COMMUNITY HEALTH NEEDS ASSESSMENT

2013

SAINT JAMES HOSPITAL

Livingston County

Prepared by: Dr. Laurence G. Weinzimmer and Professor Eric Michel

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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 and prevalence for 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 hospitals, as well as perceptions of targeted stakeholder groups. Specifically, this assessment provides a detailed analysis of: (1) Livingston County area community health needs using secondary data; and (2) an assessment of perceptions and behaviors regarding health-related challenges in the community, including accessibility to needed health care.

PHASE I – USE OF SECONDARY DATA TO IDENTIFY NEEDS

Chapters 1-5 include 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. Strategic implications are discussed at the end of each chapter. Specifically, Phase I of the study highlights several critical areas of community needs:

Demographics – With the changing demographics, forecasts indicate increase in chronic conditions such as diabetes, asthma, heart disease, and obesity. Three specific demographic trends in the region will have a significant impact on health issues, including:

Elderly Population – Individuals aged 60-64 increased from 4.8% to 4.9% between 2007 and 2010 and individuals aged 65-74 increased from 6.8% to 7.6% between 2007 and 2010. Overall, individuals aged 62 and over increased from 15.0% to 15.6% in Livingston County.

Poverty – Families living in poverty increased moderately between 2007 (8.1%) and 2010 (9.1%). For 2010, the Livingston County median household income ($51,336) is slightly less than the State of Illinois median household income ($52,972).

Accessibility to Health Care – The lack of insurance coverage is more prevalent among socioeconomically disadvantaged groups that are often at high risk for disease and illness. Thus, a vicious cycle results where individuals who are at the highest risk for diseases are unable to receive screenings, thus perpetuating a cycle of disease. This is compounded by unhealthy lifestyles.

Obesity – There was a 16% growth in the percentage of Livingston County residents reporting they were overweight between 2006 (34.6%) and 2009 (40.2%). For comparison, there was a

9% growth in the percentage of Illinois residents reporting they were overweight between 2006 (24.7%) and 2009 (26.8%).

Risky Behavior – Youth substance usage in Livingston County exceeds the State of Illinois averages for 12th graders (alcohol and tobacco usage).

Mental Health -- Approximately 20% of residents in Livingston County reported they had experienced 1-7 days with poor mental health per month between 2007 and 2009. For both segments of residents (those experiencing 1-7 days and 8-30 days with poor mental health per month), each was below the state average for the same time frame.

Women's Health – While the percentage of women who report the time since their last mammogram was more than one year ago is lower in Livingston County than in the State of Illinois (33.8% vs. 43.6%), growth rates for this category are higher in Livingston County. There was a 48% growth in the percentage of Livingston County female residents reporting the time since their last pap smear was more than one year between 2006 (20.9%) and 2009 (30.9%). For comparison, there was a 27% growth in the percentage of Illinois residents reporting the time since their last pap smear was more than one year between 2006 (20.7%) and 2009 (26.2%). Rates in Livingston County now exceed the State of Illinois average.

According to the Behavioral Risk Factor Surveillance Survey (BRFSS), 86.8% of Livingston County female residents report they have ever had a clinical breast exam. This figure is lower than the State of Illinois average (89.9%).

Men's Health – There was a 4% decrease in the percentage growth of Livingston County male residents over age 40 reporting they had ever had PSA test between 2006 (62.0%) and 2009 (59.5%). For comparison, there was an 8% growth in the percentage of Illinois male residents over age 40 reporting they had ever had a PSA test between 2006 (57.7%) and 2009 (62.4%). Rates in Livingston County are now below the State of Illinois average.

Morbidity Issues – Several different diseases have seen significant growth between 2008-2011.

> *Asthma* – Asthma rates in Livingston County now exceed the State of Illinois. Moreover, growth rates for asthma are higher in Livingston County (14% increase between 2006 and 2009) than in the State of Illinois (2% increase between 2006 and 2009).
>
> *Diabetes* – There was an increase in the percentage of Livingston County residents reporting they were informed they had Type II diabetes between 2006 (7.9%) and 2009 (10.2%). Diabetes in Livingston County exceeds the State of Illinois.
>
> *Hypertension* – There was a significant increase in the percentage of Livingston County residents reporting they were informed they had high cholesterol between 2006 (23.3%) and 2009 (29.8%).

Cardiovascular Disease – The number of cases of other cardiovascular diseases at hospitals from the Livingston County region has increased nearly 27%, however absolute numbers are small.

Mortality – The leading causes of death include diseases of the heart, malignant neoplasm and coronary heart disease.

PHASE II – COLLECTION, ANALYSIS AND INTERPRETATION OF PRIMARY DATA

A comprehensive understanding of targeted stakeholders was completed in Chapters 6-9. Specifically, it was important to understand how "at risk" or economically disadvantaged people perceived: (1) relative importance of health issues; (2) relative importance of unhealthy behaviors; (3) access to health care, dental care, counseling and prescription medications. Through this type of research, opportunities were identified for improving how community health needs are addressed; and insights into how perceptions are affected by demographic characteristics. Critical findings include:

Misperceptions of community health issues – Inconsistencies exist between people's perception of health issues and actual data.

Based on results from the survey, respondents incorrectly perceived "diabetes," "heart disease," "teen pregnancy," and "dental" as being relatively less important health concerns to the community. These results conflict with: morbidity data that suggest diabetes growth rates in Livingston County are higher than growth rates across the State of Illinois; mortality data that indicates heart disease is the leading cause of death in Livingston County; teen pregnancy rates in Livingston County (11.9%) that exceed the State of Illinois rate (9.6%) for 2009; and the aforementioned dental data suggesting nearly 22.3% of Livingston County residents have not seen a dentist in two or more years.

Perceptions of the importance of access to health services – Access to health services is rated as one of the highest determinants to quality of life across all categories.

Access to Medical Services – Several issues relating to health service access were identified.

Choice of Medical Care – Only 54% of people living in deep poverty seek medical services at a clinic or doctor's office. For this segment of the population, it is very common to seek medical services from an emergency department, or even more concerning is that 9% of this segment of the population will not seek any medical services at all.

Access to Medical Care and Prescription Medications – Over 40% of the population living in deep poverty indicated there was a time in the last year when they were not able to get medical care when needed. The leading causes were lack of insurance and inability to afford a copayment or deductible. Similar results were found for access to prescription medication.

Access to Dental Care – While significant research exists linking dental care to numerous diseases, including heart disease, less than 50% of the aggregate Livingston County population had a checkup in the last year. Specifically, younger respondents, Black ethnicity, less educated people and the homeless were less likely to visit a dentist.

Access to Counseling -- Approximately 30% of people living in deep poverty indicated they were not able to get counseling when they needed it over the last 12 months. Leading indicators are younger people, Black ethnicity and homelessness. While affordability and insurance were the leading reasons, fear and embarrassment were also significant.

Access to Information – Across categories, residents of the Livingston County area get most of their medical information from doctors and the next most prevalent is the Internet.

Type of Insurance –The most prevalent type of insurance in Livingston County is private or commercial; however, those living in poverty and Livingston County residents are disproportionately more reliant on Medicaid. Also for those living in poverty, 40% do not have any type of insurance at all.

***Healthy Behaviors* –** Several issues relating to healthy behaviors were identified.

Physical Exercise –Younger people and educated people are more likely to engage in physical exercise, while homeless residents are not. Although only 10% of the population engages in exercise at least 5 times a week.

Healthy Eating – Only 7% of the population consumes at least the minimum recommended servings of fruits/vegetables in a day. Those that are more likely to have healthy eating habits include people with higher education and more income.

Decrease Smoking – Smoking is on the decline, however, 35% of Livingston County residents living in poverty smoke 5 or more cigarettes per day

Self-Perceptions of Health – In terms of self-perceptions of physical and mental health, over 91% of the population indicated that they were in average or good physical health. Similar results were found for residents' self-perceptions of mental health.

PHASE III – PRIORITIZATION OF HEALTH-RELATED ISSUES

The identification and prioritization of the most important health-related issues in the Livingston County region are identified in Chapter 10. After summarizing all of the issues in the Community Health Needs Assessment, a comprehensive analysis of existing community resources was performed to identify the efficacy to which health-related issues were being addressed. Finally, a collaborative team of leaders in the healthcare community used an importance/urgency methodology to identify the most critical issues in the area, including:

- **Obesity**
- **Risky Behavior-Substance Abuse**
- **Healthy Behavior/Nutrition**
- **Mental Health**

- **Community Health Misperceptions**
- **Dental**

Specific criteria used to identify these issues included: (1) magnitude to the community; (2) strategic importance to the community; (3) existing community resources; (4) potential for impact; and (5) trends and future forecasts.

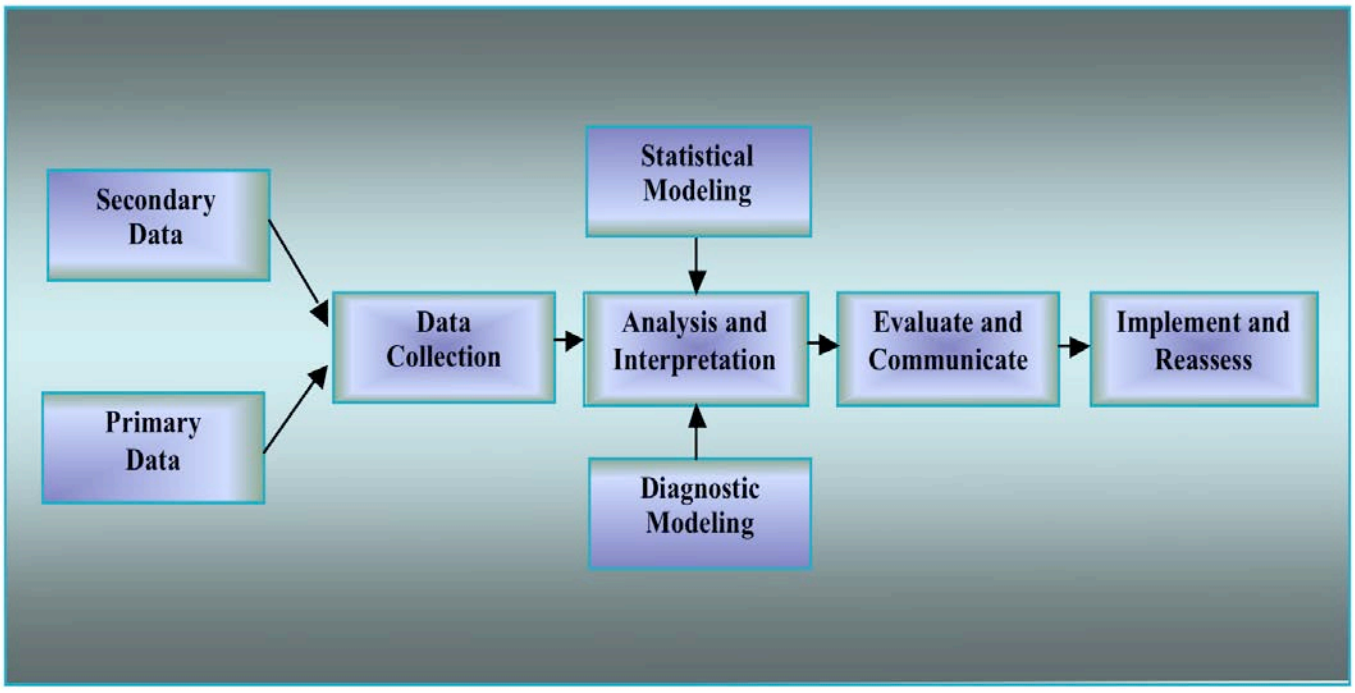
I. INTRODUCTION

Background

The Patient Protection and Affordable Care Act (Affordable Care Act), enacted March 23, 2010 adds new requirements on 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 interest 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, and to 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 needs assessment are illustrated in Figure 1.

Figure 1. Community Needs Assessment Framework



The community health-needs assessment is divided into three distinct phases. **Phase I** focuses on collection of existing secondary data relating to a comprehensive health profile and drawing strategic inferences. **Phase II** focuses on primary data collection to assess perspectives of key stakeholders, including those with special knowledge of the health community. Primary data collection includes a concerted effort to target the at-risk population in the region. **Phase III** focuses on the prioritization of needs within the community.

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 for 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, administrators from the County Health Department and Mental Health Services, a physician from a clinic serving the at-risk population, and a community advisory-board member. Note that numerous partner and agency organizations also participated in this study. Specific discussion of these organizations can be found in the METHODS section. Engagement occurred throughout the entire process, resulting in shared ownership of the assessment. The entire collaborative team met in November of 2012 and in February 2013. 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 health care of the community. Individuals, affiliations, titles and expertise are as follows:

> **Teresa Grant-Quick** is the Livingston County Farm Bureau manager. She has worked in the Farm Bureau system for 32 years. She obtained her Farm Bureau Manager Certification in October 2004. Organizations include membership in the Pontiac Rotary Chairman; Paul Harris Fellow – 2011; member of OSF Saint James John W. Albrecht Hospital Community Advisory Board since 2002, serving as President in 2009; member of "COUNTRY Financial Big Hitters" Relay for Life Team since 2002, serving as Co-Chairman 2009-present; Livingston County Relay for Life 2010 Kick-Off Speaker and Event "Honored Survivor;" Pontiac United Way Fundraiser Campaign Co-Chairman, 2006 and Agriculture Session Coordinator for Pontiac Area Chamber of Commerce Leadership Livingston County class.
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> **Laura Johnson, BSW, MSW**, is a Social Worker, MSW, employed by OSF Saint James-John W. Albrecht Medical Center since April 2012. As a social worker, she works with patients to help and provide support in many different areas including; discharge planning, Advanced Care Planning and DNR, Palliative Care, substance or mental health issues, adoption and teen pregnancy, abuse, outpatients, information and resource referral.
>
> **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 for 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.

Linda Rhodes is the Director of Health Education & Marketing for the Livingston County Health Department. Linda is a graduate of Illinois State University with a Bachelor's in Community Health Education. Linda has been employed at the health department since 1996. She is a Certified Health Education Specialist and is involved in many of the health department programs. Her expertise is in community assessment/evaluation, health promotion and grant writing.

Carol J. Flessner, BSW, LSW is the Executive Director, Livingston County Mental Health Board and the Livingston County Board for the Care and Treatment of Persons Developmental Disability; and Executive Director, Livingston County Commission on Children and Youth. Carol is a graduate of Illinois State University. She is Past President and current member Evenglow Board of Trustees; Past President and current member Habitat for Humanity Board; President of Livingston County Local Area Network on Mental Illness; Secretary and Treasurer Prairie Horizons Corporation – Housing for persons with mental illness and developmental disabilities and President of the Association of Community Mental Health Authorities of Illinois

Joe Vaughan is the Executive Director of the Institute for Human Resources (IHR). Joe has been part of IHR's organization for the past 23 years. He became director of the agency in 2010. Joe studied psychology at Eastern Illinois University and holds a Master's Degree from the University of Illinois. Joe has been a Licensed Clinical Social Worker since 1998.

Susanna Legner, RN, BSN is the Director of the OSF Saint James-John W. Albrecht Medical Emergency Department. She graduated from Illinois State University Mennonite College of Nursing and has worked for OSF since May of 2005. She has worked in the Emergency Department for seven years, managing for the last three. Prior to her career in health care, Susanna worked for State Farm Insurance Company. Susanna notes that she loves every aspect of her life and is so grateful to be part of an organization whose mission is to make a positive difference in the lives of everyone we serve.

Daniel Lau, MD has been with OSF since graduating from residency in the summer of 2011. He is an attending physician at OSF Medical Group's (OSFMG) offices in both Chenoa and Pontiac, IL. He did his medical school through the University of Illinois at Peoria and thus was introduced to OSF Healthcare in 2005. Dr. Lau was on several committees in residency and now at OSF Saint James. In residency, he was the program representative to the Ethics Committee, Pharmacy and Therapeutics Committee and Patient Centered Medical Home Committee. With OSF, he is medical director of the OSFMG Chenoa Family Medicine office, PI CME physician champion, site leader for OSFMG family medicine, internal medicine, pediatrics, med/peds office. In addition, he is a member of the Pediatric Advisory Council, and the Community Health Needs

Assessment Advisory Team, and is a clinical instructor for the University of Illinois Department of Family and Community Medicine. Dr Lau states that he enjoys his role as team member for these committees and groups because it gives him a vehicle to work with colleagues to get them to think differently about themselves and be the best they can be and fulfill OSF's mission to serve with the greatest care and love.

Meridith Nelson is the Director of Strategic Planning at OSF St. Joseph Medical Center in Bloomington, Illinois. With nearly 20 of experience in health care in not-for-profit, for-profit, and government settings, she has spent the last ten years focused in health care business development and strategic planning in not-for-profit, faith-based health systems. She holds a BS in Pharmacy from the University of Kansas and MHA and MBA degrees from The University of Iowa.

Paula M. 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 chairperson of the OSF Saint James Community Health Need Assessment Advisory Team.

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 Director of Debt Management and Revenue Cycle for OSF Healthcare System, a position she has served in since 2002. Michelle has over 27 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 FHFMA certification in 2011. Currently, she serves on the Revenue Cycle Key Performance Indicator Task Force and the National Advisory Council for HFMA National. Michelle chaired the Illinois Hospital Association Medicaid Cost Work Group and was a member of the IHA task force that developed the statewide Community Benefit Report that is submitted to the Attorney General's Office.

Dawn Irion (Coordinator) is the Community Benefits Coordinator at OSF Healthcare System. She has worked for OSF Healthcare system since 2004 and has helped coordinate the submission of the Community Benefit Attorney General report since 2008. She has coordinated and gathered information used in filing IRS Form 990 Schedule H since 2009 and is a member of Healthcare Financial Management Association.

Eric J. Michel (Research Associate) MBA, is a faculty member in Leadership at Christopher Newport University in Newport News, VA. Previously, he served on the faculty of the Foster College of Business at Bradley University in Peoria, IL. Professor

Michel has coauthored over a dozen papers on leadership and organizational strategy for presentations at national conferences and for publication in academic journals. He serves as a consultant to not-for-profit and healthcare organizations in the areas of executive development and community assessment.

Dr. Laurence G. Weinzimmer (Principal Investigator) Ph.D. 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.

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 from Livingston County. Data show that Livingston County represents 78.5% of all patients for the hospital.

In terms of patient categories for this CHNA, in addition to defining the community by geographic boundaries, this study will target the at-risk populations as an area of potential opportunity to improve the health of this population.

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 the health departments, in order to create strategic plans in program design, access and delivery. Results of this study will act as the platform to allow health-care organizations to orchestrate limited resources to improve management of high-priority challenges. By working together, the hospitals, clinics and health departments will use this CHNA to help improve the quality of health care in the defined community. When feasible, data are assessed longitudinally to assess changes and patterns and benchmarked with state averages.

II. METHODS

To complete the comprehensive community health-needs assessment, multiple sources were examined. Secondary statistical data were used for the first phase of the project. Additionally, based on a sample of 967 survey respondents from Livingston County, phase two focused on assessing perceptions of the community health issues, unhealthy behaviors, issues with quality of life, healthy behaviors and access to health care. Data were collected to assess the importance of specific issues, as well as access to health care.

Phase I. Secondary Data for Community Health Needs Assessment

We first used existing secondary statistical data to develop an overall assessment of the health-related issues in the community. Note that several tables were aggregated from numerous data sources. For example, educational report-card tables were compiled by collecting information from numerous individual school report cards and combining aggregated data into these tables.

Five chapters were completed based on assessment of secondary data. Each chapter contains numerous categories. Within each category, there are specific sections, including definitions, importance of categories, data and interpretations. At the end of each chapter there is a section on the key strategic implications that can be drawn from the data.

Note that most of the data used for this phase was acquired via publically available data sets. However, for specific sections of Chapter 2 and the majority of Chapter 4, the most recent data available were from 2009. Given a purpose of this assessment is to measure subsequent improvements to community health over time, using data that are three years old is not sufficient. Therefore we used COMPdata from 2008-2012 for all of our disease categories. This required manual aggregation of data from the hospitals serving the Livingston County area.

Based on several retreats, a separate OSF Collaborative Team identified six primary categories of diseases, including: age related, cardiovascular, respiratory, cancer, type 2 diabetes and infections. We also identified secondary causes of diseases as well as intentional and unintentional injuries. In order to define each disease category, we used modified definitions developed by Sg2. Sg2 specializes in consulting for health care organizations. Their team of experts includes MDs, PhDs, RNs and health care leaders with extensive strategic, operational, clinical, academic, technological and financial experience.

Phase II. Primary Data Collection

This section describes the research methods used to collect, code, verify and analyze primary data. Three specific areas include the research design used for this study: survey design, data collection and data integrity.

A. Survey Instrument Design

Initially, all surveys used in previous health-needs assessments in the U.S. that we were able to identify were assessed to identify common themes and approaches to collecting community health-needs data. In all, 15 surveys were identified. By leveraging best practices from these surveys, we created our own pilot survey. 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. Specifically, for the community health need assessment, five specific areas were included:

Ratings of health problems in the community – to assess the importance of various community health concerns. Survey items included areas assessing topics such as cancer, diabetes and obesity. In all, there were 20 choices provided for survey respondents.

Ratings of unhealthy behaviors in the community – to assess the importance of various unhealthy behaviors. Survey items included areas assessing topics such as violence, drug abuse and smoking. In all, there were 14 choices provided for survey respondents.

Ratings of issues with quality of life – to assess the importance of various issues relating to quality of life in the community. Survey items included areas assessing topics such as access to health care, safer neighborhoods and effective public transportation. In all, there were nine choices provided for survey respondents.

Accessibility to health care – to assess the degree to which residents could have access to health care when needed. Survey items included areas assessing topics such as access to medical, dental and mental care, as well as access to prescription drugs.

Healthy behaviors – to assess the degree to which residents exhibited healthy behaviors. The survey focused on areas such as exercise, healthy eating habits and smoking.

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 three 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 Hispanic population. A total of 130 surveys were collected. Results from the pilot survey revealed specific items to be included/excluded in the final survey instrument. Selection criteria for the final survey included validity, reliability and frequency measures based on responses from the pilot sample. Note that these surveys were not included in the final sample. A copy of the final survey is included in Appendix 1.

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. Poverty rate for Livingston County was 11.0 percent. The populations used for the calculation was 38,885, yielding a total of 4,278 residents living in poverty in the Livingston County area.

We assumed a normal approximation to the hypergeometric 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 95% 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 353. Note that for *aggregated* analyses, an additional 269 random surveys were needed from those not living in poverty in order to identify and analyze general perspectives.

In order to satisfy sampling requirements for both those living in poverty as well as aggregate perspectives, the data collection effort for this CHNA yielded a total of 967 usable responses. This met the threshold of the desired confidence interval. Final results for data collection yielded a total of 429 respondents living in poverty for this CHNA and data for the total aggregate population yielded a total of 967 usable responses. This met the threshold of the desired 95% confidence interval. Specifically, these numbers met the 99% confidence interval threshold for both the at-risk population and the aggregate population.

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 confidentiality and anonymity. Data for the survey was completed through collaborative efforts with the following organizations to target both the general populations, as well as the at-risk population:

- Pontiac Chamber of Commerce
- Pontiac Proud
- Pontiac Rotary
- Pontiac Kiwanis
- Dwight Rotary
- Fairbury Rotary
- Livingston Family Care Center
- Farm Bureau
- Livingston County Health Department
- Institute of Human Resources
- Futures Unlimited
- Mid-Central Community Action
- Showbus
- OSF Saint James Advisory Board and Foundation Council

- LCSSU
- Livingston Co. area Nursing Homes
- PATH
- Livingston County Schools-thru regional superintendent
- Daily Leader
- WJEZ
- GLCEDC
- Dwight Main Street
- Pontiac Recreational Center
- Family Eye Care
- Livingston County Housing Authority
- Area Churches:
- St Mary Catholic Church
- 1st Methodist
- 1st Baptist
- 1st Lutheran
- Bible Church
- Food Pantries:
- St Vincent DePaul Food Pantry
- First Baptist Church Food Pantry
- Livingston County Food Pantry
- Christian Fellowship Food Pantry
- Cullom Food Pantry
- Salvation Army

Note that 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. However, when using convenience-sampling techniques, we made a concerted effort to assure randomness in order to mitigate potential bias in the sample.

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 coded correctly. This was followed by analyses of means and standard deviations and comparison of primary data statistics to existing secondary data. Additionally, for regression models, residual analyses were performed to ensure that the data met assumptions of the underlying models. Specifically, residuals were analyzed to make sure (1) the data were normally distributed, (2) no patterns existed among residuals (e.g., heteroscedasticity) and (3) no significant outliers biased the outputs.

E. Analytic Techniques

In order to ensure statistical validity, we used several different analytic techniques to assess data. Specifically, frequencies and descriptive statistics were used for identifying patterns in residents' rating 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, x^2 tests and tetrachoric correlations when appropriate, given characteristics of the specific data being analyzed.

PHASE I – SECONDARY DATA RESEARCH FOR COMMUNITY HEALTH NEEDS

In this section of the community health needs assessment, there are five chapters that assess different aspects of the general community as well as specific health-related issues. All of the information in this section is taken from secondary data sources. As described in the METHODS section, some data sources are publically available and other data sources are comprised of aggregated hospital data from 2012.

The chapters are as follows:

CHAPTER 1. DEMOGRAPHIC PROFILE

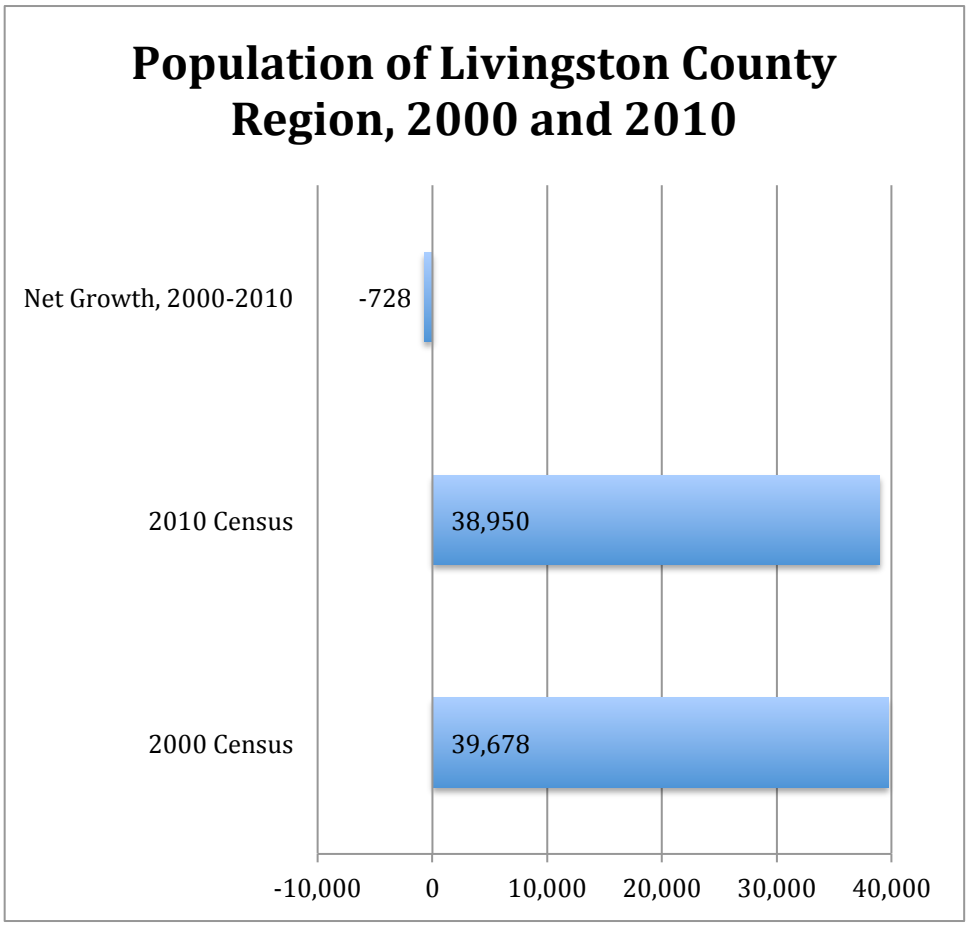
1.1 Population

Importance of the measure: Population data characterizes the individuals residing within the jurisdictional boundaries Livingston County. Population data provides an overview of population growth trends and builds a foundation for additional analysis of these data.

1.1.1 Population by Municipality

The 2010 census of Livingston County indicated a population of 38,950 residents. Compared to the 2000 census of the Livingston County population, the 2010 census of the Livingston County population shows a decrease of 728 residents. The vast majority of residents departing from Livingston County in the last decade left Fairbury (-211), Streator (-141), and Dwight (-102).

Table 1.1.1-1 Population of Livingston County, 2000 and 2010



Source: 2010 US Census; 2000 US Census

Table 1.1.1-2 Population of Municipalities in Livingston County, 2000 and 2010

County/Municipality	2000 Census	2010 Census	Net Growth, 2000-2010
Livingston County	39,678	38,950	-728
Campus village	145	166	21
Chatsworth town	1,265	1,205	-60
Cornell village	511	467	-44
Cullom village	563	555	-8
Dwight village (part)	4,356	4,254	-102
Emington village	120	117	-3
Fairbury city	3,968	3,757	-211
Flanagan village	1,083	1,110	27
Forrest village	1,225	1,220	-5
Long Point village	247	226	-21
Odell village	1,014	1,046	32
Pontiac city	11,864	11,931	67
Reddick village (part)	0	19	19
Saunemin village	456	420	-36
Strawn village	104	100	-4
Streator city (part)	242	101	-141

Source: 2010 US Census; 2000 US Census

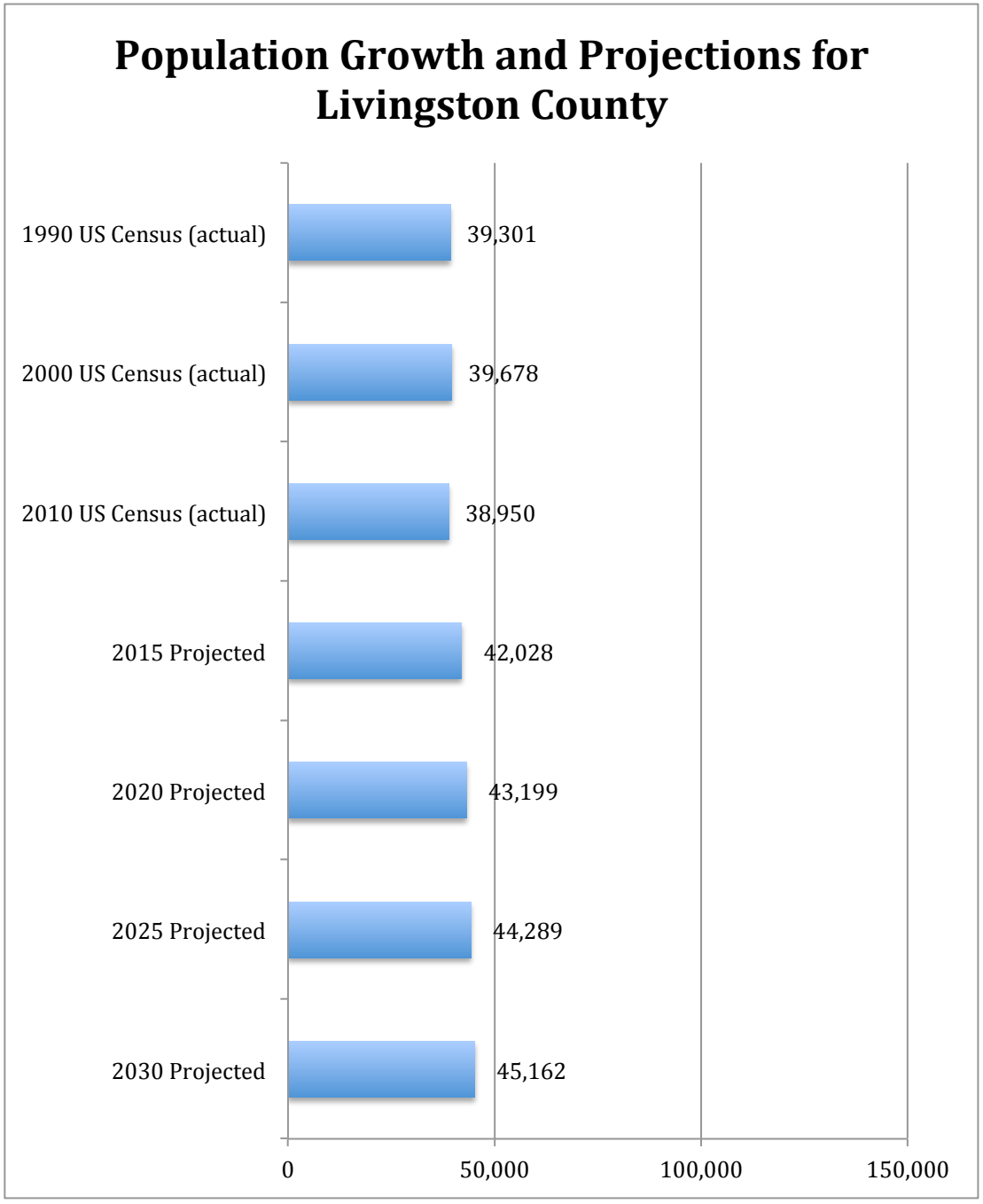
1.1.2 Growth Rates

Data from the last three censuses (1990, 2000, 2010) indicate positive population growth between 1990 and 2000 and negative growth between 2000 and 2010 for Livingston County. Data also suggest that Livingston County has reversed the negative population growth experienced in the 1980s.

With regard to Livingston County, eleven municipalities experienced negative population growth between 2000 and 2010 and four municipalities experienced positive growth between 2000 and 2010.

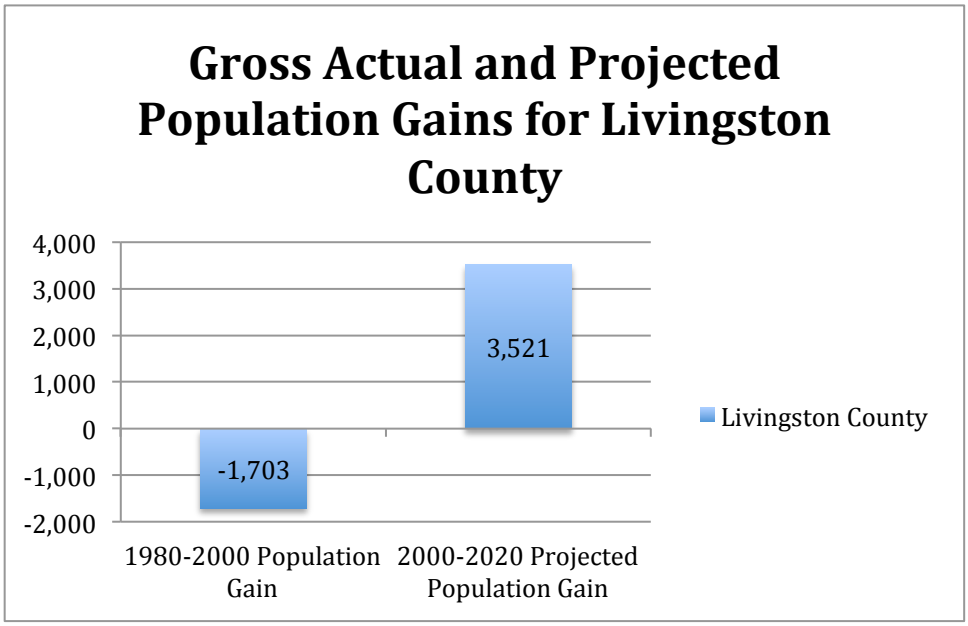
With regard to population projections for the next twenty years (2010 to 2030), Livingston County is expected to experience positive population growth through 2030.

Table 1.1.2-1 Population Growth and Projections for Livingston County



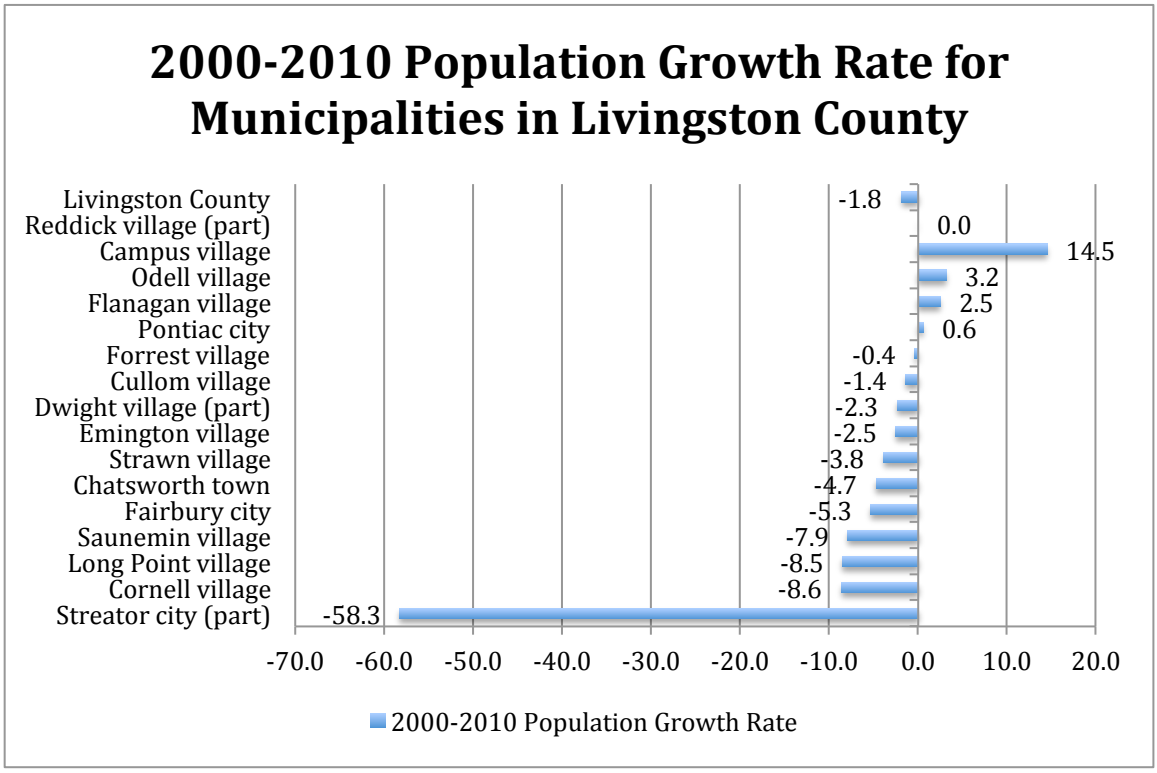
Source: 1990, 2000, & 2010 US Census;
Illinois Department of Commerce & Economic Opportunity

Table 1.1.2-2 Gross Actual and Projected Population Gains for Livingston County



Source: 1990, 2000, & 2010 US Census;
Illinois Department of Commerce & Economic Opportunity

Table 1.1.2-3 2000-2010 Population Growth Rate for Municipalities in Livingston County



Source: 2010 US Census; 2000 US Census

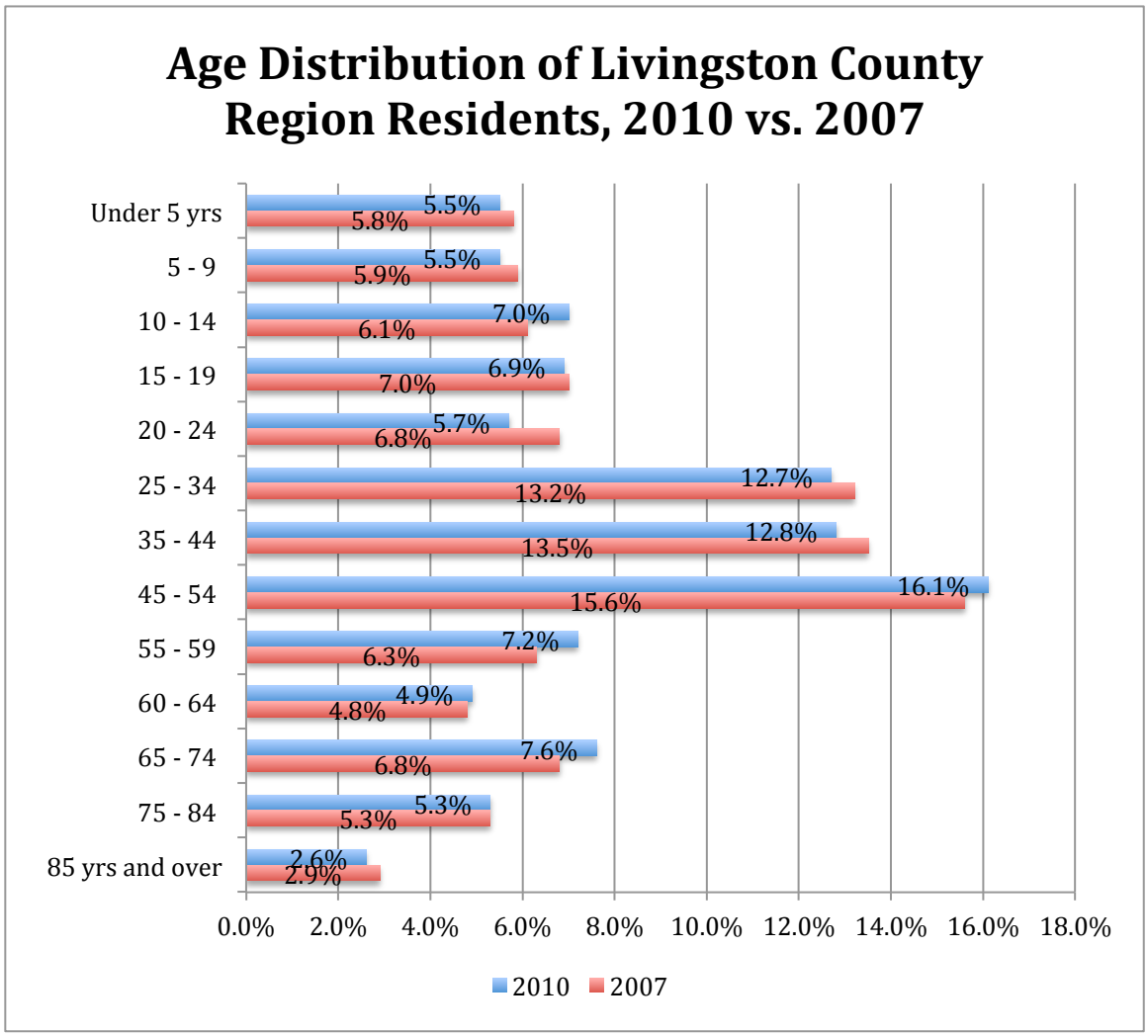
1.2 Age, Gender and Race Distribution

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

1.2.1 Age

As indicated in Table 1.2-1, individuals 65 to 74 years of age is the age group experiencing the strongest growth in Livingston County between 2007 and 2010, as this population increased from 6.8% of the population in 2007 to 7.6% of the population in 2010.

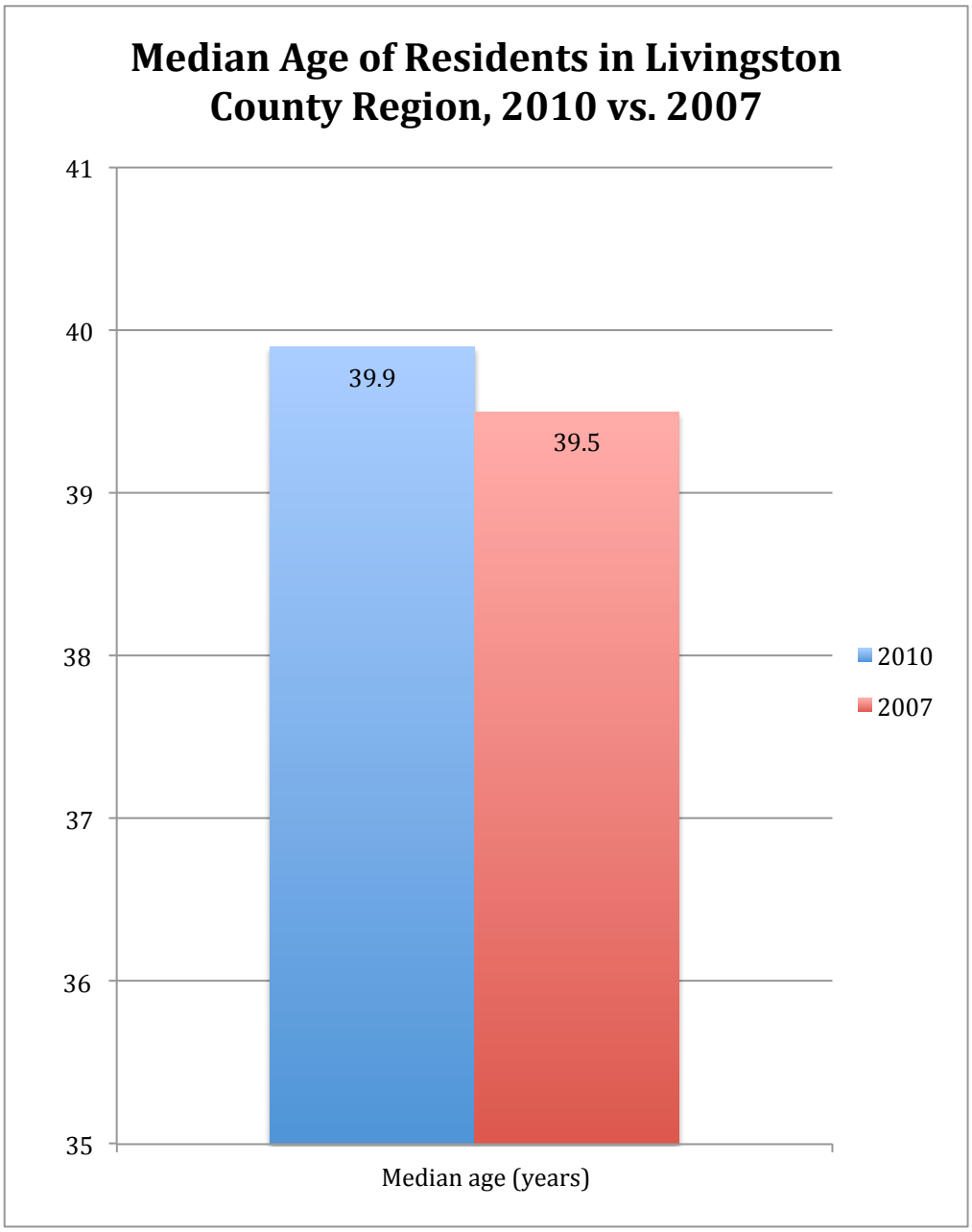
Table 1.2-1 Age Distribution of Livingston County Region Residents, 2010 vs. 2007



Source: 2010 US Census; 2007 American Community Survey

With the increase in the population of older individuals in Livingston County, the median age of residents has also increased. The median age of residents in Livingston County in 2010 was 39.9 compared to 39.5 in 2007.

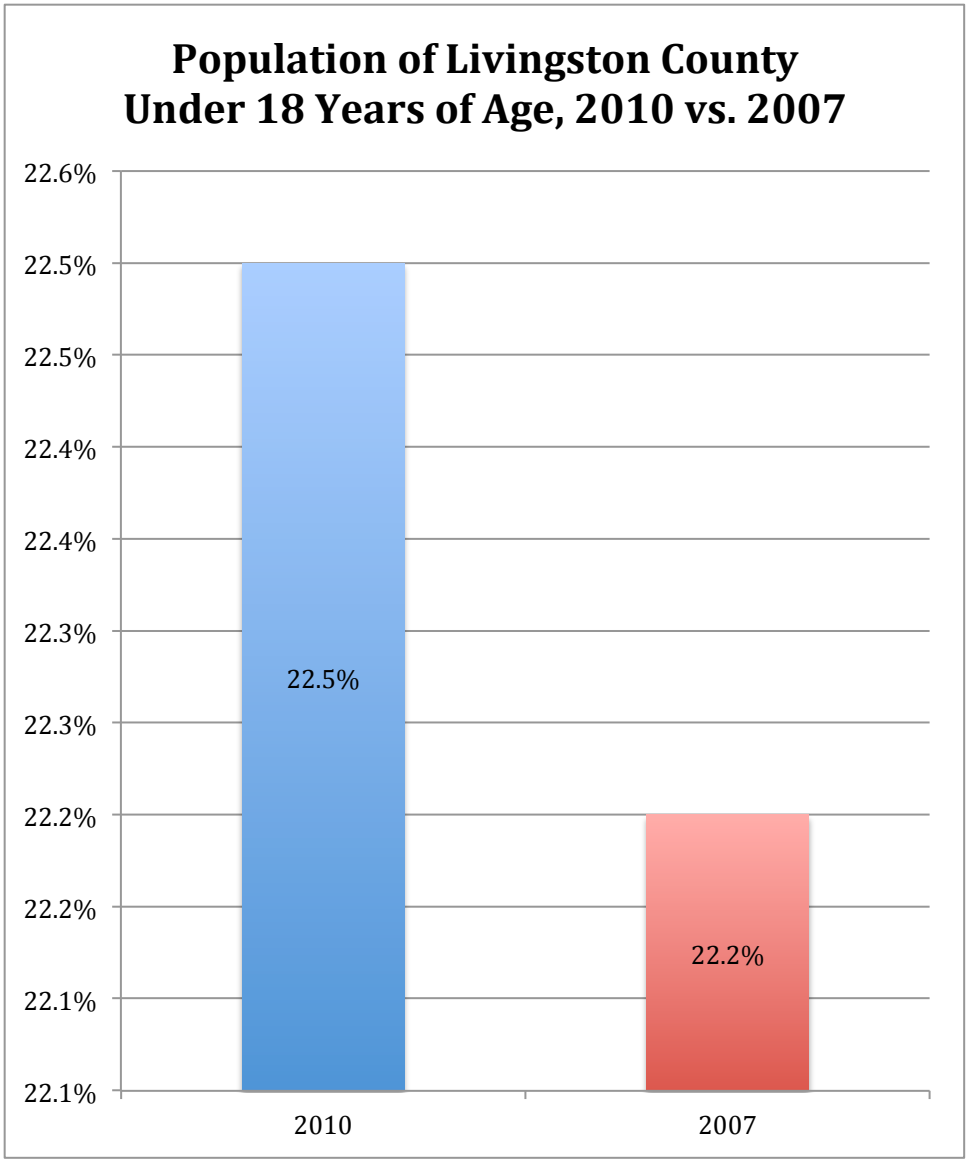
Table 1.2-2 Median Age of Residents in Livingston County Region, 2010 vs. 2007



Source: 2010 US Census; 2007 American Community Survey

Data from 2010 suggest an increase in the populations of youths and older adults. In Livingston County, the under 18 population increased slightly from 22.2% to 22.5%.

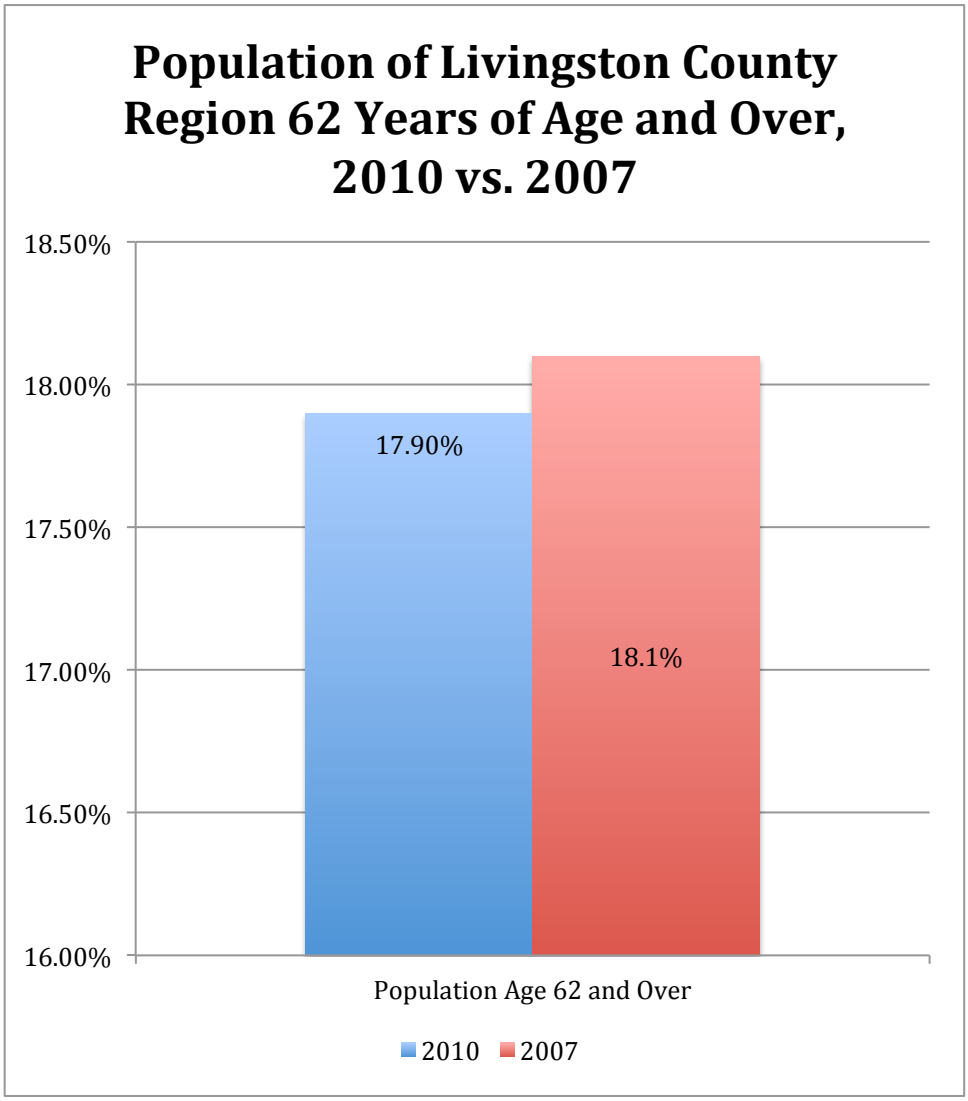
Table 1.2-6 Population of Livingston County Under 18 Years of Age, 2010 vs. 2007



Source: 2010 US Census; 2007 American Community Survey

The national trend concerning the aging of the baby-boomer population is reflected in the 2010 data for the Livingston County Region, as nearly 20% of the Livingston County population is over 62 years of age. Between 2007 and 2010, the percentage of older adults, age 62 and over, decreased slightly from 18.1% of the population in 2007 to 17.9% of the population in 2010.

Table 1.2-7 Population of Livingston County Region 62 Years of Age and Over, 2010 vs. 2007

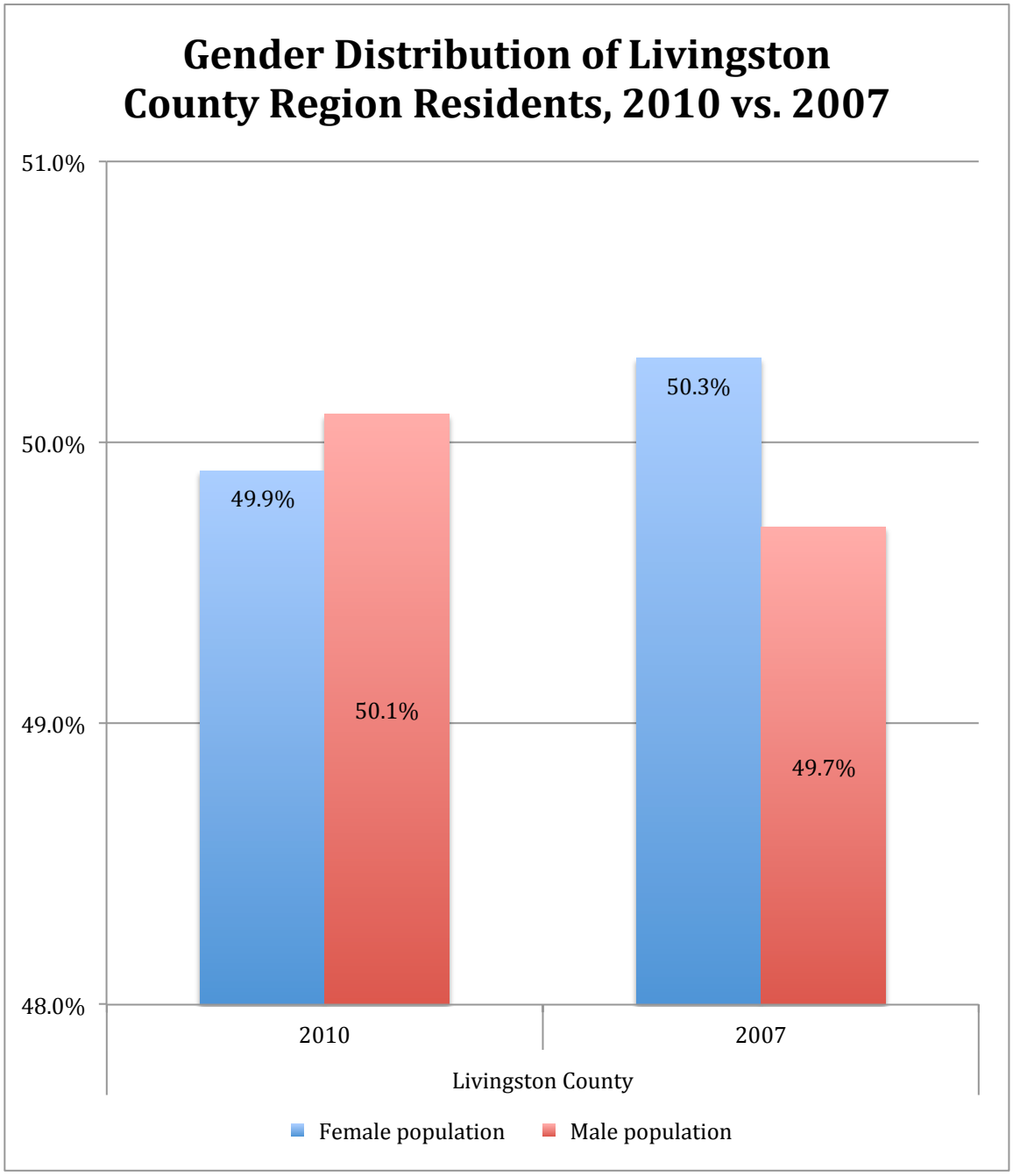


Source: 2010 US Census; 2007 American Community Survey

1.2.2 Gender

The gender distribution of the Livingston County Region residents has remained relatively consistent between 2007 and 2010. While data indicates that there were more women than men in 2007, data from 2010 suggests men slightly outnumber women.

Table 1.2.2-1 Gender Distribution of Livingston County Region Residents, 2010 vs. 2007

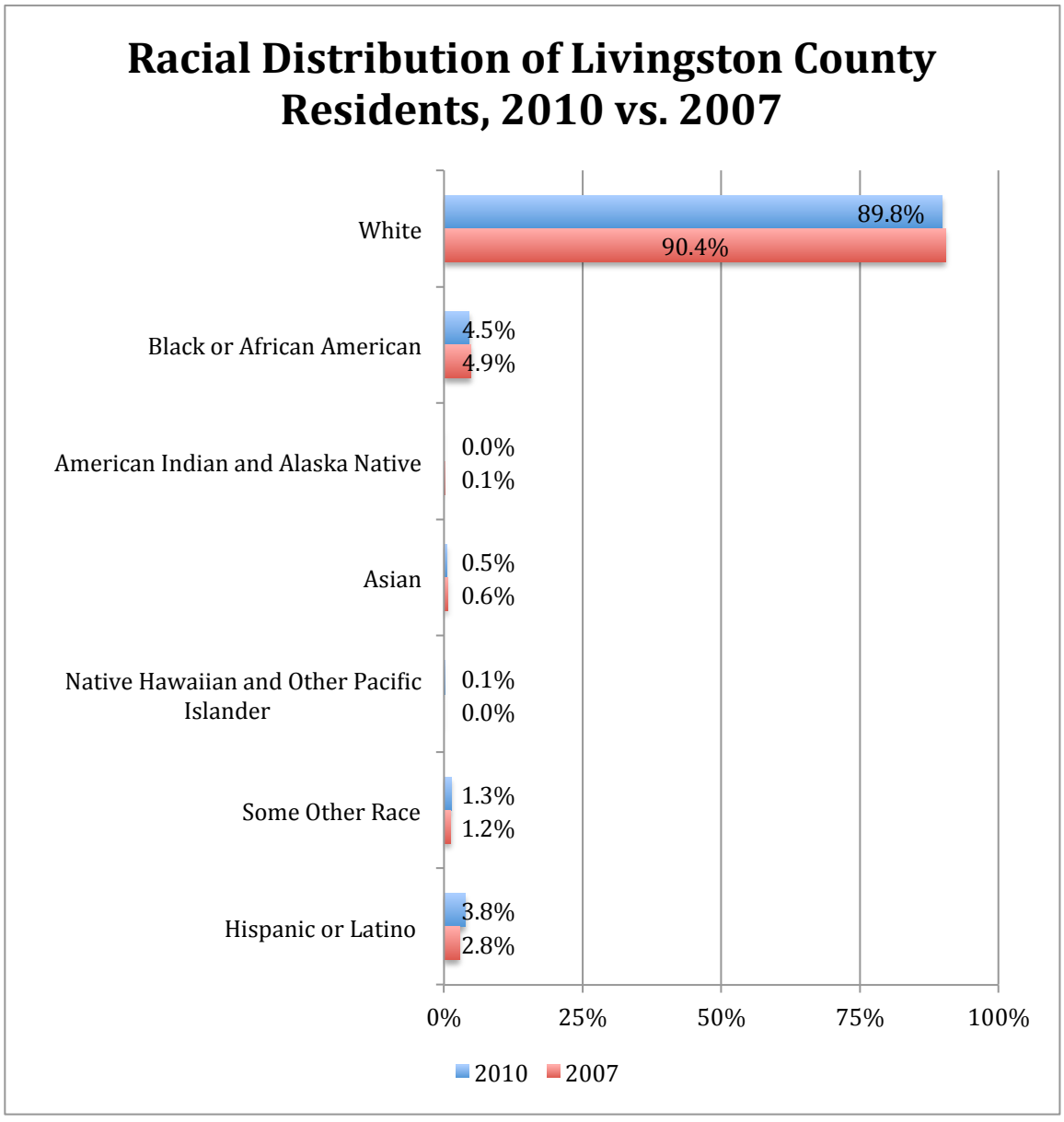


Source: 2010 US Census; 2007 American Community Survey

1.2.3 Race

With regard to race and ethnic background, the Livingston County Region is largely homogenous, yet in recent years is becoming more diverse. Data from 2010 suggest that Whites comprise upwards of 90% of the population in Livingston County. However, the non-White population of the Livingston County Region has been slowly increasing since 2007, with individuals identifying with Black or African American ethnicity comprising 4.5% of the population and individuals identifying with Hispanic ethnicity comprising nearly 4% of the population.

Table 1.2.3-1 Racial Distribution of Livingston County Residents, 2010 vs. 2007



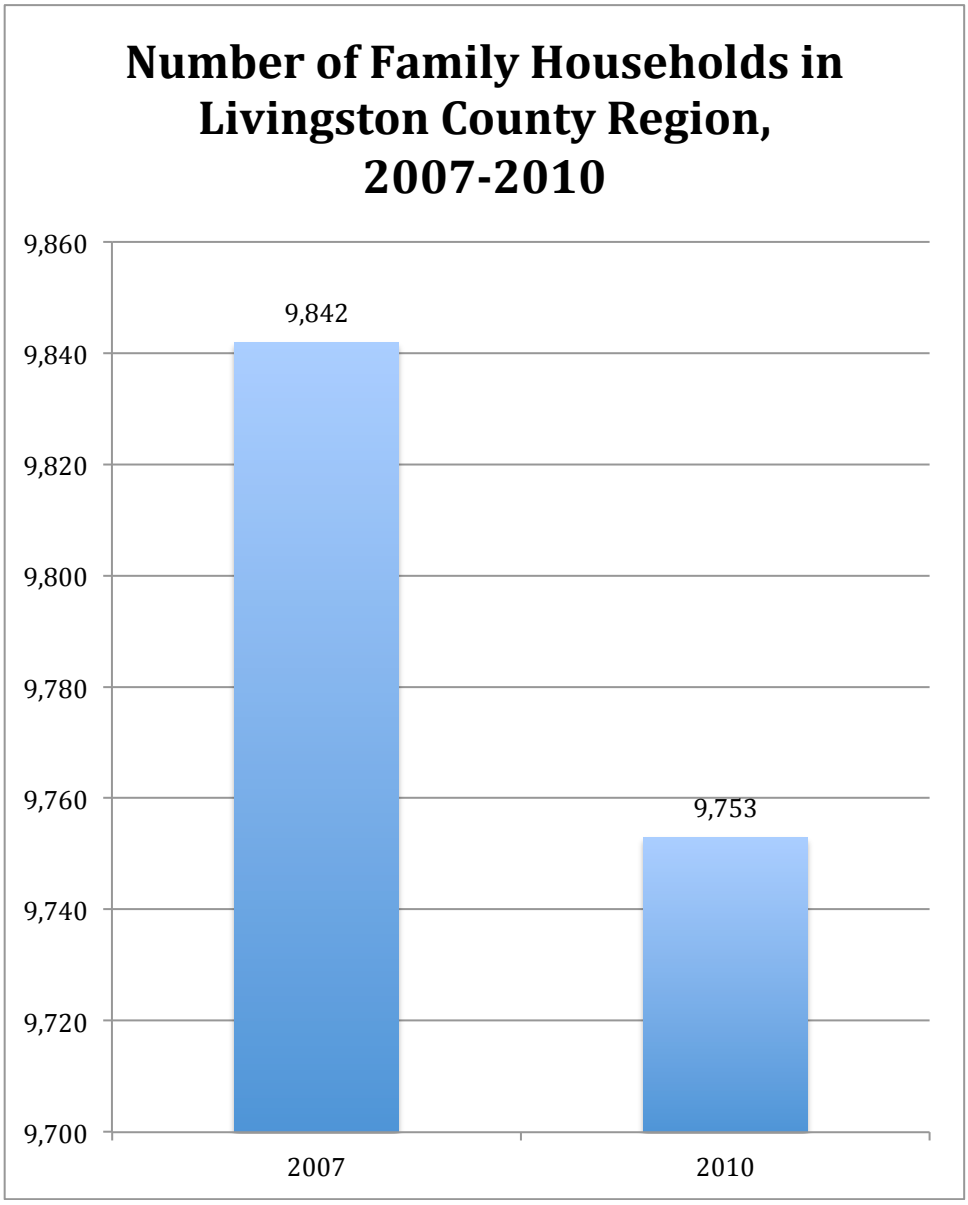
Source: 2010 US Census; 2007 American Community Survey

1.3 Household/family

Importance of the measure: Families are the backbone of 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 Table 1.3-1, the number of family households within Livingston County decreased between 2007 and 2010.

Table 1.3-1 Number of Family Households in Livingston County Region, 2007-2010

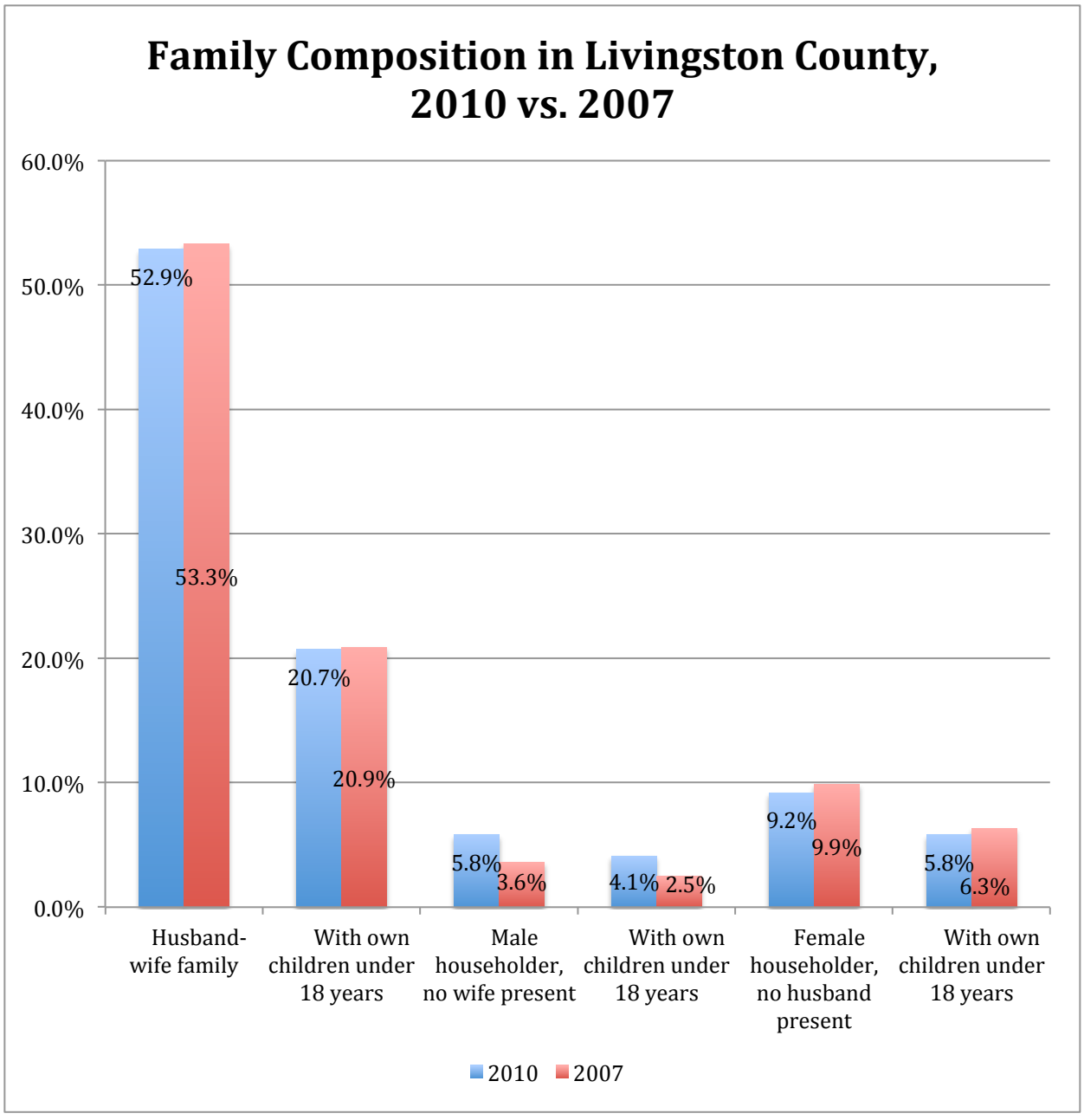


Source: 2010 US Census; 2007 American Community Survey

1.3.1 /1.3.2 Single and Related Family

In Livingston County, data from 2010 suggest a 2.2% increase from 2007 in the number of male households with no wife present. Between 2007 and 2010, the percentage of husband-wife families decreased in Livingston County by 0.4%. When children under the age of 18 are considered, there has been a decrease in the percentage of children living in a family comprised of a female householder only, with no husband present from 6.3% in 2007 to 5.8% in 2010.

Table 1.3.1-1 Family Composition in Livingston County, 2010 vs. 2007

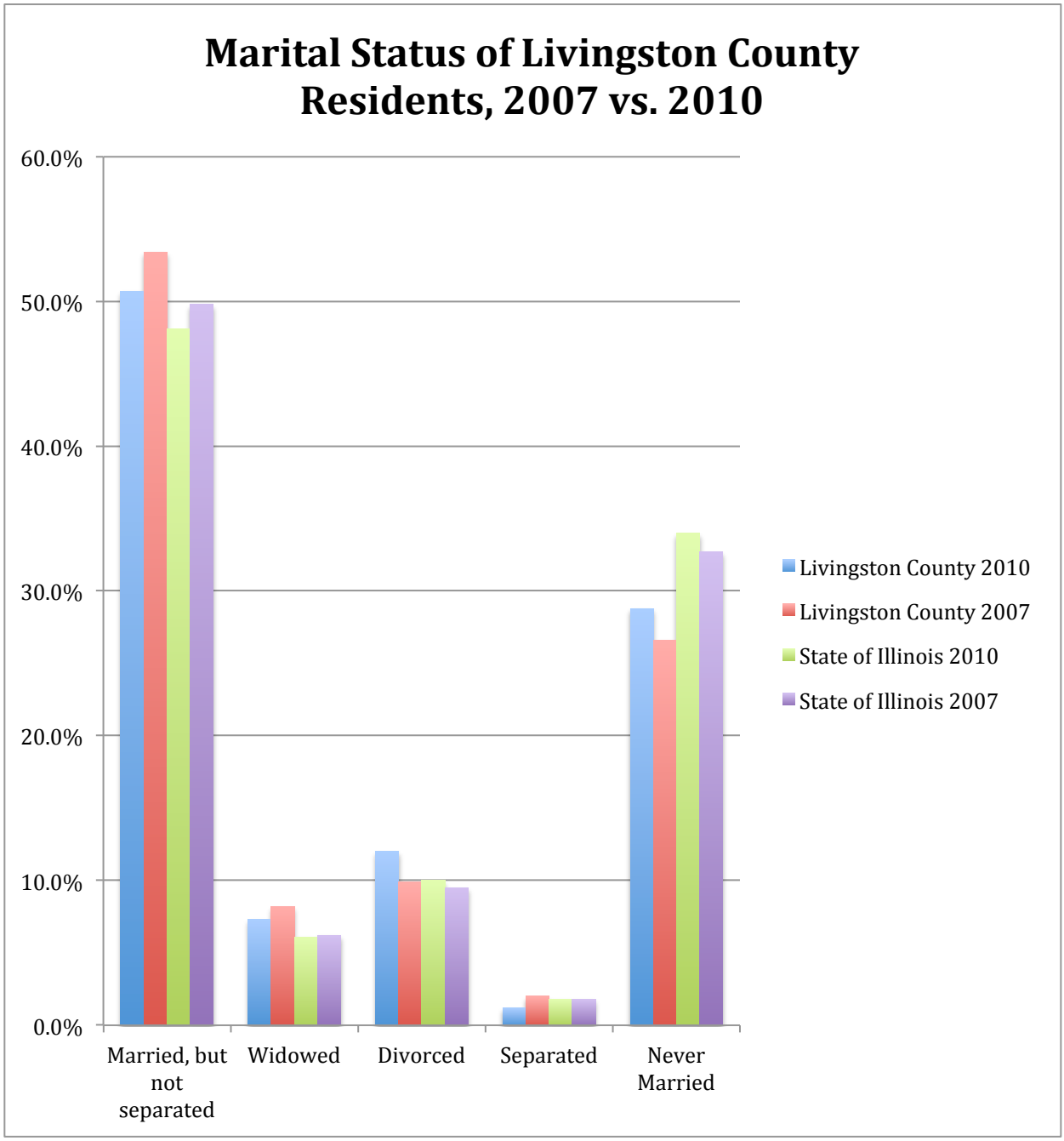


Source: 2010 US Census; 2007 American Community Survey

1.3.3 Marital status

Between 2007 and 2010, Livingston County experienced a negative growth rate in the percentage of residents who are married but not separated and positive growth in the percentage of residents who were divorced and never married.

