes.

Respondents were asked, “Where do you get most of your medical information?” The vast majority of respondents obtained information from their doctor. While the Internet was the second most common choice, it was significantly lower than information from doctors.



Source: CHNA Survey

Demographic Factors Related to Access to Information

Several demographic characteristics show significant relationships with frequency of access to various sources of information. The following relationships were found using correlational analyses:

Access to Information from a Doctor tends to be higher for older people and White people.

Access to Information from a Friend tends to be higher for people with low income.

Access to Information from the Internet tends to be higher for younger people and those with higher education.

Access to Information from a Pharmacy tends to be higher for younger people.

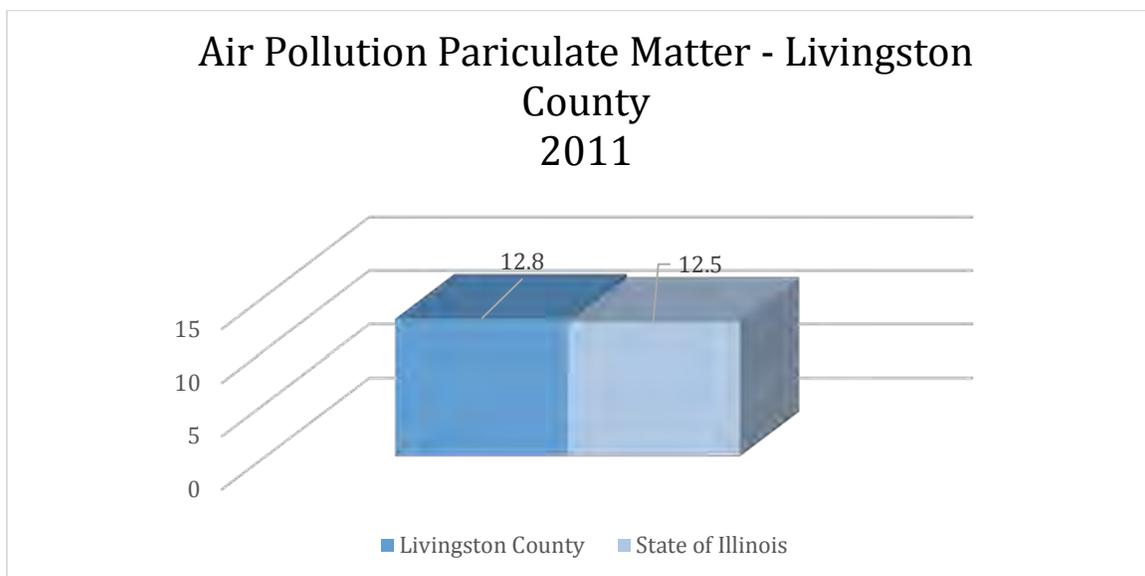
Access to Information from a Church Nurse does not show significant relationships.

2.4 Physical Environment

Importance of the measure:

According to the County Health Rankings, Air Pollution - Particulate Matter (APPM) is the average daily density of fine particulate matter in micrograms per cubic meter (PM_{2.5}) in a county. Fine particulate matter is defined as particles of air pollutants with an aerodynamic diameter less than 2.5 micrometers. These particles can be directly emitted from sources such as forest fires, or they can form when gases are emitted from power plants, manufacturing facilities and automobiles.

The relationship between elevated air pollution, particularly fine particulate matter and ozone, and compromised health has been well documented. Negative consequences of ambient air pollution include decreased lung function, chronic bronchitis, asthma, and other adverse pulmonary effects. The APPM for Livingston County (12.8) is slightly higher than the State average of 12.5.



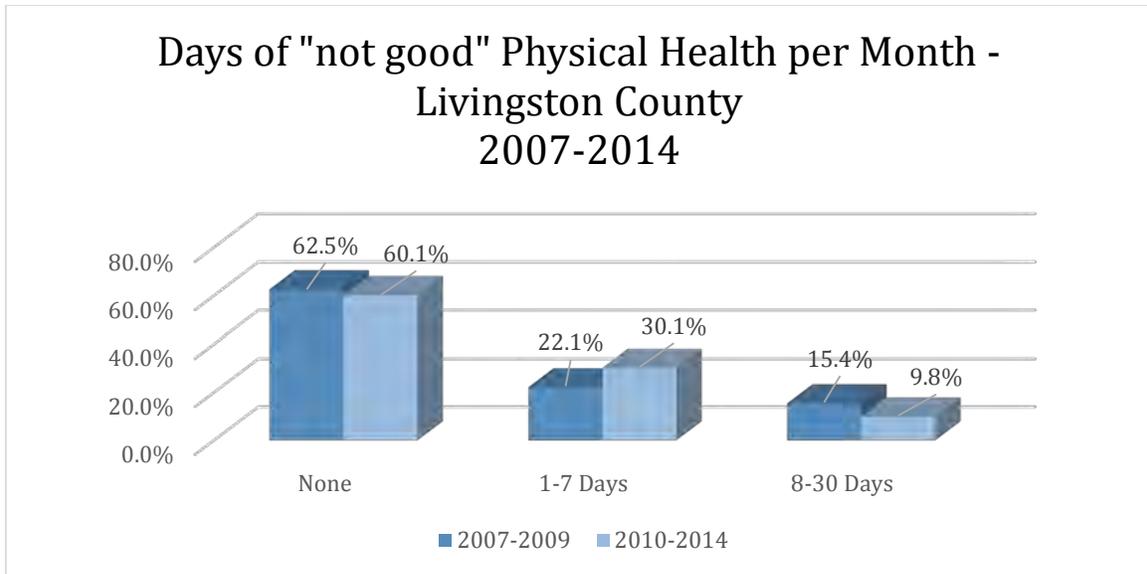
Source: County Health Rankings 2011 Data

2.5 Health Status

Importance of the measure: Self-perceptions of health can provide important insights to help manage population health. Not only do self-perceptions provide benchmarks regarding health status, but they can also provide insights into how accurately people perceive their own health.

Physical Health

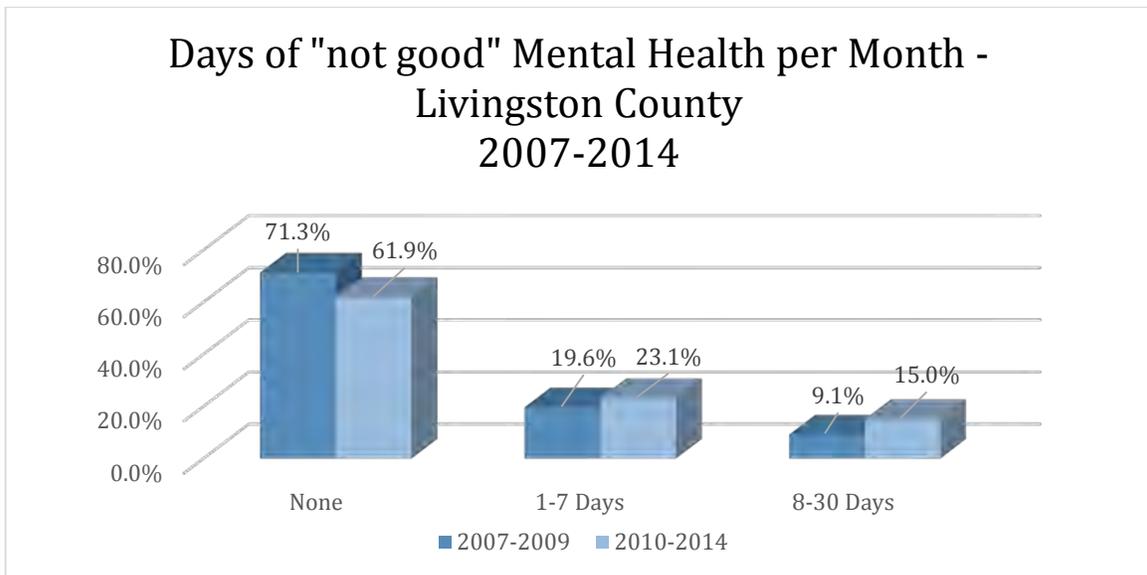
There was a decrease in the percentage of Livingston County residents reporting they felt physically unhealthy on 8 or more days per month in 2009 (15.4%) versus 2014 (9.8%).



Source: Illinois Behavioral Risk Factor Surveillance System

Mental Health

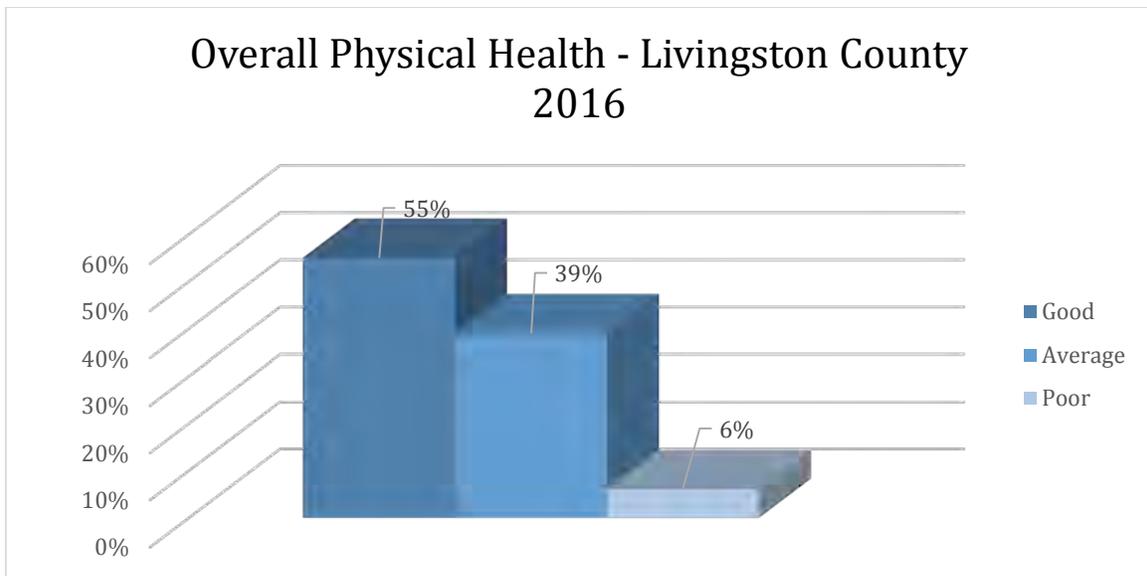
Approximately 20% of residents in Livingston County reported they had experienced 1-7 days with poor mental health per month in 2007-2009, and 9.1% felt mentally unhealthy on eight or more days per month for 2009. In 2010-2014, there was a moderate increase in the number of people that reported poor mental health for 1-7 days and a significant increase in people that reported poor mental health 8 or more days per month.



Source: Illinois Behavioral Risk Factor Surveillance System

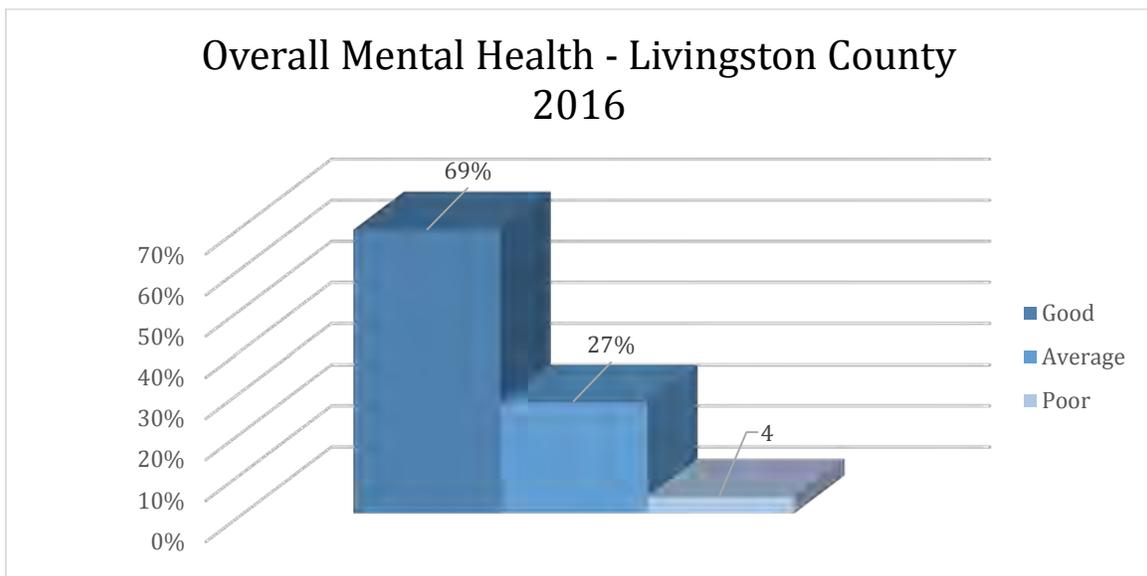
Self Perceptions of Overall Health

Over half (55%) of Livingston County Residents report having good overall physical health, while 6% rated themselves as having poor physical health.



Source: CHNA Survey

In regard to overall mental health, 69% of respondents stated they have good overall mental health and 4% stated it is poor.



Source: CHNA Survey

Comparison to 2013 CHNA Data

With regard to physical health, slightly more people see themselves in good physical health in 2016 (55%) than 2013 (52%). With regard to mental health, a slightly lower percentage report having good mental health in 2016 (69%) than 2013 (71%).

Demographic Factors Related to Self Perceptions of Health

Demographic characteristics show significant relationships with self-perceptions of health. The following relationships were found using correlational analyses:

Perceptions of physical and mental health tend to be higher for those with higher education and income.

2.6 Key Takeaways from Chapter 2

- ✓ **ED IS CHOSEN BY 9% OF THE AT-RISK POPULATION AS THE PRIMARY SOURCE OF HEALTHCARE**
- ✓ **FOR THE AT-RISK POPULATION, 7% CHOOSE NOT TO RECEIVE MEDICAL CARE**
- ✓ **ACCESS TO MEDICAL CARE, PRESCRIPTION MEDICATIONS, DENTAL CARE AND COUNSELING ALL IMPROVED FROM THE 2013 CHNA**
- ✓ **THERE HAS BEEN AN INCREASE IN THE REPORTING OF “NOT GOOD” MENTAL HEALTH DAYS**
- ✓ **WHILE IMPROVING, THE MAJORITY OF THE POPULATION EXERCISES TWO OR FEWER TIMES PER WEEK**
- ✓ **WHILE LIVINGSTON RESIDENTS ARE EATING MORE FRUITS AND VEGETABLES COMPARED TO THE 2013 CHNA, THE MAJORITY OF RESIDENTS STILL EAT 2 OR FEWER SERVINGS OF FRUITS AND VEGETABLES PER DAY.**
- ✓ **MOST RESIDENTS HAVE HIGH SELF-PERCEPTIONS OF BOTH PHYSICAL AND MENTAL HEALTH**

CHAPTER 3 OUTLINE

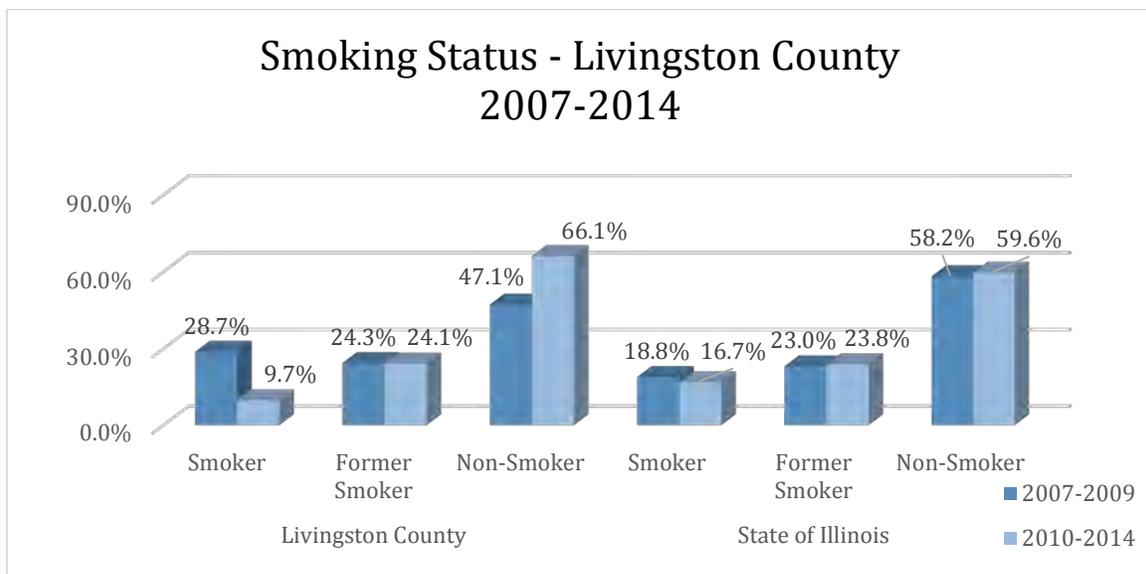
- 3.1 Tobacco Use
- 3.2 Drug and Alcohol Use
- 3.3 Overweight and Obesity
- 3.4 Predictors of Heart Disease
- 3.5 Key Takeaways from Chapter 3

CHAPTER 3. SYMPTOMS AND PREDICTORS

3.1 Tobacco Use

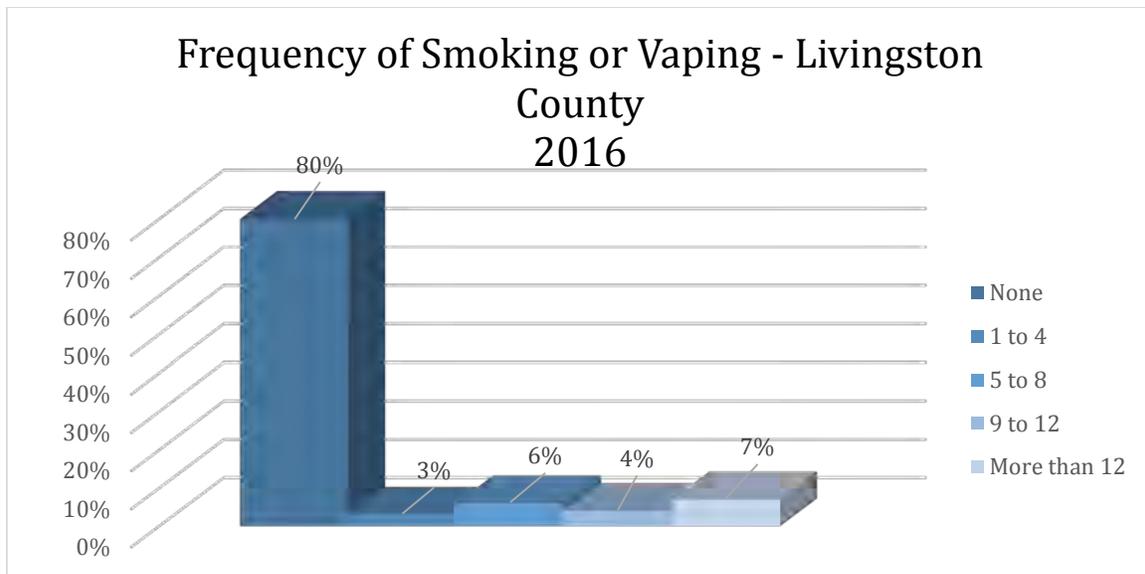
Importance of the measure: In order to appropriately allocate healthcare resources, a thorough analysis of the leading indicators regarding morbidity and disease must be conducted. In this way, healthcare organizations can target affected populations more effectively. Research suggests tobacco use facilitates a wide variety of adverse medical conditions.

