

# Community Health Needs Assessment

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2017 - 2019



Advocate Good Shepherd Hospital

We are  Advocate Aurora Health



## December 2019

Advocate Good Shepherd Hospital is pleased to present the 2019 Community Health Needs Assessment (CHNA). Every three years the hospital completes a CHNA by collecting and analyzing demographic and health data as well as gathering input from community residents through a community health survey.

Throughout 2019, the Advocate Good Shepherd coordinator of community health and regional director of community health have worked with the hospital's Community Health Council (CHC) to review the significant health issues impacting the hospital's primary service area. As a health care provider serving Barrington, Lake and McHenry Counties, we are not only committed to providing the safest and highest quality patient care, but also to improving the health of our community through partnerships and collaboration.

The CHC reviewed emergency room and hospitalization data, incidence of disease and health conditions, mortality data and results from numerous studies and surveys regarding health behaviors. This comprehensive review of data is critical to help shape future interventions and programming to address the identified health issues. We would like to extend a special thank you to the members of the CHC, the Lake County Health Department and McHenry County Health Department for their assistance and guidance. After careful consideration of multiple data sources and working through a thoughtful prioritization process, CHC members selected obesity and substance abuse as the health priorities for focused interventions. The Advocate Good Shepherd Governing Council approved these priorities, and we are excited to focus our time and resources on these issues for 2020-2022.

It is an absolute privilege to serve as your community hospital. Through strong partnerships, collaboration, input from the community and effective programming, we continually strive to positively impact the health of the residents in our community.

Sincerely,

A handwritten signature in black ink that reads "Karen A. Lambert". The signature is fluid and cursive.

Karen Lambert, President  
Advocate Good Shepherd Hospital

## Table of Contents

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### **I. Executive Summary 1**

### **II. Description of Advocate Aurora Health and Advocate Good Shepherd Hospital 2**

- 2 Advocate Aurora Health
- 2 Advocate Good Shepherd Hospital

### **III. Summary of the 2014-2016 Community Health Needs Assessment/Program Implementation 3**

- 3 Community Definition
- 3 Communities with Highest SocioNeeds Index Rates and Ranking
- 5 Overview of Collaborations
- 5 Summary of Assessment Process
- 6 Needs Identified and Priorities Selected
- 6 Summary of Implementation Programs and Key Accomplishments
  - 6 Obesity
  - 7 Mental Health
- 9 Input from the Community
- 9 Lessons Learned

### **IV. 2017-2019 Community Health Needs Assessment 10**

- 10 Community Definition
  - 10 Population
  - 11 Social Determinants of Health: SocioNeeds Index
  - 13 Demographics
  - 22 Key Findings: Community Definition
- 22 Key Roles in the 2017-2019 Community Health Needs Assessment
  - 22 Advocate Aurora System and Advocate Good Shepherd Leadership
  - 23 Governing Council
  - 23 Community Health Council
  - 23 Advocate Good Shepherd CHC Members
  - 24 Collaboration with Health Departments and/or Hospitals
- 25 Methodology
  - 25 Timeline
  - 25 Secondary Data
  - 26 Primary Data
- 29 Health Status
  - 32 Key Findings: Health Status
- 32 Health Care Coverage
  - 35 Key Findings and Disparities: Health Care Coverage
- 35 Access to Care
  - 37 Key Findings: Access to Care
- 38 Nutrition, Physical Activity and Obesity
  - 45 Key Findings: Nutrition, Physical Activity and Obesity
- 46 Cancer

51	Key Findings and Disparities: Cancer
51	Cardiovascular Disease
59	Key Findings and Disparities: Cardiovascular Disease
60	Diabetes and Kidney Disease
65	Key Findings and Disparities: Diabetes and Kidney Disease
66	Infectious Diseases and Sexually Transmitted Infections
68	Key Findings: Infectious Diseases and Sexually Transmitted Infections
68	Mental Health
73	Key Findings and Disparities: Mental Health
74	Substance Use
85	Key Findings and Disparities: Substance Use
86	Oral Health
87	Key Findings and Disparities: Oral Health
88	Respiratory Disease
93	Key Findings and Disparities: Respiratory Disease
94	Maternal and Child Health
96	Key Findings: Maternal and Child Health
96	Alzheimer's Disease and Dementia
97	Social Determinants of Health
109	Key Findings and Disparities: Social Determinants of Health

## **V. Prioritization of Health-Related Issues 110**

110	Priority Setting Process
110	Health Needs Selected
110	Obesity
110	Substance Abuse
111	Health Needs Not Selected
111	Diabetes
111	Cardiovascular Disease
111	Mental Health
112	Cancer

## **VI. Approval of Community Health Needs Assessment 112**

## **VII. Overview of 2020-2022 Implementation Plan Goals 113**

113	Obesity
113	Substance Abuse

## **VIII. Vehicle for Community Feedback**

114	Community Feedback
114	Sharing Results

## **IX. Appendices 115**

115	Appendix 1: 2017-2019 CHNA Data Sources
117	Appendix 2: Hanlon Method Score Sheet
118	Appendix 3: Effective and Evidence-Based Practices
119	Appendix 4: Economic Impact of Top Health Priorities 2019



# I. Executive Summary

Advocate Good Shepherd Hospital (Advocate Good Shepherd) has a strong commitment to fulfill the mission of meeting the health needs of patients, families and the community. This work begins with a broad understanding of the assets, needs, challenges and social conditions facing the community. Advocate Good Shepherd has had a long history of working closely with community stakeholders through coalitions to accomplish this task. By building sustainable relationships and partnering with community organizations, the hospital has gained a stronger understanding of the community's health needs and created solutions that are comprehensive and inclusive. This CHNA report explains the process, data sources and strategies used to help bring improved health and vitality to the communities Advocate Good Shepherd is privileged to serve.

In 2008, the hospital convened a Community Health Council to oversee the tri-annual CHNA process and the accompanying health improvement strategies. The CHC is composed of a variety of community leaders who represent underserved or at-risk populations as well as hospital leaders. For purposes of the 2017-2019 CHNA cycle, the CHC defined community as the hospital's primary service area (PSA). This geography includes parts of three counties; however, the majority of the hospital's service area is split equally between Lake and McHenry counties. The hospital approached the assessment process through a collective impact or collaborative lens, successfully leveraging community partnerships through health coalitions established in Lake and McHenry County as well as through the Healthier Barrington Coalition, which the hospital helped create in 1995.

Through these partnerships, the hospital participated in three comprehensive CHNA processes: 1) Lake County Community Health Needs Assessment, 2019; 2) McHenry County Healthy Community Study, 2016; and 3) the 2018 Healthier Barrington Needs Survey.

In preparation for the selection of priorities, Advocate Good Shepherd's community health staff presented a comprehensive summary of the demographics, five health issues and social determinant factors to the CHC. Staff guided CHC members to consider a defined list of criteria when making the priority selections.

The CHC utilized the criteria, in addition to group discussion, to select priorities that were meaningful to the health of community members as well as having the potential to show measurable health improvements. Substance abuse and obesity were the health priorities selected for the 2017-2019 CHNA. Specific tactics and measurable targeted outcomes will be established to develop the 2020 to 2022 implementation plan. The CHC will work in conjunction with the community health department staff to develop the implementation strategies and will continue to meet quarterly to review the progress of the interventions and outcomes.

The Advocate Good Shepherd 2017-2019 CHNA and recommended priorities were approved by the Advocate Good Shepherd Governing Council in October 2019. It is the hope of the Advocate Good Shepherd community health department that this report will prove valuable and will allow members of the community to gain a greater understanding of the health needs in the Advocate Good Shepherd PSA.

## **II. Description of Advocate Aurora Health and Advocate Good Shepherd Hospital**

### **Advocate Aurora Health**

Advocate Aurora Health is one of the 10 largest not-for-profit, integrated health systems in the United States and a leading employer in the Midwest with more than 70,000 employees, including more than 22,000 nurses and the region's largest employed medical staff and home health organization. A national leader in clinical innovation, health outcomes, consumer experience and value-based care, the system serves nearly 3 million patients annually in Illinois and Wisconsin across more than 500 sites of care. Advocate Aurora is engaged in hundreds of clinical trials and research studies and is nationally recognized for its expertise in cardiology, neurosciences, oncology and pediatrics. The organization contributed \$2.1 billion in charitable care and services to its communities in 2018. We help people live well.

### **Advocate Good Shepherd Hospital**

As an Advocate Aurora hospital, Advocate Good Shepherd embraces the system purpose of "We Help People Live Well." Advocate Good Shepherd, located in Barrington, Illinois, is a 176-bed acute care facility with more than 770 physicians, representing 62 medical specialties. The hospital's highly skilled physicians and clinical professionals offer a comprehensive range of services. For more than 35 years, Advocate Good Shepherd has provided quality, compassionate health care to its patients and communities. It is a leader in delivering the most advanced technologies and services available in the northwest suburbs of Chicago. The hospital has a comprehensive Advocate Heart Institute that provides services through the Wayne and Patricia Kocourek Family Cardiac Center and a Level II Trauma Center with a state-of-the-art emergency department approved for pediatric treatment. The Advocate Good Shepherd Fitness Center features occupational and physical therapy for youth to seniors. The hospital also operates outpatient centers in Crystal Lake and Lake Zurich, providing physician and imaging services, as well as an Immediate Care Center in Crystal Lake staffed by emergency medicine physicians. The hospital completed a comprehensive modernization project in 2017, which has improved the patient care experience including:

- Private patient rooms for enhanced privacy
- Smart room technology allowing patients to digitally view their care team, testing schedule and educational videos
- New operating rooms equipped with the latest medical equipment
- New Diagnostic Testing and Imaging Center
- New Breast Care Center with easy access
- Two surgical robots, including da Vinci Xi Robotic surgical system
- Green roofs providing energy-conserving insulation

Advocate Good Shepherd was one of the first hospitals in the area to offer Intraoperative Radiation Therapy (IORT), delivering targeted radiation treatment directly to the tumor site in surgery immediately

following a lumpectomy. This reduces seven weeks of radiation treatment to one outpatient procedure. In 2018, the hospital achieved Magnet recognition for excellence in nursing services by the American Nurses Credentialing Center's (ANCC) Magnet Recognition Program. This is an accomplishment shared by only 393 hospitals nationally. In 2018, the hospital was also awarded the Human Rights Campaign Foundation Lesbian, Gay, Bisexual, Transgender, Questioning (LGBTQ) Healthcare Equality Top Performer Award. This award is based on the Healthcare Equality Index, which scores healthcare facilities on policies and practices dedicated to the equitable treatment and inclusion of their LGBTQ patients, visitors and employees.

**Exhibit 1: Advocate Good Shepherd Statistics 2018**

Category	Total
Admissions	13,791
Outpatient Visits	248,667
Births	1,322
Emergency Department Visits	35,506
Medical Staff Physicians	770

Source: Advocate Good Shepherd Finance Department, 2019

### **III. Summary of the 2014-2016 Community Health Needs Assessment and Program Implementation**

#### **Community Definition**

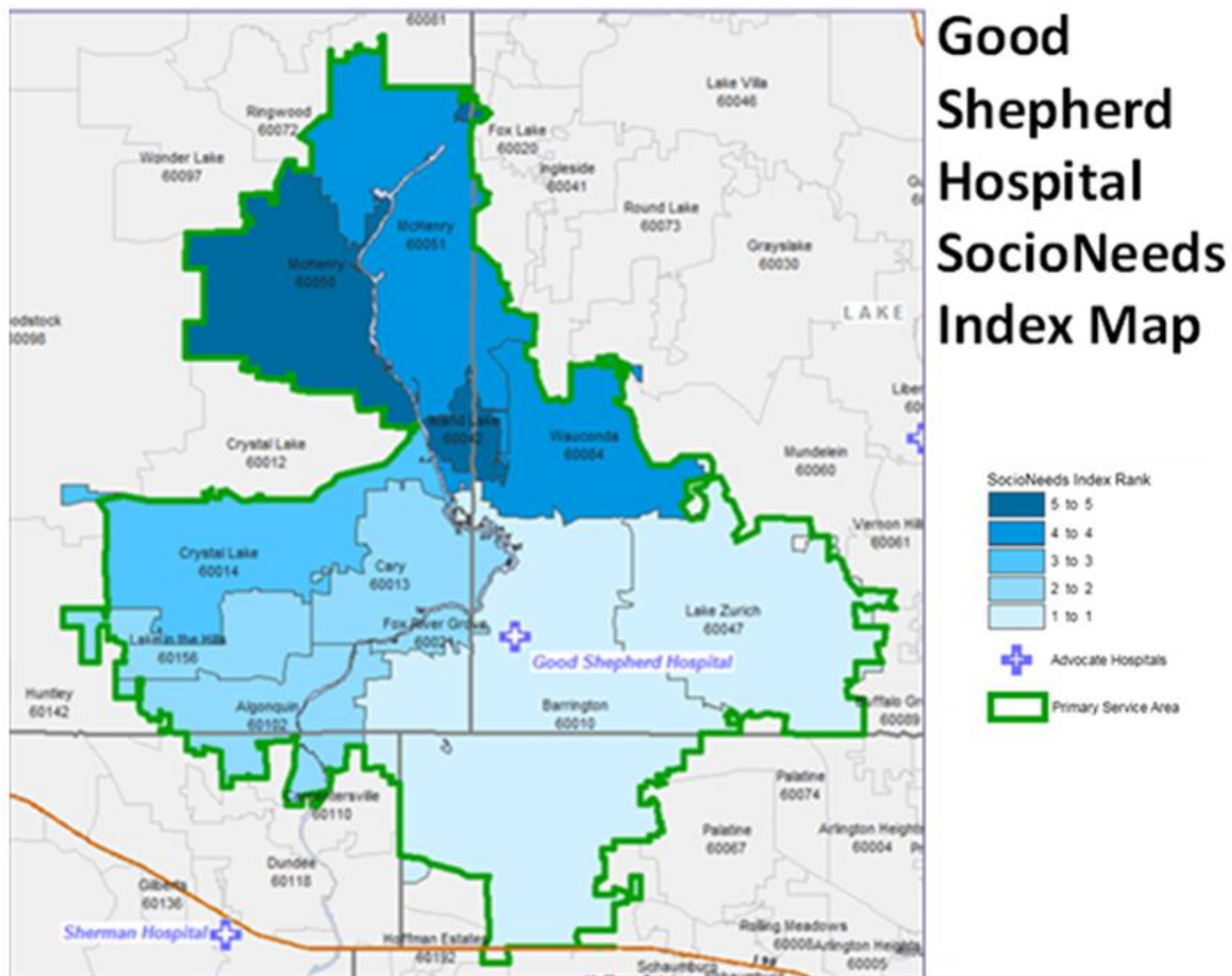
For the purpose of the 2014-2016 CHNA, Advocate Good Shepherd defined the community as the hospital's total service area (TSA). The TSA is the hospital's primary and secondary service areas combined. The TSA includes communities in McHenry County and Lake County, and a small portion of Barrington which lies in Cook County. The TSA includes the following villages and cities: Barrington (60010), Crystal Lake (60014), Lake Zurich (60047), Mundelein (60060), Cary (60013), Round Lake (60073), Fox River Grove (60021), Woodstock (60098), Carpentersville (60110), Island Lake (60042), Wauconda (60084), McHenry (60050, 60051), Palatine (60074), Algonquin (60102) and Lake in the Hills (60156).

#### **Communities with Highest SocioNeeds Index Rates and Ranking**

In order to better understand the social needs that deeply impact a person's ability to live well, the hospital also consulted the SocioNeeds Index. The SocioNeeds Index is a Conduent Healthy Communities Institute (HCI) tool that is a measure of socioeconomic need, correlated with poor health outcomes. The index is calculated from six indicators, one each from the following topics: poverty,

income, unemployment, occupation, education and language. The indicators are weighted to maximize the correlation of the index with premature death rates and preventable hospitalization rates. All zip codes, counties and county equivalents in the United States (U.S.) are given an index rate from 0 (low need) to 100 (high need). To help identify the areas of highest need within a defined geographic area, the selected zip codes are ranked from 1 (low need) to 5 (high need) based on their index rate. These rates are sorted from low to high and divided into five ranks using natural breaks. Exhibit 2 below shows the SocioNeed rankings, with the highest (worst) SocioNeeds rankings with the darker colors.

**Exhibit 2: Advocate Good Shepherd SocioNeeds Index Map 2016**



Source: Healthy Communities Institute, 2016

## Overview of Collaborations

For the 2014-2016 community health needs assessment, Advocate Good Shepherd collaborated with numerous stakeholders including the following:

- Advocate Good Shepherd CHC
- Advocate Good Shepherd Governing Council
- Lake County Health Department
- McHenry County Health Department
- Advocate system and hospital leadership

Since the TSA for Advocate Good Shepherd includes both McHenry County and Lake County, the hospital collaborated with both county health departments for the CHNA. The McHenry County Health Department conducted an assessment in 2013-2014—the McHenry County Healthy Community Study. Advocate Good Shepherd also worked closely with the Lake County Health Department, receiving regular updates from the health department's ongoing community health improvement process.

Additionally, Advocate Good Shepherd and Advocate Condell jointly commissioned the Lake County Health Department to conduct two targeted community surveys for Waukegan and Wauconda. Advocate Good Shepherd also consulted with several additional partner organizations on the CHNA, including the Healthier Barrington Coalition, the McHenry County Health Coalition, the Wauconda United Health Partnership, the Lake County Opioid Initiative Task Force and the McHenry County Substance Abuse Coalition. Each of the organizations have a focus on medically underserved, low-income and minority populations. Hospital staff are actively engaged in the Wauconda Health Partnership, including the Cultural Diversity subcommittee that meets monthly.

## Summary of Assessment Process

In 2014, a Community Health department was established within Advocate Health Care and a plan developed to ensure that each hospital in the system would have a community health expert to coordinate its community health work. Staff for the Advocate Good Shepherd Health Department include a master's-prepared regional director of community health that oversees Advocate Good Shepherd, Advocate Sherman and Advocate Condell and a full-time master's-prepared community health coordinator.

To begin the CHNA, Advocate Good Shepherd convened its long-standing CHC to review both primary and secondary health data. The CHC is chaired by a community representative who also serves as a hospital Governing Council member and is populated by community leaders representing underserved and at-risk populations. Fifty percent of the council is community members with the other members representing various hospital departments. The CHC voted to ratify a formal charter, which outlines its authority, purpose, responsibility, scope of activities and annual goals. In 2016, Advocate Good Shepherd community health staff presented data to the CHC in a series of three meetings over an eight-month period.

## Needs Identified and Priorities Selected

In addition to the survey summaries, staff presented demographic, economic, education, employment and health data to the CHC. These results were coupled with key hospitalization and emergency room (ER) rates accessed through the Healthy Communities Institute data tool. This internet-based data resource provided 171 health and demographic indicators, including 31 hospitalization and emergency department (ED) visit indicators at the service area and zip code levels.

Council members voted to select two health priorities for the hospital to focus upon in the 2017-2019 implementation period. Key criteria for selection of the specific health issues were incidence and prevalence of disease and health condition, mortality rates within Lake and McHenry Counties and the Advocate Good Shepherd TSA, coupled with community opinion and perspective from various surveys. The five health issues profiled in detail were:

- Cardiovascular Disease
- Diabetes
- Obesity
- Mental Health
- Substance Abuse

Upon conclusion of the summary and criteria presentation, each member voted using the cumulative voting method to select their top two health issues. The health issues with the highest votes were:

- Mental Health
- Obesity

In the fifth meeting, CHC members reviewed the progress of 2016 initiatives and the approach for developing the 2017-2019 Advocate Good Shepherd Implementation Plan. Evidence-based programs were then used as the basis for the development of interventions to address the two selected health priority areas.

## Summary of Implementation Programs and Key Accomplishments

The following is a brief summary of program strategies and outcomes for each priority selected.

### Obesity

Advocate Good Shepherd addressed obesity in the service area through three evidence-based programs. The first program was the Nutrition and Physical Activity Self-Assessment for Child Care (Go NAP SACC) program. The Go NAP SACC program is an evidence-based early intervention program targeting infants through pre-kindergarten which aims to advance the childcare environment by improving nutrition, physical activity and policies in the child care center. The hospital is leading the Go NAP SACC assessment process with childcare centers in communities with high SocioNeeds Index rankings within the hospital's service area. Advocate Good Shepherd partnered with Advocate Condell Medical Center (Advocate Condell) and Advocate Sherman Hospital (Advocate Sherman) to make this program a regional initiative. A total of 438 children are enrolled in the centers that have completed assessments.

The second obesity-prevention program was the Centers for Disease Control and Prevention (CDC) Worksite Wellness program which targets adults in the workplace. The program follows the CDC four-step Workplace Health Model and involves using the CDC Worksite Health Scorecard. Worksite nutrition and physical activity programs are designed to improve health-related behaviors and health outcomes. Advocate Good Shepherd Community Health staff worked with the hospital's community relations director to provide worksite health training and programs to chambers of commerce and small businesses within the service area. The chambers assisted in facilitating relationships with local small businesses that were interested in creating and implementing a worksite wellness program. Hospital staff gave worksite wellness presentations to chamber businesses and, despite extensive outreach in 2018, community health staff suspended the Worksite Wellness Program due to very low interest from local chambers of commerce and workplaces.

Community health staff replaced the CDC Worksite Wellness program with the GO Lake County walking initiative that promotes healthy and active living through walking events within Lake County communities. GO Lake County enables community members to increase their level of daily physical activity and foster community engagement. Advocate Good Shepherd began partnering with the Wauconda Park District and sponsored the GO Wauconda campaign. The Wauconda Park District and hospital community health staff launched the GO Wauconda program in summer 2019.

The third obesity prevention initiative was Food Insecurity (FI) screening and resource referral. The FI screen rapidly identifies households at risk for food insecurity, enabling providers to target services that ameliorate the associated health and developmental consequences. The hospital collaborated with Senior Service organizations in the Advocate Good Shepherd service area to screen seniors for food insecurity, using the Hunger Vital Sign® FI questionnaire. Individuals who are identified as food insecure are referred to community resources (food pantries, Supplemental Nutrition Assistance Program (SNAP), Meals on Wheels, congregate meal programs, farmers markets and community gardens. Advocate Good Shepherd community health staff created a Food and Nutrition Resource Guide, which included 72 food resources throughout the community. The staff also recruited and trained a total of eight service agencies. Since 2017, 1,824 seniors completed the Hunger Vital Sign® screening, 12 percent of which screened positive for food insecurity and were referred to community resources.

## *Mental Health*

The hospital addressed mental health in the Advocate Good Shepherd service area through three strategies. The first strategy was Youth Mental Health First Aid training, an international evidence-based program designed to help people recognize individuals with mental health problems and provide skills to help those who are having a mental health crisis to access help. Using the Mental Health Youth First Aid curriculum, the hospital targeted teachers, Physical Education (PE) instructors and coaches. Advocate Good Shepherd hosted four Youth Mental Health First Aid trainings. Seventy-eight individuals in youth services completed the training. Post-survey results showed one-hundred percent of participants had increased knowledge of de-escalation techniques and were more confident about recognizing and correcting misconceptions about mental health and mental illnesses.

Through a collaboration with Advocate Condell, Advocate Good Shepherd also hosted one Mental Health First Aid training in Public Safety for 23 first responders in the Wauconda area. Post-survey results showed 100 percent of participants had an increased knowledge of de-escalation techniques and were more confident about recognizing and correcting misconceptions about mental health and mental illnesses. The hospital also sponsored one police officer from the Wauconda Police Department to complete the 40-hour Mental Health First Aid Public Safety Instructor Course. The police officer now has the ability to instruct other officers and first responders in the community on Mental Health First Aid for Public Safety. In addition, the hospital sponsored two Spanish-speaking individuals to become certified as Youth Mental Health First Aid instructors.

The second strategy to address mental health was to increase the number of adults who are screened for depression and referred to supportive services. Collaborative care for the management of depressive disorders is a multicomponent, healthcare system-level intervention that uses case managers to link primary care providers, patients and mental health specialists. Advocate Good Shepherd is screening hospital patients age 65 and older, obstetric and cardiology patients. Hospital health care professionals refer individuals who screen positive to community and mental health support services.

Advocate Good Shepherd has strengthened relationships with the Lake County Health Department and the McHenry County Mental Health Board with the goal of improving the referral process. Community Health staff completed verification that depression screenings using the PHQ-9<sup>®</sup> screening tool are occurring at Advocate Good Shepherd. Referrals to mental health providers are being completed by physicians. However, currently there is no aggregate data report available of patients who have completed depression screening. The data is only available within the patient registry. Community health staff consulted with the Advocate behavioral health service line to determine if aggregate data can be generated from the registry data, and a report cannot be developed with existing technology.

Community health staff examined the rates of depression for Medicare beneficiaries and the hospitalization rates for suicide and self-injury in the Advocate Good Shepherd service area and discovered both rates were high. Due to this, the hospital arranged two one-hour Question, Persuade and Refer (QPR) and stress management trainings for the Wauconda Township Center and the Senior Breakfast Club at Advocate Good Shepherd. QPR is an evidence-based suicide prevention training designed to empower a person with the tools to identify if someone is suicidal and then to refer them to professional resources. A total of 49 people attended the QPR sessions.

In addition, community health staff developed a new partnership with the Harvard Senior Center and the Program to Encourage Active, Rewarding Lives (PEARLS) program. The PEARLS program is a national evidence-based program for late-life depression. PEARLS brings high quality mental health care into community-based settings that reach vulnerable older adults. Advocate Good Shepherd and Harvard Senior Center collaborated for a two-day Pearls Program Master training for professionals who work with the senior population. The PEARLS program replaced the collaborative care for the management of depressive disorders intervention.

The third strategy to address mental health was to strengthen Advocate Good Shepherd's linkages to community mental health agencies within the service area. The hospital sponsored a joint Mental Health Resource Fair with Advocate Condell to introduce community mental health agencies and

providers to hospital clinical staff. Resource fair attendees learned about services provided and insurance coverage accepted by the community mental health agencies.

To address the mental health needs of the Barrington area, Advocate Good Shepherd oversaw the development and launch of a mental health resource website named Healthy Barrington. Community health staff partnered with Barrington Youth and Family Services to receive a grant from the Barrington Area Community Foundation to help fund the website development. The website provides a wide array of resources to Barrington area residents, including mental health counseling, substance use treatment and other supportive services within the greater Chicagoland area. The website launched in August 2018 and can be found at [www.healthybarrington.org](http://www.healthybarrington.org).

Mental health and substance use are common co-occurring conditions. Though not specifically selected as a priority, the hospital saw the need to implement a program to specifically address community residents struggling with opioid use disorder. Advocate Good Shepherd entered into an agreement with Gateway Foundation Alcohol and Drug Treatment to place a full-time credentialed engagement specialist within the Advocate Good Shepherd emergency department (ED) to work with patients presenting with opioid use disorder. The goal is to coordinate a direct transfer or referral into substance use treatment for patients coming into the ED. The program launched in January 2018 and 59 patients were seen by the Engagement Specialist during 2018. Thirty-five patients (59 percent) were referred for substance use treatment, and of these, 12 patients (34 percent) kept the appointment with the treatment facility.

## **Input from the Community**

After the CHNA was completed, it was posted on the hospital's website for public comment and paper copies were available at the hospital upon request. The hospital did not receive any feedback from the community regarding the 2014-2016 CHNA.

## **Lessons Learned**

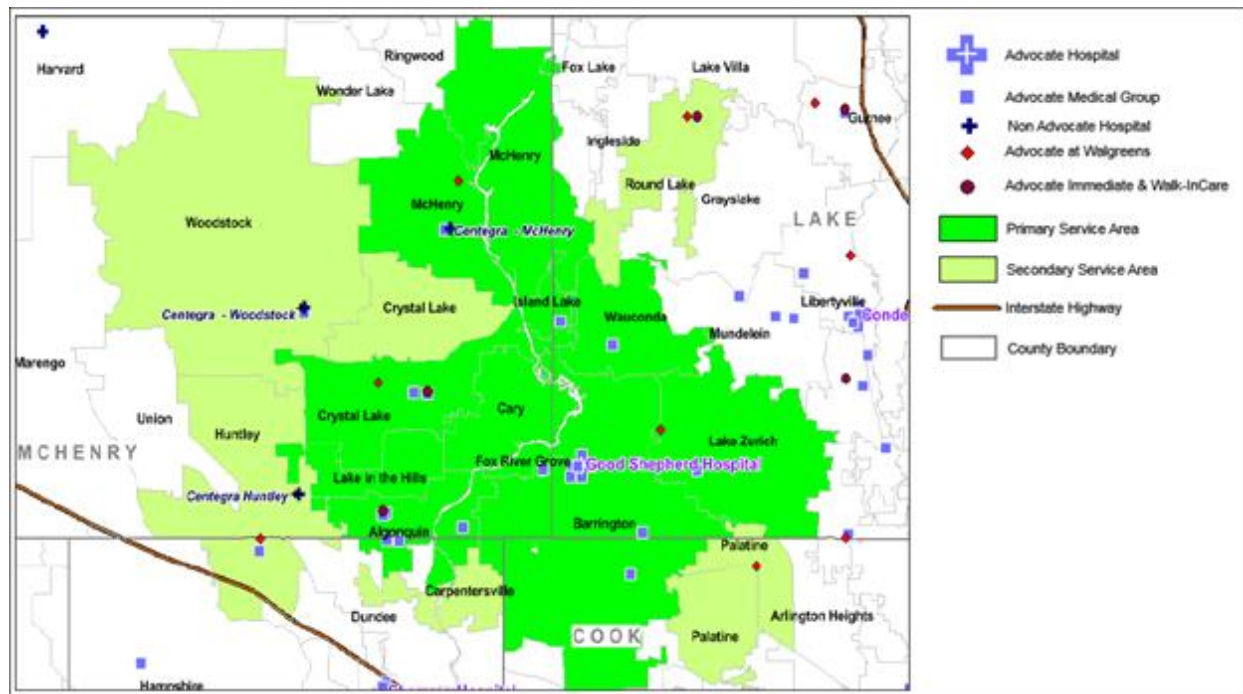
Advocate Good Shepherd identified one key lesson learned from the previous 2014-2016 CHNA cycle. While selecting and planning the community health interventions, additional time was needed to identify key partners and build collaborations to fully implement the programs. This issue caused delays in program setup and establishing initial baselines during the first year. More advance planning to identify possible strategic alignment with existing community agencies and coalitions needs to be designed into the implementation timeline. Additionally, some child care centers identified to participate in the Go NAP SACC program were very small and had limited staff capacity to conduct the assessment and implement an action plan. This resulted in some centers dropping out after the assessment or stalling in the action plan stage. The centers did find the online version of Go NAP SACC much easier to use as the assessments took much less time to complete and score.