Table 1.3.3-1 Marital Status of Livingston County Residents, 2007 vs. 2010

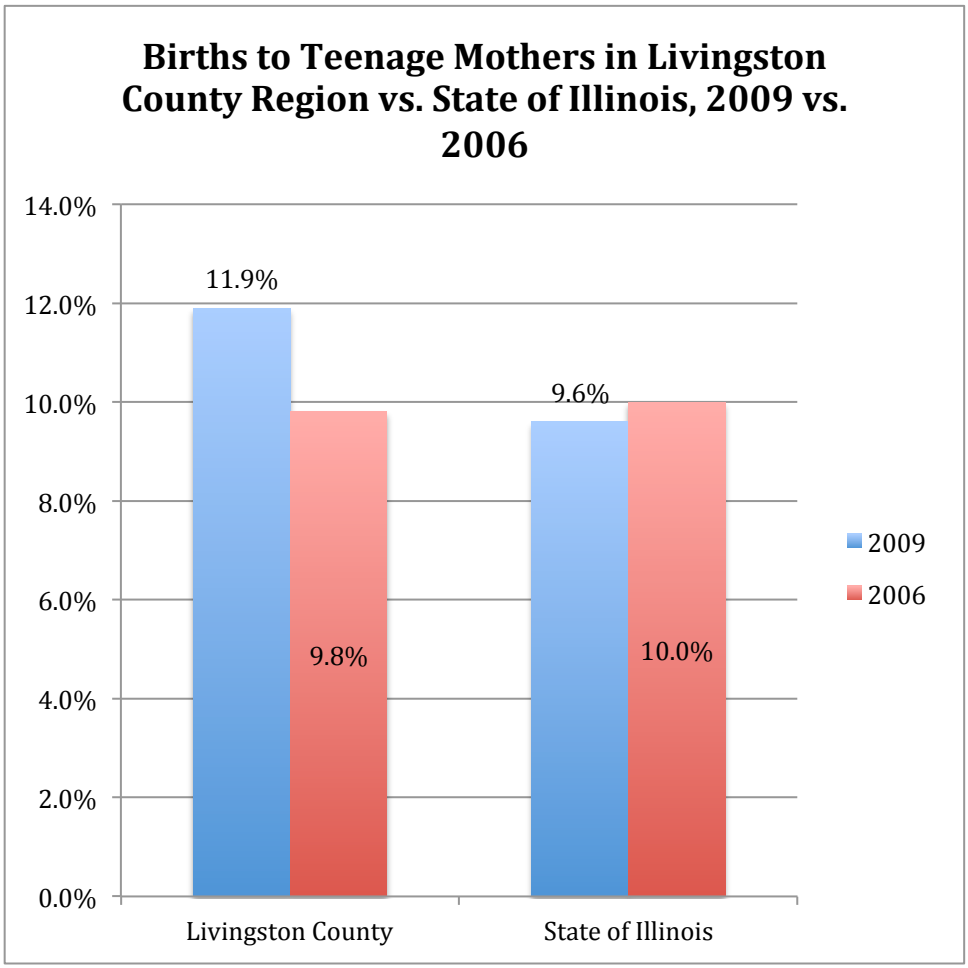


Source: 2010 US Census; 2007 American Community Survey

1.3.4 Early Sexual Activity Leading to Births from Teenage Mothers

With regard to teenage birth rates, Livingston County has a higher teen birth rate than the State of Illinois and between 2006 and 2009, Livingston County saw a net increase in teenage births while the State of Illinois saw a decrease during the same time frame.

Table 1.3.4-1: Births to Teenage Mothers in Livingston County Region vs. State of Illinois, 2009 vs. 2006



Source: Illinois Department of Public Health

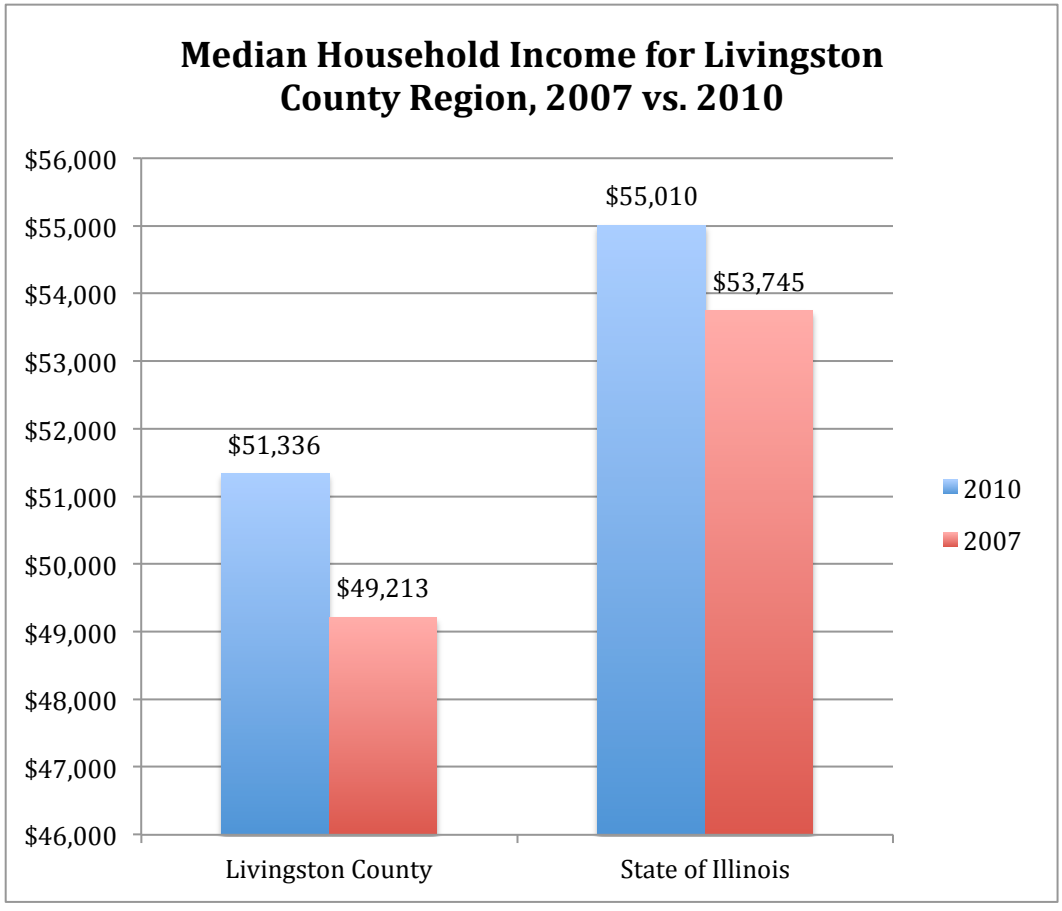
1.4 Economic information

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 to be a more reliable indicator than average income. To live in poverty means to not have enough income to meet one's basic needs. Accordingly, poverty is associated with numerous chronic social, health, education, and employment conditions.

1.4.1 Median income level

For 2007 and 2010, the median household income in Livingston County lagged behind the State of Illinois median household income.

Table 1.4.1-1: Median Household Income for Livingston County Region, 2007 vs. 2010

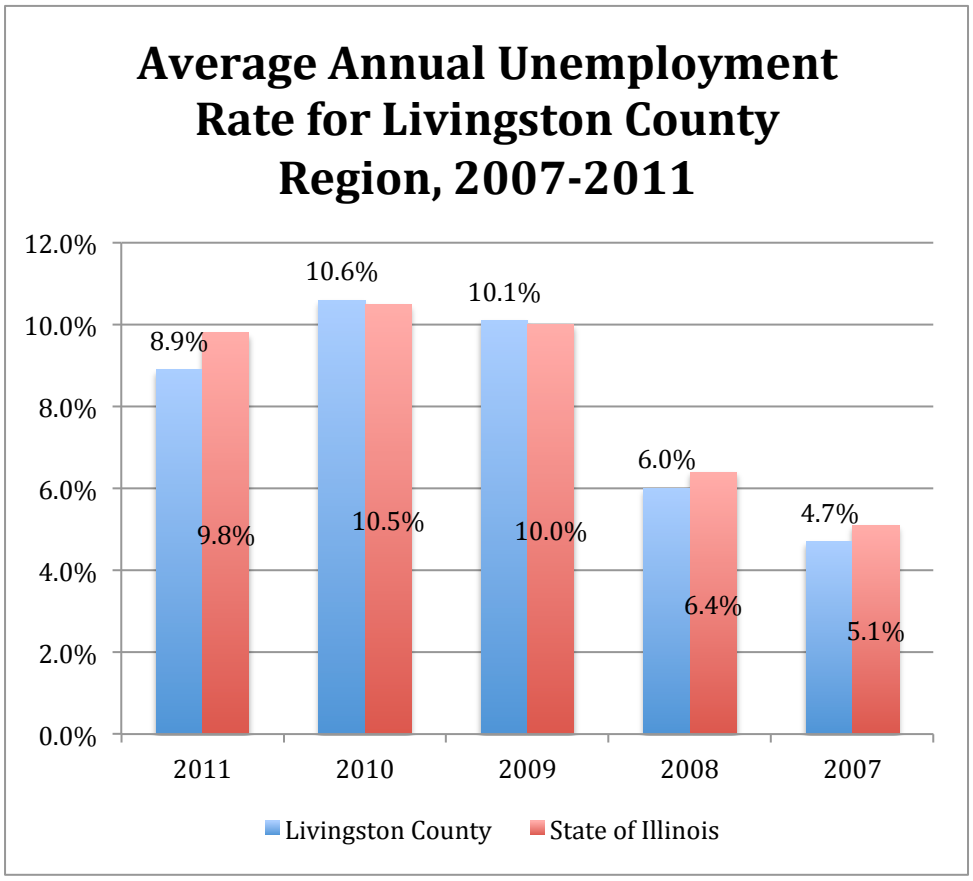


Source: 2007 & 2010 American Community Survey

1.4.2 Unemployment

For 2009 and 2010, the Livingston County Region unemployment rate was higher than the State of Illinois unemployment rate. Between 2007 and 2010, the unemployment steadily increased from 4.7% in 2007 to a peak of 10.6% in 2010. Data from 2011 suggests the unemployment rate in Livingston County was 8.9% compared to the overall State of Illinois unemployment rate of 9.8%.

Table 1.4.2-1: Average Annual Unemployment Rate for Livingston County Region, 2007-2011

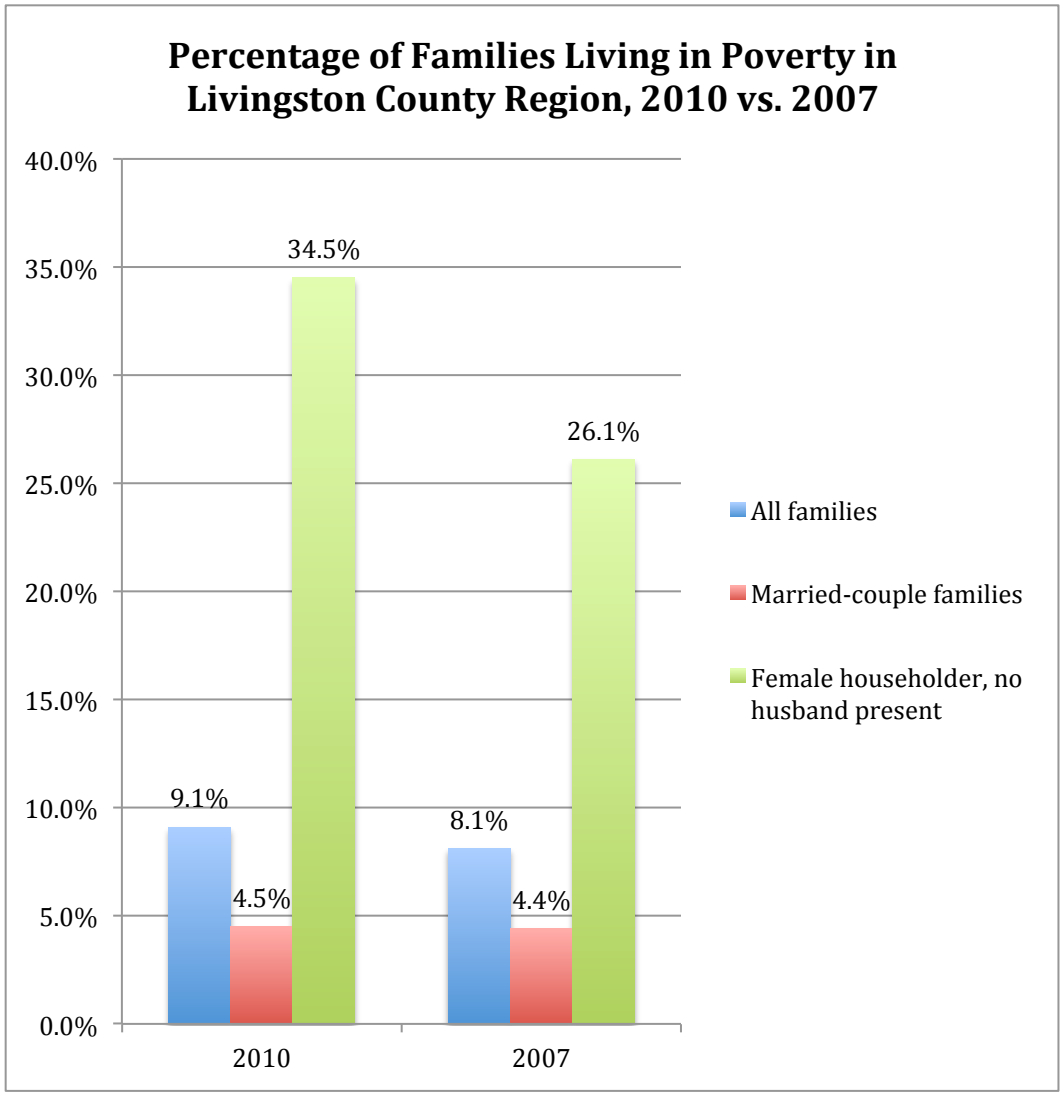


Source: Bureau of Labor Statistics

1.4.3 Families in poverty

Poverty has a significant impact on the development of children and youth. Poverty rates are significantly higher for single-mother led households compared to married-couple families and all families. In Livingston County, the percentage of all families living in poverty increased between 2007 and 2010.

Table 1.4.3-1: Percentage of Families Living in Poverty in Livingston County, 2010 vs. 2007



Source: 2010 and 2007 American Community Survey

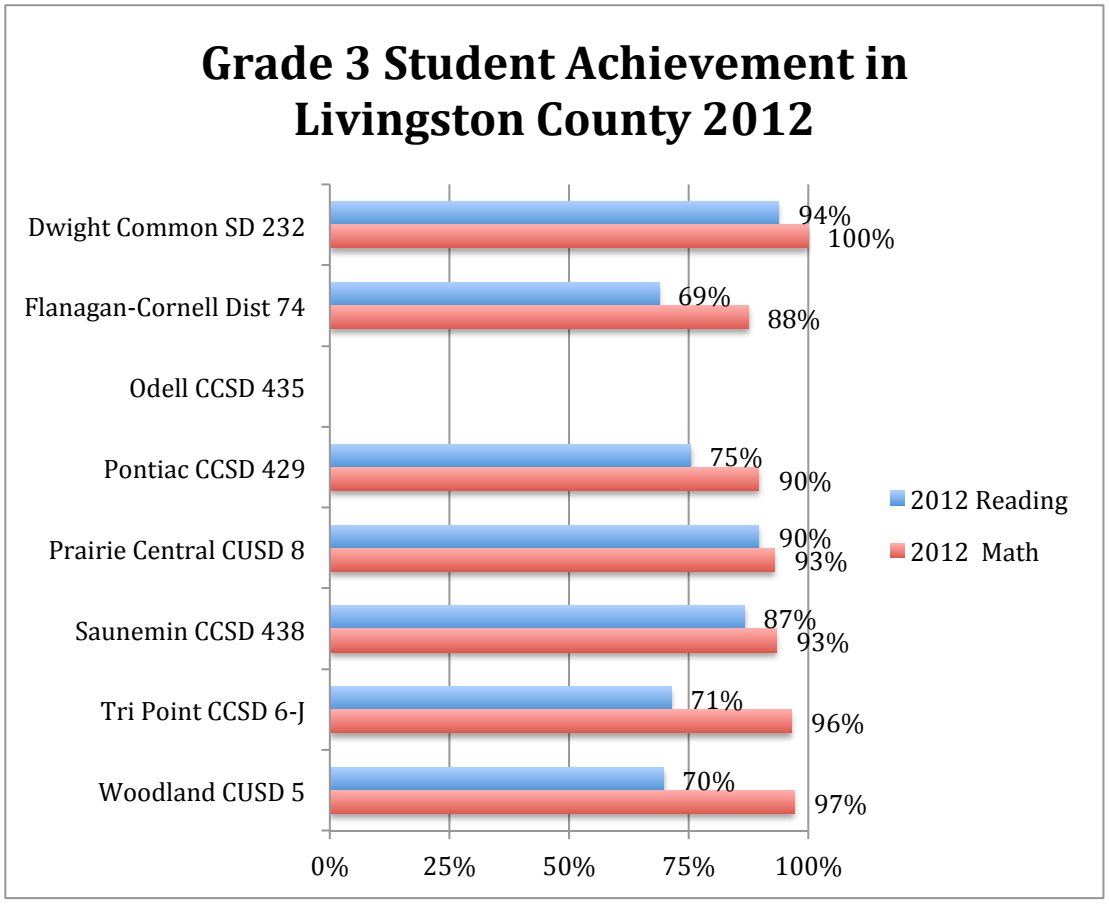
1.5 Education

Importance of the measure: According to the National Center for Educational Statistics, "the better educated a person is, the more likely that person is to report being in 'excellent' or 'very good' health, regardless of income" (NCES, 2005). Educational attainment and reading/math scores are well researched, with findings strongly related to an individual's propensity to earn a higher salary, gain better employment, and foster multifaceted success in life. As such, research suggests that the higher the level of educational attainment and the more successful children are in school, the better one's heath will be and the greater likelihood of one selecting healthy lifestyle choices.

1.5.1 3rd/8th grade reading and math

In 2012, most of the school districts in Livingston County had higher averages than the State of Illinois averages. However, four districts (Flanagan-Cornell, Pontiac, Tri-Point, and Woodland) scored lower than the State of Illinois 3rd grade reading average (76.1%).

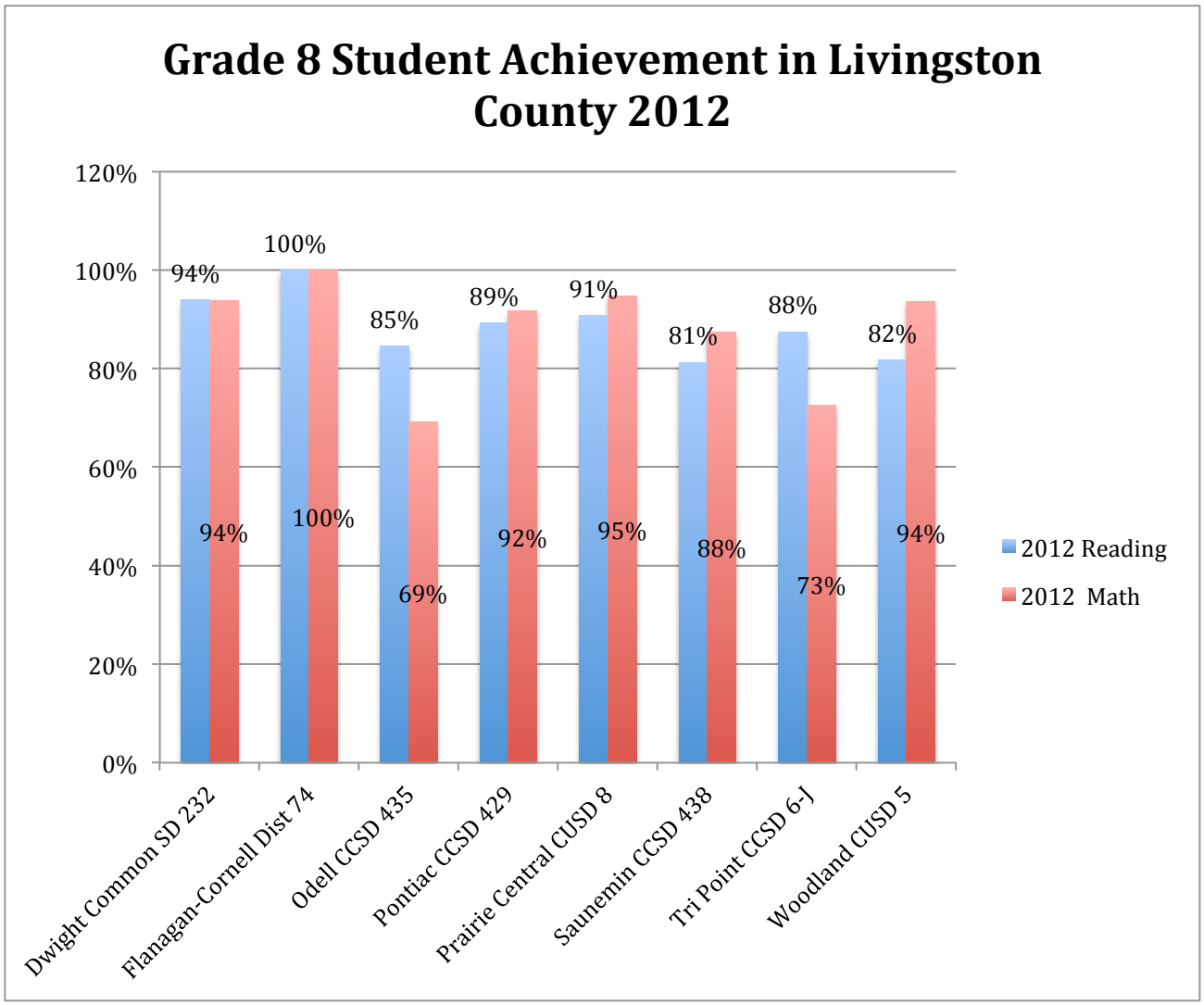
Table 1.5.1-1 Grade 3 Student Achievement in Livingston County 2012



Source: Illinois State Board of Education, School Year 2012 District Report Card Summary

Similar to the 3rd grade scores, most of the school districts in Livingston County had higher averages than the State of Illinois averages for 8th grade students. However, two districts (Odell and Tri-Point) scored lower than the State of Illinois 8th grade math average (85.0%) and three districts (Odell, Saunemin, and Woodland) scored lower than the State of Illinois 8th grade reading average (86.2%).

Table 1.5.1-2 Grade 8 Student Achievement in Livingston County 2012

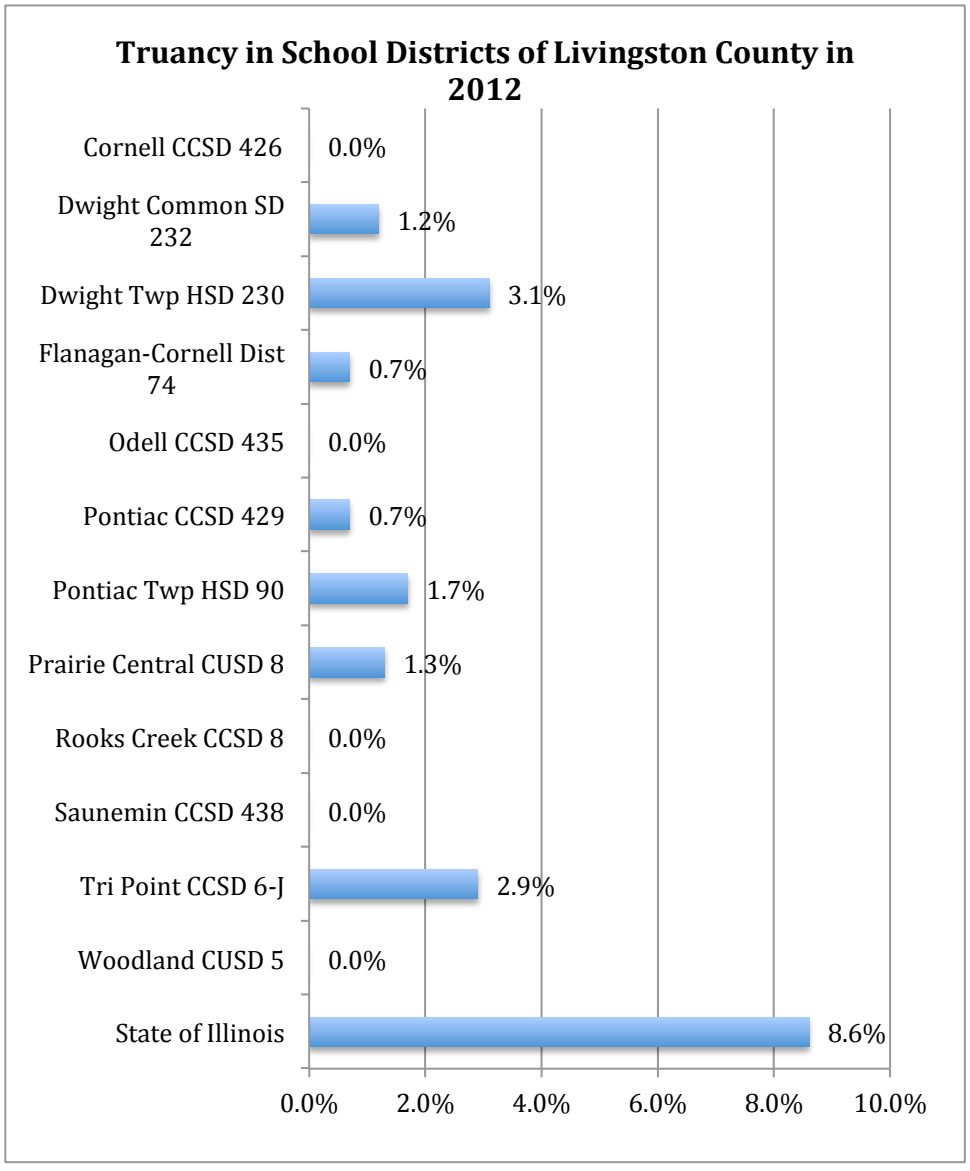


Source: Illinois State Board of Education, School Year 2010 District Report Card Summary

1.5.2 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; however, 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 of the children rather than the students. Zero school districts in Livingston County exceed the State of Illinois average truancy rate for 2012.

Table 1.5.2-1 Truancy in School Districts of Livingston County in 2012

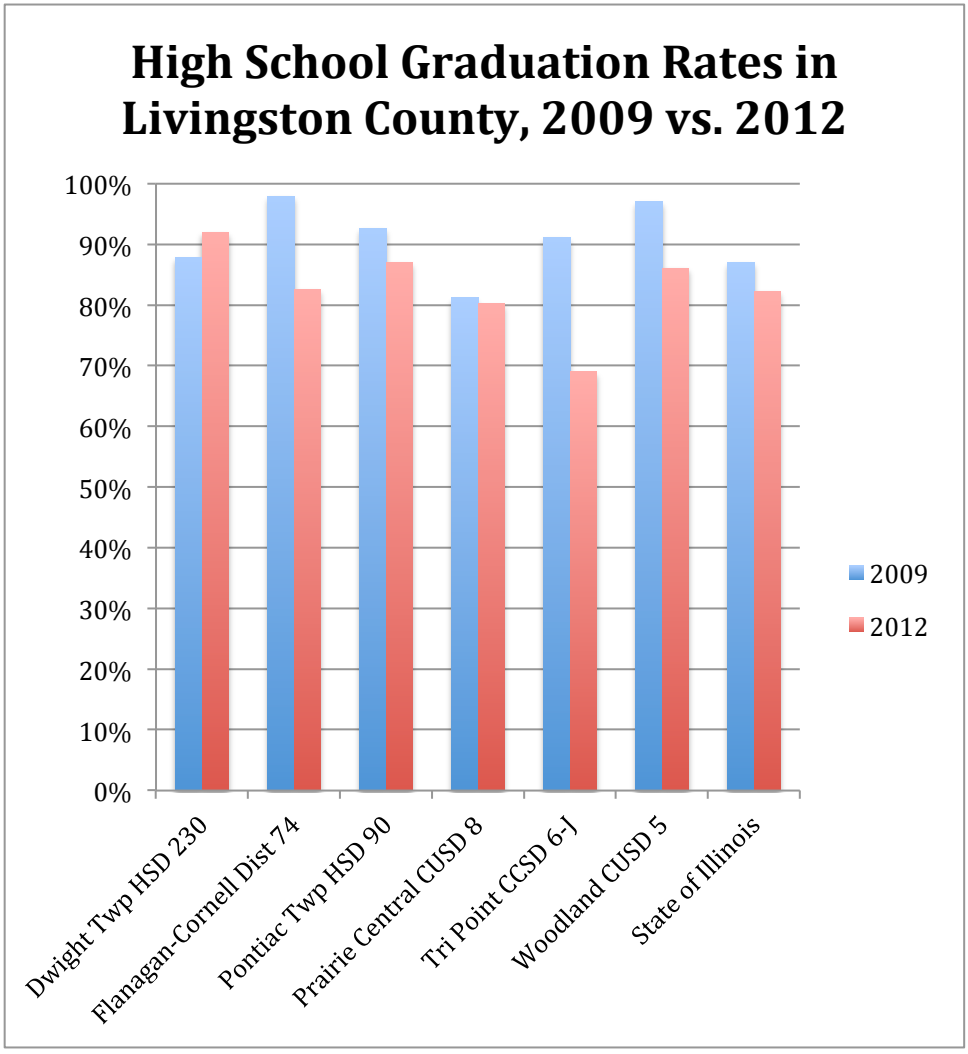


Source: Illinois State Board of Education, School Year 2012 District Report Card Summary

1.5.3 High School graduation rates

High school graduation rates in 2009 and 2012 in Livingston County are above the state average (which is 87% and 82% for years 2009 and 2012, respectively), with the exception of the Prairie Central and Tri-Point.

Table 1.5.3-1 High School Graduation Rates in Livingston County, 2009 vs. 2012



Source: Illinois State Board of Education, School Year 2009 & 2012 District Report Card Summary

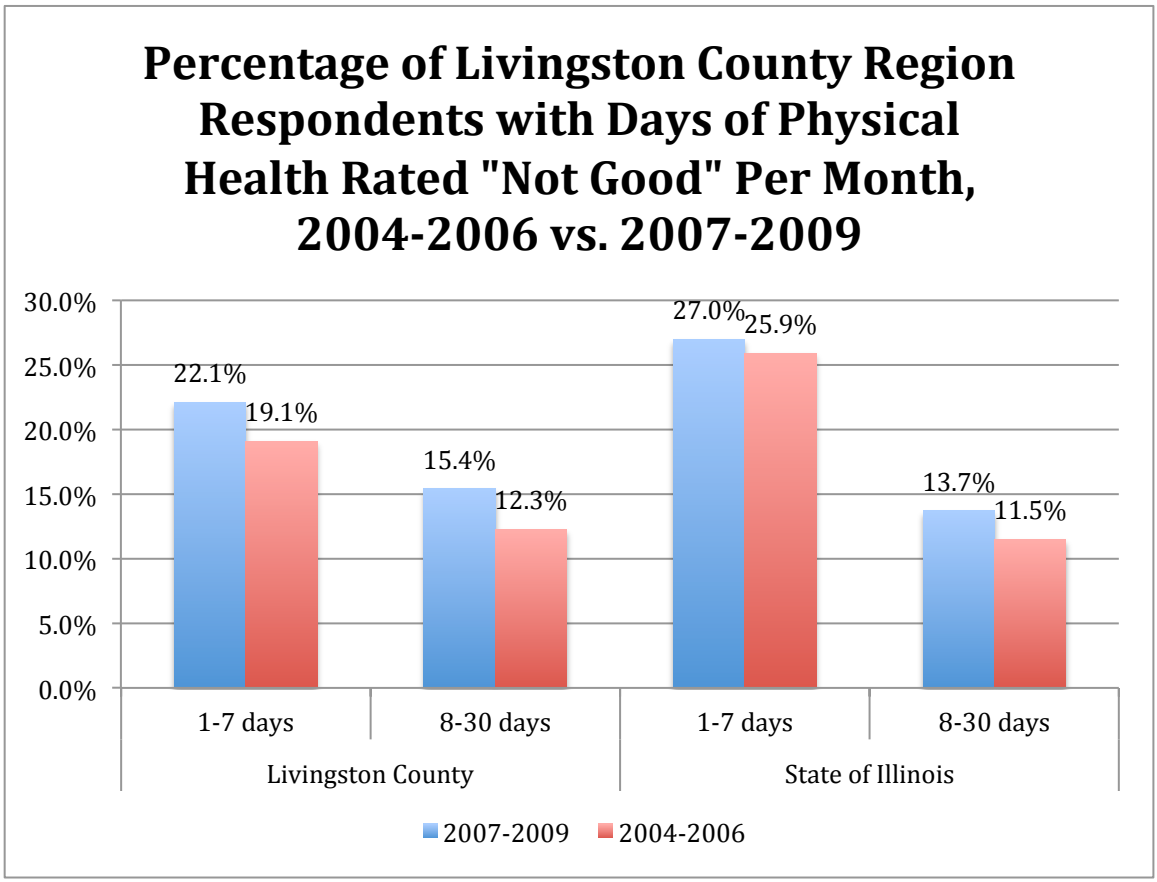
1.6 People with Disabilities

Importance of the measure: According to the US Census Bureau, a disability can be a long-lasting physical, mental or emotional condition. This condition can make it difficult for a person to do activities such as walking, climbing stairs, dressing, bathing, learning, or remembering. This condition can also impede a person from being independent, from being able to go outside the home alone or to work at a job or business. This condition can also impact a person's ability to achieve an education and can influence a person's ability to access appropriate health care.

1.6.1 Physical

Approximately 22% of residents in Livingston County reported they had experienced 1-7 days with poor physical health per month between 2007 and 2009. This percentage grew 15% since 2004-2006. With regard to residents experiencing 8-30 days with poor physical health per month, Livingston County residents were slightly above below the state average for the same time frame, as 15.4% of residents reported poor physical health.

Table 1.6.1-1 Percentage of Livingston County Region Respondents with Days of Physical Health Rated "Not Good" Per Month, 2004-2006 vs. 2007-2009

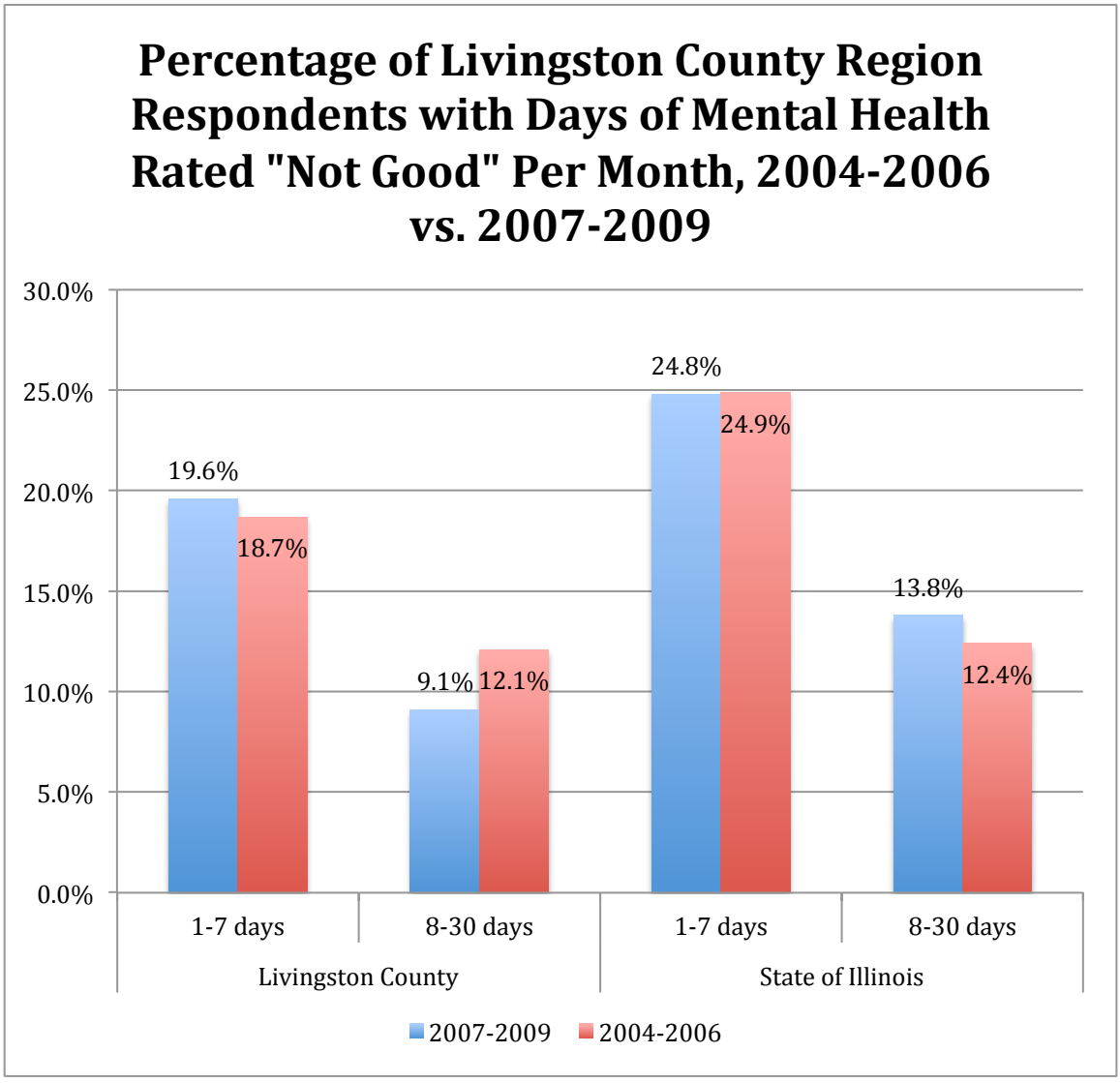


Source: Illinois Behavioral Risk Factor Surveillance System

1.6.2 Mental

Approximately 20% of residents in Livingston County reported they had experienced 1-7 days with poor mental health per month between 2007 and 2009. For both segments of residents (those experiencing 1-7 days and 8-30 days with poor mental health per month), each was below the state average for the same time frame.

Table 1.6.1-2 Percentage of Livingston County Region Respondents with Days of Mental Health Rated "Not Good" Per Month, 2004-2006 vs. 2007-2009



Source: Illinois Behavioral Risk Factor Surveillance System

Demographic Profile: Strategic Implications

Changing demographics and health care:

Recent data in May 2012 from the Kaiser Family Foundation[1] and Congressional Budget Office[2] suggest that the number of individuals 65 years and older in the United States will increase by one-third between 2012 and 2022. With the changing demographics, it is anticipated an increase in chronic conditions such as diabetes, asthma, and heart disease, and obesity will contribute to the growing cost of health care[3]. In addition, advances in medical technology and medicine may enable individuals to live longer, thus requiring extensive medical care.

These national trends are prevalent in the State of Illinois and Livingston County Region as seen in Chapter 1. Of particular note, individuals aged 60-64 increased from 4.8% to 4.9% between 2007 and 2010 and individuals aged 65-74 increased from 6.8% to 7.6% between 2007 and 2010. Additionally, the median age of individuals in Livingston County increased from 39.5 years to 39.9 years between 2007 and 2010 and individuals aged 65 and over increased from 15.0% to 15.6% of the population.

As individuals age and live with disabilities, it greatly impacts the degree of self-sufficiency and medical care required to maintain satisfactory well-being. With the changing demographics resulting from the aging of baby boomers, it is anticipated the Livingston County Region will experience an increase in the number of elderly individuals living with disabilities and chronic conditions.

Educational attainment and health care:

For over two decades, empirical research strongly suggests a positive relationship between education and health[4,5,6,7] (Adams, 2002; House et. al, 1990; Ross & Wu, 1995; Sander, 1999). The predominant way education impacts better health is through enhancing the decision-making capabilities of an individual. In this way, when an individual is better educated, he or she tends to have a better understanding of symptoms, be better equipped to explain symptoms to a doctor, and make better choices with regard to individual health inputs. Accordingly, more effective treatments and positive outcomes result later in life.

A symbiotic relationship exists between health and education. Consider that healthier children miss fewer days of school and are more "ready to learn." Success in school begins prior to kindergarten as new research on cognitive development shows the importance of health, nutrition, and intellectual stimulation during the first years of life. To be prepared to learn in kindergarten, children need pre-literacy skills. They must also be able to make and keep friends, develop positive relationships with adults, and feel a sense of opportunity and excitement for the world around them. As their child's first teacher, much of this responsibility falls upon parents.

Research tells us the most reliable predictor of educational success for children is whether they are reading at grade level by the end of 3rd grade. Note that according to data presented in Chapter 1, while most school districts are above the State of Illinois averages, certain school districts (e.g., Flanagan-Cornell, Pontiac, Tri-Point, and Woodland) scored lower than the State of Illinois 3rd grade reading average.

According to research, a child from a low-income family who completes algebra has virtually the same chance of going to college as a child from an upper-income family who passes the course. Thus, it is not about the math, it's about learning to problem solve.

Economic well-being and health care:

Educational attainment also impacts economic well-being. Research suggests that the more education obtained by individuals, the better jobs these individuals earn[8]. Better jobs yield greater earning and benefits, including health insurance. Furthermore, if educated individuals are unemployed, research suggests that these individuals are unemployed for shorter durations than less educated individuals[9]. For many individuals, insurance coverage is a primary consideration when evaluating whether or not to seek medical treatment. Using health care appropriately, instead of the ER in non-emergencies, is better for patients and lowers cost of health care to society. Accordingly, the uninsured are less likely to access preventive care or seek early treatment of illness and therefore may miss more time at work. Similarly, it is difficult to hold a job when a person is not healthy.

Unemployment leads to poverty and has far-reaching impacts within society. Poverty disproportionately impacts families and children. The percentage of families living in poverty has grown by 12% between 2007 (8.1%) and 2010 (9.1%). Additionally, in 2010 the Livingston County median household income ($51,336) was slightly less than the State of Illinois median household income ($52,972). This is compounded by data suggesting 34.5% of Livingston County families with a female head-of-household and no husband are living in poverty. This statistic is 6% percentage points higher than the State of Illinois average (28.5%). Finally, early sexual activity can contribute to child poverty. The rates for births to teenage mothers in Livingston County are still significantly higher than the State average.

Endnotes for Chapter 1

[1] Kaiser Family Foundation, "Health Care Costs: Key Information on Health Care Costs and Their Impact," May 2012.

[2] Congressional Budget Office, *CBO's 2011 Long-Term Budget Outlook*, June 2011, p.ix, http://www.cbo.gov/ftpdocs/122xx/doc12212/06-21-Long-Term_Budget_Outlook.pdf

[3] Kaiser Family Foundation, "Health Care Costs: Key Information on Health Care Costs and Their Impact," May 2012.

[4] Adams, S.J. (2002). Educational attainment and health: Evidence from a sample of older adults. *Education Economics*, 10(1), 97-109.

[5] House, J., Kessler, R., Herzog, A., Mero, R., Kinney, A. & Breslow, M. (1990). Age, socioeconomic status, and health. *The Milbank Quarterly*, 68, 383-411.

[6] Ross, C. & Wu, C. (1995). The links between education and health. *American Sociological Review*, 60, 719-745.

[7] Sander, W. (1999). Cognitive ability, schooling, and the demand for alcohol by young adults, *Education Economics*, 7, 53-66.

[8] Willis, R. (1986). Wage determinants: a survey and reinterpretation of human capital earnings functions. In: Ashenfelter, O. & Layard, R. (Eds). *Handbook of Labor Economics*, Volume I (Amsterdam, North-Holland Publishing Company).

[9] Moen, E. (1999). Education, ranking, and competition for jobs. *Journal of Labor Economics*, 17, 694-723.

CHAPTER 2. PREVENTION

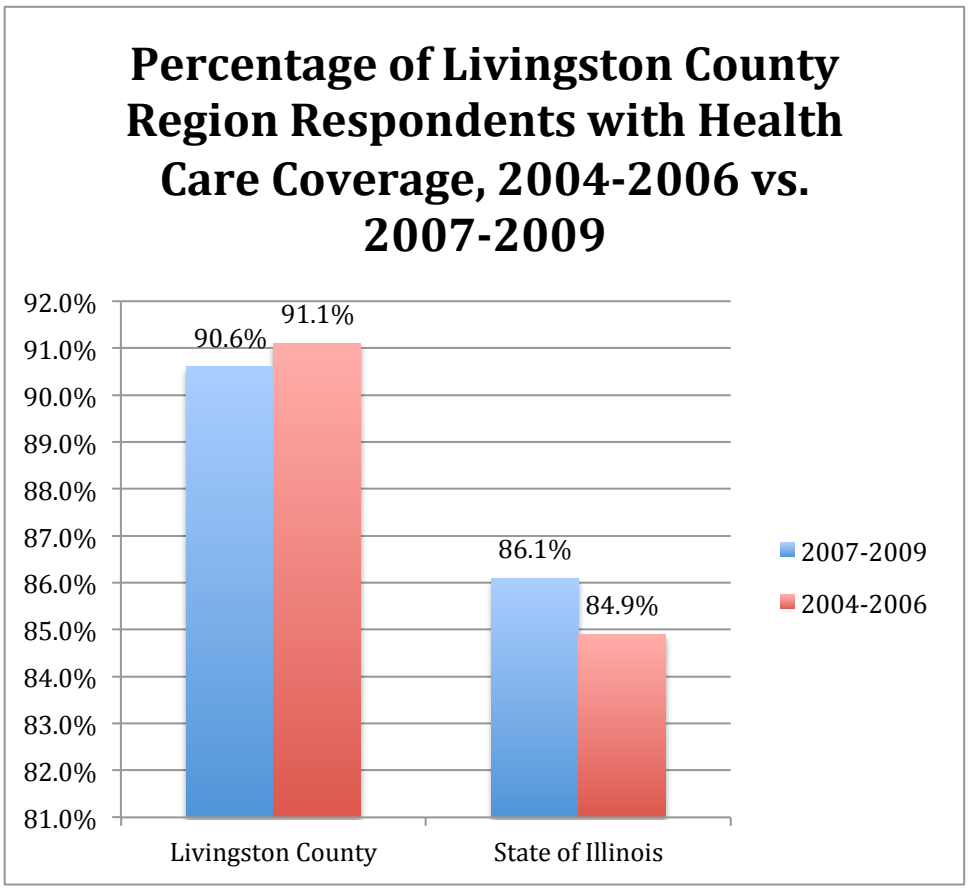
2.1 Accessibility

Importance of the measure: It is critical for health care services to be accessible to the constituencies who will take advantage of its benefits. Therefore, accessibility to health care must address both the financial costs associated with health care and the supply and demand of medical services.

2.1.1 Insurance Coverage

With regard to medical insurance coverage, data gathered from the Illinois Behavioral Risk Factor Surveillance System suggest that residents in the Livingston County Region possess health care coverage at a higher percentage than the State of Illinois average.

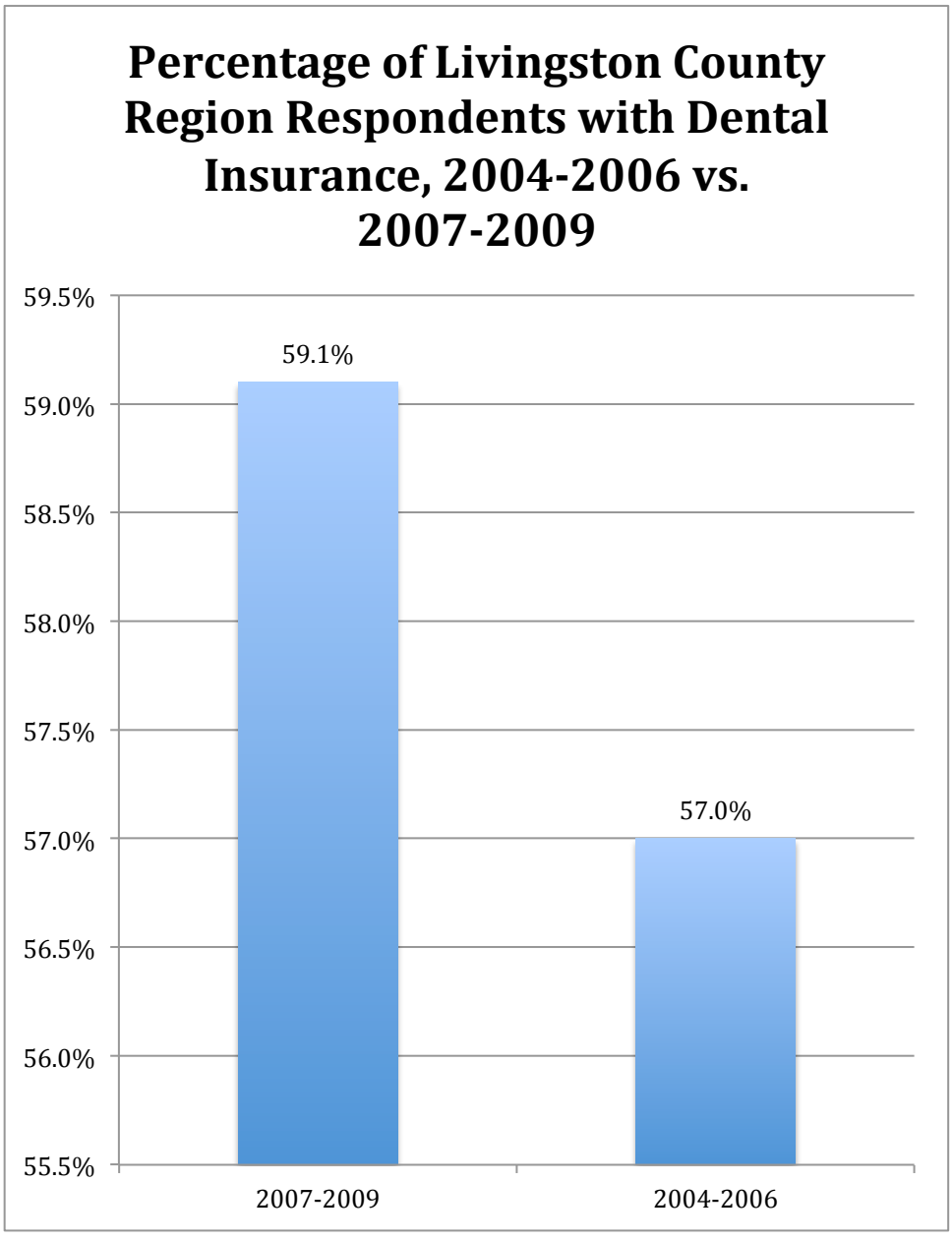
Table 2.1.1-1 Percentage of Livingston County Region Respondents with Health Care Coverage, 2004-2006 vs. 2007-2009



Source: Illinois Behavioral Risk Factor Surveillance System

With regard to dental insurance, the most recent data from the Illinois BRFSS indicate 59.1% of Livingston County residents possessed dental insurance coverage in 2007-2009 compared to 57.0% of Livingston County residents in 2004-2006.

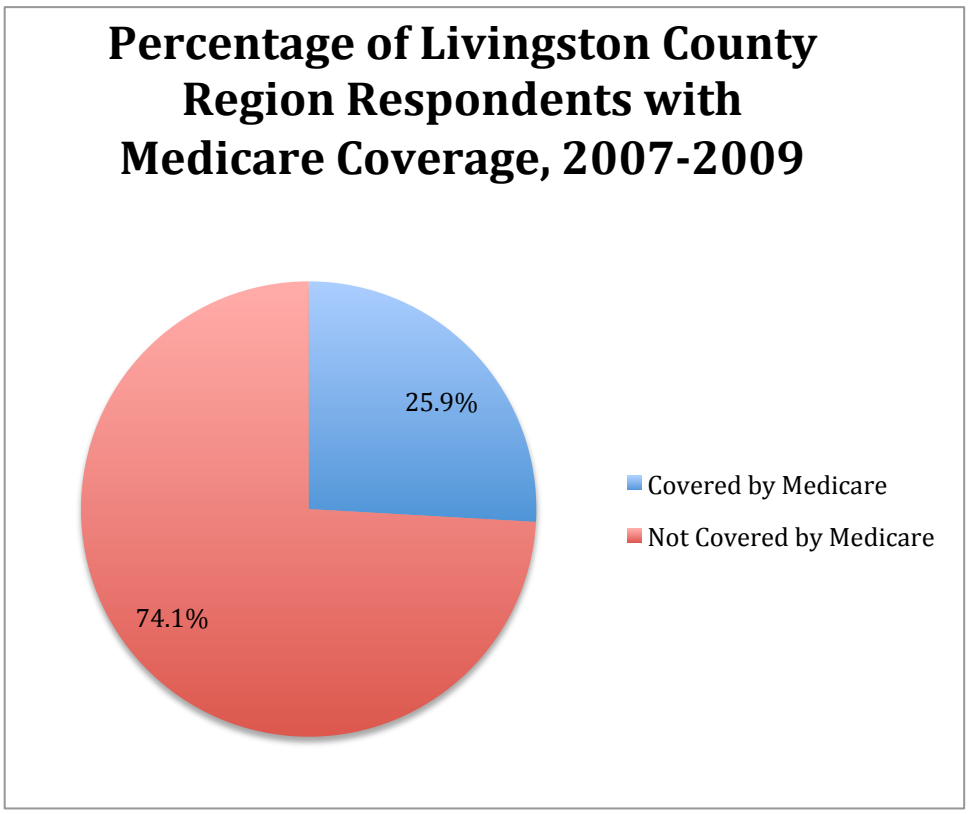
Table 2.1.1-2 Percentage of Livingston County Region Respondents with Dental Insurance, 2004-2006 vs. 2007-2009



Source: Illinois Behavioral Risk Factor Surveillance System

With regard to Medicare Coverage, nearly 26% of Livingston County residents received Medicare coverage between 2007 and 2009.

Table 2.1.1-3 Percentage of Livingston County Region Respondents with Medicare Coverage, 2007-2009



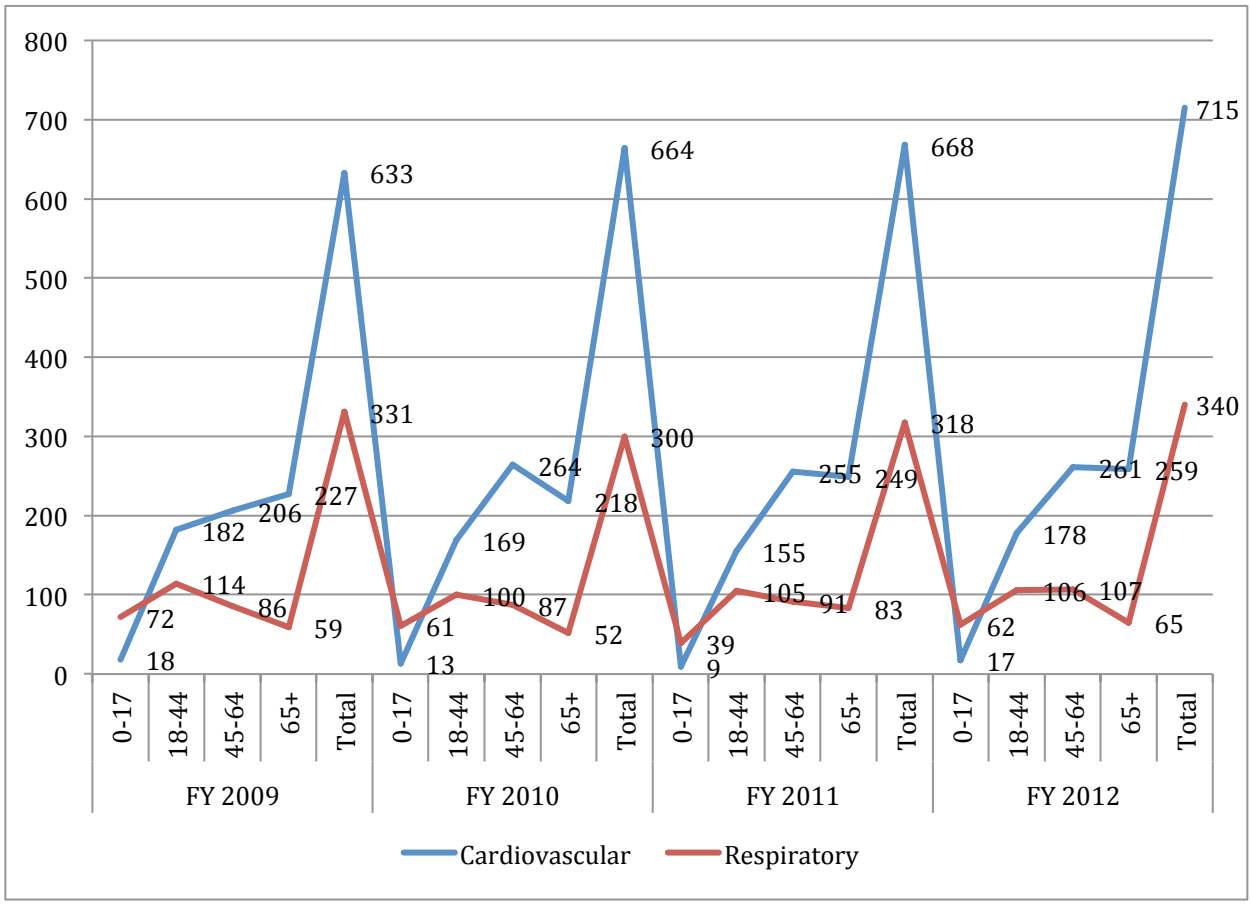
Source: Illinois Behavioral Risk Factor Surveillance System

2.1.2 Access and utilization

Physician capacity can be measured using various metrics. One commonly utilized method is to evaluate the percentage of individuals who have a usual health care provider. A usual health care provider signifies that these individuals are more likely to partake in wellness check-ups and less likely to utilize emergency room visits as their primary health care service.

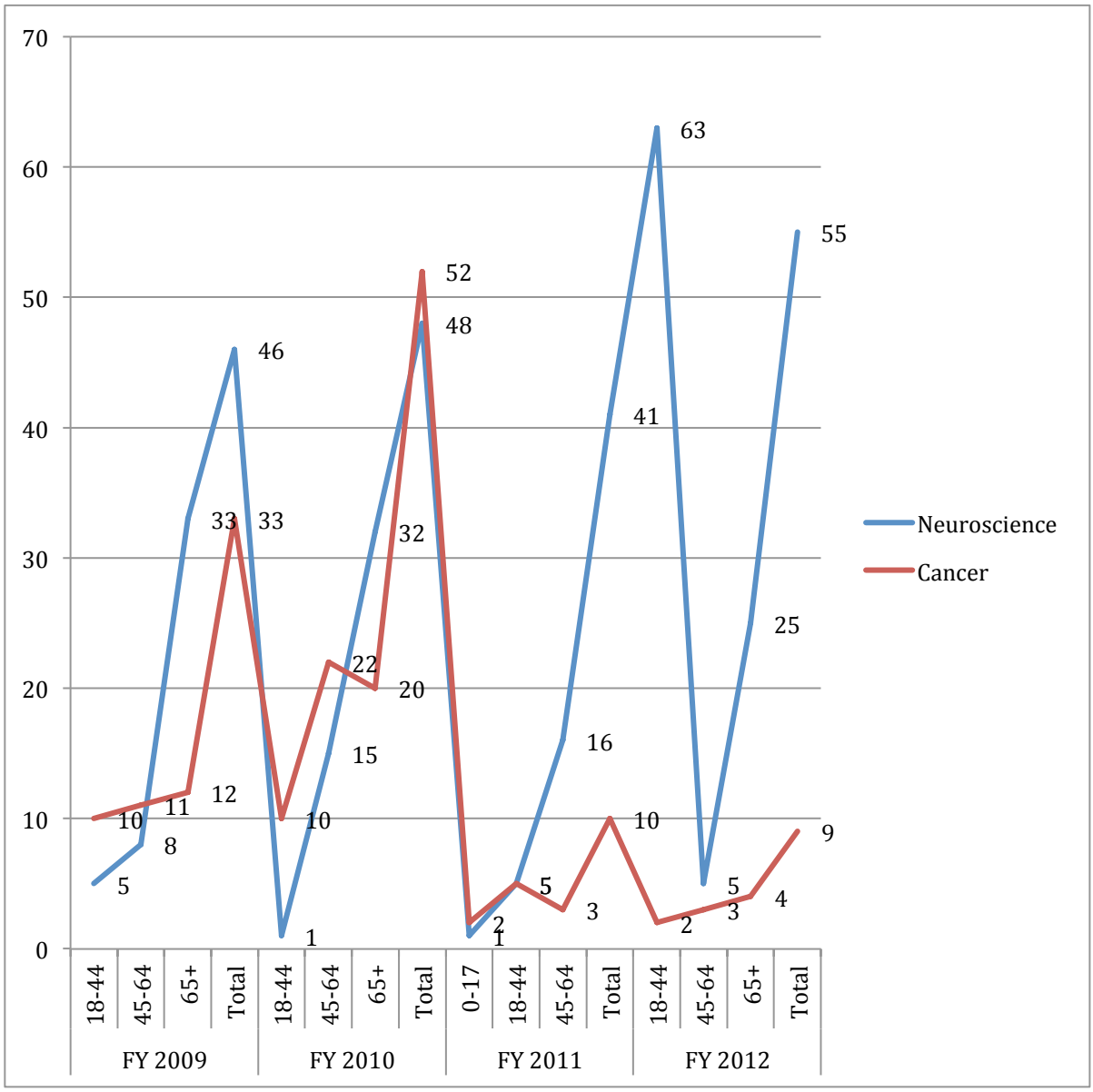
Tables 2.1.2-1 and 2.1.2-2 reflect the number of emergency room visits by condition. Of particular note, the number of emergency room visits for cardiovascular conditions has increased for the Pontiac-area hospital (defined as OSF/Saint James Medical Center) by 13% between 2009 and 2012. Emergency room visits attributed to cancer have decreased from a high of 52 in 2010 to 9 in 2012. Note however that as of 2010, Prompt Care was no longer counted as ER visits. It now falls under physician office visits. This may impact year-to-year changes, so growth rates should be interpreted with caution.

Table 2.1.2-1 Patients from Livingston County Area Making ER Visits to Pontiac-Area Hospitals for Cardiovascular and Respiratory by Age, 2009-2012



Source: COMPData 2012

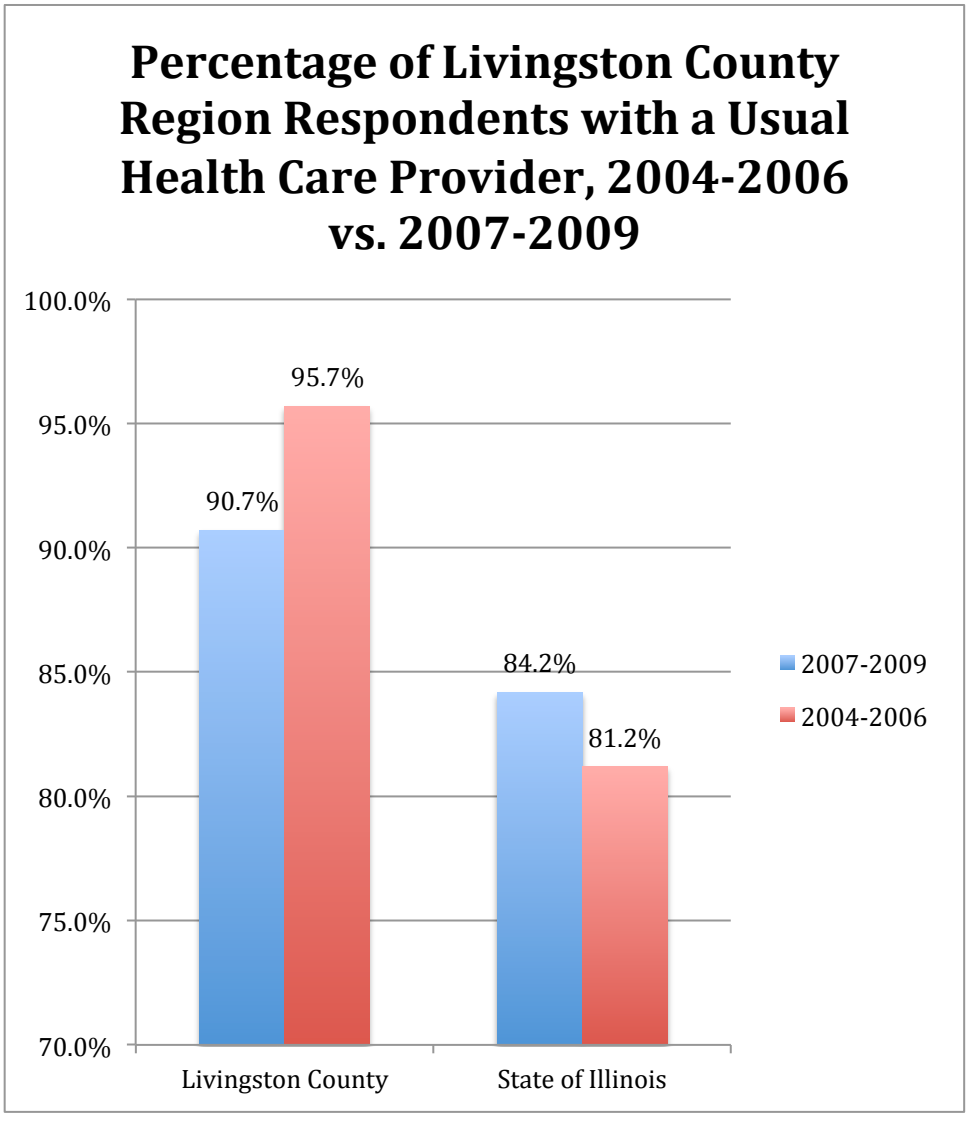
Table 2.1.2-2 Patients from Livingston County Area Making ER Visits to Pontiac-Area Hospitals for Neuroscience and Cancer by Age, 2009-2012



Source: COMPData 2012

In the Livingston County Region, the most recent data indicate approximately 90% of residents utilize a regular health care provider. Between 2004-2006 and 2007-2009, the percentage of residents in Livingston County reporting a usual health care provider decreased by 5.0%. On the contrary, the percentage of State of Illinois residents increased by 3.0% during the same time frame.

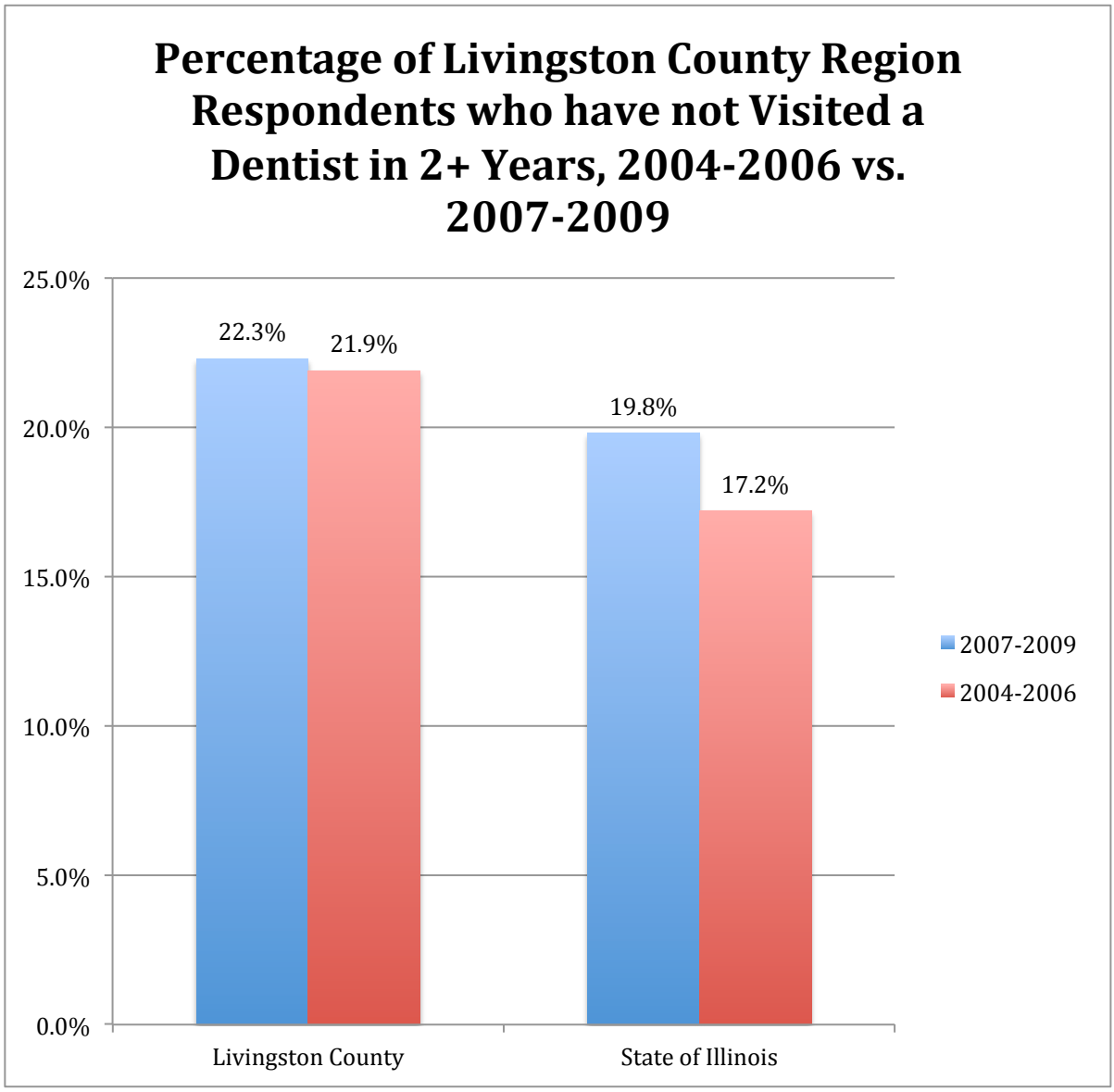
Table 2.1.2-3 Percentage of Livingston County Region Respondents with a Usual Health Care Provider, 2004-2006 vs. 2007-2009



Source: Illinois Behavioral Risk Factor Surveillance System

Another metric to gain insight into the capacity of physicians is the percentage of residents who have not visited physicians within two years. With regard to the capacity of dentists in the Livingston County lags significantly behind the State of Illinois average for 2007-2009. Furthermore, Livingston County denoted positive growth in the percentage of respondents who have not visited a dentist in two or more years, as 22.3% of Livingston County residents have not visited a dentist in 2 or more years.