Smoking rates have decreased in Livingston County to below the State of Illinois averages. There was a significant decrease in the percentage of Livingston County residents reporting they were current smokers between 2007-2009 (28.7%) and 2010-2014 (9.7%). There was an increase in the percentage of Livingston County residents reporting they were current non-smokers between 2007-2009 (47.1%) and 2010-2014 (66.1%).



Source: Illinois Behavioral Risk Factor Surveillance System

CHNA survey data show 80% of Livingston County Respondents do not smoke and only 7% state they smoke more than 12 cigarettes (or vape) per day.



Source: CHNA Survey

Comparison to 2013 CHNA Data

Compared to data from the 2013 CHNA, the percentage of smokers has held steady. Specifically, in both 2013 and 2016, 80% of people indicated they didn't smoke.

Demographic Factors Related to Smoking

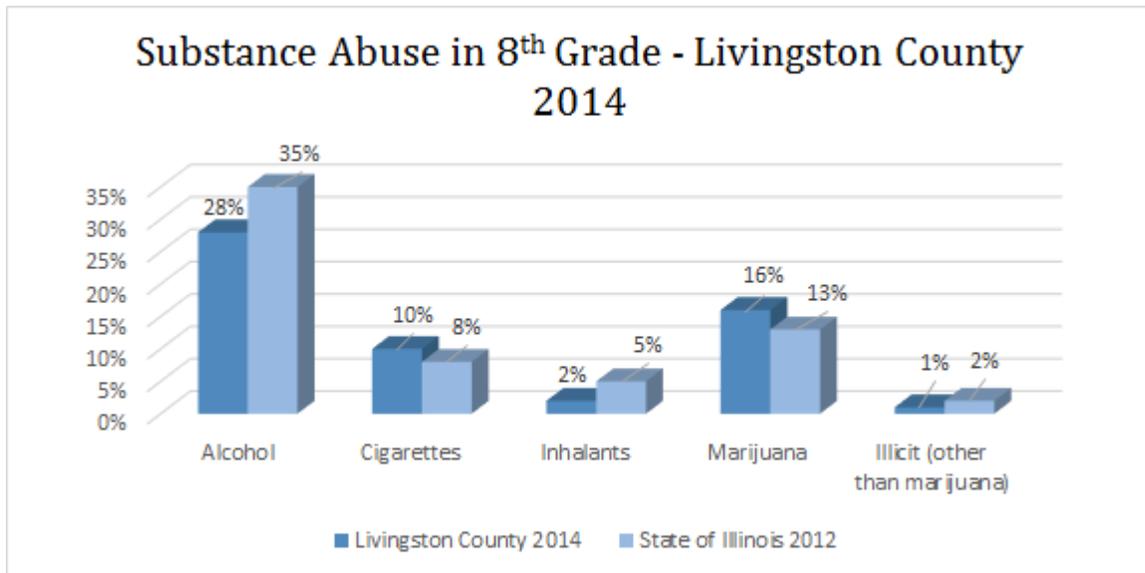
Several demographic characteristics show significant relationships with incidence of smoking or vaping. The following relationships were found using correlational analyses:

Frequency of smoking or vaping was higher among the Black population. Older people, and those with higher education and income smoked less often.

3.2 Drug and Alcohol Abuse

Importance of the measure: Alcohol and drugs impair decision-making, often leading to adverse consequences and outcomes. Research suggests that alcohol is a gateway drug for youth, leading to increased usage of controlled substances in adult years. Accordingly, the substance abuse values and behaviors of high school students is a leading indicator of adult substance abuse in later years.

Data from the 2014 Illinois Youth Survey measure illegal substance use (alcohol, cigarettes, and other drugs – mainly marijuana) among adolescents. While Livingston County is at or below State averages in all categories among 8th graders (except for cigarettes and marijuana), note that alcohol use is still at 28%. Also, note that State averages are only available through 2012.



Source: https://iys.cprd.illinois.edu/UserFiles/Servers/Server_178052/File/2014/cnty14_Livingston.pdf

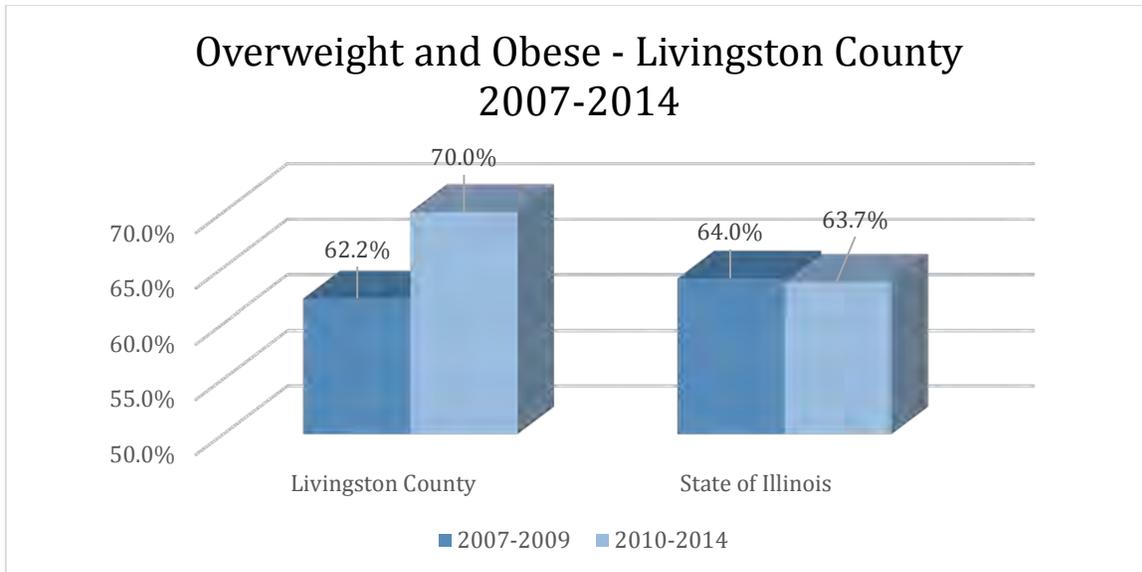
3.3 Overweight and Obesity

Importance of the measure: Individuals who are overweight and obese place greater stress on their internal organs, thus increasing the propensity to utilize health services. Research strongly suggests that obesity is a significant problem facing youth and adults nationally, in Illinois, and within Livingston County. The US Surgeon General has characterized obesity as “the fastest-growing, most threatening disease in America today.” According to the Obesity Prevention Initiative from the Illinois General Assembly, 20% of Illinois children are obese. The financial burden of overweight and obese individuals is staggering, as the estimated annual medical costs attributed to obesity in Illinois for 1998-2000 exceeded \$3.4 billion, ranking Illinois 6th in the nation for obesity-attributed medical costs.

With children, research has linked obesity to numerous chronic diseases including Type II diabetes, hypertension, high blood pressure, and asthma. Adverse physical health side effects of obesity include orthopedic problems due to weakened joints and lower bone density. Detrimental mental health side effects include low self-esteem, poor body image, symptoms of depression and suicide ideation. Obesity impacts educational performance as well; studies suggest school absenteeism of obese children is six times higher than that of non-obese children.

With adults, obesity has far-reaching consequences. Testimony to the Illinois General Assembly indicated that obesity-related illnesses contribute to worker absenteeism, slow workflow, and high worker compensation rates. A Duke University study on the effects of obesity in the workforce noted 13 times more missed workdays by obese employees than non-obese employees. Nationwide, lack of physical activity and poor nutrition contribute to an estimated 300,000 preventable deaths per year.

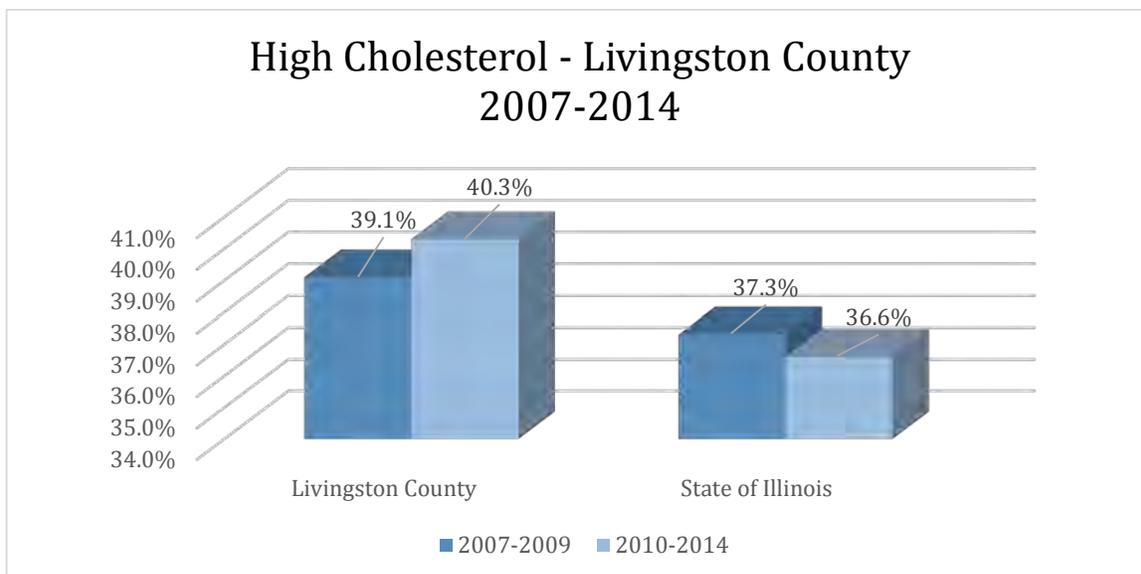
In Livingston County, the number of people diagnosed with obesity and being overweight has increased over the years from 2007-2009 to 2010-2014. Note specifically that the percentage of obese and overweight people has increased from 62.2% to 70.0%. Overweight and obesity rates in Illinois have decreased from 2009 (64.0%) to 2014 (63.7%).



Source: Illinois Behavioral Risk Factor Surveillance System

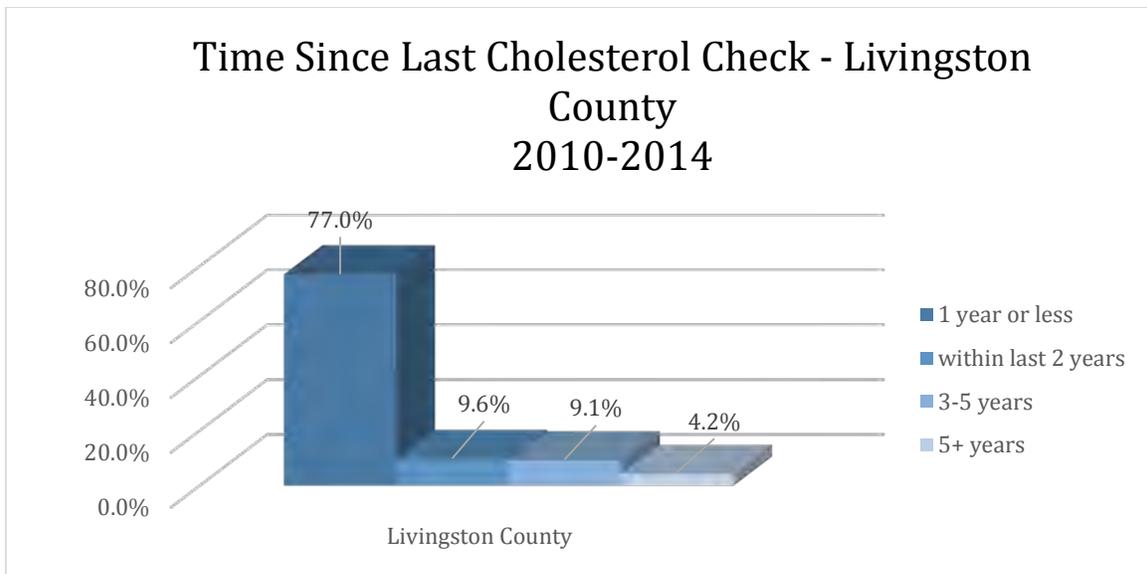
3.4 Predictors of Heart Disease

Residents in Livingston County report a higher than State average prevalence of high cholesterol. The percentage of residents who report they have high cholesterol is higher in Livingston County (40.3%) than the State of Illinois average of 36.6%.



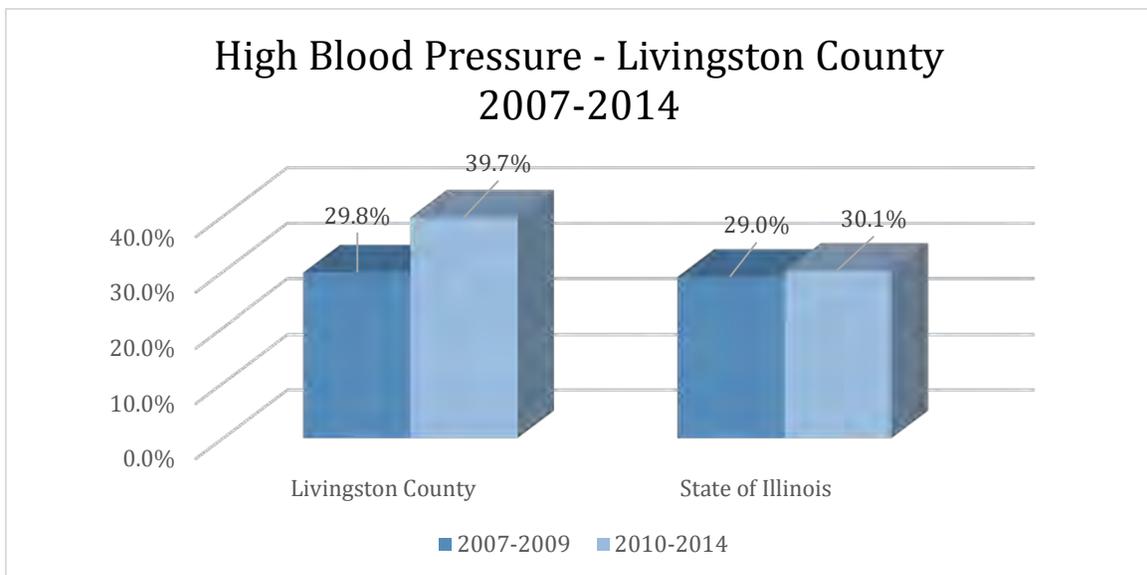
Source: Illinois Behavioral Risk Factor Surveillance System

However, most residents of Livingston County report having their cholesterol checked within the past year.



Source: Illinois Behavioral Risk Factor Surveillance System

With regard to high blood pressure, Livingston County has a higher percentage of residents with high blood pressure than residents in the State of Illinois as a whole. The percentage of Livingston County residents reporting they have high blood pressure in 2014 increased from 29.8% to 39.7%.



Source: Illinois Behavioral Risk Factor Surveillance System

3.5 Key Takeaways from Chapter 3

- ✓ **TOBACCO USAGE HAS DECREASED IN LIVINGSTON COUNTY COMPARED TO THE 2013 CHNA, BUT IS STILL A CONCERN WITH YOUTH**
- ✓ **SUBSTANCE USE AMONG 8TH GRADERS FOR CIGARETTES AND MARIJUANA IS HIGHER THAN STATE AVERAGES**
- ✓ **THE PERCENTAGE OF PEOPLE WHO ARE OVERWEIGHT AND OBESE HAS INCREASED IN LIVINGSTON COUNTY AND IS HIGHER TO THE STATE AVERAGE**
- ✓ **RISK FACTORS FOR HEART DISEASE ARE INCREASING AND HIGHER THAN STATE AVERAGES**

CHAPTER 4 OUTLINE

- 4.1 Healthy Babies
- 4.2 Cardiovascular
- 4.3. Respiratory
- 4.4 Cancer
- 4.5 Diabetes
- 4.6 Infectious Disease
- 4.7 Injuries
- 4.8 Mortality
- 4.9 Key Takeaways from Chapter 4

CHAPTER 4. MORBIDITY AND MORTALITY

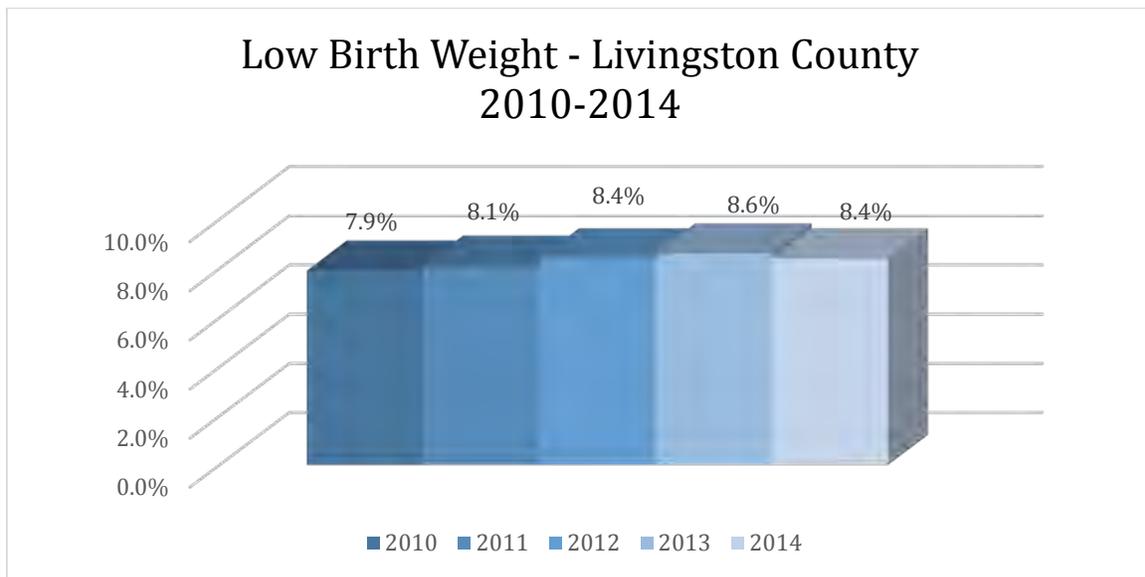
Given the lack of recent disease/morbidity data from existing secondary data sources, much of the data used in this chapter was manually gathered from Livingston County hospitals using COMP data. Note that hospital-level data only show hospital admissions and do not reflect outpatient treatments and procedures.