## IV. 2017-2019 Community Health Needs Assessment

### Community Definition

For the purpose of the 2017-2019 CHNA, Advocate Good Shepherd defines community as the hospital's PSA). The PSA includes communities in McHenry County and Lake County and a small portion of Barrington which lies in Cook County. The PSA includes the following villages and cities: Barrington (zip code 60010), Crystal Lake (60014), Lake Zurich (60047), Cary (60013), Fox River Grove (60021), Island Lake (60042), Wauconda (60084), McHenry (60050, 60051), Algonquin (60102), and Lake in the Hills (60156). Exhibit 3 displays a map of the Advocate Good Shepherd PSA, shown in bright green.

**Exhibit 3: Advocate Good Shepherd PSA Map 2019**



Source: Advocate Aurora Business Development Analytics, 2019

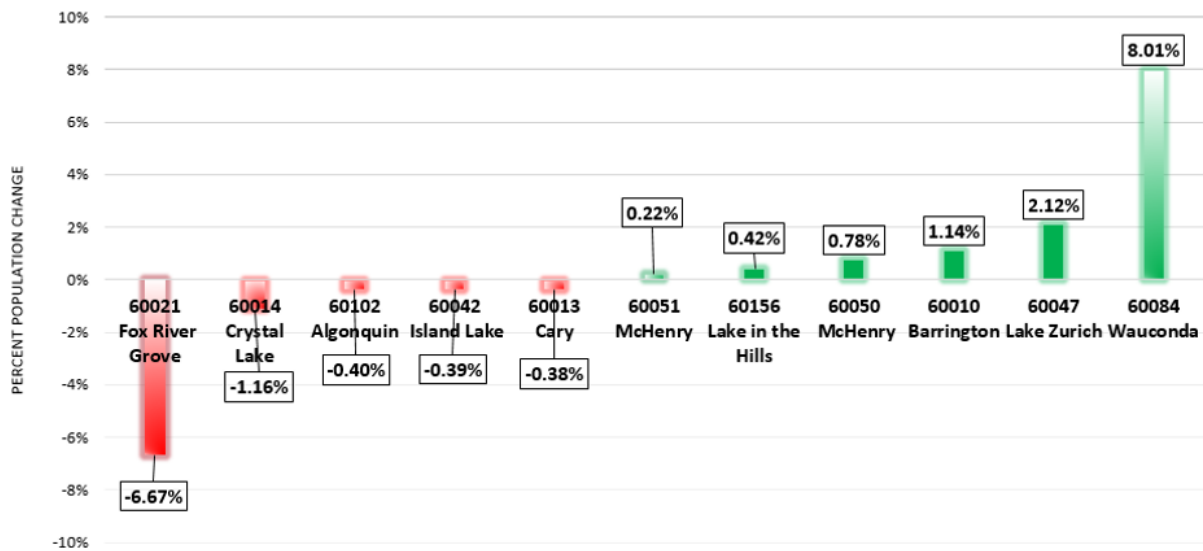
### Population

Advocate Good Shepherd's PSA population is 309,765. The PSA is illustrated in the map above as the bright green area on the map. Within Advocate Aurora, the PSA is defined as the geographical area where 75 percent of patients reside.

The PSA experienced slow population growth of 0.59 percent from 2010 to 2019. Six communities experienced an increase in population from 2010 to 2019 (McHenry—both zip codes, Lake in the Hills, Barrington, Lake Zurich and Wauconda), while the other five had a decrease in population (Fox River

Grove, Crystal Lake, Algonquin, Island Lake and Cary) (Conduent Healthy Communities Institute, Claritas, 2019). These population changes are shown in Exhibit 4.

**Exhibit 4: Advocate Good Shepherd PSA Percent Population Change 2010-2019**



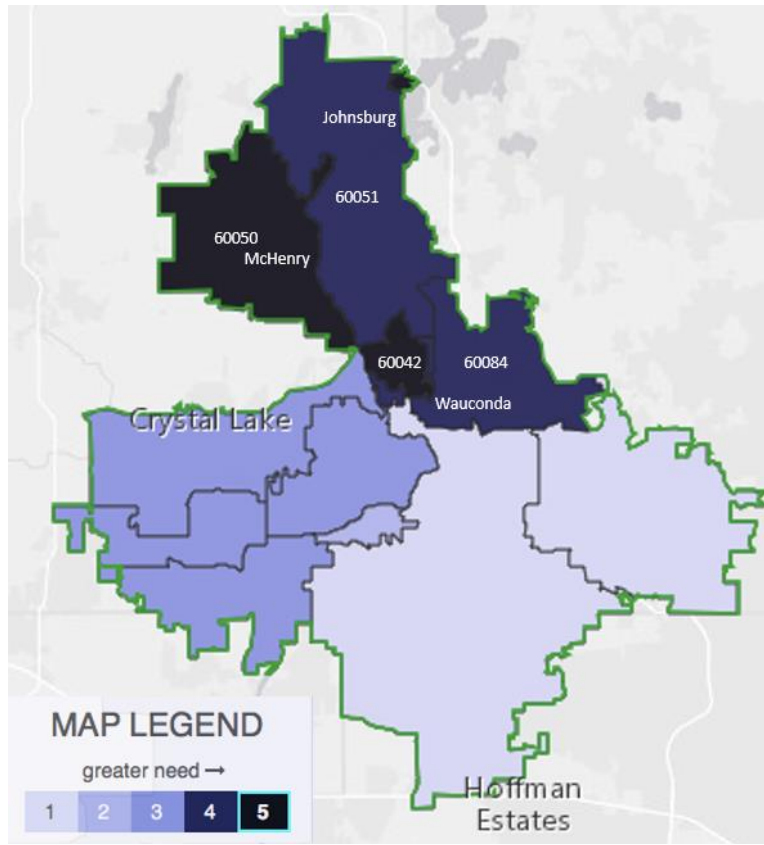
Source: Conduent Healthy Communities Institute, Claritas, 2019

### *Social Determinants of Health: SocioNeeds Index*

In order to better understand the social and economic conditions that deeply impact a person/family's ability to live well, the SocioNeeds Index was consulted. The SocioNeeds Index is a Conduent Healthy Communities Institute indicator that is a measure of socioeconomic need correlated with poor health outcomes. The index is calculated from six indicators, one each from the following areas: poverty, income, unemployment, occupation, education and language. The indicators are weighted to maximize the correlation of the index with premature death rates and preventable hospitalization rates. All zip codes, counties, and county equivalents in the U.S. are given an index rate from 0 (low need) to 100 (high need). To help identify the areas of highest need within a defined geographic area, the selected zip codes are ranked from 1 (low need) to 5 (high need) based on their Index rate. These rates are sorted from low to high and divided into five ranks using natural breaks. These ranks are then used to color the zip codes with the highest SocioNeeds rankings with the darker colors. The hospital has several communities within the PSA that have greater socioeconomic needs compared to other communities in the PSA. Zip codes 60050 and 60051 (McHenry), 60142 (Island Lake) and 60084 (Wauconda) are Advocate Good Shepherd's highest need communities.

Exhibit 5 displays the SocioNeeds Index map, with the highest need communities shaded in dark blue and black.

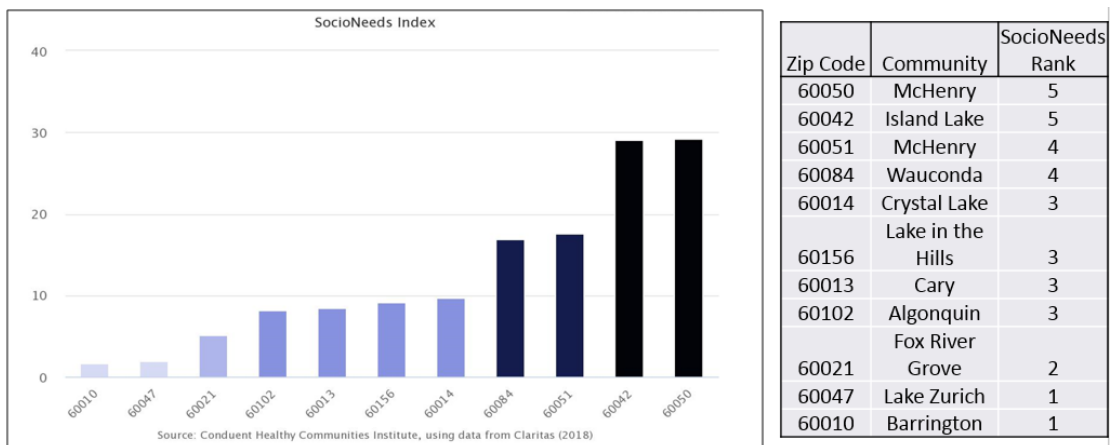
## Exhibit 5: Advocate Good Shepherd PSA SocioNeeds Index Map 2018



Source: Conduent Healthy Communities Institute, 2019

In Exhibit 6, all 11 zip codes in the Advocate Good Shepherd service area are listed in order from highest need communities to the lowest need communities.

## Exhibit 6: Advocate Good Shepherd PSA SocioNeeds Index by Zip Code 2018



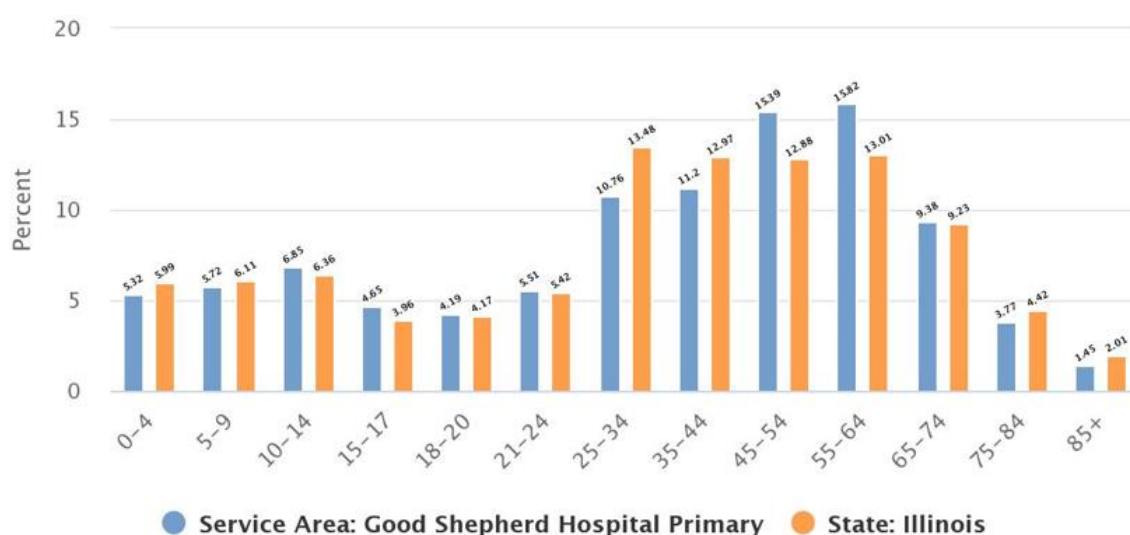
Source: Conduent Healthy Communities Institute, 2019

## Demographics

### PSA Median Age and Gender

Advocate Good Shepherd's PSA has 309,765 residents. A total of 49.6 percent of the PSA residents are male and 50.4 percent are female. The median age of all residents in the PSA is 41.68 years; the median age for females is 42.83 years and 40.45 years for males. The PSA median age has increased by 0.7 years since the 2016 CHNA. The PSA age group distribution in comparison to Illinois is shown in Exhibit 7. (Conduent Healthy Communities Institute, Claritas 2019).

**Exhibit 7: Advocate Good Shepherd Age Groups of PSA Residents compared to State of IL 2019**



Source: Conduent Healthy Communities Institute, Claritas, 2019

### Barrington Median Age

According to the 2017 Healthier Barrington Coalition Study, the Barrington Area has also experienced an increase in the median age. The zip code 60010 (Barrington) median age in 2015 was 47.3 years, which is exactly 10 years older than the Illinois median age of 37.3 years. The 60010 median age rose six years from 2000 to 2015, substantially higher than the 2.6-year increase for Illinois for that same period. From 2010-2015 the fastest growing age group was adults ages 65-74 years old, which grew 22.3 percent, followed by adults ages 20-29 years (increase of 19 percent) and adults ages 75-84 years (increase of 11.6 percent).

In the Barrington zip code, the age groups for children lost the most population during the past five years: children under age of 5 years (decrease of 13.6 percent), children ages 5-9 years (decrease of 10.1 percent), children ages 10-14 years (decrease of 11 percent) (Conduent Healthy Communities Institute, U.S. Census Bureau, 2011-2015, American Community Survey 5-Year Estimates, 2019). The Barrington median age trends are shown in Exhibit 8.

### Exhibit 8: Barrington Zip Code 60010 Change in Population Age Groups 2010-2015

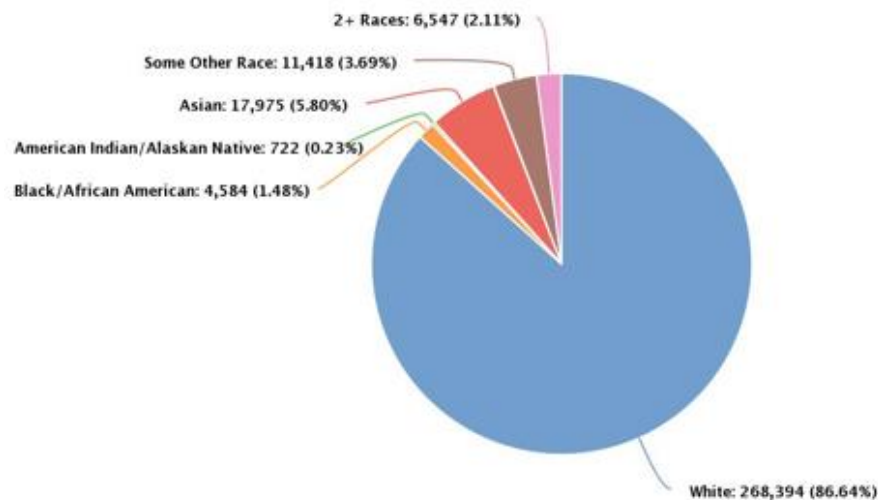
Age Group	2015		2010		2010-2015 Increase	
	Number	Percent	Number	Percent	Number	Percent
Total	44,331	100.0%	44,095	100.0%	↑ 42,602	0.5%
Under 5	1,729	3.9%	2,002	4.5%	↓ -273	-13.6%
5-9 Years	2,882	6.5%	3,205	7.3%	↓ -323	-10.1%
10-14 Years	3,413	7.7%	3,834	8.7%	↓ -421	-11.0%
15-19 Years	3,280	7.4%	3,258	7.4%	↑ 22	0.7%
20-29 Years	3,015	6.8%	2,534	5.8%	↑ 481	19.0%
30-44 Years	6,295	14.2%	6,560	14.9%	↓ -265	-4.0%
45-59 Years	12,147	27.4%	12,324	27.9%	↓ -177	-1.4%
60-64 Years	3,369	7.6%	3,329	7.5%	↑ 40	1.2%
65-74 Years	5,054	11.4%	4,133	9.4%	↑ 921	22.3%
75-84 Years	2,261	5.1%	2,026	4.6%	↑ 235	11.6%
85+ Years	931	2.1%	890	2.1%	↑ 41	4.6%

Source: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2019

### Race and Ethnicity

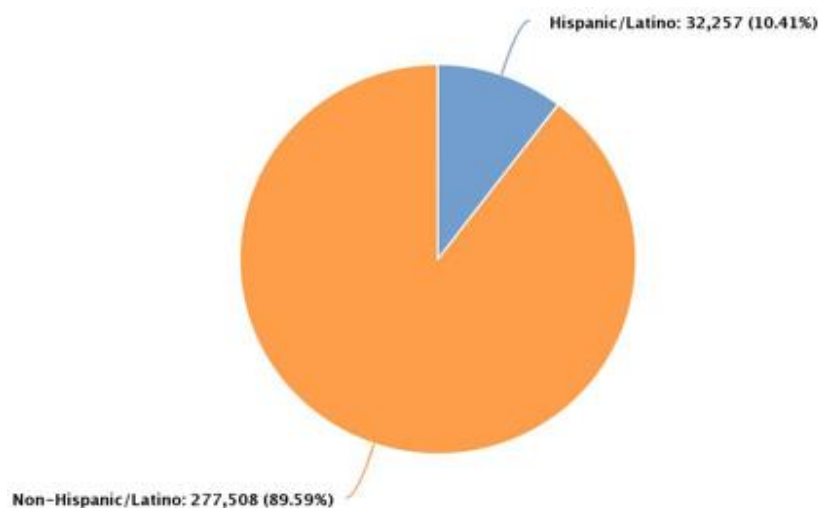
The population of the hospital's PSA is 86.6 percent White, 5.8 percent Asian and 1.5 percent African American, as shown in Exhibit 9. Ninety percent of residents are non-Hispanic and 10.4 percent are of Hispanic ethnicity as shown in Exhibit 10.

### Exhibit 9: Advocate Good Shepherd PSA by Race 2019



Source: Conduent Healthy Communities Institute, Claritas, 2019

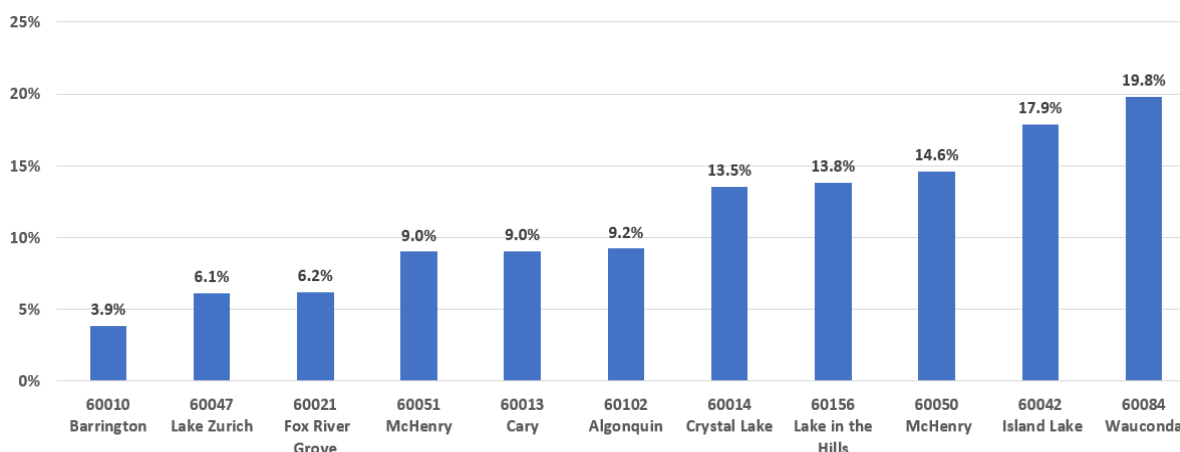
## Exhibit 10: Advocate Good Shepherd PSA by Ethnicity 2019



Source: Conduent Healthy Communities Institute, Claritas, 2019

The zip codes in the hospital's PSA with the highest percent of Hispanic residents are Wauconda (19.8 percent), Island Lake (17.9 percent), McHenry (14.6 percent), Lake in the Hills (13.8 percent) and Crystal Lake (13.5 percent) (Conduent Healthy Communities Institute, Claritas 2019). Exhibit 11 shows the Hispanic population in each zip code.

## Exhibit 11: Advocate Good Shepherd PSA Hispanic/Latino Population by Zip Code 2019



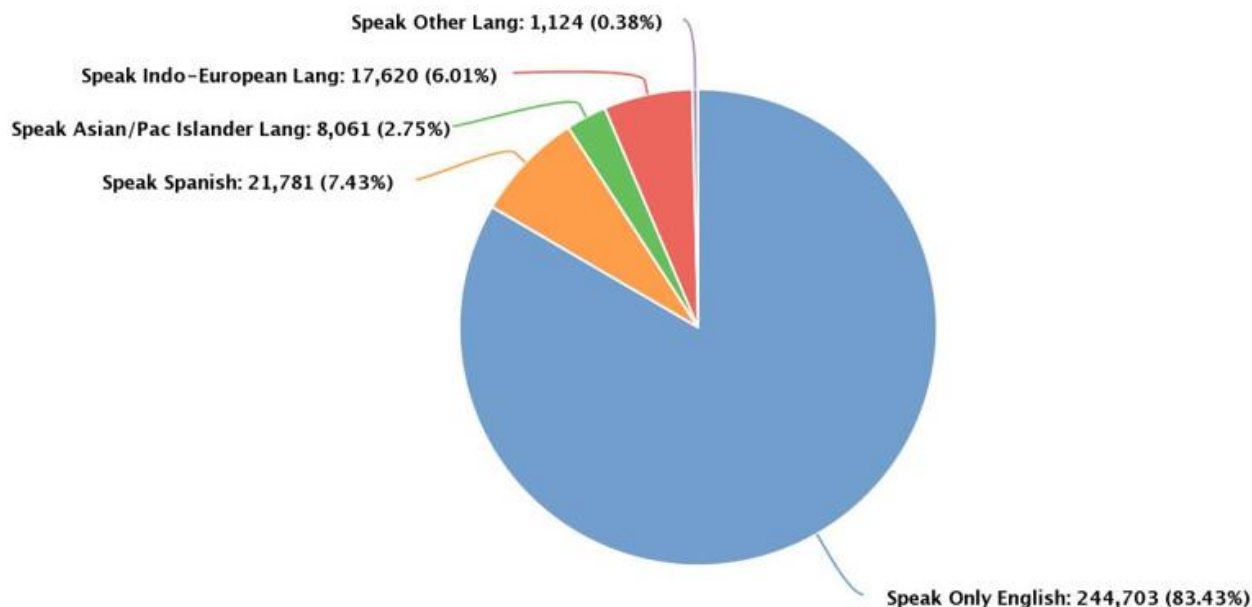
Source: Conduent Healthy Communities Institute, Claritas, 2019

## Language Spoken at Home

A total of 83.4 percent of PSA residents ages 5 and older speak only English at home, which is higher than the percentage for Illinois of 77.2 percent who speak only English at home. A total of 16.6 percent of PSA residents speak other languages at home, including Spanish, Indo-European languages, Asian/Pacific Island and other languages. The most common other language spoken at home is Spanish (7.43 percent) which is much lower than the rate for the state (13.37 percent). The percentage

of PSA residents who speak Indo-European languages (6.01 percent) is very similar to the state rate (5.49 percent) (Conduent Healthy Communities Institute, Claritas, 2019). Exhibit 12 illustrates a breakdown of the PSA population languages spoken at home.

**Exhibit 12: Advocate Good Shepherd PSA by Language Spoken at Home 2019**



Source: Conduent Healthy Communities Institute, Claritas, 2019

### **Number of Household and Average Household Size**

There are 110,357 households in the PSA with an average household size of 2.79 persons. This is a 1.9 percent increase in the household size from 2010 to 2019 for the PSA, higher than the Illinois rate of increase at 0.6 percent. A total of 84,849 families are in the PSA, which represents a 2 percent increase from 2010 to 2019. There are 45,299 (41.1) households with children in the PSA (Conduent Healthy Communities Institute, Claritas, 2019). Seventeen percent of children in the PSA are living in a single parent household, which is notably lower than the state rate of 32.4 percent and the U.S. rate of 33.3 percent (Conduent Healthy Communities Institute, American Community Survey, 2013-2017).

### **Seniors Living Alone**

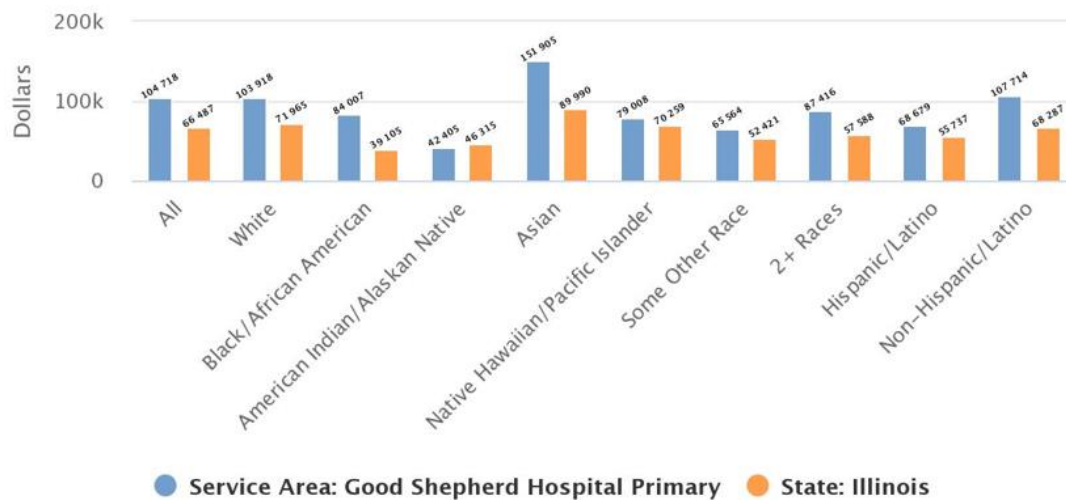
In the PSA, 21.6 percent of seniors age 65 and over are living alone, which is lower than the Illinois rate of 28.5 percent and the U.S. rate of 26.2 percent (Conduent Healthy Communities Institute, American Community Survey, 2013-2017).

## Economics

### Median Household Income

The median household income for the PSA population is \$104,718. The group with the highest median household income is Asian at \$151,905 and the lowest is American Indian/ Pacific Islander at \$42,405. Non-Hispanics have a higher median household income at \$107,714 than Hispanics at \$68,679 (Conduent Healthy Communities Institute, Claritas, 2019). Exhibits 13 and 14 breakdown the median household income by race and ethnicity.

**Exhibit 13: Advocate Good Shepherd PSA Median Household Income by Race/Ethnicity compared to State of IL 2019**



Source: Conduent Healthy Communities Institute, Claritas, 2019

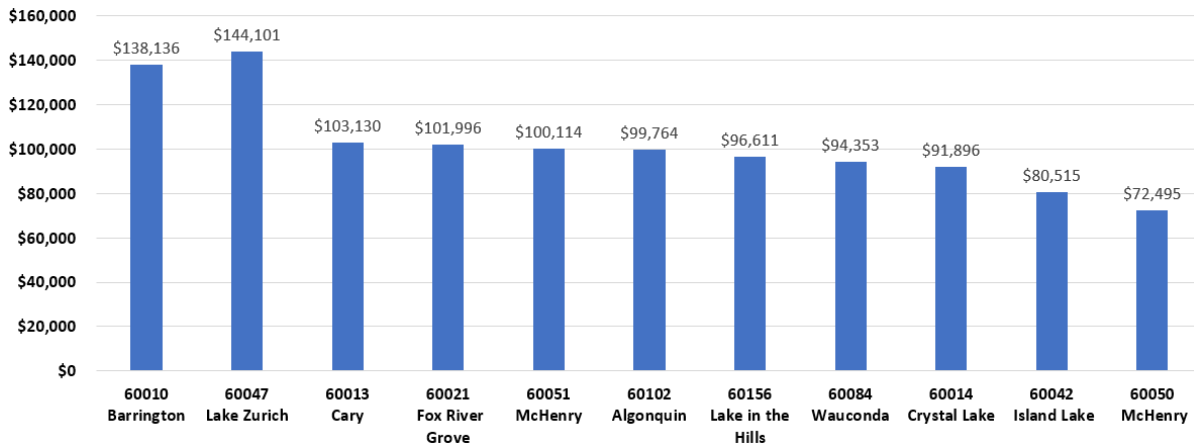
**Exhibit 14: Advocate Good Shepherd PSA Median Household Income by Race/Ethnicity compared to State of IL 2019**

Median Household Income by Race/Ethnicity	Service Area: Good Shepherd Hospital Primary	State: Illinois
	Value	Value
All	\$104,718	\$66,487
White	\$103,918	\$71,965
Black/African American	\$84,007	\$39,105
American Indian/Alaskan Native	\$42,405	\$46,315
Asian	\$151,905	\$89,990
Native Hawaiian/Pacific Islander	\$79,008	\$70,259
Some Other Race	\$65,564	\$52,421
2+ Races	\$87,416	\$57,588
Hispanic/Latino	\$68,679	\$55,737
Non-Hispanic/Latino	\$107,714	\$68,287

Source: Conduent Healthy Communities Institute, Claritas, 2019

The communities within the hospital's PSA with the lowest median household income are McHenry (\$72,495), Island Lake (\$80,515), Crystal Lake (\$91,895) and Wauconda (\$94,353), as shown in Exhibit 15 (Conduent Healthy Communities Institute, Claritas, 2019).