Table 2.1.2-4 Percentage of Livingston County Region Respondents who have not Visited a Dentist in 2+ Years, 2004-2006 vs. 2007-2009



Source: Illinois Behavioral Risk Factor Surveillance System

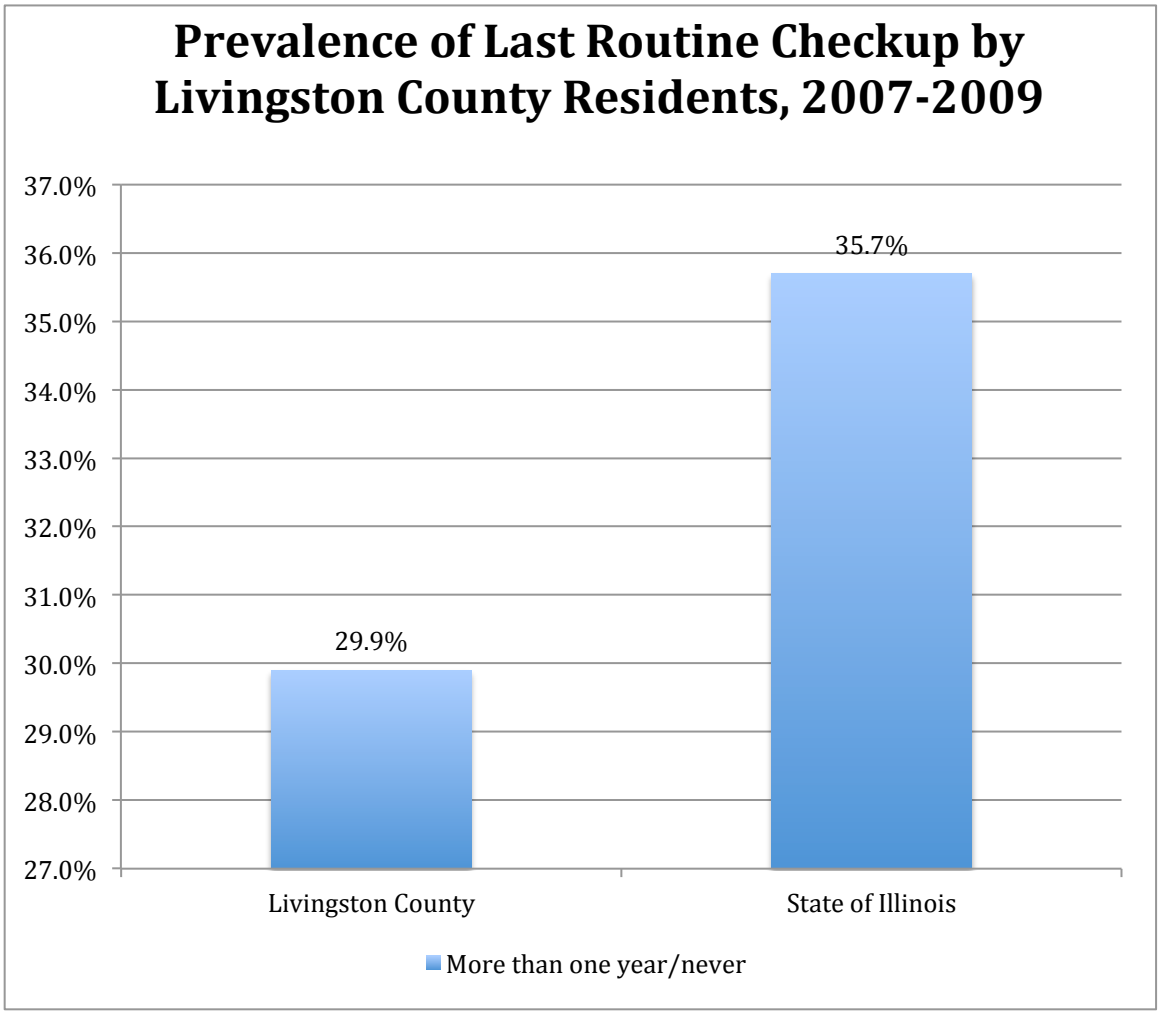
2.2 Wellness

Importance of the measure: Preventative health care measures, including scheduling routine well-visits, engaging in a healthy lifestyle, and undertaking screenings for diseases, are essential to combating morbidity and mortality and help reduce health care costs.

2.2.1 Check up

Numerous health problems can be minimized when detected early. Therefore regularly scheduled routine checkups can be very important. According to the latest data from the Illinois BRFSS, approximately 70.1% of residents in the Livingston County Region report having had a routine checkup within the last year. In addition, 29.9% of Livingston County residents report that it has been more than one year since their last check-up or they have never had one.

Table 2.2.1-1: Prevalence of Last Routine Checkup by Livingston County Residents, 2007-2009



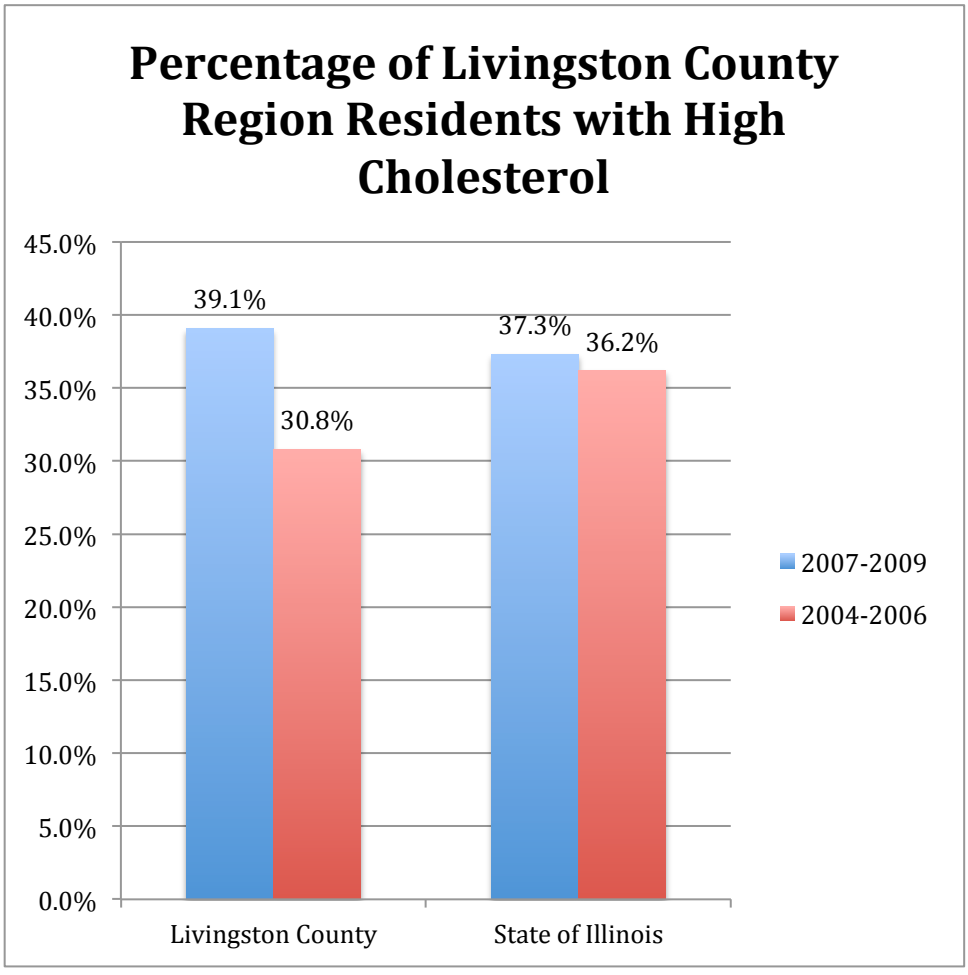
Source: Illinois Behavioral Risk Factor Surveillance System

2.2.2 Early detection

Residents in the Livingston County Region report varying prevalence of high cholesterol. The percentage of residents who report they have high cholesterol is higher in Livingston County (39.1%) than the State of Illinois average of 37.3%. Accordingly, there was a 27% growth in the percentage of Livingston County residents reporting they were informed they had high cholesterol between 2006 (30.8%) and 2009 (39.1%). For comparison, there was a 3% growth in the percentage of Illinois residents reporting they were informed they had high cholesterol between 2006 (36.2%) and 2009 (37.3%).

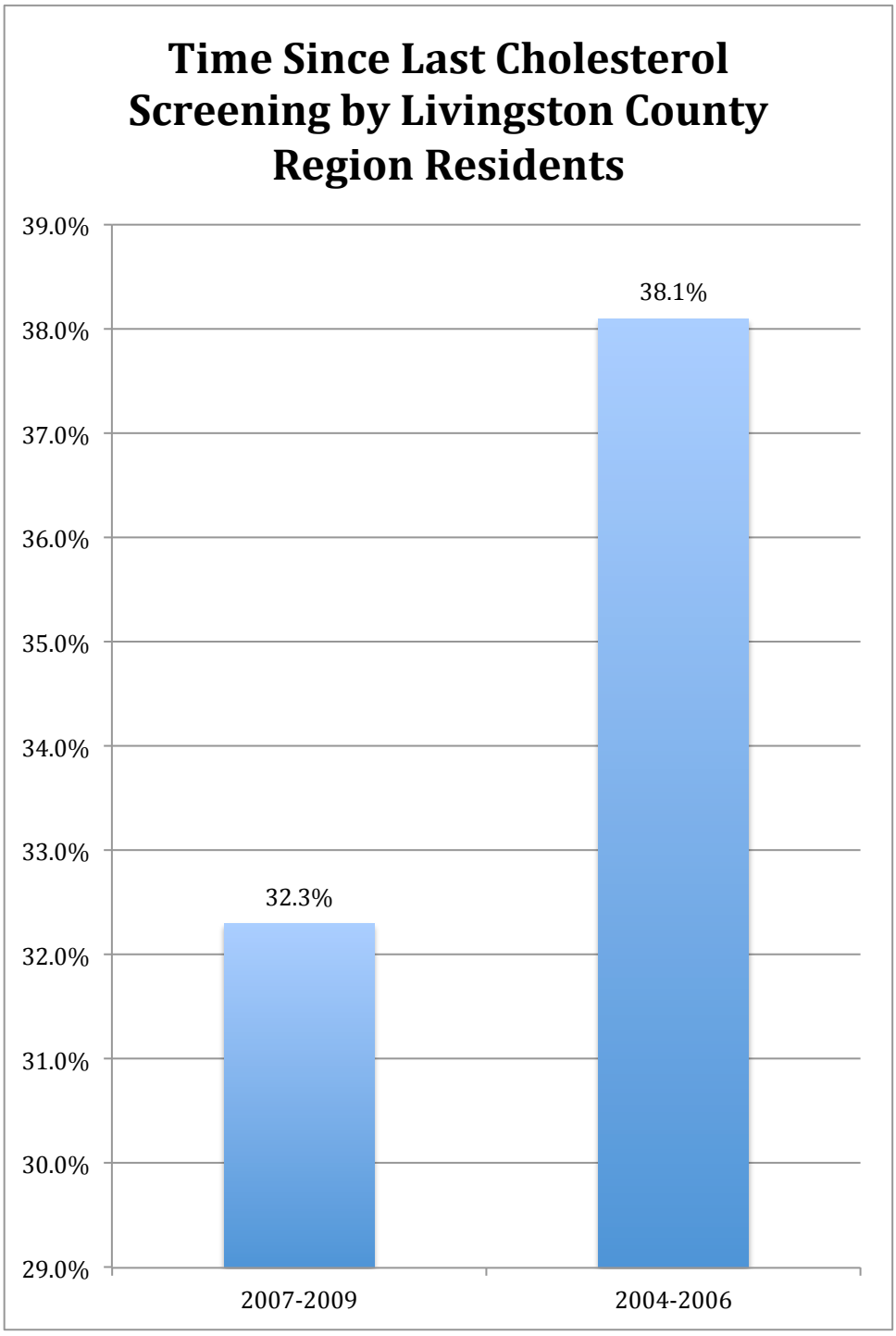
In addition, 67.7% of residents in the Livingston County Region report having had a cholesterol screening within the last year. These data for 2007-2009 are lower than the State of Illinois average of 68.4%.

Table 2.2.2-1: Percentage of Livingston County Region Residents with High Cholesterol



Source: Illinois Behavioral Risk Factor Surveillance System

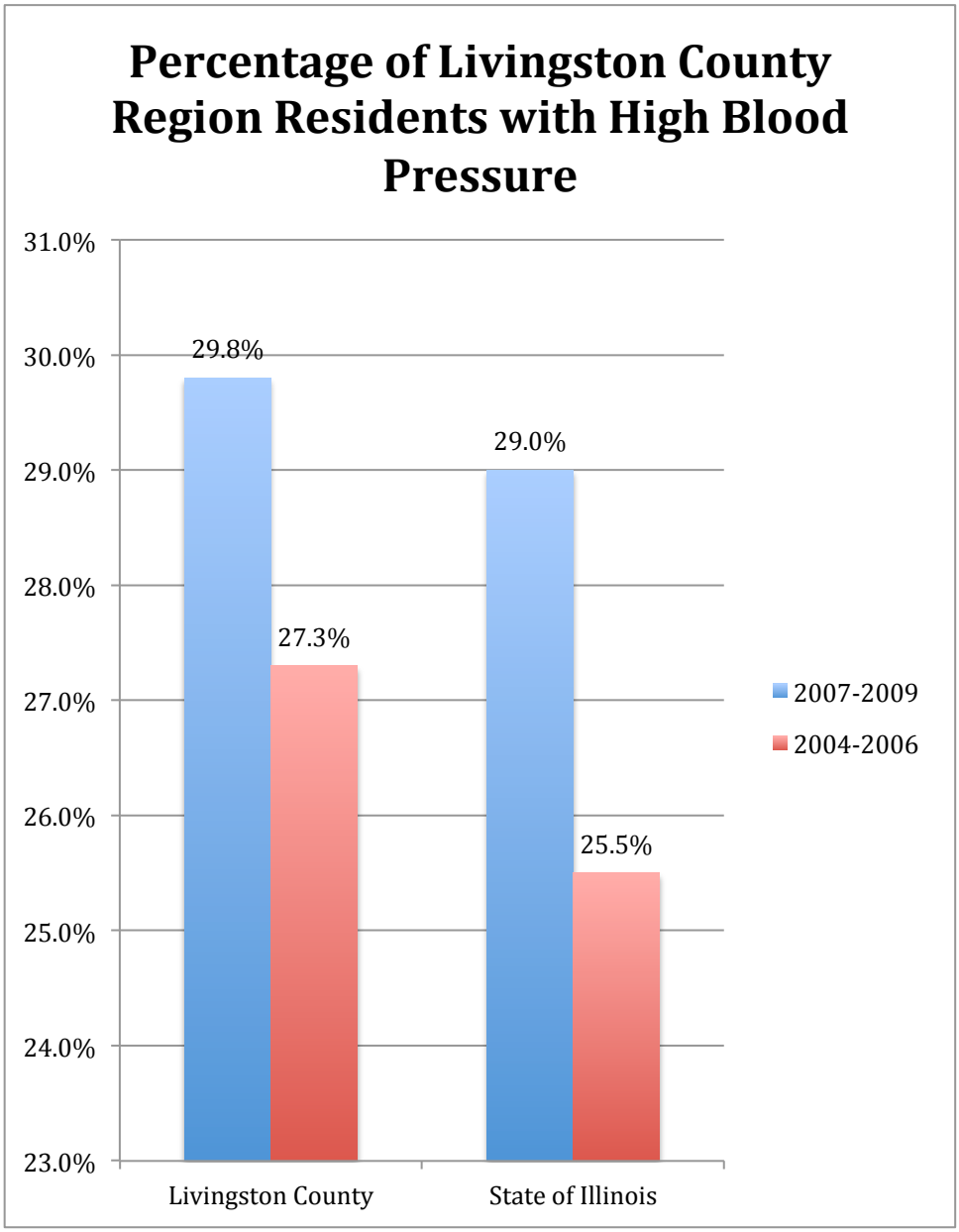
Table 2.2.2-2: Time Since Last Cholesterol Screening by Livingston County Region Residents



Source: Illinois Behavioral Risk Factor Surveillance System

With regard to high blood pressure, the residents in Livingston County report a higher percentage of individuals with high blood pressure than residents in the State of Illinois as a whole for 2007-2009 and 2004-2006.

Table 2.2.2-3: Percentage of Livingston County Region Residents with High Blood Pressure

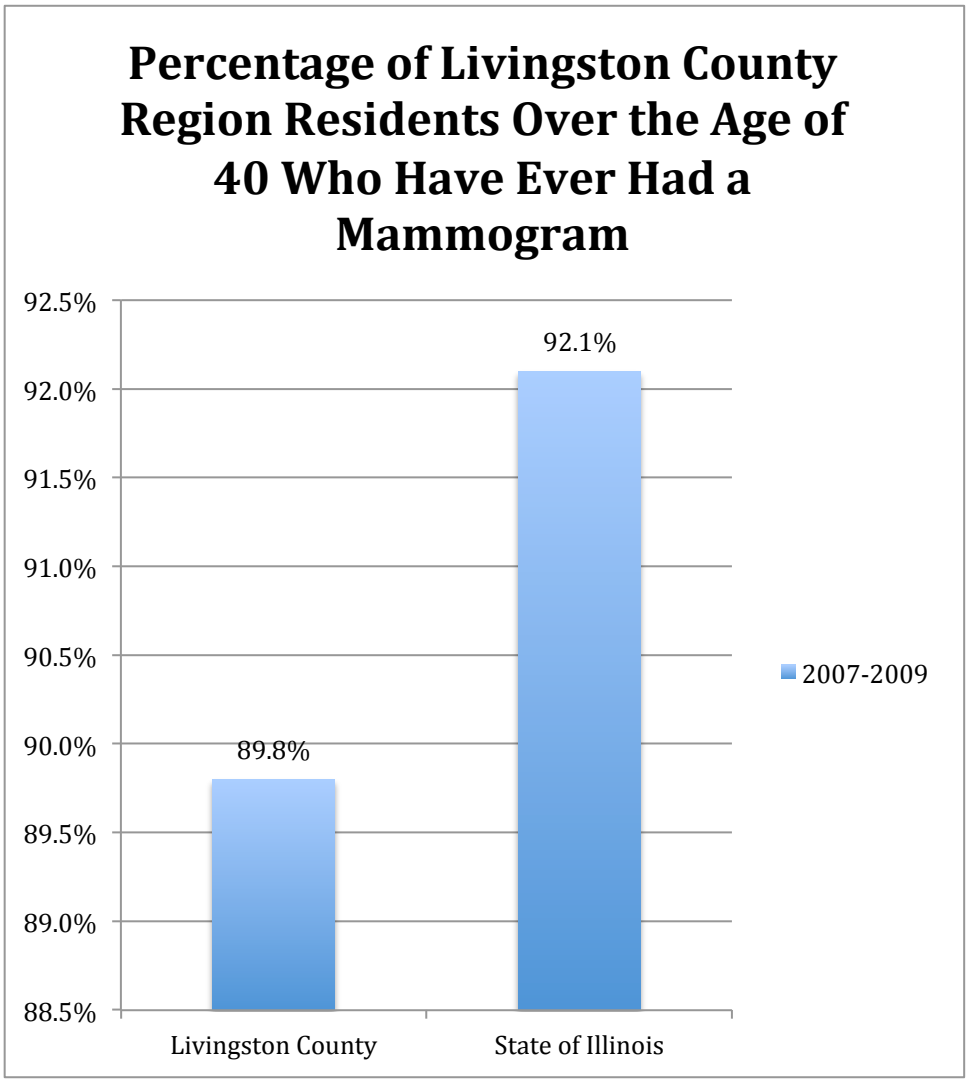


Source: Illinois Behavioral Risk Factor Surveillance System

Mammograms and PSA tests help to screen individuals for breast and prostate cancers. With regard to mammograms, 89.8% of individuals over the age of 40 in Livingston County report that they have had a mammogram at some point in their life. These data are significantly lower that the State of Illinois average of 92.1%.

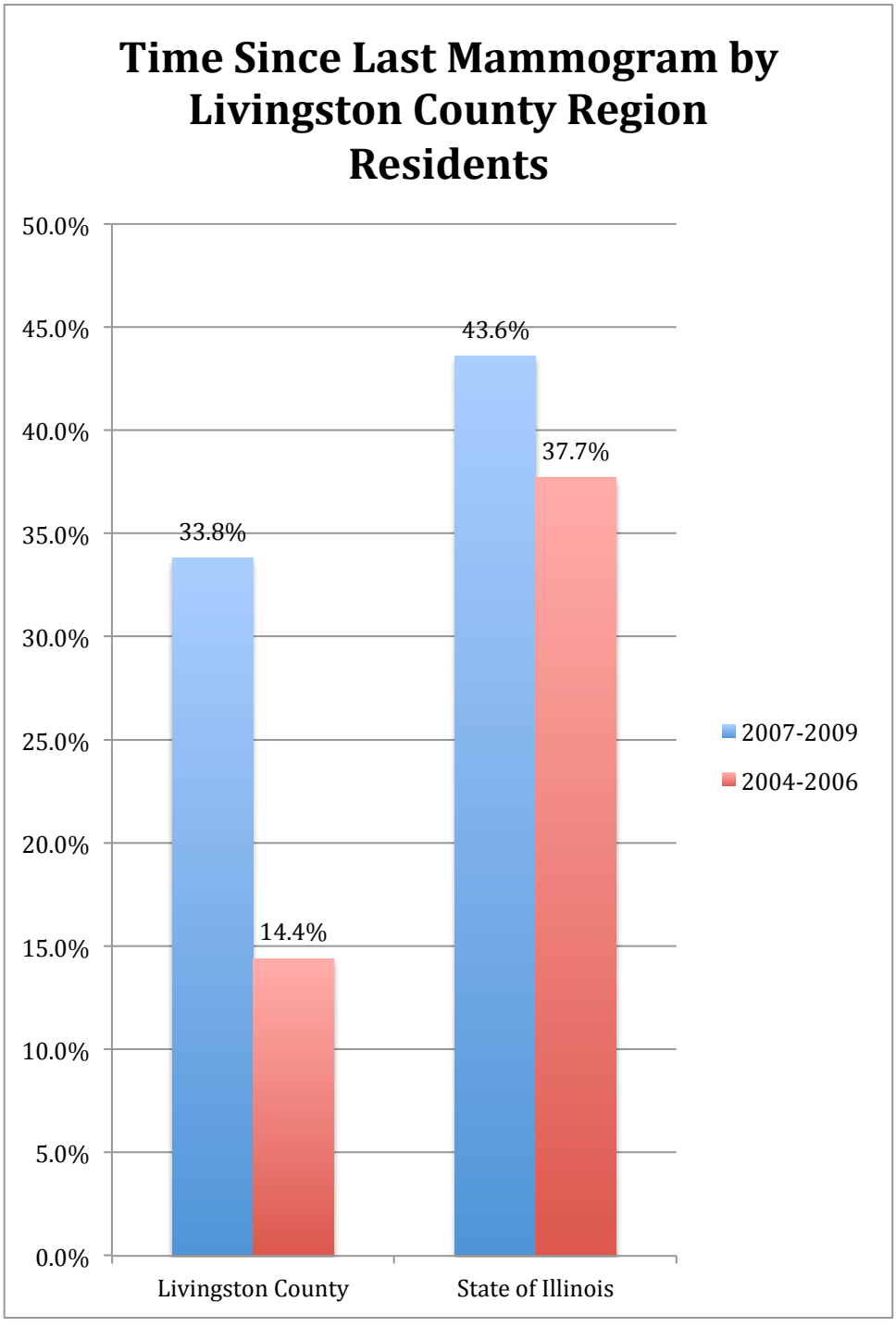
With regard to the time elapsed since one's last mammogram, nearly 66% of residents from Livingston County reported they had had a mammogram within one year or less. This statistic is significantly better than the State of Illinois average.

Table 2.2.2-4 Percentage of Livingston County Region Residents Over the Age of 40 Who Have Ever Had a Mammogram



Source: Illinois Behavioral Risk Factor Surveillance System

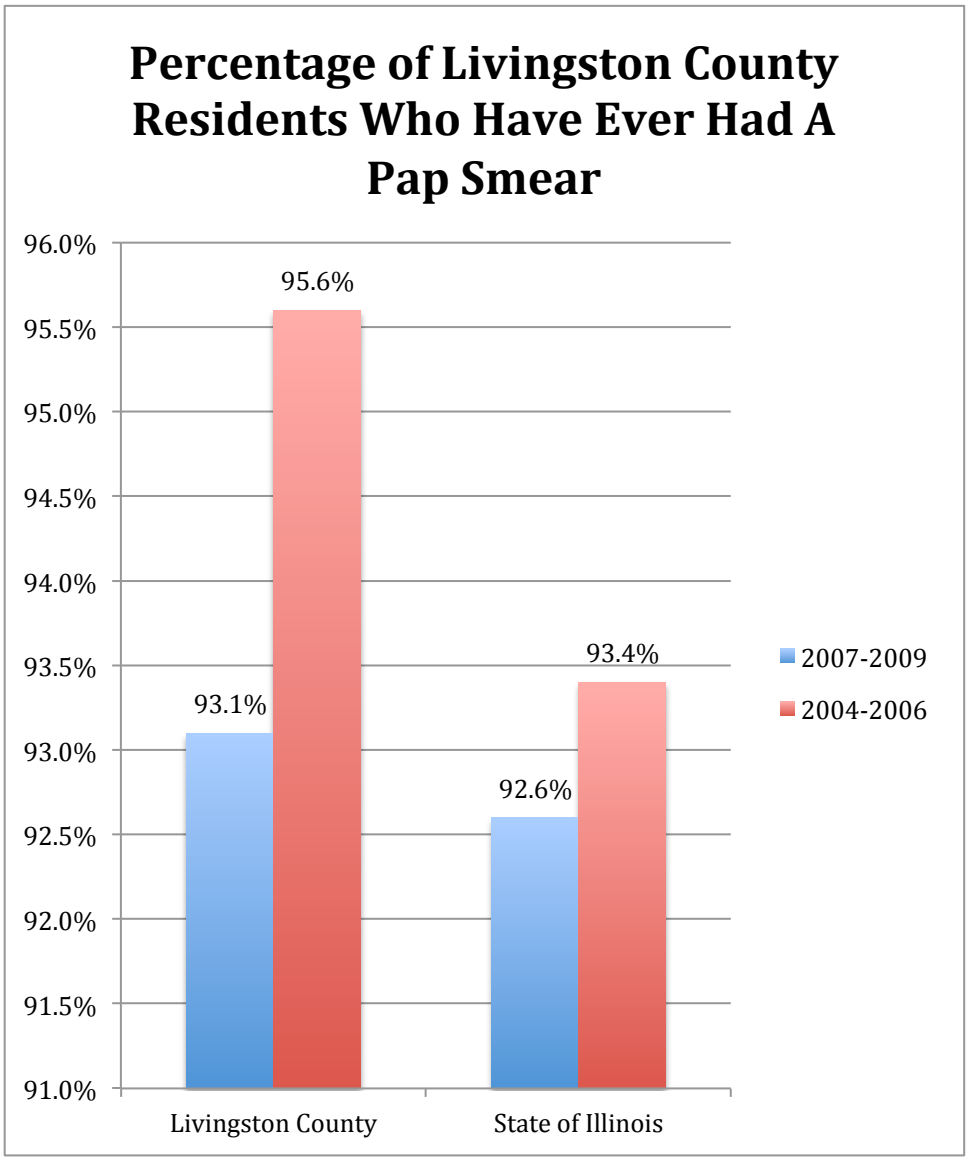
Table 2.2.2-5 Time Since Last Mammogram by Livingston County Region Residents



Source: Illinois Behavioral Risk Factor Surveillance System

Research suggests pap smears are important in detecting pre-cancerous cells in the uterus and cervix. Data from the 2007-2009 Illinois BRFSS indicate that 93.1% of Livingston County residents have ever had a pap smear. These percentages are greater than the State of Illinois average (92.6%). Between 2004-2006 and 2007-2009, the percentage of Livingston County residents who had ever had a pap smear saw negative percentage growth of 4.4%.

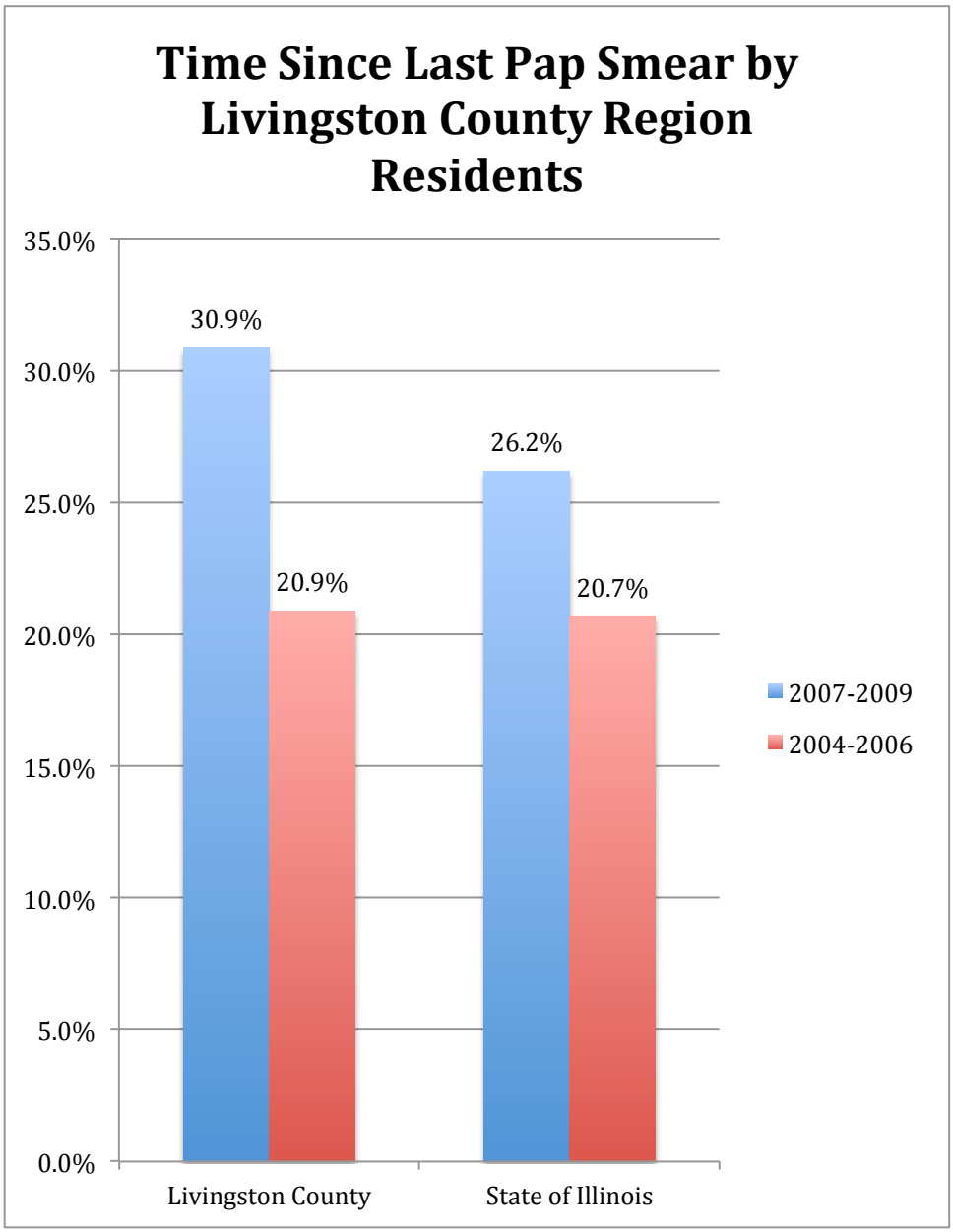
Table 2.2.2-6 Percentage of Livingston County Residents Who Have Ever Had Pap Smear



Source: Illinois Behavioral Risk Factor Surveillance System

With regard to the time elapsed since one's last pap smear, residents from Livingston County reported a increase of 10 percentage points between 2004-2006 and 2007-2009 for greater than 1 year elapsing between pap smears with 30.9% of residents indicating 1 year or more between pap smears. This statistic is significantly worse than the State of Illinois average (26.2%).

Table 2.2.2-7 Time Since Last Pap Smear by Livingston County Region Residents

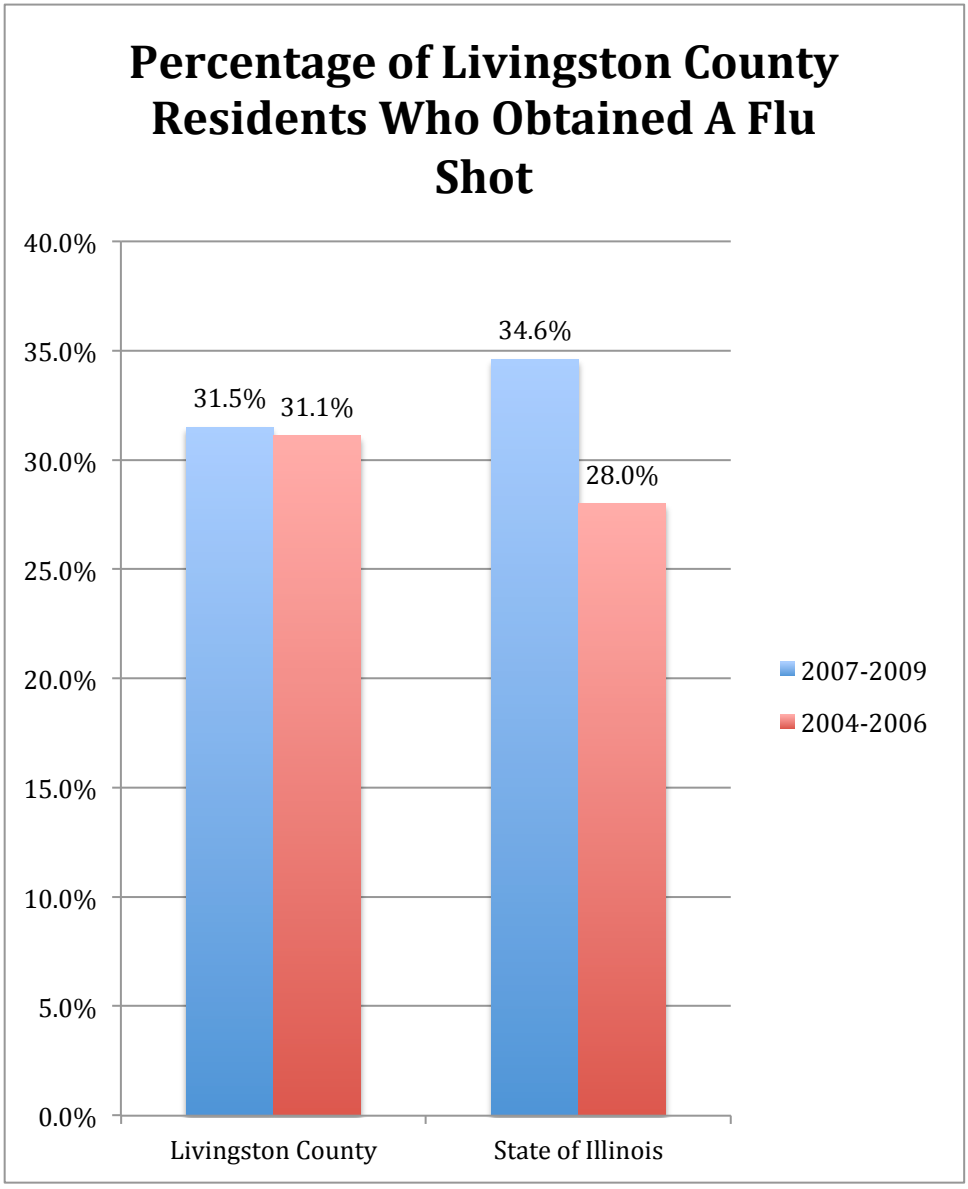


Source: Illinois Behavioral Risk Factor Surveillance System

2.2.3 Immunizations

The overall health of a community is impacted by preventative measures including immunizations and vaccinations. The percentage of people who have had a flu shot in the past year is approximately 35% for both Livingston County as well as the State of Illinois, although the state average is higher than the Livingston County average. The percentage of residents in Livingston County who obtained a flu shot (31.5%) is lower than the state average (34.6%). While the State of Illinois experienced positive percentage growth of 24% between 2004-2006 and 2007-2009, Livingston County and experienced only slight positive percentage growth in the percentage of residents who obtained a flu shot.

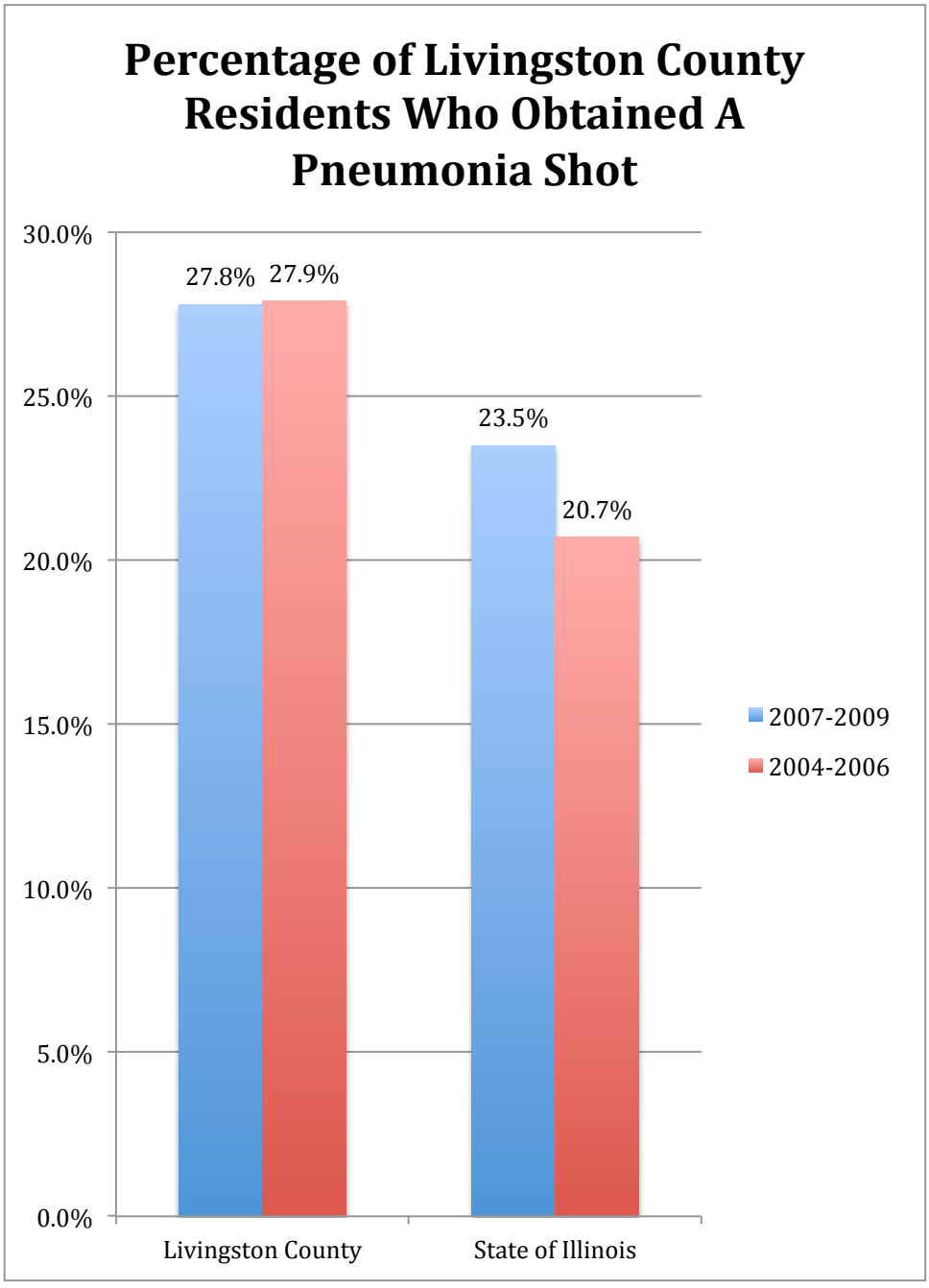
Table 2.2.3-1 Percentage of Livingston County Residents Who Obtained A Flu Shot



Source: Illinois Behavioral Risk Factor Surveillance System

Pneumonia shots are even less frequent, with 27.8% of Livingston County residents receiving the treatment between 2007-2009.

Table 2.2.3-2 Percentage of Livingston County Residents Who Obtained A Pneumonia Shot



Source: Illinois Behavioral Risk Factor Surveillance System

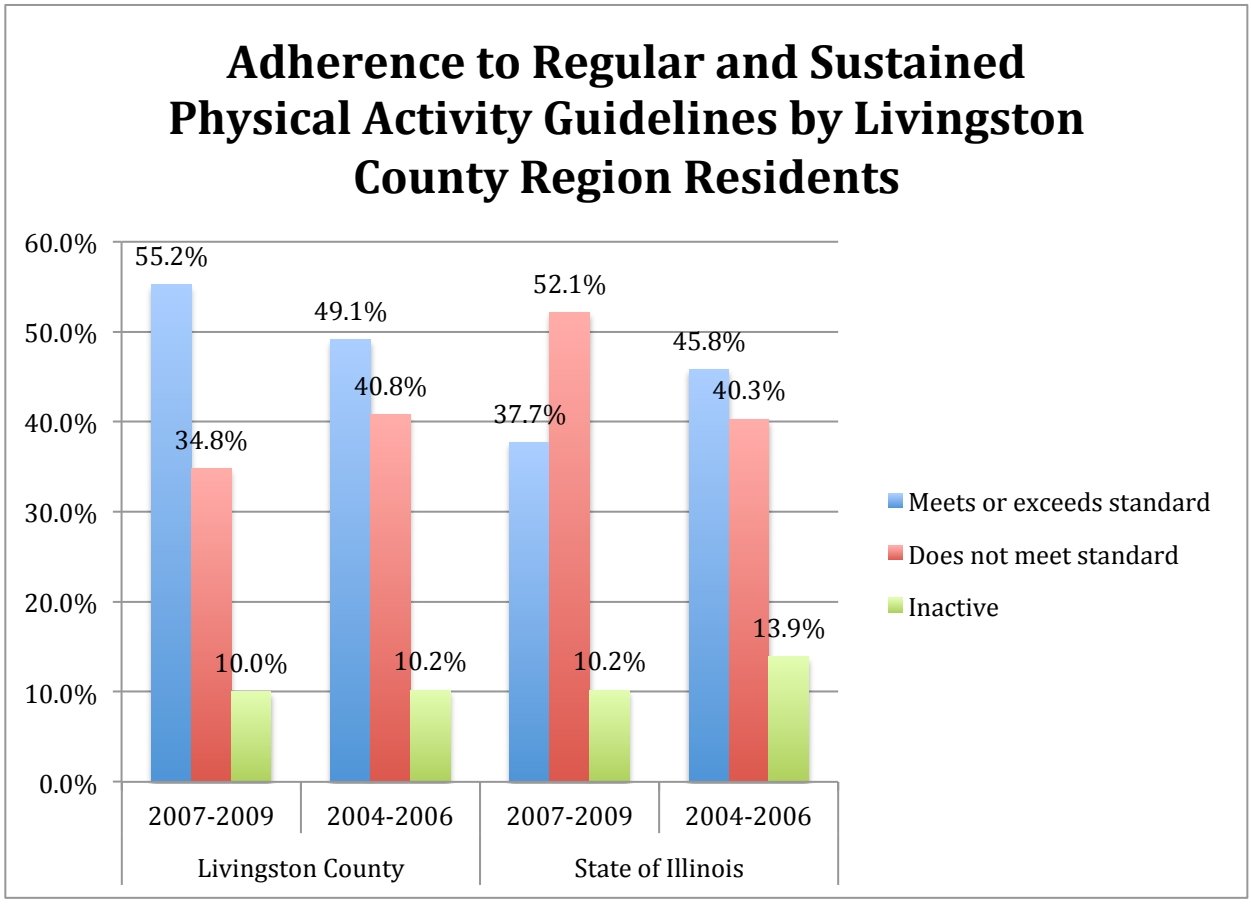
2.2.4 Healthy lifestyle

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

Residents in the Livingston County Region adhere to regular sustained physical activity guidelines at a higher propensity than the State of Illinois average (37.7%). The most recent data from 2007-2009 indicate that 55.2% of Livingston County residents meet or exceed the regular and sustained physical activity guidelines.

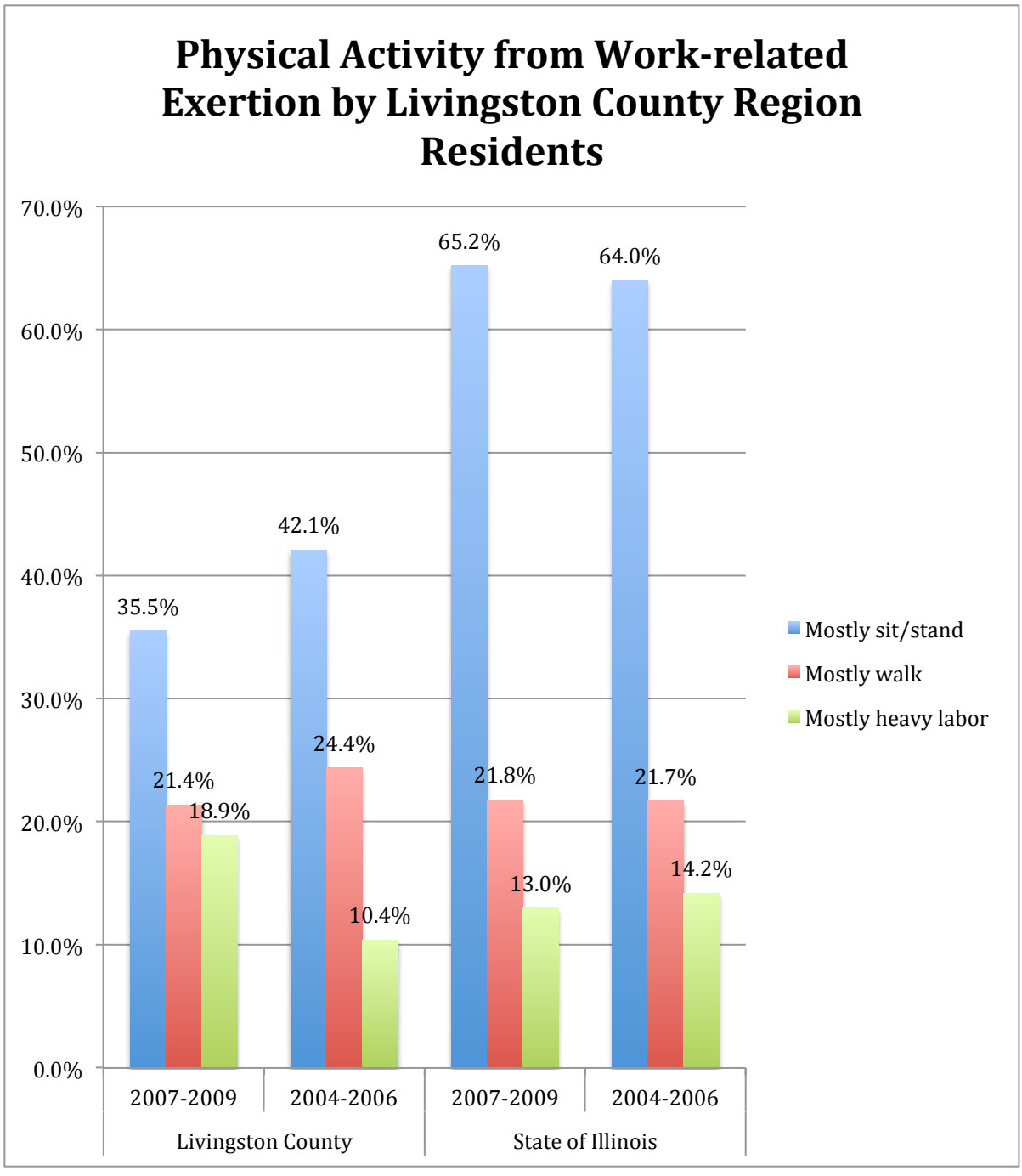
With regard to work-related activity, upwards of 36% of Livingston County residents mostly sit or stand to execute their job tasks. The specific percentage in 2007-2009 for Livingston County (35.5%) is significantly lower than the State of Illinois average of 65.2%.

Table 2.2.4-1 Adherence to Regular and Sustained Physical Activity Guidelines by Livingston County Region Residents



Source: Illinois Behavioral Risk Factor Surveillance System

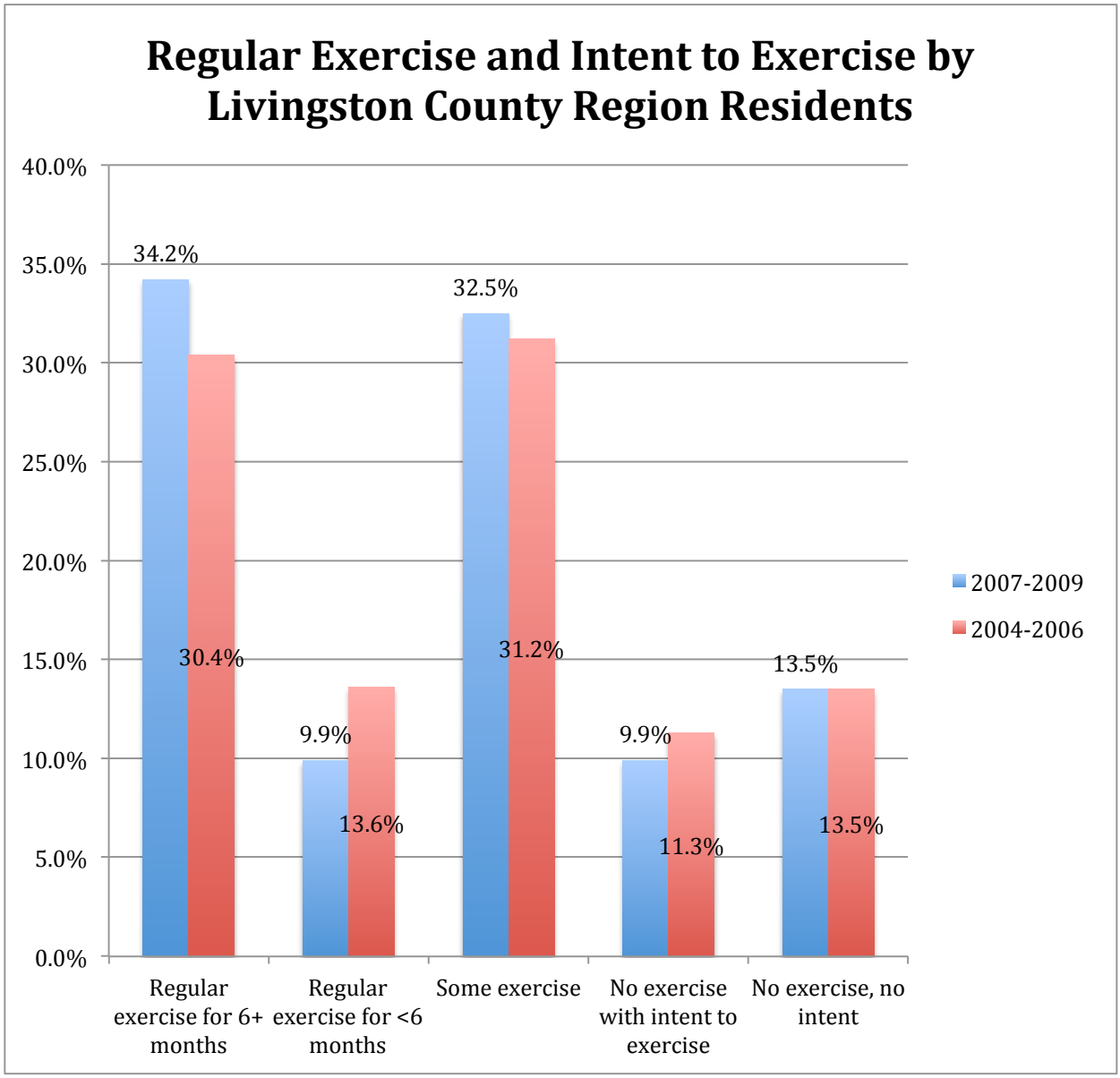
Table 2.2.4-2 Physical Activity from Work-related Exertion by Livingston County Region Residents



Source: Illinois Behavioral Risk Factor Surveillance System

When evaluating physical activity, it is important to evaluate the values behind one's decision to exercise. Table 2.2.4-3 illustrates the intentions toward exercise held by residents in the Livingston County region. According to recent data, approximately 10% of the residents in Livingston County have the intent to exercise but do not actually follow through with exercising. The percentages of individuals in Livingston County who do not exercise and do not have any desire to exercise have decreased or remained constant between the periods of 2004-2006 and 2007-2009.

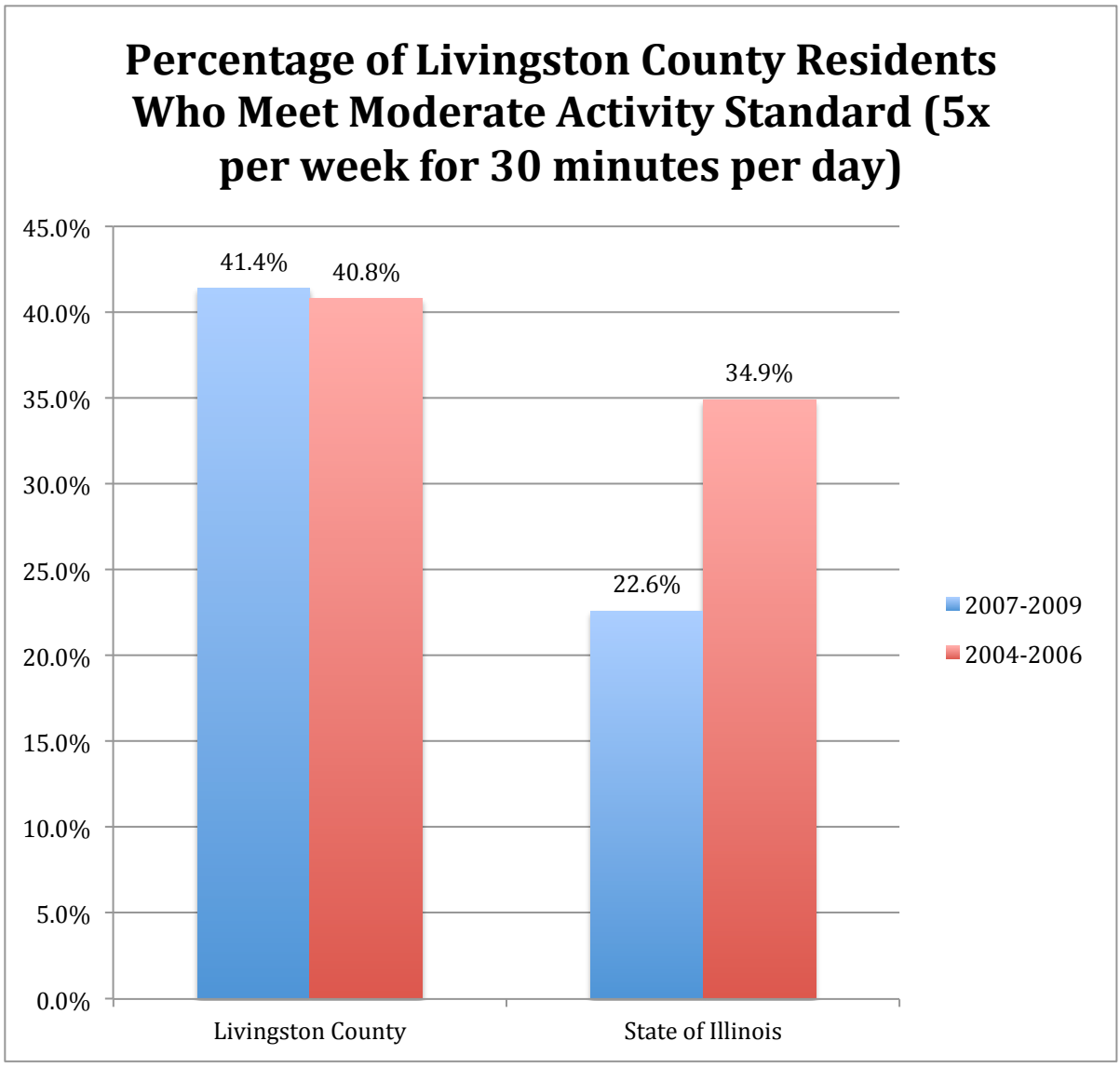
Table 2.2.4-3 Regular Exercise and Intent to Exercise by Livingston County Region Residents



Source: Illinois Behavioral Risk Factor Surveillance System

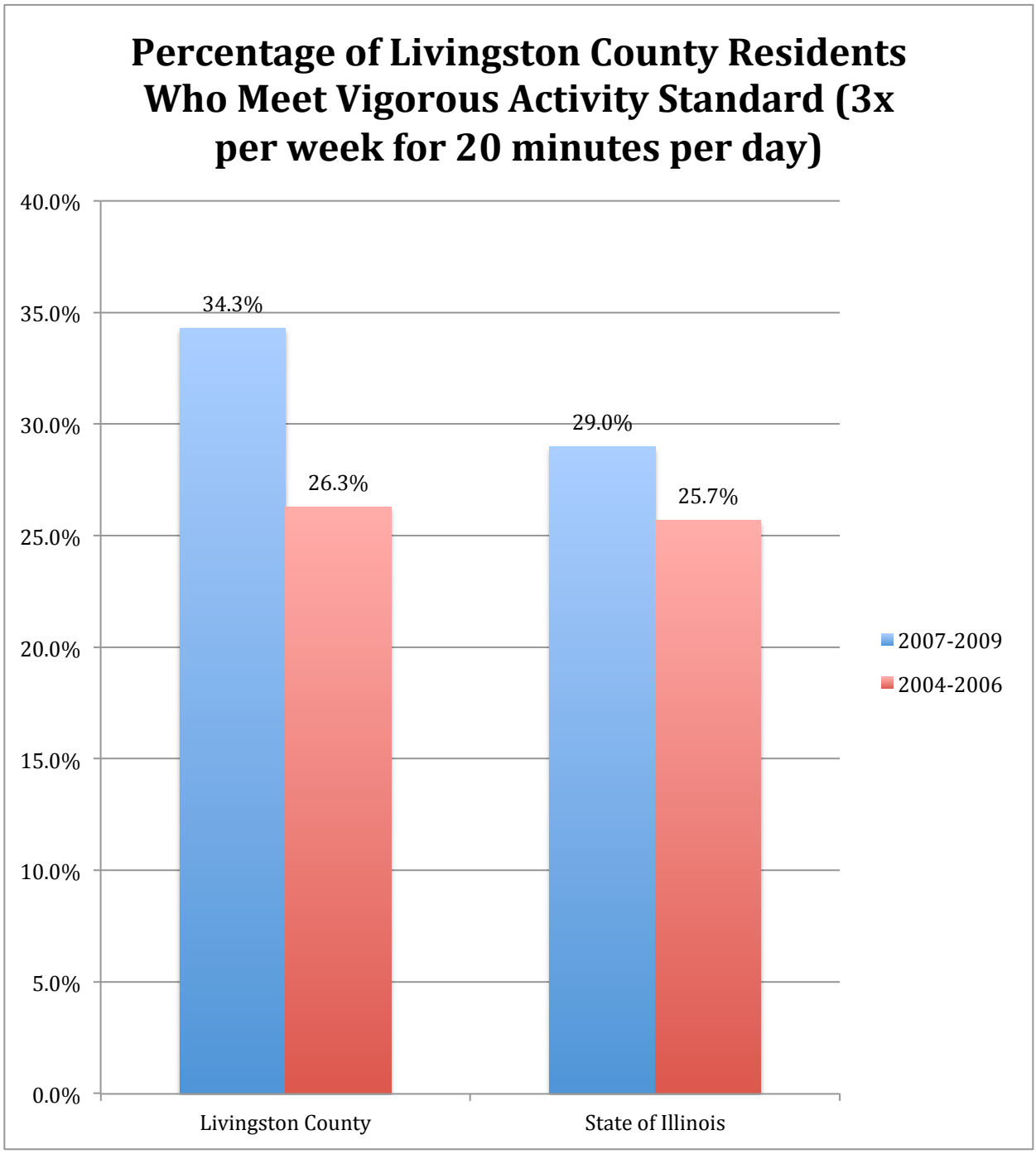
When evaluating physical activity, the intensity and duration of the exercise is important. Residents in the Livingston County Region report approximately 42% of individuals meet the moderate activity standard compared to 22.6% of individuals in the State of Illinois as a whole. The moderate activity standard (based on heart-rate level) is defined as five, 30-minute sessions per week. With regard to the vigorous activity standard, defined as three intense 20-minute sessions per week, Livingston County residents exceed the state average.

Table 2.2.4-4 Percentage of Livingston County Residents Who Meet Moderate Activity Standard (5x per week for 30 minutes per day)



Source: Illinois Behavioral Risk Factor Surveillance System

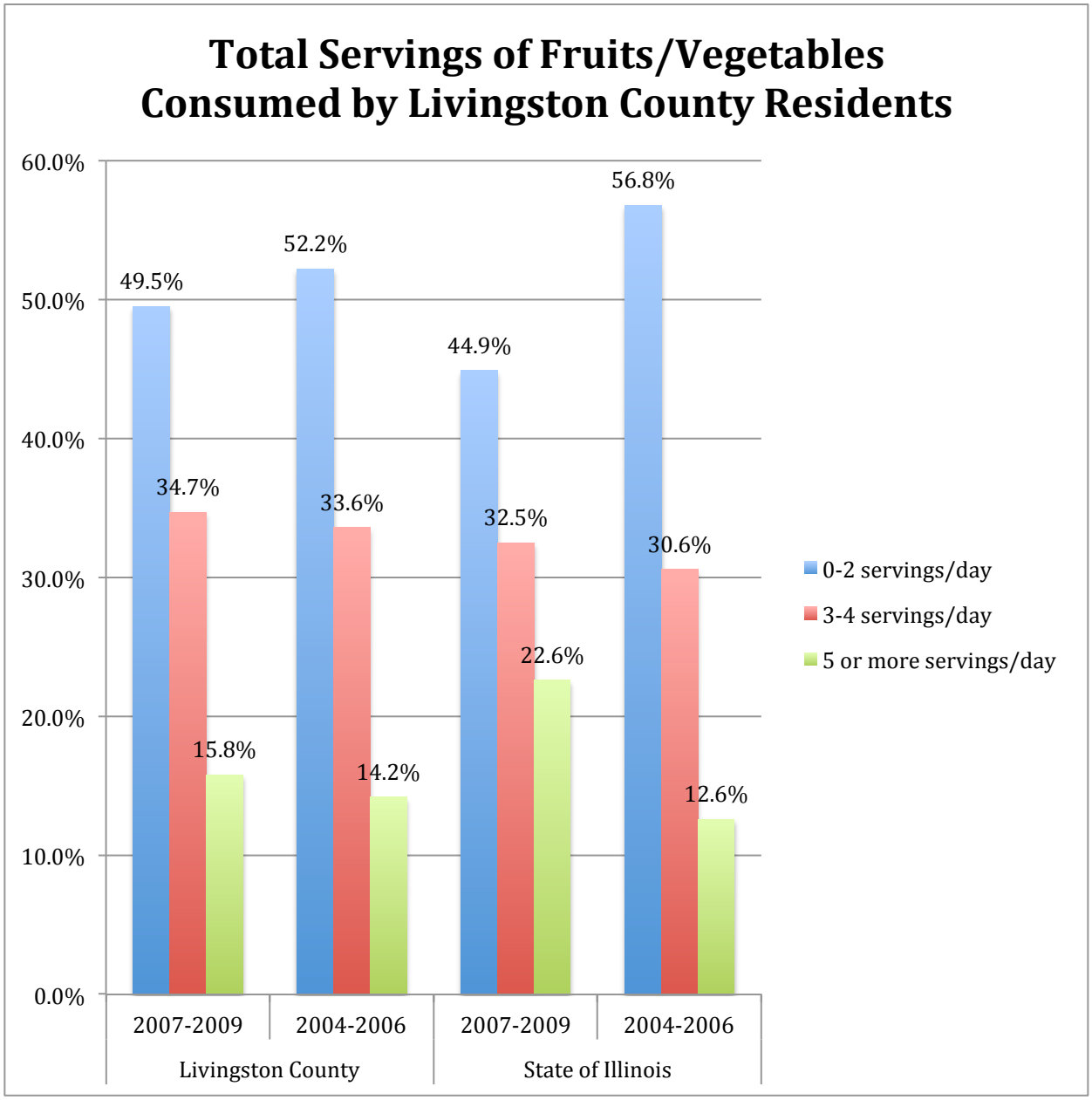
Table 2.2.4-5 Percentage of Livingston County Residents Who Meet Vigorous Activity Standard (3x per week for 20 minutes per day)



Source: Illinois Behavioral Risk Factor Surveillance System

Nutrition and diet are critical to preventative care. Nearly half (49.5%) of Livingston County Region residents report low consumption (0-2 servings per day) of fruits and vegetables. This percentage is higher than the State of Illinois average of 44.9% for the same measure. Note however that the percentage of Livingston County residents who consume 5 or more servings per day is lower (15.8%) than the State of Illinois percentage (22.6%).

Table 2.2.4-6 Total Servings of Fruits/Vegetables Consumed by Livingston County Residents

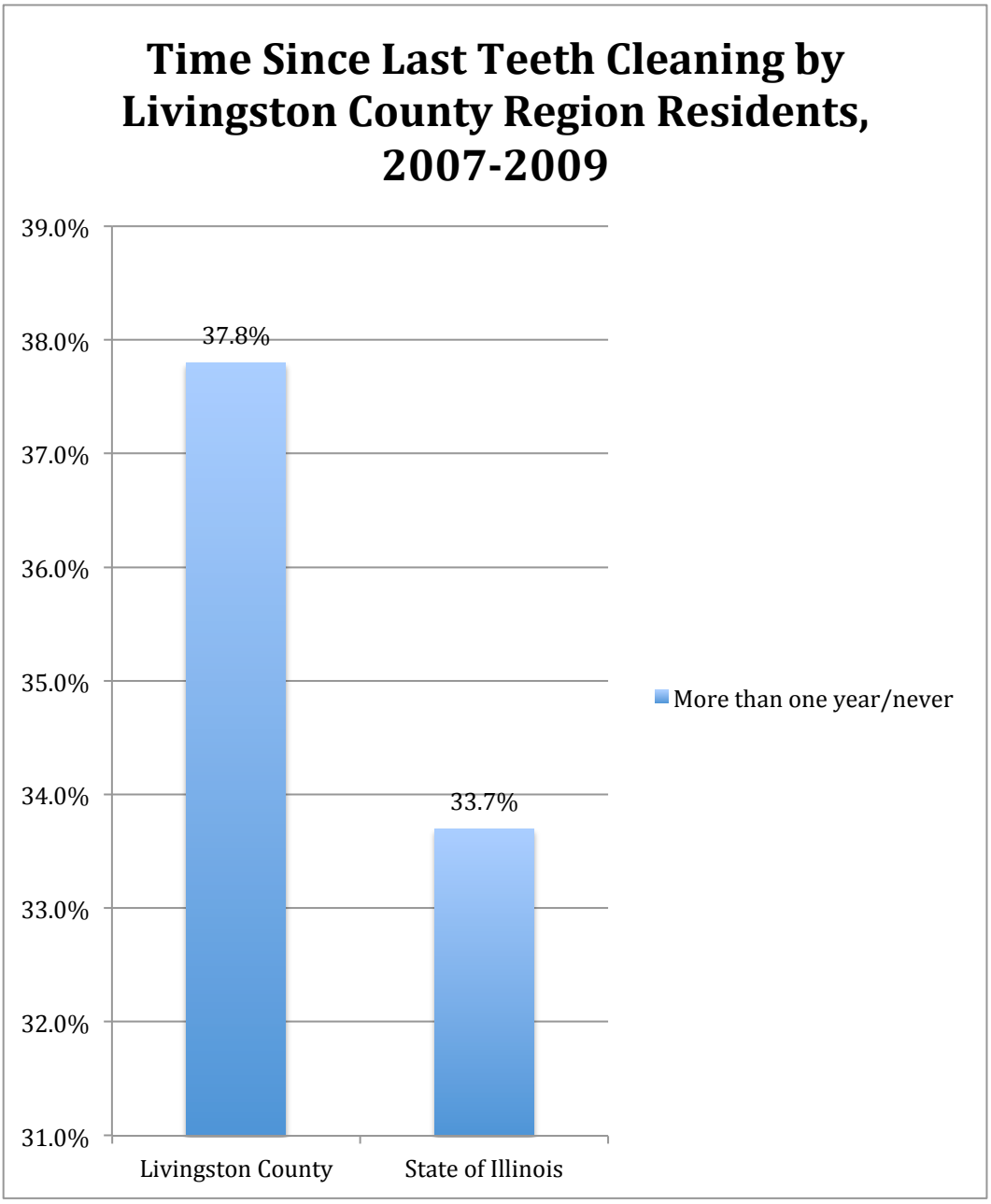


Source: Illinois Behavioral Risk Factor Surveillance System

2.2.5 Oral Health

Research suggests that poor oral hygiene leads to more serious medical concerns. For the 2007-2009 time frame, 62.2% of Livingston County Region residents had their teeth cleaned within the last year. The percentages for Livingston County are worse than that of the State of Illinois average (66.3%).

Table 2.2.5-1 Time Since Last Teeth Cleaning by Livingston County Region Residents



Source: Illinois Behavioral Risk Factor Surveillance System

Prevention: Strategic Implications

Increase health care insurance coverage:

Research suggests that private health insurance companies cover nearly 1/3 of the national health expenditures. According to the Kaiser Family Foundation, private health insurance companies comprised 32.7% of the health expenditures in the United States for 2010.[1] While this percentage has held constant around 32% since 1990, it marks an increase of approximately 11% since 1960. Medicare covered approximately 20.2% of national health expenditures in 2010, up nearly 4% since 2000. In addition, data suggest the out-of-pocket expenses incurred by individuals has steadily decreased, from a high of 33.4% of national health care expenditures in 1970 to 14.7% in 2000, and now 11.6% in 2010. The data are clear: Americans are paying less for out-of-pocket health care expenditures and relying more and more on private or public insurance policies to shoulder the financial burdens of health care. Private funds provided approximately 55% of health care payments in 2010 compared to 45% from federal and local government funds. [2]

The rising cost of health care services has resulted in a significant number of families cutting back on care and electing to postpone or cancel treatments. A 2011 Kaiser Health Tracking Poll found that 50% of Americans have cut back on medical treatments in the past 12 months based on cost concerns. [3] Furthermore, 40% reported being "very worried" about having to shoulder more of the financial burden for their health care. Data seem to reinforce this concern, as health insurance premiums have consistently outpaced inflation and the growth in worker earnings.

In Livingston County, nearly 26% of residents rely on Medicare coverage as their primary insurance coverage. Recent data suggest nearly 91% of Livingston County residents possess medical health care coverage. This percentage is well above the 86% response rate for the State of Illinois. Dental insurance coverage is less broad across the Livingston County Region, as only 59.1% of Livingston County residents possess dental insurance coverage.

Increase the prevalence of preventative health care screens:

There appears to be a relationship between individuals who have health insurance and individuals who take advantage of preventative health care screenings. Research for over twenty years suggests that the strongest predictors of failure to receive screening tests was lack of insurance coverage. [4] Furthermore, research suggests that lack of insurance coverage is more prevalent among socioeconomically disadvantaged groups that are often at high risk for disease and illness. [5] Thus, a vicious cycle results where individuals who are at the highest risk for diseases are unable to receiving screening, thus perpetuating a cycle of disease and high health care expenditures.

Screening guidelines from the United States Preventative Services Task Force offer insight on appropriate preventative care and screenings for youth, adults, and older individuals. [6] Adherence to these guidelines provides data-driven benchmarks from physicians in the fields of primary care and preventative medicine. Above all, it is critical for physicians and patients to

engage in thorough evaluation of treatment options and engage in high-quality shared decision-making regarding treatment options. [7]

Routine physicals are essential to detecting adverse medical conditions. Residents in Livingston County lag the state average when considering those individuals whose last routine checkup was more than one year ago or never. Research suggests many rural communities have dramatic medical professional shortages.[8]

With regard to women's health issues, while the percentage of women who report the time since their last mammogram was more than one year ago is lower in Livingston County than in the State of Illinois (33.8% vs. 43.6%), growth rates for this category are dramatically higher in Livingston County (134% growth between 2006 and 2009) than in the State of Illinois (15% growth between 2006 and 2009). Additionally, there was a 48% growth in the percentage of Livingston County female residents reporting the time since their last pap smear was more than one year between 2006 (20.9%) and 2009 (30.9%). For comparison, there was a 27% growth in the percentage of Illinois residents reporting the time since their last pap smear was more than one year between 2006 (20.7%) and 2009 (26.2%). Rates in Livingston County now exceed the State of Illinois average.

With regard to immunizations, the Center for Disease Control's Advisory Committee on Immunization Practices recommends everyone 6 months and older receive a flu vaccination every year. [9] In Livingston County, the percentage of residents who obtained a flu shot is lower than the state average and considerably lower than the recommendations from the CDC.

Endnotes for Chapter 2

[1] Kaiser Family Foundation, "Health Care Costs: Key Information on Health Care Costs and Their Impact," May 2012.

[2] Ibid.

[3] Kaiser Family Foundation, Kaiser Health Tracking Poll, *Toplines*, August 10-15, 2011, pp.16-18, http://www.kff.org/kaiserpolls/8217.cfm.

[4] U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality, *National Healthcare Disparities Report*, 2005.

[5] U.S. Department of Health and Human Services, *Healthy People 2010*. Retrieved from http://www.healthlypeople.gov/

[6] U.S. Preventative Screening Task Force*, Recommendations for Adults, Adolescents, and Children*. Retrieved from http://www.uspreventativeservicestaskforce.org

[7] Ibid.