4.1 Healthy Babies

Importance of the measure: Regular prenatal care is a vital aspect in producing healthy babies and children. Screening and treatment for medical conditions as well as identification and interventions for behavioral risk factors associated with poor birth outcomes are important aspects of prenatal care. Research suggests that women who receive adequate prenatal care are more likely to have better birth outcomes, such as full term and normal weight babies. Prenatal care can provide health risk assessments for the mother and fetus, early intervention for medical conditions and education to encourage healthy habits, including nutritional and substance-free health during pregnancy.

Low Birth Weight Rates

Low birth weight rate is defined as the percentage of infants born below 2,500 grams or 5.5 pounds. Very low birth weight rate is defined as the percentage of infants born below 1,500 grams or 3.3 pounds. In contrast, the average newborn weighs about 7 pounds. The percentage of babies born with low birth weight in Livingston County increased from 2010 (7.9%) to 2014 (8.4%).

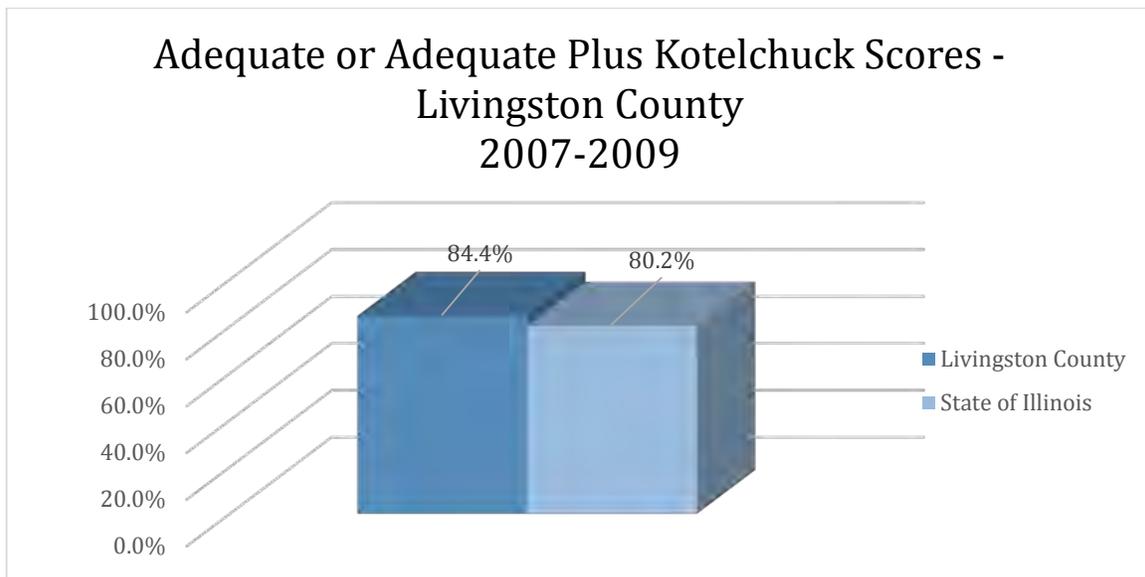


Source: <http://www.countyhealthrankings.org>

Initiation of Prenatal Care

Prenatal care is comprehensive medical care provided for the mother and fetus, which includes screening and treatment for medical conditions as well as identification and interventions for behavioral risk factors associated with adverse birth outcomes. Kotelchuck Index Scores are used to determine the quantity of prenatal visits received between initiation of services and delivery. Adequate (80%-109% of expected visits) and Adequate Plus (receiving 110% of recommended services) of received services is compared to the number of expected visits for the period when care began and the delivery date.

Of the babies born in 2009 in Livingston County, 84.4% were born with “Adequate” or “Adequate Plus” prenatal care. This figure is higher than the State of Illinois average of 80.2% of babies born with similar prenatal care. These are the most recent data, and have not been updated since 2009.



Source: Illinois Department of Public Health

4.2 Cardiovascular Disease

Importance of the measure:

Cardiovascular disease is defined as all diseases of the heart and blood vessels, including ischemic (also known as coronary) heart disease, cerebrovascular disease, congestive heart failure, hypertensive disease, and atherosclerosis.

Coronary Atherosclerosis

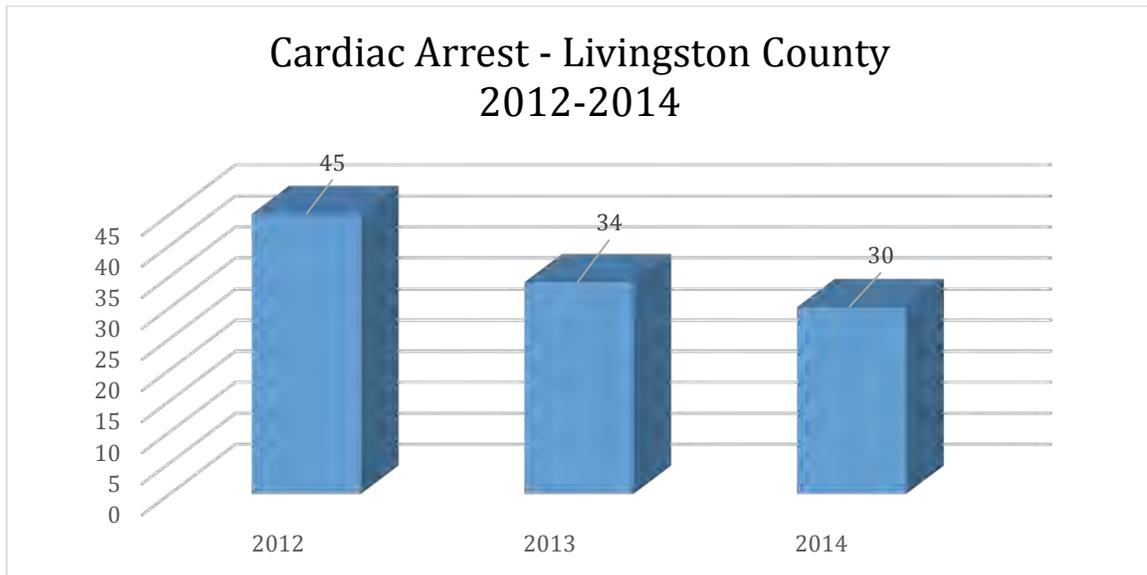
Coronary Atherosclerosis, sometimes-called hardening of the arteries, can slowly narrow and harden the arteries throughout the body. When atherosclerosis affects the arteries of the heart, it is called coronary artery disease.

Coronary artery disease is a leading cause of death for Americans. Most of these deaths are from heart attacks caused by sudden blood clots in the heart's arteries.

The number of cases of coronary atherosclerosis complication at Livingston County area hospitals has decreased from 1 case in 2012 to 0 cases in 2013, back to 1 case in 2014. Note that hospital-level data only show hospital admissions and do not reflect out-patient treatments and procedures.

Cardiac Arrest

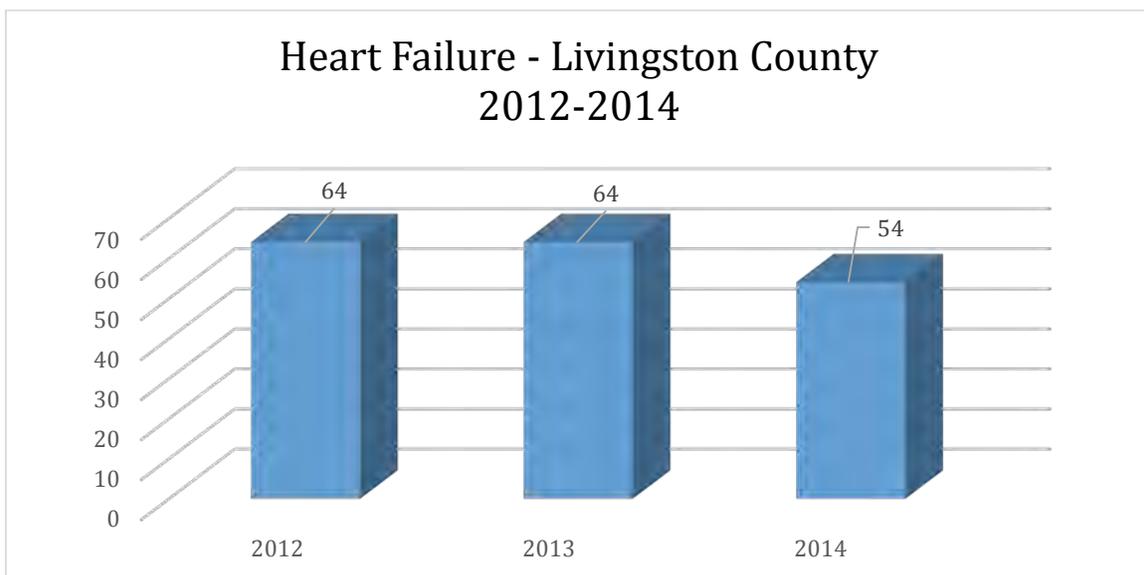
Cases of dysthymia and cardiac arrest at Livingston County area hospitals has decreased by 15 cases between FY12 and FY14. Note that hospital-level data only show hospital admissions.



Source: COMPdata 2015

Heart Failure

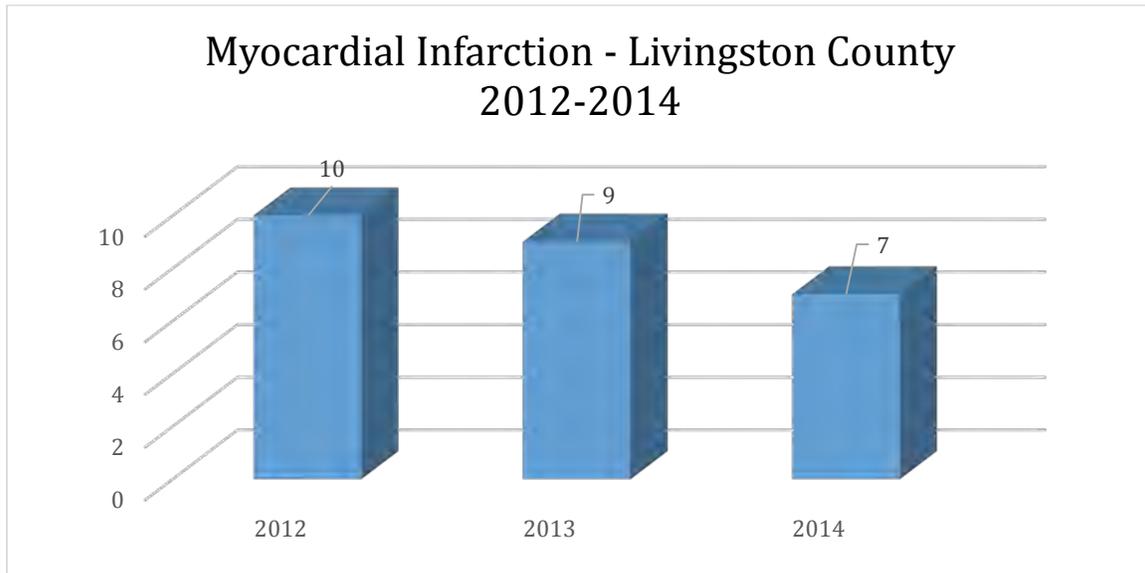
The number of treated cases of heart failure at Livingston County area hospitals have decreased. In FY 2012, 64 cases were reported, and in FY 2014, there were 54 cases reported. Note that hospital-level data only show hospital admissions.



Source: COMPdata 2015

Myocardial Infarction

The number of treated cases of myocardial infarction at area hospitals in Livingston County have decreased from 10 in 2012 to 7 in 2014. Note that hospital-level data only show hospital admissions.



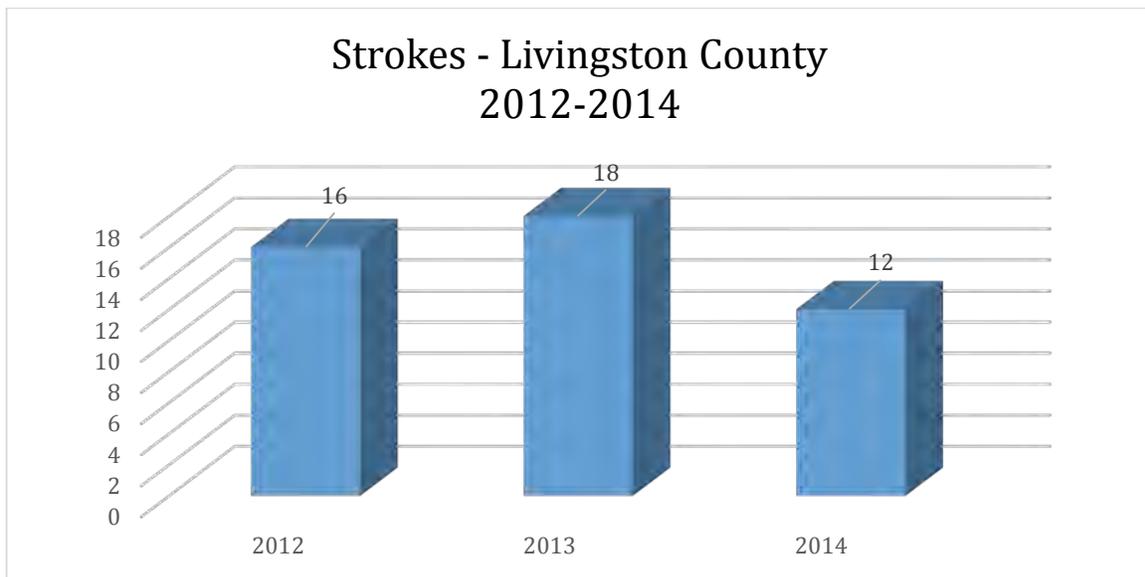
Source: COMPdata 2015

Arterial Embolism

One treated case of arterial embolism at Livingston County area hospitals was reported in 2014. Note that hospital-level data only show hospital admissions.

Strokes

The number of treated cases of stroke at Livingston County area hospitals have decreased between FY 2012 and FY 2014. Note that hospital-level data only show hospital admissions and do not reflect outpatient treatments and procedures.



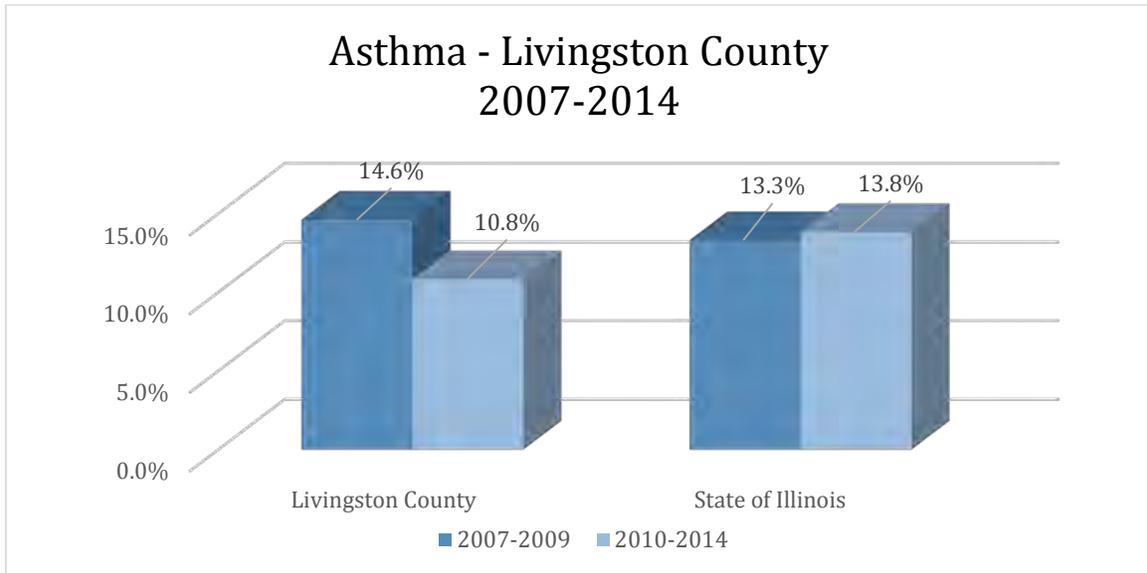
Source: COMPdata 2015

4.3 Respiratory

Importance of the measure: Disease of the respiratory system includes acute upper respiratory infections such as influenza, pneumonia, bronchitis, asthma, emphysema, and Chronic Obstructive Pulmonary Disease (COPD). These conditions are characterized by breathlessness, wheezing, chronic coughing, frequent respiratory infections, and chest tightness. Many respiratory conditions can be successfully controlled with medical supervision and treatment. However, children and adults who do not have access to adequate medical care are likely to experience repeated serious episodes, trips to the emergency room and absences from school and work. Hospitalization rates illustrate the worst episodes of respiratory diseases and are a proxy measure for inadequate treatment.

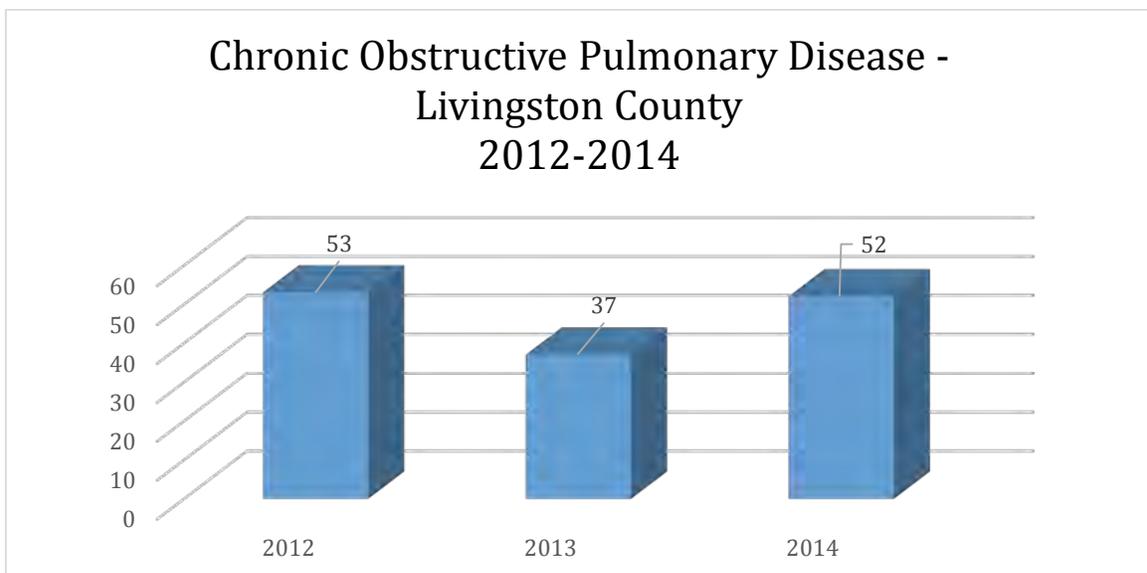
Asthma

The percentage of residents that have asthma in Livingston County has decreased between 2007-2009 and 2010-2014, while State averages are increasing slightly. According to the Illinois BRFSS, asthma rates in Livingston County (10.8%) are lower than the State of Illinois (13.8%).