**Exhibit 15: Advocate Good Shepherd PSA Median Household Income by Zip Code 2019**



Source: Conduent Healthy Communities Institute, Claritas, 2019

### *Poverty*

In the PSA, 5.4 percent of people are living below 100 percent of the federal poverty level (FPL). Sixty-seven percent of children and 4.8 percent of adults age 65 and older are living below the poverty level. In Lake County, 13.8 percent of persons with a disability are living in poverty and the rate is 13.3 percent for persons with a disability in McHenry County (Conduent Healthy Communities Institute, Claritas, 2019).

There are 3,469 families (4.1 percent of total families) in the hospital's PSA that are living below the poverty level. Additionally, 2,575 families with children (three percent of all families with children) in the PSA are living below the poverty level. The zip codes with the highest percent of families living below the poverty level are (Conduent Healthy Communities Institute, Claritas, 2019):

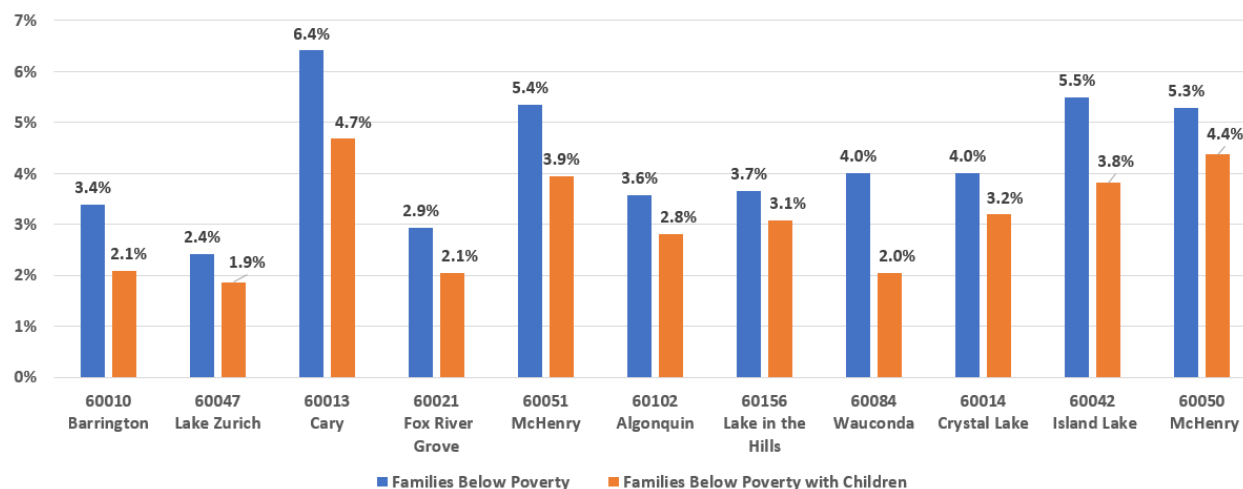
- 60013 (Cary) (6.4 percent)
- 60042 (Island Lake) (5.5 percent)
- 60051 (McHenry) (5.4 percent)
- 60050 (McHenry) (5.3 percent)

The zip codes with the highest percent of families with children living below the poverty level are:

- 60013 (Cary) (4.7 percent)
- 60050 (McHenry) (4.4 percent)
- 60051 (McHenry) (3.9 percent)
- 60042 (Island Lake) (3.8 percent)

Families living below the poverty level is displayed by zip code in Exhibit 16.

## Exhibit 16: Advocate Good Shepherd PSA Percent of Families and Families with Children Living Below the Federal Poverty Level by Zip Code 2019



Source: Conduent Healthy Communities Institute, Claritas, 2019

### *Free and Reduced School Meal Program*

The National School Lunch Program and School Breakfast Program are funded by the U.S. Department of Agriculture (U.S.D.A.) and administered by the Illinois State Board of Education (ISBE). Free and reduced-price meals ensure access to nutritious meals and snacks for families unable to pay the full price. In order to meet eligibility guidelines for reduced price school meals, a family must have an income below 185 percent of the Federal Poverty Guideline; to qualify for free school lunches, a family must have an income below 130 percent of the Federal Poverty Guideline.

The five schools in the PSA with the highest percentage of students on the Free and Reduced-Price Meal Plan are Wauconda Grade School (54.5 percent), Canterbury Elementary School in Crystal Lake (53 percent), Edgebrook Elementary School in McHenry (52.3 percent) Coventry Elementary School in Crystal Lake (49.7 percent) and Three Oaks School in Cary (44.6 percent). Of the 25 schools with the highest percentages, eight schools are in McHenry and five schools are in Crystal Lake (Illinois State Board of Education, 2018).

## Employment

### *Unemployment*

The unemployment rate for the hospital's PSA is 4.1 percent, slightly lower than the Illinois rate at 6.7 percent. The highest unemployment rates in the PSA are in the communities of McHenry (60050) (4.4 percent), Island Lake (4.7 percent), Wauconda (5.2 percent) and McHenry (60051) (4.5 percent) (Conduent Healthy Communities Institute, Claritas, 2019).

## Top Industries for Employment

The top three industries for employed civilians age 16 and older for the PSA are total manufacturing (14.5 percent), retail trade (13.12 percent) and healthcare/social assistance (10.4 percent). The top three occupations for employed civilians age 16 and older for the PSA are management (14.4 percent), sales/related (13.8 percent) and office/administrative support (13.4 percent). In the PSA, 69.4 percent of employed residents age 16 and older identify as having white collar employment, 17.2 percent identify as blue collar and 13.4 percent as service and farming (Conduent Healthy Communities Institute, Claritas, 2019).

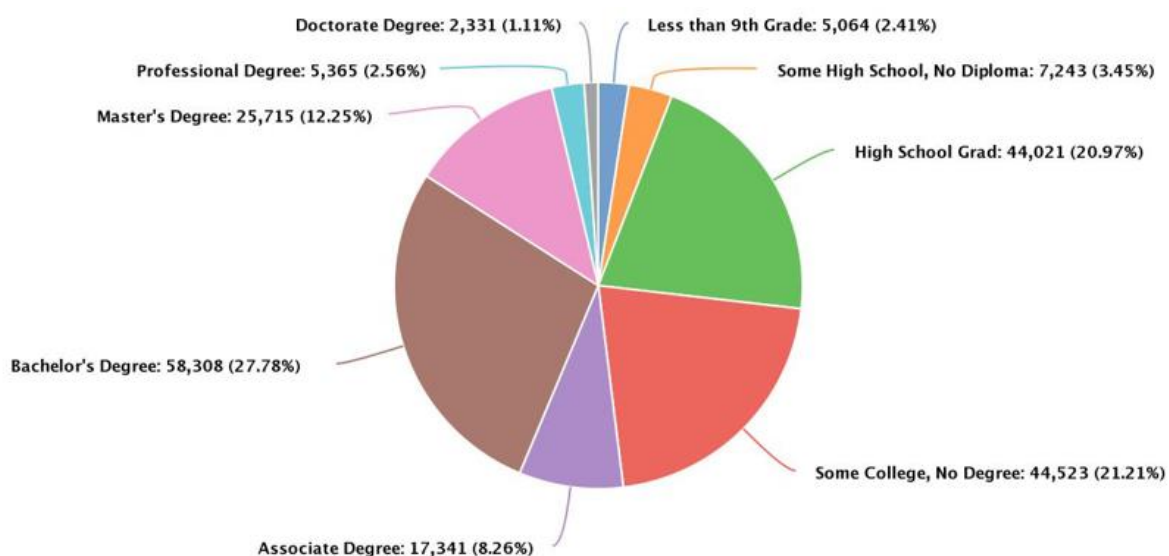
## Education

### Educational Level

In the PSA, 94.1 percent of the population age 25 or older has a high school degree or higher, but 5.9 percent of the population has no high school diploma, which is much lower than the Illinois rate of population with no high school diploma of 11.31 percent. The communities with the highest percentage of their population without a high school diploma are Island Lake (7.2 percent), McHenry (60051) (6.6 percent), McHenry (60050) (8.8 percent) and Wauconda (9.5 percent). Males have a higher percentage with no high school diploma at 6.2 percent. The rate for females with no high school diploma is 5.6 percent. Within the PSA, 43.7 percent of the population has a bachelor's degree or higher (Conduent Healthy Communities Institute, Claritas, 2019).

The educational attainment levels of PSA residents are displayed in Exhibit 17.

**Exhibit 17: Advocate Good Shepherd PSA Educational Attainment, Age 25 and Older 2019**



Source: Conduent Healthy Communities Institute, Claritas, 2019

## High School Graduation Rates

The high school graduation rate in Lake County is 89.7 percent and 91.5 percent in McHenry County; both county rates are higher than the Illinois rate (85.6 percent) and the U.S. rate (83.2 percent) (Conduent Healthy Communities Institute, National Center for Education Statistics, 2016-2017).

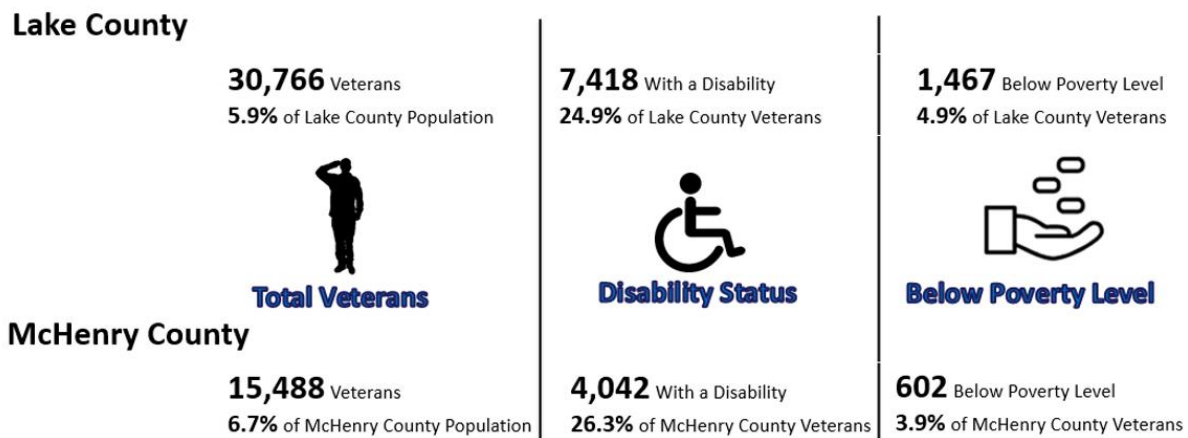
## Student-to-Teacher Ratio

Student-to-teacher ratio indicates the average number of public school students per teacher in the region. It does not measure class size. According to the National Center for Education Statistics, larger schools tend to have higher student-teacher ratios. There are 14.2 students per teacher in Lake County and 15.1 students per teacher in McHenry County, which are lower than both the Illinois (15.7 students) and U.S. (16.5 students) rates (Conduent Healthy Communities Institute, National Center for Education Statistics, 2016-2017).

## Veteran Status

In McHenry County, 6.7 percent of the population are veterans; the rate is 5.9 percent in Lake County, as shown in Exhibit 18. Of the total veterans in McHenry County, 26.3 percent have a disability and 3.9 percent are living below the federal poverty level. The percentages in Lake County are similar, with a quarter of veterans with a disability and 4.9 percent living below the poverty level. The Illinois rates are higher with 27.6 percent of veterans with a disability and 7.1 percent living below the poverty level (U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates, 2019).

**Exhibit 18: Lake and McHenry County Veteran Status 2013-2017**



Source: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2019

## Health Care Resources in the Defined Community

Advocate Good Shepherd's community health department conducted an environmental scan to identify health care resources within the hospital's PSA. These health care resources are as follows.

Name of Facility	Type of Facility	Location
Northwestern Medicine	Hospital	Huntley
Northwestern Medicine	Hospital	McHenry
Northwestern Medicine	Mental Health Treatment	Crystal Lake
Family Health Partnership Clinic	Free Clinic	Crystal Lake
Community Health Partnership of Illinois	Federally Qualified Health Center	Harvard
Greater Elgin Family Care Center	Federally Qualified Health Center	McHenry

### *Key Findings: Community Definition*

- The zip codes with the highest socioeconomic needs in Advocate Good Shepherd's PSA are 60050 and 60051 (McHenry), 60042 (Island Lake) and 60084 (Wauconda).
- The median age of the PSA is 41.68 years. The median age in the PSA has increased from 2010 to 2019.
- The population of the PSA is 86.6 percent White, 5.8 percent Asian and 1.5 percent African American.
- Ninety percent of residents are non-Hispanic, and 10.4 percent are Hispanic.
- For PSA residents age 5 and older, 83.4 percent speak only English at home, while 16.6 percent speak other languages at home, including Spanish, Indo-European languages, Asian/Pacific Islander and other languages.
- There are 110,357 households in the PSA with an average household size of 2.79 persons.
- The median household income for the hospital's PSA population is \$104,718. Non-Hispanics have a higher median household income at \$107,714 than Hispanics at \$68,679.
- The unemployment rate for the PSA is 4.1 percent; slightly lower than the state of Illinois rate at 6.7 percent.
- Ninety-four percent of the population, age 25 or older has a high school degree or higher, but 5.9 percent of the population has no high school diploma.

## **Key Roles in the 2017-2019 Community Health Needs Assessment**

### *Advocate Aurora System and Advocate Good Shepherd Leadership*

The Advocate Good Shepherd community health department includes a full-time community health coordinator and a regional director of community health, with accountability for three hospitals/medical centers—Advocate Good Shepherd, Advocate Condell and Advocate Sherman. The community health director reports to the vice president of community health and faith outreach for Illinois, and all community health programs are under the leadership of the Advocate Aurora chief external affairs officer. Locally, the Advocate Good Shepherd vice president of operations supports the community health staff and the director of community health meets monthly with the vice president. Additionally, the director meets several times per year with the hospital's president to coordinate and align strategy for community health interventions.

## *Governing Council*

The Advocate Good Shepherd Governing Council is comprised of 18 members, representing a broad array of community sectors. Members come from the fields of education, manufacturing, philanthropy, faith communities, marketing, financial industry, primary care and subspecialty health care. One member of the Governing Council is the chair of the CHC to ensure coordination of information. The Governing Council reviewed and approved the recommended health priorities on June 11, 2019, and approved the 2017-2019 Community Health Needs Assessment Report on October 23, 2019.

## *Community Health Council*

In alignment with Advocate Health Care's standardized approach, Advocate Good Shepherd convened its long-standing CHC to review both primary and secondary health data for the CHNA. The CHC is chaired by a community representative who also serves as a Governing Council member of the hospital. The CHC is comprised of eleven community members, representing 65 percent of the total membership. Non-Advocate-affiliated members represent the McHenry County and Lake County Health Departments, a free clinic in McHenry County, faith-based organizations, area school districts, the American Cancer Society and community-based social service agencies. Advocate Good Shepherd representatives include the departments of community and guest relations, trauma, health management, and Magnet and special projects.

The affiliations and titles of the hospital's Community Health Council members are provided below. CHC members with an asterisk (\*) serve medically underserved, low-income and/or minority populations.

### **Advocate Good Shepherd CHC Members**

#### *Members from the Community*

- American Cancer Society, Manager, Health Systems,
- Barrington School District 220, Director, Communications
- Citizens for Conservation, President
- Family Health Partnership Clinic, Executive Director \*
- Harvard Senior Center, Executive Director \*
- Lake County Health Department, Director, Prevention \*
- McHenry County Health Department, Coordinator, Community Health & ER \*
- McHenry County Substance Abuse Coalition, Drug Free Coordinator
- Wauconda Messiah Lutheran Church, Pastor
- Wauconda School District 118, Superintendent
- Wauconda School District 118, Superintendent (retired); Advocate Good Shepherd Governing Council, CHC Chair

#### *Members from Advocate Aurora*

- Advocate Aurora, Northern Illinois Region Director, Community Health
- Advocate Good Shepherd, Coordinator, Community Health
- Advocate Good Shepherd, Director, Community and Guest Relations
- Advocate Good Shepherd, Manager, Health Management Center

- Advocate Good Shepherd, Manager, Magnet & Special Projects
- Advocate Good Shepherd, Coordinator, Trauma & Paramedics

Advocate Good Shepherd community health department staff presented extensive community data to the CHC in a series of three meetings over a three-month period. In a fourth meeting, CHC members voted, using a modified Hanlon Method, to select two health priorities to focus on in the 2020-2022 Implementation Plan period.

### *Collaboration with Health Departments and/or Hospitals*

Since the Advocate Good Shepherd PSA includes both McHenry County and Lake County, the hospital collaborated with both county health departments to conduct a comprehensive CHNA.

#### **McHenry County Department of Health**

The McHenry County Department of Health conducted its most recent assessment in 2017, the McHenry County Healthy Community Study. Partner organizations directing the study included the following:

- Advocate Good Shepherd
- Advocate Sherman
- Centegra Health Systems
- Family Alliance, Inc.
- McHenry County Department of Health
- McHenry County Mental Health Board
- McHenry County Substance Abuse Coalition
- United Way of Greater McHenry County

Advocate Good Shepherd community health department staff served on the steering committee for the 2017 McHenry County Healthy Community Study. Additionally, the staff helped to design the survey questions, select key stakeholders to participate in the interviews and promote and distribute the survey throughout McHenry County. As an active member of the steering committee, Advocate Good Shepherd reviewed the assessment results with other members and helped to select priorities and develop strategies to address the identified needs in McHenry County.

#### **Lake County Health Department**

Advocate Good Shepherd and Advocate Condell contracted with the Lake County Health Department and Community Health Center (LCHD) to administer a survey in 2019 in order to assess the current health status of several communities in Lake County, Illinois: Gurnee (60031) and Northwest Lake County (including communities of Antioch (60002), Fox Lake (60020) and Lake Villa (60046). The survey was adapted from national tools. Randomly selected households in the targeted municipalities were contacted by mail and invited to participate in an anonymous online survey, available in English and Spanish. Results were compared to previous county-wide surveys conducted to support other hospital CHNAs and the survey conducted on behalf of the Live Well Lake County Steering Committee in 2015. For context, additional data was included from the CDC and Prevention Behavioral Risk Factors Surveillance System's (BRFSS) website.

Another important collaboration with the Lake County Health Department is that the northern Illinois regional director of community health serves as a member of the Live Well Lake County Steering Committee. The role of steering committee members is to review health status data on an ongoing basis and to monitor current interventions being implemented to address key health issues in Lake County.

### *Collaborations with Other Key Stakeholders*

Advocate Good Shepherd also consulted with a number of additional partner organizations as part of the CHNA process. These organizations include Healthier Barrington Coalition, the McHenry County MAPP Coalition, the Wauconda United Health Partnership, the Lake County Opioid Initiative Task Force and the McHenry County Substance Abuse Coalition. Each of these organizations have a focus on medically underserved, low-income and minority populations.

## **Methodology**

### *Timeline*

Advocate Good Shepherd gathered and analyzed a variety of primary and secondary data from 2017-2019. This data was presented to the CHC at three meetings, from January-March 2019. Indicators presented included demographic, economic, education, employment, social determinants, health status and health behaviors. Guest speakers gave presentations on selected health topics to expand the council members' knowledge regarding significant issues in the community. In the April 2019 meeting, the CHC selected the top two health priorities for the 2017-2019 CHNA and 2020-2022 implementation plan. The health priorities were approved by the Advocate Good Shepherd Governing Council on June 11, 2019. The Governing Council approved the 2017-2019 CHNA Report on October 23, 2019.

### *Secondary Data*

Multiple data collection sources were employed for the 2017-2019 CHNA. As indicated in the section above, Advocate Good Shepherd collaborated with many partners to collect PSA and county-level data. Data was pulled from national, state, regional Chicago and local community source documents. Some of the primary sources included the National Obesity Report, National Alliance on Mental Illness, Centers for Disease Control and Prevention (CDC), County Health Rankings, Illinois State Department of Public Health, Illinois Hospital Association and Conduent Healthy Communities Institute.

### **Conduent Healthy Communities Institute**

In early 2017, Advocate Health Care signed a second three-year contract with Conduent Healthy Communities Institute. This robust platform offered the hospitals 198 health and demographic indicators, including 38 hospitalization and emergency department (ED) visit indicators at the service area and zip code levels. Utilizing the Illinois Hospital Association COMPdata, Conduent Healthy Communities Institute was able to summarize, age adjust and average the hospitalization and ED data for five-time periods from 2009-2017. The Conduent Healthy Communities Institute contract also

provided a wealth of county and zip code data comparisons, a SocioNeeds Index visualizing vulnerable populations within service areas and counties, a Healthy People 2020 tracker and a database of promising and evidence-based interventions.

As indicated, Conduent Healthy Communities Institute was a key source of data for the 2017-2019 CHNA. This secondary data was crucial in analyzing the hospital's PSA health needs as the database was the only source that provided such an extensive amount of data specific to the PSA. All data collected through Conduent Healthy Communities Institute was quantitative and included comparisons between PSA communities and counties in Illinois. These comparisons were exemplified in the form of community dashboards, which provided great insight on the health status of the hospital's PSA in comparison to other counties and communities in Illinois. Conduent Healthy Communities Institute provides a gauge that illustrates the comparison of indicators across counties, service areas and zip codes.



<b>Green (Good):</b>	When a high value is good, community value is equal to or higher than the 50th percentile (median), or, when a low value is good, community value is equal to or lower than the 50th percentile.
<b>Yellow (Fair):</b>	When a high value is good, community value is between the 50th and 25th percentile, or when a low value is good, the community value is between the 50th and 75th percentiles.
<b>Red (Poor):</b>	When a high value is good, the community value is less than the 25th percentile, or when a low value is good, the community value is greater than the 75th percentile.

For purposes of this Advocate Good Shepherd CHNA report, secondary data was pulled for the PSA. In some instances, where PSA data is unavailable, Lake County and McHenry County data was pulled for analysis. Throughout the CHNA, indicators may be referred to as being a green, yellow or red indicator, in reference to the above ratings from Conduent Healthy Communities Institute.

## Primary Data

In order to understand community viewpoints and opinions on specific health issues, three sources of primary data were included in the CHNA. These are listed below. Executive summaries of these sources are available in Appendix 1.

- Healthier Barrington Coalition Survey, February 20, 2018
- 2017 McHenry County Healthy Community Study
- Community Health Needs Assessment 2019, prepared for Advocate Condell by Professional Research Corporation (PRC) as part of the Kane County CHNA

## **Healthier Barrington Coalition Survey**

Advocate Good Shepherd sponsors and leads the Healthier Barrington Coalition which has conducted a household survey specific to zip code 60010 every three years since 1995. The 2017 survey covered eight overall topics:

- Barrington culture
- Community services and issues needing attention
- Work and household finance
- Water quality and use
- Health care
- Mental health
- Substance use
- Youth issues

Focus groups were conducted for mental health and substance abuse services, treatment options, barriers and gaps.

The mail questionnaire was an eight-page booklet consisting primarily of structured questions and one open-ended question asking for specific changes to improve the Barrington area quality of life. Two major changes were made to the methodology in 2017: (1) A qualitative component was added—in the form of a set of three focus groups—to supplement the survey data; (2) For the first time, the survey sample was entirely convenience-based, with no random sample mail-out portion which was the previous process. The survey instrument was available on paper and online, in both English and Spanish. Respondents were recruited by Healthier Barrington Coalition members, using social media and email invitations.

Responses were kept completely anonymous. All adult residents of the Barrington region, defined by the Barrington School District 220 boundaries, were eligible to participate in the survey by completing it online. The coalition publicized the URL for the online survey, “[takethecommunitysurvey.com](http://takethecommunitysurvey.com)”, using e-mail messages and newsletters to residents through major community organizations. Paper surveys were printed by the coalition and distributed upon request. A total of 649 household surveys were returned, yielding a response rate of 11 percent.

## **2017 McHenry County Healthy Community Study**

The 2017 McHenry County Healthy Community Study included three components:

1) a community survey to ascertain the views of the residents themselves; 2) key informant interviews with community leaders; and 3) a community analysis using secondary data sources. The community survey was conducted online and supplemented by a paper version disseminated at numerous events and locations. There were 1,090 survey respondents, which was a 46 percent increase from 2014.

Questions in the survey covered:

- Community features
- Financial issues
- Health status-perception of health and prevalence of diseases and conditions
- Access to care

- Health insurance status
- Abuse, suicide, care of other persons

Through the assessment, the current health status of county residents is described along with demographic trends, social and economic indicators, health behaviors and utilization of health services. The assessment also strived to understand the perceptions of community strengths and weaknesses as well as answer questions about health and human services delivery, unmet needs, gaps and barriers to care. Health Systems Research of the University of Illinois College of Medicine at Rockford was hired to guide the process, conduct the full assessment and prepare the summary report.

Key informant interviews were conducted with 29 community leaders, agency directors and other experts in their field based on professional expertise, knowledge of local human services or the healthcare system. Interview questions included:

- The best aspects of living in McHenry County
- The local health and human services delivery system: strengths, weaknesses, service gaps, insufficiencies
- Effects of the implementation of the Affordable Care Act
- Challenges to living a healthy lifestyle in McHenry County

Five focus groups were conducted with a total of 59 participants. Target populations for the focus groups were: (1) parents/persons with mental illness, substance abuse or developmental/intellectual disabilities; (2) Hispanics/Latinos; (3) veterans; and (4) low-income parents of young children. In addition to the abovementioned questions, focus group participants were also asked about specific service needs for them or members of their respective group, experiences utilizing existing services and particular needs or problems facing the community.

Finally, a broad data review of McHenry County using secondary sources was conducted which included demographics; housing; income and poverty; education; employment; crime and safety; birth and death rates; and health status, behaviors and health utilization.

## **Lake County Community Health Needs Assessment 2019**

The Lake County Health Department and Community Health Center (LCHD), Advocate Condell and Advocate Good Shepherd partnered to administer a survey in 2019 to assess the current health status of several communities in Lake County, Illinois: Gurnee (60031) and Northwest Lake County (including communities of Antioch (60002), Fox Lake (60020) and Lake Villa (60046).

The survey was adapted from national tools. Randomly selected households in these municipalities were contacted by mail in mid-June and invited to participate in an anonymous online survey, available in English and Spanish. One reminder postcard was mailed at five weeks after the initial mailing. Responses were collected and weighted for different demographic features including age and sex of the respondents. The Lake County 2019 CHNA utilized a social determinants of health (SDOH) lens, focusing on the health issues of mental health, substance abuse and obesity. The survey had 662 respondents—401 from Gurnee and 261 from Northwest Lake County. Results were compared to previous county-wide surveys conducted to support other hospital CHNA's and the survey conducted

on behalf of the Live Well Lake County Steering Committee in 2015. For context, additional data was included from the CDC Behavioral Risk Factors Surveillance System's website.

## Health Status

### *Mortality Ranking*

Lake County and McHenry County are ranked sixth and eleventh, respectively, when compared to other Illinois counties in regard to overall length of life according to the County Health Rankings. The ranking is based on a measure of premature death. Lake and McHenry Counties are in the best 0-50<sup>th</sup> percentile (green indicator) when compared to the other Illinois counties (Conduent Healthy Communities Institute, County Health Rankings, 2019).

### *Morbidity Ranking*

Measures of morbidity are commonly used to understand the disability and illness within a community, as well to capture the health and well-being of community members. This information enables communities to allocate resources to groups who suffer disproportionately from illness or injury and thus strive to achieve an equitable level of health throughout the community (Healthy Communities Institute, 2019). According to County Health Rankings, McHenry County is ranked 7<sup>th</sup> in overall quality of life, while Lake County is ranked lower at 19<sup>th</sup>, placing both counties in the best 0-50<sup>th</sup> percentile (green indicator). The ranking is based on a summary composite score calculated from the following measure: poor or fair health, poor physical health days, poor mental health days, and low birthweight. In 2013, Lake County was ranked 52<sup>nd</sup> and McHenry County was ranked 42<sup>nd</sup> in morbidity; the rankings have improved significantly over time (Conduent Healthy Communities Institute, County Health Rankings, 2019).