[8] Bailey, J.M. (2010, July). Health Care Reform, What's In It? *Rural Communities and Rural Medical Care.*

[9] Centers for Disease Control and Prevention, Advisory Committee for Immunization Practices, *Comprehensive Recommendations*. Retrieved from http://www.cdc.gov/vaccines/pubs/ACIP-list.htm

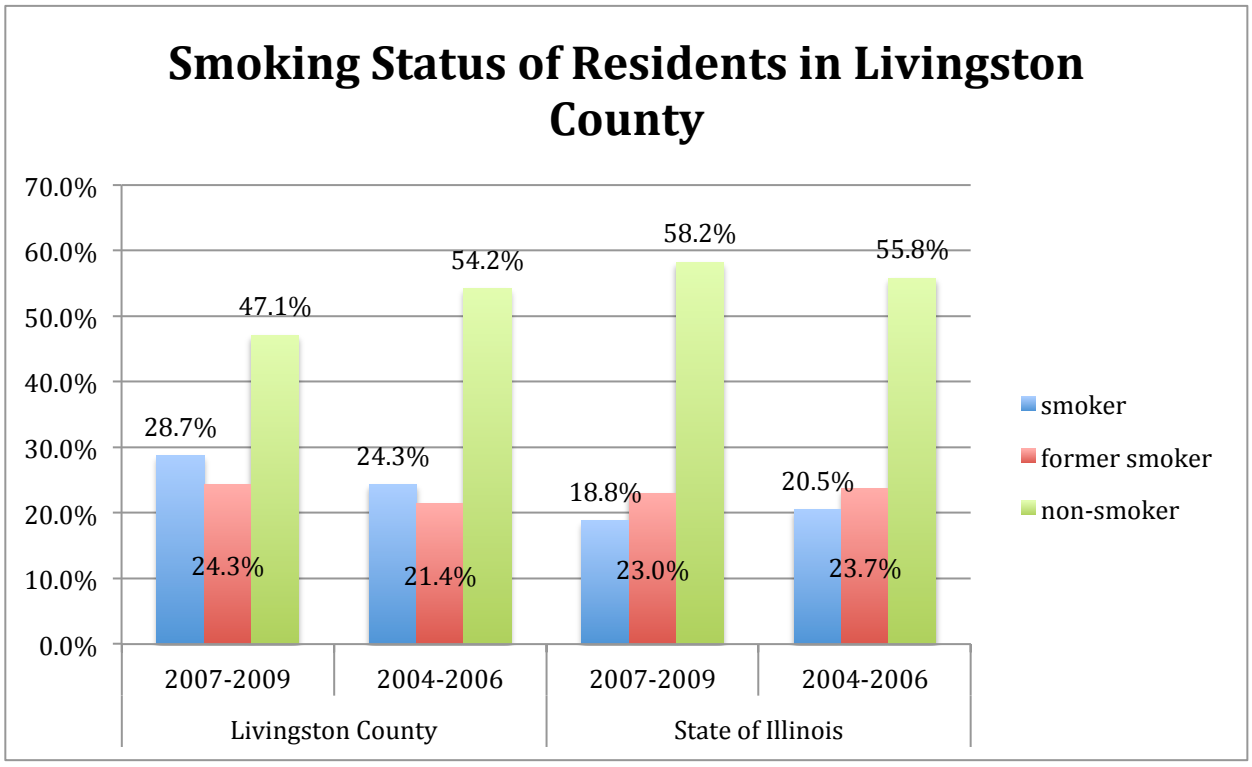
CHAPTER 3. SYMPTOMS AND PREDICTORS

3.1 Tobacco Use

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

Smoking significantly impacts the health status of individuals. Smoking rates have increased in Livingston County and smoking rates still exceed the State of Illinois averages. There was an 18% growth in the percentage of Livingston County residents reporting they were current smokers between 2006 (24.3%) and 2009 (28.7%). For comparison, there was an 8% decrease in the percentage growth of Illinois residents reporting they were current smokers between 2006 (20.5%) and 2009 (18.8%). Over half of residents within Livingston County classify themselves as non-smokers, whereas approximately a quarter of residents are former smokers.

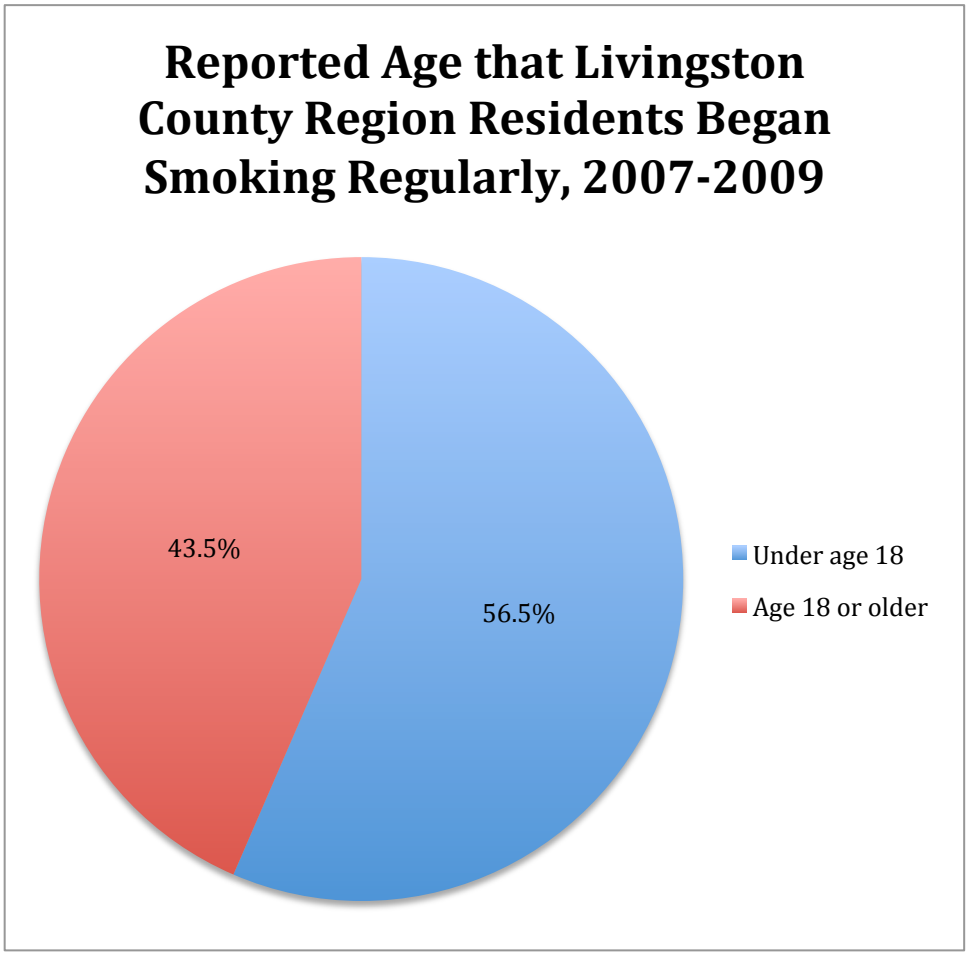
Table 3.1-1: Smoking Status of Residents in Livingston County



Source: Illinois Behavioral Risk Factor Surveillance System

Many individuals begin smoking tobacco as teenagers. Over half of Livingston County residents began smoking regularly before the age of 18.

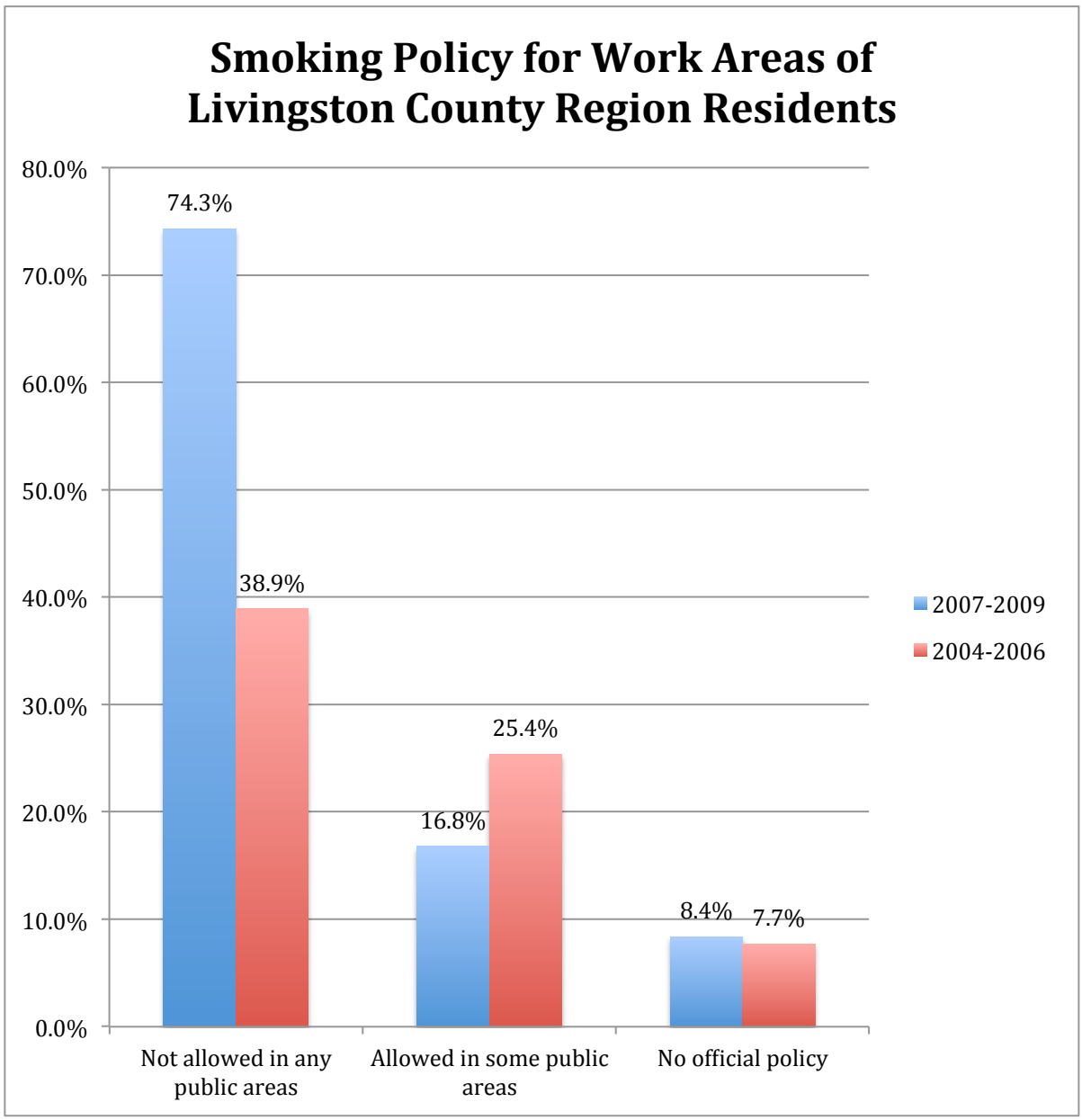
Table 3.1-2: Reported Age that Livingston County Region Residents Began Smoking Regularly



Source: Illinois Behavioral Risk Factor Surveillance System

Workplaces have different policies regarding smoking in public areas. 74% of Livingston County residents report that they are not allowed to smoke in any public areas. This is a percentage growth of 91% between 2007 and 2010.

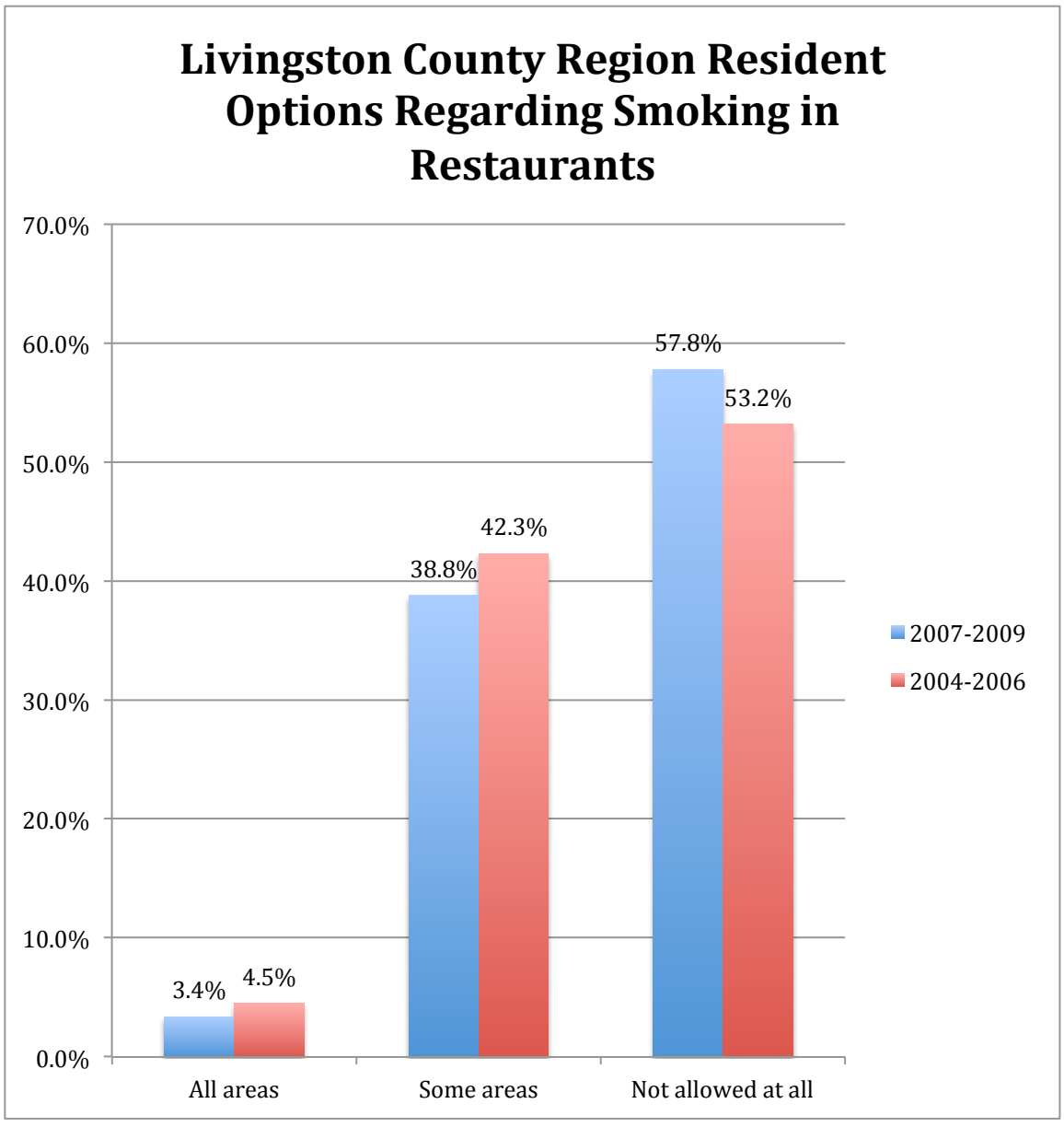
Table 3.1-3: Smoking Policy for Work Areas of Livingston County Region Residents



Source: Illinois Behavioral Risk Factor Surveillance System

Attitudes toward smoking in restaurants have changed in the past six years. In 2004-2006, 42.3% of Livingston County residents believed that smoking should be allowed in some areas within restaurants. However, by 2007-2009, the percentage of respondents who agreed with that statement had dropped slightly to 38.8%.

Table 3.1-4: Livingston County Region Resident Options Regarding Smoking in Restaurants



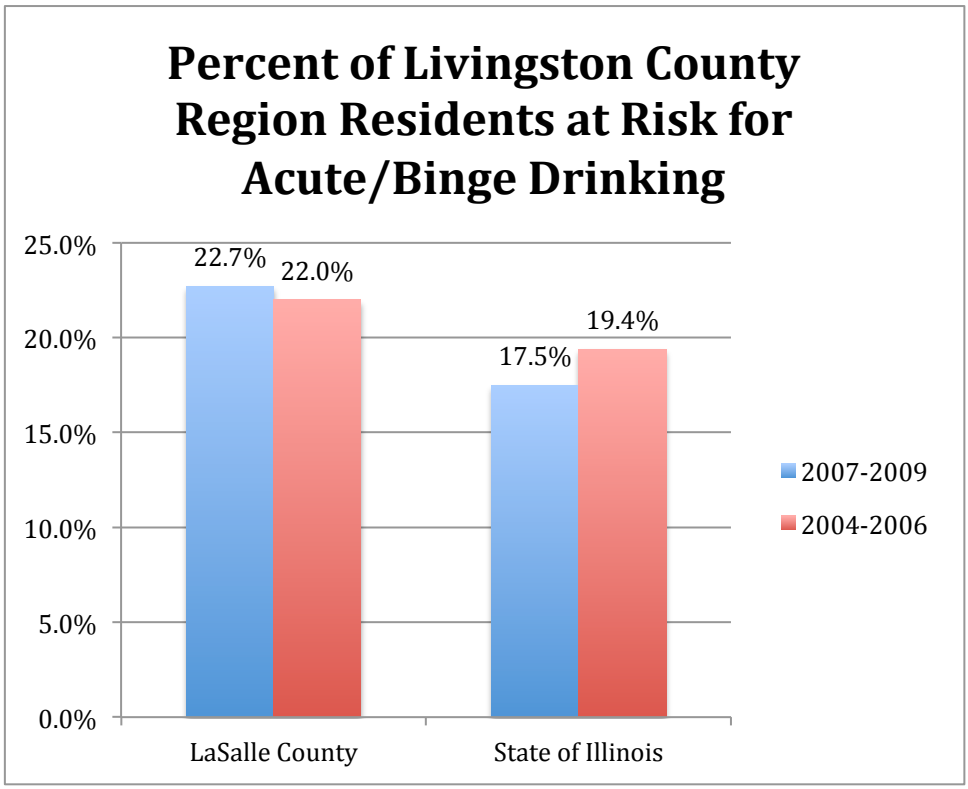
Source: Illinois Behavioral Risk Factor Surveillance System

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 youths, leading to increased usage of substances in adult years. Accordingly, the values and behaviors toward substance usage by high school students is a leading indicator of adult substance abuse in later years.

Compared to the State of Illinois average (17.5%), Livingston County has a higher percentage of residents at risk for acute or binge drinking.

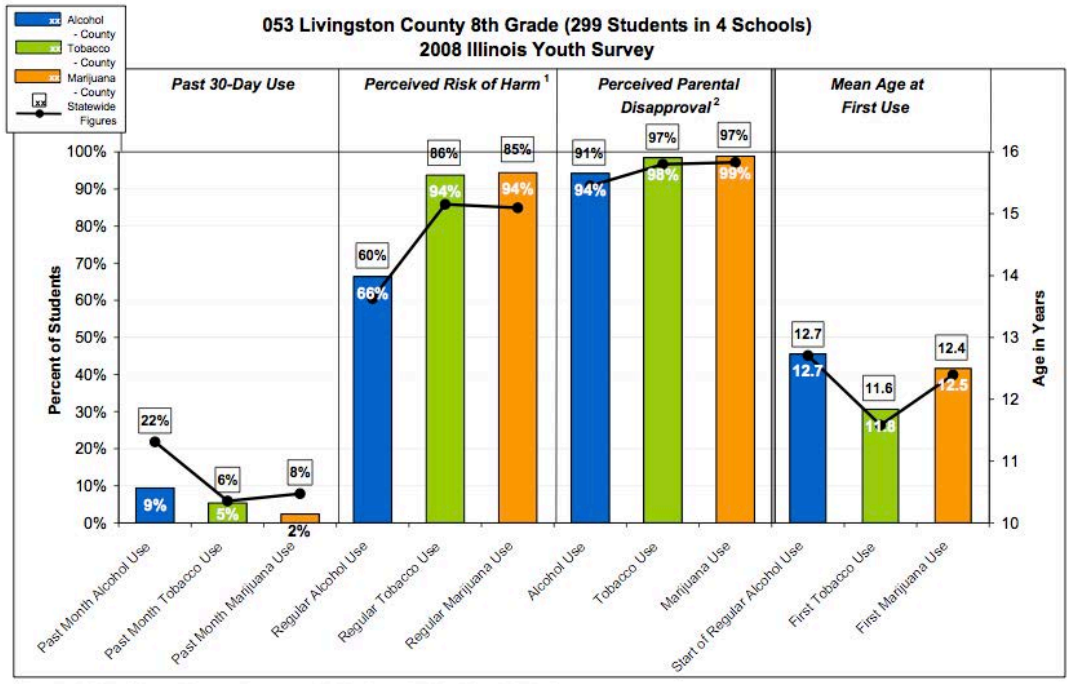
Table 3.2-1: Percent of Livingston County Region Residents at Risk for Acute/Binge Drinking



Source: Illinois Behavioral Risk Factor Surveillance System

Data from the 2008 Illinois Youth Survey, which measures illegal substance use (alcohol, tobacco, and other drugs – mainly marijuana) among adolescents, suggest emerging trends for adult substance usage. In Livingston County among 8th graders, the average age at first use of alcohol, tobacco and marijuana is 12.7, 11.8 and 12.5 years respectively. The same average age for 12th graders is 16.1, 14.5 and 15.7 years respectively. In Livingston County, the past 30-day use is higher for tobacco use (12th graders) and tobacco use (12th graders) when compared to State of Illinois averages.

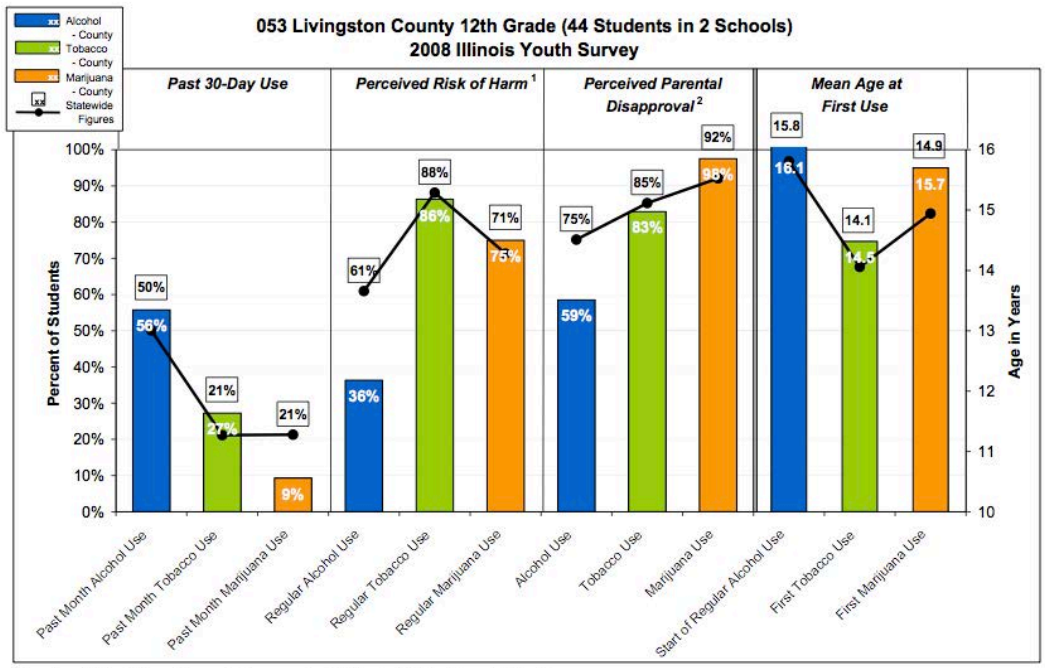
Table 3.2-2: Reported Substance Abuse Usage of Livingston County 8th Graders, 2008



[1]Perceived Risk of Harm: Percent who responded "Moderate Risk" or "Great Risk" of harm.
[2]Perceived Parental Disapproval: Percent who responded "Wrong" or "Very Wrong" attitude of parents toward youth use of substance.

Source: http://iys.cprd.illinois.edu/PDFs/2008_CountyCharts_Full_Report.pdf

Table 3.2-3: Reported Substance Abuse Usage of Livingston County 12th Graders, 2008



[1]Perceived Risk of Harm: Percent who responded "Moderate Risk" or "Great Risk" of harm.
[2]Perceived Parental Disapproval: Percent who responded "Wrong" or "Very Wrong" attitude of parents toward youth use of substance.

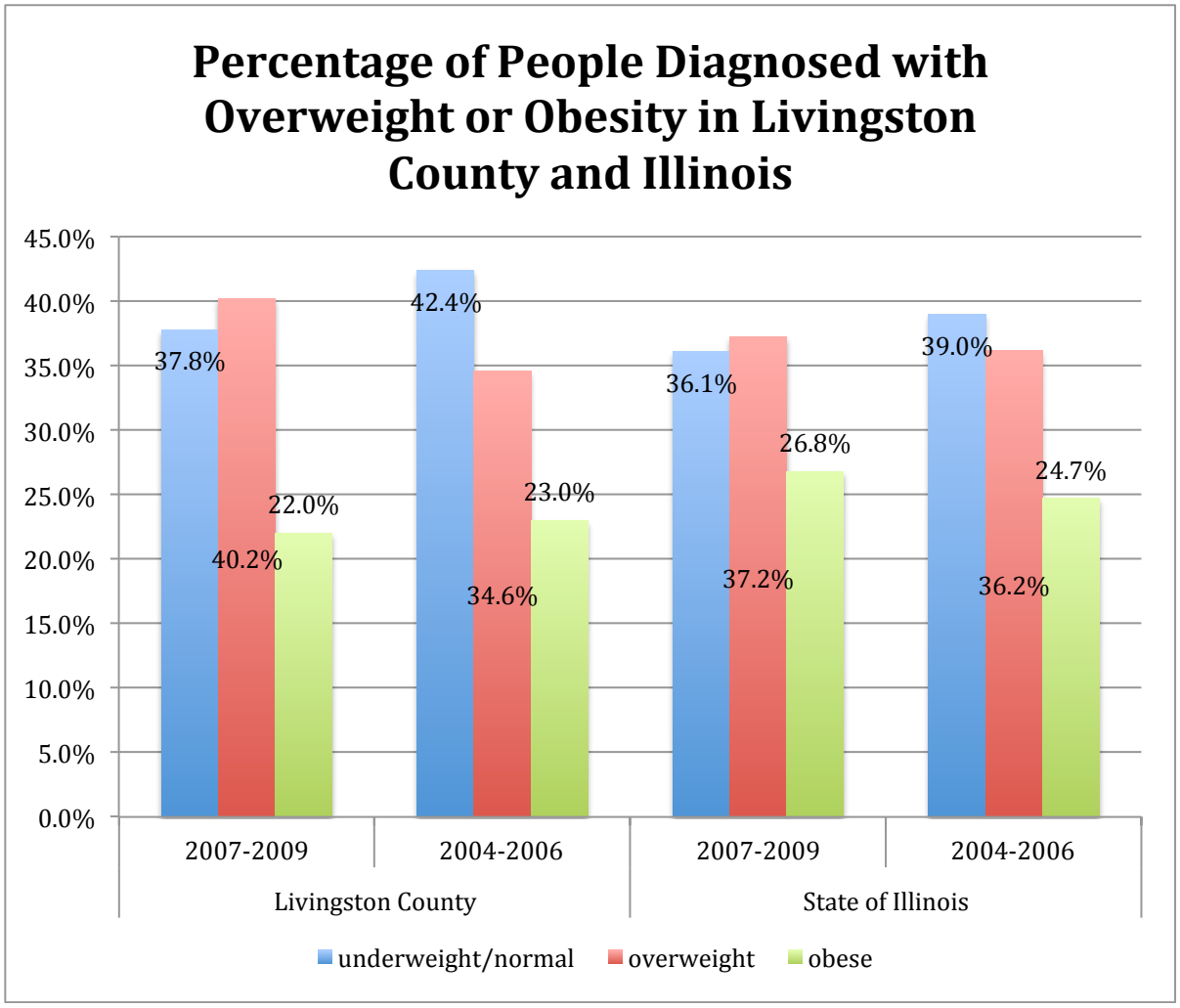
Source: http://iys.cprd.illinois.edu/PDFs/2008_CountyCharts_Full_Report.pdf

3.3 Overweight and Obesity

Importance of the measure: Individuals who are overweight and obese place greater stress on internal organs, thus increasing the propensity to utilize health services.

In terms of obesity and being overweight, Table 3.3-1 shows that in Livingston County, the number of people who have trouble with their weight has increased over the five years from 2004 to 2009. Note specifically that while the number of obese people has decreased, the percentage of overweight people experienced a significant increase.

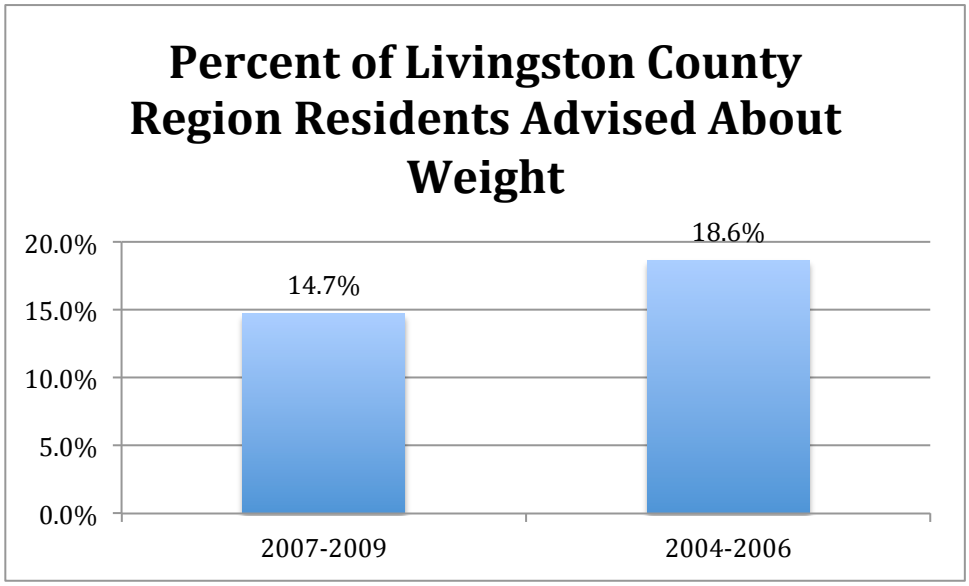
Table 3.3-1: Percentage of People Diagnosed with Overweight or Obesity in Livingston County and Illinois



Source: Illinois Behavioral Risk Factor Surveillance System

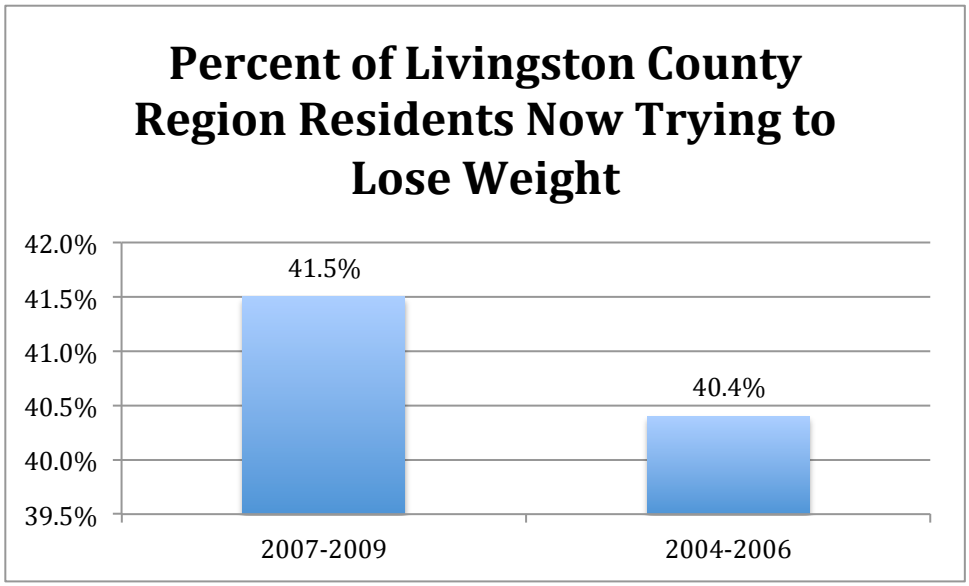
With regard to those individuals advised by a medical professional about their weight, nearly 15% of residents in Livingston County have been advised about their weight during the 2007-2009 time frame. In Table 3.3-3, over half of Livingston County residents are attempting to lose weight and Table 3.3-4 illustrates the percentage of Livingston County residents attempting to maintain their current weight.

Table 3.3-2: Percent of Livingston County Region Residents Advised About Weight



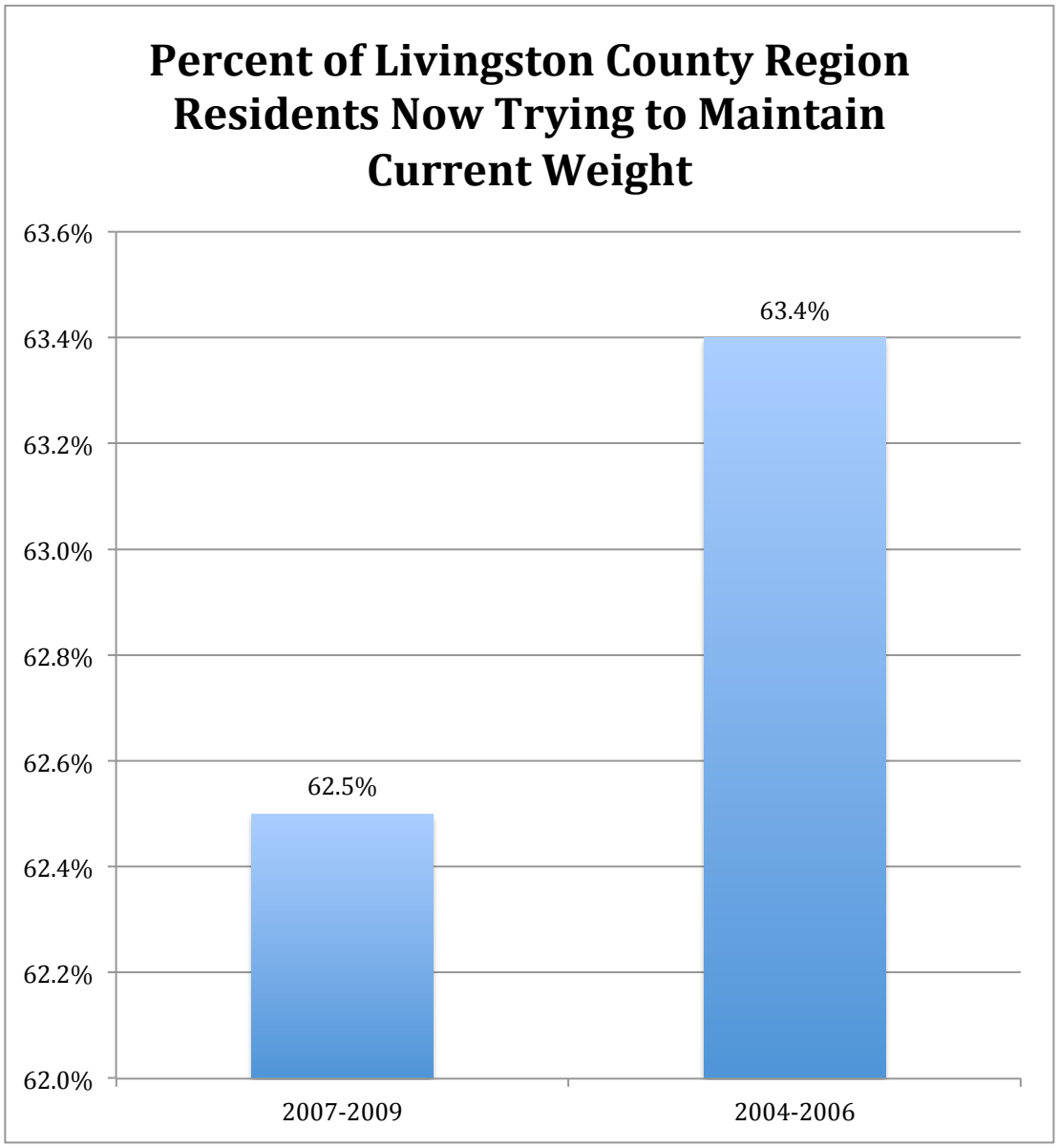
Source: Illinois Behavioral Risk Factor Surveillance System

Table 3.3-3: Percent of Livingston County Region Residents Now Trying to Lose Weight



Source: Illinois Behavioral Risk Factor Surveillance System

Table 3.3-4: Percent of Livingston County Region Residents Now Trying to Maintain Current Weight



Source: Illinois Behavioral Risk Factor Surveillance System

Symptoms/Predictors: Strategic Implications

Effectively combating youth obesity:

Research strongly suggests that obesity is a significant problem facing youth and adults nationally, in Illinois, and within the Livingston County Region. The US Surgeon General has characterized obesity as "the fastest-growing, most threatening disease in America today."[1] According to the Obesity Prevention Initiative from the Illinois General Assembly, 20% of Illinois children are obese[2]. Data from 2010 indicate 62% of Illinois adults are obese or overweight, with a disproportionate number of obese or overweight individuals living in rural areas. 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 dollars, ranking Illinois 6th in the nation for obesity-attributed medical costs[3].

With children, research has linked obesity to numerous chronic diseases including Type II diabetes[4], hypertension, high blood pressure, and asthma. Adverse physical health side effects of obesity include orthopedic problems with weakened joints and lower bone density[5]. Detrimental mental health side effects include low self-esteem, poor body image, symptoms of depression and suicide ideation[6]. Obesity impacts educational performance as studies suggest that overweight students miss one day of school per month on average and school absenteeism of obese children is six times higher that of non-obese children[7].

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.[8] A Duke University study on the effects of obesity in the workforce noted 13 times more missed work days 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.

Within Livingston County, leading indicators suggest obesity is a growing concern. With regard to nutrition, evidence suggests residents in the Livingston County region are not eating enough fruits and vegetables. Table 2.2.4-6 indicates that between 2007 and 2009, only 15.8% of Livingston County residents consumed 5 or more servings of fruits and vegetables per day. These figures are considerably less than the 22.6% of Illinois residents who eat more than 5 servings per day. Furthermore, approximately 50% of Livingston County residents consume 0-2 servings of fruits and vegetables per day.

Research indicates physical activity helps to prevent illness and obesity[9]. Data regarding the values toward exercise and the actual time spent exercising may contribute to obesity in Livingston County. For example, data from the Center for Disease Control indicate that 66% of children walked or biked to school in 1973. By 2000, that figure had decreased to only 13%.[10] As seen in Table 2.2.4-4, residents in the Livingston County Region report approximately 42% of individuals meet the moderate activity standard compared to 22.6% of individuals in the State of Illinois as a whole. However, this means 58% of residents do not meet the moderate activity standard.

Aggressively addressing youth substance abuse:

The use of tobacco, alcohol, and other drugs is a significant contributor to the escalating costs of health care service delivery. According to the Center for Disease Control, tobacco use is the leading preventable cause of death in the United States. [11] On a societal level, alcohol, tobacco, and other drug use leads to accidents, violent behavior, emotional trauma, and assaults. It is estimated that drug-induced related risky behavior needlessly drains community resources such as police intervention, emergency services, and criminal justice costs.

The Surgeon General contends that "alcohol remains the most heavily abused substance by America's youth." [12] Dr. Peter Monti, Director of the Center for Alcohol and Addiction Studies at Brown University notes that alcohol disrupts the continued growth of an adolescent's brain and "impacts the brain's ability to learn life skills." [13] Studies show that an adolescent needs to only drink half as much alcohol as an adult to suffer similar adverse brain effects. [14] Research shows that cigarette smoking as a teenager leads to higher risks for lung cancer as an adult, reduces the rates of lung growth, and the maximum level of lung function that could be achieved. [15]

Financially, underage drinking is estimated to cost the nation upwards of $62 billion dollars annually in deaths, injuries, and other economic losses.[16] A Columbia University study examining the impacts of substance abuse in mid-sized cities and rural America suggested that tobacco use was more prevalent in mid-sized cities and rural areas than large metropolitan areas; specifically, young adults in mid-sized cities and rural areas were 30% more likely than adults in larger cities to have smoked a cigarette in the last month. [17]

In Livingston County, smoking rates have increased since 2004-2006 and are now significantly higher than the state of Illinois average. In addition, youth substance usage in Livingston County exceeds the State of Illinois averages for 12th graders (alcohol and tobacco usage) and a higher proportion of residents engage in binge drinking (22.7%) versus 17.5% overall in the State of Illinois.

Endnotes for Chapter 3

[1] *Childhood Obesity: An epidemic is gripping California and the nation*: *How did we get here? What do we do now?* Advertising supplement to The New York Times, Kaiser Permanente, UC San Francisco Medical School, UCLA Medical School, January 2006.

[2] *Obesity Prevention Initiative Act (PA 96-0155): A Report to the Illinois General Assembly*, Illinois Department of Public Health, December 2010.

[3] Ibid.

[4] Crawford, P., Mitchell, T., & Ikeda, J. (2000). *Childhood Overweight: A Fact Sheet for Professionals*, UCB/Cooperative Extension University of California-Berkeley.

[5] Xiang, H. (2005). Obesity and Risk of Nonfatal Unintentional Injuries, *American Journal of Preventative Medicine*, 29,1, 41-45.

[6] U.S. Department of Health and Human Services, *Healthy People 2010*. Retrieved from http://www.healthlypeople.gov/

[7] Schwimmer, J.B., Burwinkle, T.M., & Varni, J.W. (2003). Health-Related Quality of Life of Severely Obese Children and Adolescents. *Journal of the American Medical Association*. 289(14), 1818.

[8] *Obesity Prevention Initiative Act (PA 96-0155): A Report to the Illinois General Assembly*, Illinois Department of Public Health, December 2010.

[9] *The Learning Connection: The Value of Improving Nutrition and Physical Activity in Our Schools*. Retrieved from http://www.actionforhealthykids.org

[10] U.S. Center for Disease Control and Prevention, *Youth Physical Activity: The Role of Families*. Retrieved from http://www.cdc.gov/healthyyouth

[11] U.S. Center for Disease Control and Prevention, *Smoking and Tobacco Use: Data and Statistics.* Retrieved from http://www.cdc.gov/tobacco

[12] U.S. Department of Health and Human Services. *The Surgeon General's Call to Action to Prevent and Reduce Underage Drinking.* Rockville, MD: U.S. Department of Health and Human Services; 2007. Retrieved from http://www.surgeongeneral.gov/topics/underagedrinking/

[13] Monti, P.M., et al. (2005). Adolescence: Booze, Brains, and Behavior. *Alcoholism: Clinical and Experimental Research*. 29, 2, 207-220.

[14] American Medical Association, *Harmful Consequences of Alcohol Use on the Brains of Children.*

[15] *Preventing Tobacco Use Among Young People, Executive Summary, A Report of the Surgeon General*, 1994, Ch. 1.

[16] Pacific Institute for Research and Evaluation*, State Underage Drinking Fact Sheets*, 2004.

[17] The National Center on Addiction and Substance Abuse at Columbia University, *Adolescent Substance Use: America's #1 Public Health Problem*, June 2011.

CHAPTER 4. DISEASES/MORBIDITY

Note in this chapter, 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 OSF Saint James – John W. Albrecht Medical Center.

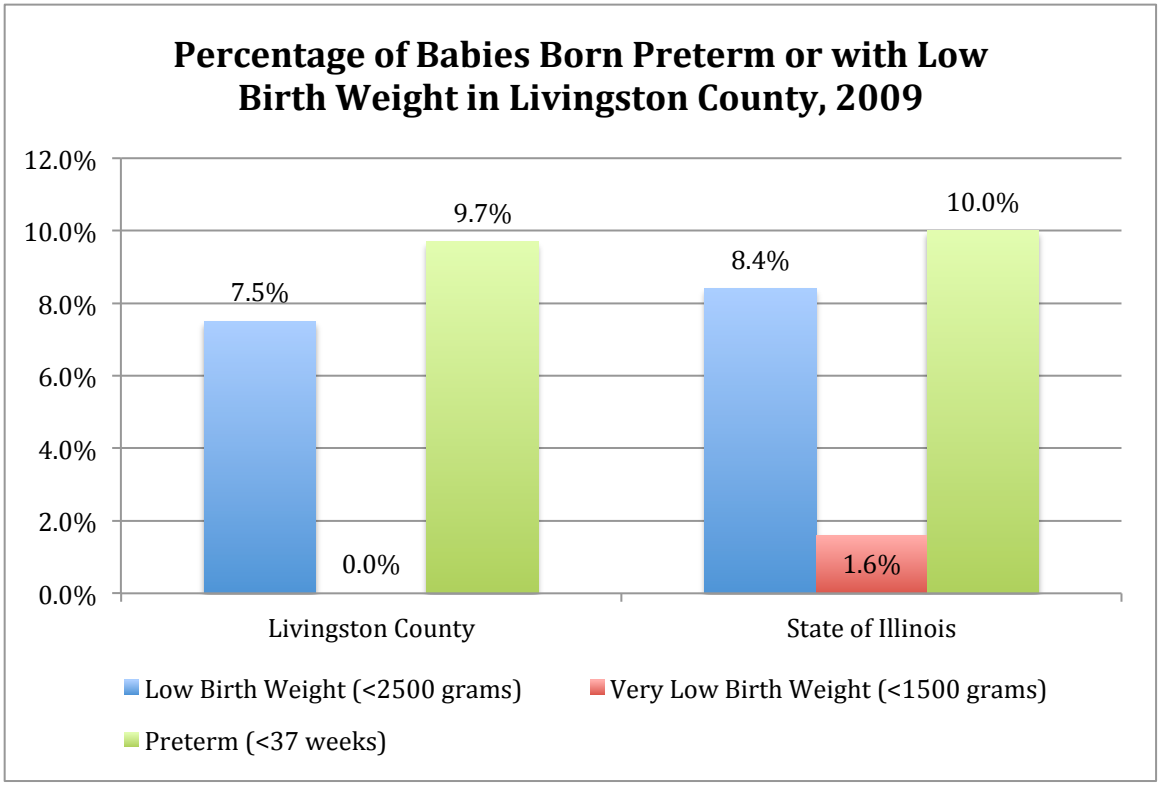
4.1 Age related

Importance of the measure: Age related statistics regarding morbidity gain insight into the prevalence of disease within two vulnerable populations – the very young and the very old. Health care services designed to meet the needs of these populations are very expensive and therefore, a thorough understanding of the leading indicators for these populations helps with managing service delivery costs.

4.1.1 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, very low, and preterm birth weights in Livingston County was less than the State of Illinois averages.

Table 4.1.1-1: Percentage of Babies Born Preterm or with Low Birth Weight in Livingston County, 2009



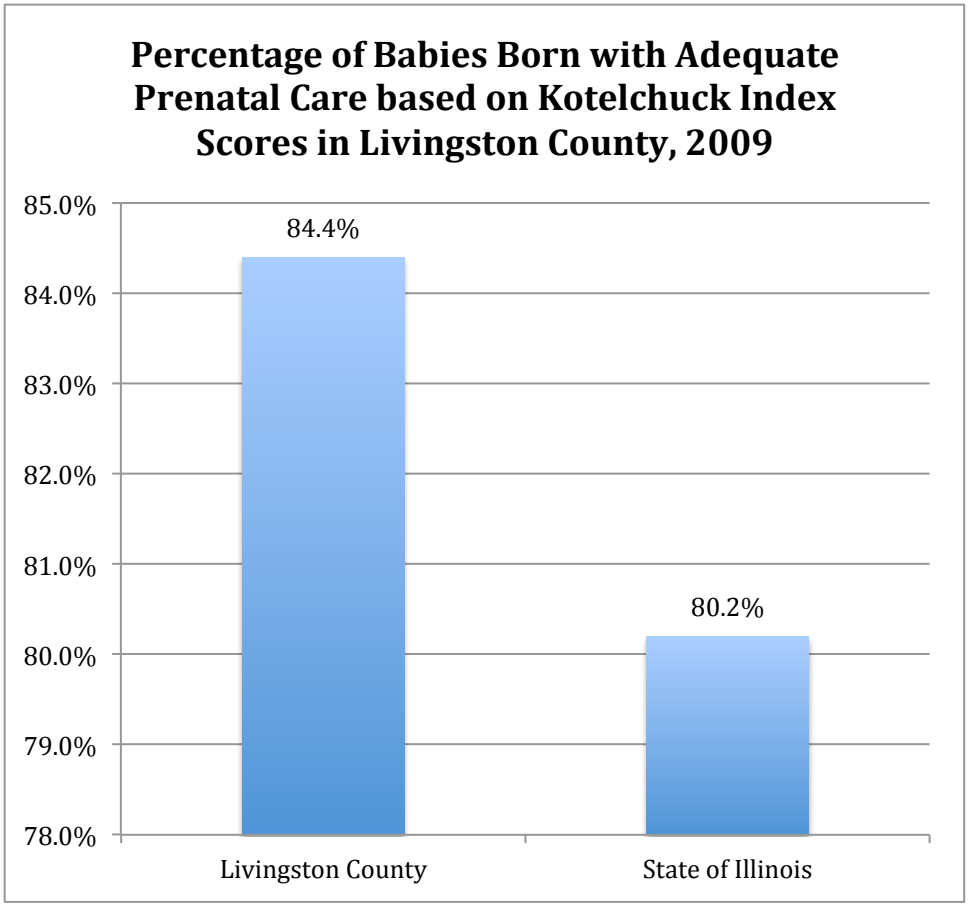
Source: Illinois Department of Public Health

4.1.2 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 significantly better than the State of Illinois average of 80.2% of babies born with similar prenatal care.

Table 4.1.2-1: Percentage of Babies Born with Adequate or Better Prenatal Care based on Kotelchuck Index Scores in Livingston County, 2009



Source: Illinois Department of Public Health

4.2 Cardiovascular

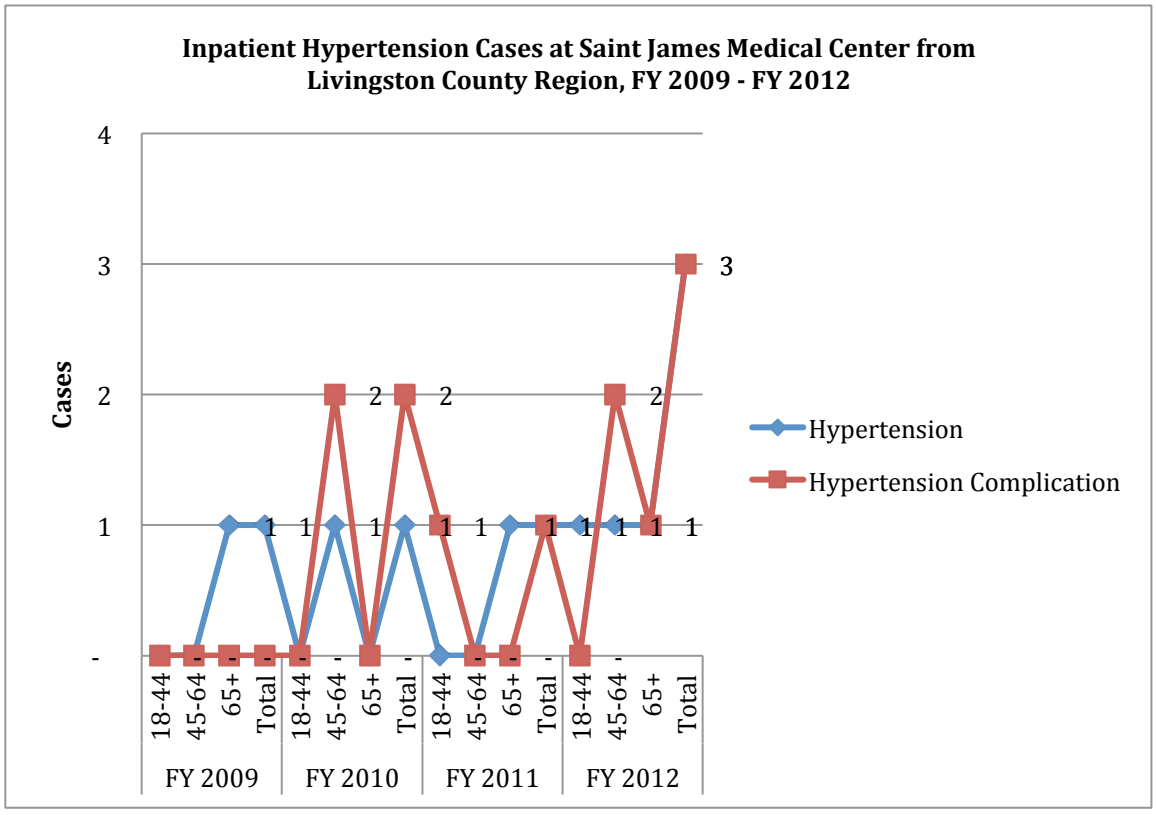
Importance of the measure:
Cardiovascular disease is defined as all diseases of the heart and blood vessels, including ischemic (also known as coronary) heart disease, cerebrovascular disease, congestive heart failure, hypertensive disease, and atherosclerosis.

4.2.1 Hypertension

High blood pressure, which is also known as hypertension, is dangerous because it forces the heart to work extra hard to pump blood out to the rest of the body and contributes to the development of the hardening of the arteries and heart failure.

An average of one cases of hypertension per year is reported at OSF Saint James – John W. Albrecht Medical Center. Cases of hypertension complication peaked in FY 2012 when 3 instances were reported overall. The most recent data indicate 4 cases of hypertension and 6 case of hypertension complication between FY 2009 and FY 2012.

Table 4.2.1-1 Inpatient Hypertension Cases at Saint James Medical Center from Livingston County Region, FY 2009 - FY 2012

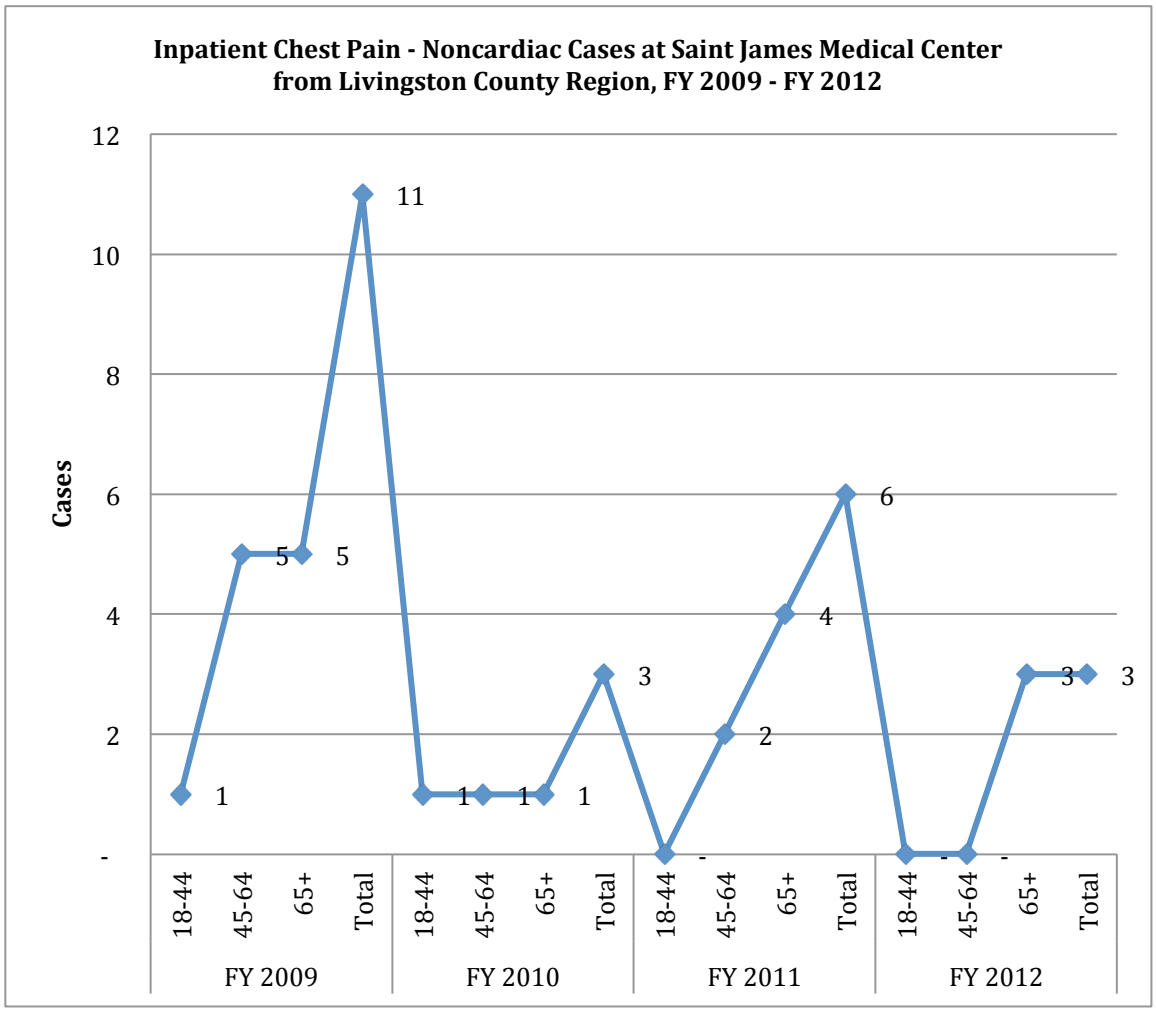


Source: COMPdata 2012

4.2.2 Coronary artery

There has been a 73% decrease in the number of treated cases of noncardiac chest pain at OSF Saint James – John W. Albrecht Medical Center in Livingston County between 2009-2012. Cases of noncardiac chest pain at OSF Saint James – John W. Albrecht Medical Center peaked in FY 2009 with 11 reported cases.

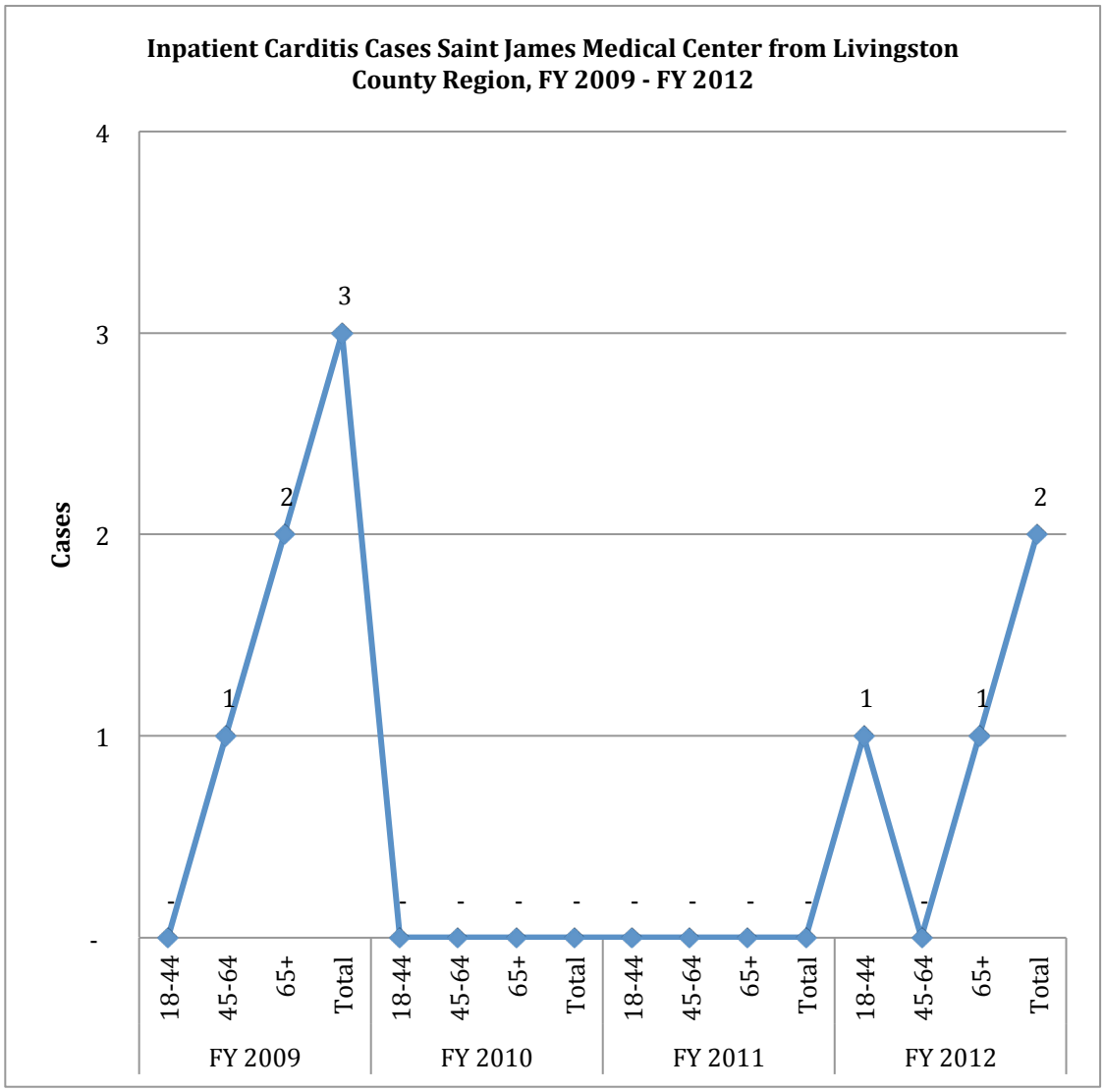
Table 4.2.2-1 Inpatient Chest Pain - Noncardiac Cases at Saint James Medical Center from Livingston County Region, FY 2009 - FY 2012



Source: COMPdata 2012

Cases of carditis at OSF Saint James – John W. Albrecht Medical Center in Livingston County peaked in FY 2009 when 3 cases were reported. Between FY 2009 and FY 2012, 5 cases were reported.

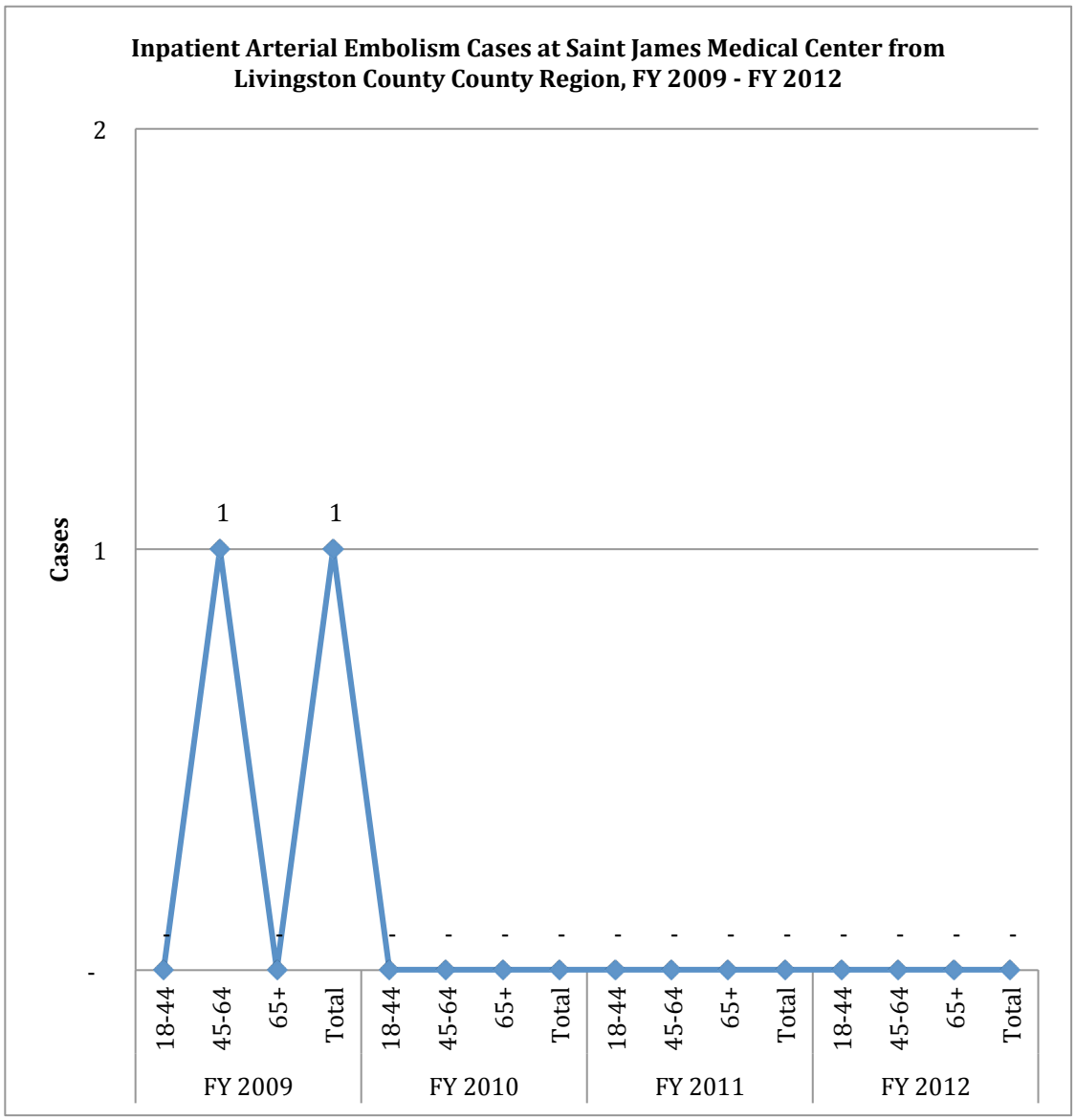
Table 4.2.2-2 Inpatient Carditis Cases Saint James Medical Center from Livingston County Region, FY 2009 - FY 2012



Source: COMPdata 2012

Cases of arterial embolism at OSF Saint James – John W. Albrecht Medical Center in Livingston County have remained constant across three of the four years, as zero cases were reported in FY 2000, 2011, and 2012. In FY 2009, there was one reported case of arterial embolism.

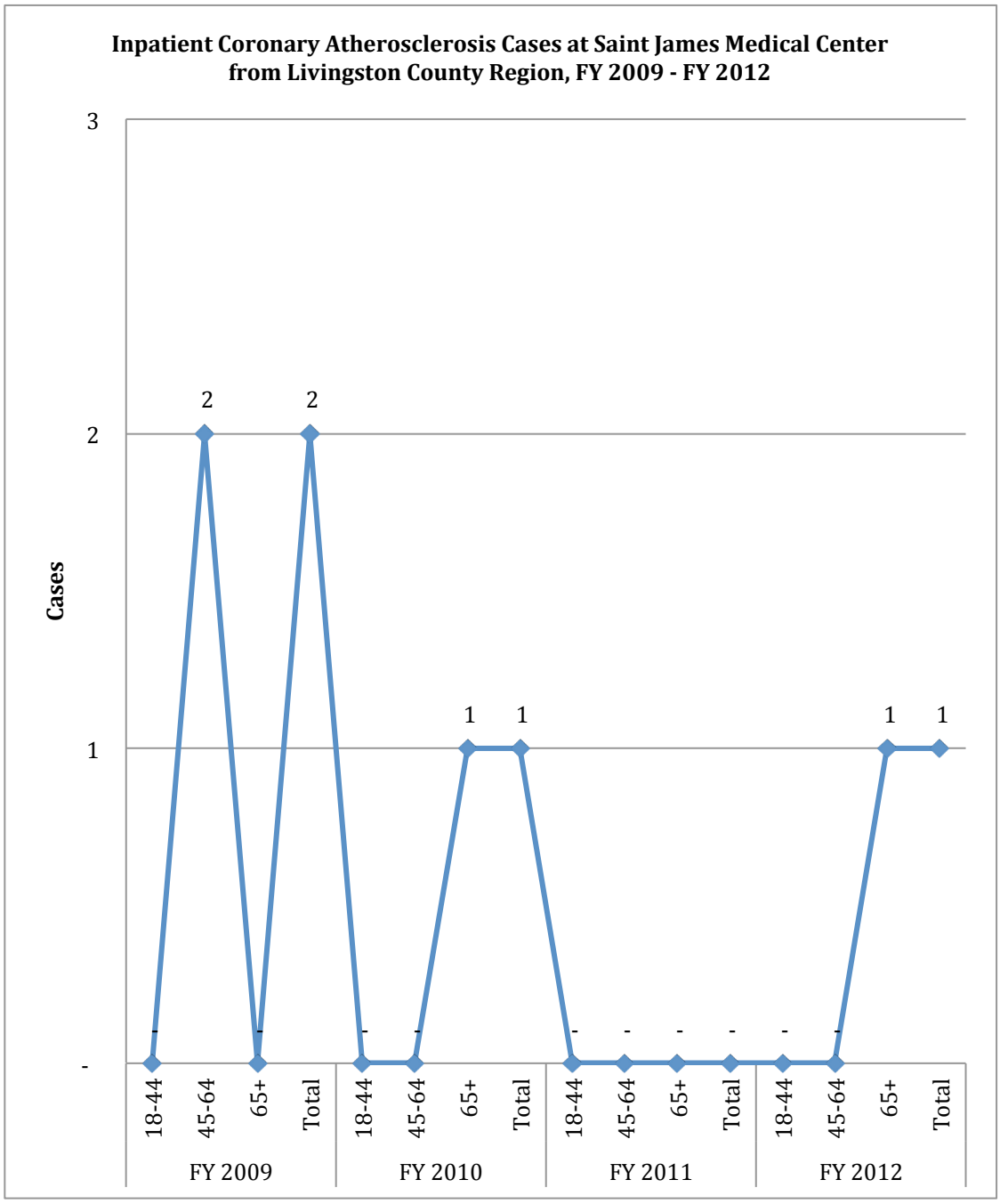
Table 4.2.2-3 Inpatient Arterial Embolism Cases at Saint James Medical Center from Livingston County Region, FY 2009 - FY 2012



Source: COMPdata 2012

Cases of coronary atherosclerosis at OSF Saint James – John W. Albrecht Medical Center in Livingston County peaked in FY 2009 when 2 cases were reported. Between FY 2009 and FY 2012, 4 cases were reported.

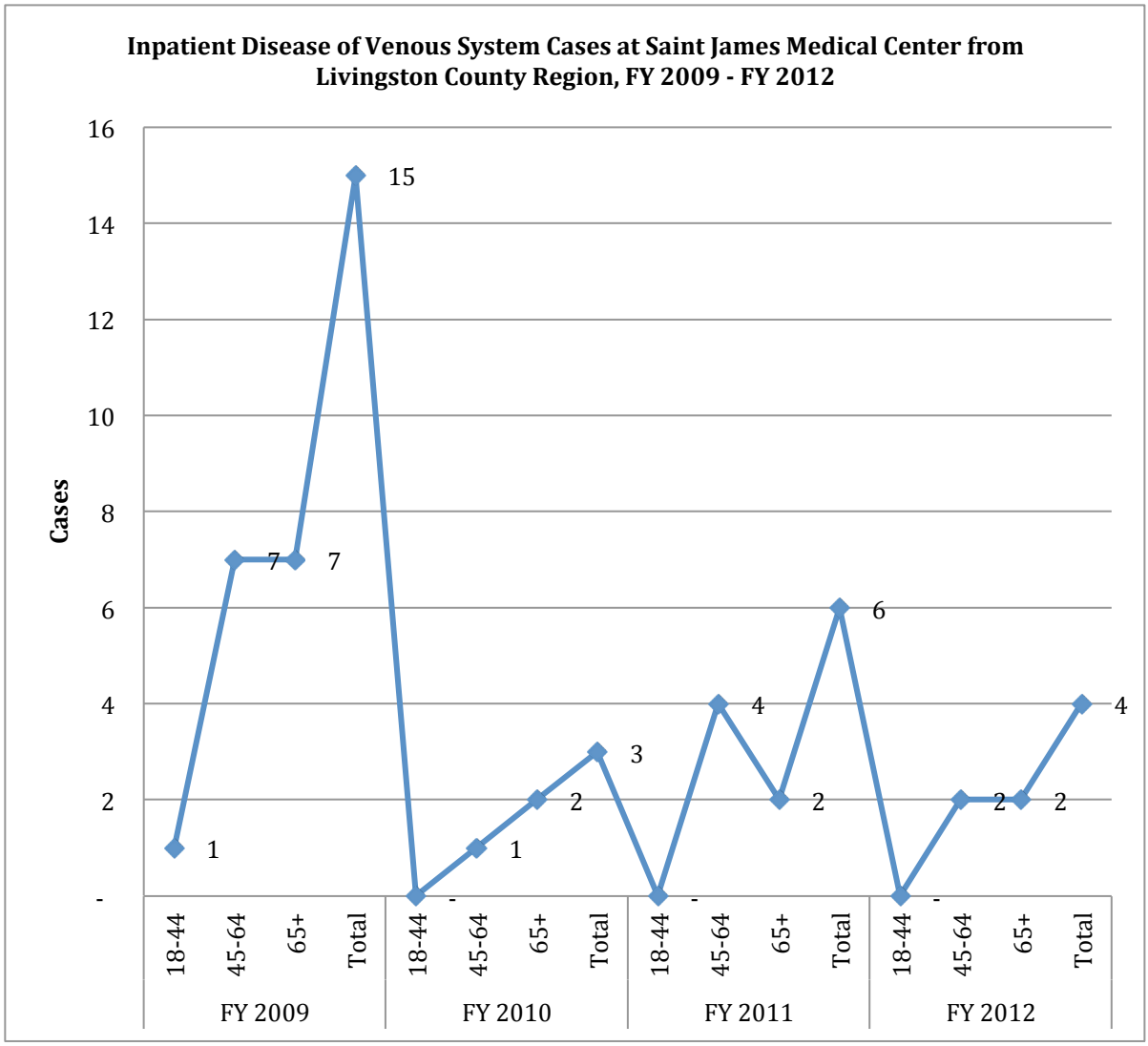
Table 4.2.2-4 Inpatient Coronary Atherosclerosis Cases at Saint James Medical Center from Livingston County Region, FY 2009 - FY 2012



Source: COMPdata 2012

Cases of disease of the venous system at OSF Saint James – John W. Albrecht Medical Center have decreased by 73% between FY 2009 and FY 2012 with a peak of 15 cases reported in FY 2009.