Source: Illinois Behavioral Risk Factor Surveillance System

Treated cases of COPD at Livingston County area hospitals have remained stable between FY 2012 and FY 2014, with a significant decline in FY13. Note that hospital-level data only show hospital admissions and do not reflect out-patient treatments and procedures.

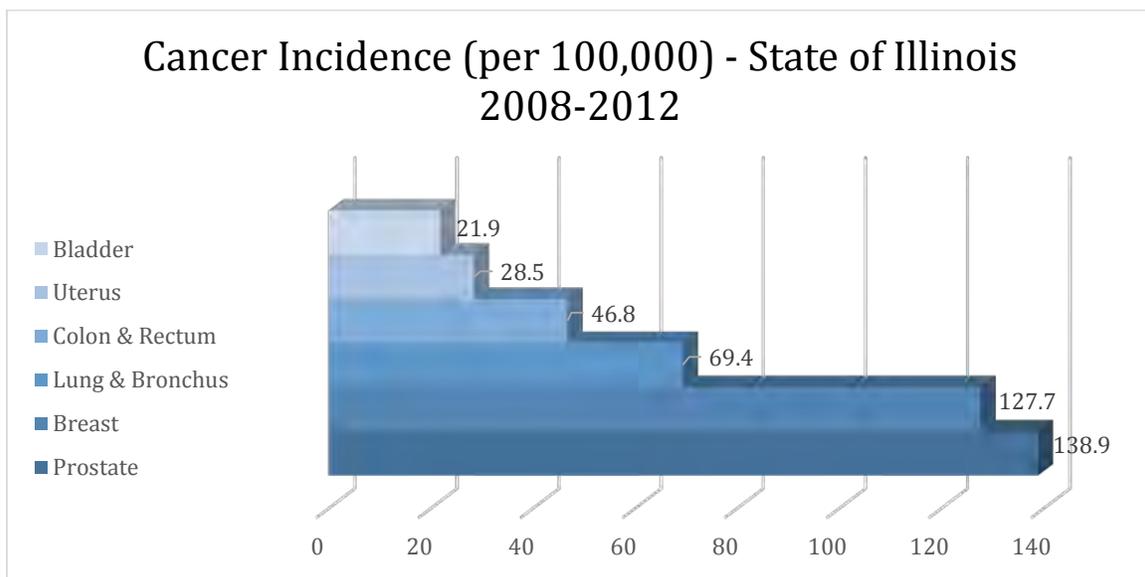


Source: COMPdata 2015

4.4 Cancer

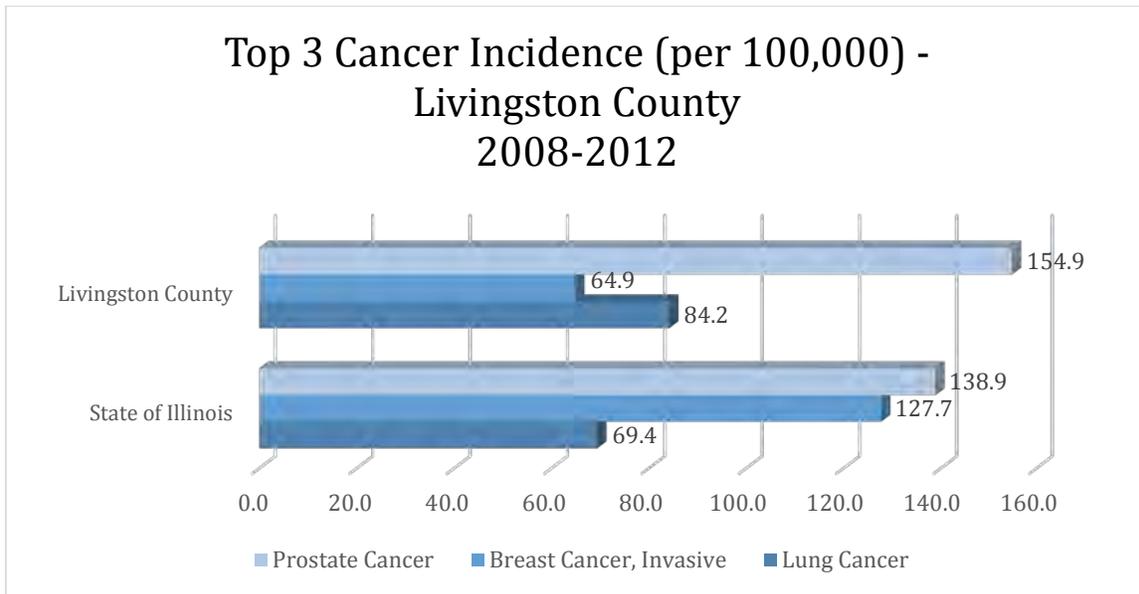
Importance of the measure: Cancer is caused by the abnormal growth of cells in the body and many causes of cancer have been identified. Generally, each type of cancer has its own symptoms, outlook for cure, and methods for treatment. Cancer is one of the leading causes of death in Livingston County.

The top six cancers by treatment in the State of Illinois for 2008-2012 can be seen below. The most prevalent cancers in the State of Illinois are prostate cancer, breast cancer, and lung and bronchus cancer, respectively.



Source: http://www.idph.state.il.us/cancer/15/county_rpt/County_Section_I_Site_Specific_Cancer_Incidence.pdf

For the top three prevalent cancers in Livingston County, comparisons can be seen below. Specifically, prostate cancer and lung and bronchus cancer are significantly higher than the State, while breast cancer rates are significantly lower than the State of Illinois.



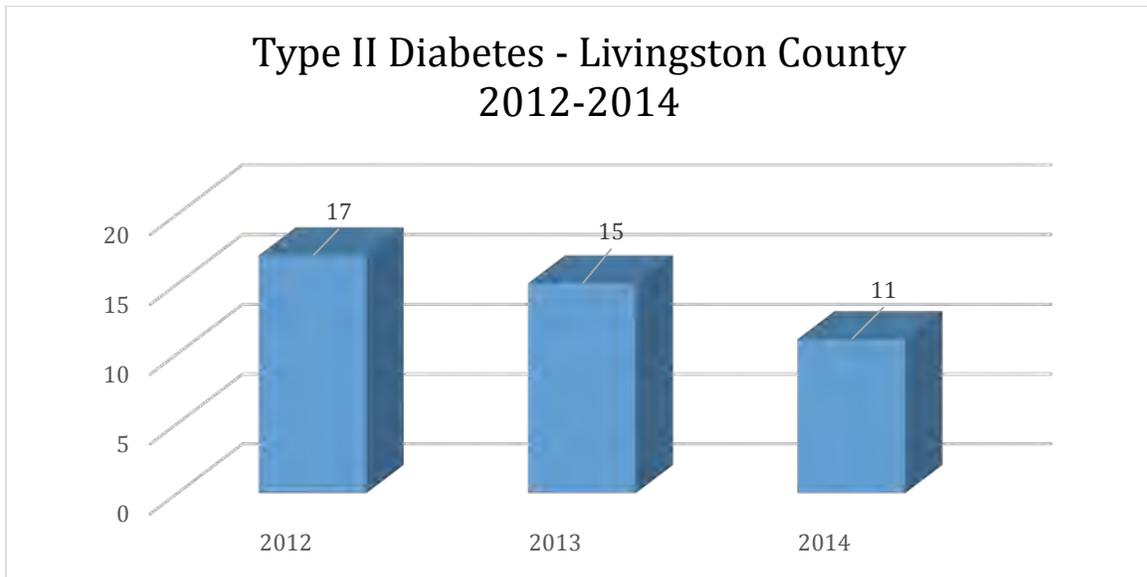
Source: http://www.idph.state.il.us/cancer/15/county_rpt/County_Section_I_Site_Specific_Cancer_Incidence.pdf

4.5 Diabetes

Importance of the measure:

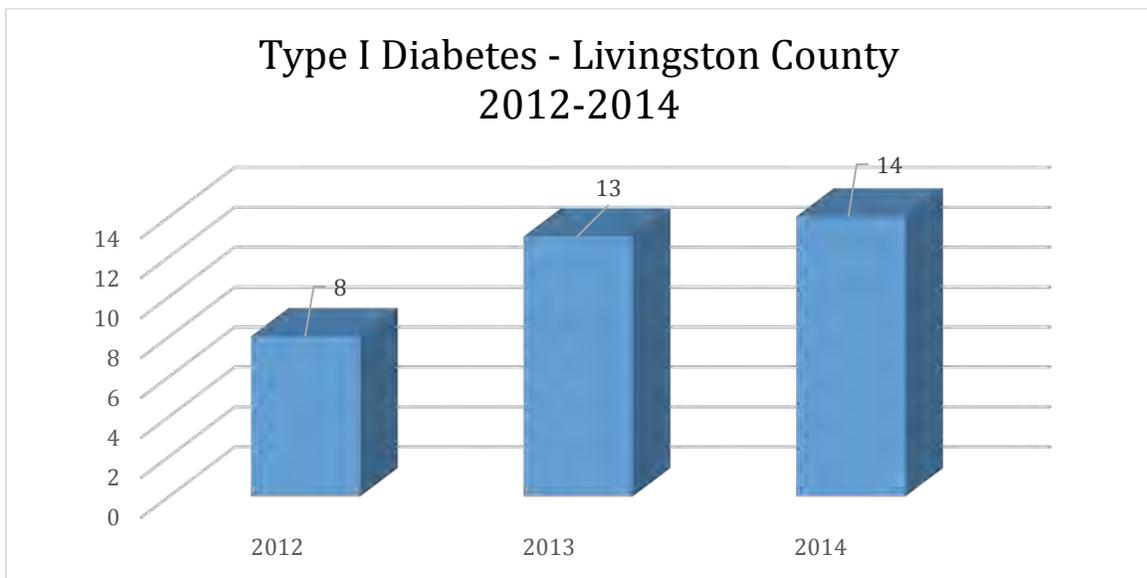
Diabetes is the leading cause of kidney failure, adult blindness and amputations and is a leading contributor to strokes and heart attacks. It is estimated that 90-95% of individuals with diabetes have Type II diabetes (previously known as adult-onset diabetes). Only 5-10% of individuals with diabetes have Type I diabetes (previously known as juvenile diabetes).

Inpatient cases of Type II diabetes from Livingston County have slightly decreased between FY 2012 (17 cases) and FY 2014 (11 cases). Note that hospital-level data only show hospital admissions and do not reflect out-patient treatments and procedures.



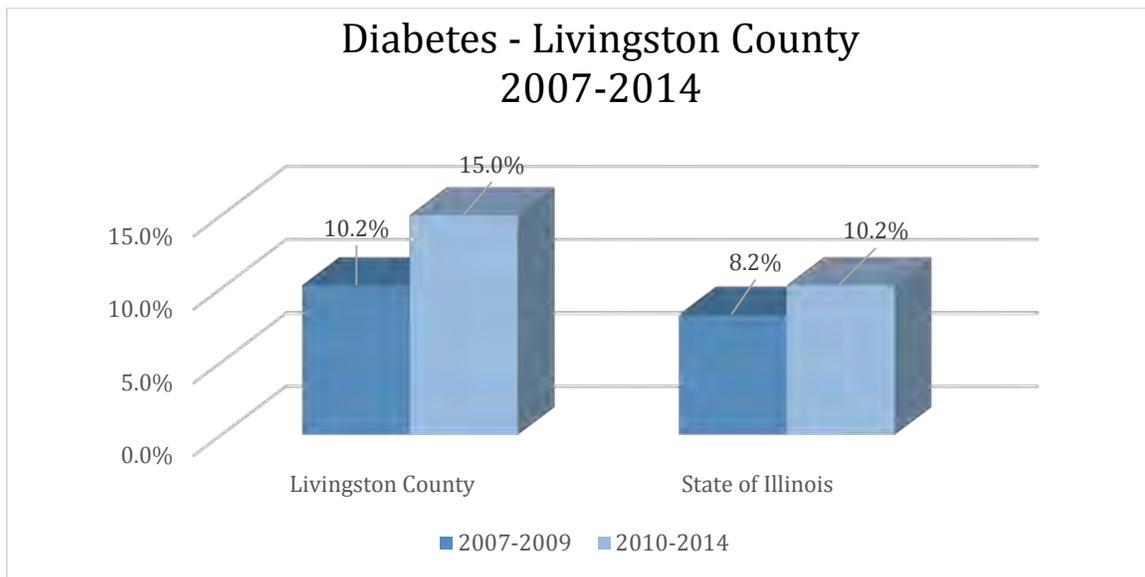
Source: COMPdata 2015

Inpatient cases of Type I diabetes show an increase from 2012 (8) to 2014 (14) for Livingston County. Note that hospital-level data only show hospital admissions and do not reflect out-patient treatments and procedures.



Source: COMPdata 2015

Data from the Illinois BRFSS indicate that 15.0% of Livingston County residents have diabetes. Trends are concerning, as the prevalence of diabetes is increasing and higher in Livingston County compared to data from the State of Illinois.



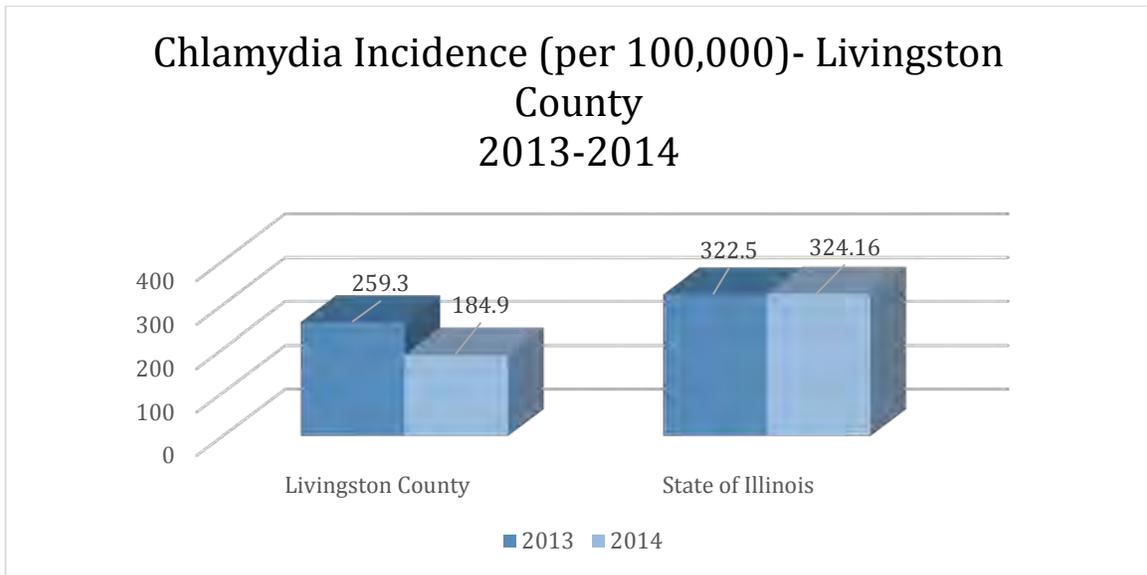
Source: Illinois Behavioral Risk Factor Surveillance System

4.6 Infectious Diseases

Importance of the measure: Infectious diseases, including sexually transmitted infections and hepatitis, are related to high-risk sexual behavior, drug and alcohol abuse, limited access to healthcare, and poverty. It would be highly cost-effective for both individuals and society if more programs focused on prevention rather than treatment of infectious diseases.

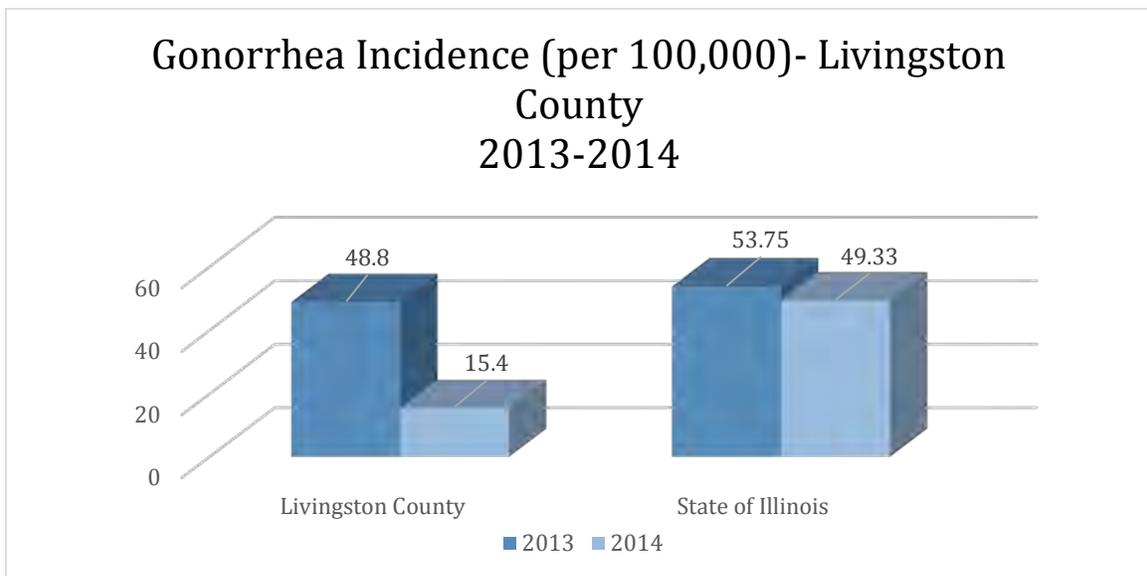
Chlamydia and Gonorrhea Cases

The data for the number of infections of chlamydia in Livingston County from 2013-2014 indicate a significant decrease. There is a slight increase of incidence of chlamydia across the State of Illinois. Rates of chlamydia in Livingston County are considerably lower than State averages.