### **Top Causes of Death**

According to the 2019 Lake County CHNA (Illinois Department of Public Health, Vital Statistics, 2017) the top three causes of death in Lake County in 2017 by crude count were:

- Heart Disease
- Cancer
- Dementia

The top causes of death in Lake County in 2017 by years of potential life lost were:

- Cancer
- Accidents
- Intentional Self-Harm (Suicide)

The top three causes of death in McHenry County, according to the 2017 McHenry County Healthy Community Study (National Center for Health Statistics, CDC WONDER Online Database, 2017) were:

- Cancer
- Heart Disease
- Chronic Lower Respiratory Diseases (previously known as COPD)

## *Health Behaviors Ranking (County Health Rankings)*

The Health Behaviors Ranking shows the ranking of the county in overall health behaviors and is based on a summary composite score calculated from the following measures: adult smoking, adult obesity, physical inactivity, access to exercise opportunities, excessive drinking, alcohol-impaired driving deaths, sexually transmitted infections, teen births and a food environment index. Lake County is currently ranked 2<sup>nd</sup> after a previous ranking of 4<sup>th</sup> in 2017. McHenry County is currently ranked 17<sup>th</sup> after a prior ranking of 3<sup>rd</sup> in 2017 (Conduent Healthy Communities Institute, County Health Rankings, 2019).

## *Self-reported General Health Assessment*

In a self-reported general health assessment, 15.4 percent of Lake County adults and 12.9 percent of McHenry County adults reported their general health as either “poor” or “fair.” When compared to other Illinois and U.S. counties, both counties are in the best 0-50<sup>th</sup> percentile (green indicator). The rates of adults who self-report as feeling unhealthy in both counties are lower than the Illinois rate (17.2 percent) and U.S. rate (16.0 percent). As stated by Conduent Healthy Communities Institute, “self-reported health assessments have been shown to be predictors of mortality and can be valuable for population health monitoring” (Conduent Healthy Communities Institute, County Health Rankings, 2016).

## *Life Expectancy*

The lowest average life expectancy within the Advocate Good Shepherd PSA occurs within census tracts that correspond to the following zip codes: (60098) Woodstock (75.5 years) and (60033) Harvard (75.7 years). These zip codes all fall within the worst 25<sup>th</sup> percentile (red indicator) when compared to other Illinois zip codes (Conduent Healthy Communities Institute, U.S. Small-Area Life Expectancy Estimates Project, 2010-2015).

### **Life Expectancy for Males**

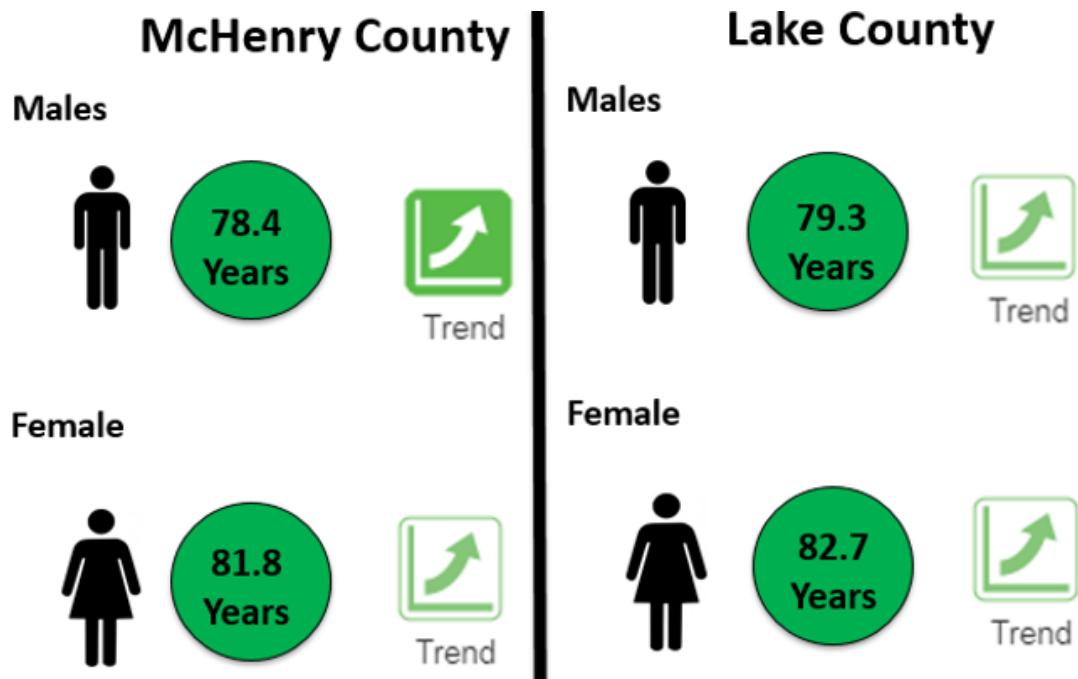
This indicator shows the life expectancy at birth in years. This represents the average number of years a person can expect to live. McHenry County males have the average life expectancy of 78.4 years and the rate is significantly increasing upwards, as shown in Exhibit 19. Males in Lake County have the life expectancy of 79.3 years and the rate is also favorably increasing, though not statistically significant. Male life expectancy rates in both counties are in the best 0-50<sup>th</sup> percentile range (green indicator) compared to other counties in Illinois (Conduent Healthy Communities Institute, County Health Rankings, 2017).

### **Life Expectancy for Females**

Lake County females (82.7 years) have almost a full year of life expectancy longer than McHenry County females (81.8 years), as shown in Exhibit 19. Both counties are experiencing increases in

female life expectancy and are in the best 0–50<sup>th</sup> percentile (green indicator) in comparison to other counties in Illinois (Conduent Healthy Communities Institute, County Health Rankings, 2017).

**Exhibit 19: Lake and McHenry County Life Expectancy 2017**



Source: Conduent Healthy Communities Institute, County Health Rankings, 2019

### *Poor Physical Health*

According to County Health Rankings, the average number of days that adults reported their physical health was not good in the past 30 days was 3.4 days in McHenry County and 3.5 days in Lake County. The Illinois rate (3.8 days) and the U.S. rate (3.7 days) are higher than both counties (Conduent Healthy Communities Institute, County Health Rankings, 2016).

### *Frequent Physical Distress*

A person's assessment of their own physical health is a good indicator of recent health. This indicator shows the percentage of adults who stated that their physical health, which includes physical illness and injury, was not good for 14 or more of the past 30 days. Ten percent of Lake County adults and 9.8 percent of McHenry County adults reported that their physical health, including physical illness and injury, was not good for 14 or more of the past 30 days. Both counties are in the best 0–50<sup>th</sup> percentile (green indicator) in comparison to other counties in Illinois (Conduent Healthy Communities Institute, County Health Rankings, 2016).

## *Key Findings: Health Status*

- Lake County (6<sup>th</sup>) is ranked favorably higher for mortality ranking than McHenry County (11<sup>th</sup>).
- According to the County Health Rankings, McHenry County is ranked 7<sup>th</sup> in overall quality of life and Lake County is ranked 19<sup>th</sup>.
- Lake County is currently ranked 2<sup>nd</sup> for Health Behavior Ranking, while McHenry County is currently ranked 17<sup>th</sup>.
- In a self-reported general health assessment, 15.4 percent of Lake County adults and 12.9 percent of McHenry County adults reported their general health as either “poor” or “fair.”
- The life expectancy for males in McHenry County is 78.4 years and 79.3 years for Lake County males.
- The female life expectancy in Lake County is 8.7 years and 81.8 years for females in McHenry County.
- McHenry County residents reported their physical health was not good 3.4 days of the past 30 days. Lake County residents reported 3.5 days.
- Ten percent of Lake County adults and 9.8 percent of McHenry County adults reported that their physical health was not good for 14 or more of the past 30 days.

## **Health Care Coverage**

### *Adults with Health Insurance*

Medical costs in the U.S. are extremely high, so people without insurance may not be able to afford medical treatment or prescription drugs. They are also less likely to get routine checkups and screenings, so if they do become ill, they will not seek treatment until the condition is more advanced and therefore more difficult and costly to treat (Conduent Healthy Communities Institute, 2019). In Lake County, 91.7 percent of adults ages 19-64 years have any type of health insurance coverage, while the percentage of McHenry County adults is 93.5 percent. Hispanics have disproportionately lower rates of insurance in both Lake County and McHenry County, at 76.6 percent and 79.6 percent, respectively (Conduent Healthy Communities Institute, American Community Survey, 2017).

### *Children with Health Insurance*

The percent of children with health insurance in Lake County (97.2 percent) is slightly higher than in McHenry County (97 percent); the indicator considers children under 19 that have any type of health insurance coverage. The rates in both counties are close to the Illinois rate (97.1 percent) and the U.S. rate (95 percent). However, neither county meets the Healthy People 2020 target of 100 percent coverage for all children. In Lake County, the Hispanic or Latino rate for children with health insurance (93.9 percent) is worse than the county rate (red indicator) (Conduent Healthy Communities Institute, American Community Survey, 2017).

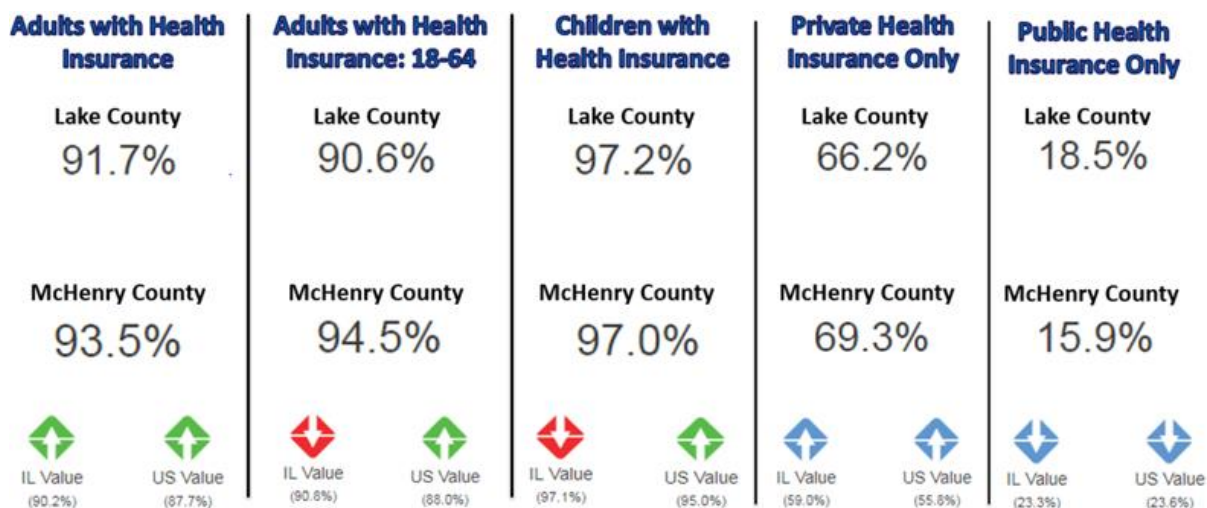
## Persons with Private Health Insurance Only

Private health insurance is the most common type of health insurance in the U.S. The majority of private health insurance coverage is provided by an employer or union, a plan purchased by an individual from a private company or TRICARE or other military health care (Conduent Healthy Communities Institute, 2019). McHenry County has a higher percent of persons with private health insurance only at 69.3 percent, versus Lake County at 66.2 percent. The Illinois (59 percent) and the U.S. (55.8 percent) rates are lower than both county rates (Conduent Healthy Communities Institute, American Community Survey, 2017).

## Persons with Public Health Insurance Only

Public health coverage includes the federal programs of Medicaid, Medicare, Veterans Administration (VA) Health Care (provided through the Department of Veterans Affairs); the Children's Health Insurance Program (CHIP) and individual state health plans. In Lake and McHenry Counties, the percentage of persons with public health insurance only is 18.5 percent and 15.9 percent, respectively. Both counties have lower percentages of persons with public health insurance than Illinois (23.3 percent) and the U.S. (23.6 percent). The rates for both counties are trending up non-significantly over time (Conduent Healthy Communities Institute, American Community Survey, 2017). A summary of the types of health insurance coverage held by residents of Lake County and McHenry County is provided in Exhibit 20.

**Exhibit 20: Lake and McHenry County Health Insurance Status 2017**



Source: Conduent Healthy Communities Institute, American Community Survey, 2019

## Medicare Health Care Costs

This indicator shows the dollar amount of price-adjusted Medicare reimbursements per enrollee and includes Medicare Parts A and B. As of 2015, \$10,253 was reimbursed per enrollee in McHenry County; in Lake County the amount was \$9,799. The dollars spent on each enrollee are increasing over

time in McHenry County, but decreasing in Lake County (Conduent Healthy Communities Institute, County Health Rankings, 2015).

### *Adults with Medicaid*

In the Advocate Good Shepherd PSA, 4.7 percent of households are estimated to be covered by Medicaid (Advocate Aurora Business Development Analytics, Sg2, 2019). According to the Illinois Department of Healthcare and Family Services, as of June 30, 2018, there were 123,469 total Medicaid enrollees in Lake County and 43,412 total Medicaid enrollees in McHenry County (Illinois Department of Healthcare and Family Services, 2018).

### *Children with Medicaid*

In Lake County, as of June 30, 2018, there were 65,667 children enrolled in Medicaid (53.2 percent of total Lake County Medicaid enrollees). In McHenry County, there were 22,666 children enrolled in Medicaid for the same time period (52.2 percent of total McHenry County Medicaid enrollees) (Illinois Department of Healthcare and Family Services, 2018).

### *Percentage of Students not covered by Private or Public Dental Insurance*

The percentage of students not covered by private or public dental insurance in McHenry County is only 0.06 percent and 0.09 percent in Lake County. Both counties have low percentages when compared to other Illinois counties (Illinois State Board of Education, 2015).

### *Percentage of Students Ineligible for Dental Insurance*

In Lake and McHenry County, 0.02 percent of students are ineligible for dental insurance (Illinois State Board of Education, 2015).

### *Percentage of Students Who Need a Dentist Who Will Accept Medicaid/All Kids*

The percentage of students that need a dentist who will accept Medicaid/All Kids is 0.05 percent in McHenry County and in Lake County it is 0.07 percent (Illinois State Board of Education, 2015).

### *Percentage of Students with No Access to Insurance or Clinic*

In Lake County, 0.09 percent and in McHenry County, 0.08 percent of students have no access to insurance or low-cost dental clinics (Illinois State Board of Education, 2015).

### *Uninsured*

In the Advocate Good Shepherd PSA, 6,491 households are estimated to be uninsured, which is 4.3 percent of all households in the PSA (Advocate Aurora Health Business Analytics Department, Sg2, 2019).

## *Key Findings and Disparities: Health Care Coverage*

- A total of 91.7 percent of Lake County adults, ages 19-64 years, and 93.5 percent of McHenry County adults have some type of health insurance. However, both counties are not meeting the Healthy People 2020 target of 100 percent.
- Hispanics have disproportionately lower rates of insurance in both Lake County and McHenry County, at 76.6 percent and 79.6 percent respectively.
- In Lake County, the Hispanic or Latino rate for children with health insurance (93.9 percent) is significantly worse than the overall Illinois county rate (red indicator).
- Both counties have lower percentages of persons with public health insurance than Illinois (23.3 percent) and the U.S. (23.6 percent).

## **Access to Care**

### *Health Professionals Shortage Area*

Health Professional Shortage Areas (HPSAs) are designated by the Health Resources and Services Administration (HRSA) as having shortages of primary care, dental care or mental health providers and may be geographic, by population or facilities. In Lake County, there is one Primary Care low-income population HPSA, one Primary Care facility HPSAs (Federally Qualified Health Centers [FQHCs]), one low-income population Dental HPSA, one Dental facility FQHC HPSA and one Mental Health facility FQHC HPSA. In McHenry County, there are no designated HPSAs ([www.data.hrsa.gov/tools/shortage-area/hpsa-find](http://www.data.hrsa.gov/tools/shortage-area/hpsa-find)).

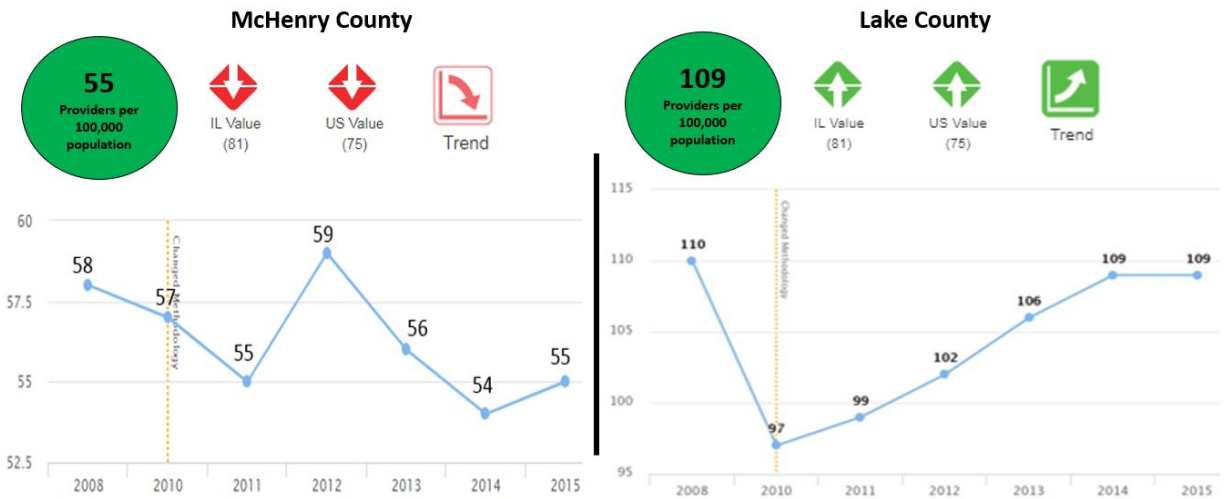
### *Medically Underserved Area/Population*

Medically Underserved Areas (MUA) or Medically Underserved Populations (MUP) are designated by HRSA as having too few primary care providers, high infant mortality, high poverty or a high elderly population. In Lake County, there are four MUAs—one for the North Chicago service area, one for Waukegan service area, one for Zion service area and one for the Highland Park/Highwood service area. In McHenry County, there is one MUP for the poverty population of Woodstock ([www.data.hrsa.gov/tools/shortage-area/mua-find](http://www.data.hrsa.gov/tools/shortage-area/mua-find)).

### *Primary Care Provider Rate*

Primary care providers include practicing physicians specializing in general practice medicine, family medicine, internal medicine and pediatrics. Lake County has twice as many providers (109 per 100,000 population) than McHenry County with the rate of 51 providers per 100,000 population, but both are in the best 0–50<sup>th</sup> percentile (green indicator) compared to Illinois counties. The amount of primary care providers has been favorably increasing at a statistically significant rate in Lake County, while McHenry County has been trending unfavorably downward. The Illinois primary care provider rate is 81 providers per 100,000 population and the U.S. rate is 75 per 100,000 population, as shown in Exhibit 21 (Conduent Healthy Communities Institute, County Health Rankings, 2016).

## Exhibit 21: Lake and McHenry County Primary Care Provider Rate 2008-2015



Source: Conduent Healthy Communities Institute, County Health Rankings, 2019

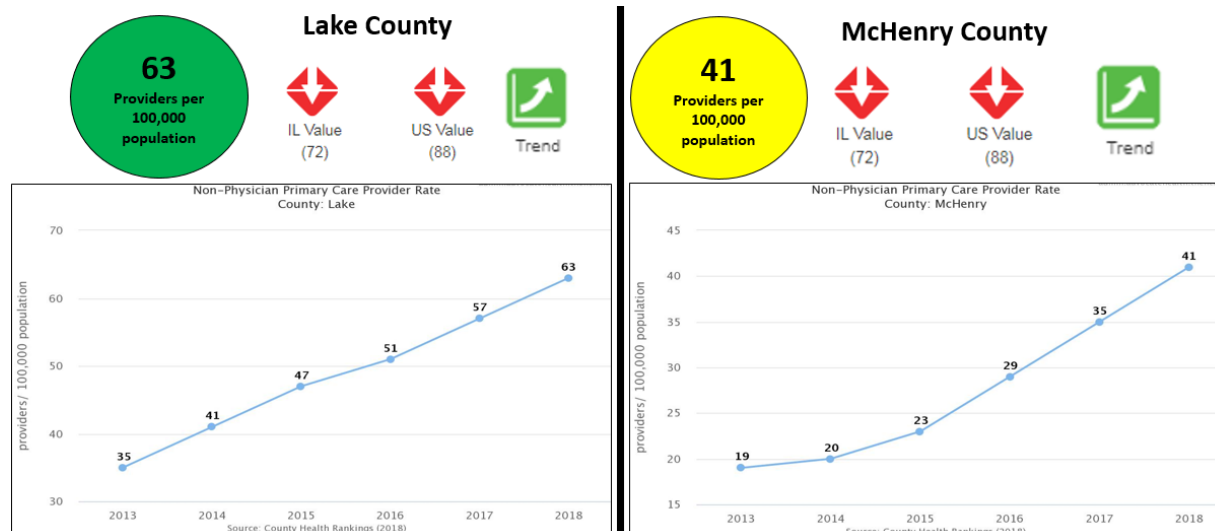
### Clinical Care Ranking

The quality and accessibility of clinical care heavily impacts the health of a community. Without enough providers or adequate insurance coverage, people often do not seek care and are at a higher risk of developing preventable illnesses or chronic conditions (Conduent Healthy Communities Institute, 2019). Lake County has a clinical care ranking of 16<sup>th</sup> while McHenry County is ranked at 30<sup>th</sup>. The ranking is based on a summary composite score calculated from the following measures: uninsured, primary care physicians, mental health providers, dentists, preventable hospital stays, diabetic monitoring, and mammography screening. Both counties are in the best 0–50<sup>th</sup> percentile (green indicator) compared to other Illinois counties. (Conduent Healthy Communities Institute, County Health Rankings, 2019).

### Non-Physician Primary Care Provider Rate

Primary care providers who are not physicians include nurse practitioners (NPs), physician assistants (PAs), and clinical nurse specialists. The non-physician primary care provider rate in Lake County is 63 providers per 100,000 population which is in the best 0–50<sup>th</sup> percentile (green indicator) and in McHenry County is 41 per 100,000 population which is in the worst 50<sup>th</sup>–75<sup>th</sup> percentile (yellow indicator) compared to other Illinois counties. Both Lake County and McHenry County are below the Illinois rate (72 providers per 100,000) and the U.S. rate (88 providers per 100,000). However, the rate is trending favorably upward in a statistically significant direction in both counties (Conduent Healthy Communities Institute, County Health Rankings, 2018).

## Exhibit 22: Lake and McHenry County Non-Primary Care Provider Rate 2013-2018



Source: Conduent Healthy Communities Institute, County Health Rankings, 2019

### Preventable Hospital Stays—Medicare Population

As of 2015, for every 1,000 Medicare enrollees in McHenry County there are 52.9 discharges for preventable hospital stays. In Lake County, there were 48.8 discharges for preventable hospital stays. The rate for Lake County has decreased to 48.8 discharges per 1,000 Medicare enrollees in 2015 from 64.9 discharges per 1,000 in 2011. The rates for both counties are decreasing in a statistically significant direction. These rates put both Lake County and McHenry County in the best 0-50<sup>th</sup> percentile (green indicator) when compared to other Illinois counties (Conduent Healthy Communities Institute, The Dartmouth Atlas of Health Care, 2015).

### Key Findings: Access to Care

- The number of primary care providers per 100,000 population in both counties are unfavorably decreasing; though not a statistically significant decrease.
- To help offset the decrease in primary care providers, both counties are seeing rates for non-physician primary care providers increase at a statistically significant level.
- Lake County has twice as many primary care providers at 110 per 100,000 population than McHenry County with the rate of 51 providers per 100,000 population.
- The non-physician primary care provider rate in Lake County is 63 providers per 100,000 population and in McHenry County is 41 per 100,000 population, both lower than the Illinois rate of 72 per 100,000.
- For clinical care ranking, Lake County is ranked 16<sup>th</sup> which is higher than McHenry County at 30<sup>th</sup>.

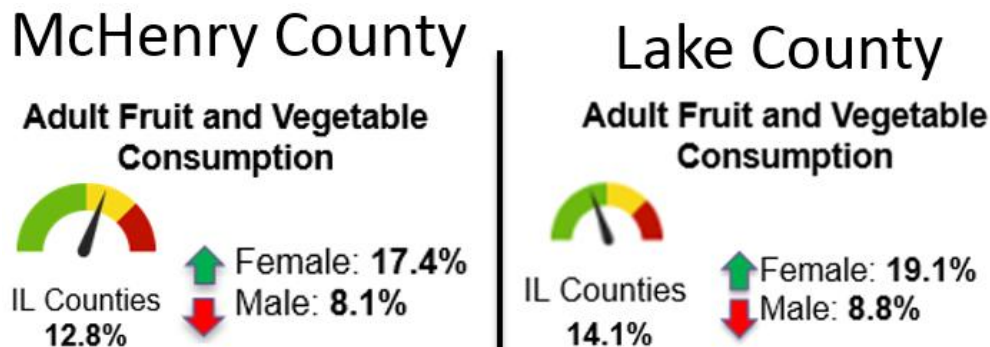
# Nutrition, Physical Activity and Obesity

## Nutrition

### Adult Fruit and Vegetable Consumption

Having a well-balanced diet is essential to maintaining a healthy lifestyle. Fourteen percent of Lake County adults indicated that they ate fruits and vegetables five or more times per day, which is in the best 0–50<sup>th</sup> percentile (green indicator) compared to other Illinois counties. The percent is lower in McHenry County at 12.8 percent of adults, which falls in the worst 50<sup>th</sup>–75<sup>th</sup> percentile (yellow indicator) compared to other counties. Both Lake County and McHenry County rates are lower than the Illinois rate (23.4 percent). More females in Lake County and McHenry County (19.1 percent and 17.4 percent, respectively) eat fruits and vegetables five or more times per day than males in Lake County and McHenry County (8.8 percent and 8.1 percent, respectively), as shown in Exhibit 23 (Conduent Healthy Communities Institute, Illinois Behavioral Risk Factor Surveillance System, 2007-2009).

**Exhibit 23: Lake and McHenry County Fruit and Vegetable Consumption for Adults 2018**



Source: Conduent Healthy Communities Institute, County Health Rankings, Illinois Behavior Risk Factor Surveillance System, 2019

### Teen Fruit Consumption

According to the Illinois Youth Survey, in 2018 and 2016 students of all grades in Lake County ate more fruits in the past 7 days, than students in McHenry County. Students in Lake County, McHenry County and Illinois ate less in fruits in 2018 compared to 2016 (Illinois Youth Survey, McHenry County Report, 2016 and 2018). See Exhibit 23.1.

### Exhibit 23.1: Lake County, McHenry County and State of IL Student Fruit Consumption in 2016 and 2018

Grade	2016			2018		
	Lake County	McHenry County	Illinois	Lake County	McHenry County	Illinois
	Eat fruit 2 or more times per day in past 7 days	Eat fruit 2 or more times per day in past 7 days	Eat fruit 2 or more times per day in past 7 days	Eat fruit 2 or more times per day in past 7 days	Eat fruit 2 or more times per day in past 7 days	Eat fruit 2 or more times per day in past 7 days
8th grade	48%	44%	44%	43%	No Data	42%
10th grade	43%	42%	38%	40%	38%	33%
12th grade	39%	36%	35%	36%	33%	31%

Source: Illinois Youth Survey, McHenry County Report, 2016 and 2018

### Teen Vegetable Consumption

According to the Illinois Youth Survey, students in both Lake and McHenry counties and Illinois ate less vegetables in 2018 than previously reported in 2016 (Illinois Youth Survey, McHenry County Report, 2016 and 2018). See Exhibit 23.2.

### Exhibit 23.2: Lake County, McHenry County and State of IL Student Vegetable Consumption In 2016 and 2018

Grade	2016			2018		
	Lake County	McHenry County	Illinois	Lake County	McHenry County	Illinois
	Eat vegetables 3 or more times per day in past 7 days	Eat vegetables 3 or more times per day in past 7 days	Eat vegetables 3 or more times per day in past 7 days	Eat vegetables 3 or more times per day in past 7 days	Eat vegetables 3 or more times per day in past 7 days	Eat vegetables 3 or more times per day in past 7 days
8th grade	19%	20%	18%	19%	No Data	18%
10th grade	17%	15%	15%	15%	13%	12%
12th grade	15%	14%	14%	13%	11%	13%

Source: Illinois Youth Survey, McHenry County Report, 2016 and 2018

### Barriers to Nutrition

According to the 2019 Lake County Community Health Needs Assessment Report, eight percent of Lake County residents surveyed in 2018 reported they have been unable to have fruits and vegetables because of cost. Three percent reported that transportation was the barrier to not being able to get fruits and vegetables in the same time frame (Lake County Community Health Assessment, 2019).