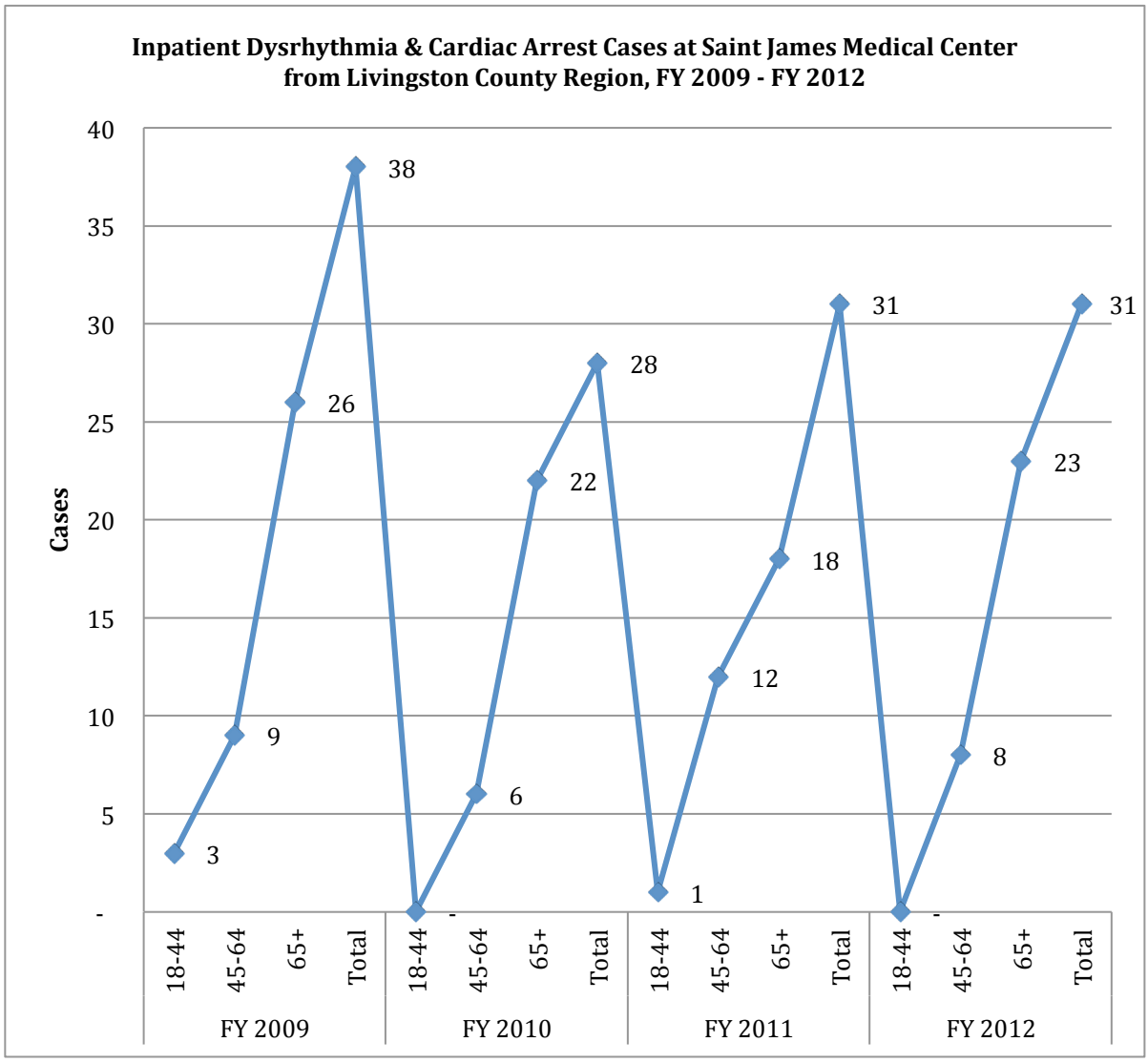
Table 4.2.2-5 Inpatient Disease of Venous System Cases at Saint James Medical Center from Livingston County Region, FY 2009 - FY 2012



Source: COMPdata 2012

Cases of dysrhythmia and cardiac arrest at OSF Saint James – John W. Albrecht Medical Center have decreased by 18.4% between FY 2009 and FY 2012. Similarly, the number of cases for individuals aged 65 and older also decreased 11.5% for inpatient admissions.

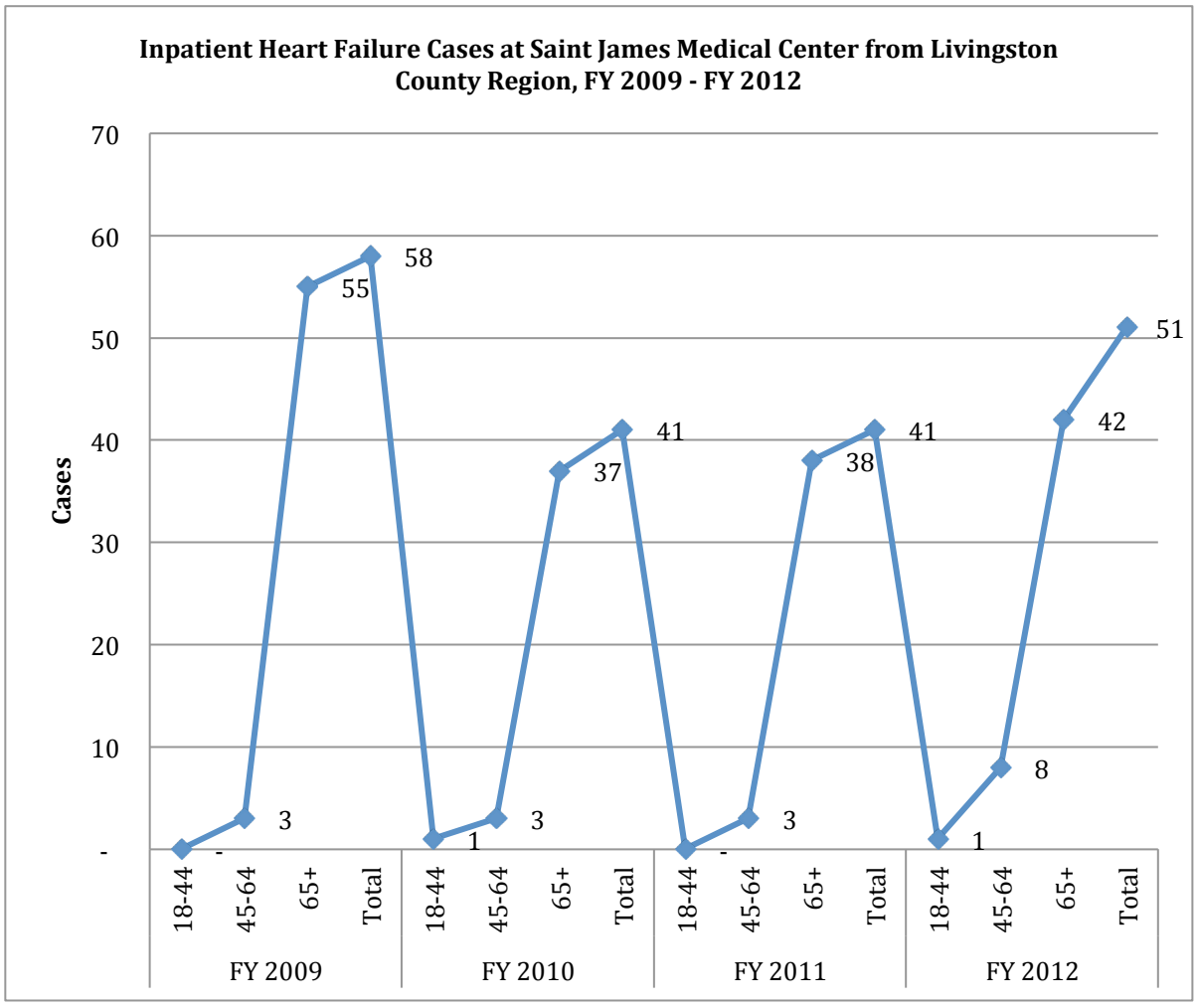
Table 4.2.2-6 Inpatient Dysrhythmia & Cardiac Arrest Cases at Saint James Medical Center from Livingston County Region, FY 2009 - FY 2012



Source: COMPdata 2012

There has been a 12.0% decrease in the number of treated cases of heart failure at OSF Saint James – John W. Albrecht Medical Center between FY 2009 and FY 2012. However, the number of cases for individuals aged 45-64 years of age increased by 166% during the same time frame (3 cases in FY 2009 and 8 cases in FY 2012).

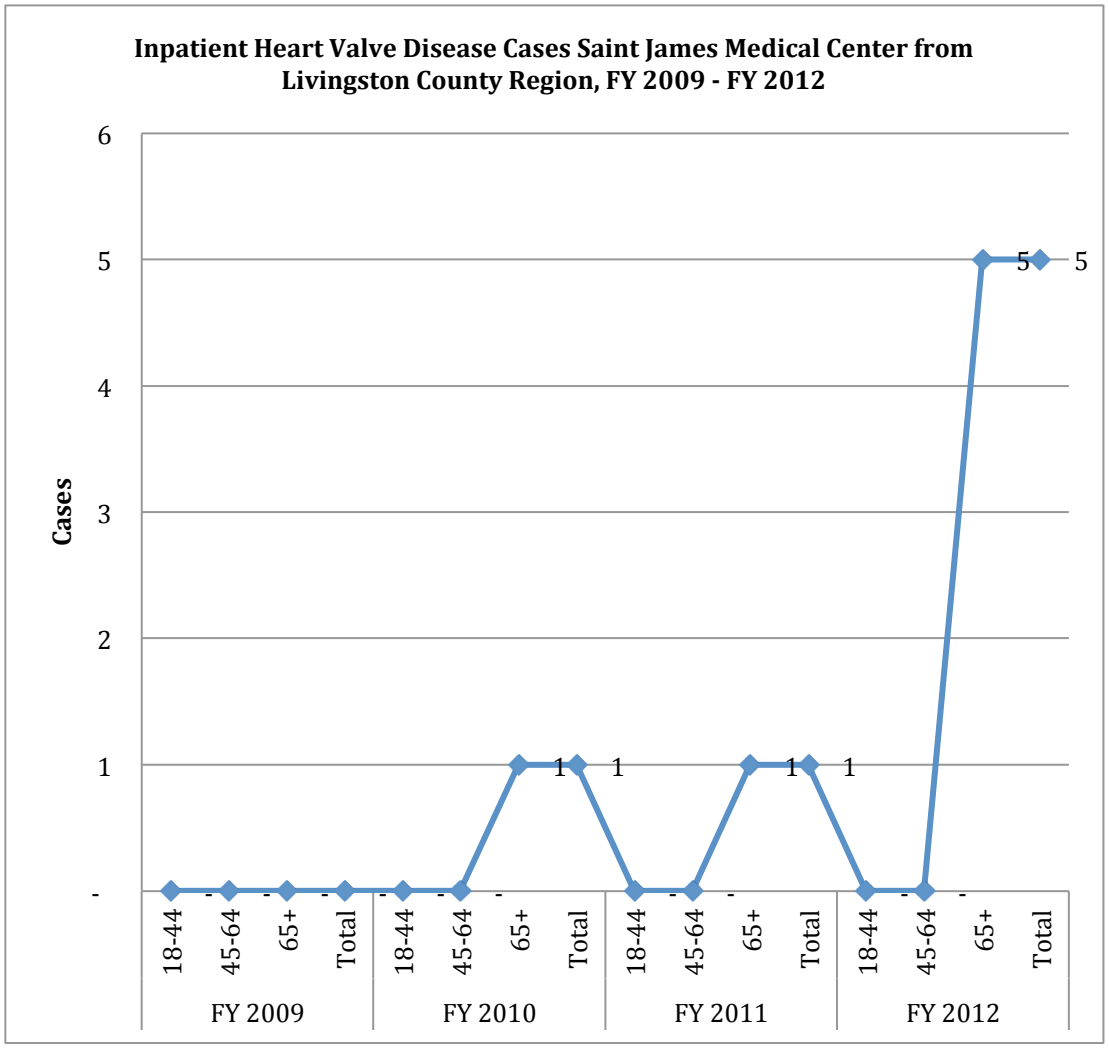
Table 4.2.2-7 Inpatient Heart Failure Cases at Saint James Medical Center from Livingston County Region, FY 2009 - FY 2012



Source: COMPdata 2012

Between FY 2009 and FY 2012, there were seven reported cases of heart valve disease at OSF Saint James – John W. Albrecht Medical Center. All cases were reported in individuals 65 years of age and over. Cases of heart valve disease peaked in FY 2012 with 5 cases.

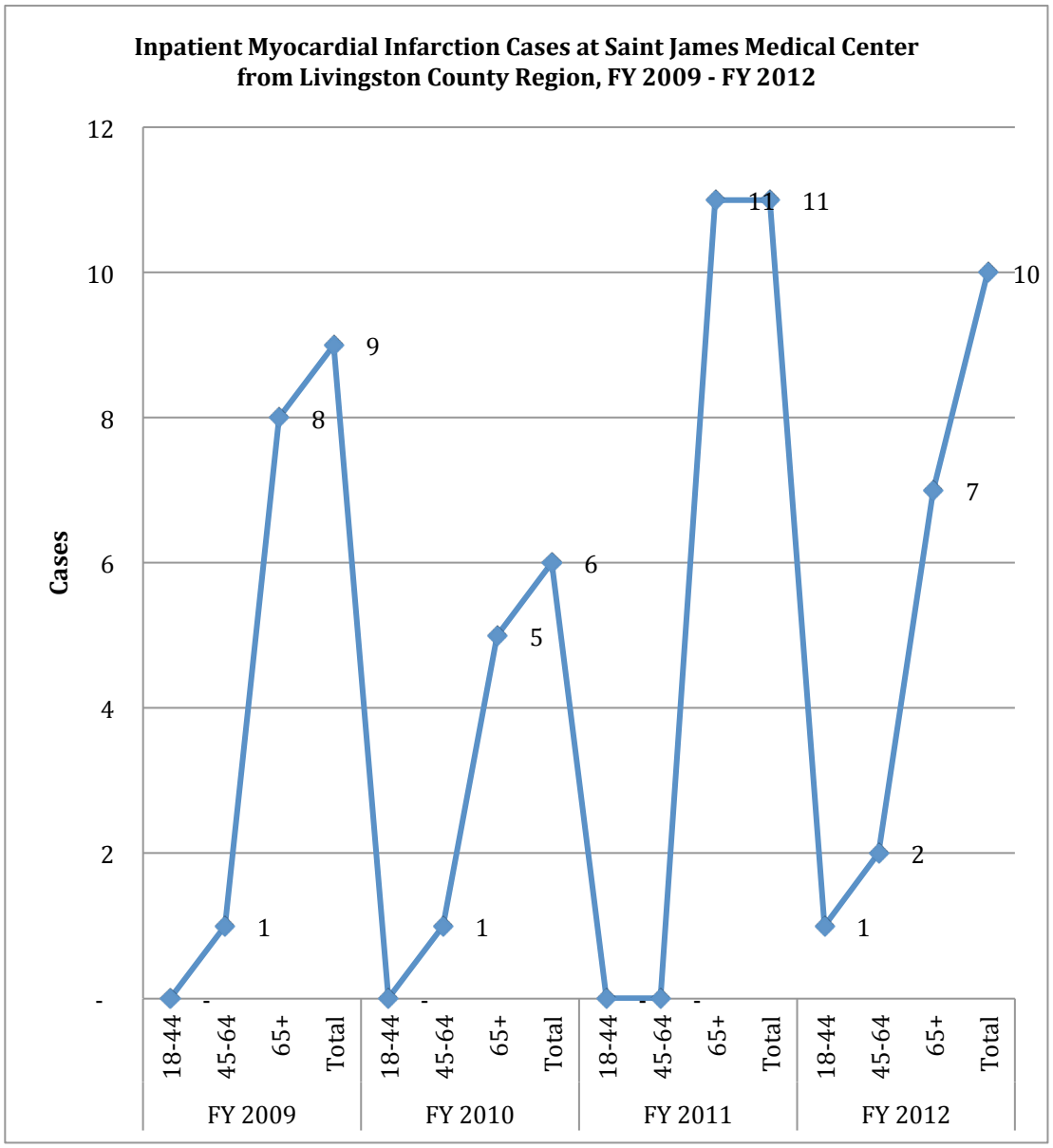
Table 4.2.2-8 Inpatient Heart Valve Disease Cases Saint James Medical Center from Livingston County Region, FY 2009 - FY 2012



Source: COMPdata 2012

Cases of myocardial infarction at OSF Saint James – John W. Albrecht Medical Center have increased by 11.1% between FY 2009 and FY 2012 and peaking in FY 2011 with 11 reported cases.

Table 4.2.2-9 Inpatient Myocardial Infarction Cases at Saint James Medical Center from Livingston County Region, FY 2009 - FY 2012

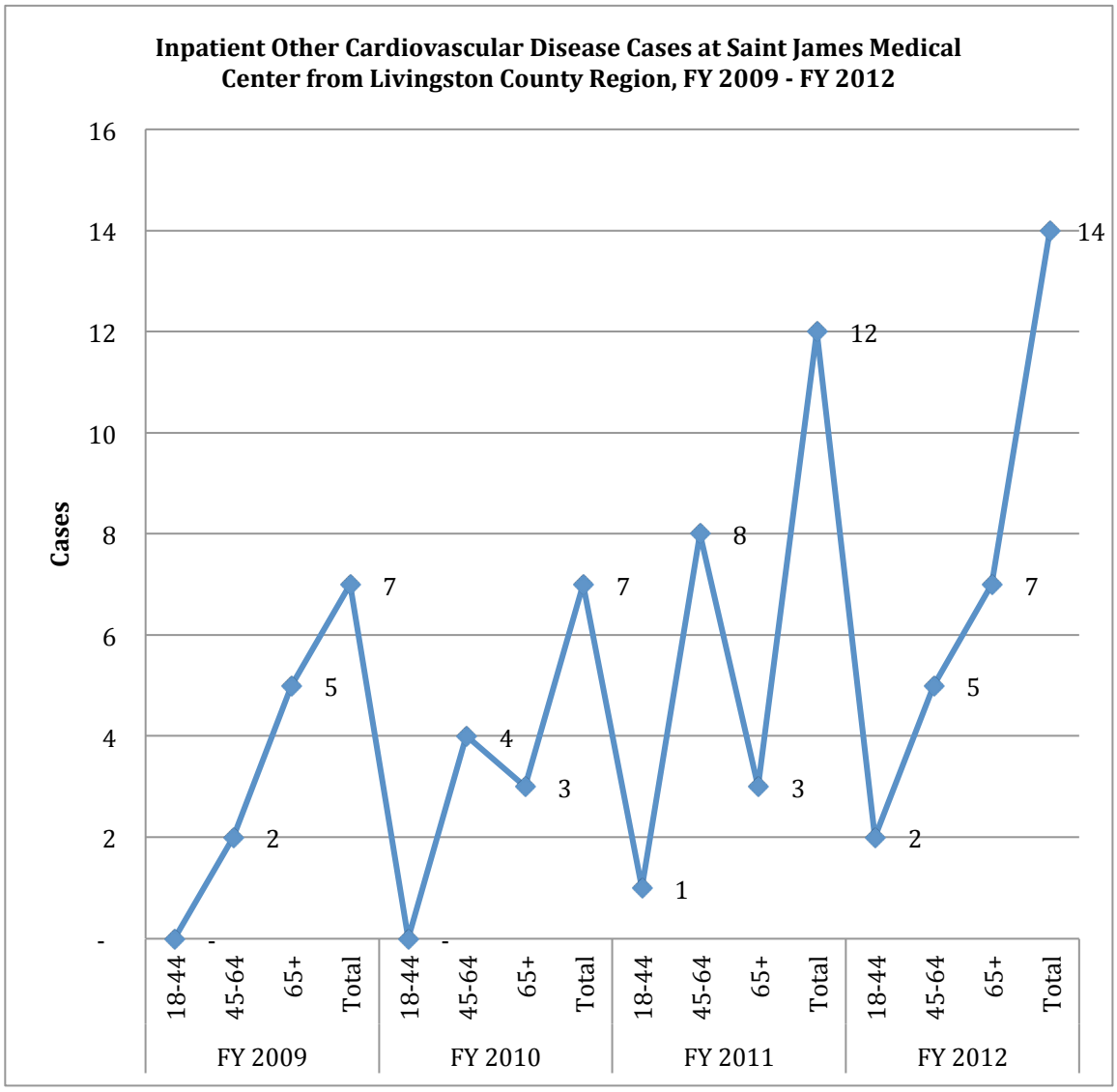


Source: COMPdata 2012

Cases of other cardiovascular disease at OSF Saint James – John W. Albrecht Medical Center have increased by 100% between FY 2009 and FY 2012 for inpatient admissions.

Of particular interest, cases of other cardiovascular disease in individuals aged 65 and over have increased by 40% during the same time frame for inpatient admissions.

Table 4.2.2-10 Inpatient Other Cardiovascular Disease Cases at Saint James Medical Center from Livingston County Region, FY 2009 - FY 2012

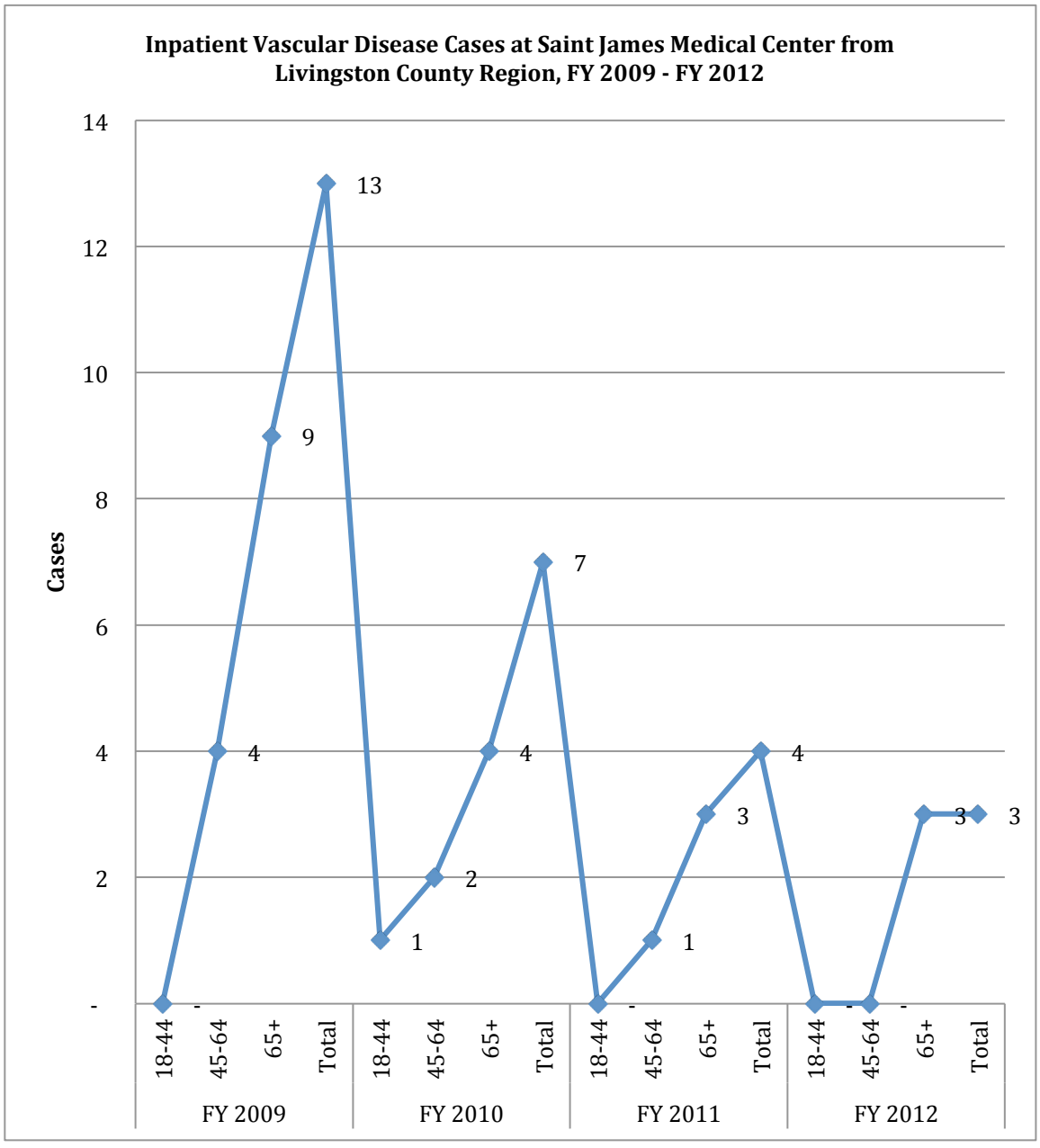


Source: COMPdata 2012

Cases of vascular disease at OSF Saint James – John W. Albrecht Medical Center have decreased by 76.9% between FY 2009 and FY 2012 for inpatient admissions.

Of particular interest, cases of vascular disease in individuals aged 65 and over have decreased by 66.7% during the same time frame for inpatient admissions.

Table 4.2.2-11 Inpatient Vascular Disease Cases at Saint James Medical Center from Livingston County Region, FY 2009 - FY 2012

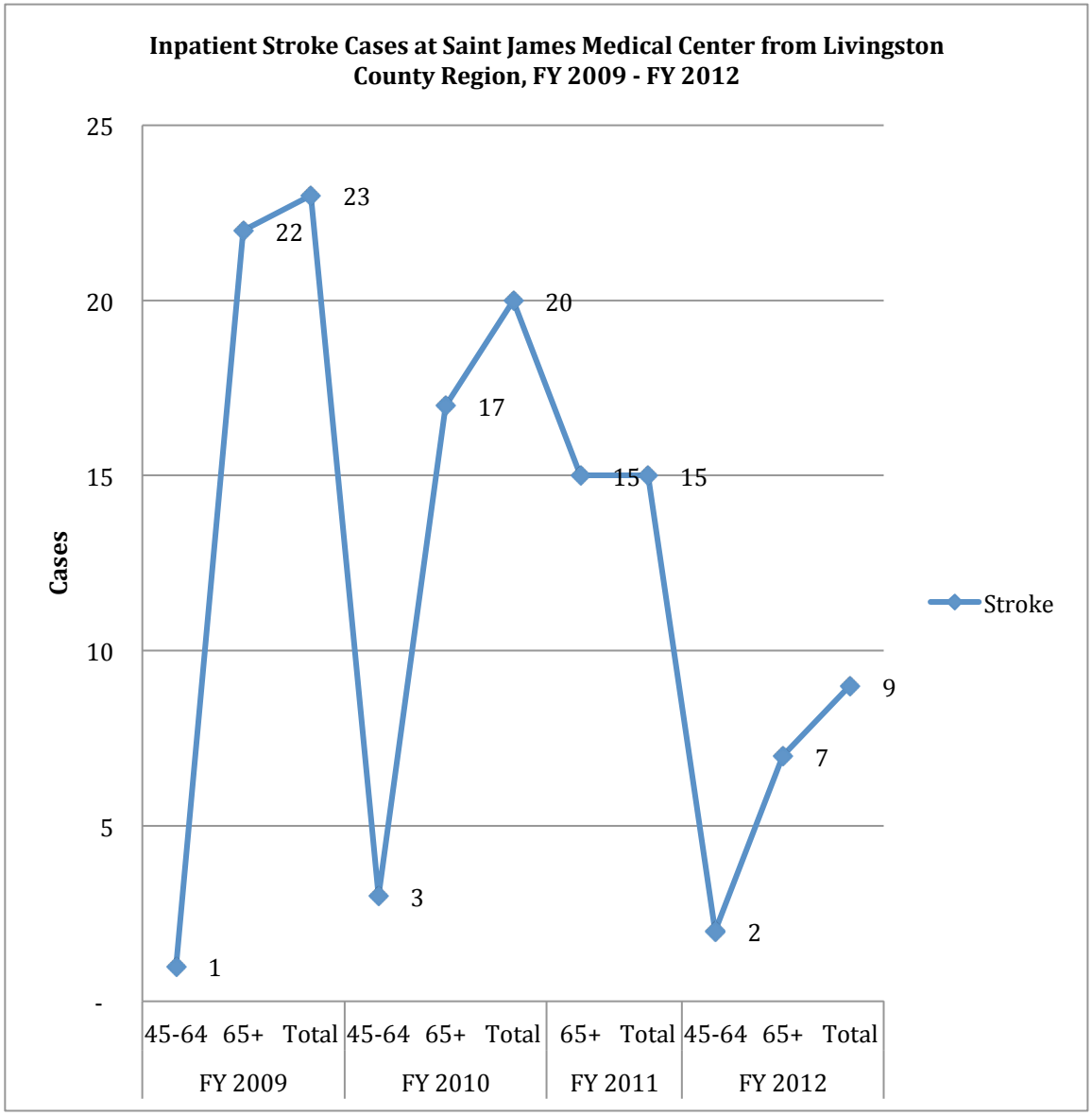


Source: COMPdata 2012

4.2.3 Stroke

Cases of stroke at OSF Saint James – John W. Albrecht Medical Center have decreased by 60.8% between FY 2009 and FY 2012 for inpatient admissions.

Table 4.2.3-1 Inpatient Stroke Cases at Saint James Medical Center from Livingston County Region, FY 2009 - FY 2012



Source: COMPdata 2012

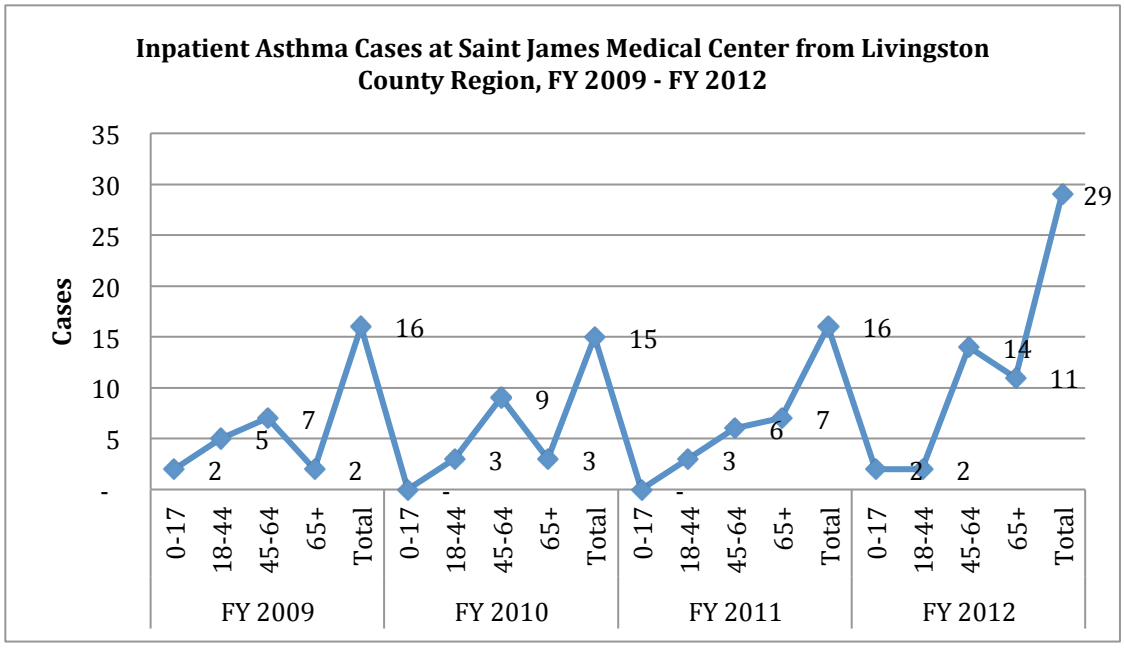
4.3 Respiratory

*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.

4.3.1 Asthma

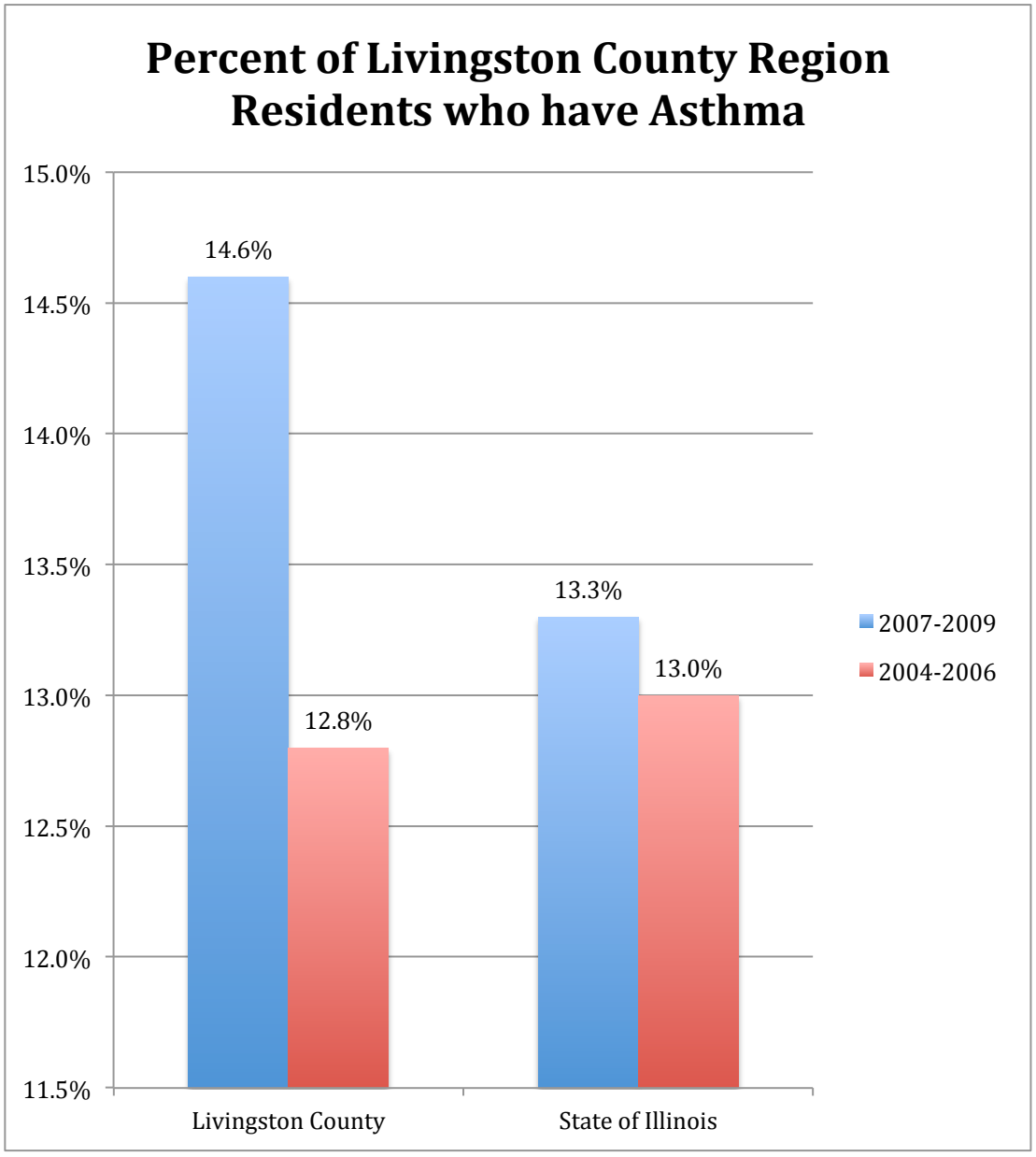
Treated cases of asthma at OSF Saint James – John W. Albrecht Medical Center have increased by 81% between FY 2009 and FY 2012 for inpatient admissions. Of particular interest, cases of asthma in individuals 65 years of age and older have increased 450% for inpatient admissions (11 cases in FY 2012 vs. 2 cases in FY 2009). According to the Illinois BRFSS, asthma rates in the Livingston County Region are higher than the average rate for the State of Illinois and have grown at a faster rate.

Table 4.3.1-1 Inpatient Asthma Cases at Saint James Medical Center from Livingston County Region, FY 2009 - FY 2012



Source: COMPdata 2012

Table 4.3.1-2 Percent of Livingston County Region Residents who have Asthma

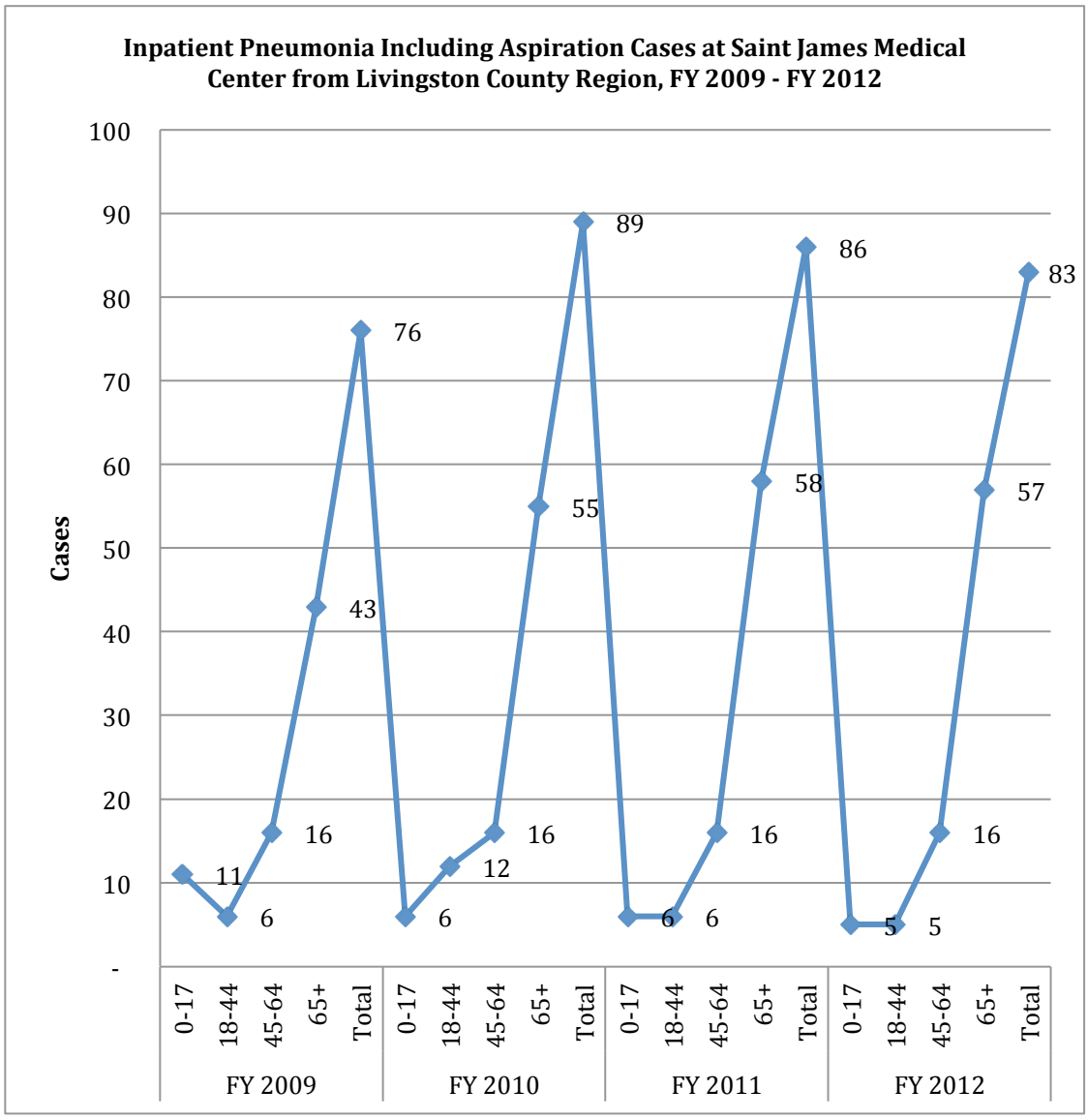


Source: Illinois Department of Public Health

4.3.2 Pneumonia

Treated cases of pneumonia at OSF Saint James – John W. Albrecht Medical Center have increased by 9.2% between FY 2009 and FY 2012 for inpatient admissions. However, cases of asthma in individuals 65 years of age and older have increased 32.5% during the same time frame.

Table 4.3.2-1 Inpatient Pneumonia Including Aspiration Cases at Saint James Medical Center from Livingston County Region, FY 2009 - FY 2012

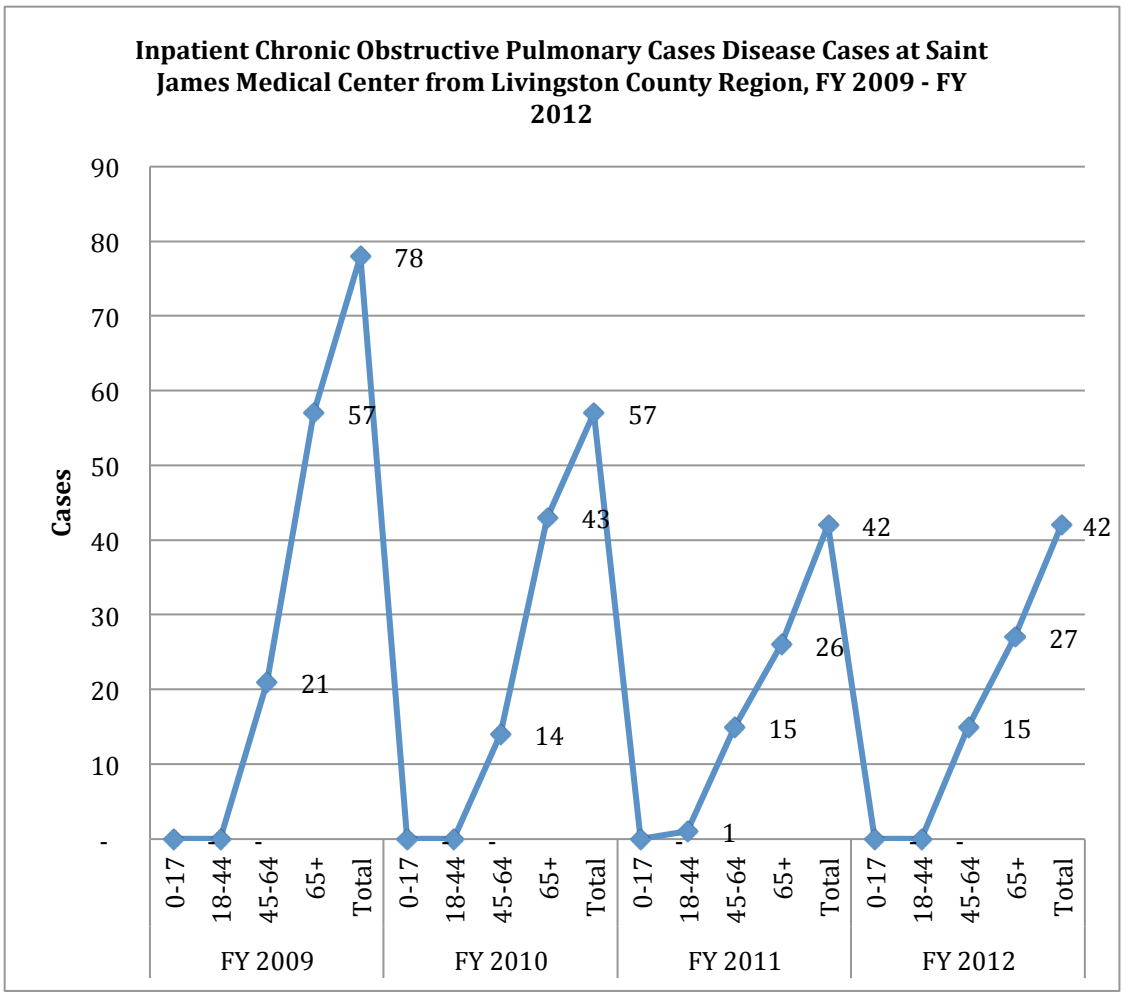


Source: COMPdata 2012

4.3.3 COPD

There has been a 46.1% decrease in the number of treated cases of COPD at OSF Saint James – John W. Albrecht Medical Center between FY 2009 and FY 2012 for inpatient admissions. The number of cases for individuals aged 45 to 64 has decreased 52.6% during the same time frame.

Table 4.3.3-1 Inpatient Chronic Obstructive Pulmonary Cases Disease Cases at Saint James Medical Center from Livingston County Region, FY 2009 - FY 2012



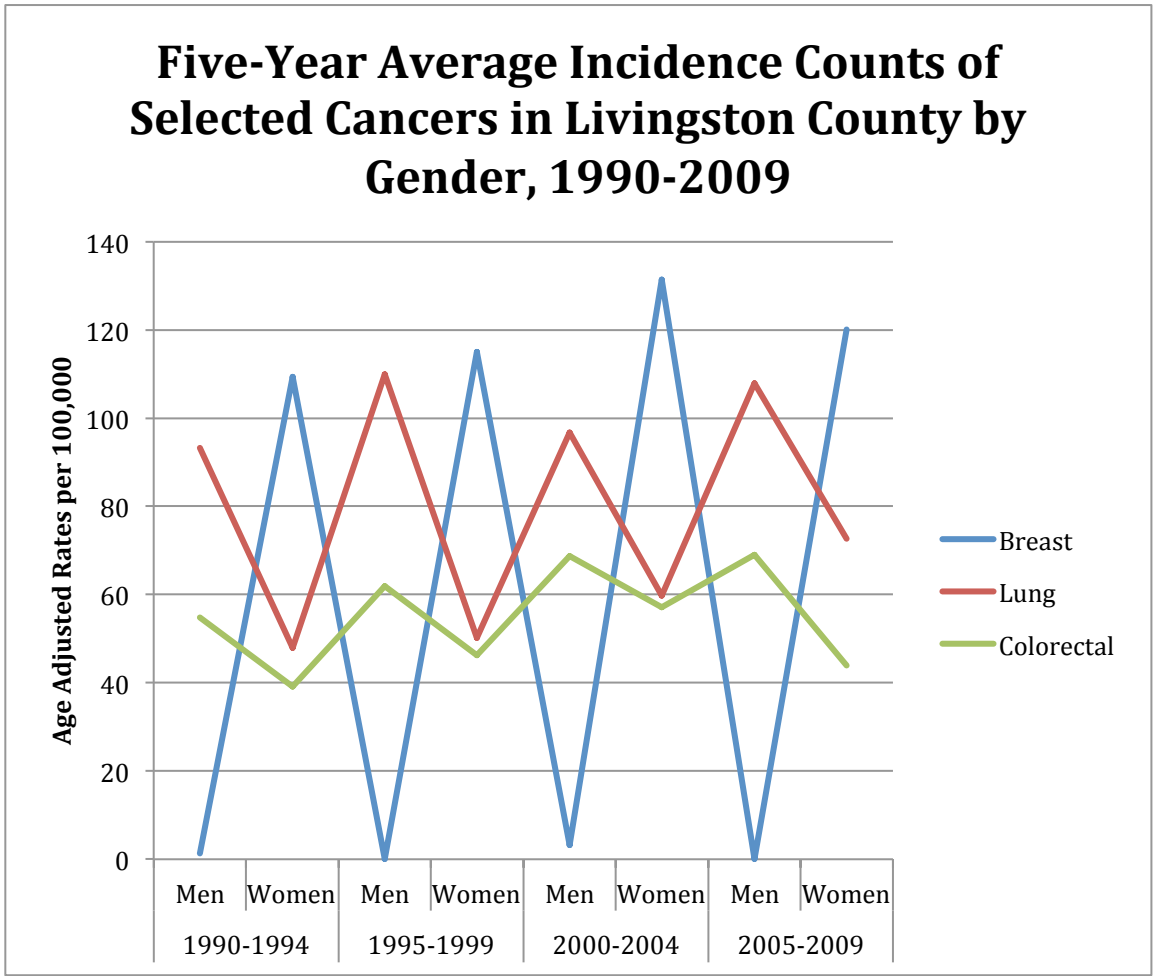
Source: COMPdata 2012

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 the Livingston County Region.

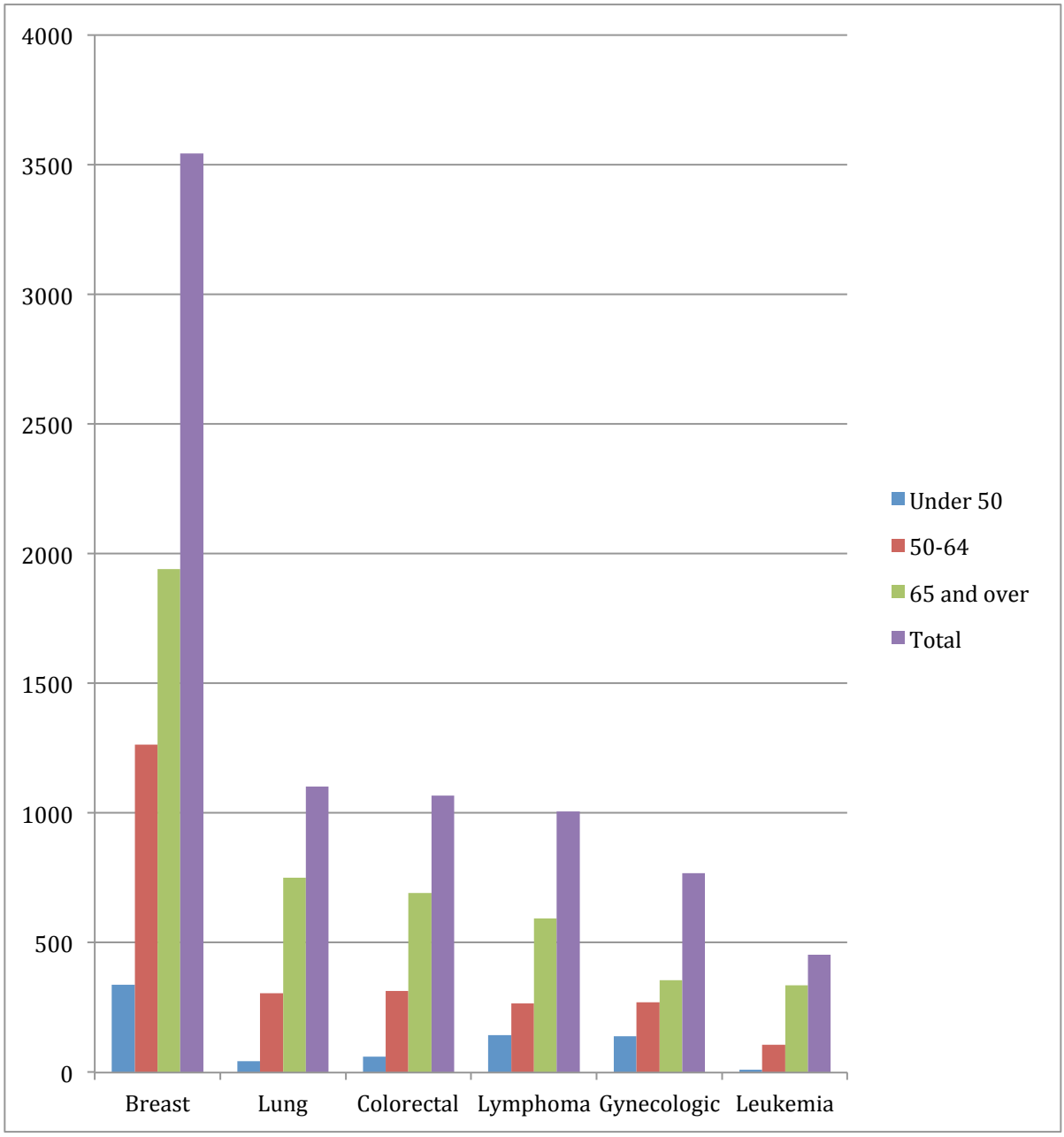
Table 4.4-1 provides longitudinal data on the incidence counts of breast, lung, and colorectal cancers in Livingston County. Tables 4.4-2 and 4.4-3 offer insight into the number of treated cases of the top 6 cancers by treatment in Illinois by age and percentage breakdown by gender.

Table 4.4-1 Five-Year Average Incidence Counts of Selected Cancers in Livingston County by Gender, 1990-2009



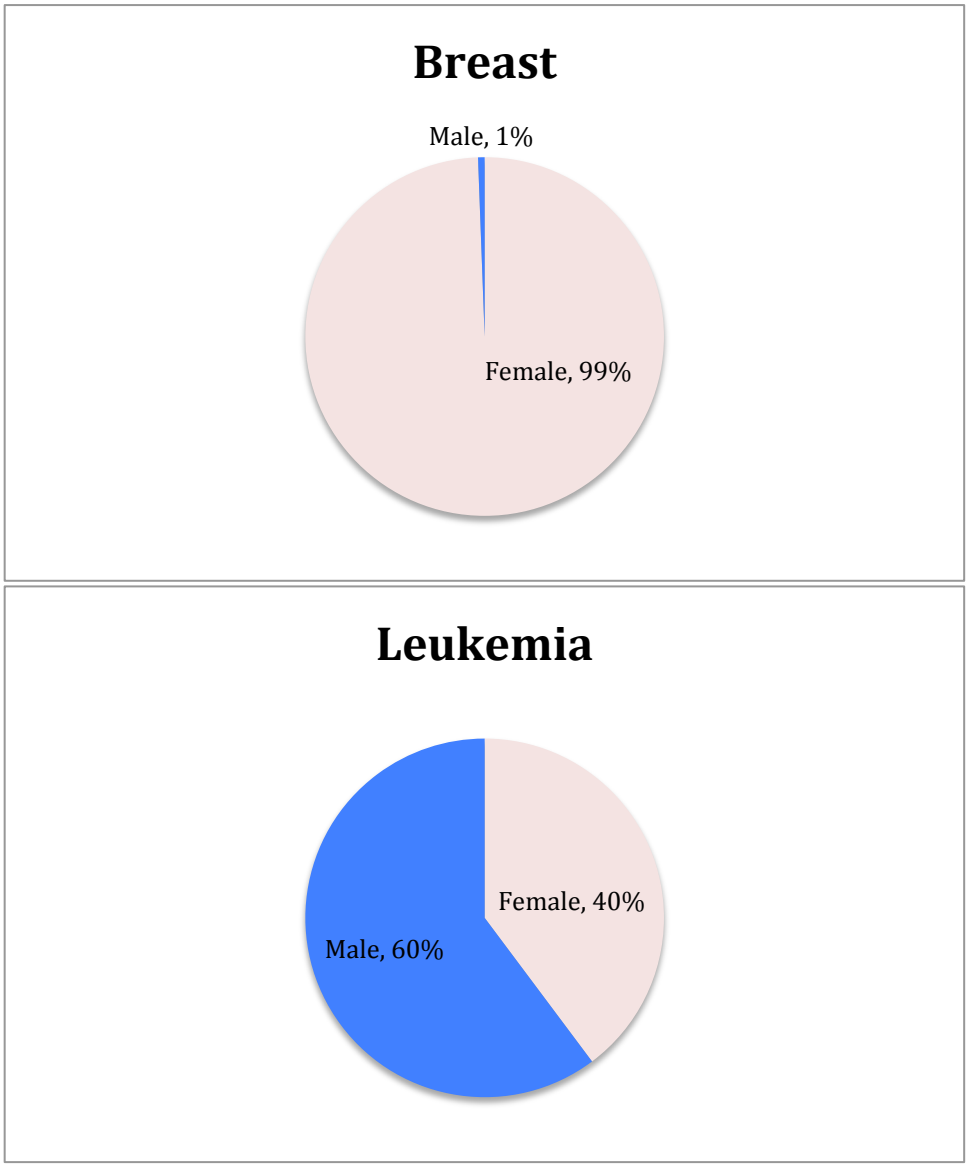
Source: IL Department of Public Health

Table 4.4-2 Top 6 Cancers by Treatment

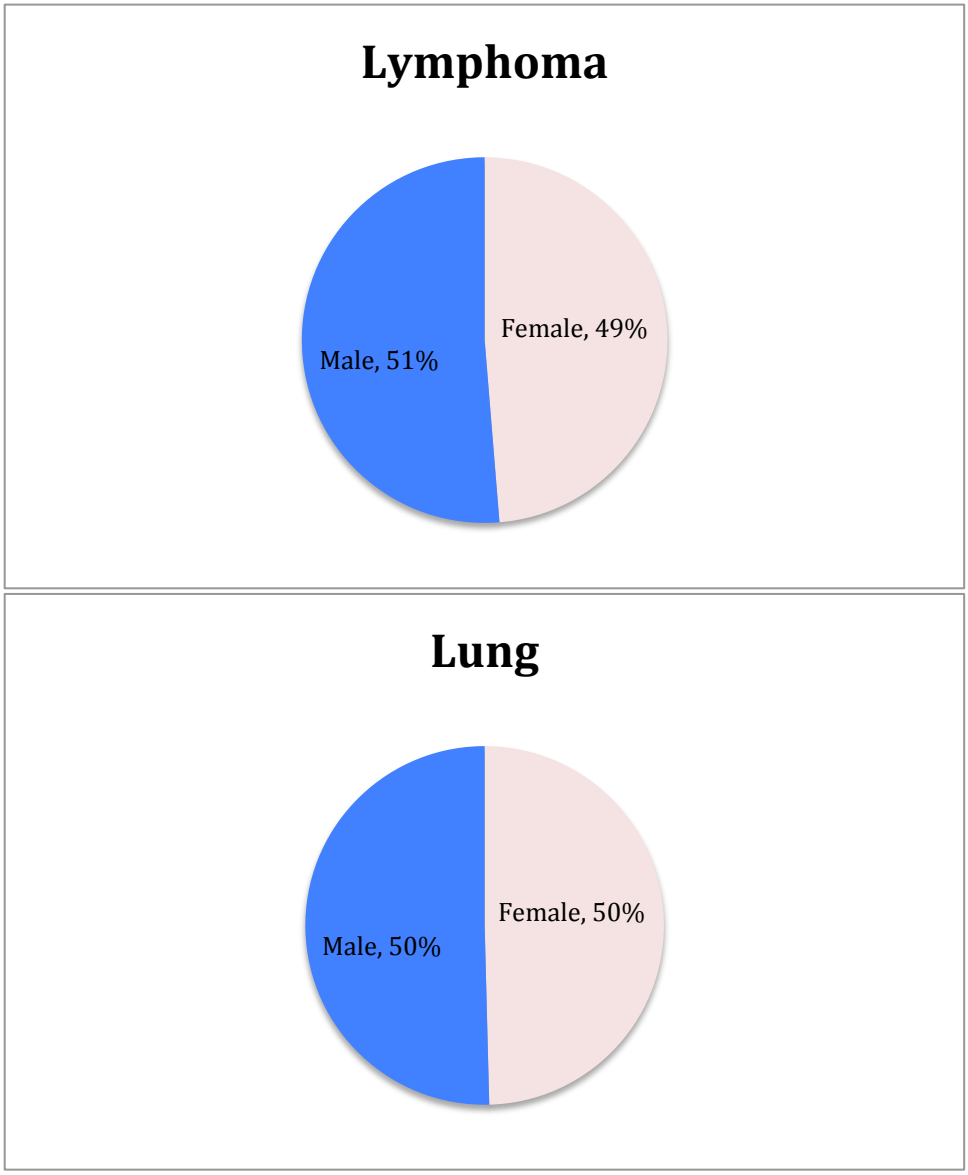


Source: IL Cancer Care, 2011

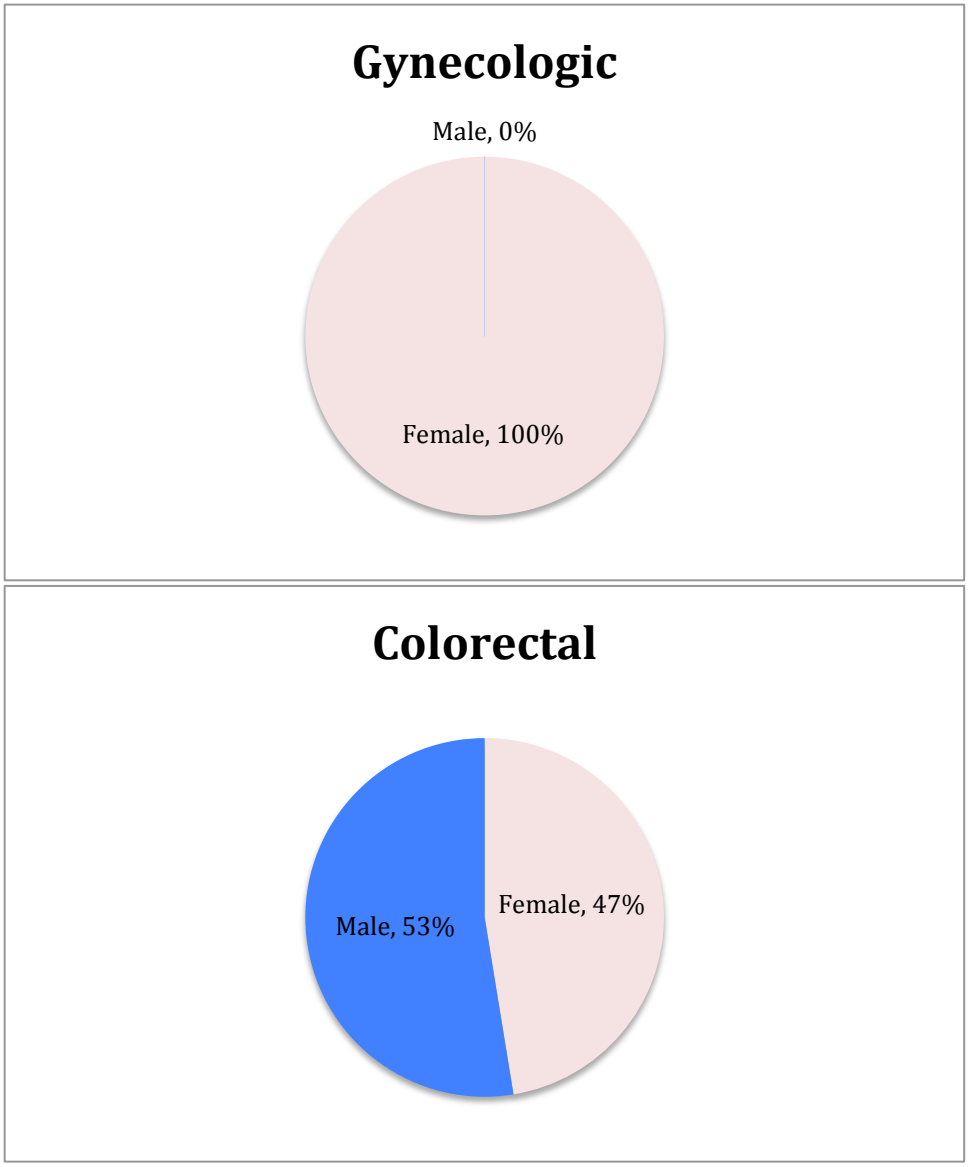
Table 4.4-4 Cancer by Gender



Source: IL Cancer Care, 2011



Source: IL Cancer Care, 2011

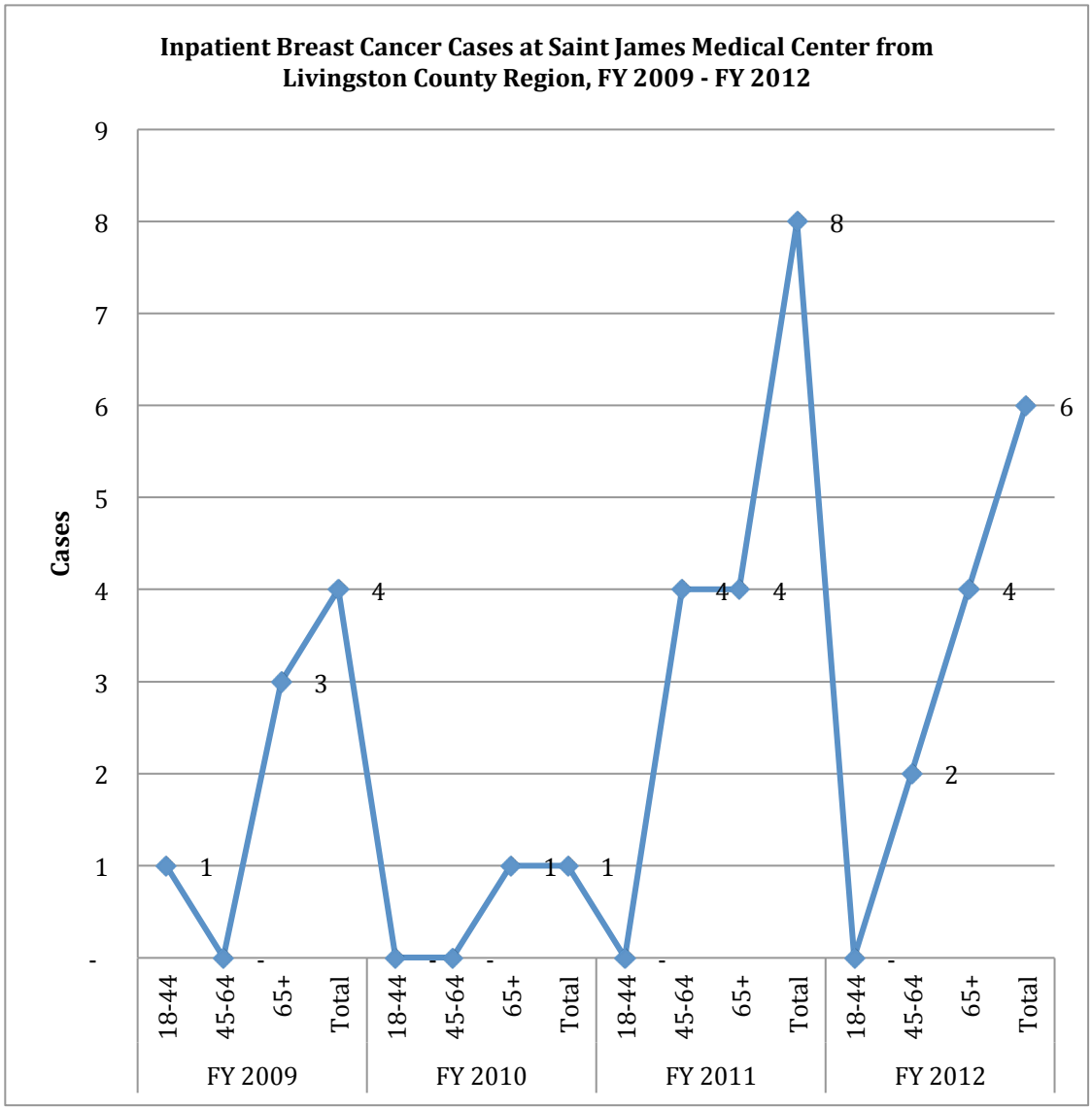


Source: IL Cancer Care, 2011

4.4.1 Carcinoma

Between FY 2009 and FY 2012, there were 19 reported cases of inpatient breast cancer at OSF Saint James – John W. Albrecht Medical Center. Inpatient cases of breast cancer peaked in FY 2011 with 8 cases.

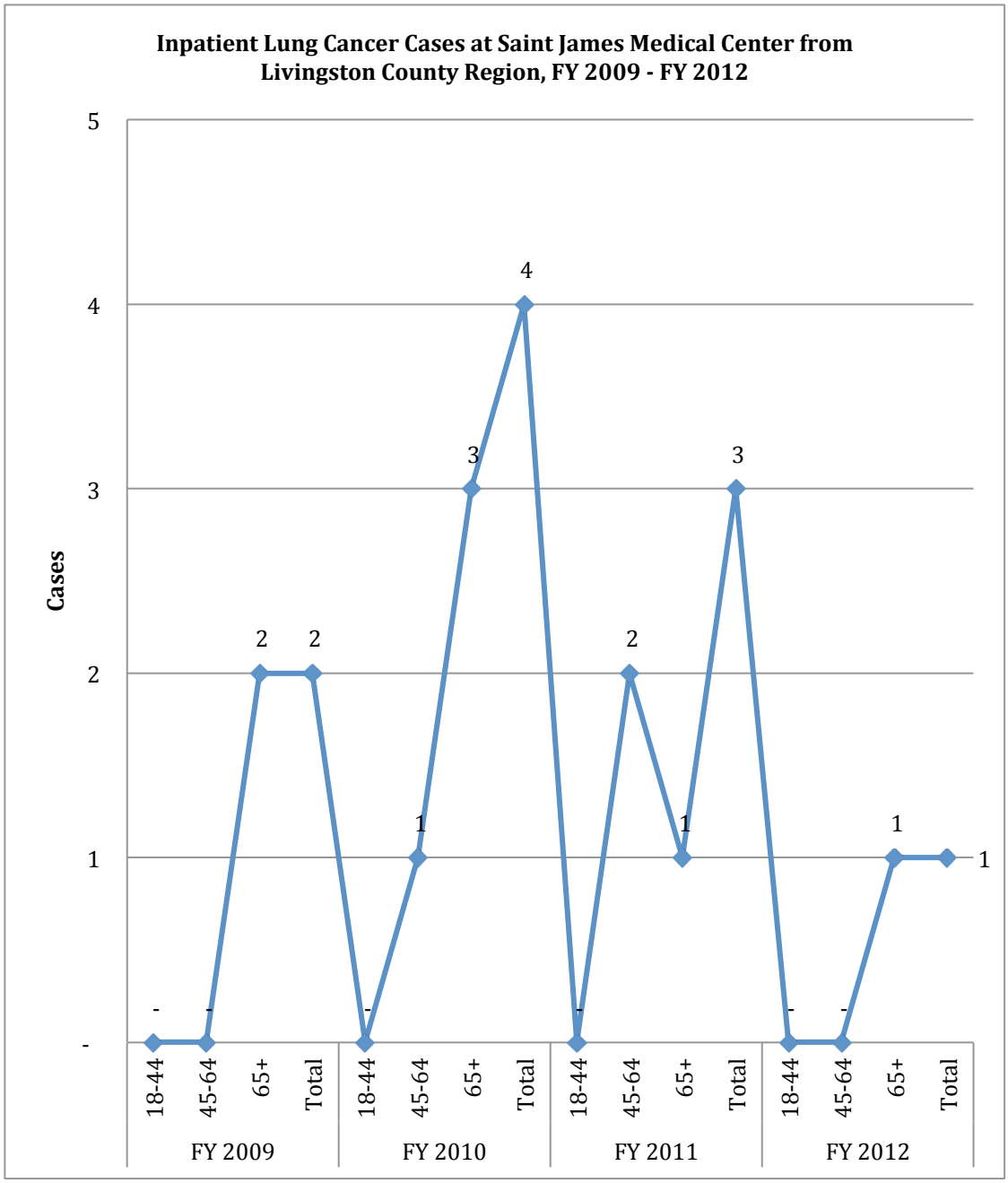
Table 4.4.1-1 Inpatient Breast Cancer Cases at Saint James Medical Center from Livingston County Region, FY 2009 - FY 2012



Source: COMPdata 2012

Between FY 2009 and FY 2012, there were 10 reported cases of inpatient lung cancer at OSF Saint James – John W. Albrecht Medical Center. Inpatient cases of lung cancer peaked in FY 2010 with 4 cases.

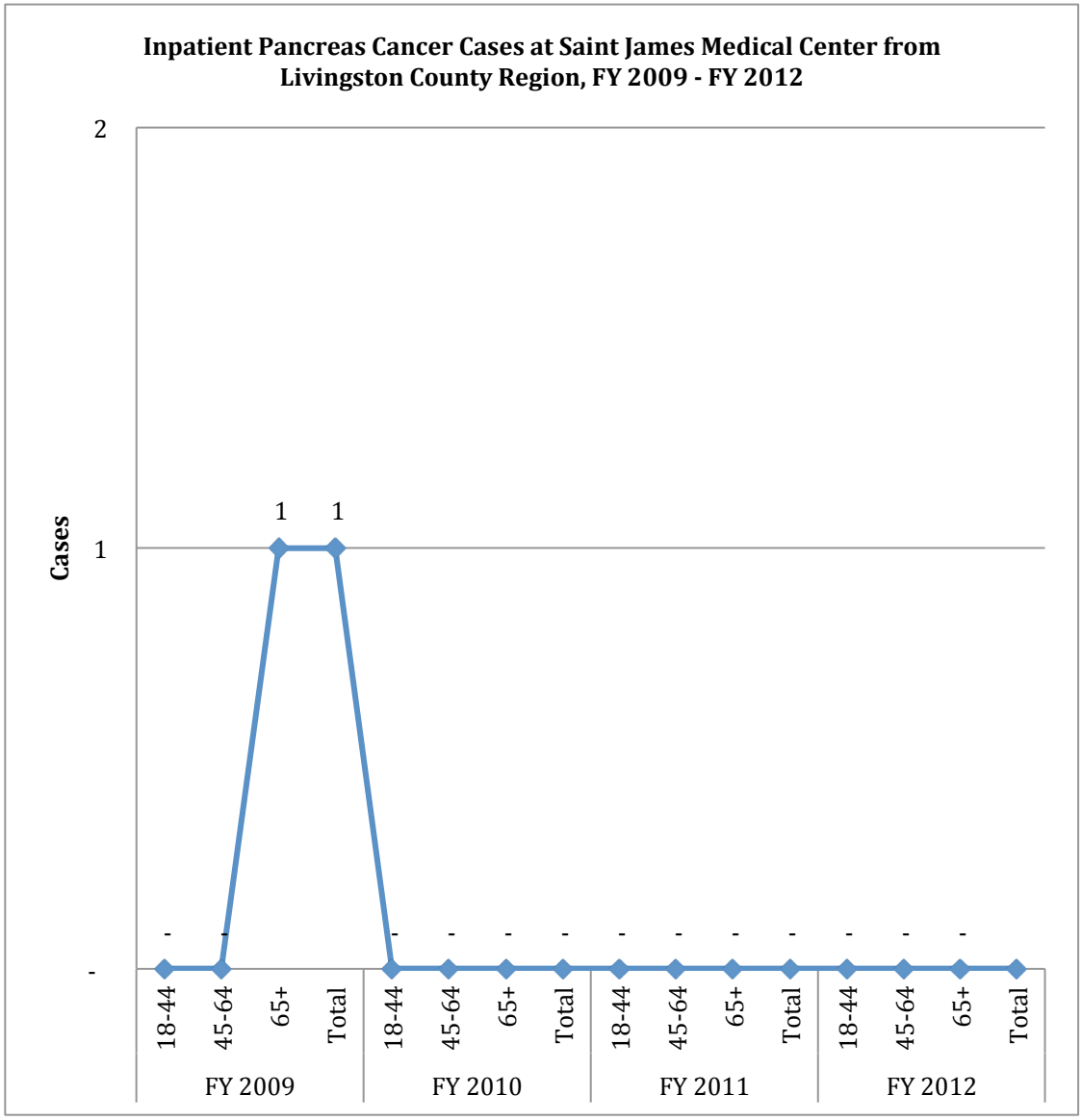
Table 4.4.1-2 Inpatient Lung Cancer Cases at Saint James Medical Center from Livingston County Region, FY 2009 - FY 2012



Source: COMPdata 2012

Between FY 2009 and FY 2012, there was one case of inpatient pancreas cancer at OSF Saint James – John W. Albrecht Medical Center.