Source: Illinois Department of Public Health

The data for the number of infections of gonorrhea in Livingston County indicate a significant decrease from 2013-2014, while the State of Illinois realized a slight decrease.



Source: Illinois Department of Public Health

Vaccine preventable diseases

A vaccine-preventable disease is an infectious disease for which an effective preventive vaccine exists. If a person acquires a vaccine-preventable disease and dies, the death is considered a vaccine-preventable death. According to the Illinois Public Health Department, the most common and serious vaccine-preventable diseases are: Varicella (chickenpox), Tetanus (lockjaw), Pertussis (whooping cough), Poliomyelitis (Polio), Measles (Rubella), Mumps, Rubella (German measles), Diphtheria, Hepatitis B, and Hemophilic Influenza Type B (HIB) Infections. These diseases used to strike thousands of children each year. Today there are relatively few cases, but outbreaks still occur each year because some babies are not immunized. Livingston County has shown no significant outbreaks compared to state statistics, but there are limited data available.²

Vaccine Preventable Diseases 2011-2014 Livingston County Region

Mumps	2011	2012	2013	2014
Livingston County	9	0	0	1
State of Illinois	78	32	26	142
Pertussis	2011	2012	2013	2014
Livingston County	0	0	0	1
State of Illinois	1509	2026	785	764
Varicella	2011	2012	2013	2014
Livingston County	2	1	8	1
State of Illinois	881	898	731	598

Source: <http://iquery.illinois.gov/DataQuery/Default.aspx>

Tuberculosis 2011-2014 Livingston County Region

Tuberculosis	2011	2012	2013	2014
Livingston County	0	1	0	0
State of Illinois	358	347	327	320

Source: Illinois Electronic Disease Surveillance System (I-NEDSS)

² Source: <http://www.idph.state.il.us/about/vpcd.htm>

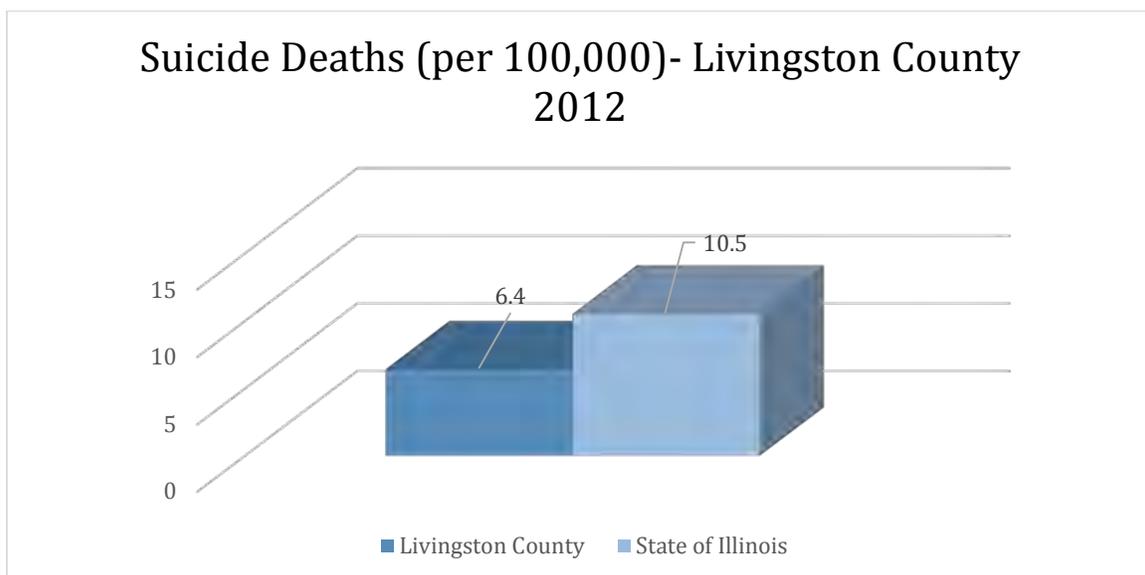
4.7 Injuries

Importance of the measure:

Unintentional injuries are injuries or accidents resulting from car accidents, falls and unintentional poisonings. In many cases, these types of injuries—and the deaths resulting from them—are preventable. Suicide is intentional self-harm resulting in death. These injuries are often indicative of serious mental health problems requiring the treatment of other trauma-inducing issues.

Intentional – suicide

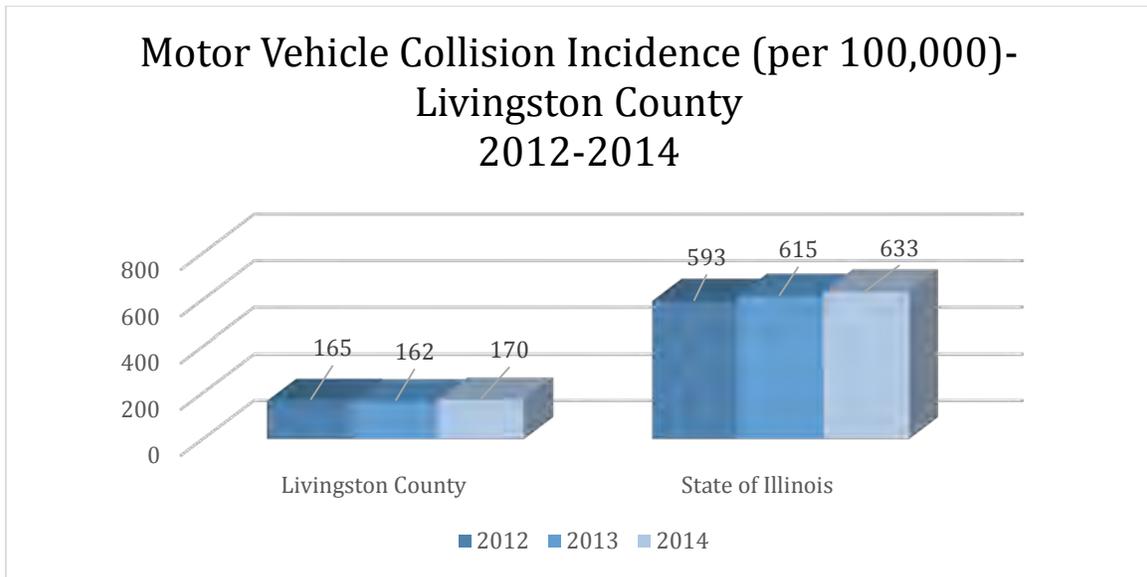
The number of suicides in Livingston County indicate lower incidence than State of Illinois averages, as there were approximately 6.4 per 100,000 people in Livingston County in 2012.



Source: Illinois Department of Public Health

Unintentional – motor vehicle

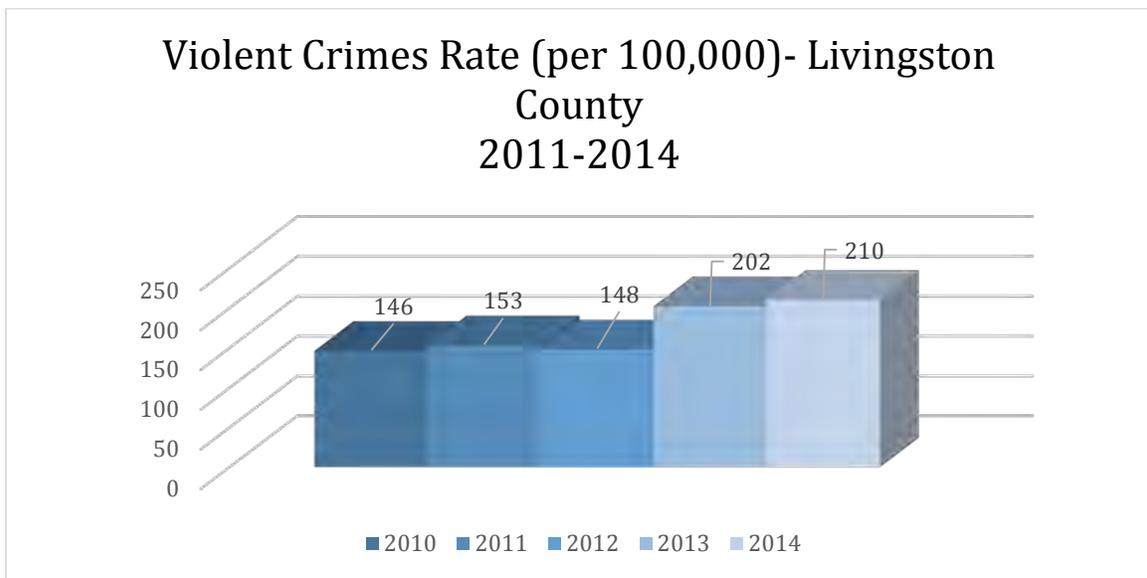
Research suggests that car accidents are a leading cause of unintentional injuries. In Livingston County, the number of incidents between 2012 and 2014 for several types of motor vehicle collisions including vehicle overturn, railroad train, sideswipe, angle, parked motor vehicle, turning, and rear-end accidents has increased slightly but is significantly lower than State of Illinois averages.



Source: Illinois Department of Transportation

Violent Crimes

Violent crimes are defined as offenses that involve face-to-face confrontation between the victim and the perpetrator, including homicide, forcible rape, robbery, and aggravated assault. Violent crime is represented as an annual rate per 100,000 people. The number of violent crimes has increased significantly for 2010-2014 in Livingston County.



Source: Illinois County Health Rankings and Roadmaps

4.8 Mortality

Importance of the measure: Presenting data that focuses on causes of mortality provides an opportunity to define and quantify which diseases are causing the most deaths.

The top two leading causes of death in the State of Illinois and Livingston County are similar as a percentage of total deaths in 2013. Diseases of the Heart are the cause of 25.9% of deaths in Livingston County and Cancer is the cause of 24.8% of deaths in Livingston County.

Top 5 Leading Causes of Death for all Races by County, 2013		
Rank	Livingston County	State of Illinois
1	Diseases of Heart (25.9%)	Diseases of Heart
2	Malignant Neoplasm (24.8%)	Malignant Neoplasm
3	Chronic Lower Respiratory Disease (6.32%)	Cerebrovascular Disease
4	Cerebrovascular Disease (5.62%)	Chronic Lower Respiratory Disease
5	Diabetes (3.70%)	Accidents

Source: Illinois Department of Public Health

4.9 Key Takeaways from Chapter 4

- ✓ **LOW BIRTH WEIGHTS HAVE BEEN INCREASING SLIGHTLY IN LIVINGSTON COUNTY**
- ✓ **MOST VARIATIONS OF CARDIAC DISEASE HAVE SEEN A DECREASE SINCE 2012**
- ✓ **CANCER RATES FOR PROSTATE AND LUNG CANCER IN LIVINGSTON COUNTY ARE HIGHER THAN STATE AVERAGES**
- ✓ **ASTHMA HAS SEEN A SIGNIFICANT REDUCTION IN LIVINGSTON COUNTY AND IS LOWER THAN STATE AVERAGES**
- ✓ **WHILE STATE AVERAGES HAVE ONLY SEEN A SLIGHT INCREASE, DIABETES IS TRENDING UPWARD SIGNIFICANTLY IN LIVINGSTON COUNTY AND HIGHER THAN STATE AVERAGES**
- ✓ **HEART DISEASE AND CANCER ARE THE LEADING CAUSES OF MORTALITY IN LIVINGSTON COUNTY**

CHAPTER 5 OUTLINE

- 5.1 Perceptions of Health Issues
- 5.2 Perceptions of Unhealthy Behavior
- 5.3. Perceptions of Issues with Well Being
- 5.4 Summary of Community Health Issues
- 5.5 Community Resources
- 5.6 Significant Health Needs Identified and Prioritized

CHAPTER 5. IDENTIFICATION OF SIGNIFICANT HEALTH NEEDS

In this chapter, we identify the most critical health-related needs in the community. To accomplish this, we first consider community perceptions of health issues, unhealthy behaviors and issues related to well-being. Using key takeaways from each chapter, we then identify important health-related issues in the community. Next, we complete a comprehensive inventory of community resources; and finally, we prioritize the most significant health needs in the community.

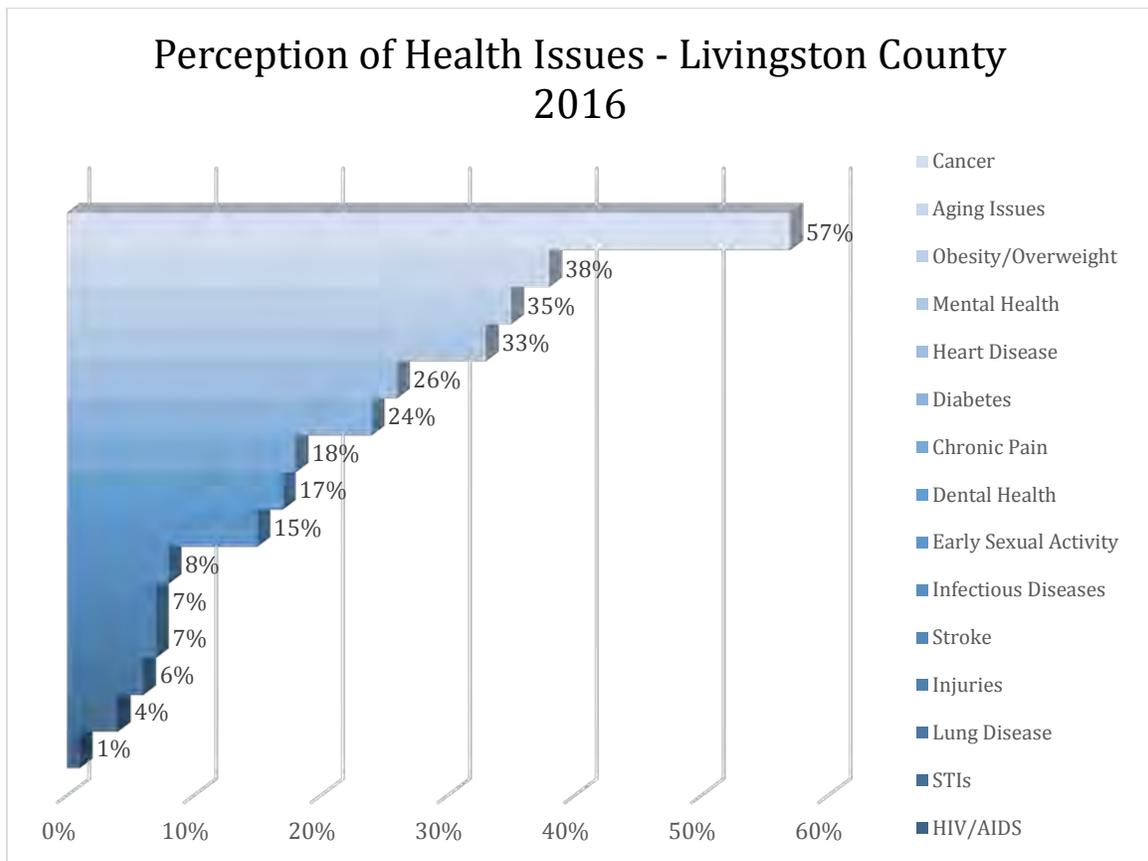
Specific criteria used to identify these issues included: (1) magnitude in the community; (2) severity in the community; (3) potential for impact to the community.

5.1 Perceptions of Health Issues

The CHNA survey asked respondents to rate the three most important health issues in the community. Respondents had a choice of 15 different options.

The health issue that rated highest was cancer. It was identified 57% of the time and was significantly higher than other categories based on *t-tests* between sample means. This was followed by aging issues and obesity issues.

Note that perceptions of the community were accurate in some cases, but inaccurate in others. For example, cancer is the second leading cause of mortality in Livingston County. Also, obesity is an important concern and the survey respondents accurately identified these as important health issues. However, heart disease is rated relatively low, even though it is the leading cause of mortality in Livingston County.



Source: CHNA Survey

Demographic Factors Related to Perceptions of Health Issues

Several demographic characteristics show significant relationships with perceptions of health issues. The following relationships were found using correlational analyses:

Aging issues tend to be rated higher by men and older people.

Cancer tends to be of greater concern to White people.

Chronic Pain is of greater concern to those with lower education and income.

Dental health tends to be rated higher by women.

Diabetes does not show significant correlations.

Heart disease tends to be rated higher by men and older people.

HIV tends to be rated higher by younger people and Latino ethnicity.

Early sexual activity tends to be rated higher by younger people.

Infectious disease does not show significant correlations.

Injury tends to be rated higher by men.

Lung disease does not show significant correlations.

Mental health tends to be rated higher by those with higher education.

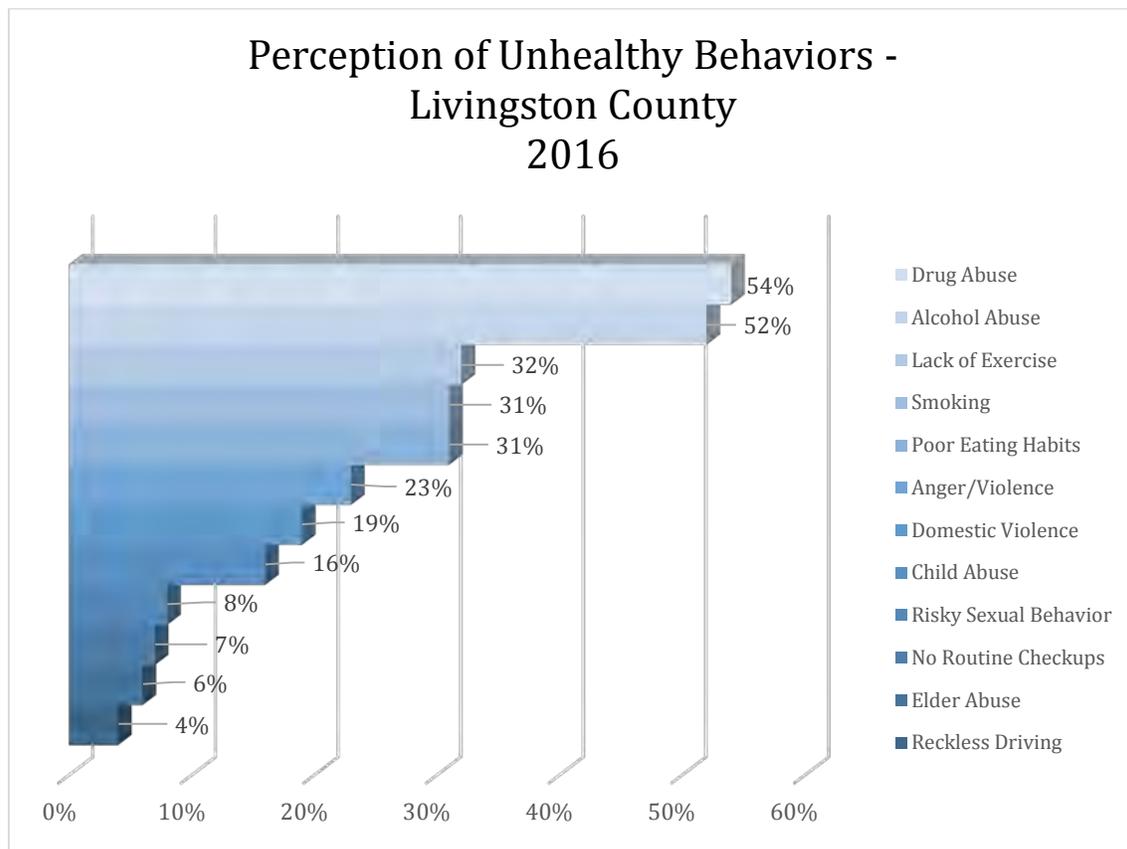
Obesity tends to be rated higher by White people, higher education and income. Black people are less likely to be concerned.