## *Physical Activity*

### **Adults Age 20 and Older Who are Sedentary**

Adults who are sedentary are at an increased risk of serious health conditions, including obesity, heart disease, diabetes, colon cancer and high blood pressure. The American College of Sports Medicine recommends that adults perform physical activity three to five times each week for 20 to 60 minutes at a time (The American College of Sports Medicine, 2018).

Nineteen percent of Lake County adults over the age of 20 years are sedentary and the percentage is slightly higher for McHenry County adults at 20.1 percent. Both counties are in the best 0–50<sup>th</sup> percentile (green indicator) compared to other Illinois counties, as shown in Exhibit 24. Both counties are favorably below the Illinois rate (21.5 percent) and the U.S. rate (22.2 percent) and meet the Healthy People 2020 target (32.6 percent) (Conduent Healthy Communities Institute, County Health Rankings, 2015).

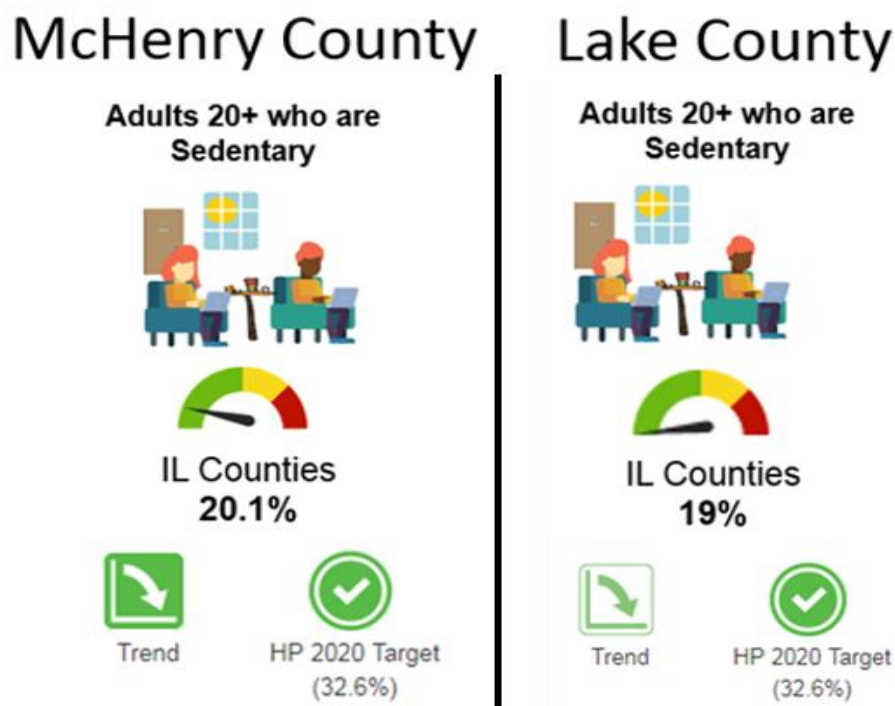
### **Teens Participating in Physical Activity**

According to the IYS, 38 percent of McHenry County 10<sup>th</sup> grade students are physically active at least 60 minutes six or seven times per week, while eight percent are physically active zero days. For 12 grade students, 32 percent are physically active six or seven days per week, while nine percent are active zero days.

In Lake County the percentages are slightly higher, those physically active six to seven days per week are: 8<sup>th</sup> grade at 40 percent; 10<sup>th</sup> grade at 41 percent and 12<sup>th</sup> grade at 34 percent. Students, by grade level, reporting that they have zero days of physical activity are as follows: 8<sup>th</sup> grade at 7 percent and 10<sup>th</sup> and 12<sup>th</sup> grades at 8 percent.

The 2016 IYS results for both McHenry and Lake Counties are very similar. The 2016 IYS results in McHenry County showed those physically active six to seven days per week were: 8<sup>th</sup> grade at 42 percent; 10<sup>th</sup> grade at 40 percent and 12<sup>th</sup> grade at 35 percent. In Lake County the 2016 results were: 8<sup>th</sup> grade at 41 percent; 10<sup>th</sup> grade at 40 percent and 12<sup>th</sup> grade at 36 percent (Illinois Youth Survey, McHenry County Report, Lake County Report, 2016 and 2018).

## Exhibit 24: Lake and McHenry County Adults 20+ Who are Sedentary 2018



Source: Conduent Healthy Communities Institute, County Health Rankings, 2019

## Obesity

### National Adult Obesity Rate

Obesity results from a combination of causes and contributing factors, including individual factors such as behavior and genetics. Behaviors can include dietary patterns, physical activity, inactivity, medication use, and other exposures (Centers for Disease Control and Prevention, 2017). Body Mass Index, or BMI, is used as a screening tool for various weight categories such as overweight or obese. Adults with a BMI greater than or equal to 30 ( $\text{BMI} \geq 30 \text{ kg/m}^2$ ) are considered obese. A level of BMI  $\geq 25$  is considered overweight. The percentage of obesity among U.S. adults is 39.8 percent.

The series of maps in Exhibit 25 visually portray the increasing rate of obesity in the U.S. from 2011 to 2017, and the related increase in diabetes rates in the U.S. The darker red shade indicates BMI rates of 35 percent or more in the state. Illinois is shaded orange with 31 percent of adults in Illinois deemed obese (Centers for Disease Control and Prevention, 2017).

Exhibit 25: Age-Adjusted Prevalence of Obesity Among U.S. Adults 2011-2017

# Adult Obesity Prevalence Maps

2011-2017

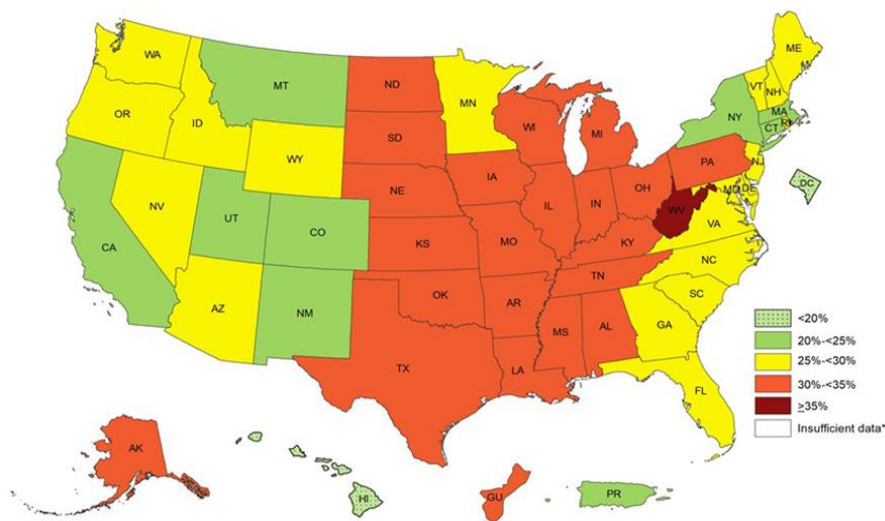


Source: CDC Division of Diabetes Translation. National Diabetes Surveillance System, 2019

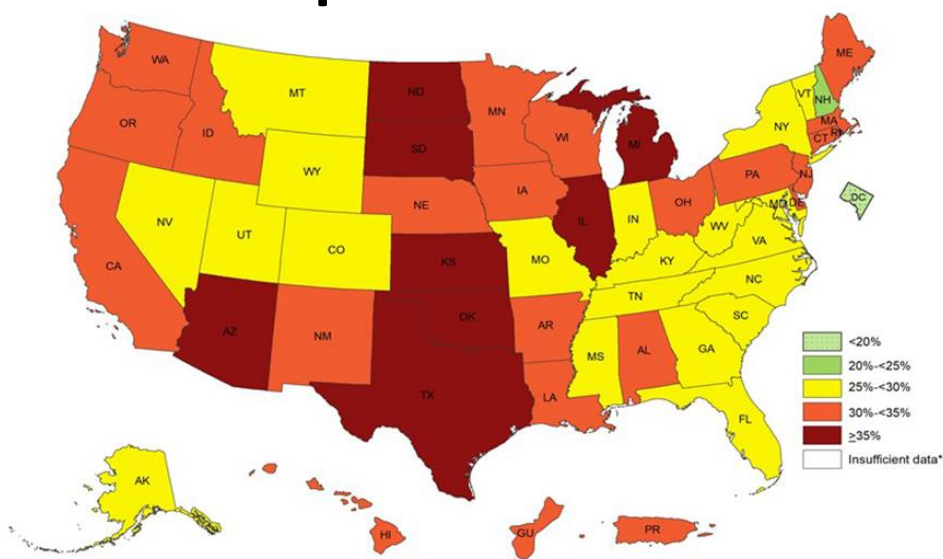
Racial and ethnic disparities are apparent when examining obesity data throughout the U.S. Combining data from 2015-2017, non-Hispanic Blacks had the highest prevalence of self-reported obesity (38.4 percent), followed by Hispanics (32.6%) and non-Hispanic Whites (28.6 percent), as shown in Exhibit 26 (Centers for Disease Control and Prevention, 2017).

Exhibit 26: Age-Adjusted Prevalence of Obesity by Race/Ethnicity Among U.S. Adults 2011-2017

## Non-Hispanic White Adults

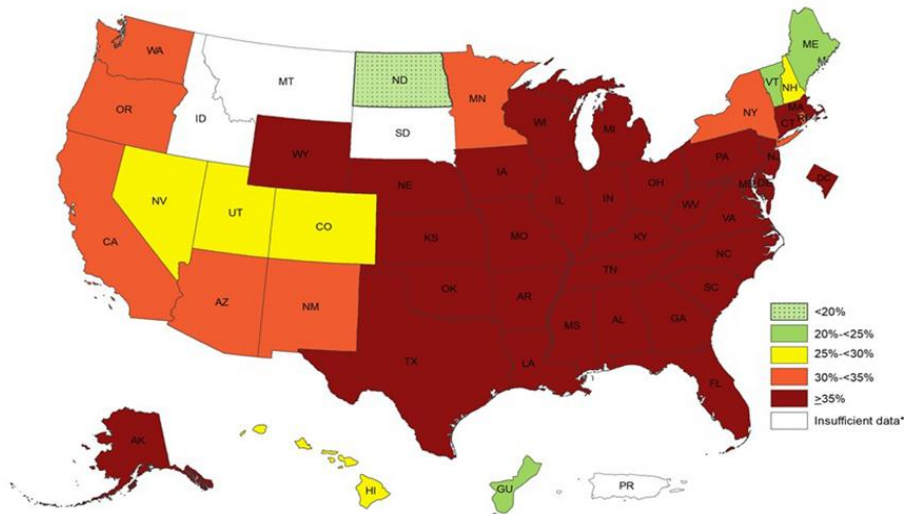


## Hispanic Adults



Source: CDC Division of Diabetes Translation. National Diabetes Surveillance System, 2019

# Non-Hispanic Black Adults

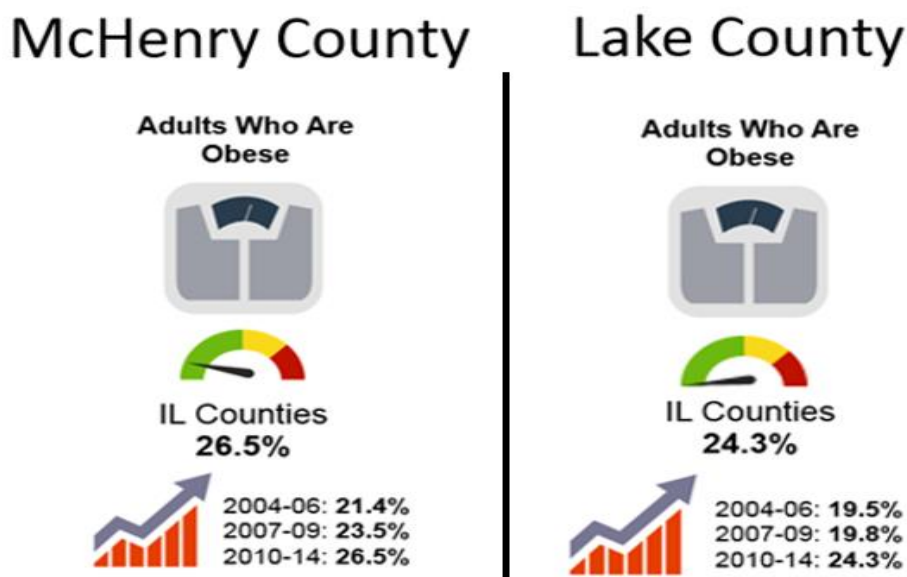


Source: CDC Division of Diabetes Translation. National Diabetes Surveillance System, 2019

## McHenry County and Lake County Adult Obesity Rate

The percentage of obesity among McHenry adults is 26.5 percent (in the best 0–50<sup>th</sup> percentile—green indicator compared to other Illinois counties) and has increased from 21.4 percent in 2004-2006. The obesity rate for Lake County adults is slightly lower at 24.3 percent (in the best 0–50<sup>th</sup> percentile—green indicator compared to other Illinois counties), but also increased from 19.5 percent in 2004-2006, as shown in Exhibit 27. Currently both county rates remain stable. Both county rates meet the Healthy People 2020 target (30.5 percent) and are below the Illinois (31.6 percent) and U.S. (30.5 percent) rates (Conduent Healthy Communities Institute, Illinois Behavioral Risk Factor Surveillance System, 2010-2014).

## Exhibit 27: Lake and McHenry County Adults who are Obese 2004-2014



Source: Conduent Healthy Communities Institute, Illinois Behavioral Risk Factor Surveillance System, 2019

### Teen Obesity Rate

Children who are obese are more likely to be obese when they become adults and have increased risk of developing chronic diseases associated with obesity. According to the 2018 IYS, in McHenry County, one quarter of 10<sup>th</sup> grade students are overweight or obese, while in 12<sup>th</sup> grade, 23 percent are overweight or obese. Overweight and obese percentages for Lake County are 20 percent for 8<sup>th</sup> grade students and 22 percent for both 10<sup>th</sup> and 12<sup>th</sup> grade students. According to the 2016 IYS results, in McHenry County, 21 percent of 10<sup>th</sup> grade students are overweight or obese and 22 percent of 12<sup>th</sup> grade students are overweight or obese. The 2016 IYS results show in Lake County, 21 percent for 8<sup>th</sup> grade students and 22 percent for both 10<sup>th</sup> and 12<sup>th</sup> grade students are overweight or obese (Conduent Healthy Communities Institute, Illinois Youth Survey, 2016 and 2018).

### Key Findings and Disparities: Nutrition, Physical Activity and Obesity

- For obesity rates, both Lake County (24.3 percent of adults) and McHenry County (26.5 percent of adults) have rates below the Healthy People 2020 target of 30.5 percent.
- Illinois Youth Survey results indicate that McHenry County 10<sup>th</sup> and 12<sup>th</sup> grade students had a decrease in physical activity from 2016 to 2018.
- In McHenry County, only 12.8 percent of adults indicated that they ate fruit and vegetables five or more times per day, which is the worst 50<sup>th</sup>-75<sup>th</sup> percentile (yellow indicator) as compared to other counties in Illinois.
- Fourteen percent of Lake County adults eat fruits and vegetables five or more times per day, while the percent is lower for McHenry County adults at 12.8 percent per day.
- Nineteen percent of Lake County adults age 20 years and older are sedentary; 20.1 percent of adults age 20 and older are sedentary in McHenry County.

# Cancer

## Breast Cancer

### Breast Cancer Screening Rate

A mammogram is an x-ray of the breast that can be used to detect changes in the breast including tumors and calcifications (Conduent Healthy Communities Institute, 2019). Sixty-six percent of Medicare beneficiaries in McHenry County, ages 67 to 69, have had a mammogram in the past two years, slightly lower than the Lake County rate at 67.7 percent. McHenry and Lake County are each in the best 0-50<sup>th</sup> percentile (green indicator) when compared to other Illinois and U.S. counties. Over time, the rates in both counties for mammography screening among the Medicare population have increased (Conduent Healthy Communities Institute, The Dartmouth Atlas of Health Care, 2015).

### Breast Cancer Incidence Rate

Breast cancer is the most common cancer in American women, except for skin cancers. Currently, the average risk of a woman in the U.S. developing breast cancer sometime in her life is about 12 percent. This means there is a 1 in 8 chance she will develop breast cancer (American Cancer Society, 2019).

As shown in Exhibit 28, the incidence rate for breast cancer is higher in Lake County at 144.1 cases per 100,000 females than McHenry County at 139.2 per 100,000 females—the rates do not consider males. The rates were lower in 2005-2009 in both Lake and McHenry County at 135.5 per 100,000 females and 114.5 per 100,000 females, respectively. When compared to other counties in Illinois, Lake and McHenry County are both in the worst 25<sup>th</sup> percentile (red indicator) and are continuing to increase at a statistically significant rate. The breast cancer incidence rates are lower for Illinois (131.7 cases per 100,000 females) and the U.S. (124.7 cases per 100,000 females), when compared to Lake and McHenry County (Conduent Healthy Communities Institute, National Cancer Institute, 2011-2015).

### Age-Adjusted Death Rate due to Breast Cancer

Breast Cancer is the leading cause of death among women in the U.S. The age-adjusted death rate due to breast cancer in Lake County is 20.3 deaths per 100,000 females, which is lower than the rate in McHenry County at 24.2 per 100,000 females—the rates do not consider males. Over time, the rates for breast cancer-related deaths have decreased in both counties. The Lake County rate is declining at a statistically significant level, but the decrease in McHenry County is not significant. Lake County is in the best 50<sup>th</sup> percentile (green indicator), when compared to other Illinois counties, and is successfully meeting the Healthy People 2020 target of 20.7 deaths per 100,000 females.

The Lake County death rate for white females (20.8 deaths per 100,000 females) is lower than the rate for African American females (25.2 deaths per 100,000 females), but higher than the death rate for Hispanic females (14.3 deaths per 100,000 females). McHenry County does not meet the Healthy People 2020 target and is in the worst 50<sup>th</sup>–70<sup>th</sup> percentile range (yellow indicator) compared to other Illinois counties (Conduent Healthy Communities Institute, National Cancer Institute, 2011-2015).

## *Colorectal Cancer*

### **Colorectal Cancer Screening Rate**

The U.S. Preventive Service Task Force recommends that colorectal cancer screening begin at age 50 and continue until age 75. In Lake County, for adults aged 50 years and older, 72.1 percent had a sigmoidoscopy or colonoscopy exam, which is in the best 0-50<sup>th</sup> percentile (green indicator) compared to other Illinois counties. The colorectal screening rate is higher in Lake County than McHenry County (62.3 percent) and in the worst 25<sup>th</sup> percentile (red indicator) compared to other Illinois counties. The screening rates in 2004-2006 were 59.9 percent in Lake County and 48.4 percent in McHenry County, showing a steady increase over eight years (Conduent Healthy Communities Institute, Illinois Behavioral Risk Factor Surveillance System, 2010-2014).

### **Colorectal Cancer Incidence Rate**

According to the American Cancer Society, colorectal cancer is a cancer that starts in the colon or the rectum. These cancers can also be named colon cancer or rectal cancer, depending on where they start. Colon and rectal cancer are often grouped together because they have many features in common (American Cancer Society, 2019).

In Lake County, the colorectal cancer incidence rate is 38 cases per 100,000 population which meets the Healthy People 2020 target of 39.9 cases per 100,000 population. McHenry County does not meet the Healthy People 2020 goal and has a colorectal cancer incidence rate of 40.8 cases per 100,000 population. The colorectal cancer incidence rates in both counties are decreasing in a statistically significant direction and are in the best 0-50<sup>th</sup> percentile range (green indicator) when compared to other Illinois and U.S. counties. The Illinois rate is 43.9 cases per 100,000 population and the U.S. rate is 39.2 cases per 100,000 population (Conduent Healthy Communities Institute, National Cancer Institute, 2011-2015).

### **Age-Adjusted Colorectal Cancer Death Rate**

The Lake County age-adjusted death rate due to colorectal cancer is 12.5 deaths per 100,000 population. The rate for McHenry County is 12.5 deaths per 100,000 population. The rates for both counties are decreasing at a statistically significant rate and meet the Healthy People 2020 target (14.5 deaths per 100,000 population). Also, both counties are in the best 0-50<sup>th</sup> percentile (green indicator) compared to other Illinois counties (Conduent Healthy Communities Institute, National Cancer Institute, 2011-2015).

Males have higher death rates due to colorectal cancer in McHenry County (16.5 deaths per 100,000 population) than Lake County (14.9 deaths per 100,000 population). The male death rates in both counties are higher than the female death rates in McHenry County (12.0 deaths per 100,000 population) and Lake County (10.6 deaths per 100,000 population).

In Lake County, the death rate due to colorectal cancer for African Americans (19.8 deaths per 100,000 population) is higher than the death rate for Hispanics (8.5 deaths per 100,000 population) and the rate

for White, non-Hispanics (12.4 deaths per 100,000 population) (Conduent Healthy Communities Institute, National Cancer Institute, 2011-2015).

## *Cervical Cancer*

### **Cervical Cancer Screening Rate**

The American College of Obstetricians and Gynecologists recommends that all women aged 21 through 29 have a Pap test every three years. For women aged 30-65, it is recommended that they have a Pap test and a Human Papillomavirus (HPV) test every five years.

The percentage of women aged 18 years and older who have had a Pap test in the past year is 72.9 percent for Lake County and 70.2 percent in McHenry County. Lake and McHenry County rates are above the Illinois rate (65.6 percent) and in the best 0-50<sup>th</sup> percentile range (green indicator) compared to other Illinois counties. The Lake County rate is not statistically different from the prior rate, but the McHenry County rate is lower (worse) than the prior rate (Conduent Healthy Communities Institute, Illinois Behavioral Risk Factor Surveillance System, 2010-2014).

### **Cervical Cancer Incidence Rate**

The cervical cancer incidence rates in Lake County are lower when compared to the rates for other Illinois counties. In McHenry County, there are 5.8 cases of cervical cancer per 100,000 females and 4.7 cases per 100,000 females in Lake County. Both county rates are in the best 0–50<sup>th</sup> percentile (green indicator) compared to other Illinois counties and meet the Healthy People 2020 target (7.3 cases per 100,000 females). The cervical cancer incidence rates are trending downward in both counties and in Lake County, the trend is statistically significant. The incidence rates are lower in McHenry and Lake County than the Illinois rate (7.7 cases per 100,000 females) and the U.S. rate (7.5 cases per 100,000 females) (Conduent Healthy Communities Institute, National Cancer Institute, 2011-2015).

## *Lung Cancer*

### **Lung Cancer Incidence Rate**

According to the American Lung Association, more people die from lung cancer annually than any other type of cancer, exceeding the total deaths caused by breast cancer, colorectal cancer and prostate cancer combined. The greatest risk factor for lung cancer is duration and quantity of smoking (American Lung Association, 2018).

The lung and bronchus cancer incidence rates are trending downward, in McHenry County from 71.0 cases per 100,000 population in 2007-2011 to 64.6 cases per 100,000 population in 2011-2015. The rate for Lake County is decreasing in a statistically significant direction from 62.6 cases per 100,000 population in 2006-2010 to 56.1 per 100,000 population in 2011-2015. When compared to Illinois (66.0 cases per 100,000 population) McHenry and Lake County both have lower rates (Conduent Healthy Communities Institute, National Cancer Institute, 2011-2015).

## **Age-Adjusted Lung Cancer Death Rate**

In Lake County and as of 2015, the age-adjusted death rate due to lung cancer met the Healthy People 2020 target (45.5 per 100,000 population) at 37.9 deaths per 100,000 population. Death rates due to lung cancer are decreasing in a statistically significant direction in Lake County with the highest reported rate in 2006-2010 (44.5 deaths per 100,000 population). The McHenry County age-adjusted death rate due to lung cancer is 46.9 deaths per 100,000 population and does not meet the Healthy People 2020 target. The death rates in McHenry County are also trending downward, with the highest reported rate in 2007-2011 of 54.3 deaths per 100,000 population. The Illinois rate is 46.3 deaths per 100,000 population and the U.S. rate is 43.4 deaths per 100,000 population, meaning both are higher than Lake County rates but lower than McHenry County rates. Lake County and McHenry County are in the best 0-50<sup>th</sup> percentile range (green indicator) compared to Illinois counties (Conduent Healthy Communities Institute, National Cancer Institute, 2011-2015).

## **Oral Cavity and Pharynx**

### **Oral Cancer Incidence Rate**

The incidence rates for oral cavity and pharynx cancer in Lake County and McHenry County are in the best 0-50<sup>th</sup> percentile (green Indicator) when compared to other Illinois counties, with 10.9 cases per 100,000 population and 10.3 cases per 100,000 population, respectively. The McHenry County rate is decreasing, while the Lake County incidence rate is increasing.

McHenry County males have more than double the incidence rate of oral cavity and pharynx (15.2 per 100,000 population) of females at 5.9 cases per 100,000 population. The Lake County male incidence rate (14.6 cases per 100,000 population) is also nearly two-times higher than the female incidence rate (7.5 cases per 100,000 population) (Conduent Healthy Communities Institute, National Cancer Institute, 2011-2015).

## **Prostate Cancer**

### **Prostate Cancer Incidence Rate**

The prostate cancer incidence rate is decreasing at a statistically significant rate in Lake County to 103.1 cases per 100,000 males in 2011-2015 from 147.4 per 100,000 males in 2006-2010. Prostate cancer rates in McHenry County are also decreasing at a statistically significant rate to 107.1 cases per 100,000 males in 2011-2015, from 143.4 per 100,000 males in 2006-2010. Both counties are below the Illinois rate (114.9 per 100,000 males) and U.S. rate (114.9 per 100,000 males) and are in the best 0–50<sup>th</sup> percentile (green indicator) compared to other Illinois counties (Conduent Healthy Communities Institute, National Cancer Institute, 2011-2015).

### **Age Adjusted Prostate Cancer Death Rate**

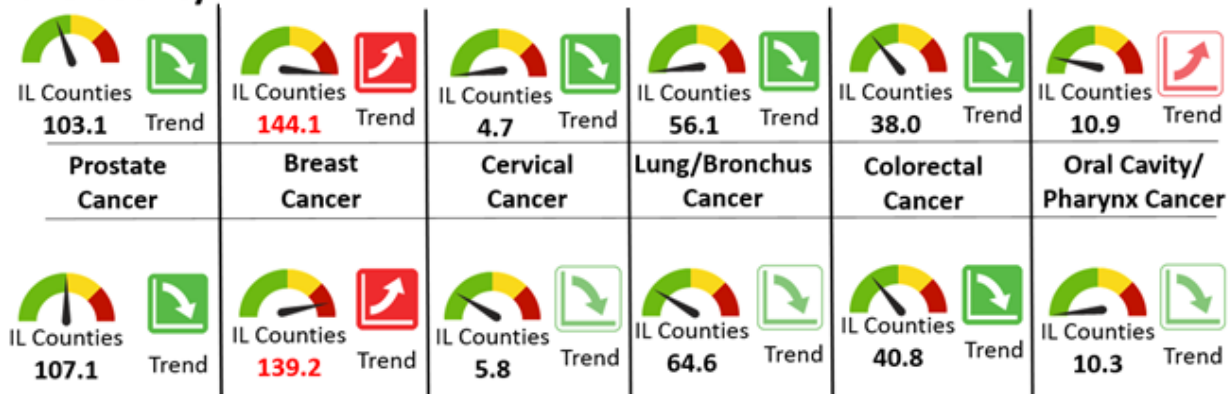
Prostate cancer is the leading cause of cancer death in men in the U.S. The age-adjusted death rate due to prostate cancer is 18.3 deaths per 100,000 males and meets the Healthy People 2020 target of 21.8 per 100,000 males. McHenry County deaths due to prostate cancer is 22.4 per 100,000 males but

does not meet the Healthy People 2020 target. Both county rates are in the best 0-50<sup>th</sup> percentile (green indicator) compared to other Illinois counties and the rates in both counties are decreasing (Conduent Healthy Communities Institute, National Cancer Institute, 2015).

Exhibit 28 summarizes the cancer incidence rates for the PSA and Exhibit 29 provides an overview of the death rates in the PSA by different types of cancer.