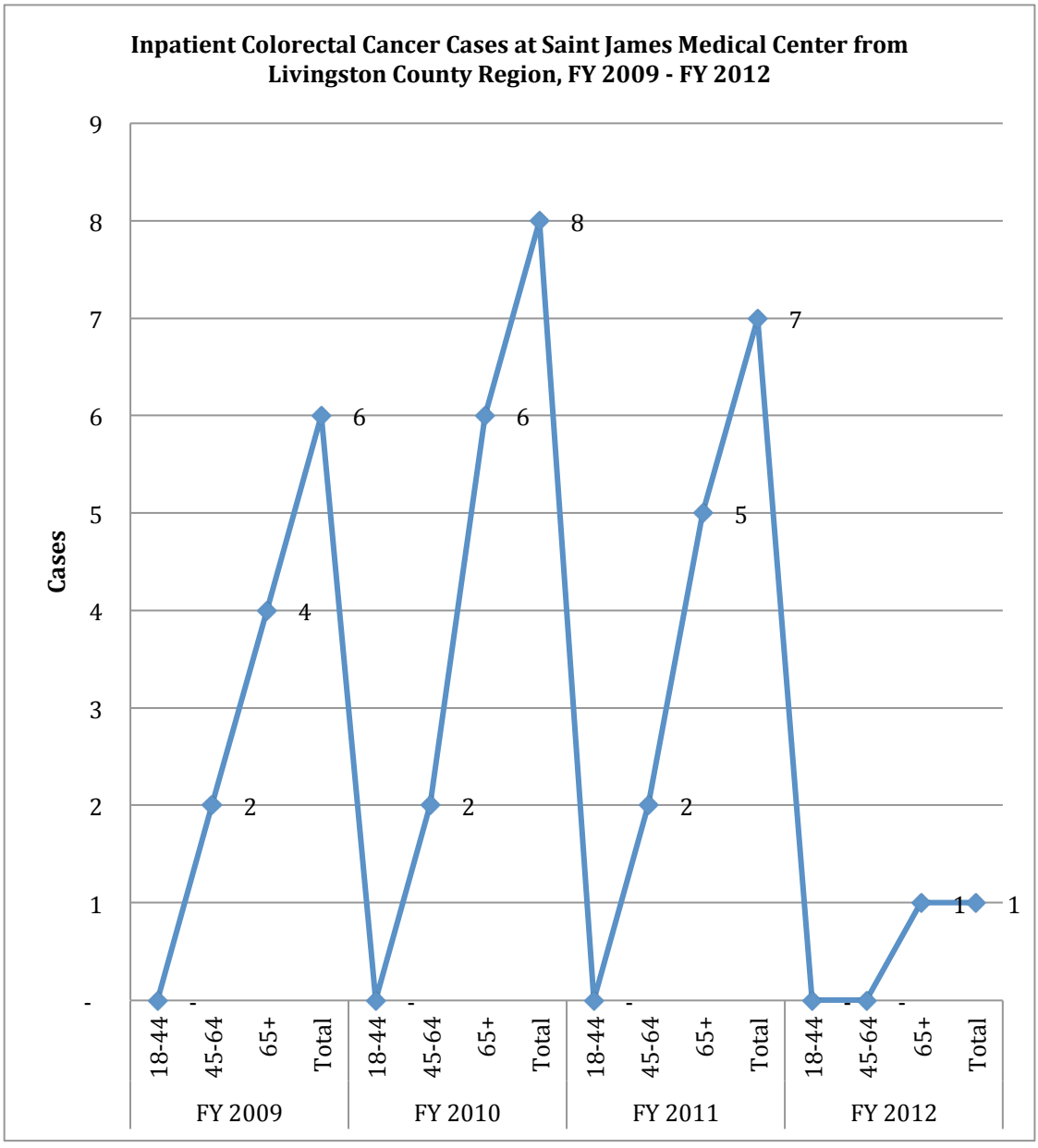
Table 4.4.1-3 Inpatient Pancreas Cancer Cases at Saint James Medical Center from Livingston County Region, FY 2009 - FY 2012



Source: COMPdata 2012

Between FY 2009 and FY 2012, there were 22 reported cases of inpatient colorectal cancer at OSF Saint James – John W. Albrecht Medical Center. Inpatient cases of lung cancer peaked in FY 2010 with 8 cases.

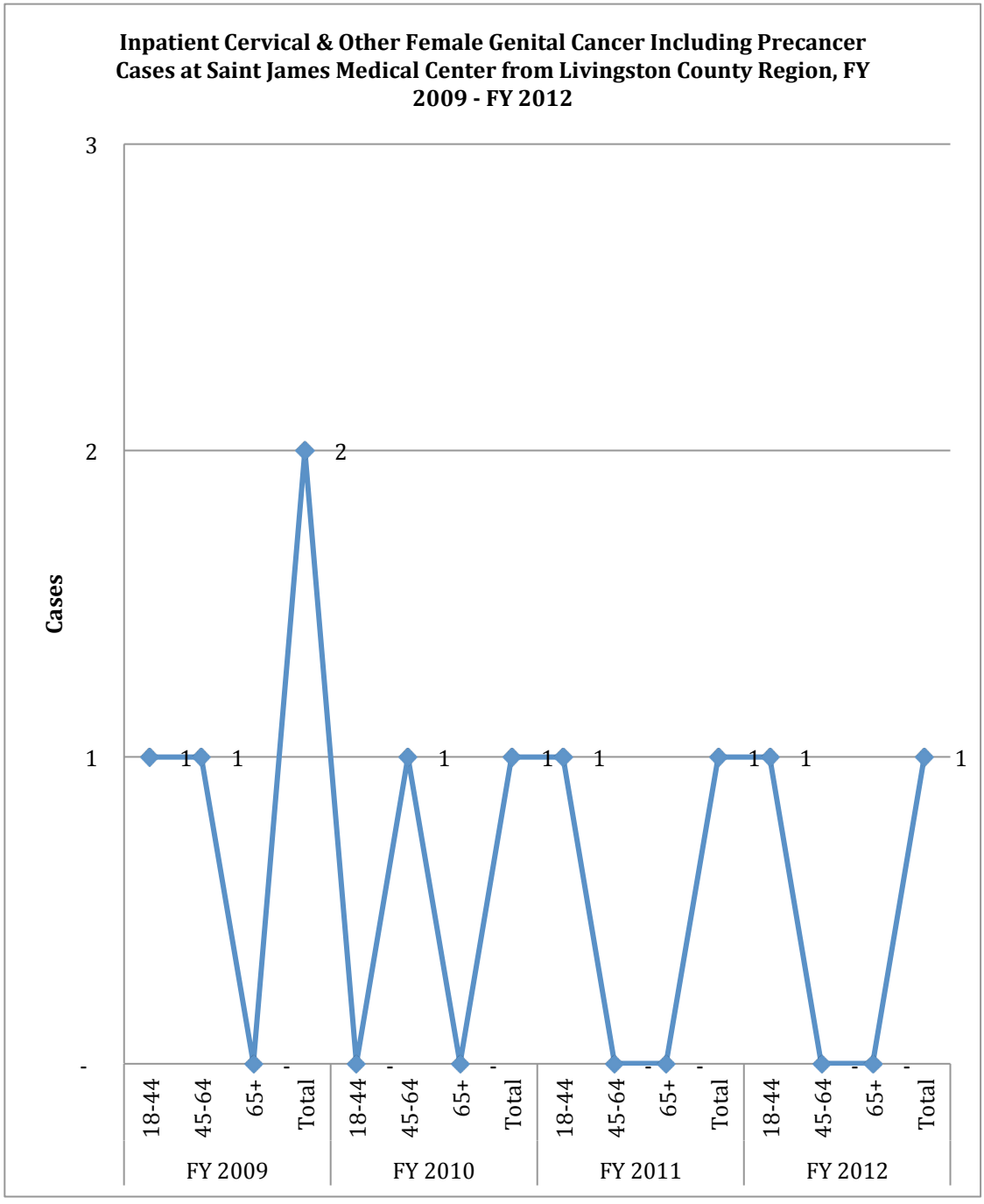
Table 4.4.1-4 Inpatient Colorectal Cancer Cases at Saint James Medical Center from Livingston County Region, FY 2009 - FY 2012



Source: COMPdata 2012

Between FY 2009 and FY 2012, there were five cases of inpatient cervical cancer at OSF Saint James – John W. Albrecht Medical Center.

Table 4.4.1-6 Inpatient Cervical & Other Female Genital Cancer Including Precancer Cases at Saint James Medical Center from Livingston County Region, FY 2009 - FY 2012

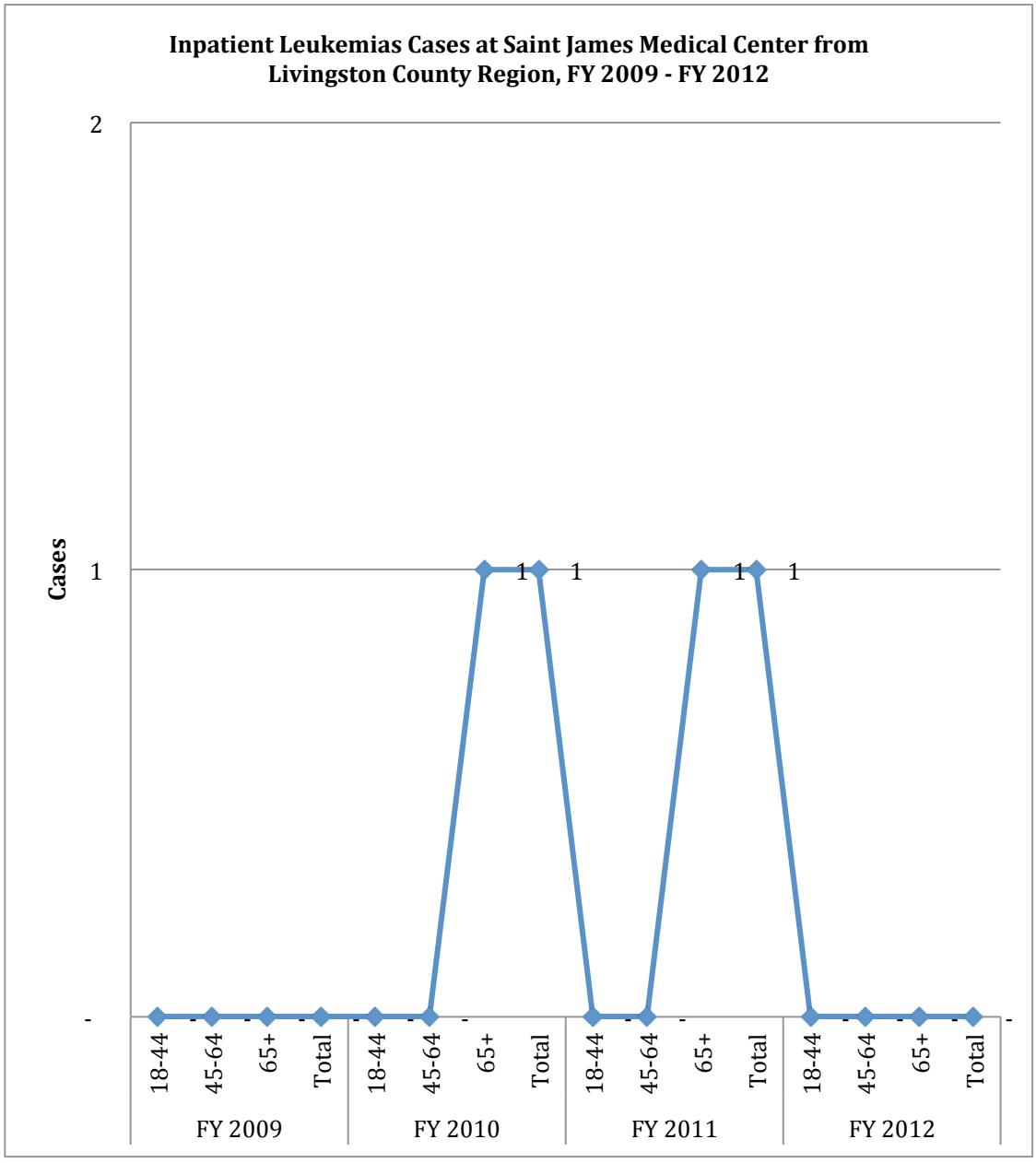


Source: COMPdata 2012

4.4.2 Leukemia

Between FY 2009 and FY 2012, there were two cases of inpatient leukemia at OSF Saint James – John W. Albrecht Medical Center.

Table 4.4.2-1 Inpatient Leukemia Cases at Saint James Medical Center from Livingston County Region, FY 2009 - FY 2012



Source: COMPdata 2012

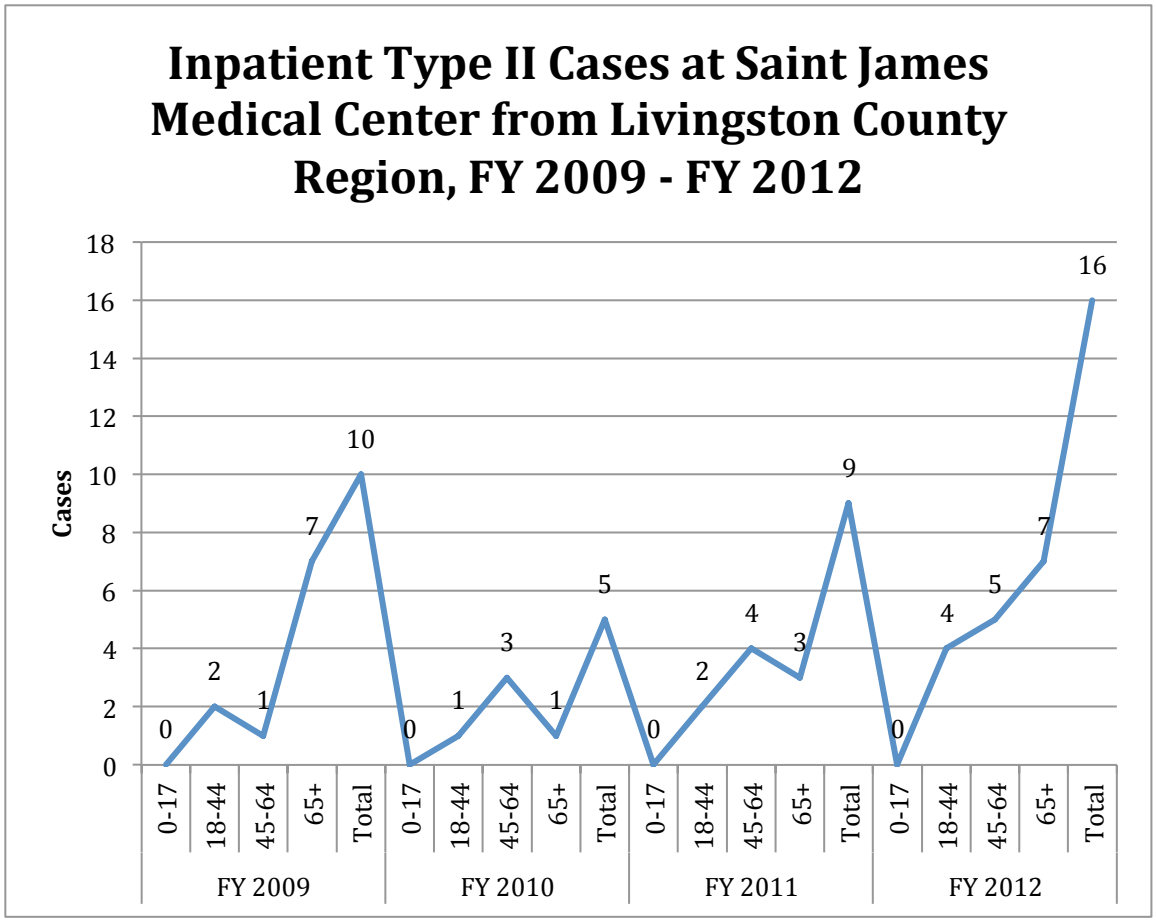
4.5 Type II Diabetes

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 10-15% of individuals with diabetes have Type I diabetes (previously known as juvenile diabetes).

Cases of Type II diabetes at OSF Saint James – John W. Albrecht Medical Center have increased by 60% between FY 2009 and FY 2012 for inpatient admissions. Cases of Type I diabetes at OSF Saint James – John W. Albrecht Medical Center have increased by 33.3% between FY 2009 and FY 2012 for inpatient admissions.

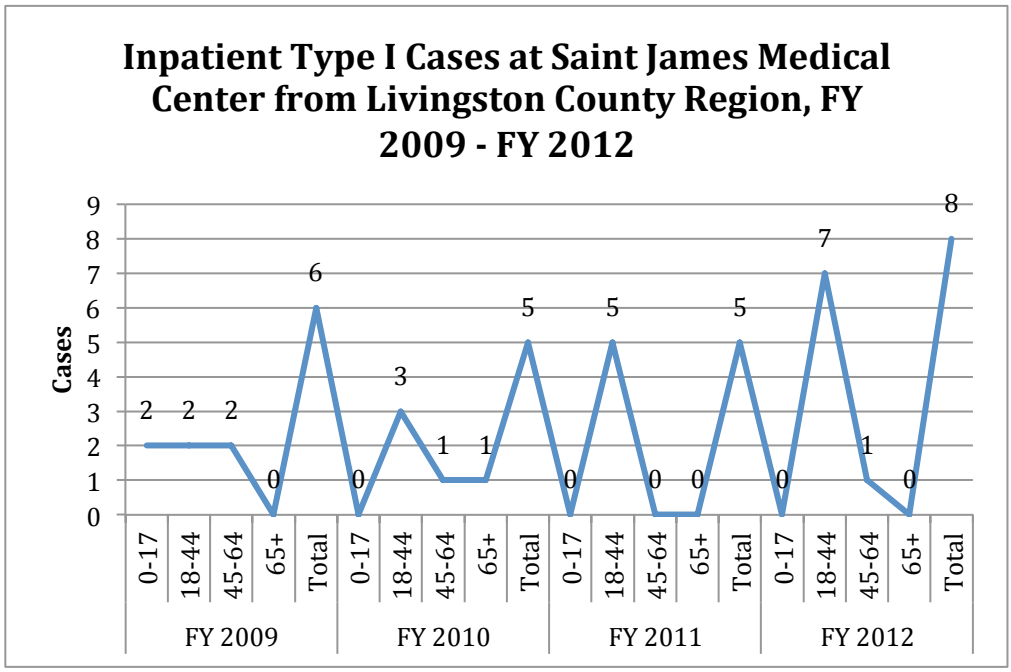
Data from the Illinois BRFSS indicate that 10.2% of Livingston County Region residents have diabetes. Compared to data from the State of Illinois, the prevalence of diabetes is increasing at a faster rate in Livingston County than in the state as a whole and now exceeds the state average.

Table 4.5-1 Inpatient Type II Cases at Saint James Medical Center from Livingston County Region, FY 2009 - FY 2012



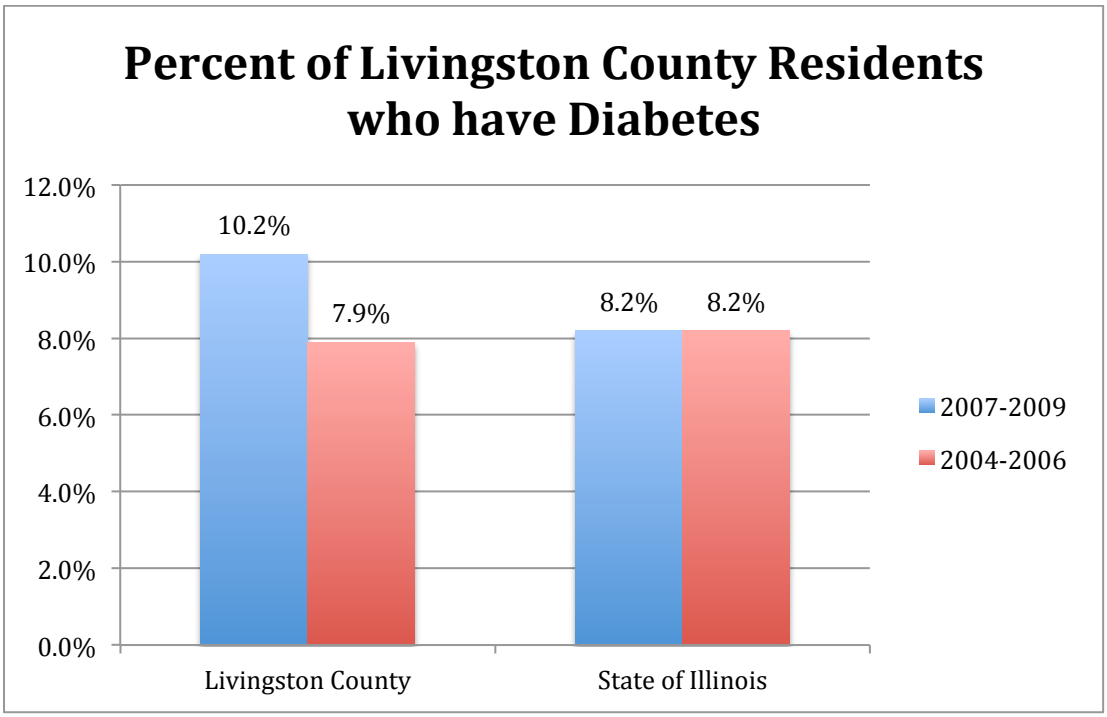
Source: COMPdata 2012

Table 4.5-2 Inpatient Type I Cases at Saint James Medical Center from Livingston County Region, FY 2009 - FY 2012



Source: COMPdata 2012

Table 4.5-3 Percent of Livingston County Region Residents who have Diabetes



Source: Illinois Department of Public Health

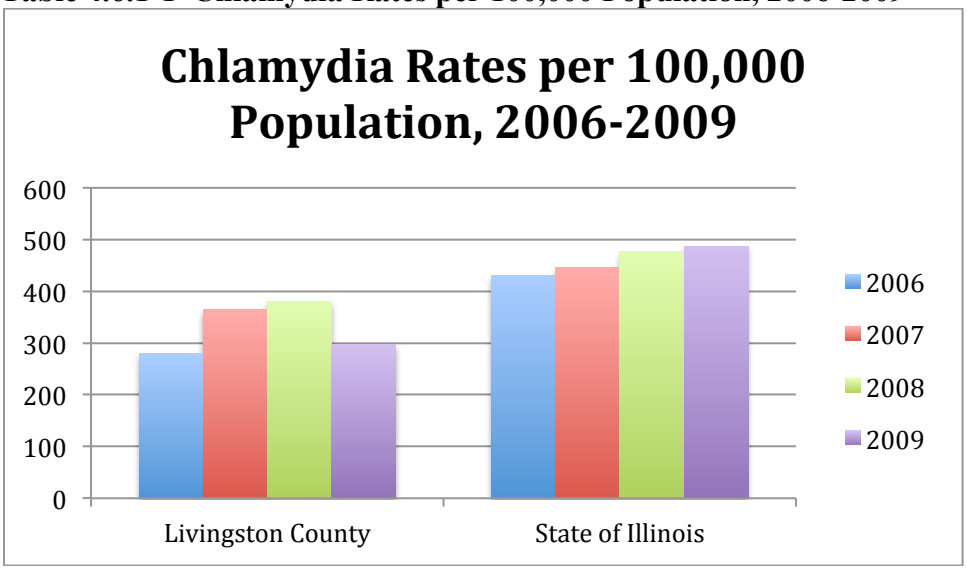
4.6 Infectious Diseases

Importance of the measure: Infectious diseases, including sexually transmitted infections and hepatitis, are impacted by high-risk sexual behavior, drug and alcohol abuse, limited access to health care, 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.

4.6.1 STIs

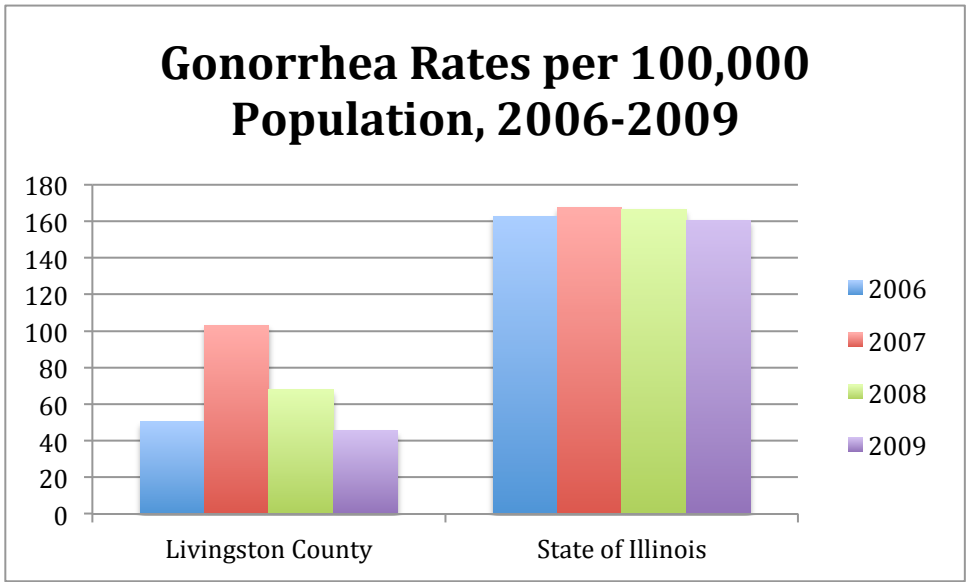
The rates for both Chlamydia and Gonorrhea in Livingston County seem to have somewhat declined and they are considerably less than the state averages.

Table 4.6.1-1 Chlamydia Rates per 100,000 Population, 2006-2009



Source: Illinois Department of Public Health

Table 4.6.1-2 Gonorrhea Rates per 100,000 Population, 2006-2009



Source: Illinois Department of Public Health

4.7 Secondary Diagnoses

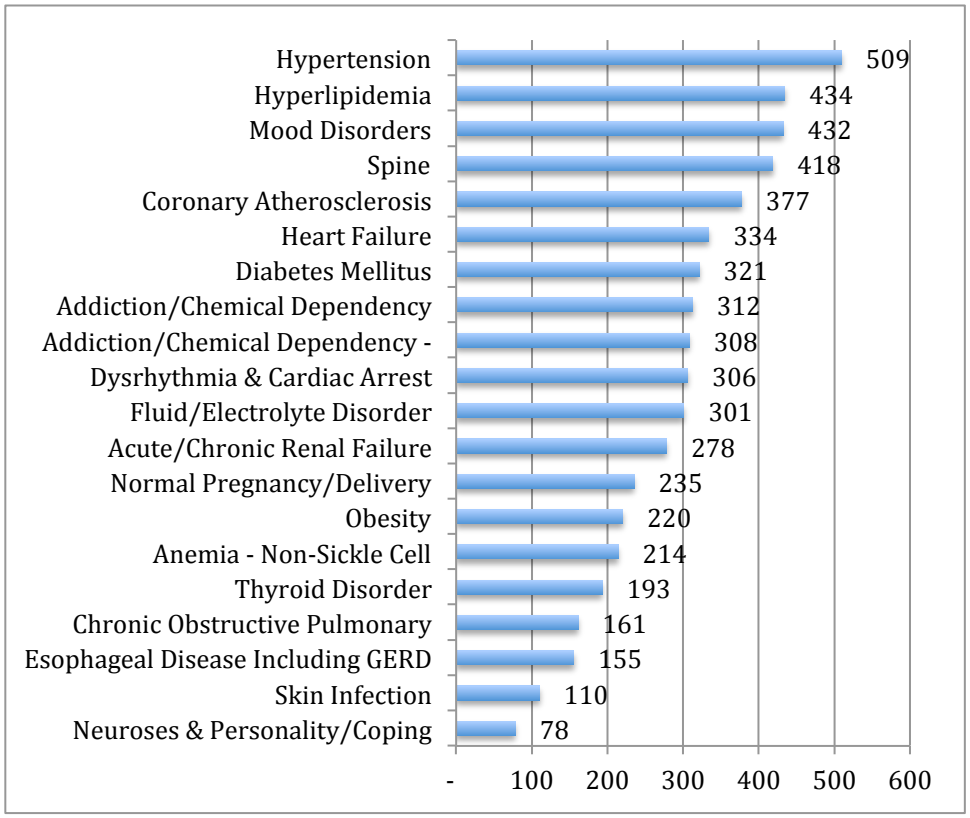
*Importance of the measure:*Secondary diagnoses are additional conditions diagnosed upon hospital intake. These diseases may complicate treatment efforts aimed at alleviating the primary diagnosis and exacerbate health care costs.

Tables 4.7.1-1 and 4.7.1-2 identify the top 20 secondary diagnoses in Livingston County. Hypertension is the most prevalent secondary diagnosis.

Between 2009 and 2012, the number of cases categorized as "addiction/chemical dependency – OB fetal" increased 235%.

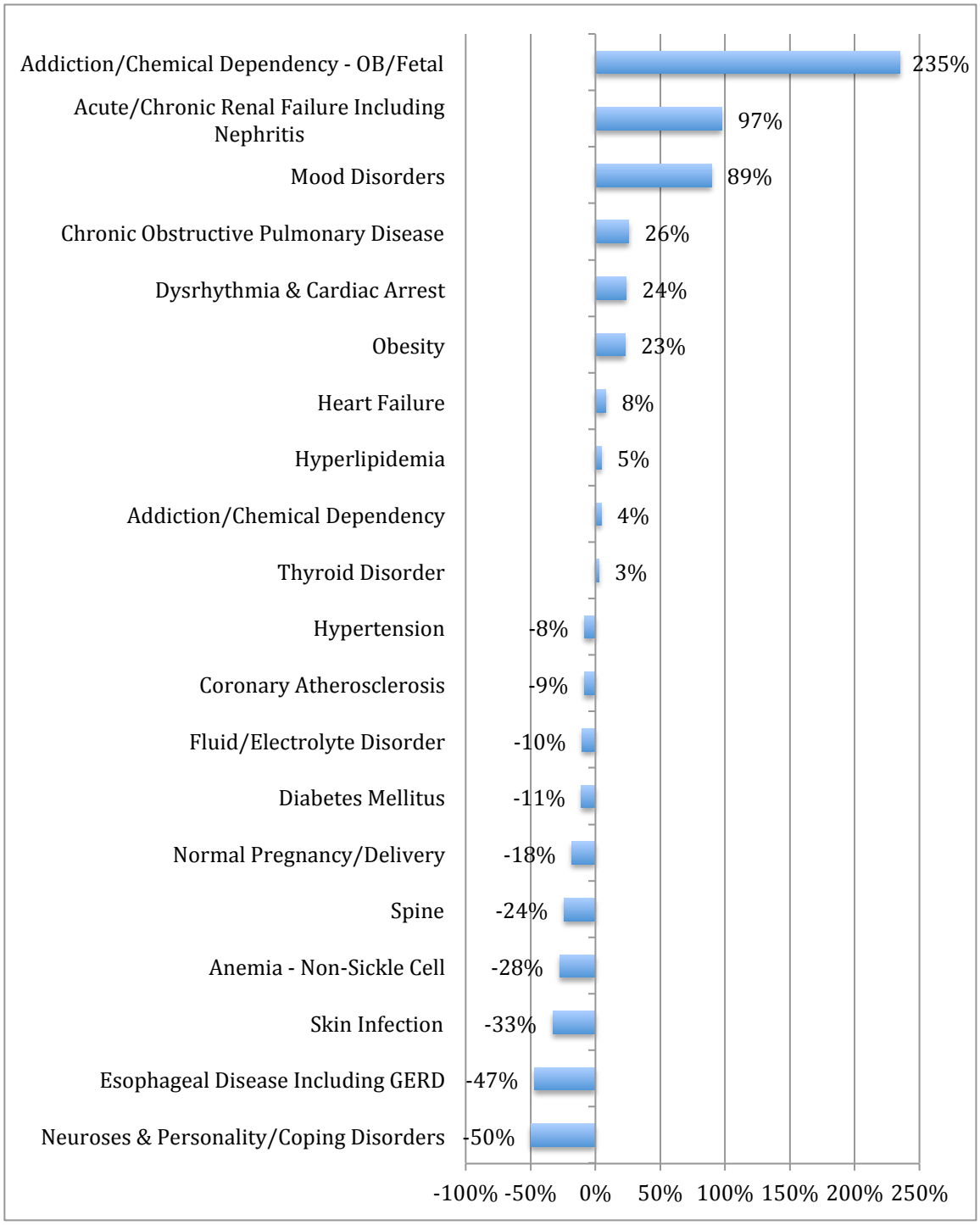
It should be noted that the same patient may have multiple secondary diagnoses.

Table 4.7.1-1 Number of Cases of Top 20 Secondary Diagnoses at Livingston Area Hospitals, Inpatient Only, 2012



Source: COMPdata 2012

Table 4.7.1-2 Growth Rates in the Number of Cases of Top 20 Secondary Diagnoses at Livingston County Area Hospitals, Inpatient Only, 2009-2012



Source: COMPdata 2012

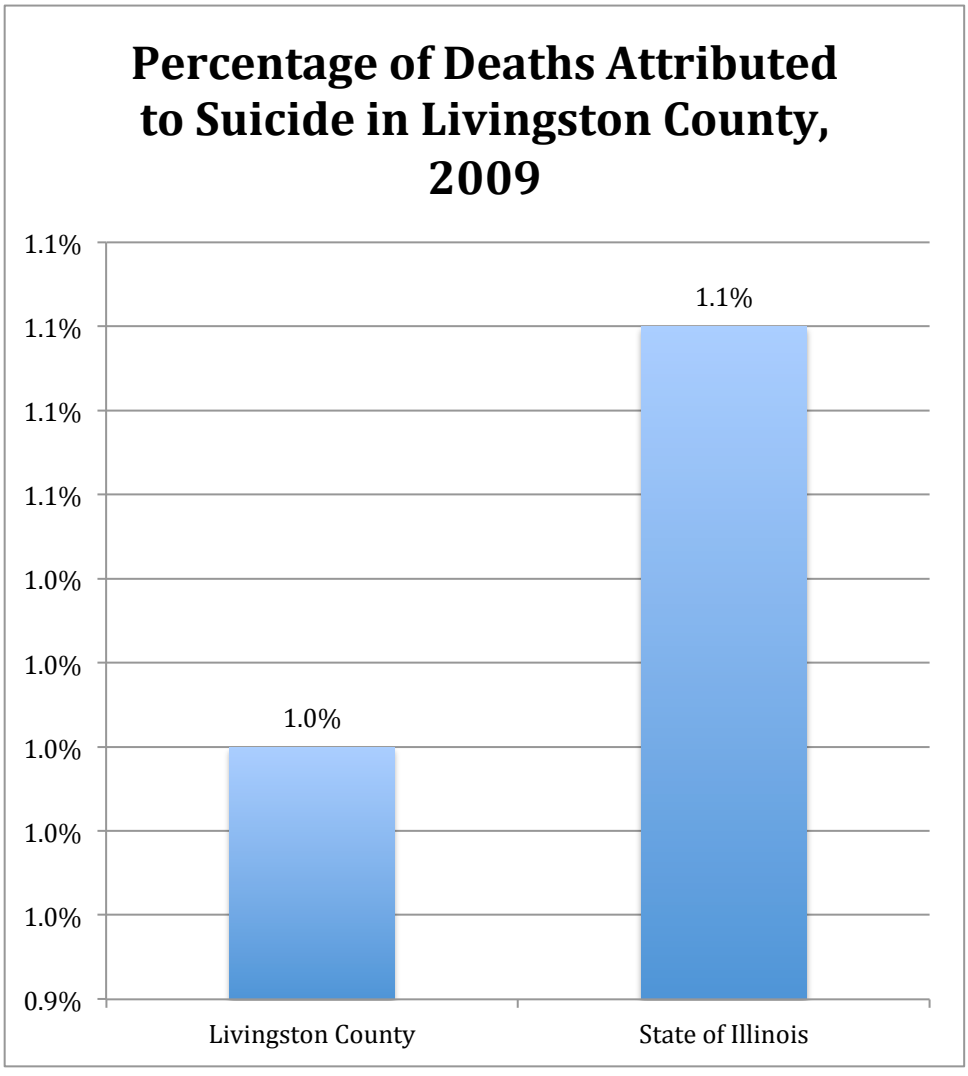
4.8 Injuries

Importance of the measure:
Unintentional injuries are injuries that can be classified as 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.

4.8.1 Intentional – suicide

For Livingston County in 2009, the percentage of deaths attributed to suicide is 1% and less than the State of Illinois average.

Table 4.8.1-1 Percentage of Deaths Attributed to Suicide in Livingston County, 2009

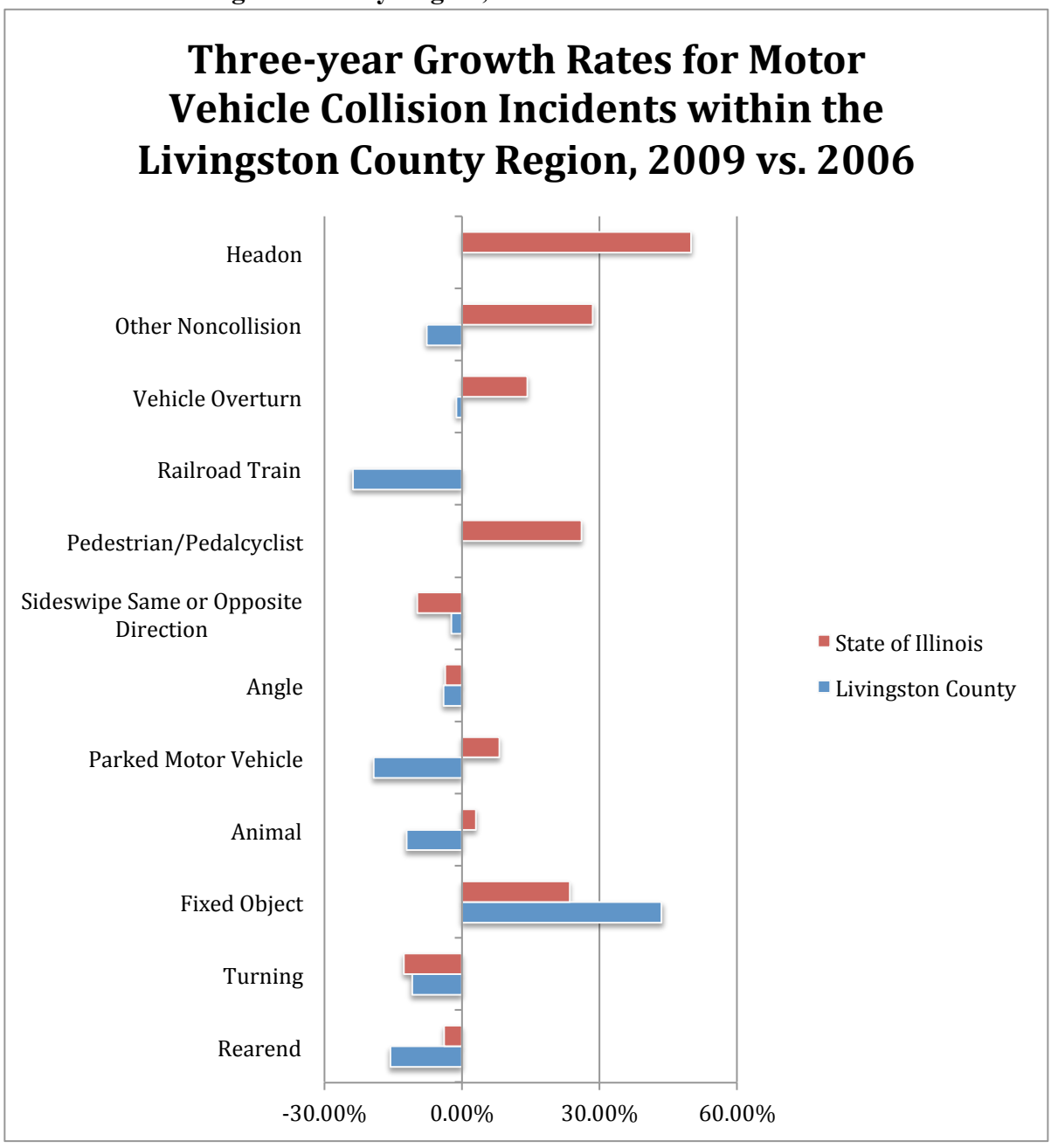


Source: Illinois Department of Public Health

4.8.2 Unintentional – motor vehicle

Research suggests that car accidents are a leading cause of unintentional injuries. In Livingston County, the three-year growth rate between 2006 and 2009 for several types of motor vehicle collisions exceeds the State of Illinois average including fixed-object and turning accidents.

Table 4.8.2-1. Three-year Growth Rates for Motor Vehicle Collision Incidents within the Livingston County Region, 2009 vs. 2006



Source: Illinois Department of Transportation

Diseases/Morbidity: Strategic Implications

Emphasize prenatal health and infant care:

It is essential that infants and children begin life healthy and preferably, at normal birth weights. Research suggests that infants born at low birth weight are at greater risk for life-threatening complications including infections, breathing problems, neurological problems and Sudden Infant Death Syndrome (SIDS).[1] Other studies suggest that low birth weight babies are also at a higher risk for developmental disabilities, such as learning disabilities and attention deficits, than babies with normal birth weights. Cognitive function of low birth weight babies may also be diminished leading to higher rates of sub-average IQ (< 85) than normal birth weight babies. [2]

Regular prenatal care is a vital aspect in producing healthy babies and children. The employment of 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.[3] 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. According to a study by The National Public Health and Hospital Institute, cost of care and other financial barriers were cited as reasons expectant mothers did not get adequate prenatal care.[4]

Emphasize the link between blood pressure and cardiovascular diseases:

Research from the Center for Disease Control estimated that the total cost of cardiovascular diseases in the United States for 2010 was $444 billion. [5] In essence, one out of every six dollars spent on health care is spent on the diagnosis and treatment of cardiovascular diseases. [6] However, controlling one's blood pressure and decreasing one's intake of cholesterol also reduces the risk of cardiovascular diseases. For example, research from the CDC suggests a "12–13 point reduction in average systolic blood pressure over 4 years can reduce heart disease risk by 21%, stroke risk by 37%, and risk of total cardiovascular death by 25%." [7]

The number of cases of other cardiovascular diseases at Pontiac area hospitals from the Livingston County region has increased 100% between 2009 (7 cases) and 2012 (14 cases). In addition, *t*he number of cases of inpatient heart failure for individuals 45 to 64 years of age at Pontiac area hospitals from the Livingston County region has increased 166% between 2009 (3 cases) and 2012 (8 cases).

Endnotes Chapter 4

[1] Lucile Packard Children's Hospital at Stanford University, *High-Risk Newborn: Low Birthweight*. Retrieved from http://www.lpch.org/DiseaseHealthInfo/HealthLibrary/hrnewborn/lbw.html.

[2] Kessenich, M. (2003). Developmental Outcomes of Premature, Low Birth Weight, and Medically Fragile Infants. ***Newborn and Infant Nursing Reviews,* 3, 3, 80-87.**

[3] Kiely, J.L. & Kogan, M.D. (1994). Prenatal Care. In *Public Health Surveillance for Women, Infants, and Children.* Atlanta, GA: U.S. Center for Disease Control

[4] The National Public Health and Hospital Institute. *Barriers to Prenatal Care Study: A Survey of Women Who Deliver at Public Hospitals,* 2003.

[5] U.S. Center for Disease Control and Prevention. *Heart Disease and Stroke Prevention – At A Glance 2011*.

[6] Ibid.

[7] Ibid.

CHAPTER 5. MORTALITY

Importance of the measure: Presenting data that focuses on diseases provides an opportunity to analyze the ratio of sick individuals to healthy individuals in the Livingston County Region and, in addition, define and quantify what diseases are causing the most death and disability.

The top two leading causes of death in the State of Illinois and Livingston County are similar as a percentage of total deaths. Diseases of the Heart comprise 29% of deaths in Livingston County and Cancer comprises 26% of deaths in Livingston County. While Diseases of the Heart and Cancer contribute to more deaths in Livingston County than the State of Illinois as a whole, the incidence of cerebrovascular disease in Livingston County is less prevalent than across the State of Illinois as a whole. In addition, nephritis, nephritic syndrome, and nephrosis were attributed to 3.5% of deaths in 2009 in Livingston County vs. 2.6% of deaths in the State of Illinois, making nephritis the 5th leading cause of death in Livingston County compared to the 8th leading cause of death in the State of Illinois.

Table 5.1-1. Top 5 Leading Causes of Death for all Races by County, 2009

Rank	Livingston County	State of Illinois
1	Diseases of Heart (29%)	Diseases of Heart (25%)
2	Malignant Neoplasm (26%)	Malignant Neoplasm (24%)
3	Chronic Lower Respiratory Disease (6%)	Chronic Lower Respiratory Disease (5%)
4	Cerebrovascular Disease (4%)	Cerebrovascular Disease (5%)
5	Nephritis, nephritic syndrome, and nephrosis (3.5%)	Accidents (4%)

Source: Illinois Department of Public Health

Mortality: Strategic Implications

Minimize unnecessary medical interventions to decrease mortality rates:

Three decades of research suggests that more care for patients is associated with higher mortality.[1] This paradox is best explained by the fact that all medical procedures possess risk and by increasing the number of interventions a patient receives, the more risk incurred by the patient. More risk increases the chances of errors and additional physicians becoming involved to treat the patient. The Institute of Medicine contends that this fragmentary nature of the US health care delivery system is one of the major drivers of poor quality and higher costs. [2]

Poor quality disproportionately impacts those with chronic illnesses. Statistically, an estimated 90 million Americans live with at least one chronic illness, 70% of Americans die from chronic disease, and 90% of deaths among the Medicare population are attributed to just nine chronic illnesses: congestive heart failure, chronic lung disease, cancer, coronary artery disease, renal failure, peripheral vascular disease, diabetes, chronic liver disease, and dementia.[3]

The costs to treat chronic diseases are staggering, as inefficiencies drive up the cost of care. Patients with chronic conditions are often treated by primary care providers in addition to specialists. In most cases, little is done to coordinate treatments. Over time, as the chronic condition becomes more debilitating, patients require more care and the cost of care increases. According to the Dartmouth Institute for Health Policy and Clinical Practice, patients with chronic illnesses in their last two years of life account for nearly 32% of total Medicare spending. [4] Furthermore, overtreatment in the U.S. wastes an estimated 20 to 30 cents on every health care dollar spent.[5]

Address the diverse needs of underserved populations:

Research suggests individuals of color are at greater risk to be afflicted with violent crime, perinatal conditions, and chronic diseases. The U.S. Bureau of Justice notes that a racial divide impacts the prevalence of individuals being stricken by violent crime. In 2005, national homicide rates for African Americans were six times higher than the rates for whites. [6] Adverse perinatal conditions include poor maternal health and nutrition, inadequate care during pregnancy and childbirth, and problems relating to premature births.

With regard to chronic diseases including heart disease and cancer, the U.S. Department of Health and Human Services' Office of Minority Health suggests African Americans are 30% less likely to be diagnosed with heart disease than Whites, but are more likely to die from it. Furthermore, African Americans are 1.5 times more likely than Whites to have high blood pressure and African American women are 1.7 times more likely to be obese.[7]

The incidence of strokes disproportionately impacts African Americans, as they are 70% more prone to having a stroke than Whites. With mortality rates, Black men are 60% more likely to die from a stroke. For stroke survivors, African Americans are more often disabled than Whites.[8]

For cancer, Black men are 30% more likely than Whites to have new cases of prostate cancer and are twice as likely to be diagnosed with stomach cancer. The 5-year survival rates for African Americans are lower for lung and pancreatic cancer, and they are 2.4 times as likely to die from prostate cancer. Black women are 10% less likely to be diagnosed with breast cancer than Whites, but they are 34% more likely to die from it. Black women are twice as likely to be diagnosed with stomach cancer and are 2.4 times more likely to die.[9]

Endnotes for Chapter 5

[1] The Dartmouth Institute for Health Policy and Clinical Practice. (2008). *Tracking the Care of Patients with Severe Chronic Illness.*

[2] Institute of Medicine. (2001). *Crossing the Quality Chasm*: *A New Health System for the 21st Century.*

[3] The Dartmouth Institute for Health Policy and Clinical Practice. (2008). *Tracking the Care of Patients with Severe Chronic Illness.*

[4] Ibid.

[5] Skinner, J.S., Fisher, E.S., & Wennberg, J.E. (2005). The Efficiency of Medicare. In D. Wise (ed.) *Analyses in the Economics of Aging*. Chicago: University of Chicago Press and NBER.

[6] U.S. Bureau of Justice Statistics, *Homicide Trends in the U.S.* Retrieved from http://bjs.ojp.usdoj.gov/content/homicide/race.cfm

[7] U.S. Department of Health and Human Services' Office of Minority Health.

[8] Ibid.

[9] Ibid.

PHASE II – PRIMARY DATA RESEARCH FOR COMMUNITY HEALTH NEEDS

To meet requirements of section 501(r)(3) of Schedule H Form 990, "…a community health needs assessment must take into account input from persons who represent the broad interests of the community served by the hospital(s), including those with special knowledge of or expertise in public health …" Moreover, for strategic planning purposes of each hospital, perceptions of various stakeholder groups can provide important insights into perceptions of the community regarding general health-care effectiveness.

Numerous opportunities may exist that are related to impacting community health benefits, but are not published in secondary research sources. Rather they are discovered through unbiased data collection, rigorous statistical modeling and analyses, and simple, common-sense interpretations and conclusions. Through this type of research, the health-care community can expect to identify areas for self-improvement, opportunities for addressing community needs and underlying perceptions of how demographics impact the community's perceptions and effectiveness.

Phase II research consists of providing structure, information, documentation and practical interpretation of data. Five specific objectives are accomplished in the primary research:

- Create a statistically valid research instrument to collect necessary information;
- Collect data using a partnership process (rather than respondent mentality);
- Assess perceptions of current/potential community issues;
- Segment markets based on key demographics;
- Draw conclusions and discuss potential future directions to improve the health of the community.

In Phase II of the community health needs assessment, there are four chapters that assess different aspects of the general community as well as specific health-related issues for the at-risk population. The chapters are as follows:

CHAPTER 6. GENERAL CHARACTERISTICS OF RESPONDENTS

CHAPTER 7. FINDINGS AND RESULTS COMMUNITY PERCEPTIONS

CHAPTER 8. ACCESSIBILITY TO HEALTH CARE

CHAPTER 9. HEALTH-RELATED BEHAVIORS

CHAPTER 6. GENERAL CHARACTERISTICS OF RESPONDENTS

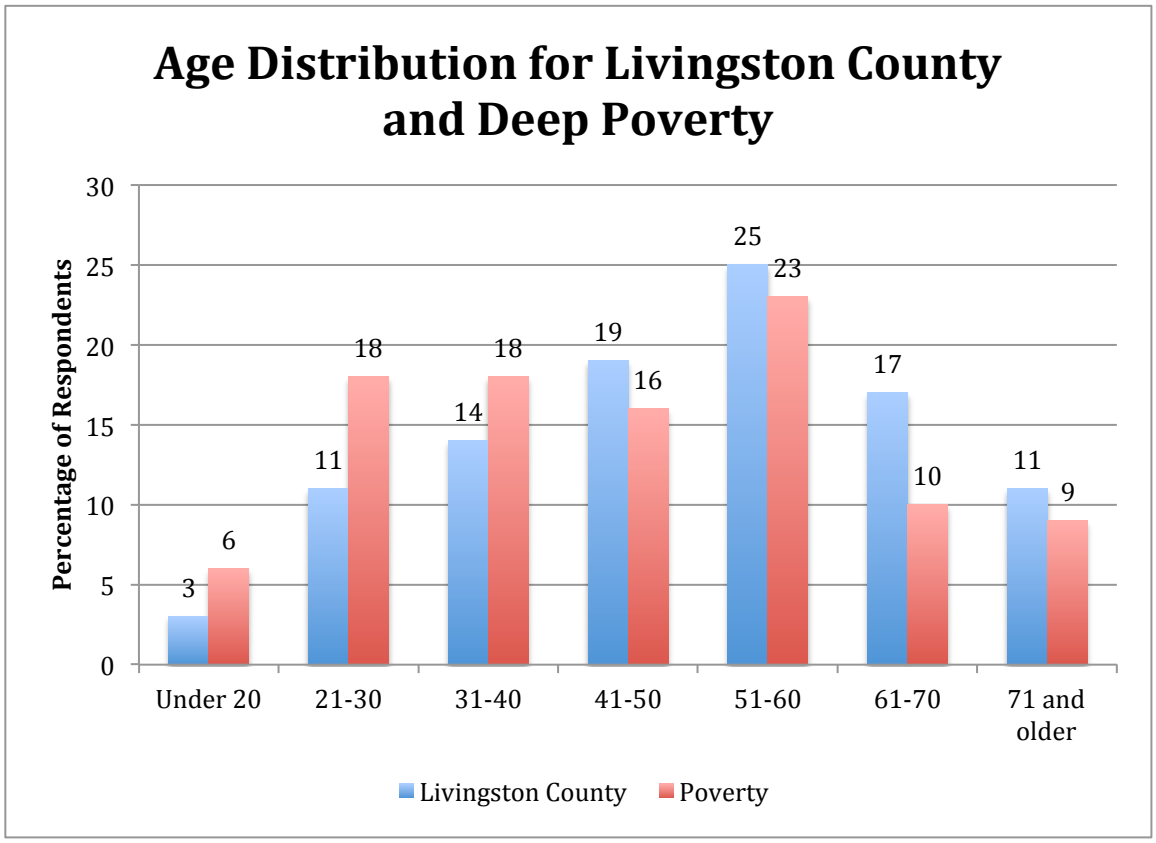
As mentioned in the Methods section of this study, data were collected via on-line survey and paper surveys. In this chapter, the characteristics of the sample are presented. A total of 967 surveys were completed. All data includes the entire sample, except where specifically noted.

Note that for most characteristics in this chapter, data are analyzed for: (1) the overall sample; and (2) by the at risk population. According to the CDC, at risk populations are characterized by economic disadvantage. Specifically, according to the CDC *Public Health Workbook*, at risk populations are defined as those individuals living in deep poverty, which for this study is operationalized as those with a household income of less than $20,000. Note that 429 respondents were in this income category.

6.1 Age

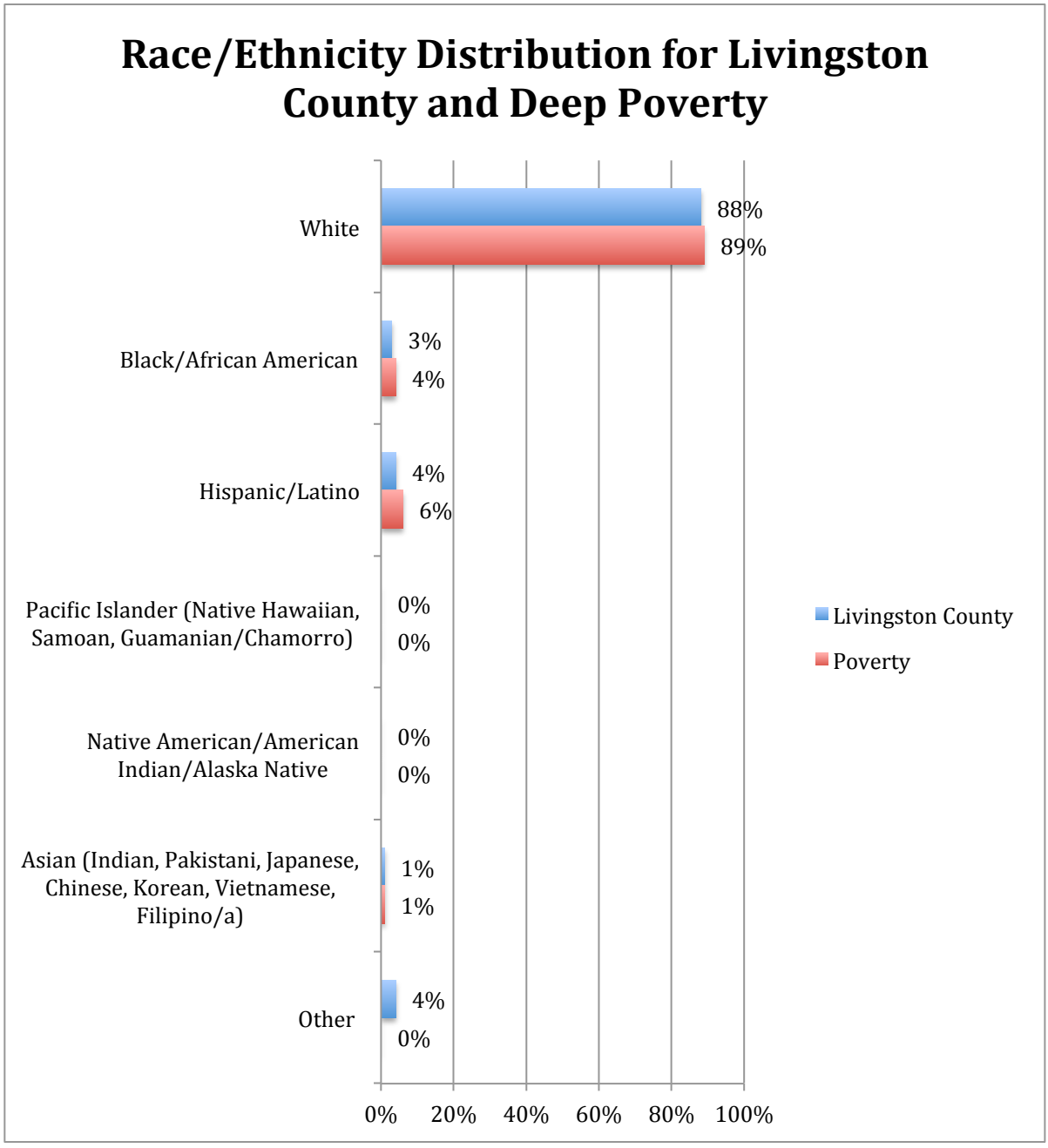
The average age of respondents was 44.4 years old. The distribution is reflective of the 2010 Census data, however, the mean age of surveyed respondents is slightly older, compared to the Census average age of 41.0 years old. This occurred because survey respondents were all adults, age 18 and above.

Table 6.1 Age Distribution for Livingston County and Deep Poverty



6.2 Race and Ethnicity

Table 6.2 Race/Ethnicity Distribution for Livingston County and Deep Poverty

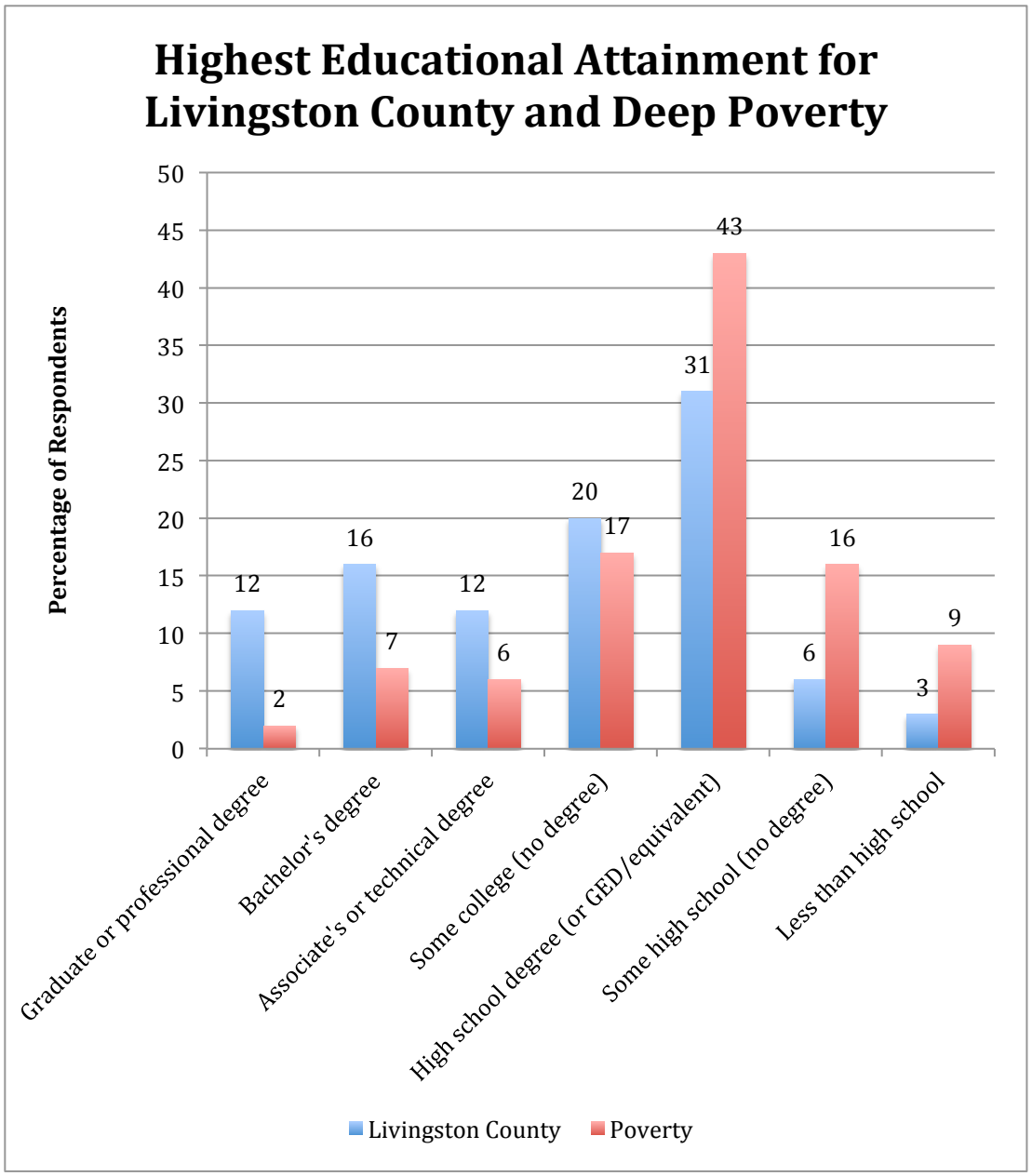


Overall demographics for race/ethnicity mirrored the secondary data assessed in Phase I. Comparing to Census data and the survey respondents, most ethnic backgrounds were similar to one another. However, higher percentages of individuals identifying Hispanic/Latino were included in the study.

6.3 Educational Attainment

Level of education for survey respondents was similar to Census data; however, note that 27% of those living in poverty have not completed high school.

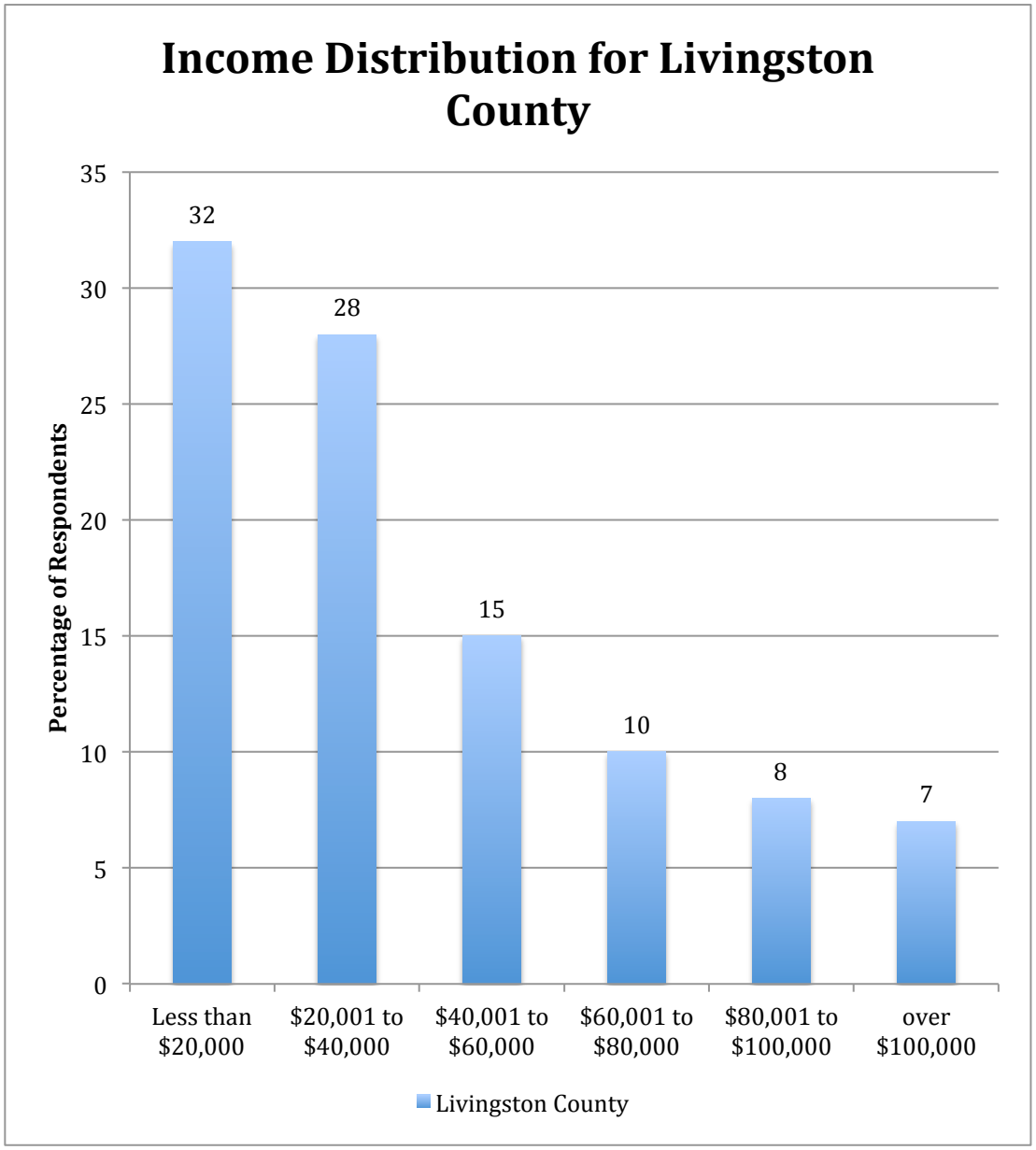
Table 6.3 Highest Educational Attainment for Livingston County and Deep Poverty



6.4 Income Distribution

Note that income distribution for survey respondents is skewed low, as 32% of the overall sample had an income level of less than $20,000. This is a result of the targeted efforts to survey the at-risk population.

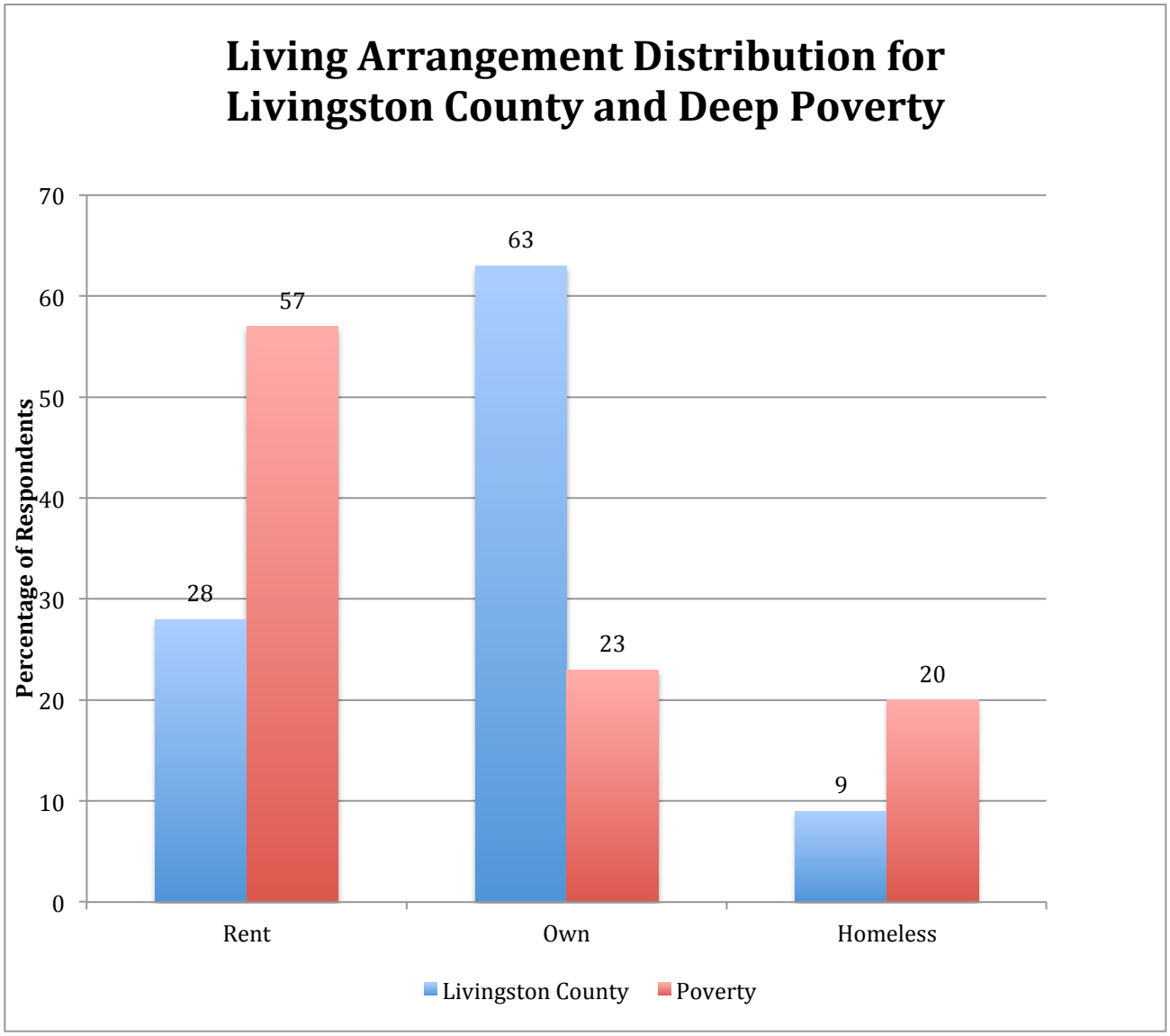
Table 6.4 Income Distribution for Livingston County



6.5 Living Arrangements

Note that overall, over twice as many respondents indicated they owned homes compared to those individuals who rented. To protect the dignity of homeless survey respondents, a specific choice of homeless was not available, rather there was a category for "other."

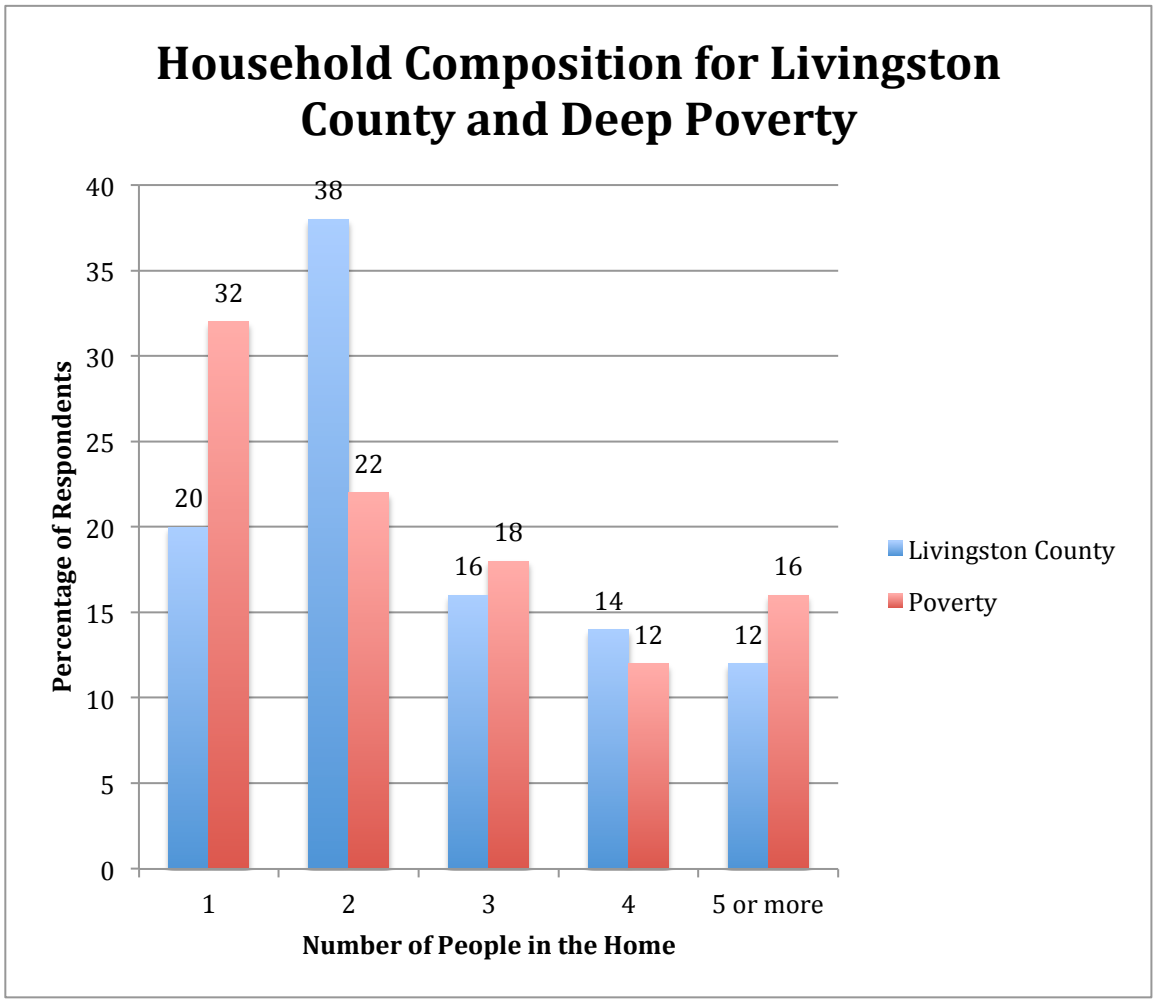
Table 6.5 Living Arrangement Distribution for Livingston County and Deep Poverty



6.6 Household Composition

Household composition is based on the number of individuals living in a household. Overall the most prevalent response was 2 people per household, with the exception of those living in deep poverty, where the most prevalent response was one individual living in a household.