STIs tend to be rated higher by younger people.

Stroke tends to be rated lower by women.

5.2 Perceptions of Unhealthy Behaviors

Respondents were asked to select the three most important unhealthy behaviors in the community out of a total of 12 choices. The two unhealthy behaviors that rated highest were drug abuse and alcohol abuse.



Source: CHNA Survey

Demographic Factors Related to Perceptions of Unhealthy Issues

Several demographic characteristics show significant relationships with perceptions of unhealthy behaviors. The following relationships were found using correlational analyses:

Anger/Violence does not show significant correlations.

Alcohol Abuse does not show significant correlations.

Child abuse tends to be rated higher by women, and lower by those with high education and income.

Domestic Violence does not show significant correlations.

Drug abuse tends to be rated higher by White individuals and those with high income.

Elder abuse does not show significant correlations.

Lack of exercise tends to be rated lower by women and higher by those with high education.

No check-ups does not show significant correlations.

Poor eating habits tends to be rated lower by women and higher by those with high education.

Reckless driving does not show significant correlations.

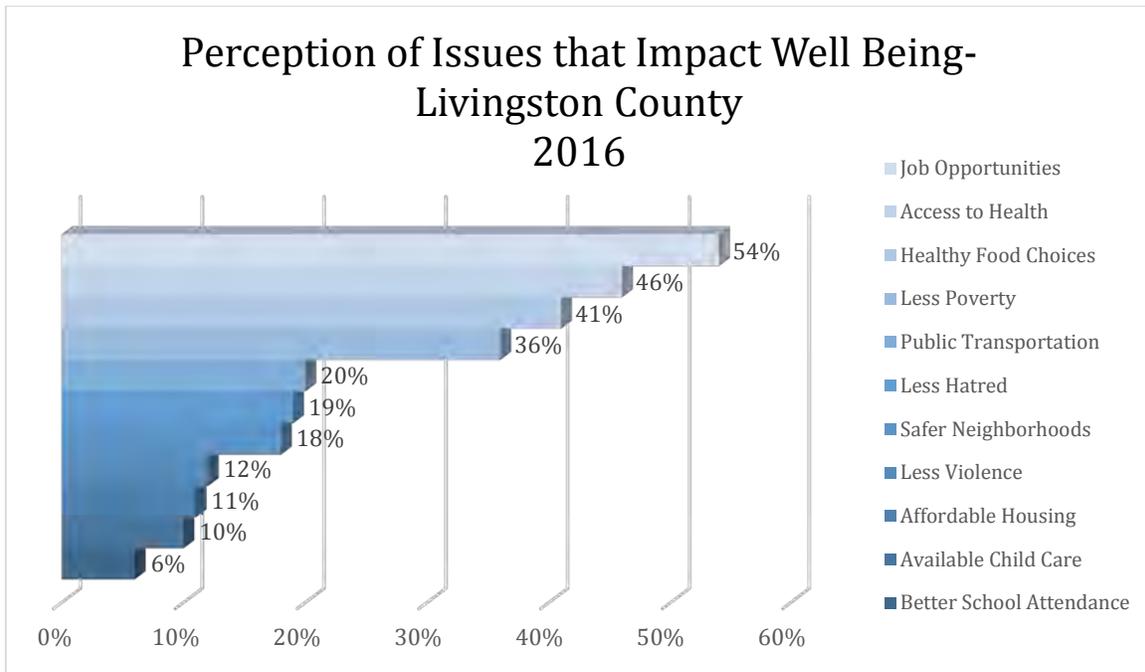
Smoking tends to be rated higher by Black residents.

Risky Sex Behavior does not show significant correlations.

5.3 Perceptions of Issues Impacting Well Being

Respondents were asked to select the three most important issues impacting well being in the community out of a total of 11 choices.

The issue impacting well-being that rated highest was job opportunities. It is not surprising that job opportunities was rated high given unemployment rates in recent years. Job opportunities was followed by access to health services, and healthy food choices



Source: CHNA Survey

Demographic Factors Related to Perceptions of Well Being Issues

Several demographic characteristics show significant relationships with perceptions of well being issues. The following relationships were found using correlational analyses:

Access to health services tends to be rated higher by older individuals.

Affordable housing does not show significant correlations.

Availability of childcare tends to be rated higher by younger people.

Better schools does not show significant correlations.

Job opportunities tends to be rated lower by older individuals.

Public transportation tends to be rated higher by Black individuals and those with lower education and income.

Access to healthy food does not show significant correlations.

Less poverty does not show significant correlations.

Safer neighborhoods does not show significant correlations.

Less hatred does not show significant correlations.

Less violence tends to be rated lower by those with higher education.

5.4 Summary of Community Health Issues

Based on findings from the previous analyses, a chapter-by-chapter summary of key takeaways is used to provide a foundation for identification of the most important health-related issues in the community. Considerations for identifying key takeaways include magnitude in the community, strategic importance to the community, existing community resources, and potential for impact and trends and future forecasts.

Demographics (Chapter 1) – Four factors were identified as the most important areas of impact from the demographic analyses:

- Total population is decreasing
- Aging population
- Early sexual activity- teen births above State averages
- Changing population – increasing Black and Latino ethnicities

Prevention Behaviors (Chapter 2) – Six factors were identified as the most important areas of impact from the chapter on prevention behaviors:

- ED usage, particularly among the low-income population
- While decreasing, low income population that does not seek medical attention
- Overall, access has improved for medical care, prescription medicine, dental care and counseling
- Lack of exercise
- Mental health
- Lack of healthy eating

Symptoms and Predictors (Chapter 3) – Five factors were identified as the most important areas of impact from the chapter on symptoms and predictors:

- Tobacco usage
- Drug abuse
- Alcohol abuse
- Obesity
- Risk factors for heart disease

Morbidity and Mortality (Chapter 4) – Four factors were identified as the most important areas of impact from the chapter on morbidity/mortality behaviors:

- Low birth weights
- Cancer – prostate and lung
- Diabetes
- Heart Disease

Identification of Potential Health-Related Needs Considered for Prioritization

Before the prioritization of significant community health-related needs was performed, results were aggregated into 11 potential categories. Based on similarities and duplication, the 11 potential areas considered are:

- **Use of ED as primary source of medical care**
- **Not seeking healthcare when needed**
- **Poor healthy behaviors – healthy eating & active living**
- **Mental health**
- **Obesity**
- **Tobacco use**
- **Low birth weights**
- **Diabetes**
- **Substance abuse**
- **Heart disease**
- **Cancer – Prostate and Lung**

5.5 Community Resources

After summarizing potential categories for prioritization in the Community Health Needs Assessment, a comprehensive analysis of existing community resources was performed to identify the efficacy to which these 11 health-related areas were being addressed. A resource matrix can be seen in Appendix 5 relating to the 11 health-related issues.

There are numerous forms of resources in the community. They are categorized as recreational facilities, county health departments, community agencies and area hospitals/clinics. A detailed list of community resources and descriptions appears in Appendix 6.

5.6 Significant Needs Identified and Prioritized

In order to prioritize the previously identified issues, the collaborative team considered health needs based on: (1) magnitude of the issues (e.g., what percentage of the population was impacted by the issue); (2) severity of the issues in terms of their relationship with morbidities and mortalities; (3) potential impact through collaboration. Using a modified version of the Hanlon Method (as seen in Appendix 7), the collaborative team identified two significant community health needs and considered both priorities:

- ***Healthy Behaviors – defined as active living and healthy eating, and their impact on obesity***
- ***Behavioral Health – including mental health and substance abuse***

HEALTHY BEHAVIORS – ACTIVE LIVING, HEALTHY EATING AND SUBSEQUENT OBESITY

ACTIVE LIVING A healthy lifestyle, comprised of regular physical activity and balanced diet, has been shown to increase physical, mental, and emotional well-being. Note that 30% of respondents in Livingston County indicated that they do not exercise at all, while the largest percentage of residents exercise 1-2 times per week.

HEALTHY EATING. Additionally, well over half (62%) of Livingston County residents report no consumption or low consumption (1-2 servings per day) of fruits and vegetables per day. Note that the percentage of Livingston County residents who consume five or more servings per day is only 3%.

OBESITY. In Livingston County, the number of people diagnosed with obesity and being overweight has increased over the years from 2007-2009 to 2010-2014. Note specifically that the percentage of obese and overweight people has increased from 62.2% to 70.0%. Overweight and obesity rates in Illinois have decreased during the same period, from 64% in 2009 to 63.7% in 2014.

BEHAVIORAL HEALTH – MENTAL HEALTH AND SUBSTANCE ABUSE

MENTAL HEALTH. Approximately 20% of residents in Livingston County reported they had experienced 1-7 days with poor mental health per month in 2007-2009, and 9.1% felt mentally unhealthy on eight or more days per month for 2009. In 2010-2014, there was a moderate increase in the number of people who reported poor mental health for 1-7 days to 23.1% of the population and a significant increase people who reported poor mental health 8 or more days per month to 15% of the population.

SUBSTANCE ABUSE. Alcohol and drugs impair decision-making, often leading to adverse consequences and outcomes. Research suggests that alcohol is a gateway drug for youth, leading to increased usage of controlled substances in adult years. Accordingly, the substance abuse values and behaviors of high school students is a leading indicator of adult substance abuse in later years. Alcohol and drugs impair decision-making, often leading to adverse consequences and outcomes. Data from the 2014 Illinois Youth Survey measure illegal substance use (alcohol, cigarettes, and other drugs – mainly marijuana) among adolescents. While Livingston County is at or below State averages in all categories among 8th graders (except for cigarettes and marijuana), note that alcohol use is still at 28%.

APPENDIX 1. MEMBERS OF COLLABORATIVE TEAM

Specifically, members of the **Collaborative Team** consisted of individuals with special knowledge of and expertise in the healthcare of the community. Individuals, affiliations, titles and expertise are as follows:

Paula Corrigan is OSF Saint James-John W. Albrecht Medical Center's Vice President-Chief Financial Officer, serving in this role since 1989. Paula has a Bachelor of Science in Accounting from Illinois State University and is a Certified Public Accountant. She serves on many OSF Saint James and OSF Healthcare System Committees and projects as well as area community organizations. Paula is the OSF Saint James Community Health Needs Assessment Coordinator and a Business Leader for the OSF Healthcare System Community Health Needs Steering Team.

Liz Davidson is OSF Saint James-John W. Albrecht Medical Center's Vice President Patient Care Services-Chief Nursing Officer, serving in this role since 2008. Liz has a Master of Science in Nursing from Walden University and is currently working on a Doctorate in Nursing Practice from Wilkes University. She serves on many OSF Saint James and OSF Healthcare System Committees and projects.

Theresa Dibuono has 31 years of nursing experience with the past 16 years spent in the field of Case Management. She has served in the capacity as the Director Care Management, OSF Eastern Region for the past 1.5 years and held other Director level positions within Case Management and population health since 2000. Theresa sat for the National Case Management Board Examination in 2005 where she received her certification as an Accredited Case Manager. Currently she is pursuing her Masters of Science in Nursing at OSF College of Nursing, Peoria, IL. Upon graduation, she will receive her Mental Health Nurse Practitioner and Nursing Leadership Management degrees.

Mary Heath is the Education Manager at OSF Saint James John W. Albrecht Medical Center. Over her 30-year career with OSF, Mary has been involved in both Staff Education as well as Patient and Community Education. She holds a Bachelor of Science in Nursing degree from Marquette University, and also spent 13 years teaching nursing for Kankakee Community College. Mary serves on a number of committees, councils and boards in the community and in OSF.

MaLinda Hillman is the Director of the Livingston County Health Department. A graduate of Northern Illinois University, MaLinda is a registered nurse and a certified public health administrator. She has been employed at the Livingston County Health Department since 1980 in various capacities and has served as the Director since 1996. MaLinda has been instrumental in obtaining funding and implementing many of the programs at the department. She has had an active lead role in the IPLAN (Illinois Project for the Local Assessment of Need) process for the health department. MaLinda is an active member of the Illinois Association of Public Health Administrators along with serving on many committees and boards for public health.

Tim Johnson is the Director of Facilities and Ancillary Services at OSF Saint James-John W. Albrecht Medical Center. He has served as a member of the administrative team with responsibility for many of the outpatient clinical services since 2008 and in various leadership capacities for OSF Saint James for over 16 years. Tim has a Master's degree in Healthcare Administration from the University of Saint Francis, Joliet, IL. Tim also has a strong connection with the agriculture community of Livingston County as a rural resident and farmer.

Kathy McMillan is the Director of OSF Medical Group Primary care offices for the Pontiac area. As such, she provides direction and oversight to twelve primary care offices located in seven communities in Livingston and surrounding counties. Kathy has a Bachelor of Science in Health Information Management from Illinois State University and a Masters of Health Administration from the University of St. Francis. She is the Chairman of the local OSF Pediatric Council and serves on several OSF Saint James and OSF Medical Group committees and projects. Kathy serves on the Executive Board of the Livingston County Children's Network. She is a past Chairman of the Pontiac Area United Way and has served on the Board of Directors of the Pontiac Area Chamber of Commerce.

Pam Meiner is the OSF HealthCare Community Relations Coordinator for the Pontiac service area, a position she has held since October 2015. Prior to this role, Pam was the Director of Marketing & Communications for OSF St. Joseph Medical Center in Bloomington for 18 years, followed by 10 years as the Director of Marketing & Communications for OSF Saint James – John W. Albrecht Medical Center in Pontiac. She holds a Bachelor of Arts degree in Education from Illinois Wesleyan University and a Master of Business Administration degree from Illinois State University.

Erin Nimbler, RN, BSN is the manager of OSF St. James John W. Albrecht Medical Center Emergency Department. She graduated from the University of Illinois, and has been working for OSF since 1999. She has worked in the Emergency Department for the past 11 years, serving as charge nurse for the past 8 years. Prior to taking on the role as manager this past year, Erin has been a clinical preceptor, a six-sigma green belt, a PALS instructor, and recently joined the OSF ethics council. Erin is a life-long Livingston County resident and enjoys being a part of the decisions that affect not only the hospital she works for, but the community she lives in.

Linda Rhodes, BS, CHES, is the Director of Health Education & Marketing for the Livingston County Public Health Department. Linda is a graduate of Illinois State University with a Bachelor's in Community Health Education and serves as a mentor for ISU-CHE students completing professional practice internships. Linda has been employed at the health department since 1996. As a Certified Health Education Specialist, she is involved in many of the health department's programs. Her expertise is in community assessment/evaluation, health promotion, and grant writing.

Brad Solberg was appointed president of OSF Saint James-John W. Albrecht Medical Center in January 2015. He most recently served as CEO of Hammond-Henry Hospital in Geneseo, Illinois for nearly 14 years. He has served on numerous boards of community organizations in addition to various committees of the Illinois Hospital Association and the Illinois Critical Access Hospital Network. Brad has a Bachelor's degree from Concordia College, Moorhead, Minnesota and earned his Masters of Healthcare Administration from the University of Minnesota, Minneapolis, Minnesota.

Vicki Trainor is a Registered Nurse with 35 years of experience. She has a strong Pediatric Background and has worked in Primary Care offices for 15 years. The past 8 years she has worked as Clinical Coordinator for OSF Medical Group in the role of Staff Educator. She is responsible for new employee competency, project support and resource for staff regarding office processes.

Heather Dameron Schweizer, MD is the Associate Regional Director of Primary Care for the OSF Medical Group in the Pontiac area. Heather has been a practicing physician with the OSF Medical Group since 1998, with a family medicine practice in Fairbury. She is a board certified family physician with a

bachelor's degree from the University of Illinois and a doctorate degree from SIU School of Medicine. She completed her residency in Family Medicine at SIU Decatur Family Medicine in 1998. She has held several community positions as well including currently serving on the board of directors of Futures Unlimited and serving as an officer of the Prairie Central Music Boosters. She leads a yearly medical mission team out of her home church to serve in Central America.

Joe Vaughan is the Executive Director of the Institute for Human Resources (IHR). Joe has been with IHR for the past 26 years. Joe was named IHR's Executive Director in 2010. Joe has a psychology degree from Eastern Illinois University and a Master's Degree from the University of Illinois. Joe has been a Licensed Clinical Social Worker since 1998. Joe currently sits on the statewide Community Behavioral Health Association Board, Livingston County Housing Board, and the Livingston County United Way Board.

In addition to collaborative team members, the following **facilitators** managed the process and prepared the Community Health Needs Assessment. Their qualifications and expertise are as follows:

Michelle A. Carrothers (Coordinator) is currently the Vice President of Strategic Reimbursement for OSF Healthcare System, a position she has served in since 2014. She serves as a Business Leader for the Ministry Community Health Needs Assessment process. Michelle has over 32 years of health care experience. Michelle obtained both a Bachelor of Science Degree and Masters of Business Administration Degree from Bradley University in Peoria, IL. She attained her CPA in 1984 and has earned her Fellow of the Healthcare Financial Management Association Certification in 2011. Currently she serves on the National Board of Examiners for HFMA. Michelle serves on various Peoria Community Board of Directors and Illinois Hospital Association committees.

Dawn Irion (Coordinator) is a Strategic Reimbursement Analyst at OSF Healthcare System. She has worked for OSF Healthcare System since 2004 and has acted as the coordinator for 11 Hospital Community Health Need Assessments. In addition, she has coordinated the submission of the Community Benefit Attorney General report and the filing of the IRS Form 990 Schedule H since 2008. Dawn has been a member of the McMahan-Illini Chapter of Healthcare Financial Management Association for over ten years. Dawn will assume the responsibilities of President-Elect on the board of the McMahan-Illini HFMA Chapter starting in June of 2016.