#### Exhibit 28: Lake and McHenry County Cancer Incidence Rate per 100,000 population 2011-2015

##### Lake County

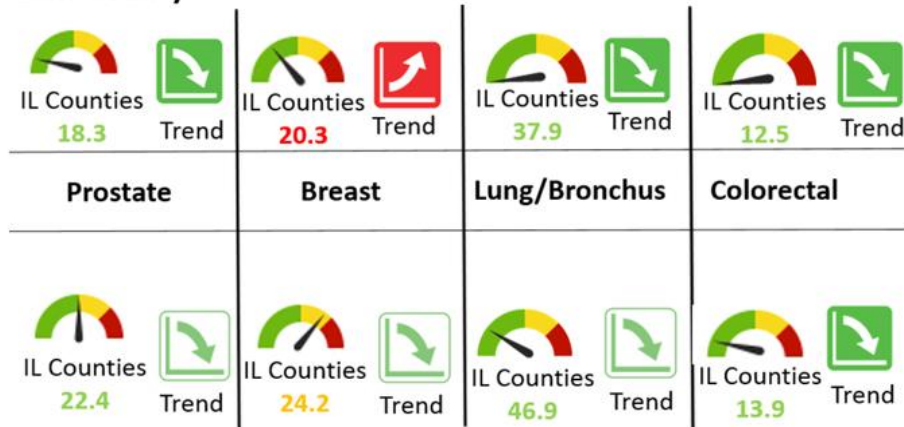


##### McHenry County

Source: Conduent Healthy Communities Institute, National Cancer Institute, 2019

#### Exhibit 29: Lake and McHenry County Cancer Death Rate per 100,000 population 2011-2015

##### Lake County



##### McHenry County

Source: Conduent Healthy Communities Institute, National Cancer Institute, 2019

## *Key Findings and Disparities: Cancer*

- McHenry County males have more than double the incidence rate of oral cavity and pharynx (15.2 per 100,000 population) of females at 5.9 cases per 100,000 population.
- The Lake County male incidence rate (14.6 cases per 100,000 population) is also nearly two-times higher than the female incidence rate (7.5 cases per 100,000 population).
- In Lake County, African Americans have higher prostate cancer incidence rates than other races/ethnicities at 144.1 cases per 100,000 males.
- African Americans in Lake County have a death rate of 38.7 per 100,000 males for prostate cancer, which is high when compared to other races.

## **Cardiovascular Disease**

### *Age-Adjusted ER Rate due to Heart Failure per 10,000 population age 18 and Older*

According to the American Heart Association, heart failure is a chronic, progressive condition in which the heart muscle is unable to pump enough blood to meet the body's needs for blood and oxygen. The Advocate Good Shepherd PSA age-adjusted ER rate due to heart failure is 3.7 visits per 10,000 population age 18 years and older, which is in the best 0-50<sup>th</sup> percentile (green indicator) compared to other Illinois counties (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017). Note that this indicator does not include cases with a cardiac procedure. When compared to the Illinois rate (8.7 ER visits per 10,000 population) the rate is lower for residents of the hospital's PSA.

### *Age-Adjusted Hospitalization Rate due to Heart Failure per 10,000 population age 18 and Older*

In the Advocate Good Shepherd PSA, the age-adjusted hospitalization rate due to heart failure is 29.9 per 10,000 population age 18 and older. The PSA rate is in the worst 50<sup>th</sup>–75<sup>th</sup> percentile (yellow indicator) compared to other Illinois counties (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

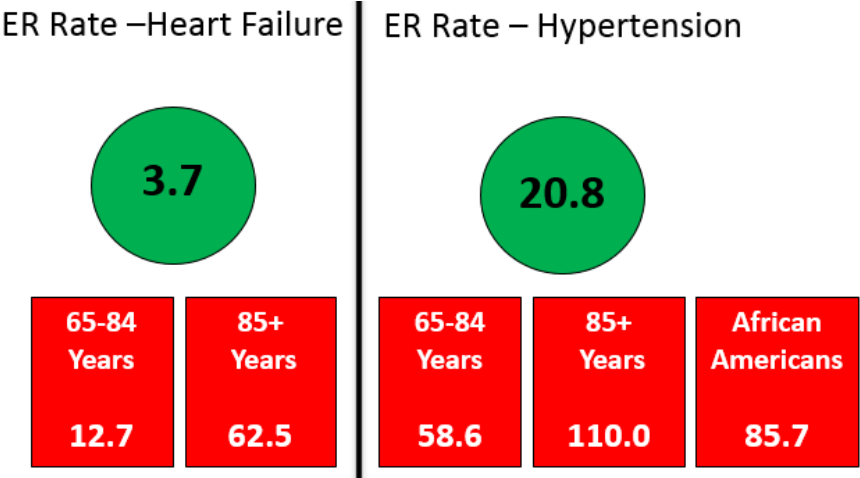
### *Age-Adjusted ER rate due to Hypertension per 10,000 population age 18 years and Older*

Having high blood pressure means the pressure of the blood in your blood vessels is higher than it should be. About one of three U.S. adults—or about 75 million people—have high blood pressure. Only about half (54 percent) of these people have their high blood pressure under control (Centers for Disease Control and Prevention, 2019).

The age-adjusted ER rate due to hypertension in the Advocate Good Shepherd PSA is 20.8 ER visits per 10,000 population age 18 and older, which is better than the Illinois rate (36.4 ER visits per 10,000 population). The PSA rate is in the best 0-50<sup>th</sup> percentile (green indicator) compared to other Illinois counties (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

Exhibit 30 displays the ER rates due to heart failure and hypertension in the PSA. For heart failure, individuals ages 65-84 years and ages 85 years and older have ER rates significantly higher than the PSA rate. The same age groups and African Americans have ER rates due to hypertension that are higher than the hospital's PSA rate.

**Exhibit 30: Advocate Good Shepherd PSA Age-Adjusted ER Rate due to Hypertension & Heart Failure per 10,000 population 18 years and Older 2015-2017**



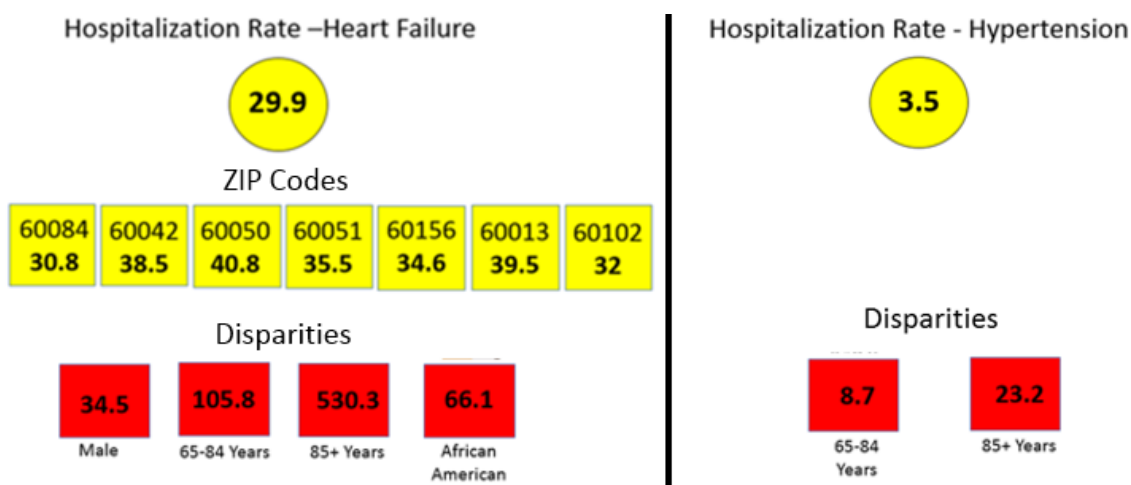
Source: Conduent Healthy Communities Institute, Illinois Hospital Association, 2019

*Age-Adjusted Hospitalization Rate due to Hypertension per 10,000 population age 18 years and Older*

As displayed in Exhibit 30, in the PSA, the age-adjusted hospitalization rate due to hypertension is 3.5 hospitalizations per 10,000 population age 18 and older (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017). The PSA rate is lower than the Illinois rate of 4.6 hospitalizations per 10,000 population and is in the 50<sup>th</sup>–75<sup>th</sup> percentile (yellow indicator), compared to other Illinois counties.

Exhibit 31 displays the hospitalization rates due to heart failure and hypertension for the PSA, including the disparities. For heart failure, males, older adults (ages 65-84 years and ages 85 and older) and African Americans all have hospitalization rates that are significantly higher than the hospital's PSA rate. Older adults also have rates of hospitalization due to heart failure higher than other age groups. Only zip codes that are in the worst 50<sup>th</sup>–75<sup>th</sup> percentile (yellow indicator) and in the worst 25<sup>th</sup> percentile (red indicator) within the Advocate Good Shepherd PSA are listed.

### Exhibit 31: Advocate Good Shepherd PSA Age-Adjusted Hospitalization Rate due to Heart Failure & Hypertension per 10,000 population 18 years and Older 2015-2017



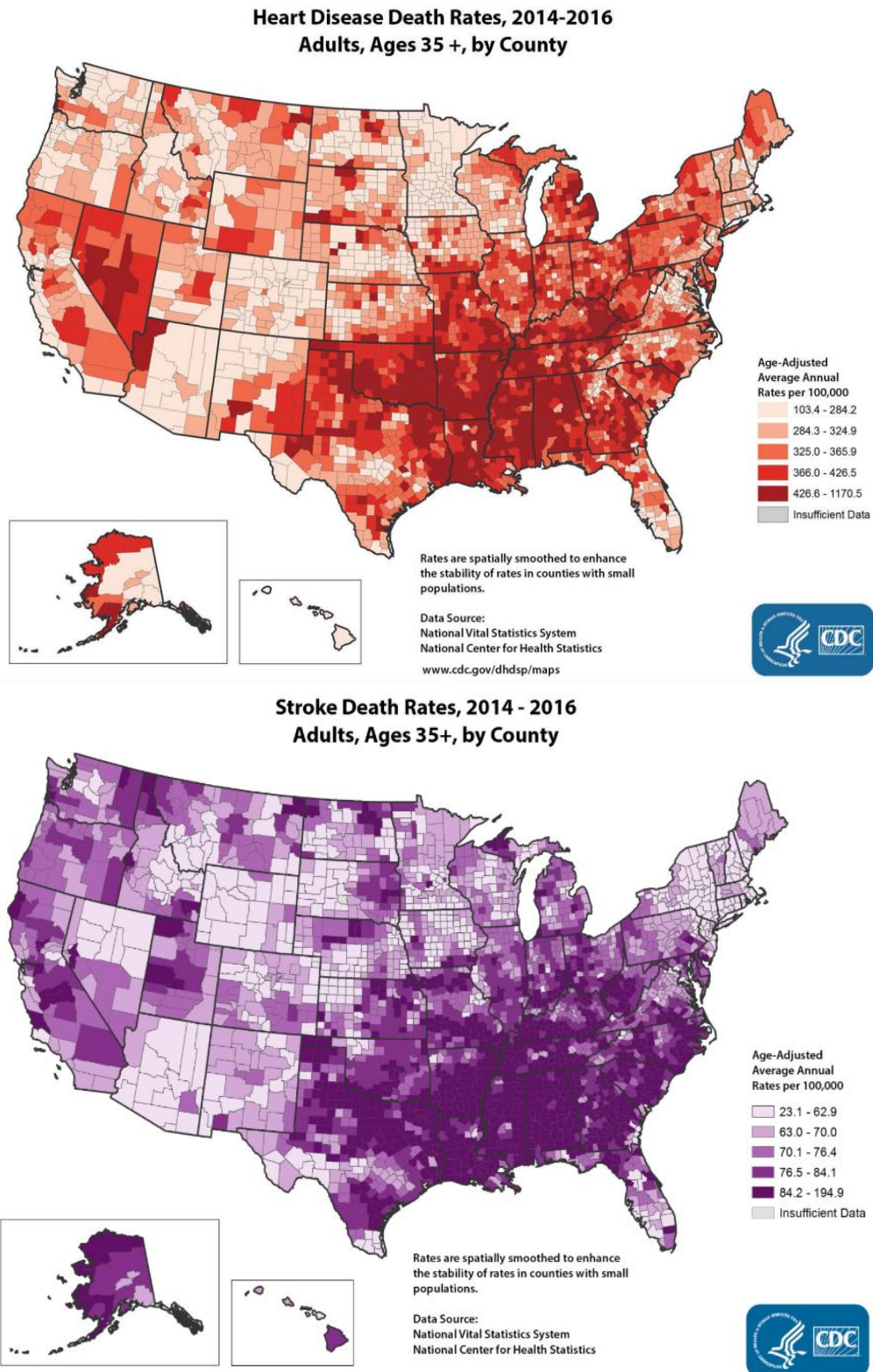
Source: Conduent Healthy Communities Institute, Illinois Hospital Association, 2019

### Heart and Stroke

Nothing kills more Americans than heart disease and stroke. More than 859,000 Americans die of heart disease, stroke or other cardiovascular diseases every year—that's one-third of all U.S. deaths. These diseases also take an economic toll, costing \$199 billion a year to the U.S. health care system and causing \$131 billion in lost productivity from premature death alone. Seventy-eight million people have high blood pressure, a key risk factor for heart disease and stroke (Centers for Disease Control and Prevention, 2019).

As shown in Exhibit 32, there is a strong correlation between deaths due to heart disease and deaths due to stroke. In Exhibit 32, the dark red regions on the first map represent deaths due to heart disease (426.6–1,170.5 deaths per 100,000 population) and the dark purple regions on the second map represent death due to stroke (84.2-194.9 deaths per 100,000 population). The highest death rates are generally in the same geographic regions of the U.S. (Centers for Disease Control and Prevention, 2019).

## Exhibit 32: U.S. Death Rates for Heart Disease and Stroke 2014-2016



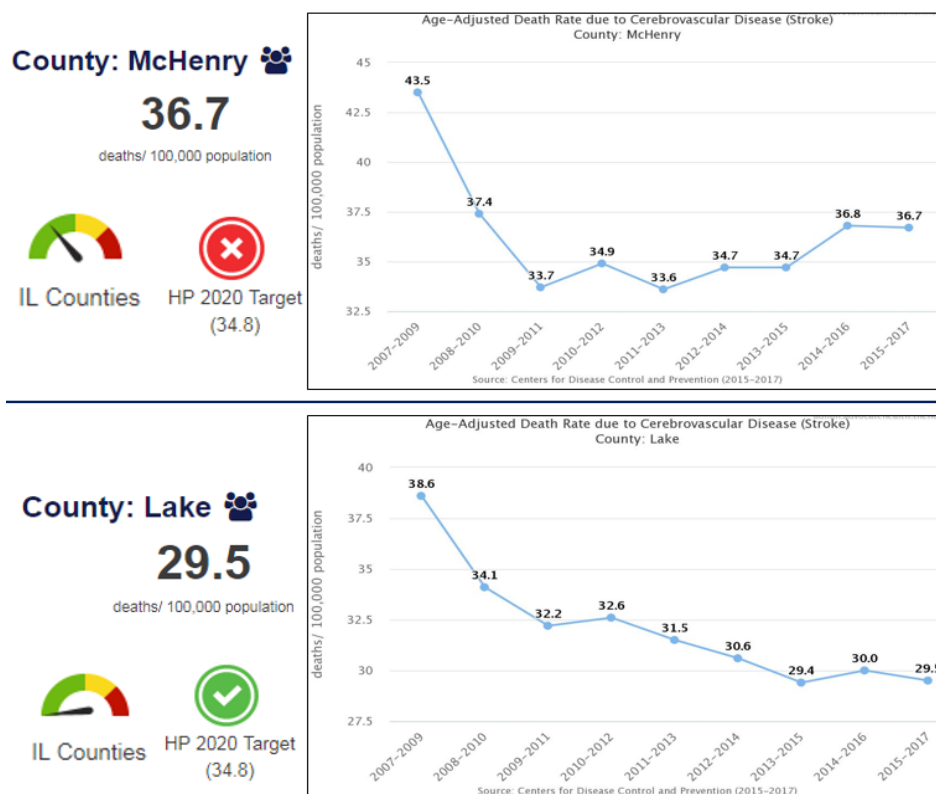
Source: Centers for Disease Control and Prevention, 2019

## Age-Adjusted Death Rate due to Cerebrovascular Disease (Stroke)

Cerebrovascular disease refers to conditions, including stroke, caused by problems with the blood vessels supplying the brain with blood (Conduent Healthy Communities Institute, 2019).

In Lake County, the age-adjusted death rate due to cerebrovascular disease and stroke is 29.5 deaths per 100,000 population; the rate is 36.7 deaths per 100,000 population for McHenry County. In Lake County the rate has decreased at a statistically significant rate over time, while the rate in McHenry County has fluctuated. Both counties are in the best 0-50<sup>th</sup> percentile (green indicator) when compared to other Illinois and U.S. counties. Both county death rates are lower than the Illinois death rate (38.4 deaths per 100,000 population) and the U.S. rate (37.5 deaths per 100,000 population). Lake County meets the Healthy People 2020 target of 34.8 deaths per 100,000 population, while McHenry County does not (Conduent Healthy Communities Institute, Centers for Disease Control and Prevention, 2015-2017). Exhibit 33 shows the age-adjusted death rate for both McHenry County and Lake County.

**Exhibit 33: Lake and McHenry County Age-Adjusted Death Rate due to Cerebrovascular Disease (Stroke) for adults age 18 and Older 2007-2017**



Source: Conduent Healthy Communities Institute, Centers for Disease Control and Prevention, 2019

## Age-Adjusted Death Rate due to Coronary Heart Disease

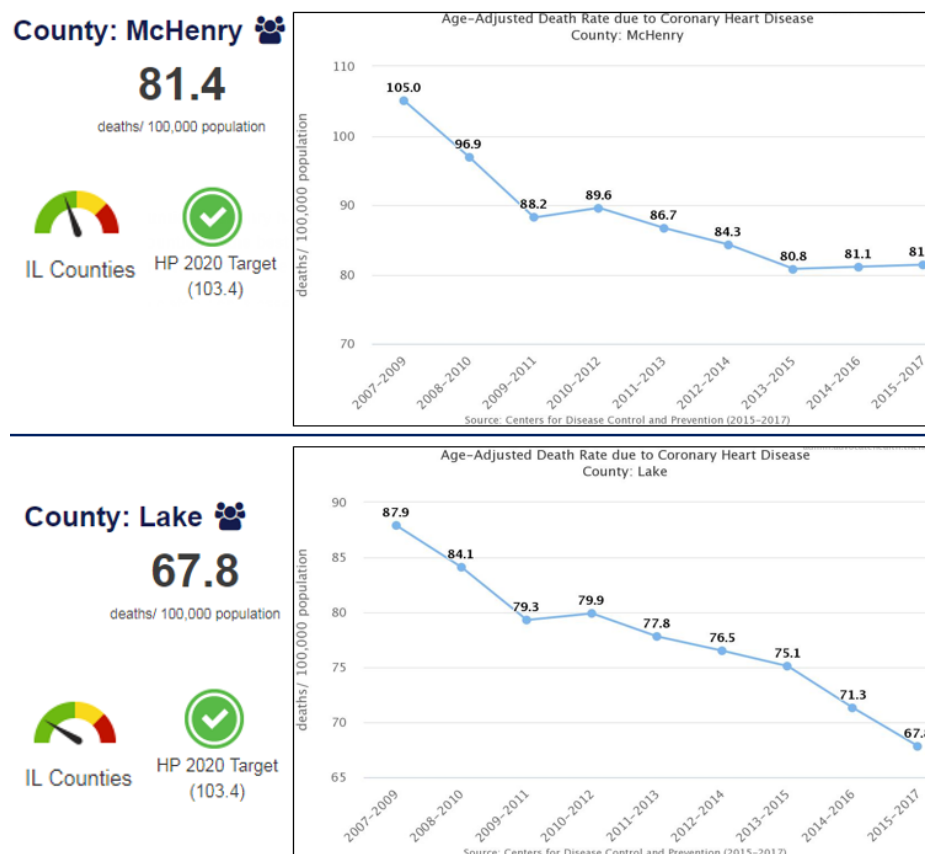
The age-adjusted death rate from heart disease is 81.4 deaths per 100,000 population in McHenry County and 67.8 deaths per 100,000 population in Lake County. Both counties are successfully

meeting the Healthy People 2020 target (103.4 deaths per 100,000 population) and are the best 0-50<sup>th</sup> percentile (green indicator) when compared to other Illinois counties. Additionally, both county death rates due to coronary heart disease are decreasing at a statistically significant rate over time.

Over the past decade, McHenry County's heart disease death rate has dropped by 23.6 deaths per 100,000 population and the rate has decreased by 20.1 deaths per 100,000 population in Lake County. Both counties have lower death rates due to heart disease than Illinois (87.0 per 100,000 population) and the U.S. (94.8 per 100,000 population) (Conduent Healthy Communities Institute, Centers for Disease Control and Prevention, 2015-2017).

Exhibit 34 that follows displays the decrease in death rates due to coronary heart disease in McHenry County and Lake County.

### Exhibit 34: Lake and McHenry County Age-Adjusted Death Rate due to Coronary Heart Disease for adults age 18 and Older 2007-2017



Source: Conduent Healthy Communities Institute, Centers for Disease Control and Prevention, 2019

## *High Cholesterol Prevalence*

According to the CDC, one in six adults have high cholesterol, a major risk factor for heart disease and the fifth leading cause of death (Conduent Healthy Communities Institute, 2019).

In Lake County, the high cholesterol prevalence rate for adults age 25 and older is 33.6 percent and it is 31.2 percent in McHenry County. Although Lake and McHenry County rates are in the best 0-50<sup>th</sup> percentile (green indicator) when compared to other Illinois counties, neither county is meeting the Healthy People 2020 target of 13.5 percent (Conduent Healthy Communities Institute, Illinois Behavioral Risk Factor Surveillance System, 2010-2014).

## *High Blood Pressure Prevalence*

For an adult, a normal blood pressure reading should be less than 120/80 mm Hg. A blood pressure reading over 120/80 mm Hg may indicate elevated or high blood pressure (hypertension) and a reading under 90/60 mm Hg may indicate low blood pressure (hypotension)—both can be life threatening (Conduent Healthy Communities Institute, 2019).

The high blood pressure prevalence rate in Lake County is 24.5 percent and 28.1 percent in McHenry County. Both counties remain in the best 0-50<sup>th</sup> percentile (green indicator) when compared to other Illinois counties. Lake County is meeting the Healthy People 2020 target of 26.9 percent; however, McHenry County is not meeting the target. The high blood pressure prevalence rates for Illinois (30.8 percent) and the U.S. (32.3 percent) are higher than both counties (Conduent Healthy Communities Institute, Illinois Behavioral Risk Factor Surveillance System, 2014).

## *Medicare Beneficiaries Treated for Stroke*

A total of 3.5 percent of Medicare beneficiaries in McHenry County were treated for stroke in 2017 and the rate is decreasing in a statistically significant direction. The rate in Lake County is 3.8 percent and is also declining over time. The Illinois rate (3.8 percent) and U.S. rate (3.8 percent) are close to the rate in both counties. When compared to other Illinois counties, McHenry County and Lake County are each in the worst 50<sup>th</sup>-75<sup>th</sup> percentile (yellow indicator) as shown in Exhibit 44 (Conduent Healthy Communities Institute, Centers for Medicare & Medicaid Services, 2017).

## *Medicare Beneficiaries Treated for Ischemic Heart Disease*

Ischemic heart disease is characterized by “the narrowing of the arteries of the heart, resulting in less blood and oxygen reaching the heart muscle” (Conduent Healthy Communities Institute, 2019).

In Lake County, 24.3 percent of Medicare beneficiaries were treated for ischemic heart disease in 2017 and the rate in McHenry County is 26.5 percent. The percentages in both counties are decreasing at statistically significant rates. Both counties are in the best 0-50<sup>th</sup> percentile (green indicator) compared to Illinois counties, and have lower rates than Illinois (26.8 percent) and the U.S. (26.9 percent) (Conduent Healthy Communities Institute, Centers for Medicare & Medicaid Services, 2017).

## *Medicare Beneficiaries Treated for Hyperlipidemia*

The increase of fat, cholesterol and triglycerides in the blood is also known as hyperlipidemia (Conduent Healthy Communities Institute, 2019). In Lake County, 37.6 percent of Medicare beneficiaries were treated for hyperlipidemia in 2017 and the rate is decreasing. In McHenry County, the rate is 38.4 percent and is trending upward. Both counties are in the best 0-50<sup>th</sup> percentile (green indicator) compared to other Illinois counties and are lower than the rates for Illinois (39.8 percent) and the U.S. (40.7 percent) (Conduent Healthy Communities Institute, Centers for Medicare & Medicaid Services, 2017).

## *Medicare Beneficiaries Treated for Hypertension*

In McHenry County, slightly over half (55.5 percent) of Medicare beneficiaries were treated for hypertension in 2017. The rate for Medicare beneficiaries treated for hypertension in Lake County is 53.2 percent. Over time, hypertension rates are increasing in McHenry County, while decreasing in Lake County. Lake County and McHenry County rates remain in the best 0-50<sup>th</sup> percentile (green indicator) compared to Illinois counties and have lower rates than Illinois (58.2 percent) and the U.S. (57.1 percent) (Conduent Healthy Communities Institute, Centers for Medicare & Medicaid Services, 2017).

## *Medicare Beneficiaries Treated for Atrial Fibrillation*

Atrial fibrillation (also called AFib or AF) is a quivering or irregular heartbeat (arrhythmia) that can lead to blood clots, stroke, heart failure and other heart-related complications. At least 2.7 million Americans are living with AFib (American Heart Association, 2019).

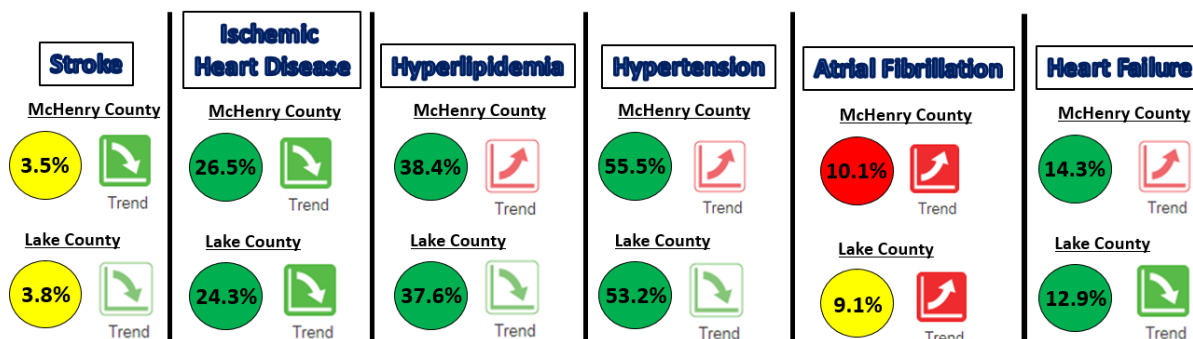
In McHenry County, the rate of Medicare beneficiaries who were treated for AFib is 10.1 percent and is in the worst 25<sup>th</sup> percentile (red indicator) when compared to other Illinois counties. In Lake County, the rate is 9.1 percent of Medicare beneficiaries treated for AFib and the rate is in the worst 50<sup>th</sup>–75<sup>th</sup> percentile (yellow indicator) compared to other Illinois counties. Both county rates are increasing at a statistically significant rate and exceeding the U.S. rate (8.4 percent) and the Illinois rate (8.9 percent) (Conduent Healthy Communities Institute, Centers for Medicare & Medicaid Services, 2017).

## *Medicare Beneficiaries Treated for Heart Failure*

Among the Medicare population, 12.9 percent of beneficiaries were treated for heart failure in Lake County; the rate is higher for McHenry County at 14.3 percent. Since 2010, the heart failure percentage has dropped by two percentage points in Lake County and is trending downward at a statistically significant rate. However, the rate for McHenry County is increasing. Both counties have lower rates than the U.S. (15.2 percent) and Illinois (13.9 percent) and are in the best 0–50<sup>th</sup> percentile (green indicator) compared to other Illinois counties (Conduent Healthy Communities Institute, Centers for Medicare & Medicaid Services, 2017).

Exhibit 35 provides an overview of the rates of Medicare beneficiaries treated for stroke and other heart complications for both McHenry County and Lake County.

## Exhibit 35: Lake and McHenry County Medicare Beneficiaries Treated for Stroke and Heart Complications 2017



Source: Conduent Healthy Communities Institute, Centers for Medicare & Medicaid Services, 2019

### Key Findings and Disparities: Cardiovascular Disease

- The highest emergency room rates due to heart failure in the Advocate Good Shepherd PSA are seen in:
  - Individuals age 65-84 years (12.7 per 10,000 population)
  - Individuals age 85 years and older (62.5 per 10,000 population).
- The hospitalization rates in the Advocate Good Shepherd PSA due to heart failure for the following populations are all significantly higher than the overall PSA rate:
  - Adults age 65-84 years (105.8 hospitalizations per 10,000 population)
  - Adults age 85 years and older (530.3 hospitalizations per 10,000 population)
  - Males (34.5 hospitalizations per 10,000 population)
  - African Americans (66.1 hospitalizations per 10,000 population).
- The emergency room rates in the Advocate Good Shepherd PSA due to hypertension for the following groups are all significantly higher than the overall PSA rate:
  - Adults age 65-84 years (58.6 per 10,000 population)
  - Adults age 85 and older (110.0 per 10,000 population)
  - African Americans (85.7 per 10,000 population).
- The following hospitalization rates in the Advocate Good Shepherd PSA due to hypertension are significantly higher than the overall PSA rate:
  - Adults age 65-84 years (10.8 hospitalizations per 10,000 population)
  - Adults age 85 years and older (36.4 hospitalizations per 10,000 population).
- The age-adjusted death rates due to coronary heart disease for the following populations are significantly higher than the overall county rates:
  - Lake County males (90.5 deaths per 100,000 population)
  - McHenry County males (106.7 per 100,000 population)
  - Lake County African Americans (96.4 deaths per 100,000 population).