Table 6.6 Household Composition for Livingston County and Deep Poverty



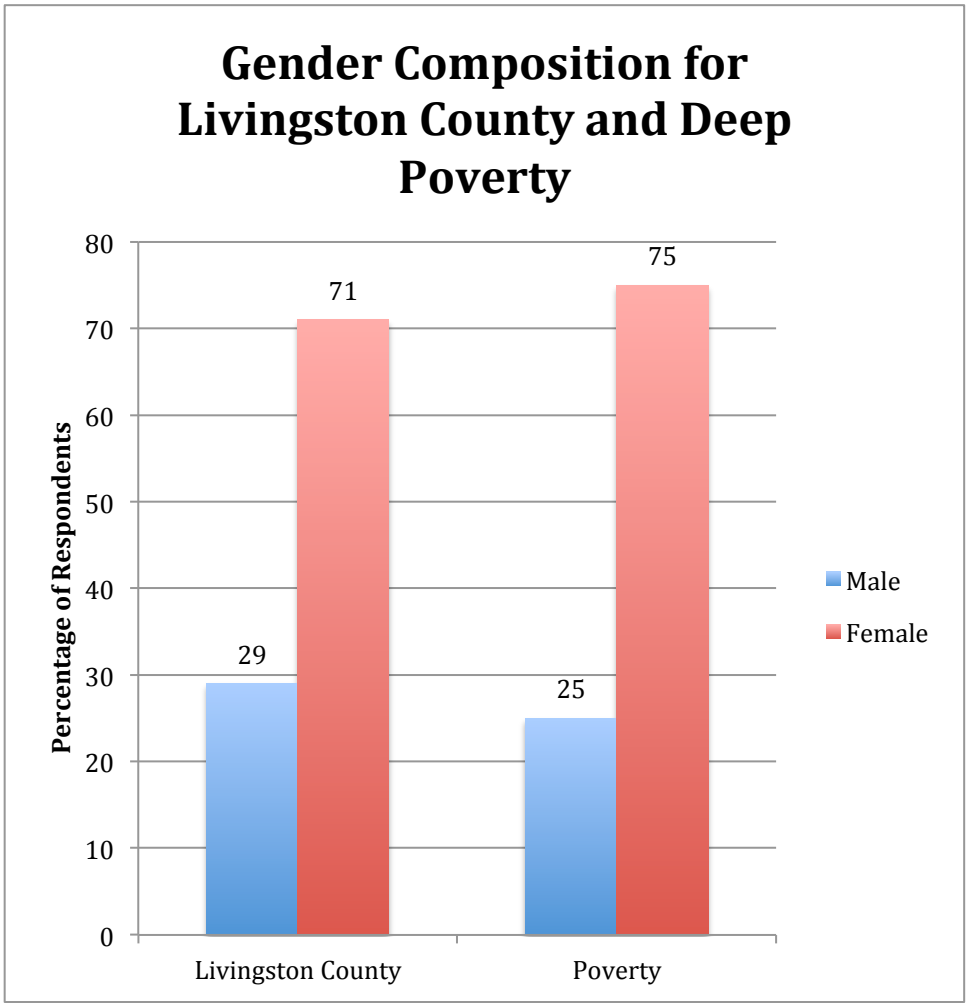
6.7 Employment Status

For employment status, overall, 42% of respondents were employed full time, 11% were employed part time, and 8.7% were unemployed. The rest of the population was either retired, in school, disabled, or served in the armed forces or was a homemaker.

6.8 Gender

The one demographic variable that was significantly skewed was gender. Overall 71% of respondents were women and 29% of respondents were men. According to Census data, men and women are evenly divided in Livingston County. For this type of survey, it is expected that women would be more likely to fill out the survey compared to men. Note that in a research study performed by the Heart of Illinois United Way in 2011, a positive correlation was found between women and concern for health-care related issues. Stated differently, women are more interested in participating in these types of surveys then men.

Table 6.8 Gender Composition for Livingston County and Deep Poverty



CHAPTER 7. COMMUNITY PERCEPTIONS

In this chapter results of the first three sections of the survey are analyzed and discussed. Specifically, perceptions of Health Problems in the Community, Unhealthy Behaviors and factors impacting Quality of Life are presented. First, aggregate scores are presented. Then responses are presented for those living in deep poverty. After each category, correlation analyses between perceptions and demographic variables are presented in order to identify where certain demographic characteristics influence the way respondents perceive specific attributes of the community.

Note that for aggregated perceptions of the Livingston County community, modifications to data were made given the skewed income data and skewed gender data. Therefore specific cases were selected randomly based on income and gender, in order to replicate the demographics of the community based on Census data. The sample used for aggregated analyses contains 811 responses.

7.1 Health Problems in the Community

7.1.1 Aggregated Results

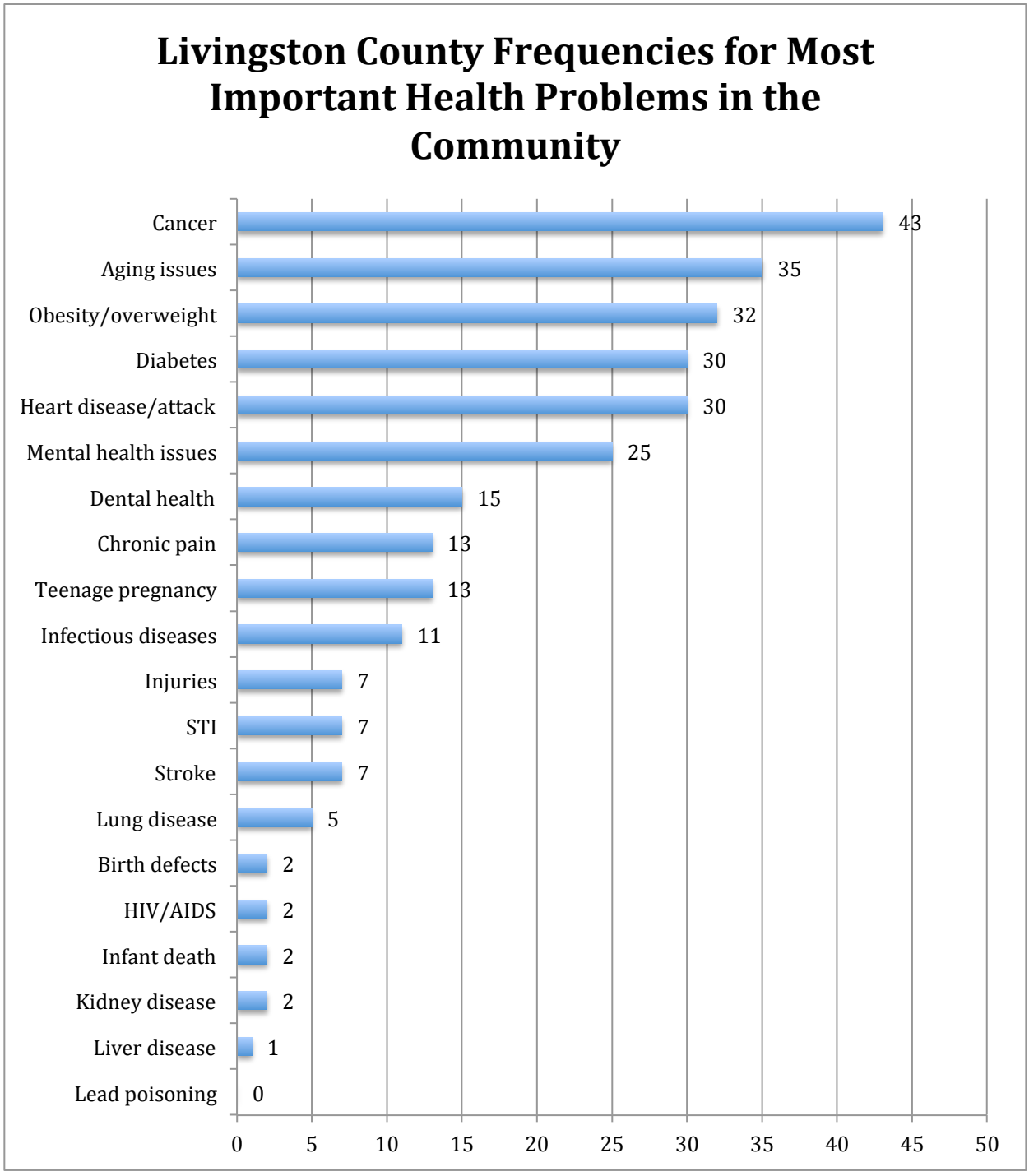
The first dimension of the survey asked respondents to rate the three most important health problems in the community. Respondents had a choice of 20 different options. The health problem that rated highest was cancer. It was significantly higher than other categories based on *t-tests* between sample means.

This was followed by aging issues, obesity, diabetes, and heart disease/attack, identified nearly 30-35% of the time. The next set of health problems identified were mental health and dental health. Other categories were only identified 15% of the time or less.

Note that perceptions of the community were accurate in some cases, but inaccurate in others. For example, while cancer is a leading cause of mortality in Livingston County, the number of cases treated has been steadily declining for some cancer types. Also, obesity is an important issue and the survey respondents accurately identified obesity as an important health problem.

In contrast, liver disease ranked 19th/20th on the list, yet this is the 5th leading cause of death in Livingston County.

Table 7.1.1 Livingston County Frequencies for Most Important Perceived Health Problems in the Community

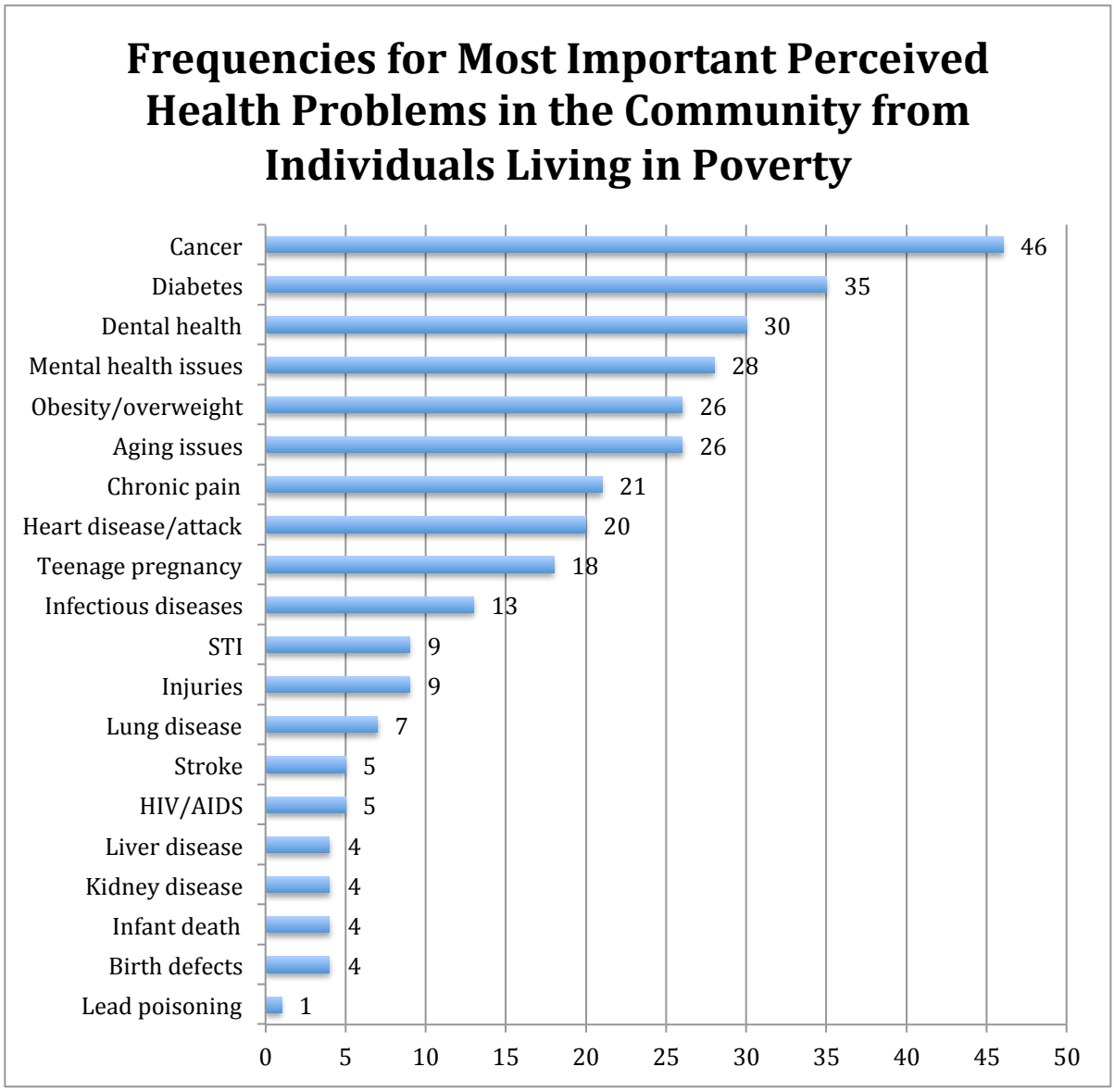


Note: n=811

7.1.2 Perceptions of Individuals Living in Poverty

When assessing perceptions of those living in poverty, it can be seen that some of the health problems change in terms of importance. For example, while many of the top perceived health problems remain constant, others become more important. For example, 21% of individuals living in poverty identified chronic pain as a concern and 30% of individuals living in poverty identified dental health as a concern.

Table 7.1.2 Frequencies for Most Important Perceived Health Problems in the Community from Individuals Living in Poverty



7.1.4 Relationships between Perceptions and Demographics

Only significant relationships are reported in this section. The threshold used for significant correlations is ($p < .05$) given the sample size. The following relationships can be identified.

Aging Issues tend to be rated higher by individuals with the following characteristics: Older and White ethnicity.

Birth Defects tend to be rated higher by individuals with less education and lower income.

Cancer tends to be rated higher by individuals with the following characteristics: older, White ethnicity, more education, and more income.

Chronic pain tends to be rated higher by individuals with the following characteristics: Less educated and lower income.

Dental health tends to be rated higher by individuals with the following characteristics: Younger, less educated, and lower income.

Diabetes tends to be rated higher by individuals of Black ethnicity, of Latino/a ethnicity, and less educated.

Heart disease/attack tend to be rated higher by people with the following characteristics: Men, older, White ethnicity, and higher income.

HIV/AIDS tends to be rated higher by people with the following characteristics: Younger.

Infant death tends to be rated higher by individuals identifying with Latino/a ethnicity and younger.

Infectious diseases tends to be rated higher by younger individuals and individuals identifying with Black ethnicity.

Injuries tends to be rated higher by people with the following characteristics: Men and younger. Injuries tends to be rated lower by people with the following characteristics: White ethnicity.

Kidney disease tends to be rated higher by individuals identifying with Latino/a ethnicity.

Liver disease tends to be rated higher by individuals with less education and lower income.

Lung disease tends to be rated higher by individuals with less education.

Mental Health Issues tend to be rated higher by younger individuals, individuals with more income and higher education, and individuals of White ethnicity. Mental health issues tend to be rated lower by people with the following characteristic: Black ethnicity.

Obesity/Overweight tends to be rated higher by people with the following characteristics: White ethnicity and lower income. Individuals of Black ethnicity are more likely to rate obesity lower.

STIs tend to be rated higher by people with the following characteristics: younger and Black ethnicity.

Stroke tends to be rated higher by older individuals.

"Teenage Pregnancy" tends to be rated higher by people with the following characteristics: younger.

Table 7.1.3 Significant Correlations among Most Important Perceived Health Problems in the Community and Demographic Variables

	Gender	Age	Race (White)	Race (Black)	Latino/a	Education	Income
Aging issues		+	+				
Birth defects						-	-
Cancer		+	+			+	+
Chronic pain						-	-
Dental health		-				-	-
Diabetes				+	+	-	
Heart disease/ Heart attack	-	+	+				+
HIV/AIDS		-					
Infant death		-			+		
Infectious diseases		-		+			
Injuries	-	-	-				
Kidney disease					+		
Lead poisoning							
Liver disease						-	-
Lung disease						-	
Mental health issues		-	+	-		+	+
Obesity/ overweight			+	-			-
STI		-		+			
Stroke		+					
Teenage pregnancy		-					

7.2 Unhealthy Behaviors

Respondents were asked to select the three most important unhealthy behaviors in the community out of a total of 14 choices based on importance. Again note that the modified sample of 811 was used for aggregated responses in order to more accurately reflect the characteristics of the Livingston County population.

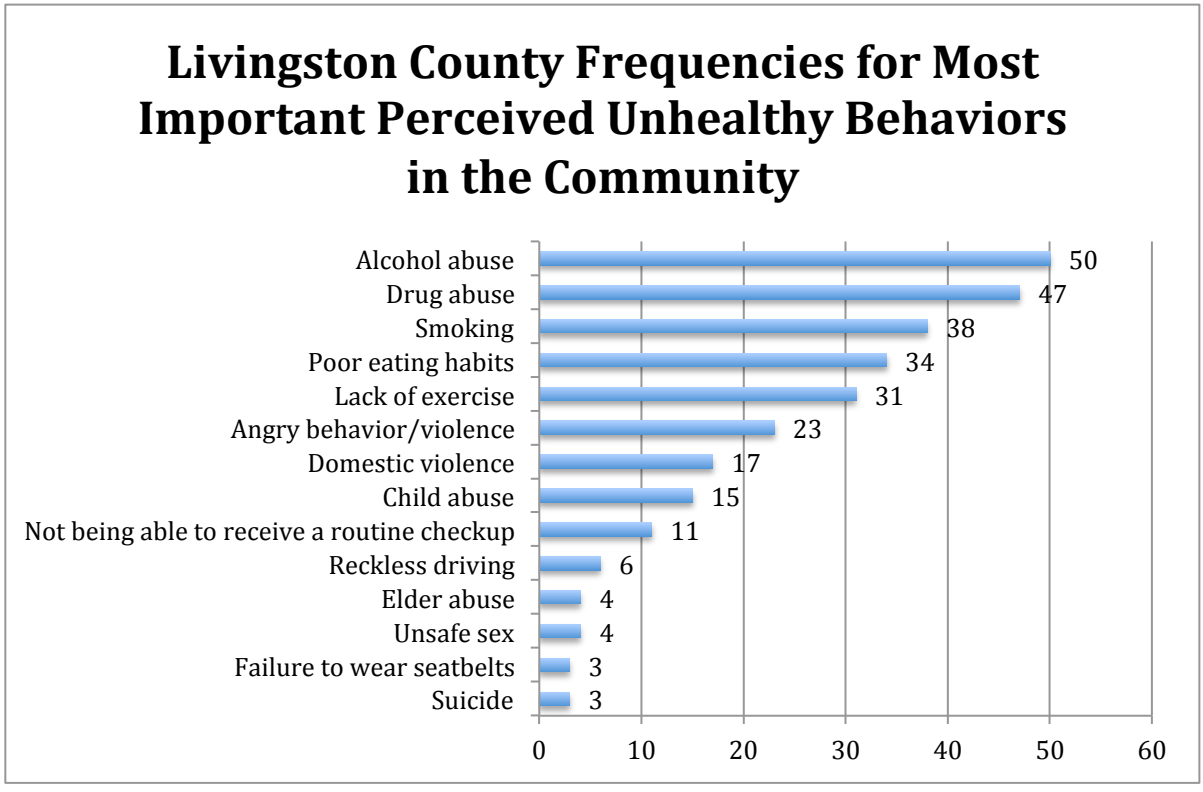
7.2.1 Aggregate Unhealthy Behaviors

The unhealthy behaviors that rated highest were alcohol abuse and drug abuse. They were both significantly higher than other categories based on *t-tests* between sample means.

This was followed by poor eating habits, lack of exercise, and smoking. Statistically, these three choices were rated similarly. The next unhealthy behaviors were general violence, domestic violence, and child abuse. Other categories were only identified 11% of the time or less.

Note that perceptions of the community were accurate in some cases, but inaccurate in others. For example, while drug and alcohol abuse are concerns Livingston County, the percentage of youths in 12th grade that smoke exceeds the State of Illinois averages.

Table 7.2.1 Livingston County Frequencies for Most Important Perceived Unhealthy Behaviors in the Community

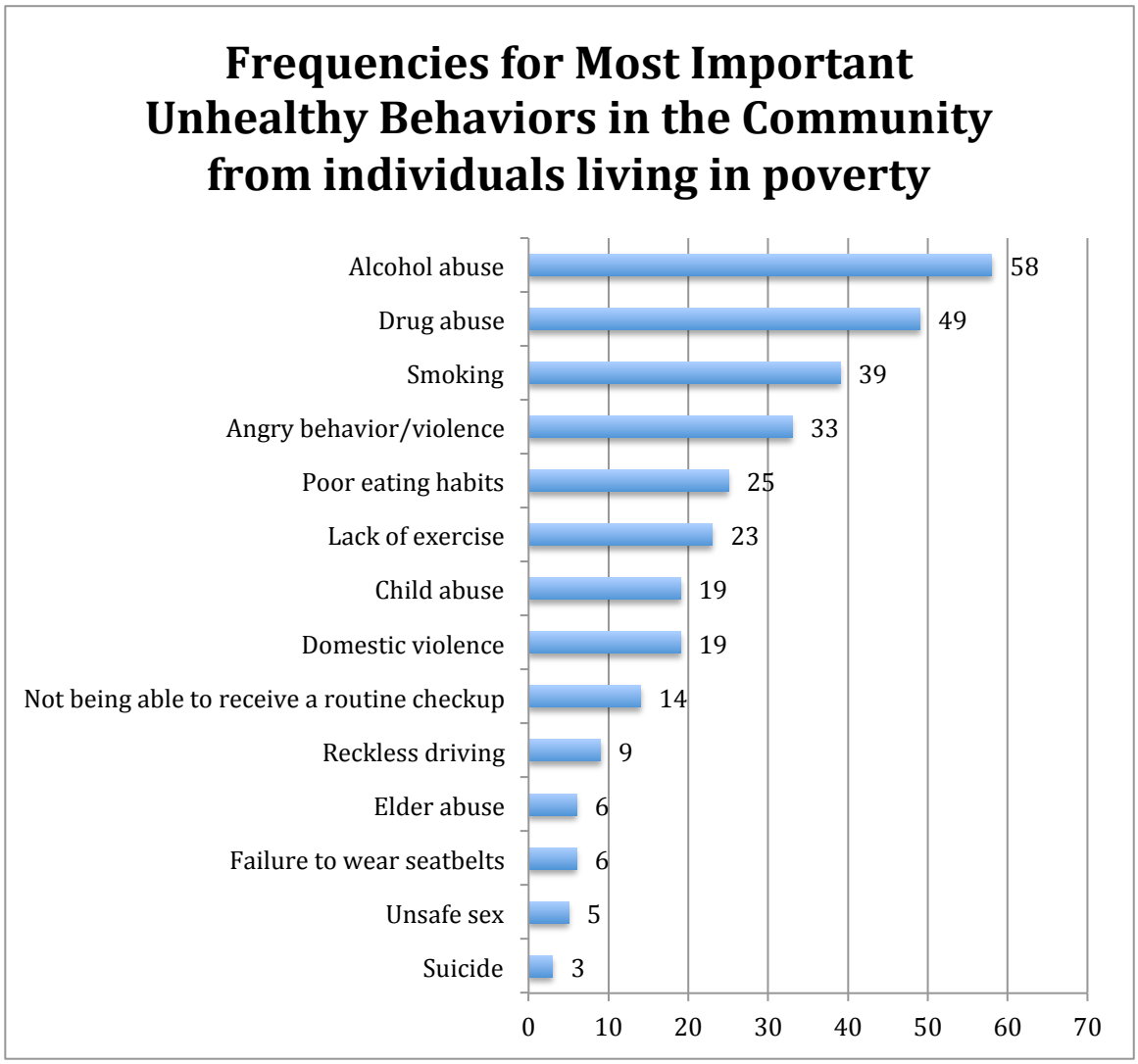


Note: n=811

7.2.2 Perceptions of Individuals Living in Poverty

When assessing perceptions of those living in poverty, it can be seen that major issues like alcohol abuse and drug abuse become slightly more important, indicating that individuals in poverty perceive more problems with substance abuse. Conversely, poor eating habits are perceived as being less important.

Table 7.2.2 Frequencies for Most Important Perceived Unhealthy Behaviors in the Community from Individuals Living in Poverty



7.2.3 Relationships between Perceptions and Demographics

Only significant relationships are reported in this section. The threshold used for significant correlations is ($p < .01$) given the large sample size. The following relationships can be identified.

Anger/Violence tends to be rated higher by individuals with the following characteristics: Black ethnicity.

Alcohol abuse tends to be rated higher by individuals with the following characteristics: White ethnicity and lower income.

Child abuse tends to be rated higher by individuals with the following characteristics: Women and less educated.

Failure to wear a seatbelt tends to be rated higher by individuals with the following characteristics: Younger.

Drug abuse tends to be rated higher by individuals identifying with White ethnicity.

Elder abuse tends to be rated higher by individuals identifying with lower education and older individuals.

Lack of exercise tends to be rated higher by people with the following characteristics: Men, White ethnicity, more educated, and higher income.

Poor eating habits tends to be rated higher by people with the following characteristics: Older, more education, White ethnicity, and higher income.

Smoking tends to be rated higher by people with the following characteristics: Younger and White ethnicity.

Suicide tends to be rated higher by younger individuals and less educated individuals.

Unsafe sex tends to be rated lower by individuals with the following characteristics: Younger.

Table 7.2.3 Significant Correlations among Most Important Perceived Unhealthy Behaviors in the Community and Demographic Variables

	Gender	Age	Race (White)	Race (Black)	Latino/a	Education	Income
Angry behavior/violence				+		-	
Alcohol abuse			+				-
Child abuse	+					-	
Domestic violence							
Failure to wear seatbelts		-					
Drug abuse			+				
Elder abuse		+				-	
Lack of exercise	-		+			+	+
Not being able to receive a routine checkup							
Poor eating habits		+	+			+	+
Reckless driving							
Smoking		-	+				
Suicide		-				-	
Unsafe sex		-					

7.3 Issues with Quality of Life

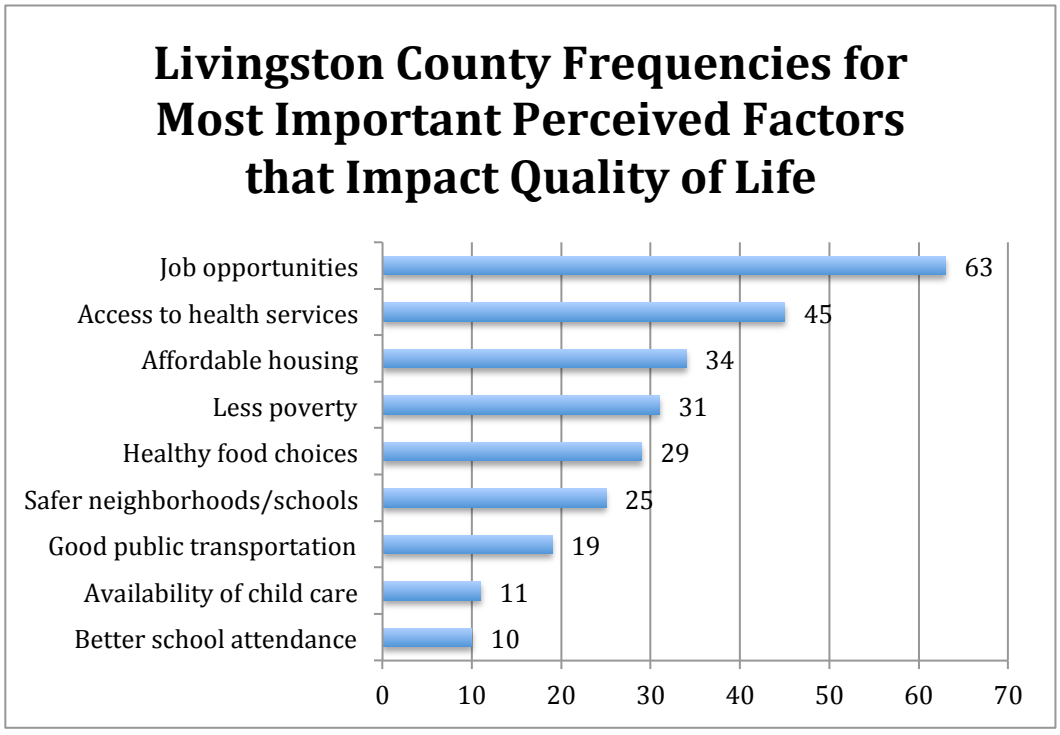
Respondents were asked to select the three most important issues impacting quality of life in the community out of a total of 9 choices based on importance. Again note that the modified sample of 811 was used for aggregated responses in order to more accurately reflect the characteristics of Livingston County.

7.3.1 Aggregate issues impacting quality of life

The issues impacting quality of life that rated highest were job opportunities and access to health services. They were both significantly higher than other categories based on *t-tests* between sample means. It is not surprising that job opportunities was rated high given the recent recession.

This was followed by access to health services, affordable housing, less poverty, and healthy food choices. Statistically, these four choices were rated similarly. This was followed by safer neighborhoods and transportation.

Table 7.3.1 Livingston County Frequencies for Most Important Perceived Factors that Impact Quality of Life

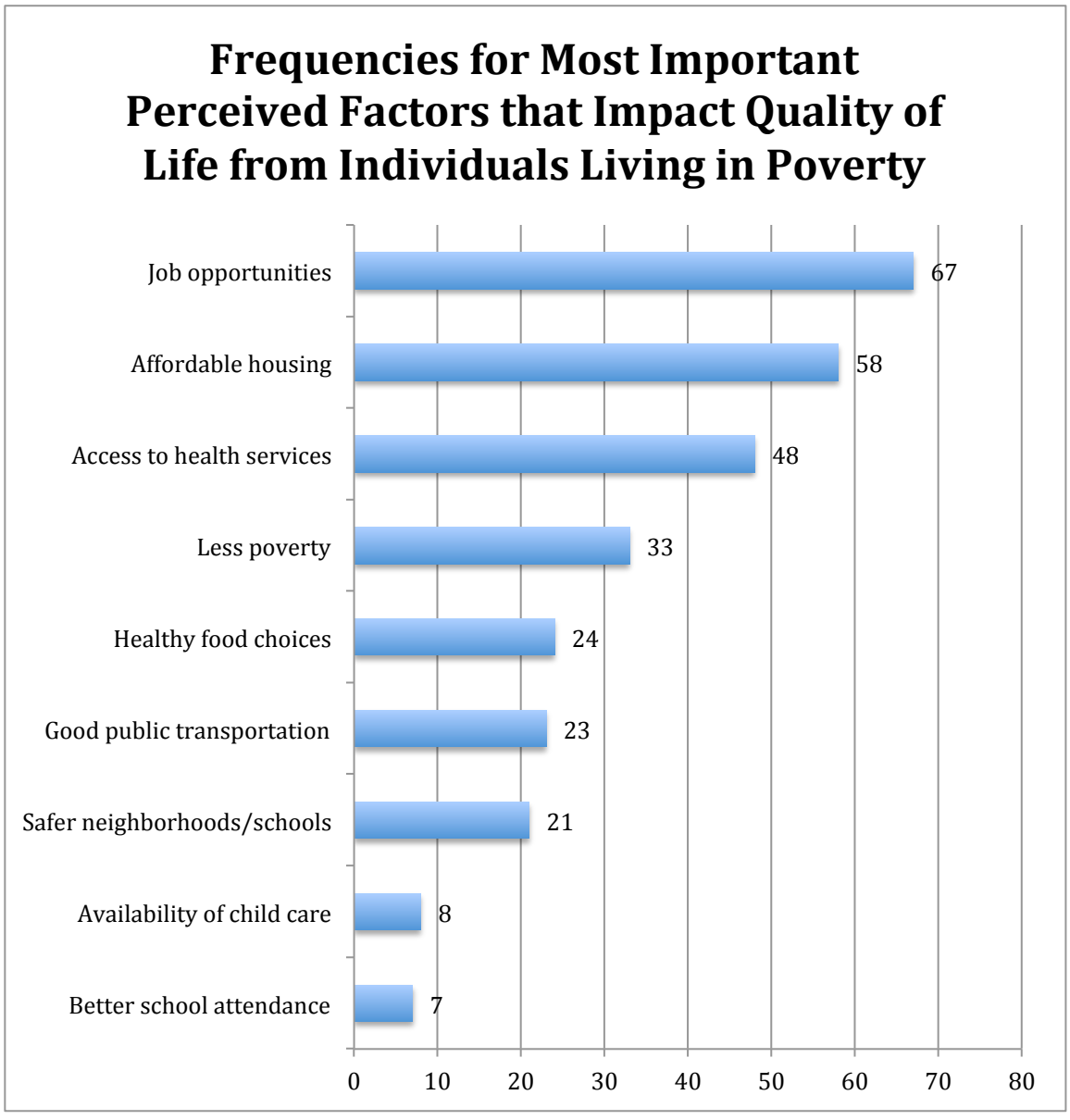


Note: n=811

7.3.2 Perceptions of Individuals Living in Poverty

When assessing perceptions of those living in poverty, it can be seen that perceptions are similar to the aggregated sample. Affordable housing and good public transportation are significantly more important to individuals living in poverty than those from the aggregated sample.

Table 7.3.2 Frequencies for Most Important Perceived Factors that Impact Quality of Life from Individuals Living in Poverty



7.3.3 Relationships between Perceptions and Demographics

Only significant relationships are reported in this section. The threshold used for significant correlations is ($p < .01$) given the large sample size. The following relationships can be identified.

Access to health services tend to be rated higher by individuals with the following characteristics: Older and White ethnicity. Individuals of Black ethnicity tend to rate it lower.

Affordable housing tend to be rated higher by people with the following characteristics: Women, younger, Black ethnicity, less educated, and lower income.

Availability of child care tends to be rated higher by younger people.

Better school attendance tends to be rated higher by men and individuals with higher incomes.

Job opportunities tend to be rated higher by individuals identifying with White ethnicity, Latino/ethnicity, and younger individuals.

Public transportation tends to be rated higher by younger people. Individuals of White ethnicity tend to rate it lower.

Healthy food choices tends to be rated higher by individuals identifying with White ethnicity and higher incomes.

Less poverty tends to be rated higher by individuals identifying with White ethnicity.

Safer neighborhoods tends to be rated higher by individuals identifying with White ethnicity.

Table 7.3.3 Significant Correlations among Most Important Perceived Factors that Impact Quality of Life and Demographic Variables

	Gender	Age	Race (White)	Race (Black)	Latino/a	Education	Income
Access to health services		+	+	-			
Affordable housing	+	-		+		-	-
Availability of child care		-					
Better school attendance	-						+
Job opportunities		-	+		+		
Good public transportation		-	-				
Healthy food choices			+				+
Less poverty			+				
Safer neighborhoods/schools			+				

Community Perceptions: Strategic Implications

Heart disease appears to be perceived relatively low compared to actual causes of mortality. Specifically, younger people and low-income respondents appear to have the largest misperceptions regarding the importance of understanding heart disease in the community.

Additionally, dental health seems to be rated relatively low, even though annual dental checkups are lower than state averages. Respondents with higher incomes, more education, and older appeared to have the largest misperceptions.

Finally, there appears to be a misperception between perceived issues with kidney disease and actual deaths resulting from kidney disease.

CHAPTER 8. ACCESSIBILITY TO HEALTH CARE

In this chapter, results examining access to health services are presented. Specifically, access to medical care, prescription medication, dental care and counseling are presented. First, scores are presented for Livingston County. Next, responses are presented for those living in deep poverty. After each category, relationships between accessibility and demographic variables are presented in order to identify where certain demographic characteristics influence access to health services.

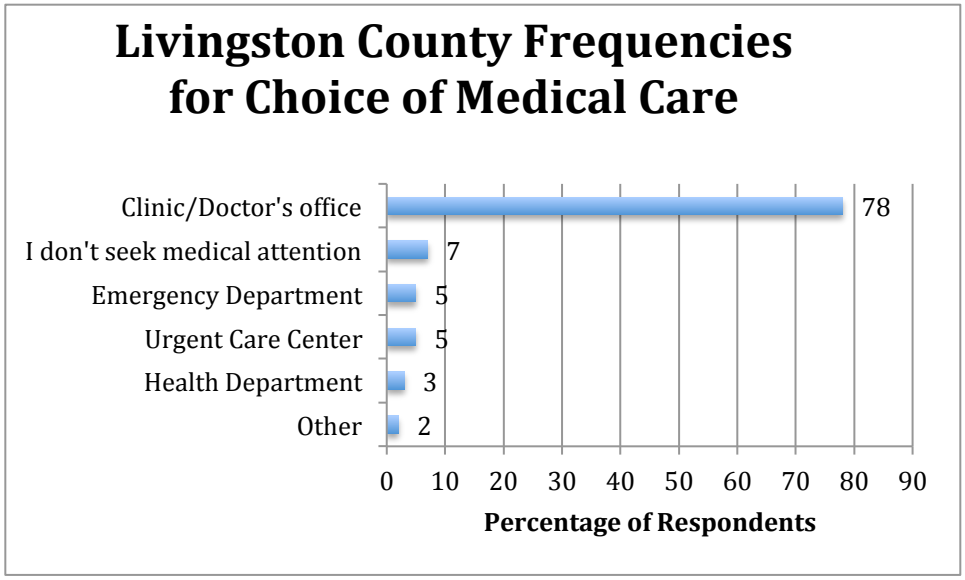
8.1 Choice of Medical Care

Respondents were asked to select the type of health care they used when they were 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 811 was used for aggregated responses in order to more accurately reflect the demographic characteristics for Livingston County.

8.1.1 Aggregate Reponses

The most common response was clinic/doctor's office, where 78% of survey respondents chose this as their primary choice for medical care. This was followed by not seeking medical attention (7%), the emergency department at a hospital (5%), urgent care (5%), the health department (3%), and other (2%). Note that respondents may have interpreted the Health Department as a clinic.

Table 8.1.1 Livingston County Frequencies for Choice of Medical Care

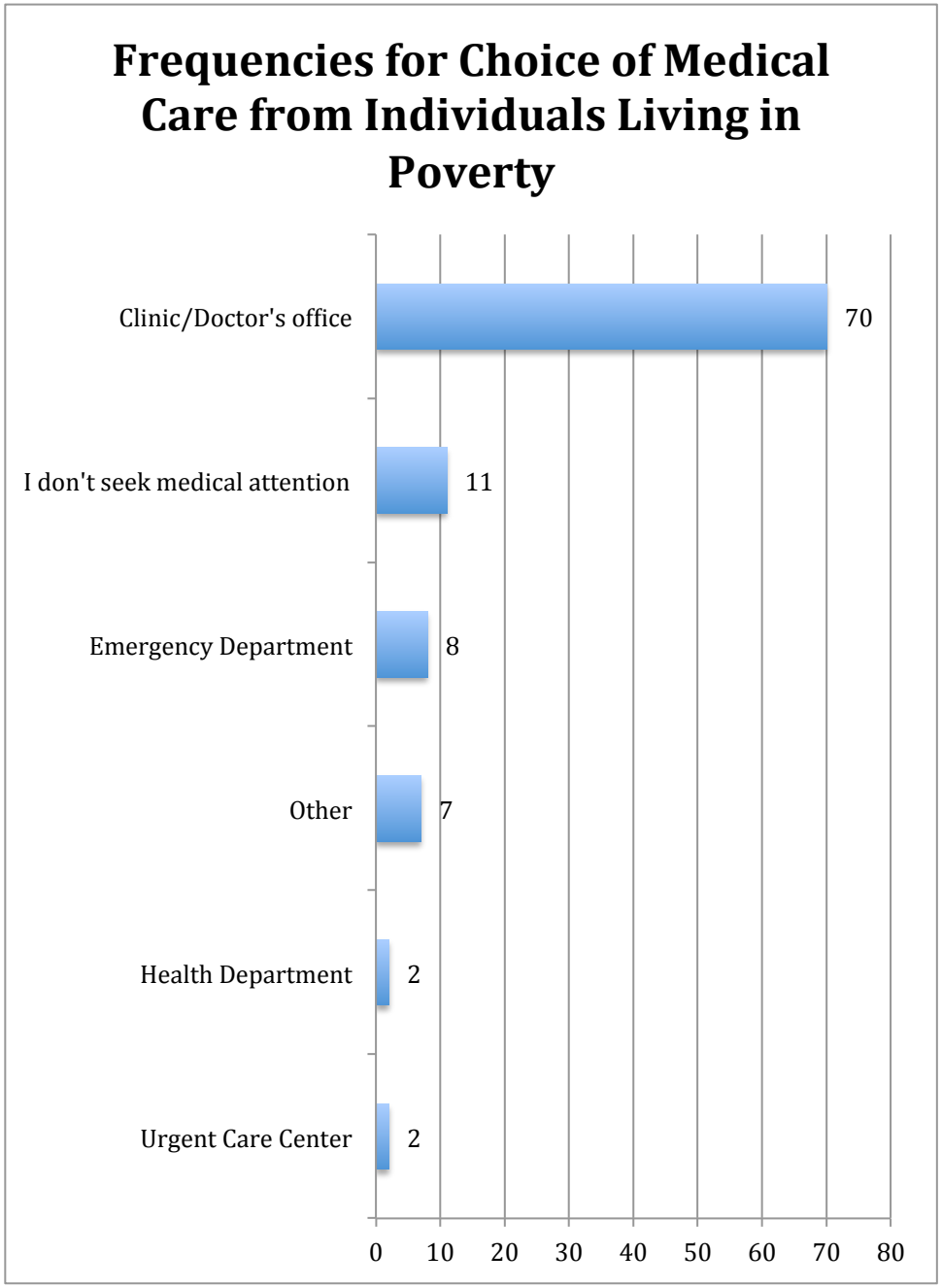


n=811

8.1.2. Perceptions of individuals living in poverty

Note that for individuals living in poverty, 70% choose a clinic/doctor's office as their first choice for medical care and 11% of individuals living in poverty do not seek medical attention. Eight percent utilize the emergency department when sick and 7% indicate "other".

Table 8.1.2 Frequencies for Choice of Medical Care from Individuals Living in Poverty



8.1.3 Relationships between Choice of Medical Care and Demographics

Note that for Chapter 8 and 9 the homeless are added as a demographic variable.

Health department tends to be rated higher by people with the following characteristics: men, Latino/a ethnicity, higher income and less educated. Individuals identifying with White ethnicity tend to rate it lower.

Emergency department tends to be rated higher by people with the following characteristics: men, Black ethnicity, less education, and lower income.

Clinic/Doctor's office tends to be rated higher by people with the following characteristics: women, older, white ethnicity, more education, and higher income. Individuals of Black ethnicity and Latino/a ethnicity tend to rate it lower.

Don't seek medical treatment tends to be rated higher by people with the following characteristics: men, younger and lower income.

Urgent Care Center tends to be higher by individuals of Latino/a ethnicity.

Table 8.1.3 Significant Correlations among Choice of Health Care and Demographic Variables

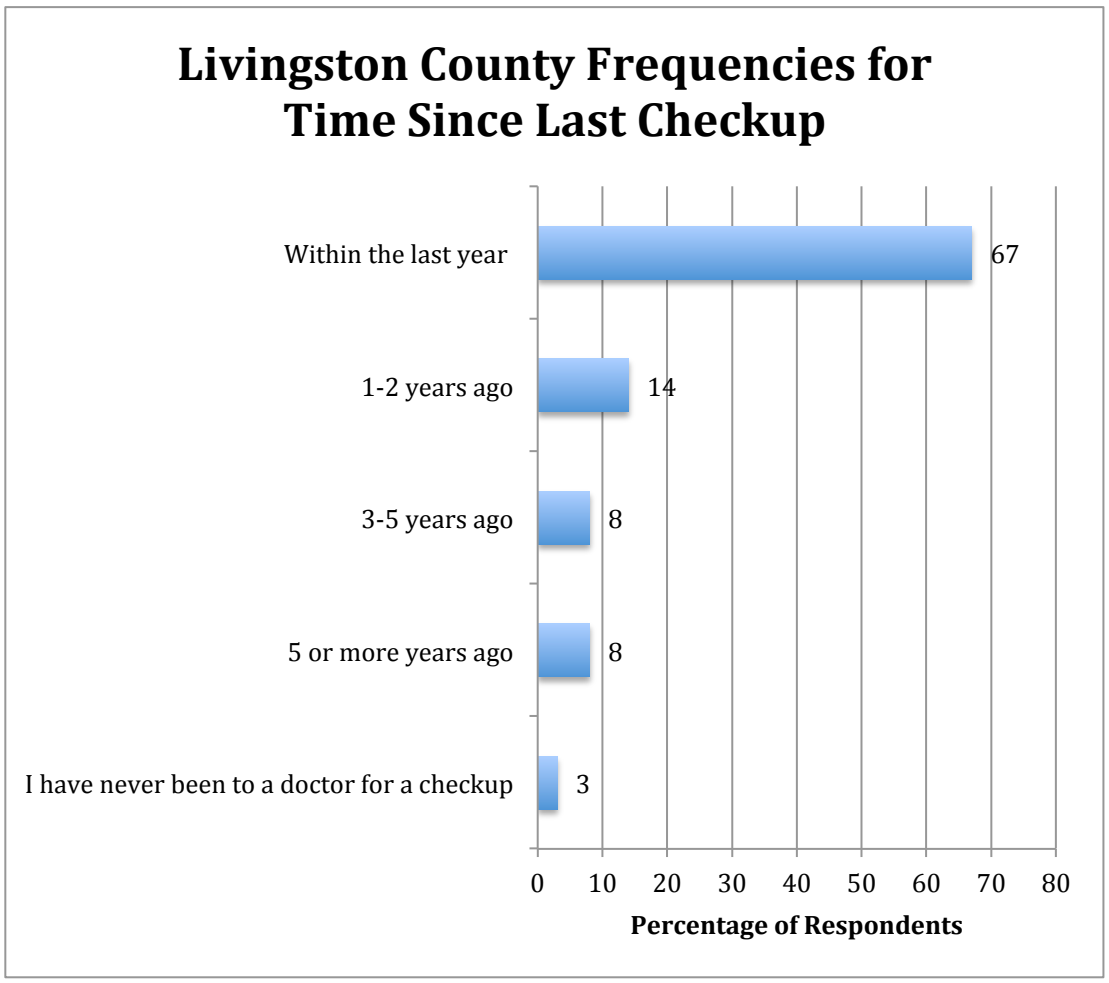
	Gender	Age	Race (White)	Race (Black)	Latino/a	Education	Income
Health Department	-		-		+	-	+
Emergency Department	-			+		-	-
Clinic/Doctor's office	+	+	+	-	-	+	+
I don't seek medical attention	-	-					-
Urgent Care Center					+		

8.2 Frequency of Checkups

8.2.1 Aggregated responses

Respondents were asked how often they had a checkup. Of respondents, 67% received a checkup in the last year, 14% in the past 1-2 years, 8% in the last 3-5 years, 8% 5 years or more and 3% have never been to a doctor's office for a checkup. The modified sample of 811 was used for aggregated responses in order to more accurately reflect the demographic characteristics of Livingston County.

Table 8.2.1 Livingston County Frequencies for Time Since Last Checkup

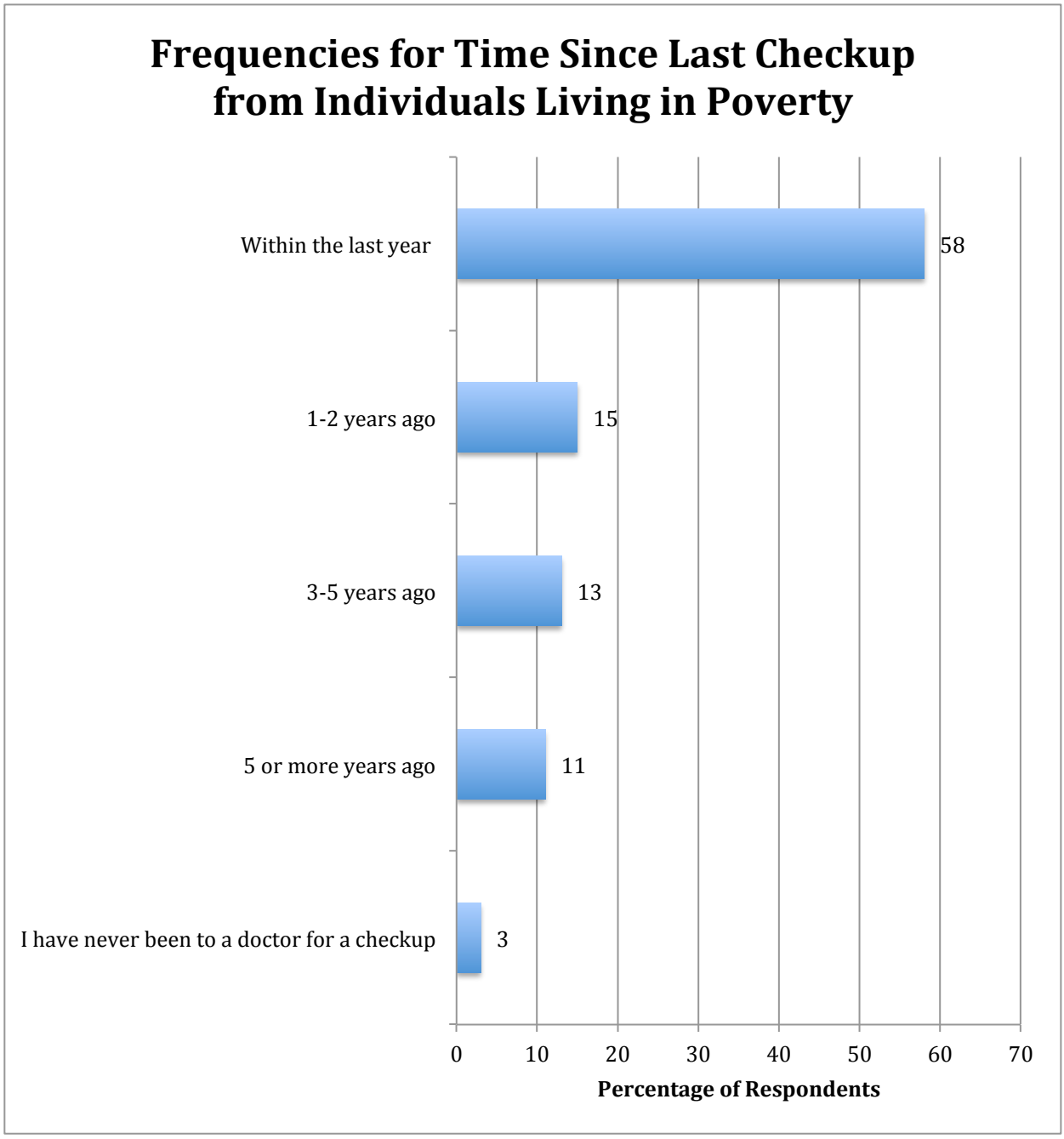


Note: n=811

8.2.2 People living in poverty

Note that people living in poverty were different than the aggregated population when going to a doctor for a checkup. Specifically, 27% of people living in deep poverty had not seen a doctor in 3 or more years.

Table 8.2.2 Frequencies for Time Since Last Checkup from Individuals Living in Poverty



8.2.3 Relationships between frequency of checkups and demographics

The data show that younger people, individuals with lower income, individuals identifying with Latino/a ethnicity, and homeless individuals are less likely to get a checkup at a doctor's office. Moreover, results of Ordinary-Least-Squared regression models show that homelessness is the most important predictor, followed by income and age, based on significance levels of *beta* coefficients.

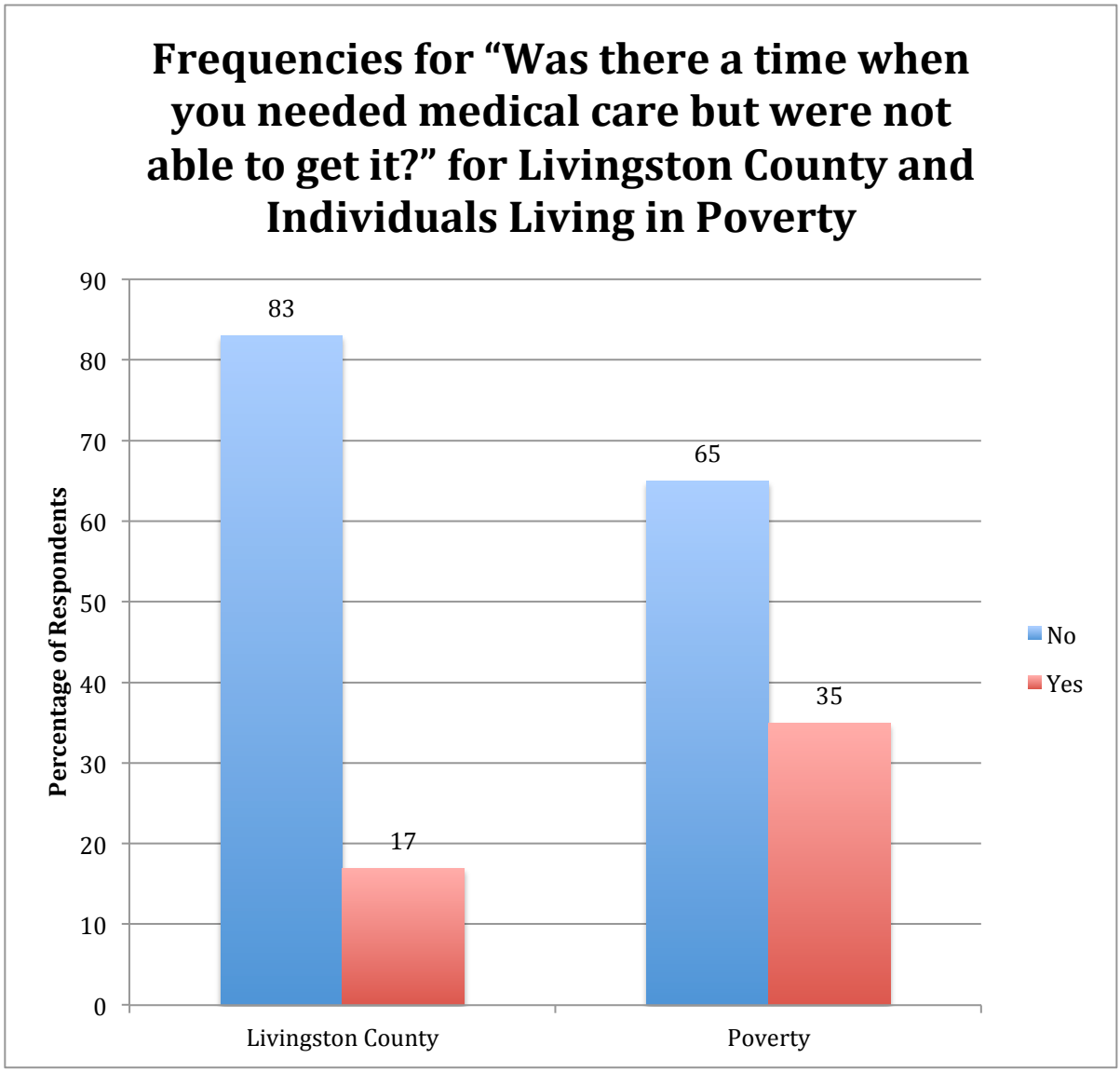
Table 8.2.3 Significant Correlations for Time Since Last Checkup

Age	-
Latino/a	+
Income	-
Homeless	+

8.3 Access to Medical Care

Respondents were asked, "Was there a time when you needed medical care but were not able to get it?" 83% of Livingston County residents were able to receive medical care, however compared to individuals living in deep poverty, only 65% were able to receive medical care. Put differently, 35% of individuals living in poverty could not get access to medical care when necessary.

Table 8.3.1 Frequencies for "Was there a time when you needed medical care but were not able to get it?" for Livingston County and Individuals Living in Poverty



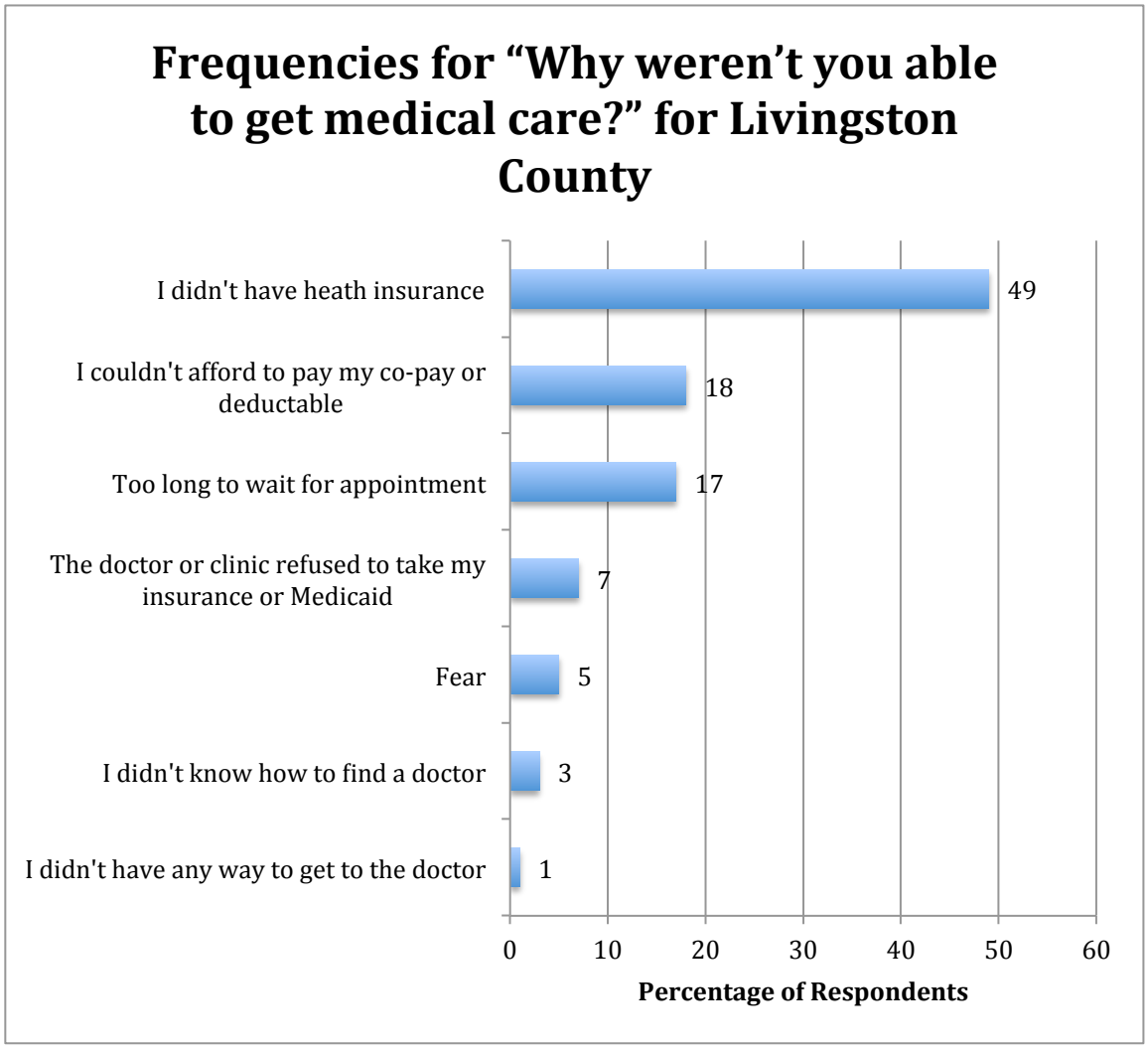
For relationships between access to medical care and demographics, note that the relationships are reverse coded. Therefore a survey respondent was more likely to answer that they did not have access to medical care if they were younger, less educated, possessed lower income, were of non-White ethnicity, and were homeless. Logit regression results indicate that less education, younger people and homeless were the most important predictors respectively, based on significance levels of *beta* coefficients.

Table 8.3.2 Significant Correlations for "Was there a time when you needed medical care but were not able to get it?"

Age	-
Education	-
Income	-
Homeless	+
Race (White)	-

The leading causes of why someone did not have access to medical care were no insurance (49%) and the inability to afford copayments or deductibles (18%). This was followed by too long to wait for an appointment (17%) and the doctor refusing to accept insurance or Medicaid (7%). Note that total percentages do not equal 100% as respondents could choose more than one answer.

Table 8.3.3.1 Frequencies for "Why weren't you able to get medical care?" for Livingston County



Note: n=188

8.3.3.2 Relationships between Needing Medical Care and Demographics

No insurance tends to be rated higher by people with the following characteristics: younger, Black ethnicity, less educated, lower income, and homeless.

Can't afford copay/deductible tends to be rated higher by people with the following characteristics: homeless.

No way to get to the Doctor tends to be rated higher by people with the following characteristics: less educated.

Too long to wait for an appointment tends to be rated higher by individuals with more education.

Fear tends to be rated higher by individuals with more education

Table 8.3.3.2 Significant Correlations for "Was there a time when you needed medical care but were not able to get it?"

	Gender	Age	Race (White)	Race (Black)	Latino/a	Education	Income	Homeless
No Insurance		-		+		-	-	+
Can't afford copay/deductable								+
No way to get to Doctor						-		
Refused my insurance/Medicaid								
I don't know how to find a doctor								
Too long for an appointment						+		
Fear						+		

8.4 Access to Prescription Drugs

Respondents were asked, "Was there a time when you needed prescription medicine but were not able to get it?" 80% of Livingston County residents were able to receive prescription medicine, however compared to individuals living in deep poverty, only 56% were able to receive prescription drugs. Put differently, 44% of individuals living in poverty could not get access to medical care when necessary.

For relationships between access to prescription medications and demographics, logit regression results indicate that homeless was the most important predictor, based on significance levels of *beta* coefficients.

Table 8.4.1 Frequencies for "Was there a time when you needed prescription medicine but were not able to get it?" for Livingston County and Individuals Living in Poverty

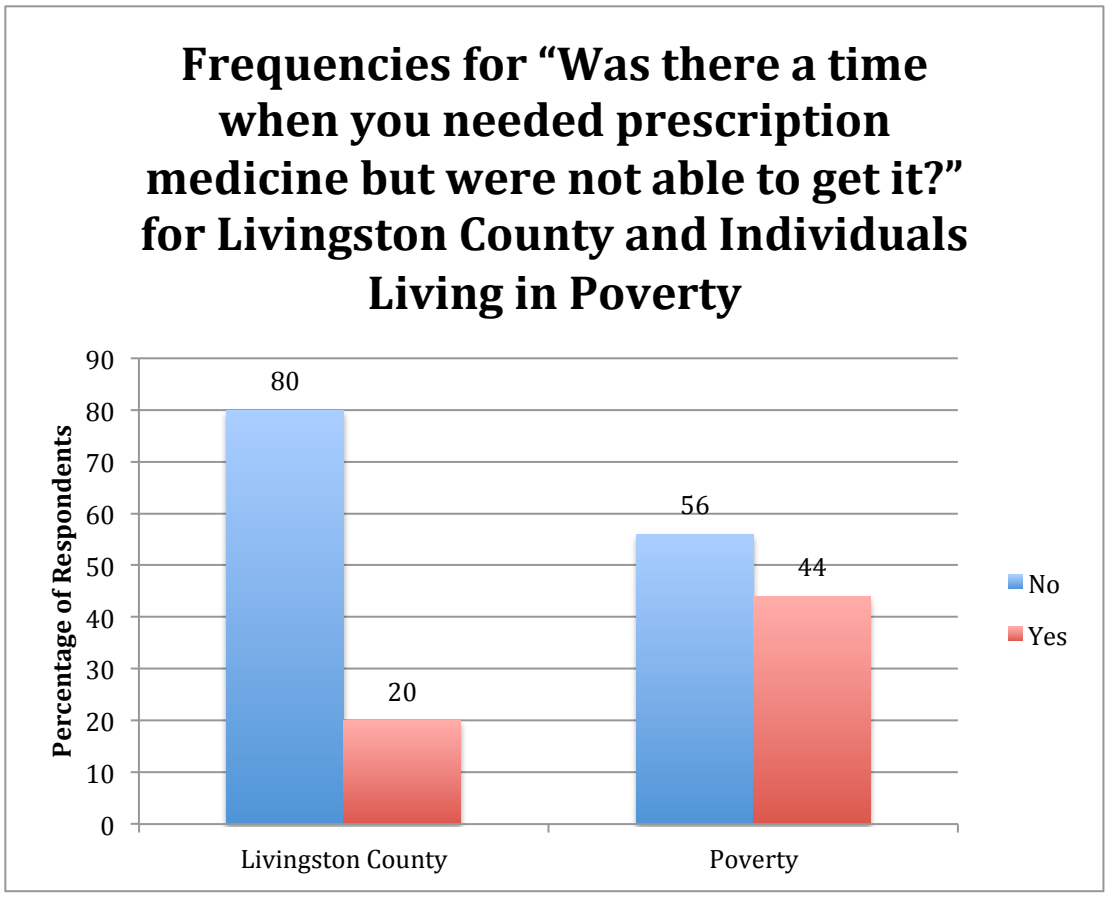


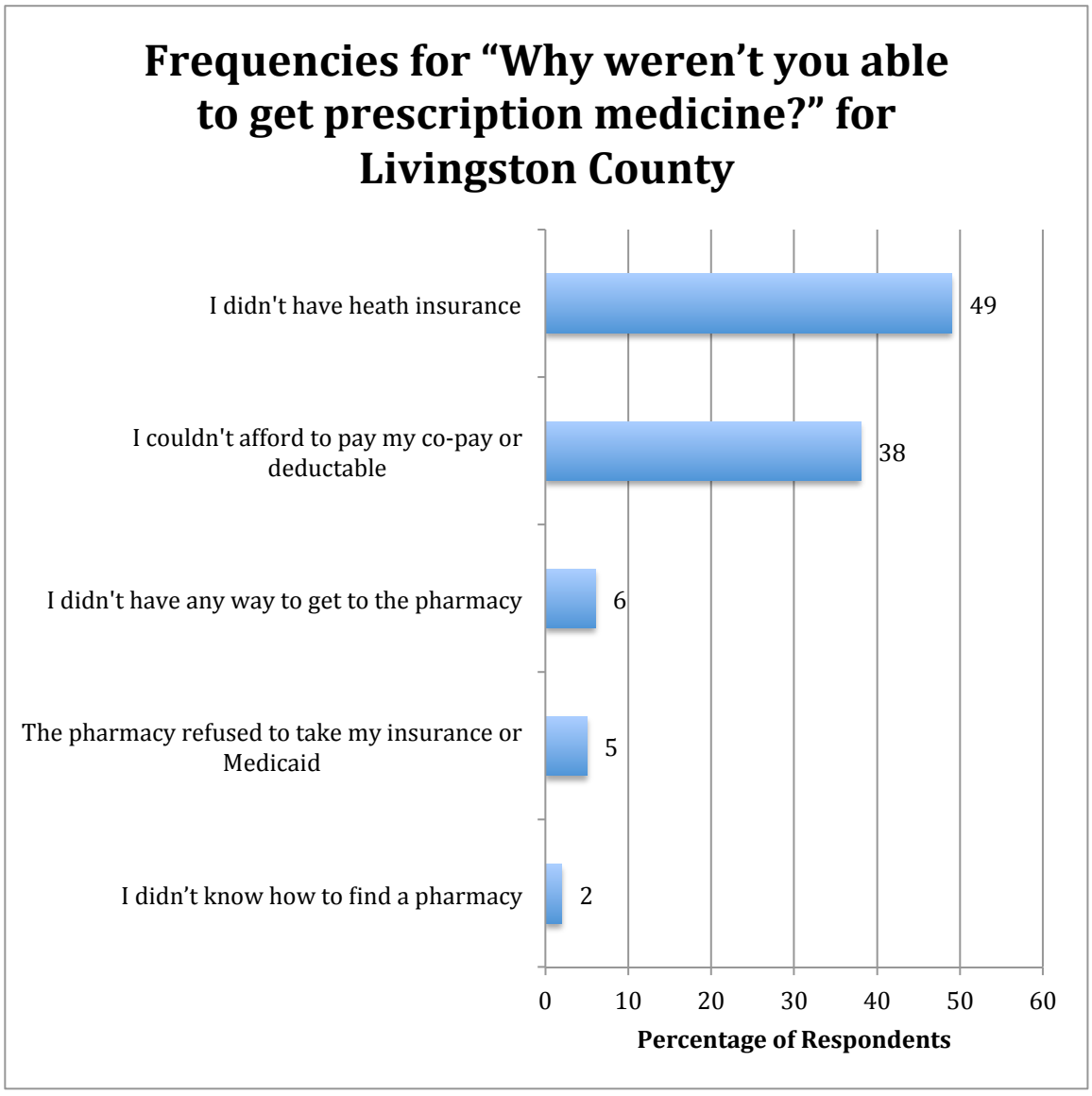
Table 8.4.2 Significant Correlations for "Was there a time in the last year when you needed prescription medication and were unable to get it?"

Age	-
Race (White)	-
Latino/a	+
Education	-
Income	-
Homeless	+

For relationships between needing prescription drugs and demographics, note that the relationships are reverse coded. Therefore a survey respondent was more likely to answer that they did not have access to prescription drugs if they were older, of non-White ethnicity, possessed less education, were of lower income, or were homeless.

The leading causes of why someone did not have access to prescription medicine were no insurance (49%) and the inability to afford copayments or deductibles (38%). This was followed by no way to get to the pharmacy (6%). Note that total percentages do not equal 100% as respondents could choose more than one answer.

Table 8.4.3 Frequencies for "Why weren't you able to get prescription medicine?" for Livingston County



Note: n=188

Table 8.4.4 Significant Correlations for Reasons Why Individuals Were Not Able to Obtain Prescription Medication in the Past Year

	Gender	Age	Race (White)	Race (Black)	Latino/a	Education	Income
No Insurance	-	-	-			-	-
Can't afford copay/deductable	+	+	+				

Note that "No Insurance" tends to be rated higher by people with the following characteristics: men, younger, less educated, and lower income. Individuals of White ethnicity tend to rate it lower. Finally, "can't afford copay" tends to be rated higher by women, older individuals, and individuals identifying with White ethnicity.

8.5 Access to Dental Care

Respondents were asked when was the last time that they had a dental checkup. Residents in Livingston County indicated that 56% of residents have had a dental checkup in the last year. For those living in deep poverty, only 22% had a dental checkup in the last year.

Note that Ordinary-Least-Squared regression modeling indicates that age and non-White/non-Latino rated access to dental checkups lower, based on significance levels of *beta* coefficients.

Table 8.5.1 Frequencies for Time Since Last Dental Checkup for Livingston County and Individuals Living in Poverty

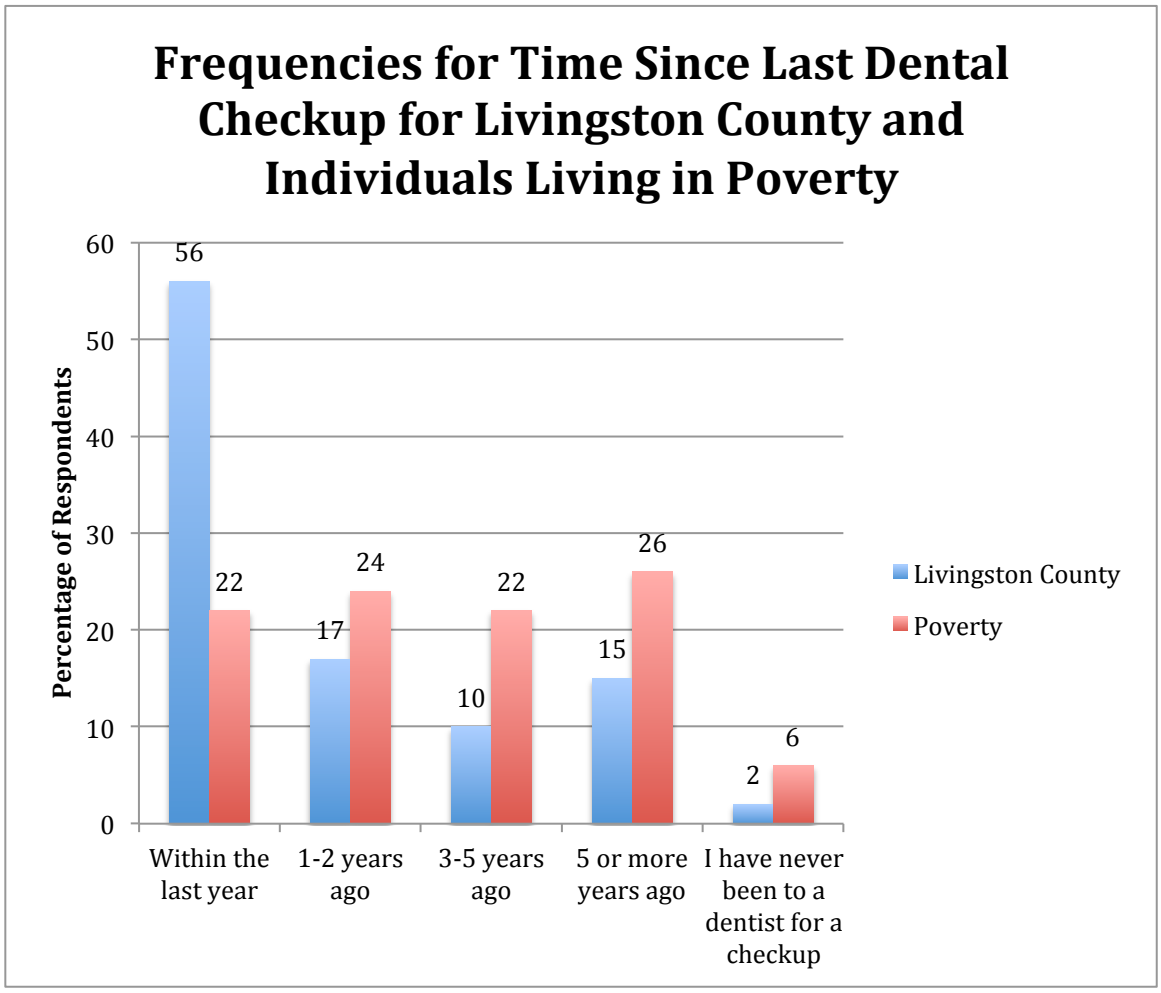


Table 8.5.2 Significant Correlations for Time Since Last Dental Checkup

Age	-
Race (White)	-
Latino/a	+
Education	-
Income	-
Homeless	+

For relationships between time since last dental checkup and demographic variables, note that the relationships are reverse coded. Therefore a survey respondent was more likely to answer that a longer time has passed since his or her last dental checkup if they were younger, they were of non-White ethnicity, they possessed less education, they possessed less income, and were homeless.