Dr. Laurence G. Weinzimmer, Ph.D. (Principal Investigator) is the Caterpillar Inc. Professor of Strategic Management in the Foster College of Business at Bradley University in Peoria, IL. An internationally recognized thought leader in organizational strategy and leadership, he is a sought-after consultant to numerous *Fortune 100* companies and not-for-profit organizations. Dr. Weinzimmer has authored over 100 academic papers and four books, including two national best sellers. His work appears in 15 languages, and he has been widely honored for his research accomplishments by many prestigious organizations, including the Academy of Management. Dr. Weinzimmer has served as principle investigator for numerous community assessments, including the United Way, Economic Development Council and numerous hospitals. His approach to Community Health Needs Assessments was identified by the Healthcare Financial Management Association (HFMA) as a Best-in-Practice methodology. Dr. Weinzimmer was contracted for assistance in conducting the CHNA.

APPENDIX 2. ACTIVITIES RELATED TO 2013 CHNA PRIORITIZED NEEDS

Six needs were identified in the Livingston County 2013 CHNA. Below are examples of activities implemented during the last three years to address these needs:

Community Misperception: Identified as Prioritized Health Need

- Developed community awareness communications promoting available healthcare services with the goal of improving knowledge and perceptions of access to care particularly for the at-risk population. Updated the resource guide to help community members with local resources connections.

Dental Health: Identified as Prioritized Health Need

- Incorporated dental health providers into the community resource guide. Built connection with local dental providers to provide dental programs or opportunities within the community.

Healthy Behaviors: Identified as Prioritized Health Need

- Provided educational materials to patients. Partnered, provided resources and healthy snacks at local events. Provided numerous programs and education to community members. Partnered with local agencies, schools and churches to provide various educational events on blood pressure, exercise, and healthy eating.

Mental Health: Identified as Prioritized Health Need

- Increased on-site counselling services. Updated the resource link program to make referrals easier in the patient care system. The use of telephone physician consultation with a pediatric psychiatrist has remained constant.

Obesity: Identified as Prioritized Health Need

- Partnered with local schools in events including the Fuel Up To Play 60 event, fitness is fun and healthy programs for 6-8th grade children. Employee wellness team continues to work with Food Services to increase healthy cafeteria choices.

Substance abuse: Identified as Prioritized Health Need

- Education has been provided to patients and staff on availability of the Resource Guide and is also distributed to all office locations. The Tobacco Quit line is available for patients in all local offices. Developed intake/referral form, to help with appropriate treatment plans for patients.

APPENDIX 3. SURVEY

INSTRUCTIONS

We want to know how you view our community, so we are inviting you to participate in a research study for community health-needs. Your opinions are important. This questionnaire will take approximately 10 minutes to complete. All of your individual responses are confidential. We will use results of the surveys to improve our understanding of health needs in the community.

Please read each question and mark the response that best represents your views of community needs.

I. IMPORTANT HEALTH ISSUES IN OUR COMMUNITY

Please identify the three (3) most important health issues in our community.

- | | |
|--|--|
| <input type="checkbox"/> Aging issues, such as Alzheimer's disease, hearing loss, memory loss or arthritis | <input type="checkbox"/> Infectious/contagious diseases such as flu, pneumonia, food poisoning |
| <input type="checkbox"/> Cancer | <input type="checkbox"/> Injuries |
| <input type="checkbox"/> Chronic pain | <input type="checkbox"/> Lung disease (asthma, COPD) |
| <input type="checkbox"/> Dental health (including tooth pain) | <input type="checkbox"/> Mental health issues such as depression, hopelessness, anger, etc |
| <input type="checkbox"/> Diabetes | <input type="checkbox"/> Obesity/overweight |
| <input type="checkbox"/> Early sexual activity | <input type="checkbox"/> Sexually transmitted infections |
| <input type="checkbox"/> Heart disease/heart attack | <input type="checkbox"/> Stroke |
| <input type="checkbox"/> HIV/AIDS | <input type="checkbox"/> Other _____ |

II. UNHEALTHY BEHAVIORS

Please identify the three (3) most important unhealthy behaviors in our community.

- | | |
|---|--|
| <input type="checkbox"/> Angry behavior/violence | <input type="checkbox"/> Not able to get a routine checkup |
| <input type="checkbox"/> Alcohol abuse | <input type="checkbox"/> Poor eating habits |
| <input type="checkbox"/> Child abuse | <input type="checkbox"/> Reckless driving |
| <input type="checkbox"/> Domestic violence | <input type="checkbox"/> Risky sexual behavior |
| <input type="checkbox"/> Drug abuse | <input type="checkbox"/> Smoking |
| <input type="checkbox"/> Elder abuse (physical, emotional, financial, sexual) | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> Lack of exercise | |

III. ISSUES WITH YOUR WELL BEING

Please identify the three (3) most important factors that impact your well being in our community.

- | | |
|---|---|
| <input type="checkbox"/> Access to health services | <input type="checkbox"/> Healthy food choices |
| <input type="checkbox"/> Affordable clean housing | <input type="checkbox"/> Less hatred & more social acceptance |
| <input type="checkbox"/> Availability of child care | <input type="checkbox"/> Less poverty |
| <input type="checkbox"/> Better school attendance | <input type="checkbox"/> Less violence |
| <input type="checkbox"/> Job opportunities | <input type="checkbox"/> Safer neighborhoods/schools |
| <input type="checkbox"/> Good public transportation | <input type="checkbox"/> Other _____ |

IV. ACCESS TO HEALTH CARE

The following questions ask about your own personal health and health choices. Remember, this survey will not be linked to you in any way.

1. When you get sick, where do you go? Please choose only one.

- Clinic/Doctor's office Emergency Department I don't seek medical attention
 Urgent Care Center Health Department Other _____

2. How long has it been since you have been to the doctor to get a checkup when you were well (not because you were already sick)?

- Within the last year 1-2 years ago 3-5 years ago
 5 or more years ago I have never been to a doctor for a checkup.

3. In the last year, was there a time when you needed medical care but were not able to get it?

- No (please go to question 5) Yes (please go to the next question)

4. If you just answered "yes" to question 3, why weren't you able to get medical care? Choose all that apply.

- I didn't have health insurance. The doctor or clinic refused to take my insurance or Medicaid.
 I couldn't afford to pay my co-pay or deductible. I didn't know how to find a doctor.
 I didn't have any way to get to the doctor. Too long to wait for appointment.
 Fear
 Other _____

5. In the last year, was there a time when you needed prescription medicine but were not able to get it?

- No (please go to question 7) Yes (please go to the next question)

6. If you just answered "yes" to question 5, why weren't you able to get prescription medication? Choose all that apply.

- I didn't have health insurance. The pharmacy refused to take my insurance or Medicaid.
 I couldn't afford to pay my co-pay or deductible. I didn't have any way to get to the pharmacy.
 I didn't know how to find a pharmacy. Other _____

7. About how long has it been since you have been to the dentist to get a checkup (not for an emergency)?

- Within the last year 1-2 years ago 3-5 years ago
 5 or more years ago I have never been to a dentist for a checkup.

8. In the last year, was there a time when you needed dental care but could not get it?

- No (please go to question 10) Yes (please go to the next question)

9. If you just answered "yes" to question 8, why weren't you able to get dental care? Choose all that apply.

- I didn't have dental insurance. The dentist refused to take my insurance or Medicaid.
 I couldn't afford to pay my co-pay or deductible. I didn't know how to find a dentist.
 I didn't have any way to get to the dentist. Too long to wait for appointment.
 Fear.
 Other _____

10. In the last year, was there a time when you needed mental-health counseling but could not get it?
 No (please go to question 12) Yes (please go to the next question)

11. If you just answered "yes" to question 10, why weren't you able to get mental-health counseling?
 Choose all that apply.

- I didn't have insurance. The counselor refused to take my insurance or Medicaid.
 I couldn't afford to pay my co-pay or deductible. I didn't know how to find a counselor.
 I didn't have any way to get to a counselor. Too long to wait for appointment.
 Fear. Other _____
 Embarrassment.

12. In the last week how many times did you participate in deliberate exercise, (such as jogging, walking, golf, weight-lifting, fitness classes) that lasted for at least 30 minutes or more?

- None (please go to next question) 1 - 2 3 - 5 More than 5

13. If you answered "none" to the last question, why **didn't** you exercise in the past week? Choose all that apply.

- I don't have any time to exercise. I don't like to exercise.
 It is not important to me. I can't afford the fees to exercise.
 I don't have access to an exercise facility. I am too tired.
 I don't have child care while I exercise. I have a physical disability.
 Other _____

14. On a typical day, how many servings of fruits and/or vegetables do you have?

- None (please go to next question) 1 - 2 3 - 5 More than 5

15. If you answered "none" to the last question, why **didn't** you eat fruits/vegetables? Choose all that apply.

- It is difficult to buy fruits and/or vegetables I don't like fruits/vegetables
 It is not important to me. I can't afford fruits/vegetables.
 Other _____

16. On a typical day, how many cigarettes do you smoke (either actual or electronic/vapor)?

- None 1 - 4 5 - 8 9 - 12 More than 12

17. Where do you get most of your medical information (*check only one*)

- Doctor Friends/family Internet Pharmacy Nurse at my church

18. Do you have a personal physician? No Yes

19. Overall, my physical health is: Good Average Poor

20. Overall, my mental health is: Good Average Poor

21. How long has it been since you have had a flu shot?

- Within the last year 1-2 years ago 3-5 years ago
 5 or more years ago I have never had a flu shot

V. BACKGROUND INFORMATION

What county do you live in?

- Livingston Other

What type of insurance do you have?

- Medicare Medicaid Private/commercial None

If you answered "none" to the last question, why **don't** you have insurance? Choose all that apply.

- I cannot afford insurance I don't need insurance
 I don't know how to get insurance Other _____

What is your gender? Male Female

What is your age?

- Under 20 21-30 31-40 41-50 51-60 61-70 71 or older

What is your race?

- White Black/African American
 Hispanic/Latino Native American/American Indian/Alaska Native
 Asian (Indian, Pakistani, Japanese, Chinese, Korean, Vietnamese, Filipino)
 Pacific Islander (Native Hawaiian, Samoan, Guamanian/Chamorro)
 Other race not listed here: _____

What is your highest level of education?

- Less than high school Some high school High school degree (or GED/equivalent)
 Some college (no degree) Associate's degree Bachelor's degree
 Graduate or professional degree Other: _____

What was your total income last year, before taxes?

- Less than \$20,000 \$20,001 to \$40,000 \$40,001 to \$60,000
 \$60,001 to \$80,000 \$80,001 to \$100,000 over \$100,000

Do you: Rent Own Other

How many people live in your home? _____

What is your job status?

- Full-time Part-time Unemployed Homemaker
 Retired Disabled Student Armed Forces

Is there anything else you would like to tell us about community concerns, health problems or services in the community?

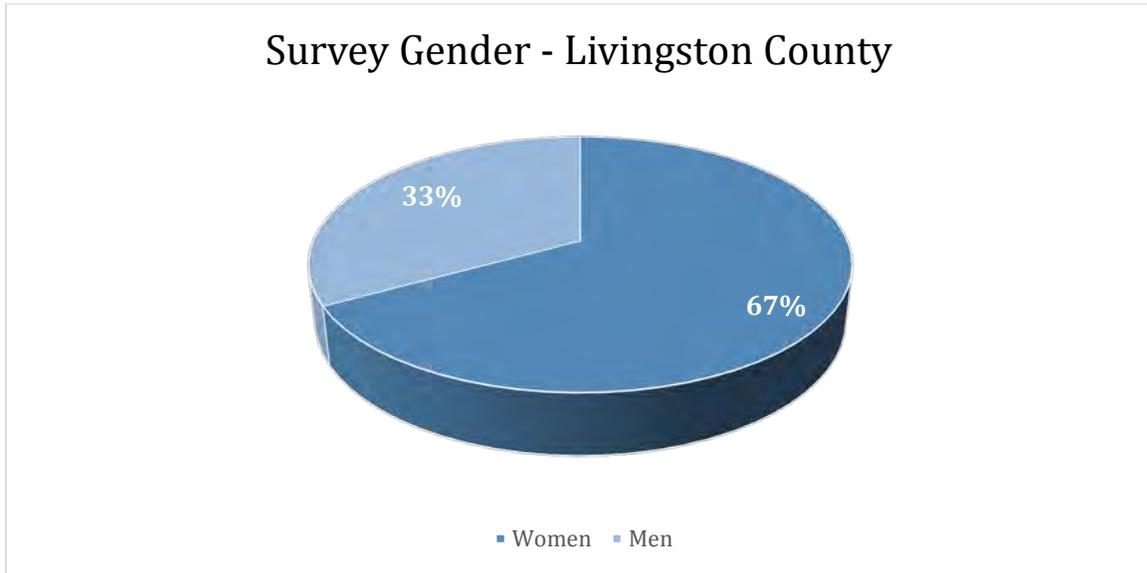
Thank you very much for sharing your views with us!

This survey instrument was reviewed by the Committee on the Use of Human Subjects and Research (CUSHR), Bradley University Institutional Review Board (IRB) in May, 2015

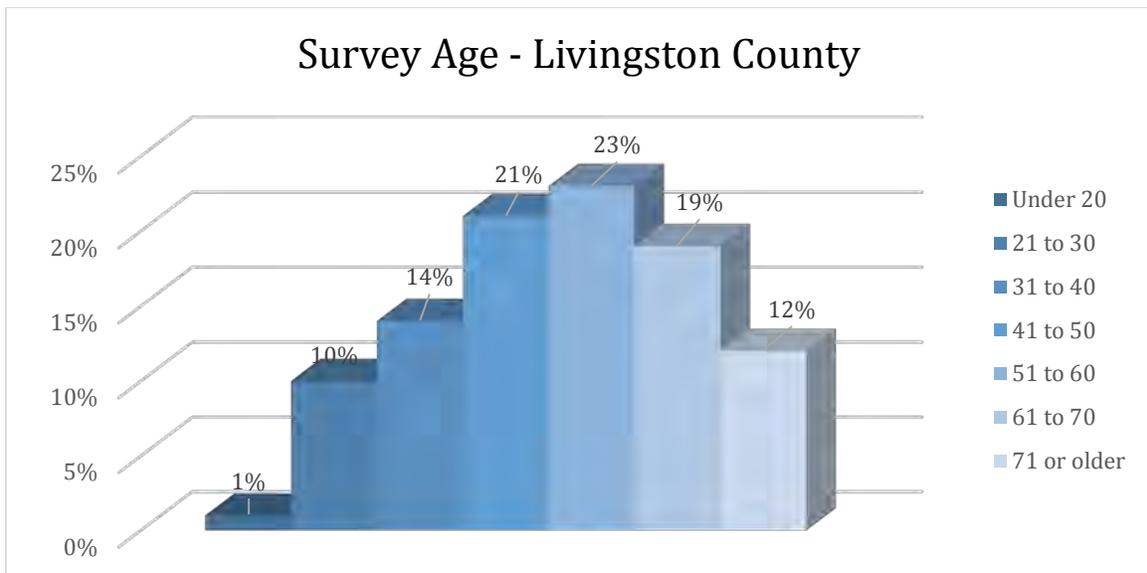
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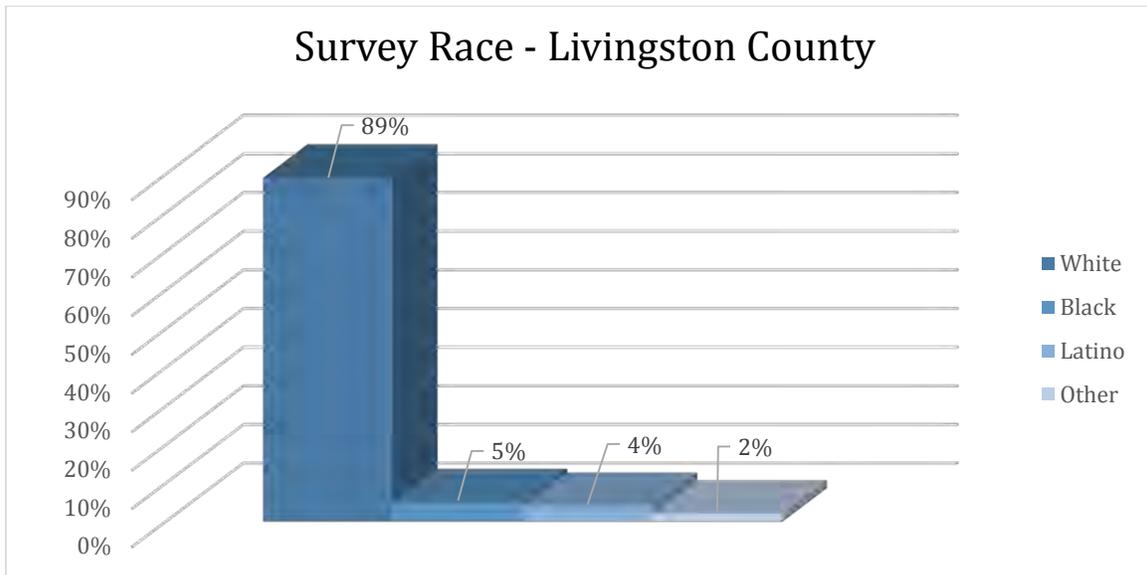
APPENDIX 4. CHARACTERISTICS OF SURVEY RESPONDENTS FOR GENERAL SAMPLE