# Diabetes and Kidney Disease

## Diabetes

### **Age-Adjusted ER Rate due to Diabetes per 10,000 population age 18 years and older**

In the U.S., nearly 30 million people have diabetes and 84 million are estimated to have prediabetes. Diabetes was the seventh leading cause of death in the U.S. in 2015 based on the 79,535 death certificates in which diabetes was listed as the underlying cause of death (American Diabetes Association, 2017).

The age-adjusted ER rate due to diabetes for adults 18 years and older in the Advocate Good Shepherd PSA is 9.8 ER visits per 10,000 population and is in the best 0-50<sup>th</sup> percentile (green indicator) when compared to other Illinois counties. The indicator does not include cases of gestational diabetes, only cases of a primary diagnosis of Type 1 and Type 2 diabetes. The hospital's PSA rate is lower than the Illinois rate at 27.7 ER visits per 10,000 population (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

### **Age-Adjusted Hospitalization Rate due to Diabetes per 10,000 population age 18 and older**

For every 10,000 adults age 18 and older in the Advocate Good Shepherd PSA, 11.8 adults are hospitalized for diabetes. This rate is in the best 0-50<sup>th</sup> percentile (green indicator) compared to Illinois counties and lower than the Illinois rate (17.6 per 10,000 population) (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

The following communities have the highest hospitalization rates due to diabetes, falling within the worst 50<sup>th</sup>–75<sup>th</sup> percentile (yellow indicator) compared to other Illinois zip codes:

- McHenry (60051) (19.2 per 10,000 population)
- McHenry (60050) (18.2 per 10,000 population)
- Lake in the Hills (60156) (15.2 per 10,000 population).

### **Age-Adjusted ER Rate due to Uncontrolled Diabetes per 10,000 population age 18 and older**

The Advocate Good Shepherd age-adjusted ER rate due to uncontrolled diabetes for adults 18 and older is in the best 0-50<sup>th</sup> percentile (green indicator) at 5.9 ER visits per 10,000 population. The Illinois rate (14.0 per 10,000 population) is higher than the PSA rate. The ER rates increase as age increases and are much higher for minority groups (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

### **Age-Adjusted Hospitalization Rate due to Uncontrolled Diabetes per 10,000 population age 18 and Older**

For adults age 18 and older in the Advocate Good Shepherd PSA, the age-adjusted hospitalization rate due to uncontrolled diabetes is 2.8 per 10,000 population and is in the best 0–50<sup>th</sup> percentile (green indicator). The PSA rate is lower than the Illinois rate (3.7 per 10,000 population) (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

### **Age-Adjusted ER Rate due to Short-term Complications of Diabetes per 10,000 population age 18 and older**

For short-term complications of diabetes, the rate in Advocate Good Shepherd PSA is in the best 0-50<sup>th</sup> percentile (green indicator), compared to other Illinois counties at 0.3 ER visits per 10,000 population age 18 and older. The PSA rate is lower than the Illinois rate (0.8 ER visits per 10,000 population) (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

### **Age-Adjusted Hospitalization Rate due to Short-term Complications of Diabetes per 10,000 population age 18 and Older**

The age-adjusted hospitalization rate due to short-term complications in the Advocate Good Shepherd PSA is 4.2 hospitalizations per 10,000 population age 18 and older and is in best 0-50<sup>th</sup> percentile (green indicator). The PSA rate is lower than the Illinois rate (5.1 per 10,000 population) (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

### **Age-Adjusted ER Rate due to Long-term Complications of Diabetes per 10,000 population age 18 and Older**

Long-term complications of diabetes include eye, renal, neurological or circulatory complications or complications not otherwise specified. The indicator does not consider gestational diabetes (Conduent Healthy Communities Institute, 2019). The age-adjusted ER rate due to long-term complications of diabetes for adults age 18 and older in the PSA is 2.1 ER visits per 10,000 population. The Advocate Good Shepherd PSA is in the best 0-50<sup>th</sup> percentile (green indicator) when compared to other Illinois counties and the rate is much lower than the overall Illinois rate (5.6 ER visits per 10,000 population) (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

### **Age-Adjusted Hospitalization Rate due to Long-term Complications of Diabetes per 10,000 population age 18 and Older**

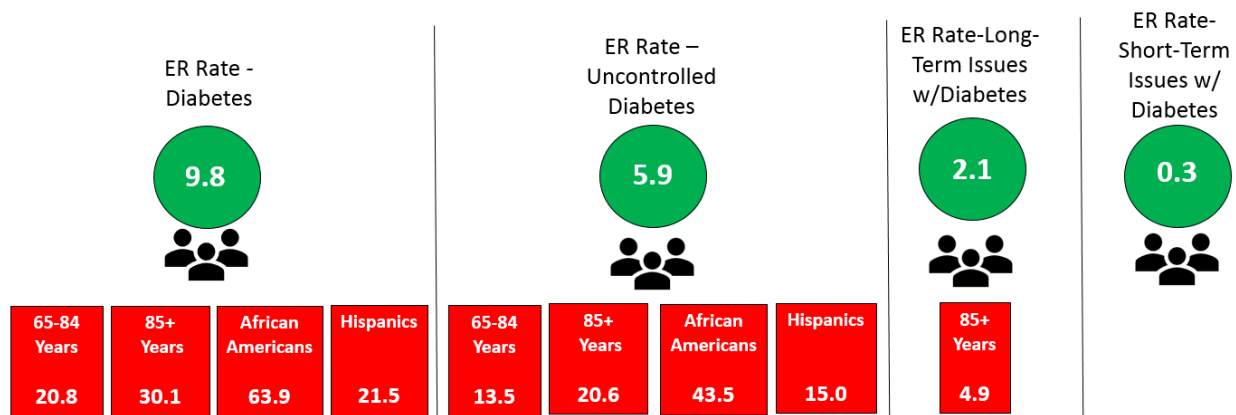
The Advocate Good Shepherd PSA age-adjusted hospitalization rate due to long-term complications of diabetes is 4.8 hospitalizations per 10,000 population age 18 years and older and is in the best 0-50<sup>th</sup> percentile (green indicator) compared to Illinois counties. The Illinois rate of 8.6 hospitalizations per 10,000 population is almost two times the PSA rate (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

Two communities within the PSA have high hospitalization rates due to long-term complications of diabetes, both falling within the 50<sup>th</sup>–75<sup>th</sup> percentile (yellow indicator) compared to other Illinois zip codes:

- Island Lake (60042) (8.7 per 10,000 population)
- Lake in the Hills (60156) (7.8 per 10,000 population).

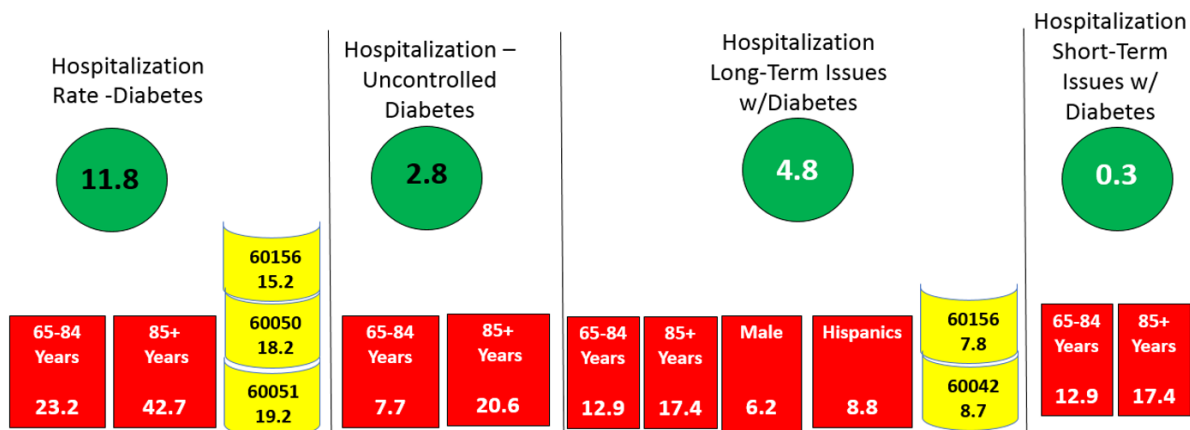
Exhibit 36 provides a summary of the ER rates due to diabetes for the Advocate Good Shepherd PSA and Exhibit 37 provides a summary of the hospitalization rates due to diabetes for the PSA.

### Exhibit 36: Advocate Good Shepherd PSA Age-Adjusted ER Rate due to Diabetes per 10,000 population age 18 and Older 2015-2017



Source: Conduent Healthy Communities Institute, Illinois Hospital Association, 2019

### Exhibit 37: Advocate Good Shepherd PSA Age-Adjusted Hospitalizations due to Diabetes per 10,000 population age 18 and Older 2015-2017



Source: Conduent Healthy Communities Institute, Illinois Hospital Association, 2019

### Diabetes in Medicare Population

Twenty-four percent of Medicare beneficiaries in both Lake and McHenry Counties are diagnosed with diabetes; both are in the best 0–50<sup>th</sup> percentile (green indicator) compared to other counties in Illinois.

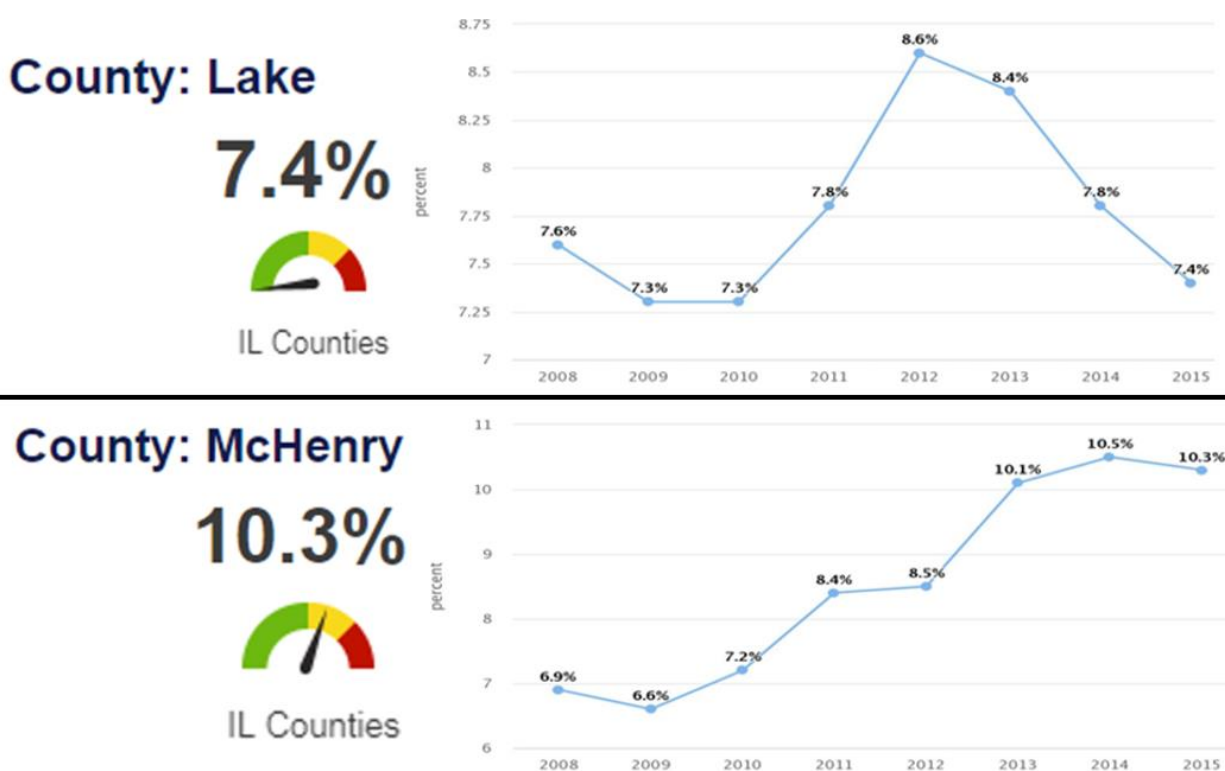
Both county Medicare rates for diabetes are lower than Illinois (27.2 percent) and the U.S. (27.2 percent). Both county rates are unfavorably increasing (Conduent Healthy Communities Institute, Centers for Medicaid and Medicare Service, 2017).

### Adults age 20 and Older Who have Diabetes

As of 2015, 7.4 percent of Lake County adults age 20 years and older have been diagnosed with diabetes, which is in the best 0–50<sup>th</sup> percentile (green indicator) compared to other Illinois counties. This is a slight decrease from the 2012 rate of 8.6 percent and the rate is favorably trending downward.

In McHenry County, 10.3 percent of adults are diagnosed with diabetes, which is an increase from the 2012 rate of 8.5 percent. As shown in Exhibit 38, McHenry County is in the worst 50<sup>th</sup>–75<sup>th</sup> percentile range (yellow indicator) for adults with diabetes compared to other Illinois counties and the rate is unfavorably increasing (Conduent Healthy Communities Institute, County Health Rankings, 2015).

**Exhibit 38: Lake and McHenry County Adults age 20 years and Older with Diabetes 2008-2015**



Source: Conduent Healthy Communities Institute, County Health Rankings, 2019

## Kidney Disease

### Age-Adjusted Death Rate due to Kidney Disease

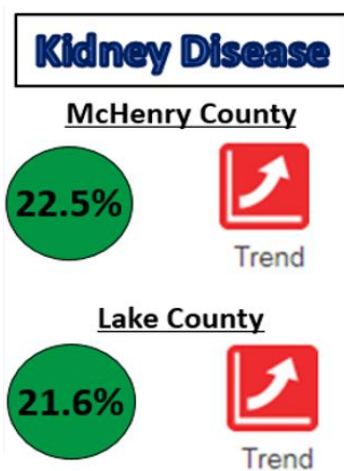
The age-adjusted death rate due to kidney disease in Lake and McHenry County is 15.5 deaths and 15.9 deaths per 100,000 population, respectively. Over time, the Lake County rate is remaining stable, but the rate in McHenry County is trending upward. Both counties are in the best 0-50<sup>th</sup> percentile (green indicator), compared to other Illinois counties, and below the Illinois rate (17.0 deaths per 100,000 population). However, both counties are above the U.S. rate (13.2 deaths per 100,000 population) (Conduent Healthy Communities Institute, Centers for Disease Control and Prevention, 2015-2017).

### Medicare Beneficiaries Treated for Chronic Kidney Disease

In Lake County, 21.6 percent of Medicare beneficiaries were treated for chronic kidney disease (CKD). Although both county rates are in the best 0–50<sup>th</sup> percentile (green indicator) compared to other Illinois counties, they are both increasing at a statistically significant rate. In McHenry County, 22.5 percent of adults are being treated for CKD. Both of the county rates are better than the rate for Illinois (24.0 percent) and the U.S. (24.0 percent) (Conduent Healthy Communities Institute, Centers for Medicare & Medicaid Services, 2017).

Exhibit 39 displays the rates of kidney disease in the Medicare population for McHenry County and Lake County.

**Exhibit 39: Lake County and McHenry County Medicare Beneficiaries Treated for Chronic Kidney Disease 2017**



Source: Conduent Healthy Communities Institute, Centers for Medicare & Medicaid Services, 2019

## *Key Findings and Disparities: Diabetes and Kidney Disease*

- The rate of Medicare beneficiaries diagnosed with diabetes in McHenry county is trending upward.
- In McHenry County, 9.2 percent of adults (ages 20 and older) have been diagnosed with diabetes, which is in the worst 25<sup>th</sup> percentile (red indicator) in comparison to other counties in Illinois, and the McHenry County rate is increasing over time.
- Although the death rate due to kidney disease in McHenry County (15.9 deaths per 100,000 population) is in the best 0-50<sup>th</sup> percentile (green indicator), it is increasing over time.

### **Disparities**

Disparities exist in the Advocate Good Shepherd PSA for the Hispanic population for a number of diabetes-related ER and hospitalization indicators, all of which are above the overall PSA rate. ER PSA is 9.8 per 10,000 and PSA hospitalization is 11.8 per 10,000. All rates below are for ages 18 and older.

- ER rate (21.5 per 10,000 population) due to diabetes.
- ER rate (15.0) per 10,000 population) due to uncontrolled diabetes.
- Hospitalization rate due to long-term complications of diabetes (8.8 per 10,000 population).

Disparities also exist in the Advocate Good Shepherd PSA for the African American population for a number of diabetes related ER and hospitalization indicators, all of which are significantly above the overall PSA rate. ER PSA is 9.8 per 10,000 and PSA hospitalization is 11.8 per 10,000. All rates below are for ages 18 and older.

- ER rate (63.9 per 10,000 population) due to diabetes.
- ER rate (43.5 per 10,000 population) and hospitalization rate (11.6 per 10,000 population) due to uncontrolled diabetes.
- Hospitalization rate due to short-term complications of diabetes (12.9 per 10,000 population).
- Hospitalization rate due to long-term complications of diabetes (18.8 per 10,000 population).

ER and hospitalization rates in the Advocate Good Shepherd PSA for many diabetes indicators increase with age. ER PSA is 9.8 per 10,000 and PSA hospitalization is 11.8 per 10,000. The following indicators are all significantly higher than the overall PSA rate for ages 85 years and older.

- ER rate due to diabetes (30.1 per 10,000 population); ER rate due to uncontrolled diabetes (20.6 per 10,000 population).
- Hospitalization rate (42.7 per 10,000 population) due to diabetes; hospitalization rate (20.6 per 10,000 population) due to uncontrolled diabetes; hospitalization rate (18.8 per 10,000 population) due to long-term complications of diabetes.
- ER rate (17.4 per 10,000 population) and hospitalization rate (34.9 per 10,000 population) due to diabetes.

# Infectious Diseases and Sexually Transmitted Infections

## *Sexually Transmitted Infections*

### **Chlamydia**

In the U.S., chlamydia is one of the most frequently reported bacterial sexually transmitted infections (STIs). The incidence rate for chlamydia is 432.2 cases per 100,000 population in Lake County and is in the worst 25<sup>th</sup> percentile (red indicator) compared to other Illinois counties. In McHenry County, the incidence rate is 231 per 100,000 population and is in the 50<sup>th</sup>–75<sup>th</sup> percentile (yellow indicator). Both county's rates are showing a statistically significant increase, but incidence rates are lower than Illinois (561.4 per 100,000) and the U.S. (497.3 per 100,000) rates (Conduent Healthy Communities Institute, National Center for HIV/Aids, Viral Hepatitis, STD, and TB Prevention, 2016).

### **Gonorrhea**

Gonorrhea is a common bacterial infection that's easily cured with antibiotic medicine. It is also a very common sexually transmitted infection, especially for teens and people in their 20's (Planned Parenthood, 2019). The gonorrhea incidence rate is more than two times higher in Lake County (68.8 cases per 100,000 population) than in McHenry County (29.3 per 100,000 population). The Lake County rate is in the 50<sup>th</sup>-75<sup>th</sup> percentile (yellow indicator) and the rate for McHenry County is in the best 0-50<sup>th</sup> percentile (green indicator) compared to other Illinois counties.

Gonorrhea cases in McHenry County have more than tripled since 2010 (9.4 per 100,00 population) and are increasing significantly over time. The rates have increased in Lake County as well but not at a significant rate, as shown in Exhibit 40. Lake County and McHenry County both have lower incidence rates than Illinois (164.8 per 100,000 population) and the U.S. (145.8 per 100,000 population) (Conduent Healthy Communities Institute, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, 2016).

### **Syphilis**

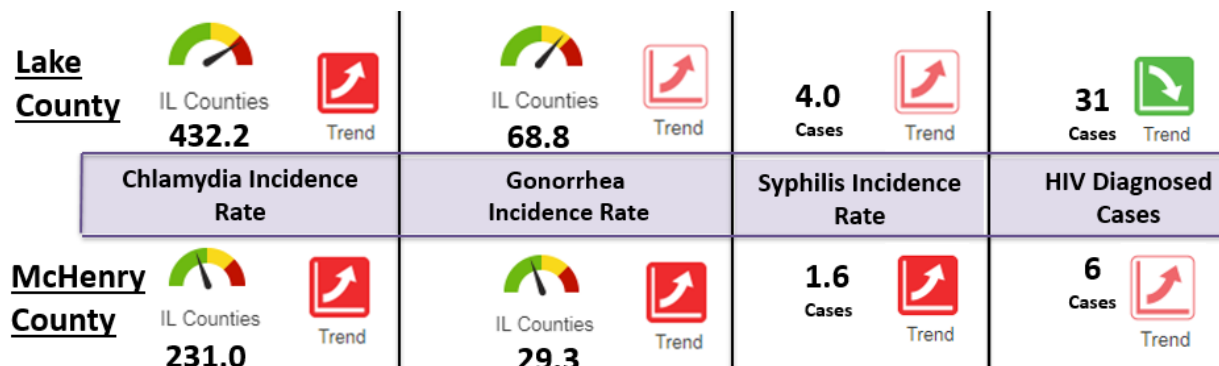
In Lake County, the syphilis incidence rate is 4.0 cases per 100,000 population and the rate is increasing over time. McHenry County had a lower reported rate of 1.6 per 100,000 population, but its syphilis incidence is increasing at a statistically significant rate over time. The rates in both counties are lower than the rate for Illinois (9.8 per 100,000 population) and the U.S. (8.7 cases per 100,000 population) (Conduent Healthy Communities Institute, National Center for HIV/Aids, Viral Hepatitis, STD, and TB Prevention, 2016)

### **HIV Diagnosed Cases**

The human immunodeficiency virus (HIV) damages the immune system, eventually leading infected individuals to develop acquired immunodeficiency syndrome (AIDS), a chronic and life-threatening condition. In 2017, there were 31 cases of HIV in Lake County and six cases in McHenry County. HIV cases in McHenry County are increasing over time, and in Lake County HIV cases are decreasing at a

statistically significant rate, as shown in Exhibit 40 (Conduent Healthy Communities Institute, Illinois Department of Public Health, 2017).

**Exhibit 40: Lake and McHenry County Sexually Transmitted Infections 2016**



Source: Conduent Healthy Communities Institute, National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention; Illinois Department of Public Health, 2019

## Other Infectious Diseases

### Tuberculosis Cases

Tuberculosis is a bacterial disease that most affects the lungs, but can also affect other parts of the body, such as kidney, spine and brain. In 2017, Lake County experienced 11 cases of tuberculosis. Data is not available for McHenry County for 2017, but in 2016 the county only had one case. Tuberculosis cases in Lake County are increasing at a statistically significant rate and decreasing in McHenry County (Conduent Healthy Communities Institute, Illinois Department of Public Health, 2016 and 2017).

### Age-Adjusted ER Rate due to Hepatitis per 10,000 population age 18 years and Older

The term hepatitis refers to an inflammation of the liver resulting from a viral or non-viral infection, an autoimmune or metabolic condition, or alcohol or drug use. For the Advocate Good Shepherd PSA, the age-adjusted ER rate due to hepatitis is 0.4 ER visits per 10,000 population age 18 years and older. The PSA rate is slightly below the Illinois rate (0.5 per 10,000 population) (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

### Age-Adjusted Hospitalization Rate due to Hepatitis per 10,000 population age 18 years and Older

The hospitalization rate due to hepatitis is 0.9 hospitalizations per 10,000 population in the PSA, which is lower than the Illinois rate of 1.0 per 10,000 population. Cases with a primary diagnosis of acute or chronic viral hepatitis, acute or chronic toxic liver disease with hepatitis, cytomegaloviral hepatitis, mumps hepatitis, toxoplasma hepatitis, alcoholic hepatitis, autoimmune hepatitis, and chronic hepatitis not elsewhere classified are included (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

## *Key Findings: Infectious Diseases & Sexually Transmitted Infections*

- Both McHenry and Lake County rates for chlamydia are increasing at a statistically significant level.
- The Lake County incidence rate for chlamydia falls within the worst 25<sup>th</sup> percentile (red indicator) compared to other Illinois counties and is trending upward.
- The gonorrhea incidence rate for McHenry County is increasing at a statistically significant rate.
- McHenry County incidence rates for syphilis are rising at a statistically significant rate.

## **Mental Health**

Due to a change in methodology with the transition to ICD-10 coding, trend data is not available to compare change over time for the mental health indicators below.

### *Age-Adjusted ER Rate due to Mental Health per 10,000 population age 18 years and Older*

In the PSA, the age-adjusted ER rate due to mental health is 73.6 per 10,000 population age 18 years and older, which is in the best 0-50<sup>th</sup> percentile (green indicator) compared to other Illinois counties (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

The ER rate due to mental health for McHenry (60050) is (136.6 per 10,000 population), which falls within the worst 25<sup>th</sup> percentile (red indicator) compared to other Illinois zip codes.

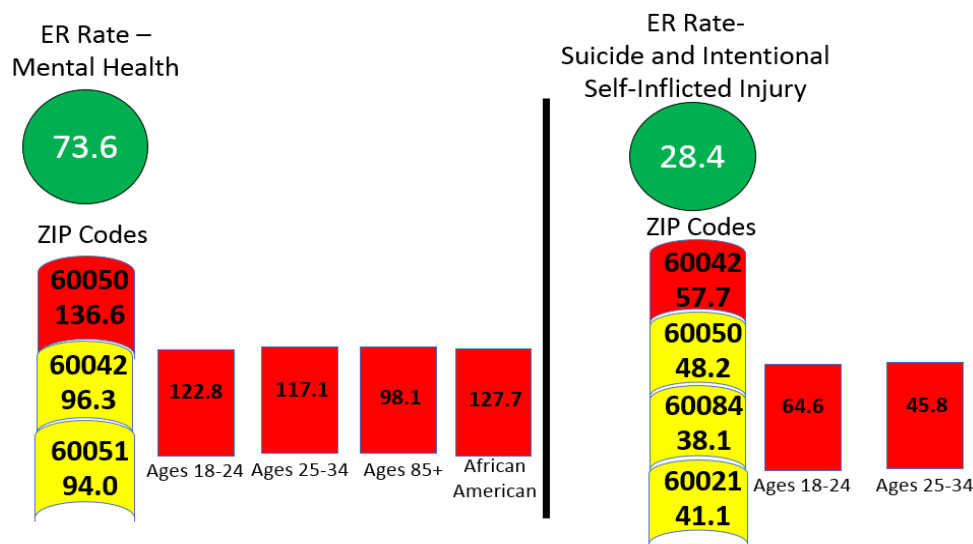
### *Age-Adjusted ER Rate due to Adult Suicide and Intentional Self-Inflicted Injury per 10,000 population age 18 and Older*

For adults in the Advocate Good Shepherd PSA, the age-adjusted ER rate due to suicide and intentional self-inflicted injury is 28.4 ER visits per 10,000 population ages 18 and older, which is in the best 0-50<sup>th</sup> percentile (green indicator) as compared to other Illinois counties (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

The ER rate due to suicide and intentional self-inflicted injury for Island Lake (60042) is (57.0 per 10,000 population) which falls within the worst 25<sup>th</sup> percentile (red indicator) compared to other Illinois zip codes.

Exhibit 41 displays the highest ER rates for adults in the PSA due to mental health, suicide and intentional self-inflicted injury. Only zip codes that are in the worst 50<sup>th</sup>-75<sup>th</sup> percentile (yellow indicator) and in the worst 25<sup>th</sup> percentile (red indicator) within the Advocate Good Shepherd PSA are listed.

**Exhibit 41: Advocate Good Shepherd PSA Age-Adjusted ER Rate due to Mental Health, Suicide and Intentional Self-Inflicted Injury per 10,000 population age 18 and Older 2015-2017**



Source: Conduent Healthy Communities Institute, Illinois Hospital Association, 2019

***Age-Adjusted ER Rate Due to Pediatric Mental Health per 10,000 population Under 18 years***

In the PSA, the age-adjusted ER rate due to pediatric mental health is 53.6 ER visits per 10,000 population under 18 years of age. The PSA rate is lower than the Illinois rate of 64.5 ER visits per 10,000 population and is in the best 0-50<sup>th</sup> percentile (green indicator) compared to other Illinois counties (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

The community of McHenry (60050) has an ER rate due to pediatric mental health (105.9 per 10,000 population) that is in the worst 25<sup>th</sup> percentile (red indicator) compared to other Illinois zip codes.