Respondents were then asked, "Was there a time when you needed dental care but were not able to get it?" Note that for Livingston County, only 23% respondents indicated that they were unable to obtain dental care when they needed it. Compared to the figures for people living in poverty, 49% indicated that they could not get access to dental care when necessary.

Logistic regression modeling indicated that lower income, younger age, lower education and non-White residents were more likely not to have access to dental care, based on significance levels of *beta* coefficients.

Table 8.5.3 Frequencies for "Was there a time when you needed dental care but were not able to get it?" for Livingston County and Individuals Living in Poverty

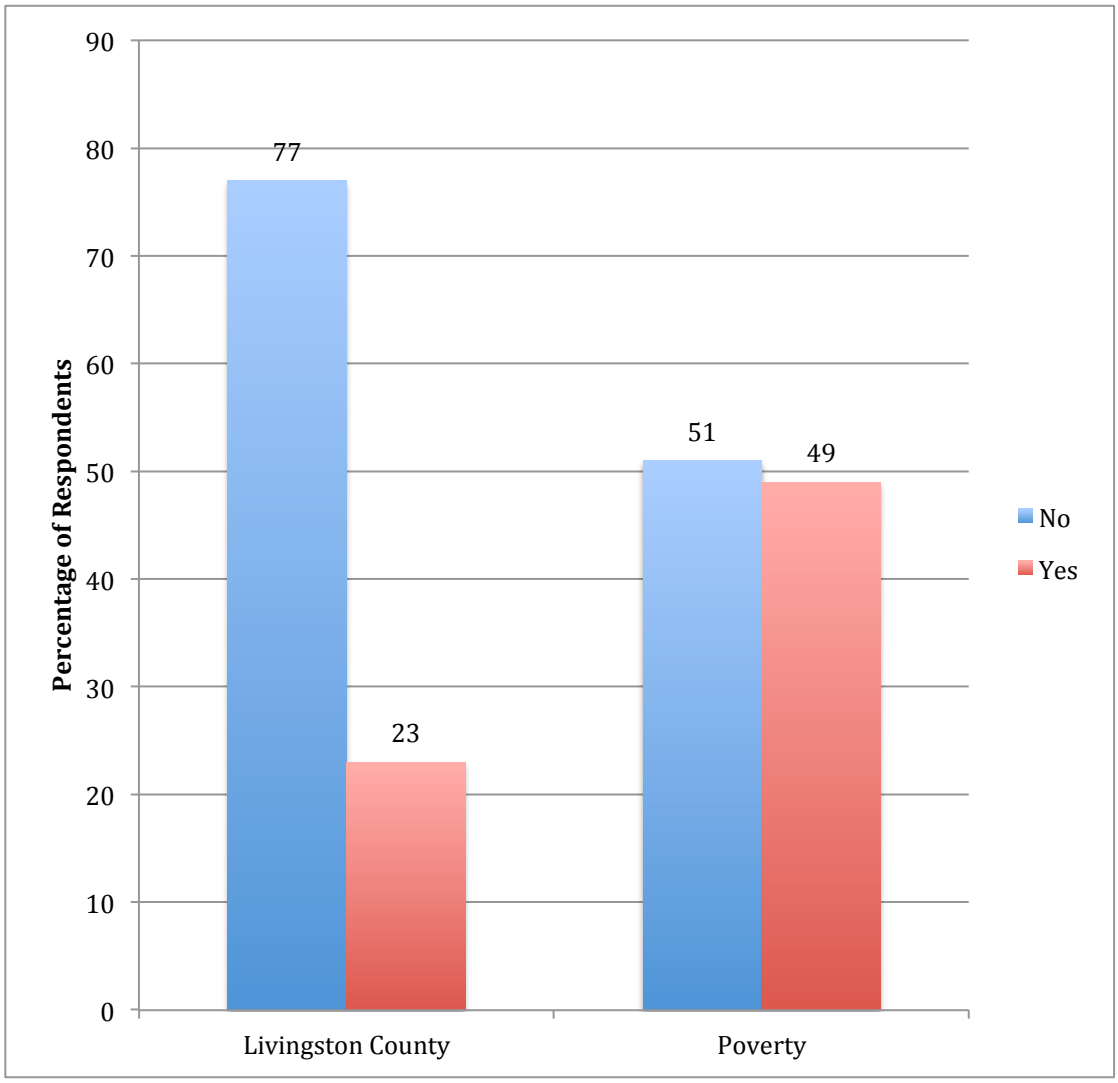


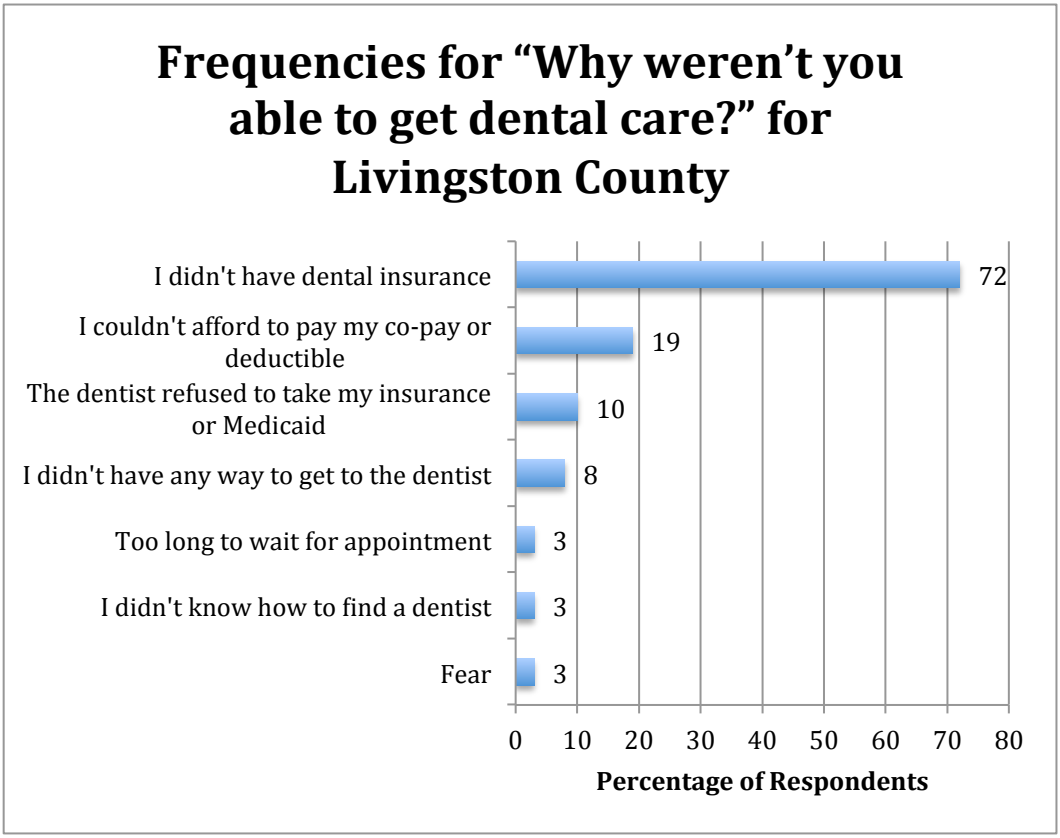
Table 8.5.4 Significant Correlations for "In the last year, was there a time when you needed dental care but could not get it?"

Gender	+
Age	-
Race (White)	-
Race (Black)	+
Latino/a	+
Education	-
Income	-
Homeless	+

For relationships between needing dental care and demographic variables, note that the relationships are reverse coded. Therefore a survey respondent was more likely to answer that he or she needed dental care and were unable to receive it if they were male, younger, of non-White ethnicity, of lower income, homeless and possessed less education.

The leading causes of why someone did not have access to dental care were no insurance (72%) and the inability to afford copayments or deductibles (19%). While fear was a non-issue with access to medical care, 3% of respondents indicated they did not get access to dental care because they were uncomfortable going to the dentist. Note that total percentages do not equal 100% as respondents could choose more than one answer.

Table 8.5.5 Frequencies for "Why weren't you able to get dental care?" for Livingston County



Note: n=188

Table 8.5.6 Significant Correlations for "Why weren't you able to get dental care?"

	Gender	Age	Race (White)	Race (Black)	Latino/a	Education	Income	Homeless
No Insurance								
Can't afford copay/deductible							-	
I didn't have any way to get to the dentist								
Refused my insurance/Medicaid								+
I didn't know how to find a dentist								
Too long to wait for appointment						+		
Fear						+		

Note several significant relationships between demographic variables and the reasons why individuals were not able to obtain dental care in the past year:

Can't afford copay/deductible tends to be rated higher by individuals with less income.

Refused my insurance/Medicaid tends to be rated higher by homeless individuals.

Too long to wait for an appointment tends to be rated higher by people with more education.

Fear tends to be rated higher by people with more education.

8.6 Access to Counseling

Respondents were asked, "Was there a time when you needed counseling but were not able to get it?" 10% of respondents in Livingston County agreed that when he or she needed counseling, he or she was unable to obtain it. The percentage for individuals living in poverty is more than double (22%).

Logit regression results indicated that low income, younger people and homelessness were the most important predictors of no access to counseling, respectively.

Table 8.6.1 Frequencies for "Was there a time when you needed counseling but were not able to get it?" for Livingston County and Individuals Living in Poverty

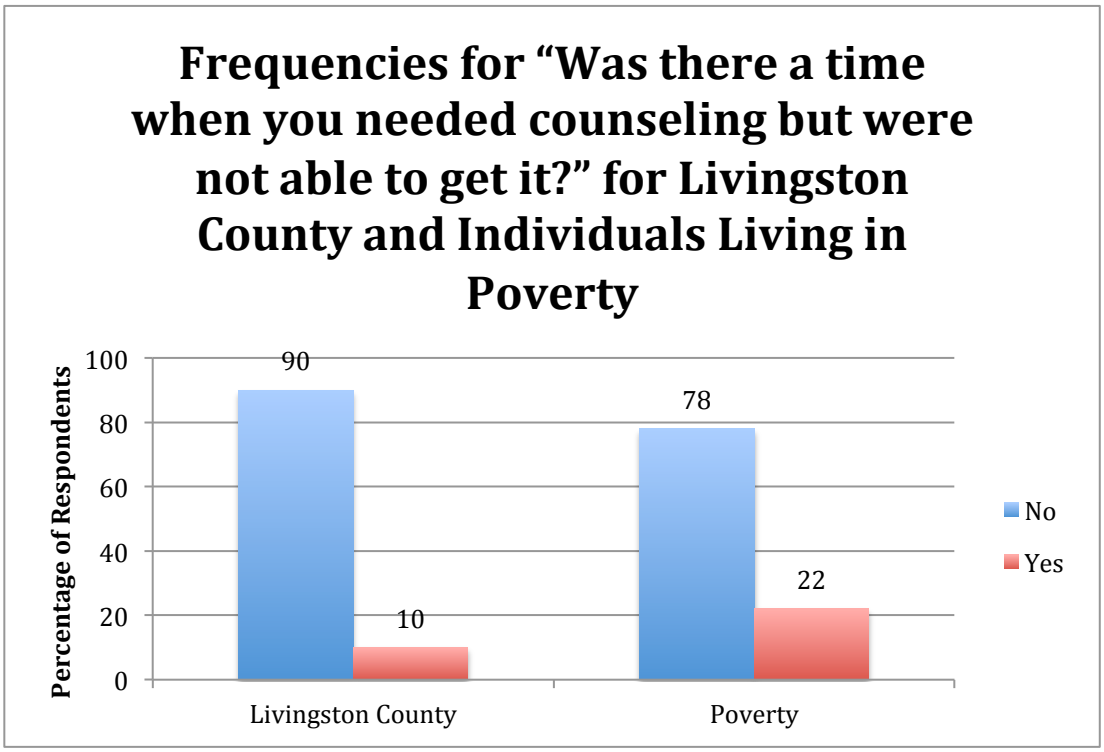


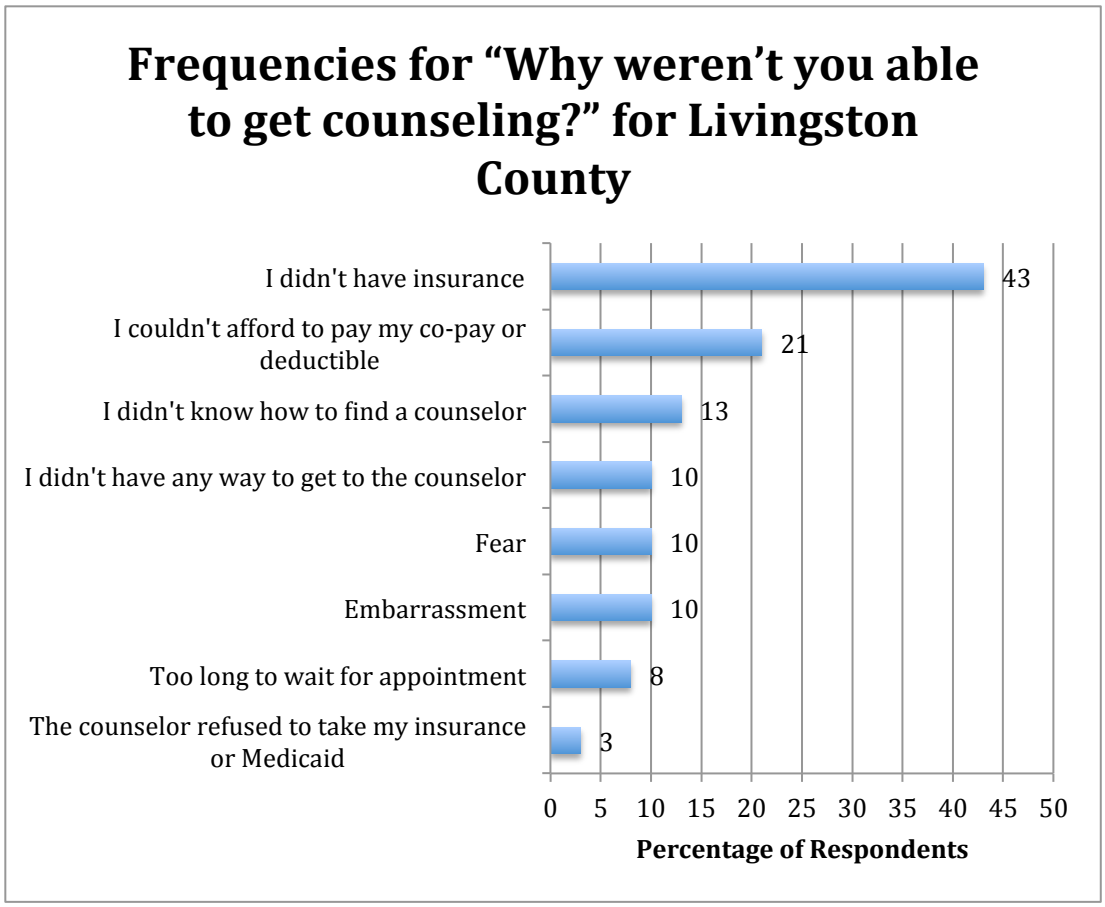
Table 8.6.2 Significant Correlations for "In the last year, was there a time when you needed counseling but could not get it?"

Gender	-
Education	-
Income	-
Homeless	+

For relationships between needing counseling and demographic variables, note that the relationships are reverse coded. Therefore a survey respondent was more likely to answer that he or she needed counseling and was unable to receive it if they were homeless, possessed less education, possessed lower income, and were male.

The leading causes of why someone did not have access to counseling were no insurance (43%) and the inability to afford copayments or deductibles (21%). Embarrassment was the fourth leading cause at 10%. Subsequent analyses revealed that members of the Homeless population were highly correlated to fear, embarrassment, refusal of insurance, and inability to pay one's deductible. Note that total percentages do not equal 100% as respondents could choose more than one answer.

Table 8.6.3 Frequencies for "Why weren't you able to get counseling?" for Livingston County



Note: n=188

Table 8.6.4 Significant Correlations for Reasons Why Individuals Were Not Able to Obtain Counseling in the Past Year

	Gender	Age	Race (White)	Race (Black)	Latino/a	Education	Income	Homeless
No Insurance		-				-	-	+
Can't afford copay/deductible								
I didn't have any way to get to the counselor				+				
Refused my insurance/Medicaid								
Too long to wait for appointment								
Fear								
Embarassment						+		

Note several significant relationships between demographic variables and the reasons why individuals were not able to obtain counseling in the past year:

No Insurance tends to be rated higher by younger individuals, individuals with lower income, less education, and those individuals who are homeless.

I didn't have any way to get to the counselor tends to be rated higher by individuals of Black ethnicity.

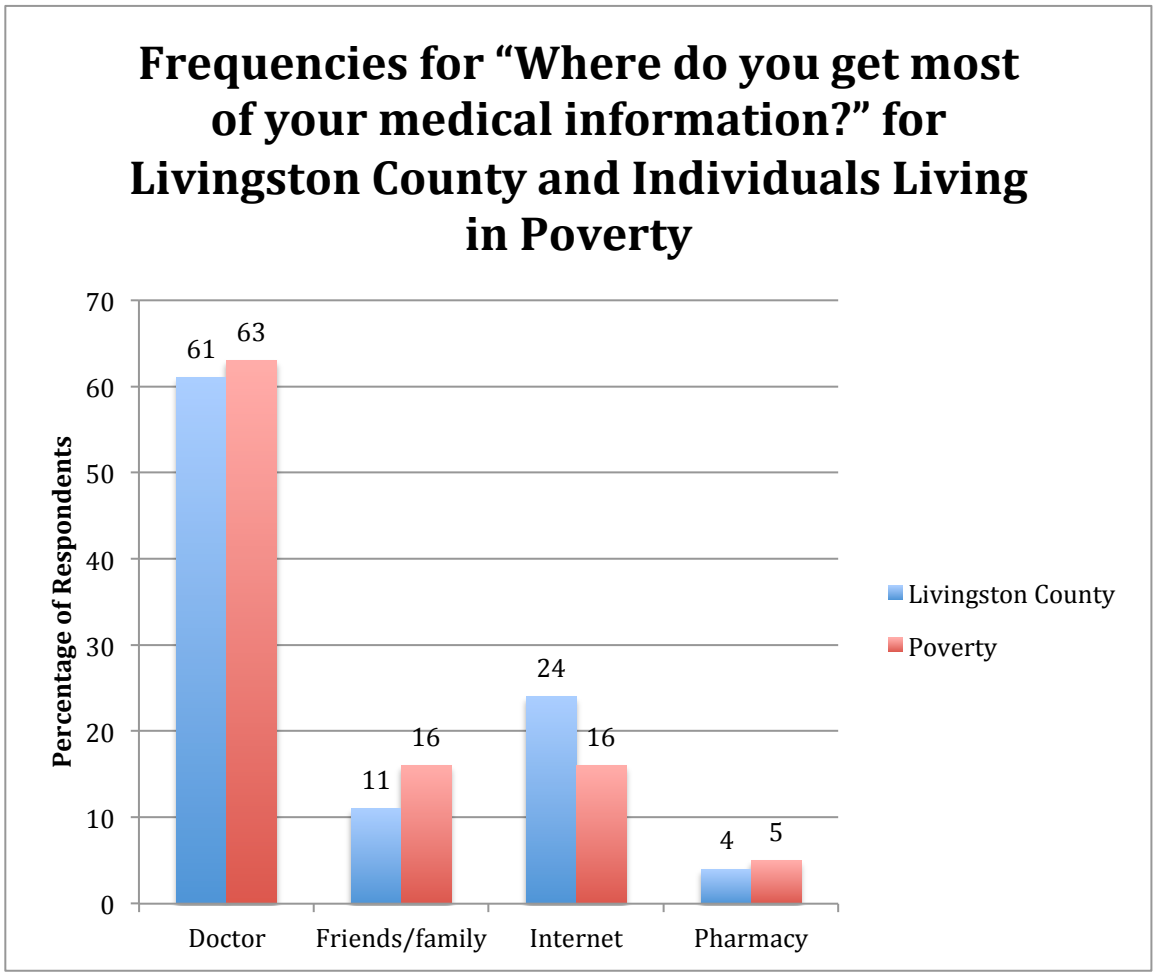
Embarrassment tends to be rated higher individuals with higher incomes.

8.7 Access to Information

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. Note that for individuals living in poverty, friends/family was as important to the Internet.

There were no statistically significant relationships between access to information and demographic factors.

Table 8.7.1 Frequencies for "Where do you get most of your medical information?" for Livingston County and Individuals Living in Poverty

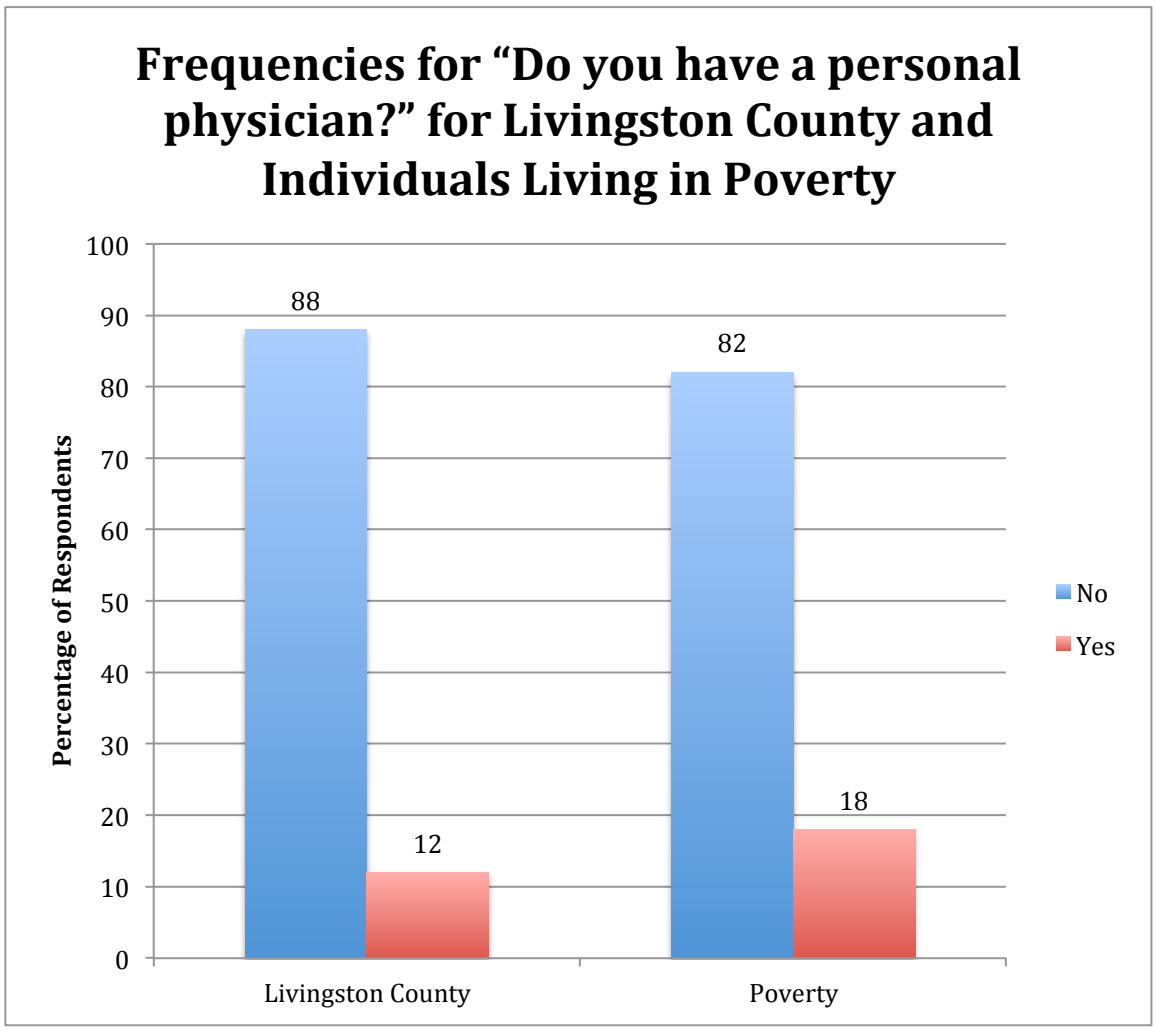


8.8 Personal physician

Respondents were asked if they had a personal physician. For Livingston County, 88% of respondents indicated that they had a personal physician.

Logit regression analyses reveal that people with higher incomes, women and older people positively impacted whether someone had a personal physician, and homelessness had a negative impact on whether someone had a personal physician.

Table 8.8.1 Frequencies for "Do you have a personal physician?" for Livingston County and Individuals Living in Poverty



Numerous significant relationships exist between access to a personal physician and demographic variables. Specifically, a survey respondent was more likely to answer that he or she did not have a personal physician if they were homeless and was more likely to answer that he or she did have a personal physician if he or she was a woman, older, more educated, and earned more income.

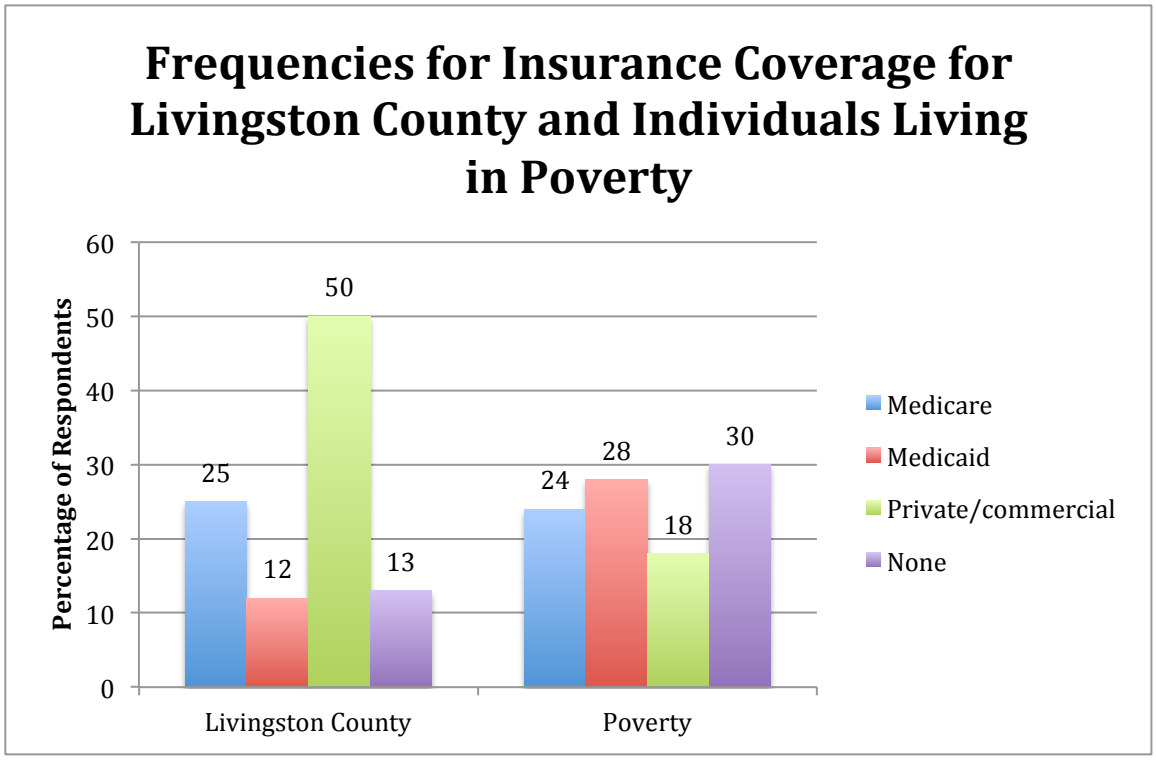
Table 8.8.2 Significant Correlations among Access to a Personal Physician and Demographic Variables

	Gender	Age	Race (White)	Race (Black)	Latino/a	Education	Income	Homeless
Do you have a personal physician?	+	+				+	+	-

8.9 Type of Insurance

Respondents were asked to identify the type of insurance that they had. In Livingston County, the most prevalent type of insurance is private or commercial, however, those living in poverty are disproportionately more reliant on Medicaid or have no insurance.

Table 8.9.1 Frequencies for Insurance Coverage for Livingston County and Individuals Living in Poverty



Access to Health Care: Strategic Implications

Approximately 70% of people living in deep poverty seek medical services at a clinic or doctor's office. For this segment of the population, while 8% seek medical services from an emergency department, approximately 18% will not seek any medical services at all or "other" non-traditional sources of care. Those most likely to not seek any medical services when sick include males, younger individuals, and individuals with lower incomes.

35% of the population living in deep poverty indicated there was a time in the last year when they were not able to get medical care when needed. According to regression results, this was more likely among individuals who were younger, less educated, possessed lower income, and were homeless. The leading causes were lack of insurance and inability to afford a copayment or deductible. Similar results were found for access to prescription medication. Regression results indicated that homeless individuals and individuals of Latino/a ethnicity were less likely to have access to necessary prescription medication. Again the leading causes of the

inability to have access to prescription medications were lack of insurance and inability to afford copayment or deductibles.

While significant research exists linking dental care to numerous diseases, including heart disease, 56% of Livingston County residents had a checkup in the last year. Specifically, individuals who were younger, were of non-White ethnicity, possessed less education, possessed less income, and were homeless were less likely to visit a dentist. Moreover, note that almost half of people living in poverty (49%) indicated that they needed dental care in the last year, but were not able to get it. Lack of dental insurance and inability to afford copayments were the leading causes.

Approximately 22% of people living in deep poverty indicated they were not able to get counseling when they needed it over the last 12 months. Leading indicators are males, less education, lower income, and homelessness. While affordability and insurance were the leading reasons, embarrassment were also significant barriers to mental health services.

Across categories, residents of Livingston County get most of their medical information from doctors and the next most prevalent is the Internet.

The most prevalent type of insurance is private or commercial, however, those living in poverty are disproportionately more reliant on Medicaid. Also for those living in poverty, 30% do not have any type of insurance at all.

CHAPTER 9. HEALTHY BEHAVIORS

In this chapter, healthy behaviors of the community are presented. Specifically, frequency of physical exercise, healthy eating habits and smoking are examined. Additionally, overall self-perceptions of health are presented.

9.1 Physical Exercise

Respondents were asked how frequently they engage in physical exercise. The majority of the population across all categories does not engage in sufficient exercise. Note that these findings are more consistent with state averages when compared to data reported by the *Illinois Behavioral Risk Factor Surveillance System* data. For physical exercise, ordinary-least-square regression results show that younger people, Black ethnicity, homelessness and less educated people are less likely to engage in physical exercise, while homeless residents are not.

Numerous significant relationships exist between physical exercise and demographic variables. Specifically, a survey respondent was more likely to answer that he or she exercised regularly if they were male, possessed higher income, and were more educated.

Table 9.1.1 Frequencies for "In the last week, how many times did you exercise?" for Livingston County and Individuals Living in Poverty

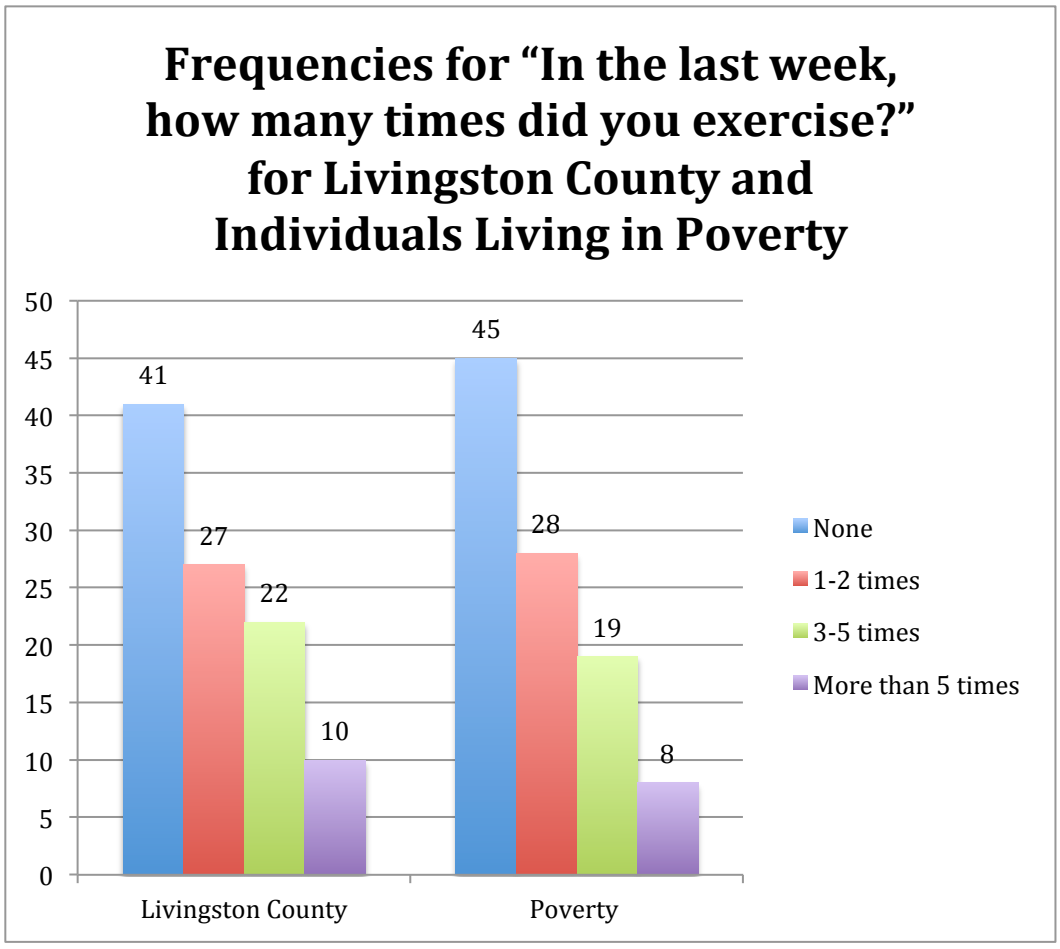


Table 9.1.2 Significant Correlations among "In the last week, how many times did you exercise?" and Demographic Variables

Age	-
Education	+
Income	+

9.2 Healthy Eating

For healthy eating habits, about 29% of the population consumes at least three servings of fruits/vegetables in a day. Moreover, only about 4% of the population consumes the minimal recommended daily amount of vegetables. These findings are inconsistent with the *Illinois Behavioral Risk Factor Surveillance System* data, as the BRFSS data suggests approximately 15% of Livingston County residents consume 5 or more servings of fruits and vegetables per day. Additional research by the CDC states that for a typical person consuming 2,200 calories per day, they should have 7 servings of vegetables.

Table 9.2.1 Frequencies for "On a typical day, how many servings of fruits and/or vegetables do you eat?" for Livingston County and Individuals Living in Poverty

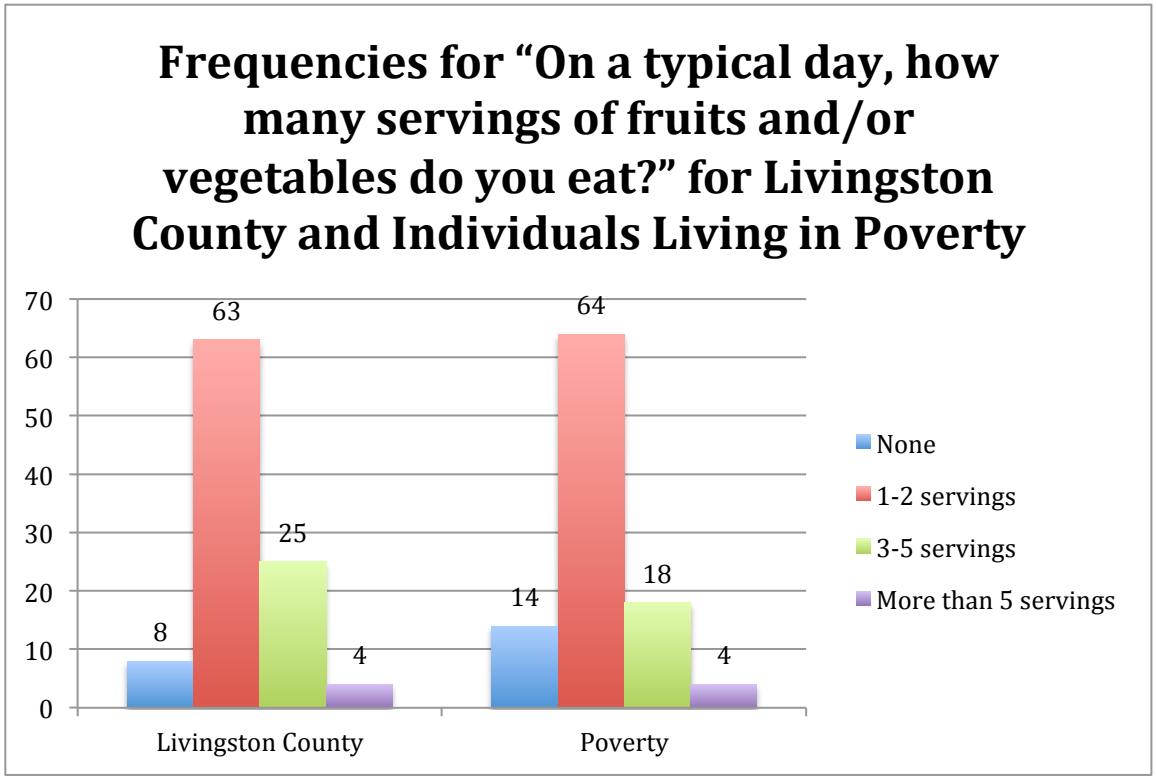


Table 9.2.2 Significant Correlations among Number of Servings of Fruits and Vegetables Consumed Daily and Demographic Variables

Gender	+
Age	+
Education	+
Income	+
Homeless	-

Numerous significant relationships exist between consumption of fruits and vegetables and demographic variables. Specifically, a survey respondent was more likely to answer that he or she consumed more fruits and vegetables each day if they were had earned a higher income, had attained higher levels of education, were female, and were older. Homeless individuals were less likely to consume more fruits and vegetables.

9.3 Smoking

Youth tobacco use in Livingston County exceeds the State of Illinois averages, as seen in the secondary research presented earlier in this report. Primary data suggests that individuals living in poverty are significantly more likely to smoke. Note that when comparing these data to the *Illinois Behavioral Risk Factor Surveillance System* data, the CHNA survey assesses the frequency of smoking compared to whether a respondent smoked or did not smoke.

Table 9.3.1 Frequencies for "On a typical day, how many cigarettes do you smoke?" for Livingston County and Individuals Living in Poverty

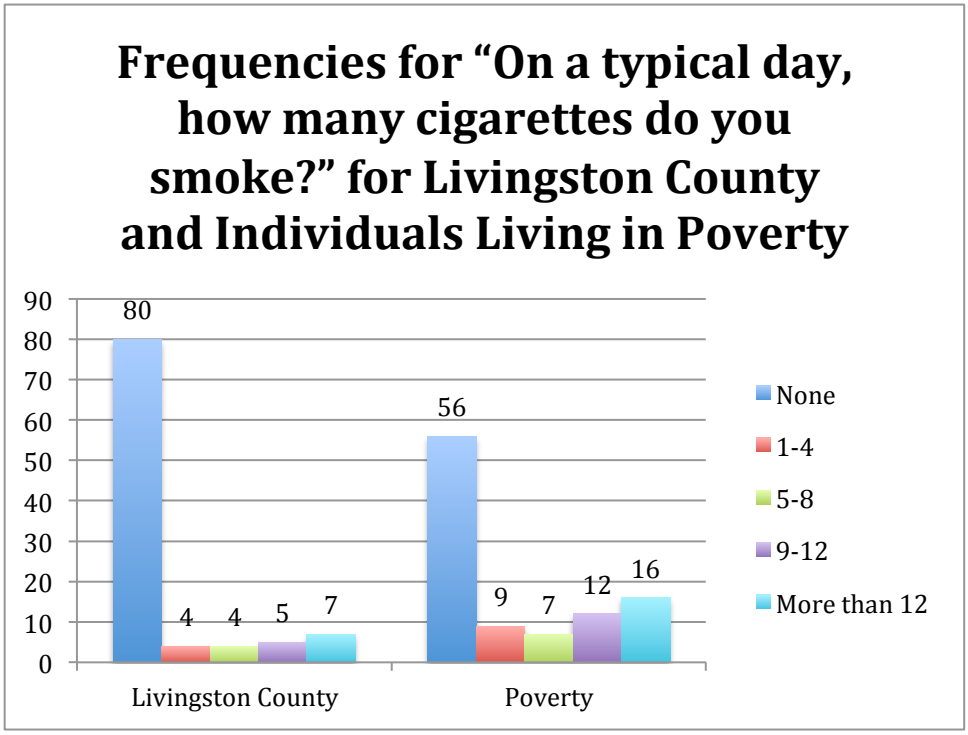


Table 9.3.2 Significant Correlations among Number of Cigarettes Smoked Daily and Demographic Variables

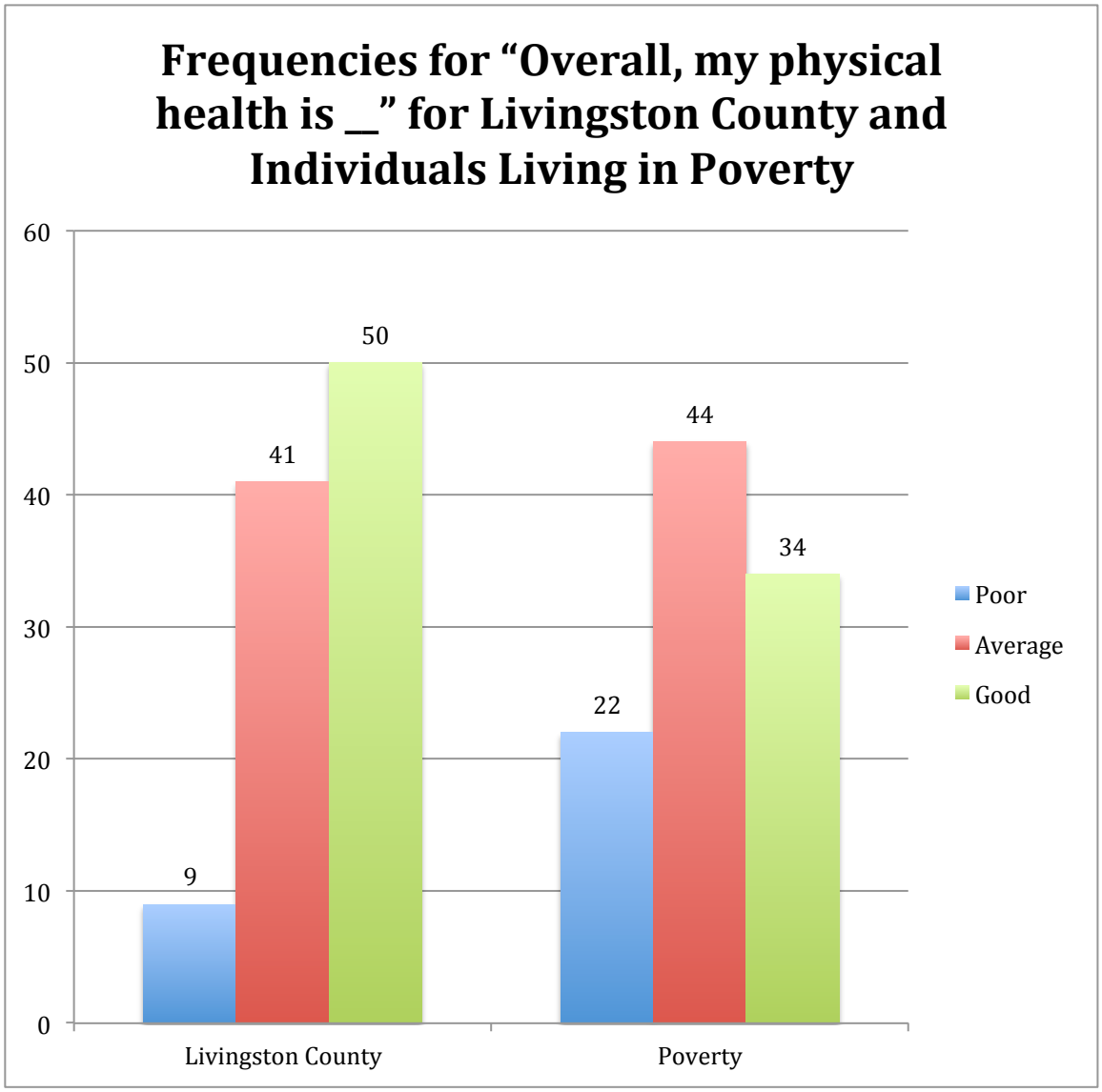
Age	-
Race (White)	-
Race (Black)	+
Education	-
Income	-
Homeless	+

Numerous significant relationships exist between cigarette smoking and demographic variables. Specifically, a survey respondent was more likely to answer that he or she smoked more cigarettes each day if they identified with Black ethnicity, were younger, were homeless, were less educated, and earned less income. Individuals of White ethnicity were less likely to smoke.

9.4 Overall Health

In terms of self-perceptions of physical and mental health, 91% of the population indicated that they were in average or good physical health. Similar results were found for residents' self-perceptions of mental health.

Table 9.4.1 Frequencies for "Overall, my physical health is __" for Livingston County and Individuals Living in Poverty

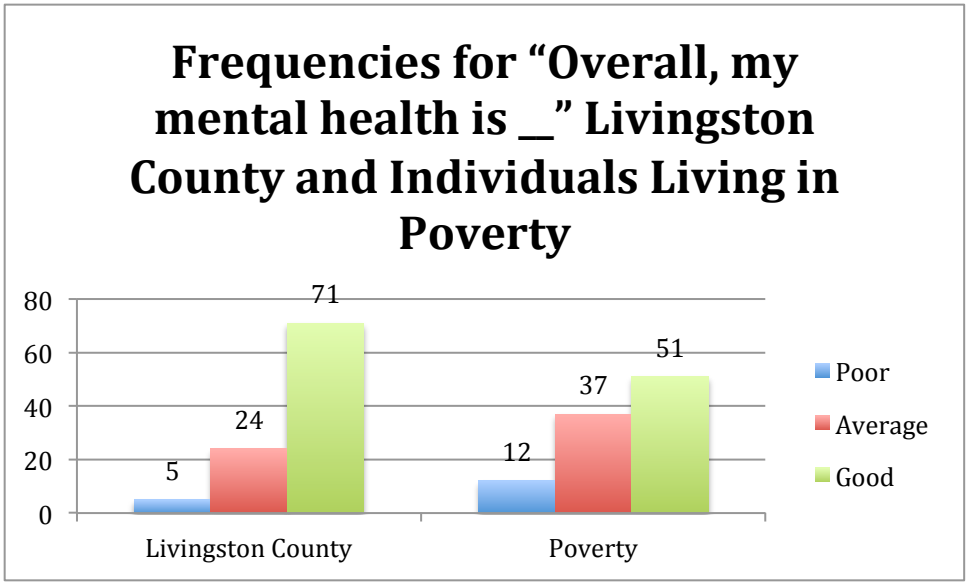


Numerous significant relationships exist between overall physical health and demographic variables. Specifically, a survey respondent was more likely to answer that he or she possessed better physical health if they were of White ethnicity, earned a higher income and had attained higher levels of education. Conversely, a survey respondent was more likely to answer that he or she possessed poorer physical health if they were homeless or identified with Latino/a ethnicity.

Table 9.4.2 Significant Correlations among Overall Physical Health and Demographic Variables

White	+
Latino/a	-
Education	+
Income	+
Homeless	-

Table 9.4.3 Frequencies for "Overall, my mental health is __" Livingston County and Individuals Living in Poverty



Numerous significant relationships exist between overall mental health and demographic variables. Specifically, a survey respondent was more likely to answer that he or she possessed better mental health if they were older, earned a higher income, and had attained higher levels of education. Conversely, a survey respondent was more likely to answer that he or she possessed poorer mental health if they were homeless.

Table 9.4.4 Significant Correlations among Overall Mental Health and Demographic Variables

Age	+
Education	+
Income	+
Homeless	-

Healthy Behaviors: Strategic Implications

For healthy behaviors, Livingston County residents who were younger, possessed higher income, or were more educated are more likely to engage in physical exercise, although 32% of the population engages in exercise at least 3 times a week. Similarly for healthy eating habits, about 29% of the population consumes at least three servings of fruits/vegetables in a day. Those that are more likely to have healthy eating habits include females, older individuals, people with higher education and more income, and individuals who are not homeless. Given the documented research showing the benefits of physical exercise and healthy eating, this is a concern for the community, as most primary and secondary diagnoses in the Livingston County community can be mitigated, to some extent, by healthy lifestyle.

Data suggests smoking is a concern in Livingston County, with individuals identifying with Black ethnicity, who were younger, were homeless, were less educated, and earning less income as being more likely to smoke.

In terms of self-perceptions of physical and mental health, 91% of the population indicated that they were in average or good physical health. Similar results were found for residents' self-perceptions of mental health.

PHASE III – PRIORITIZATION OF HEALTH-RELATED ISSUES

The identification and prioritization of the most important health-related issues in Livingston County are identified in Phase III. To accomplish this, a summary of Phase I and Phase II were performed to provide a foundation for the prioritization process. After summarizing all of the issues in the Community Health Needs Assessment, a comprehensive assessment of existing community resources was performed to identify the efficacy to which health-related issues were being addressed. Finally a collaborative team of leaders in the healthcare community used an importance/urgency methodology to identify the most critical issues in the area. Results are included in Chapter 10.

CHAPTER 10. PRIORITIZATION OF HEALTH-RELATED ISSUES

In this chapter, we identify the most critical health-related needs in the community. To accomplish this, first we identified the most important areas of concern. Next we completed a comprehensive inventory of community resources, and finally we identified the most important health concerns in the community.

Specific criteria used to identify these issues included: (1) magnitude to the community; (2) strategic importance to the community; (3) existing community resources; (4) potential for impact; and (5) trends and future forecasts.

10.1 Summary of Community Health Issues

Based on findings from the previous analyses, a chapter-by-chapter summary of key takeaways was necessary to provide a foundation to identify the most important health-related issues in the community. Considerations for identifying key takeaways included prevalence of the issues, importance to the community, impact, trends and projected growth.

Demographics (Chapter 1) – Three factors were identified as the most important areas of concern from the demographic analyses: increasing elderly population, mental health rates and poverty.

Insurance (Chapter 2) – Lack of insurance contributes to decreased accessibility to health care, including both medical and dental insurance.

Symptoms and Predictors (Chapter 3) – Based on prevalence and growth rates, factors were identified as having significant impact on the community. These include obesity, hypertension and risky behaviors, including drug and alcohol abuse and smoking.

Diseases/Morbidity (Chapter 4) – By evaluating magnitude of morbidities and growth rates of morbidities, several specific issues were identified. These included asthma, cardiovascular disease, diabetes (specifically Type II diabetes), hypertension and women's health and men's health.

Mortality (Chapter 5) – The two leading causes of mortality were heart disease and cancer. While there were other categories for mortality, heart disease and cancer were significantly more prevalent than all other categories.

Characteristics of Survey Respondents (Chapter 6) – Not applicable for this analysis.

Community Misperceptions (Chapter 7) – Based on results from the survey, respondents to the survey incorrectly perceived "heart disease" "diabetes" "dental health" and "teen pregnancy" as being relatively unimportant health concerns in the community.

Access to Health Services (Chapter 8) – Results from survey respondents defined as living in deep poverty indicated that access to healthcare services is limited. This includes medical, prescription, dental and mental healthcare.

Health-Related Behaviors (Chapter 9) – Results from survey respondents defined as living in deep poverty indicated that there are limited efforts at proactively managing one's own health. This includes limited exercise, poor eating habits and increased incidence of smoking

Identification of Health-Related Community Issues.

In order to provide parsimony in the prioritization of key community health-related issues, results are aggregated into 13 key categories. Based on similarities and duplication, the 13 areas are:

- **Obesity**
- **Risky Behavior-Substance Abuse**
- **Mental Health**
- **Healthy Behavior/Nutrition**
- **Access to Health Services**
- **Respiratory Issues –Asthma and Pneumonia**
- **Heart Disease**
- **Cancer**
- **Diabetes**
- **Community Health Misperceptions**
- **Dental**
- **Women's Health**
- **Men's Health**

10.2 Community Resources

After summarizing issues in the Community Health Needs Assessment, a comprehensive analysis of existing community resources was performed to identify the efficacy to which these 13 health-related issues were being addressed.

There are numerous forms of resources in the community. They are categorized as recreational facilities, county health departments, community agencies and area hospitals/clinics.

10.2.1 Recreational Facilities (1)

Pontiac Parks and Recreation
Obesity, Healthy Behaviors, Heart Disease
The Pontiac Parks and Recreation Department is 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.

10.2.2 Health Departments (1)

Livingston County Public Health Department
Obesity, Addiction/Substance Abuse, Mental Health, Healthy Behaviors, Access to Health Services, Respiratory Issues, Community Health Misperceptions, Diabetes, Cancer, Dental, Women's Health, Men's Health

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. Through Susan G. Komen Foundation grant funding, the Livingston County Public Health Department provides gas cards for women needing assistance with access to mammograms and/or breast cancer treatment in addition to breast health awareness campaigns (*Cancer, Women's Health, Community Health Misperceptions*). Other services include low-cost screening for diabetes risk factors (*Diabetes*) and through an Illinois Public Health Tobacco Free Illinois Communities grant, the Livingston County Public Health Department conducts period compliance checks for smoke-free indoor air (*Addiction/Substance Abuse*). The Livingston County Public Health Department administers influenza, pneumonia, and international travel vaccines (*Respiratory Issues*) and organizes the Communicable Disease and Public Health Emergency Preparedness programs at the Livingston County Public Health Department assesses/monitors the incidence of diseases (such as influenza) and implements/suggests control measures (*Respiratory Issues).*

The Livingston County Public Health Department applies for dental health grant funding whenever the opportunity arises. Periodically, of the past few years, grant provided toothbrushes have been distributed to food pantries and pediatric oral health kits have been provided to students at schools with highest number of students eligible for the free/reduced lunch program (*Dental*). School physicals are provided at the Livingston County Health Department and at satellite locations during the summer months. Vision and hearing screening for children are provided primarily during preschool screening in cooperation with the county schools by the Livingston County Public Health Department and OSF Saint James therapists. Early periodic screening and detection services, along with developmental screenings, are provided by the Livingston County Health Department staff. Communicable disease control and Tuberculosis control programs are provided through the Livingston County Public Health Department. A Sexually Transmitted Disease clinic is conducted by the Livingston County Public Health Department. The Livingston County Public Health Department provides Home Services

(homemaker) and Home Nursing (public health nurse visits) on a sliding fee scale for those who do not qualify for other care services such as home health and the Illinois Department of Aging homemaker services. The Case Coordination Unit at the Livingston County Public Health Department provides Choices of Care options, such as nursing home prescreening and social services assessments.

10.2.3 Community Agencies/Private Practices (15)

Alcoholics Anonymous
Addiction/Substance Abuse
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.

Family Case Management/Intensive Prenatal Case Management
Women's Health
Family Case Management/Intensive Prenatal Case Management provides referral and linkages for pregnant women and infants.

Futures Unlimited
Mental Health
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 Behaviors
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
Addiction/Substance Abuse
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
Cancer, Women's Health
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
Addiction/Substance Abuse, Mental Health
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 also 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's Children's Network
Mental Health
Livingston County's Children's Network focuses on mental health issues of children. Positive parenting program offered through OSF Medical Group and other providers including educational materials and plans as well as to referrals to IHA and other mental health professionals as needed.

Livingston/LiveWell
Obesity, Healthy Behaviors
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
Access to Health Services, Dental
Non-emergent transportation services are available through Show Bus, a local taxi service with assistance to defray costs available if needed. Show Bus offers weekly transportation for patients to Bradley Dental.

Stanford University Diabetes Self Management Program
Obesity
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.

United Way of Pontiac
Access to Health Services, Community Health Misperceptions
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.

Weight Watchers
Obesity, Healthy Behaviors
Weight Watchers conducts meetings in several locations in Livingston County.

WJEZ Radio Community Forum
Community Health Misperceptions
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
Obesity, Healthy Behaviors, Women's Health
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.

10.2.4 Hospitals/Clinics (5)

Livingston Family Care Center
Access to Health Services
The Livingston Family Care Center provides low/no cost health services to people who do not have health insurance or Medical Cards.

Michael J. Hubert Wellness Clinic
Obesity, Cancer, Diabetes, Access to Health Services, Heart Disease
Hubert Wellness Clinic, conducted by the Livingston County Public Health Department, includes screening for waist measurement (*Obesity*) and provides low-cost screening for risk factors related to prostate cancer (*Cancer*) and diabetes (*Diabetes*). The Clinic also provides clients with information regarding colon cancer screening risk/protective factors and screening guideline (*Cancer*) and low-cost screening for risk factors related to heart disease (*Heart*

Disease). The Clinic is also offered at various worksites in rural communities throughout Livingston County (*Access to Health Services*).

OSF Saint James – John W. Albrecht Medical Center

Obesity, Risky Behaviors, Mental Health, Healthy Behaviors, Access to Health Services, Respiratory Issues, Heart Disease, Cancer, Diabetes, Community Health Misperceptions, Women's Health, Men's Health

OSF Saint James – John W. Albrecht Medical Center is a 42-bed replacement 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 pelvic pain, 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 (*Obesity; Healthy Behaviors*), support groups for Gastric Bypass and diabetes (*Obesity, Diabetes, Men's Health*), Curves educational programs (*Obesity*), community education and outreach sessions (*Healthy Behaviors, Men's Health, Heart Disease, Access to Health Services*), incontinence program (*Men's Health, Women's Health*), maternity services (Women's Health), breast health program (*Women's Health, Cancer*), affiliate site of the Joslin Diabetes Center (*Diabetes, Healthy Behavior*), prescription medication assistance program (*Health Behaviors, Access to Health Services*), pediatric play groups (*Healthy Behaviors*), online health library (*Healthy Behaviors*), OSF Resource Link (*Mental Health*), OSF Charity Assistance program (*Access to Health Services*), OSF Medical Group and Prompt Care (*Access to Health Services*), Sleep and Lung Center (*Respiratory Issues*), vaccinations (*Respiratory Issues*), Emergency Department (*Heart Disease*), STAR cancer rehabilitation program (*Cancer*), and through print articles to local media (*Community Health Misperceptions*).

Pontiac Township High School Health Clinic
Mental Health
Pontiac Township High School based Health Clinic utilizes Illinois State University doctoral candidates to provide mental health counseling at the clinic

Women's Health Clinic
Women's Health, Access to Health Services
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 (*Cancer*).

Table 10.2 illustrates the relationships between the community resources and the 13 summary areas identified in section 10.1. Assessment of these relationships was performed to identify potential gaps in coverage as the collaborative team prioritized health-related issues in the community.

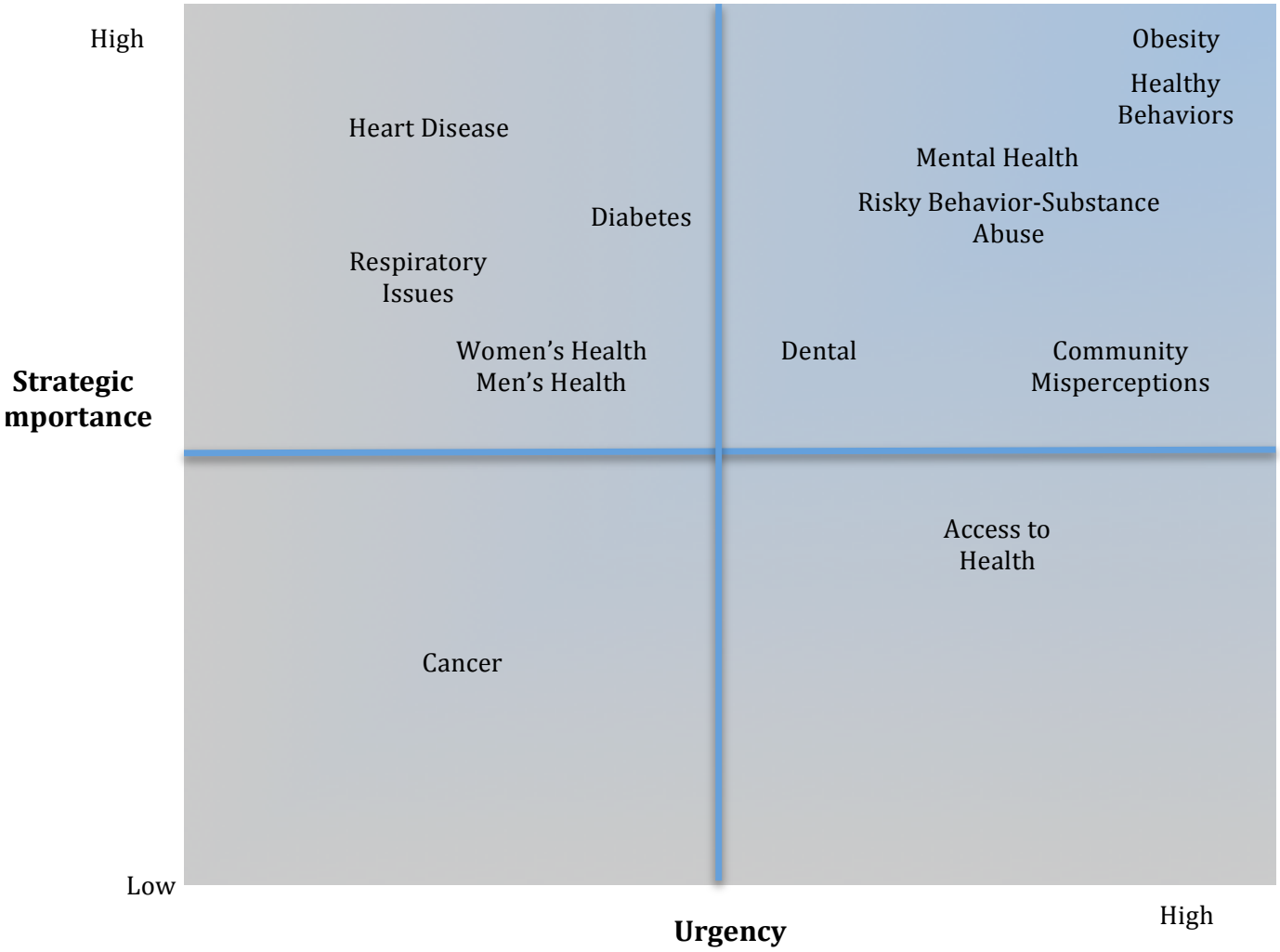
Table 10.2 Relationship between Community Resources and Community Needs

	Organization Name	Obesity	Addiction/ Substance Abuse	Mental Health	Healthy Behaviors/ Nutrition	Access to Health Services	Respiratory Issues	Heart Disease	Cancer	Diabetes	Community Health Misperceptions	Dental	Women's Health	Men's Health
Recreational Facilities (1)	Pontiac Parks and Recreation	X			X			X						
Health Departments (1)	Livingston County Health Department	X	X	X	X	X	X		X	X	X	X	X	X
Community Agencies (15)	Alcoholics Anonymous		X											
	Family Case Management/Intensive Prenatal Case Management												X	
	Futures Unimited			X										
	Healthy Families Illinois				X									
	Illinois Tobacco Quit Line		X											
	Illinois Breast and Cervical Cancer Program								X				X	
	Institute for Human Resources and Mental Health Board		X	X										
	Livingston County's Children's Network			X										
	Livingston/LiveWell	X			X									
	Show Bus					X								
	Stanford University Diabetes Self Management Program	X												
	United Way of Pontiac					X					X			
	Weight Watchers	X			X									
	WJEZ Radio Community Forum										X			
	Women, Infants, and Children's Nutritional Program	X			X								X	
Hospitals/Clinics (5)	Livingston Family Care Center					X								
	Michael J. Hubert Wellness Clinic	X				X		X	X	X				
	OSF Saint James - John W. Albrecht Medical Center	X	X	X	X	X	X	X	X	X	X		X	X
	Pontiac Township High School Health Clinic			X										
	Women's Health Clinic					X							X	

10.3 Prioritization of Community Health-Related Issues

In order to prioritize the previously identified dimensions, the collaborative team considered health needs based on: (1) short-term urgency – issues that need immediate attention; and (2) long-term strategic importance – issues that will have the most significant impact on the future health of the community. Additional considerations included the magnitude of the issues (e.g., what percentage of the population was impacted by the issue), growth rate or projected trend of the issue, magnitude to the community, existing community resources, and the potential to make a significant impact to the community. Using these criteria, the collaborative team prioritized the previously identified health issues. Results can be seen in Figure 10.3.

Figure 10.3 Importance/Urgency Matrix for Community Health Needs



In conclusion, the collaborative identified the six most critical health-related issues in Livingston County as:

OBESITY/OVERWEIGHT

Research strongly suggests that obesity is a significant problem facing youth and adults nationally, as it has been linked to numerous morbidities (e.g., type II diabetes, hypertension, cardiovascular disease, cancer, etc.). There was a 16% growth in the percentage of Livingston County residents reporting they were overweight between 2006 (34.6%) and 2009 (40.2%). For comparison, there was a 9% growth in the percentage of Illinois residents reporting they were overweight between 2006 (24.7%) and 2009 (26.8%). Also note that Illinois is ranked as the sixth worst state in the U.S. in terms of obesity.

HEALTHY BEHAVIORS

According to the BRFSS, 29.9% of Livingston County residents report that their last routine checkup was more than 1 year ago. This figure is over 10% higher than State of Illinois average (19.2%). Results from survey respondents indicated that there are limited efforts at proactively managing one's own health. This includes limited exercise, as 68% of Livingston County residents indicated they exercised 2 or less times per week. With regard to eating habits, 71% of Livingston County residents consume less than 2 servings of fruits/vegetables per day. With regard to smoking, 35% of Livingston County residents living in poverty smoke 5 or more cigarettes per day. However, note that 91% of respondents believe they are average or above average in terms of physical health and 95% of respondents believe they are average or above average in terms of mental health.

MENTAL HEALTH

Approximately 20% of residents in Livingston County reported they had experienced 1-7 days with poor mental health per month between 2007 and 2009. For both segments of residents (those experiencing 1-7 days and 8-30 days with poor mental health per month), each was slightly below the state average for the same time frame. Mental health was also rated the second most important health concern in the community for both the aggregate population as well as those living in poverty.

RISKY BEHAVIORS-SUBSTANCE ABUSE

Youth substance usage in Livingston County exceeds the State of Illinois averages for 12th graders (alcohol and tobacco usage). There was a 3% increase in the growth rate the percentage of Livingston County residents reporting they were at risk for binge drinking between 2006 (22.0%) and 2009 (22.7%). For comparison, there was a 10% decrease in the growth rate Illinois residents reporting they were at risk for binge drinking between 2006 (19.4%) and 2009 (17.5%). There was an 18% increase the growth rate of Livingston County residents reporting they were current smokers between 2006 (24.3%) and 2009 (28.7%). For comparison, there was an 8%

decrease in the growth rate of Illinois residents reporting they were current smokers between 2006 (20.5%) and 2009 (18.8%).

Additionally, according to survey respondents, for both Livingston County's aggregate population and those living in poverty, drug and alcohol abuse were perceived as the most prevalent unhealthy behaviors in the community.

DENTAL

While significant research exists linking dental care to numerous diseases, including heart disease, according to survey results, less than 50% of the aggregate Livingston County population had a checkup in the last year. Moreover, there was growth in the percentage of Livingston County residents reporting their last dental visit was more than 2 years ago between 2006 (21.9%) and 2009 (22.3%). These percentages are higher than State of Illinois averages, where in 2006, 17.2% had not seen a dentist in 2+ years and in 2009, 19.8% had not seen a dentist in 2+ years.

COMMUNITY MISPERCEPTIONS

Based on results from the survey, respondents incorrectly perceived "diabetes," "heart disease," "teen pregnancy," and "dental" as being relatively less important health concerns to the community. These results conflict with morbidity data that suggest diabetes growth rates in Livingston County are higher than growth rates across the State of Illinois; mortality data that indicates heart disease is the leading cause of death in Livingston County; teen pregnancy rates in Livingston County (11.9%) that exceed the State of Illinois rate (9.6%) for 2009; and the aforementioned dental data suggesting 22.3% of Livingston County residents have not seen a dentist in two or more years.

Note that while other factors, such as heart disease, diabetes, women's and men's health, access to health, respiratory issues and cancer are all important attributes, in terms of importance and urgency, the collaborative team rated the other six categories as more important. As a validity check, note that the findings from this study are similar with the health assessments completed by the County Health Department.

APPENDIX

COMMUNITY HEALTH-NEEDS ASSESSMENT 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. HEALTH PROBLEMS IN THE COMMUNITY
Please identify the three **(3) most important health problems** in the community.

- ☐ Aging issues, such as Alzheimer's disease, hearing loss or arthritis
- ☐ Birth defects
- ☐ Cancer
- ☐ Chronic pain
- ☐ Dental health
- ☐ Diabetes
- ☐ Heart disease/heart attack
- ☐ HIV/AIDS
- ☐ Infant death
- ☐ Infectious/contagious diseases such as flu, pneumonia, food poisoning
- ☐ Injuries
- ☐ Kidney disease
- ☐ Lead poisoning
- ☐ Liver disease
- ☐ Lung disease (asthma)
- ☐ Mental health issues such as depression, anger, etc
- ☐ Obesity/overweight
- ☐ Sexually transmitted infections
- ☐ Stroke
- ☐ Teenage pregnancy
- ☐ Other _____

II. UNHEALTHY BEHAVIORS
Please identify the three **(3) most important unhealthy behaviors** in the community.

- ☐ Angry behavior/violence
- ☐ Alcohol abuse
- ☐ Child abuse
- ☐ Domestic violence
- ☐ Don't use seatbelts
- ☐ Drug abuse
- ☐ Elder abuse (physical, emotional, financial, sexual)
- ☐ Lack of exercise
- ☐ Not able to get a routine checkup
- ☐ Poor eating habits
- ☐ Reckless driving
- ☐ Smoking
- ☐ Suicide
- ☐ Multiple partners without a condom
- ☐ Other _____

III. ISSUES WITH QUALITY OF LIFE
Please identify the three **(3) most important factors that impact your quality of life** in the community.

- ☐ Access to health services
- ☐ Affordable housing
- ☐ Availability of child care
- ☐ Better school attendance
- ☐ Job opportunities
- ☐ Good public transportation
- ☐ Healthy food choices
- ☐ Less poverty
- ☐ Safer neighborhoods/schools
- ☐ 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 ☐ Health Department ☐ Urgent Care Center
☐ Emergency Department ☐ I don't seek medical attention ☐ 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.
☐ I couldn't afford to pay my co-pay or deductible.
☐ I didn't have any way to get to the doctor.
☐ Fear
☐ Other _____
☐ The doctor or clinic refused to take my insurance or Medicaid.
☐ I didn't know how to find a doctor.
☐ Too long to wait for appointment.

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

10. In the last year, was there a time when you needed 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 counseling? Choose all that apply.
☐ I didn't have insurance.
☐ I couldn't afford to pay my co-pay or deductible.
☐ I didn't have any way to get to a counselor.
☐ Fear.
☐ Embarrassment.
☐ The counselor refused to take my insurance or Medicaid.
☐ I didn't know how to find a counselor.
☐ Too long to wait for appointment.
☐ Other _____

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

14. On a typical day, how many servings of fruits and/or vegetables do you have?
☐ None ☐ 1 - 2 ☐ 3 - 5 ☐ More than 5

15. On a typical day, how many cigarettes do you smoke?
☐ None ☐ 1 - 4 ☐5 - 8 ☐9 - 12 ☐ More than 12

16. Where do you get most of your medical information *(check **only one**)*
☐ Doctor ☐ Friends/family ☐ Internet ☐Pharmacy ☐ Other _____

17. Do you have a personal physician? ☐ No ☐ Yes

18. Overall, my physical health is: ☐ Good ☐ Average ☐ Poor

19. Overall, my mental health is: ☐ Good ☐ Average ☐ Poor

V. BACKGROUND INFORMATION

What county do you live in?
☐ Livingston ☐ McLean ☐ Other

What type of insurance do you have?
☐ Medicare ☐ Medicaid ☐ Private/commercial ☐ None

What is your gender? ☐ Male ☐ Female

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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/a)
☐ 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 or technical 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 approved by the Committee on the Use of Human Subjects and Research (CUSHR), Bradley University Institutional Review Board (IRB) in May 2012.