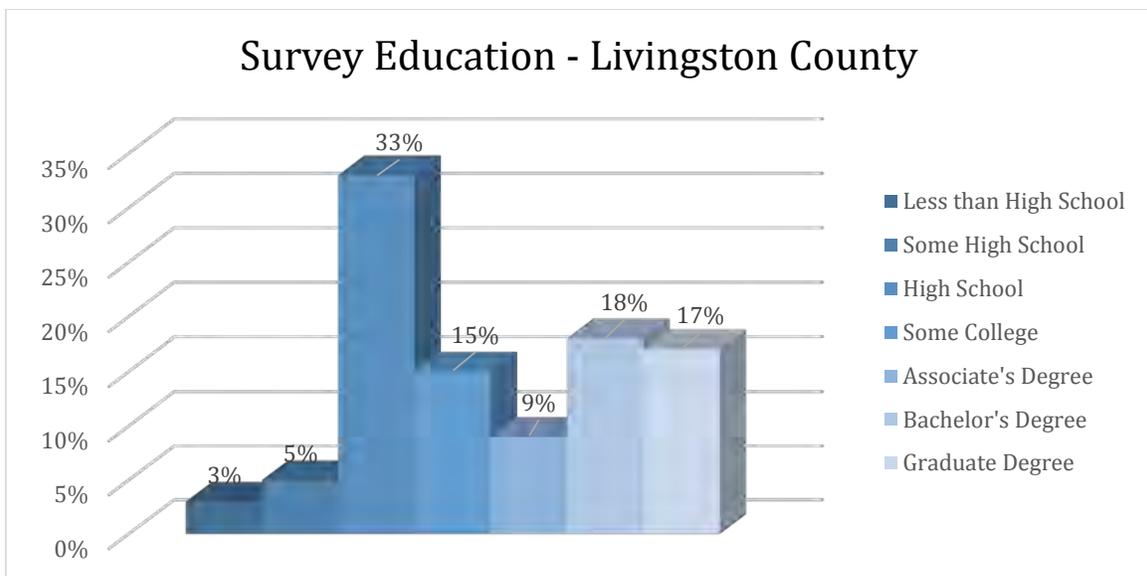
Source: CHNA Survey



Source: CHNA Survey

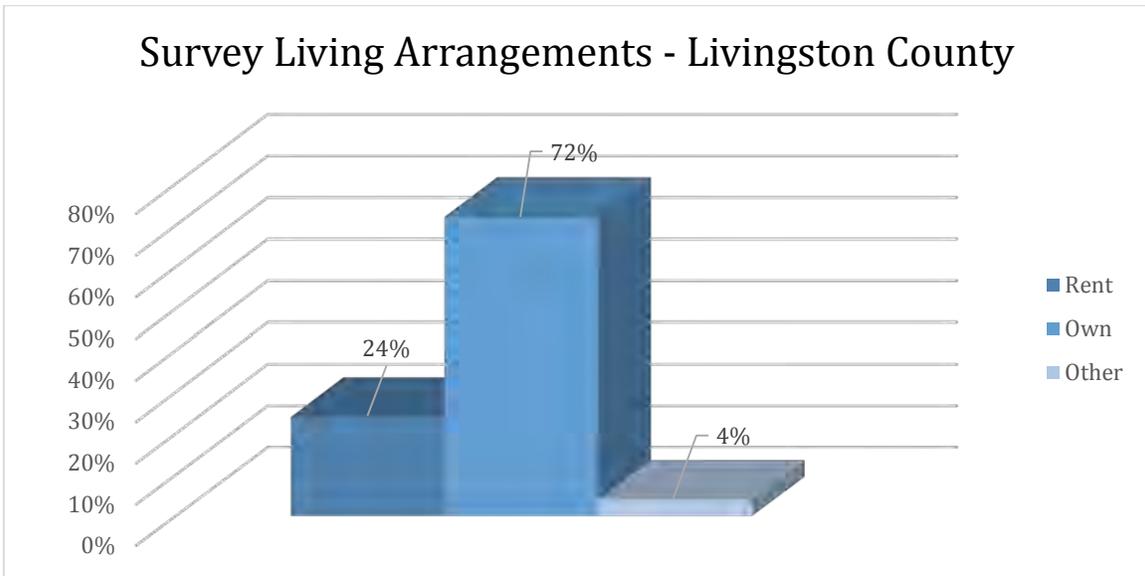


Source: CHNA Survey

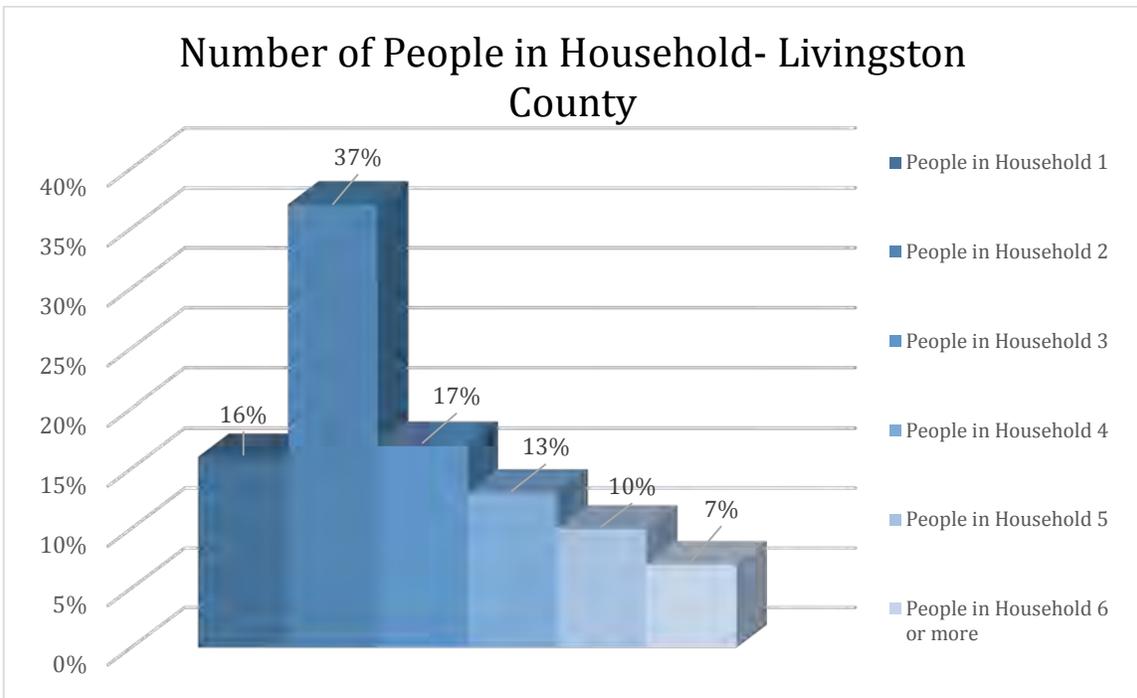


Source: CHNA Survey

Income: Mean income for sample was \$54,211.00



Source: CHNA Survey



Source: CHNA Survey

APPENDIX 5. RESOURCE MATRIX

	Organization name	Cancer	Cardiovascular Disease	Diabetes	Emergency Department Misuse	Healthy Behaviors/ Eating & Exercise	Mental Health	Obesity	Low Birth Weights	Seeking healthcare	Substance Abuse	Tobacco Usage
Recreational Facilities	Pontiac Parks and Recreation		X			X		X				
Health	Livingston County Health Department	X		X	X	X	X	X		X	X	X
Community Agencies	Alcoholics Anonymous										X	
	ADV/SAS						X				X	
	Boys and Girls Clubs Livingston County (Pontiac and Fairbury)					X		X				
	Caring Pregnancy Center								X			
	Food Pantries and Meal Services (various agencies)					X						
	Futures Unlimited						X					
	Healthy Families Illinois					X						
	Illinois Tobacco Quit Line											X
	Illinois Breast and Cervical Cancer Program	X										
	Institute for Human Resources and Mental Health Board						X				X	
	Livingston County Childrens Network						X					
	Livingston Living Well					X		X				
	Show Bus									X		
	Stanford University Diabetes Self Management Program							X				
	Support Groups (Celiac Disease, Life after Loss, Gastric Bypass)					X	X	X				
	Transportation Services (various)				X					X		
	United Way of Livingston County									X		
	University of Illinois Livingston County Extension					X		X				
	Weight Watchers					X		X				
	WJEZ Radio Community Forum	X	X	X		X		X		X		
	Women, Infants and Children Nutritional Program					X		X	X			
Hospitals / Clinics	Livingston Family Care Center				X					X		
	Michael Hubert Wellness Clinic	X	X	X				X		X		
	OSF Saint James - John W. Abrecht Medical Center	X	X	X	X	X	X	X	X	X	X	X
	OSF Multi-Specialty Group	X	X	X	X	X	X	X	X	X	X	X
	OSF HomeCare and Hospice	X	X		X					X		
	Women's Health Clinic				X					X		

APPENDIX 6. DESCRIPTION OF COMMUNITY RESOURCES

Recreational Facilities (1)

Pontiac Parks and Recreation

The Pontiac Parks and Recreation Department provides opportunities for leisure activities in a variety of ways by the individual, either through their own initiative or through organized programs and educational sessions.

Health Departments (1)

Livingston County Public Health Department

The Livingston County Health Department enhances the health and safety of the community by promoting public health education and awareness; providing essential health services; and encouraging collaborative efforts throughout Livingston County, including Public Health Emergency Preparedness Planning.

Services include: low-cost screenings for diabetes, heart disease, prostate cancer, and general wellness; compliance checks for smoke-free indoor air and referrals to the Illinois Tobacco Quitline; influenza and pneumonia vaccines, both in-house and at community clinics; other childhood and adult vaccines; school, sports and work physicals; vision and hearing screenings for preschool students at school sites; Homemaker/CNA and Nursing in-home visits and nursing home pre-screenings and School Based Health Center at Pontiac Township High School.

Programs include: Communicable Disease Surveillance, Control, and Treatment; Oral Health Education materials for elementary students in schools with large numbers of students eligible for free/reduced lunch program; Family Case Management /Women Children and Infants Supplemental Nutrition Program; Family Planning and Sexually Transmitted Disease Programs; Illinois Breast & Cervical Cancer Program [women with no or high deductible health insurance]; Healthy Families; Diabetes Self-management Program; Asthma Champions Program; and Food Sanitation Classes.

Community Agencies/Private Practices

Alcoholics Anonymous

Alcoholics Anonymous is a fellowship of men and women who share their experience, strength and hope with each other that they may solve their common problem and help others to recover from alcoholism. Alcoholics Anonymous meetings are offered in the Livingston County area.

ADV/SAS

ADV/SAS offers a safe atmosphere where survivors of sexual assault and domestic violence can find support, resources and strength including crisis line, safe shelter, legal and medical advocacy, supportive counseling and prevention education.

Boys and Girls Clubs of Livingston County (Pontiac and Fairbury)

Boys and Girls Clubs offer many activities for young people of the Livingston County area including character and leadership development, arts, education and career development, health and life skills and sports fitness and recreation. As a part of these programs, the clubs encourage and educate on healthy behaviors around nutrition and obesity prevention.

Caring Pregnancy Center

Caring Pregnancy Center offers support and education for those experiencing an unplanned pregnancy including counseling, medical clinic and baby supplies and assistance.

Food Pantries and Meal Services

Food pantries and meal services are offered by over 20 community agencies and churches throughout Livingston County offering availability to healthy foods and other items to community members in need.

Futures Unlimited

Futures Unlimited, Inc., a sheltered workshop for developmentally disabled clients, also receives funding from the Mental Health Board and services include: job placement in the community, supported employment in the community, developmental training, vocational development, facility-based employment, community living support services, and respite support services to give support and relief to families and caregivers by providing temporary, time-limited care and assistance for persons with developmental disabilities.

Healthy Families Illinois

Healthy Families Illinois is provided by the Livingston County Public Health Department, which focuses on positive parenting in the first years of life.

Illinois Tobacco Quit Line

Illinois Tobacco Quit Line provides free telephone counseling to assist individuals in quitting tobacco use. ITQL provides Nicotine Replacement Therapy in the form of patches, lozenges, and gum for qualified individuals (those that do not have access to those products thru insurance or Medicaid) for 8 weeks per 12-month period.

Illinois Breast and Cervical Cancer Program

The Illinois Breast and Cervical Cancer Program, conducted by the Livingston County Public Health Department, provides free mammograms and PAP test for all women who do not have health insurance.

Institute for Human Resources and Mental Health Board

The Institute for Human Resources provides a continuum of quality recovery based mental health and substance abuse services ranging from education and prevention through treatment and aftercare for residents of Livingston County. IHR also provides outpatient counseling and provides patient evaluation services for OSF Saint James inpatient and emergency patients at time of discharge; as well as referrals from the Livingston County Health Department. The IHR Prevention Specialist conducts ATOD prevention education in schools, and coordinates the local Snow Ball project.

Services provided by the Mental Health Board through the Institute for Human Resources (IHR) include: outpatient counseling, emergency intervention, medication, and aftercare, with a goal of treating clients before problems become severe and to minimize admissions to state mental hospitals; counseling, outreach, hospitalization visits, and aftercare for severely disturbed children; group counseling, leisure activities, recreation, and survival skills training for seriously mentally ill clients; intensive contact with clients suffering from serious and chronic mental illness and discharges from state hospitals, to deflect unnecessary hospitalization, while improving their quality of life in the community; 24-hour crisis response availability; counseling for alcoholics/substance abusers and their families; prevention services for alcohol/drug abuse, AIDS, child abuse, and stress, as well as parenting classes and support groups for parents of hyperactive children and children with disabilities; and independent living for chronically mentally ill clients, who are assisted with shopping and homemaking skills.

Livingston County Children's Network

Livingston County Children's Network focuses on mental health issues of children. Positive parenting program offered through OSF Multi-Specialty Group and other providers including educational materials and plans as well as to referrals to IHA and other mental health professionals as needed.

Livingston/LivingWell

Livingston/LivingWell is an employee wellness project for all county employees coordinated by the Livingston County Public Health Department and includes education and activities addressing weight management.

Show Bus

Show Bus offers public transportation to anyone in Livingston County and seeks to enhance the access of people in non-urban areas to health care, employment, education, public services, shopping and recreation.

Stanford University Diabetes Self-Management Program

Stanford University Diabetes Self-Management Program, conducted by the Livingston County Public Health Department, discusses weight management, nutrition, physical activity, stress management, etc. as related to weight and diabetes management.

Support Groups

Support groups offered by various organization in the Livingston County community including, but not limited to, Celiac Disease, Life after Loss, and Gastric Bypass support.

Transportation Services

Transportation Services are offered by various organization including both urgent/emergent (ambulance) and non-urgent services to Livingston County community members.

United Way of Pontiac

The United Way is a recognized leader in helping solve community problems by gathering and distributing resources in an efficient and accountable manner, community resources that respond to priority health and human service needs.

University of Illinois Livingston County Extension

Livingston County Extension office provides educational programs to the community on numerous subjects including health and nutrition to both youth and adult audiences.

Weight Watchers

Weight Watchers conducts meetings in several locations in Livingston County.

WJEZ Radio Community Forum

OSF Saint James, Livingston County Public Health Department and other community health providers participate in a monthly community information program, WJEZ Radio's Community Forum.

Women, Infants, and Children's Nutrition Program

Women, Infants, and Children's (WIC) supplemental nutrition program is conducted by the Livingston County Public Health Department. WIC encourages breastfeeding, proper nutrition during pregnancy; and nutrition for children from birth through age 5 for qualified women and children.

Hospitals/Clinics

Livingston Family Care Center

The Livingston Family Care Center provides low/no cost health services to people who have limited or no access to medical care.

Michael J. Hubert Wellness Clinic

Hubert Wellness Clinic, conducted by the Livingston County Public Health Department, includes screening for waist measurement and provides low-cost screening for risk factors related to prostate cancer and diabetes. The Clinic also provides clients with information regarding colon cancer screening risk/protective factors and screening guideline and low-cost screening for risk factors related to heart disease. The Clinic is also offered at various worksites in rural communities throughout Livingston County.

OSF Saint James – John W. Albrecht Medical Center

OSF Saint James – John W. Albrecht Medical Center is a 42-bed health care facility. OSF Saint James provides a broad range of acute care and outpatient services including a variety of specialist, emergency, rehabilitation, and diagnostic imaging services. OSF Saint James-John W. Albrecht Medical Center offers

the following services: Acute Inpatient Care, Critical Care, eICU, Emergency Care, Skilled Nursing Swing Beds, Advanced Care Planning, Cardiology, Cardiac Rehabilitation, Pulmonary Rehabilitation, Occupational Medicine, Obstetrics/Gynecology, Pediatrics, Anesthesiology, Medical Diagnostic Services (VCT Scanner, MRI, PET, Mammography, Bone Densitometry, Ultrasound, Radiology & Laboratory), Surgery, Internal Medicine, Orthopedics, Family Medicine, Rehabilitation Services (Physical Therapy, Occupational Therapy, Speech Therapy, Sports Medicine, Audiology, Assistive Technology & Pediatric Development), Occupational Health, Sleep Evaluation, Employee Health Screening, Ergonomic Assessment, Home Health, Hospice, Social Services, Education and Training for area EMS professionals, a diabetes education program and an education center which includes a library of written and A/V materials. OSF Saint James is a Tier Two Resource Hospital for disaster and bioterrorism preparedness. Medical Education Residency programs in Emergency and Surgical Medicine through the University of Illinois College of Medicine in Peoria are in place. Semi-annual public education programs are offered at the medical center and in the community on topics ranging from exercise for good health to joint pain, women's wellness, child development & adolescence, and menopause; regular cholesterol and blood glucose screenings; participation in the education of future health professionals by hosting nursing students, interns and externs, as well as students in radiologic technology, physical therapy, occupational therapy, speech therapy, athletic training, social services and community health education.

Specific centers of interest include: Saint James outpatient dietician, support groups for Gastric Bypass and diabetes, community education and outreach sessions, incontinence program, maternity services and OB Nurse Navigator Program, breast health program, prescription medication assistance program, pediatric play groups, online health library, OSF Resource Link, OSF Charity Assistance program, Sleep and Lung Center, vaccinations, Emergency Department, STAR cancer rehabilitation program, and through print articles to local media.

OSF Multi-Specialty Group

OSF Multi-Specialty Group offers a wide range of medical and surgical care, as well as other specialty and prompt care services, through provider offices located throughout Livingston County.

OSF Home Care and Hospice

OSF Home Care and Hospice offer health care and services to home bound individuals as well as services at end of life through Hospice.

Women's Health Clinic

The Women's Health Clinic, operated by the Livingston County Public Health Department, provides care based on a sliding fee basis for women in the county. In addition, the Clinic provides some cancer screenings to eligible women participating in the programs along with education on cancer prevention.

APPENDIX 7. PRIORITIZATION METHODOLOGY

5-STEP PRIORITIZATION OF COMMUNITY HEALTH ISSUES

Step 1. Review Data for Potential Health Issues

Step 2. Briefly Discuss Relationships Among Issues

Step 3. Apply “PEARL” Test from Hanlon Method³

Screen out health problems based on the following feasibility factors:

Propriety – Is a program for the health problem appropriate?

Economics – Does it make economic sense to address the problem?

Acceptability – Will a community accept the program? Is it wanted?

Resources – Is funding available for a program?

Legality – Do current laws allow program activities to be implemented?

Step 4. Use Voting Technique to Narrow Potential Issues

Step 5. Prioritize Issues. Use a weighted-scale approach (1-5 scale) to rate remaining issues based on:

1. Magnitude – size of the issue in the community. Considerations include, but are not limited to:

- *Percentage of general population impacted*
- *Prevalence of issue in low-income communities*
- *Trends and future forecasts*

2. Severity – importance of issue in terms of relationships with morbidities, comorbidities and mortality. Considerations include, but are not limited to:

- *Does an issue lead to serious diseases/death*
- *Urgency of issue to improve population health*

3. Potential for impact through collaboration – can management of the issue make a difference in the community?

Considerations include, but are not limited to:

- *Availability and efficacy of solutions*
- *Feasibility of success*

³ “Guide to Prioritization Techniques.” National Connection for Local Public Health (NACCHO)