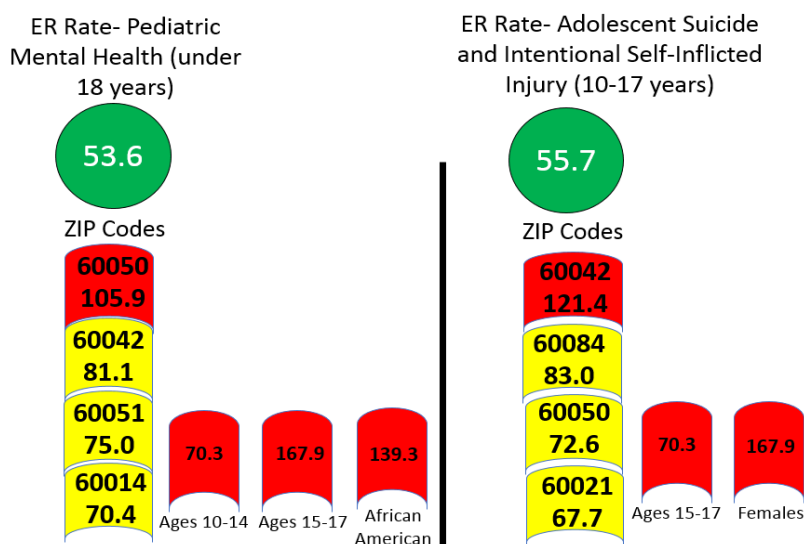
***Age-Adjusted ER Rate due to Adolescent Suicide and Intentional Self-Inflicted Injury per 10,000 population ages 10-17 years***

For every 10,000 adolescents in the Advocate Good Shepherd PSA, age 10 through 17, approximately 55.7 visit the ER for suicide and intentional self-inflicted injury cases. The PSA rate is in the best 0-50<sup>th</sup> percentile (green indicator) compared to Illinois counties, and is lower than the overall Illinois rate (63.9 ER visits per 10,000 population) (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

Island Lake (60042) has an ER rate due to adolescent suicide and intentional self-inflicted injury (121.4 per 10,000 population) that is in the worst 25<sup>th</sup> percentile (red indicator) compared to Illinois zip codes.

Exhibit 42 displays the highest ER rates for pediatrics and adolescents in the PSA due to mental health, suicide and intentional self-inflicted injury. Only zip codes that are in the worst 50<sup>th</sup>-75<sup>th</sup> percentile (yellow indicator) and in the worst 25<sup>th</sup> percentile (red indicator) within the Advocate Good Shepherd PSA are listed.

**Exhibit 42: Advocate Good Shepherd PSA Age-Adjusted ER Visit Rates Due to Pediatric Mental Health under 18 years and Adolescent Suicide and Intentional Self-Inflicted Injury age 10-17 years 2015-2017**



Source: Conduent Healthy Communities Institute, Illinois Hospital Association, 2019

### Poor Mental Health

The average number of days that adults reported their mental health was not good in the past 30 days was 3.2 days in Lake County and 3.3 days in McHenry County. Both counties are in the best 0-50<sup>th</sup> percentile (green indicator) when compared to other Illinois counties. In Illinois, the rate is 3.5 days and 3.8 days in the U.S. (Conduent Healthy Communities Institute, County Health Rankings, 2016).

### Frequent Mental Distress

In Lake County, 9.6 percent of adults stated that their mental health, which includes stress, depression and problems with emotions, was not good for 14 or more of the past 30 days; it is 9.7 percent in McHenry County. Lake and McHenry County rates are favorably below the Illinois (10 percent) and U.S. (15 percent) rates and in the best 0-50<sup>th</sup> percentile (green indicator) compared to other Illinois counties (Conduent Healthy Communities Institute, County Health Rankings, 2016).

### Depression in the Medicare Population

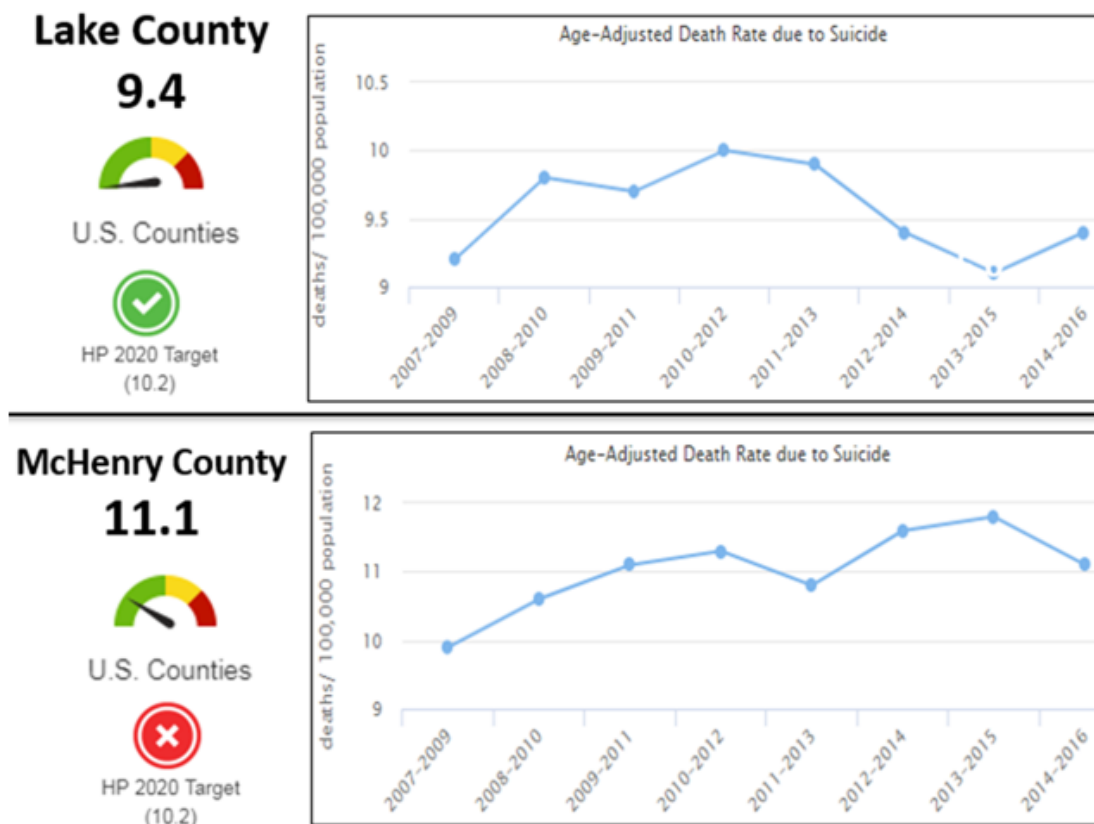
Depression is an ongoing condition that negatively affects a person's feeling, behaviors and their overall thought process. Among the Medicare population, 14.3 percent receive treatment for depression in Lake County and the percent is higher in McHenry County at 16.1 percent. While both counties are

increasing at a statistically significant rate, both remain in the best 0–50<sup>th</sup> percentile (green indicator) when compared to other Illinois counties. In Illinois, 16.4 percent of Medicare beneficiaries were treated for depression, lower than the U.S. rate of 17.9 percent (Conduent Healthy Communities Institute, Centers for Medicare & Medicaid Services, 2017).

### *Age-Adjusted Death Rate Due to Suicide*

For every 100,000 individuals in Lake County, an estimated 9.6 deaths result from suicide. As shown in Exhibit 43, over a nine-year measurement period, the Lake County death rate due to suicide has fluctuated between 9.2 and 10.0 deaths per 100,000 population, but over time the rate is trending downward. The age-adjusted death rate due to suicide is higher in McHenry County at 11.4 deaths per 100,000 population, and the rate is increasing at a statistically significant rate. Both counties are in the best 0-50<sup>th</sup> percentile (green indicator) when compared to other Illinois counties, but only Lake County is meeting the Healthy People 2020 target of 10.2 deaths per 100,000 population. The Illinois rate is 10.7 per 100,000 population and the U.S. rate is 13.6 per 100,000 population (Conduent Healthy Communities Institute, Centers for Disease Control and Prevention, 2017).

**Exhibit 43: Lake County and McHenry County Age-Adjusted Death Rate due to Suicide 2007-2016**



Source: Conduent Healthy Communities Institute, Centers for Disease Control and Prevention, 2019

## *Deaths Due to Suicide*

In McHenry County, there were 34 deaths due to suicide in 2018, which has decreased from 43 deaths in 2017 (McHenry County Coroner's Office, 2019). According to the Annual Lake County Coroner Report, there were 68 deaths due to suicide in 2018, which is an increase from 62 in 2017 (Lake County Coroner's Office, 2019).

## *Illinois Youth Survey*

The Illinois Youth Survey (IYS) asked students, 'During the past 12 months did you ever seriously consider attempting suicide?' In 2018, 14 percent of both McHenry County and Lake County 12<sup>th</sup> grade students answered yes to this question. This was down slightly from 2016, when 15 percent of 12<sup>th</sup> grade students in both counties answered yes to this question.

In 2018, when asked 'During the past 12 months did you feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?' a total of 31 percent of Lake County and 30 percent of McHenry County high school seniors answered yes to the question. In the 2016 IYS survey, 29 percent of Lake County and 31 percent of McHenry County high school seniors answered yes to this question (Illinois Youth Survey, 2016 and 2018).

## *Healthier Barrington Study—Focus Group Results*

During the focus groups for the Healthier Barrington Study, stigma associated with mental health was identified as a barrier to seeking help. It is clear from the focus group conversations that there is a high level of stigma associated with a mental illness diagnosis and an even bigger stigma in accessing mental health services within the Barrington area. Stigma seems to be greater for adults than for children and greater for mental health issues compared to substance use issues (Healthy Barrington Study, 2018).

## *Lake County Community Health Needs Assessment, 2018*

Mental health concerns can limit a person's ability to cope with life stressors, engage in relationships, and complete usual activities such as self-care and school or work activities. An individual does not have to have a mental health diagnosed condition to feel that their mental health is "not good" at times. According to the 2019 Lake County Community Health Needs Assessment, thirty-six percent of Lake County residents surveyed in 2018 reported in the past month, 'My mental health was not good for one or more days.' Sixteen percent of Lake County residents reported that in the past month, that mental health had kept them from usual activities for one or more days. The average reported days that mental health was 'not good' was 2.3 days (Lake County Community Health Needs Assessment, 2019).

Results of the survey questions on general mental health from the 2019 Lake County Community Health Needs Assessment are shown in Exhibit 44.

## Exhibit 44: Lake County CHNA, General Mental Health 2019

General Mental Health				
	Gurnee 2019	NWLC 2019	Lake 2018	Lake 2015
<b>In the past month, my mental health was not good for one or more days.</b>	42%	39%	36%	36%
<b>In the past month, my mental health was not good for a week or more.</b>	12%	11%	9%	8%
<b>Average days that mental health was "not good."</b>	3.0	2.3	2.3	2.6
<b>In the past month, my mental health has kept me from usual activities one or more days.</b>	18%	11%	16%	14%
<b>In the past month, my mental health has kept me from usual activities for a week or more.</b>	4%	2%	2%	4%

Source: Lake County Community Health Needs Assessment, 2019

### Key Findings and Disparities: Mental Health

- Despite being within the best 0-50<sup>th</sup> percentile (green indicator) when compared to other Illinois counties, both Lake County and McHenry County rates for depression in the Medicare population are increasing at a statistically significant level.
- The death rates due to suicide are increasing in McHenry County, but decreasing in Lake County.
- The community of McHenry (60050) has an ER rate due to pediatric mental health (105.9 per 10,000 population) that is in the worst 25<sup>th</sup> percentile (red indicator) compared to other Illinois zip codes.

### Disparities

- The following groups have emergency room rates due to mental health that are significantly worse than the PSA rate (73.6 per 10,000):
  - African Americans (127.7 per 10,000 population)
  - Adults ages 18-24 years (122.8 per 10,000 population)
  - Adults ages 25-34 years (117.1 per 10,000 population)
  - Adults ages 85 years and older (98.1 per 10,000 population).
- The following groups have higher emergency room rates due to adult suicide and intentional self-inflicted injury which are significantly above the overall PSA rate (28.4 per 10,000):
  - Adults ages 18-24 years (64.6 per 10,000 population)
  - Adults ages 25-34 years (45.8 per 10,000 population).
- The following groups have higher emergency room rates due to pediatric mental health that are higher than the overall PSA rate are (53.6 per 10,000):
  - Adolescents ages 15–17 years (167.9 per 10,000 population)

- African Americans (139.3 per 10,000 population)
  - Children ages 10-14 years (70.3 per 10,000 population).
- The highest death rate due to suicide occurs in Lake County males (15.2 per 100,000 population) and McHenry County males (18.2 per 100,000 population).

## Substance Use

Due to a change in methodology with the transition to ICD-10 coding, trend data is not available to compare change over time for the substance use ER and hospitalization indicators in this section.

### *Tobacco Use*

#### **Teens Who Smoke**

Health behavior patterns formed during adolescence play an important role in health throughout adulthood. The rates of teens (12<sup>th</sup> grade students) who reported smoking at least one day during the 30 days prior to the 2018 Illinois Youth Survey in McHenry County (five percent) and Lake County (four percent) have decreased in a statistically significant direction, since 2010. The rates for both counties are in the best 0–50<sup>th</sup> percentile (green indicator) compared to other Illinois counties. The 2016 rates of high school seniors smoking cigarettes were nine percent for McHenry County and six percent for Lake County. The Illinois rate aligns with both counties, reporting five percent for teens smoking (Conduent Healthy Communities Institute, Center for Prevention Research and Development, Illinois Youth Survey, 2018).

#### **Teens Who Use E-Cigarettes**

While the numbers of teens who smoke cigarettes is decreasing, the use of e-cigarettes is increasing among high school students. According to the 2018 IYS, 37 percent of McHenry County (up from 27 percent in 2016) and 31 percent of Lake County (up from 18 percent in 2016) high school seniors had used e-cigarettes in the past 30 days prior to the survey (Center for Prevention and Research and Development, Lake County and McHenry County Illinois Youth Survey, 2016 and 2018).

#### **Adults Who Smoke**

The percentages of adults who report smoking in Lake County (13.8 percent) and McHenry County (14.9 percent) do not meet the Healthy People 2020 target of less than 12 percent of adults smoking. However, the percentages for both counties fall in the best 0–50<sup>th</sup> percentile (green indicator) compared to Illinois counties. The Lake County rate has remained stable from 2015 to 2016, but the rate for McHenry County has unfavorably increased by 1.6 percent in that period (Conduent Healthy Communities Institute, County Health Rankings, 2016).

## *Alcohol Use*

### **Teens Who Use Alcohol**

Exposure to alcohol and experimentation is starting early amongst teens. Alcohol abuse is a concern in both Lake and McHenry County. Alcohol is the most popular drug among adolescents, used more frequently across all grade levels than either cigarettes or marijuana.

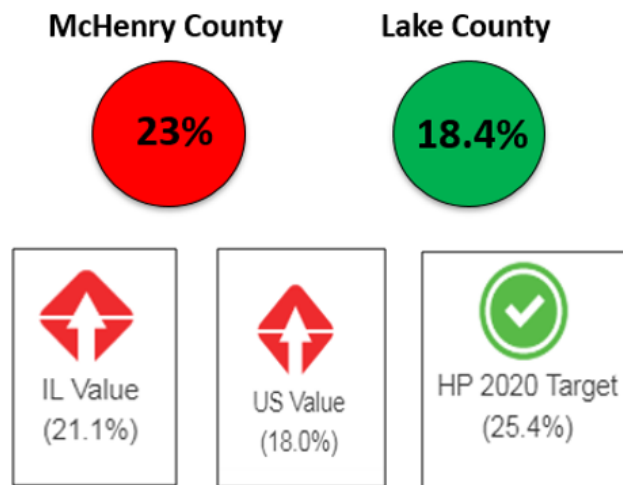
In the 2018 IYS survey, the percentage of teens (12<sup>th</sup> grade students) who reported drinking alcohol on at least one occasion during the 30 days prior to the survey was 42 percent in Lake County, a slight increase from 41 percent in 2016. The 2018 rate is 41 percent for McHenry County teens, a small decrease from 43 percent in 2016. In both counties, the percentage of teens using alcohol has decreased from 2010 to 2018. The rate of decrease in Lake County is non-statistically significant, but the decrease in McHenry County is statistically significant. Despite the decreased rates, both county rates are in the worst 50<sup>th</sup>–75<sup>th</sup> percentile (yellow indicator) compared to other Illinois counties (Conduent Healthy Communities Institute, Illinois Youth Survey, 2016 and 2018).

According to the 2018 IYS, 19 percent of Lake County (down from 21 percent in 2016) and 18 percent of McHenry County (down from 23 percent in 2016) high school seniors engaged in binge drinking in the past two weeks (Lake County and McHenry County Illinois Youth Survey, 2016 and 2018).

### **Adults Who Drink Excessively**

According to the CDC, excessive alcohol use is defined as either heavy drinking (drinking more than two drinks per day on average for men or more than one drink per day on average for women) or binge drinking (drinking more than five drinks during a single occasion for men or more than four drinks during a single occasion for women). Twenty-three percent of adults in McHenry County and 18.4 percent of adults in Lake County report drinking excessively, compared to 21.1 percent in Illinois. While both counties successfully meet the Healthy People 2020 target of 25.4 percent, McHenry County is in the worst 25<sup>th</sup> percentile (red indicator) and Lake County is in the best 0–50<sup>th</sup> percentile (green indicator) when compared to other counties in Illinois. See Exhibit 45 below for an illustration of this data. Both county rates have remained stable from 2015 to 2016. Previous years cannot be compared due to a methodology change (Conduent Healthy Communities Institute, County Health Rankings, 2016).

#### Exhibit 45: Lake and McHenry County Adults Who Drink Excessively 2016



Source: Conduent Healthy Communities Institute, County Health Rankings, 2019

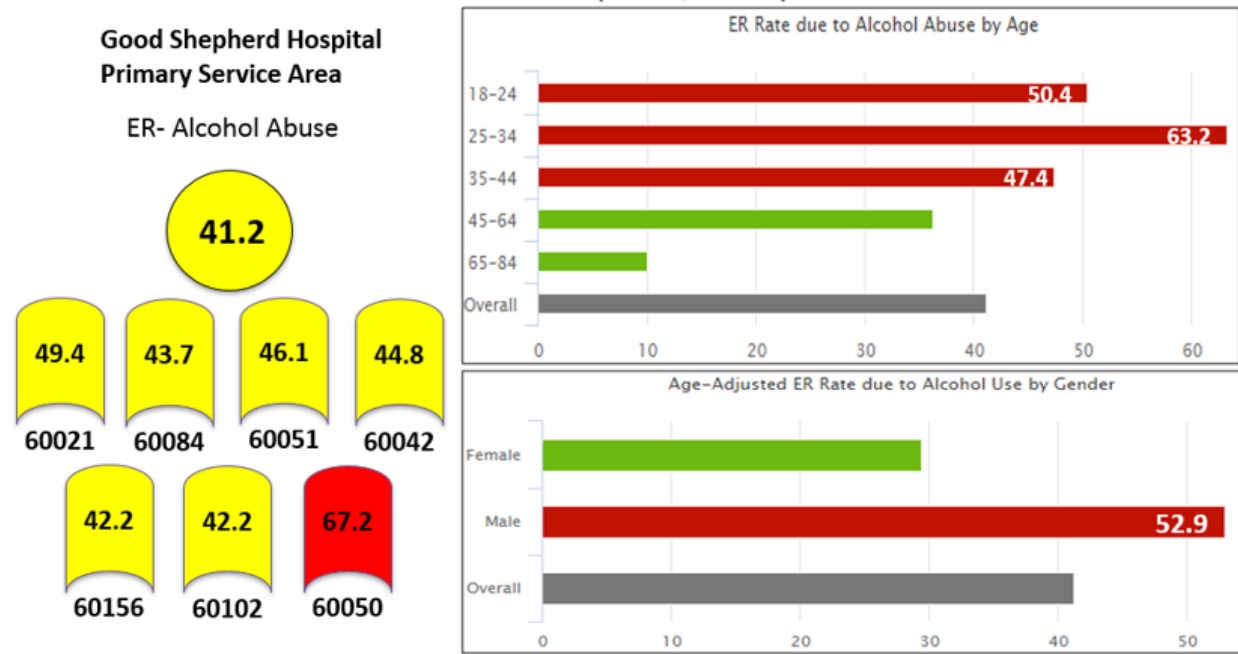
#### Age-Adjusted Emergency Room Rate due to Alcohol Use for Adults age 18 and Older

The age-adjusted emergency room (ER) rate due to alcohol use in the PSA is 41.2 ER visits per 10,000 population for adults age 18 and older, which is in the worst 50<sup>th</sup>–75<sup>th</sup> percentile range (yellow indicator) compared to Illinois counties. The PSA rate is below the Illinois rate of 55.0 per 10,000 population (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

The ER rate due to alcohol use for McHenry (60050) is 67.2 per 10,000 population, which is in the worst 25<sup>th</sup> percentile (red indicator) compared to other zip codes in Illinois.

Exhibit 46 provides a summary of the ER rates due to alcohol use for adults age 18 and older. Only zip codes that are in the worst 50<sup>th</sup>–75<sup>th</sup> percentile (yellow indicator) and in the worst 25<sup>th</sup> percentile (red indicator) within the Advocate Good Shepherd PSA are listed.

## Exhibit 46: Age-Adjusted ER Visit Rates due to Alcohol Use per 10,000 population 18 years and Older 2015-2017



Source: Conduent Healthy Communities Institute, Illinois Hospital Association, 2019

### Age-Adjusted ER Rate due to Adolescent Alcohol Use age 10-17 years

The age-adjusted hospitalization rate due to adolescent alcohol use in the PSA is 15.7 hospitalizations per 10,000 population ages 10-17 years, which is higher than the Illinois rate (10.9 hospitalizations per 10,000 population) (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

### Age-Adjusted Hospitalization Rate due to Alcohol Use for Adults age 18 years and Older

The Advocate Good Shepherd PSA age-adjusted hospitalization rate is in the worst 25<sup>th</sup> percentile range (red indicator), at 20.2 hospitalizations per 10,000 population 18 years and older, compared to other Illinois counties. The PSA rate is above the Illinois rate of 18.1 per 10,000 population (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

Several communities in the PSA have hospitalization rates for alcohol use in the worst 50<sup>th</sup>–75<sup>th</sup> percentile (red indicator), compared to other Illinois zip codes including:

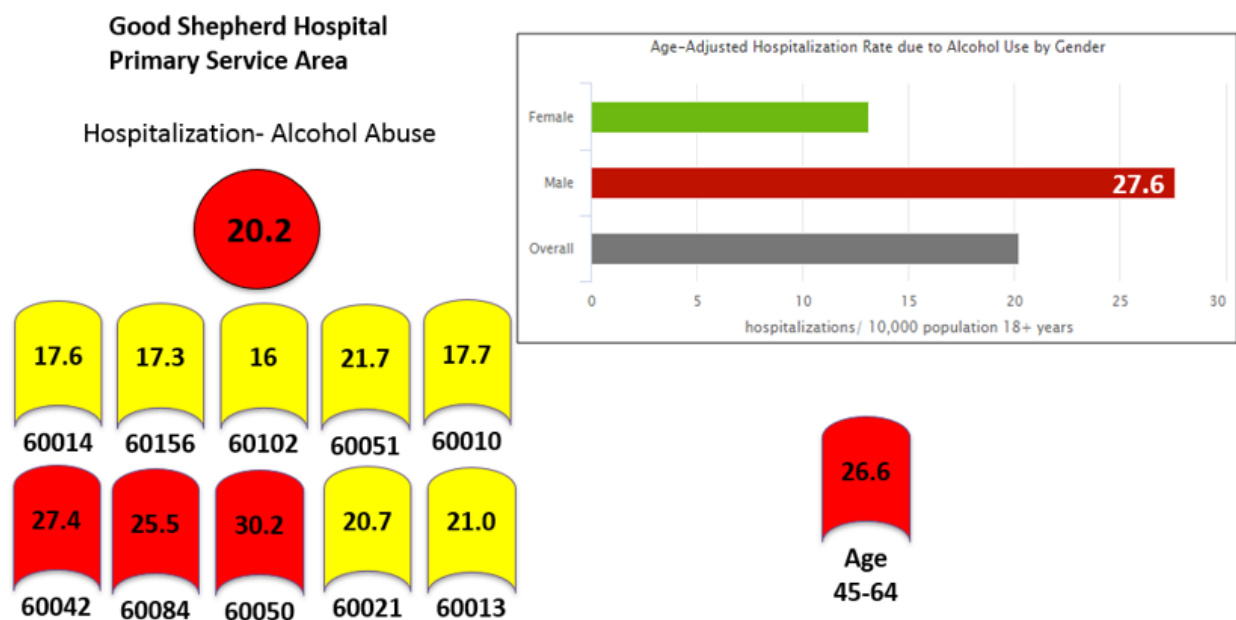
- Crystal Lake (60014) 17.6 hospitalizations per 10,000 population
- Lake in the Hills (60156) 17.3 hospitalizations per 10,000 population
- Algonquin (60156) 16.0 hospitalizations per 10,000 population
- McHenry (60051) 21.7 hospitalizations per 10,000 population
- Barrington (60010) 17.7 hospitalizations per 10,000 population
- Fox River Grove (60021) 20.7 hospitalizations per 10,000 population
- Cary (60013) 21.0 hospitalizations per 10,000 population.

Three communities have hospitalization rates for alcohol use in the worst 25<sup>th</sup> percentile (red indicator) compared to other Illinois zip codes:

- McHenry (60050) 30.2 hospitalizations per 10,000 population.
- Island Lake (60042) 27.4 hospitalizations per 10,000 population
- Wauconda (60084) 25.5 hospitalizations per 10,000 population

Exhibit 47 provides a summary of the hospitalization rates due to alcohol use for adults age 18 and older. Only zip codes that are in the worst 50<sup>th</sup>–75<sup>th</sup> percentile (yellow indicator) and in the worst 25<sup>th</sup> percentile (red indicator) within the Advocate Good Shepherd PSA are listed.

#### Exhibit 47: Age-Adjusted Hospitalizations Rates due to Alcohol Use per 10,000 population 18 years and Older 2015-2017



Source: Conduent Healthy Communities Institute, Illinois Hospital Association, 2019

#### Age-Adjusted Hospitalization Rate due to Adolescent Alcohol Use ages 10-17 years

The age-adjusted hospitalization rate due to adolescent alcohol use in the PSA is 8.6 hospitalizations per 10,000 population ages 10-17 years, which is higher than the Illinois rate (7.2 hospitalizations per 10,000 population) (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

#### Alcohol Impaired Driving Deaths

According to the National Traffic Safety Administration, motor vehicle crashes that involve an alcohol impaired driver kill 28 people in the U.S. every day, which amounts to one death every 53 minutes (National Traffic Safety Administration, 2018). Between 2013 and 2017, 44.3 percent of all motor vehicle crash deaths in McHenry County involved alcohol, which is in the worst 25<sup>th</sup> percentile (red indicator), compared to other Illinois counties. This percentage has increased more than eleven points since the 2008-2012 period. The alcohol-impaired driving death rate for Lake County is 34.3 percent

and has actually declined slightly in the same period but is still in the worst 50<sup>th</sup>–75<sup>th</sup> percentile range (yellow indicator), compared to other Illinois counties. The Illinois (32.6 percent) and U.S. rates (28.6 percent) are lower than both county rates (Healthy Communities Institute, County Health Rankings, 2013-2017).

## Lake County Community Health Needs Assessment Results

As shown in Exhibit 48, results of a 2018 county-wide survey in Lake County indicate that 77 percent of Lake County residents have had a drink of alcohol in the past 30 days. The rate was higher for the communities of northwest Lake County including Antioch (60002), Fox Lake (60020) and Lake Villa (60046), with 82 percent of respondents indicating they had had a drink of alcohol in the past 30 days. A total of 31 percent of Lake County respondents and 35 percent of northwest Lake County respondents reported binge drinking one or more times in the past 30 days. Exhibit 48 shows the responses to a variety of questions about alcohol use (Lake County Community Health Needs Assessment, 2019).

**Exhibit 48: Lake County Community Health Needs Assessment Alcohol Use 2019**

Alcohol Use				
	Gurnee 2019	NWLC 2019	Lake 2018	Lake 2015
<b>I've had a drink of alcohol in the past 30 days.</b>	78%	82%	77%	80%
<b>I've had alcohol on seven or more days of the past 30 days.</b>	34%	41%	35%	34%
<b>I've had alcohol on 14 or more days of the past 30 days.</b>	15%	22%	24%	22%
<b>I've had alcohol on 21 or more days of the past 30 days.</b>	8%	10%	13%	14%
<b>Average drinking events in the past 30 days.</b>	6.8	7.6	10.2	10.0
<b>My average drinking event would be considered a binge.</b>	9%	9%	4%	5%
<b>I've binge drank one or more times in the past 30 days.</b>	24%	35%	31%	28%

Source: Lake County Community Health Needs Assessment, 2019

## Other Substances

### Age-Adjusted ER Rate due to Substance Use per 10,000 population age 18 and Older

This substance use indicator includes the use, abuse, and dependence of opioids, cannabis, sedatives, hypnotics, anxiolytics, cocaine, other stimulants, hallucinogens, nicotine, inhalants and other psychoactive substances. Cases of abuse of non-psychoactive substances, maternal care for

(suspected) damage to fetus by drugs, and drug use complicating pregnancy, childbirth, and the puerperium are also included.

In the PSA, the age-adjusted ER rate due to substance abuse is 18.8 ER visits per 10,000 population age 18 years and older, which is in the worst 50<sup>th</sup>–75<sup>th</sup> percentile (yellow indicator), compared to other Illinois counties. The PSA rate is lower than the Illinois rate of 28.9 ER visits per 10,000 population (Conduent Healthy Communities Institute, Illinois Hospital Association, 2017).

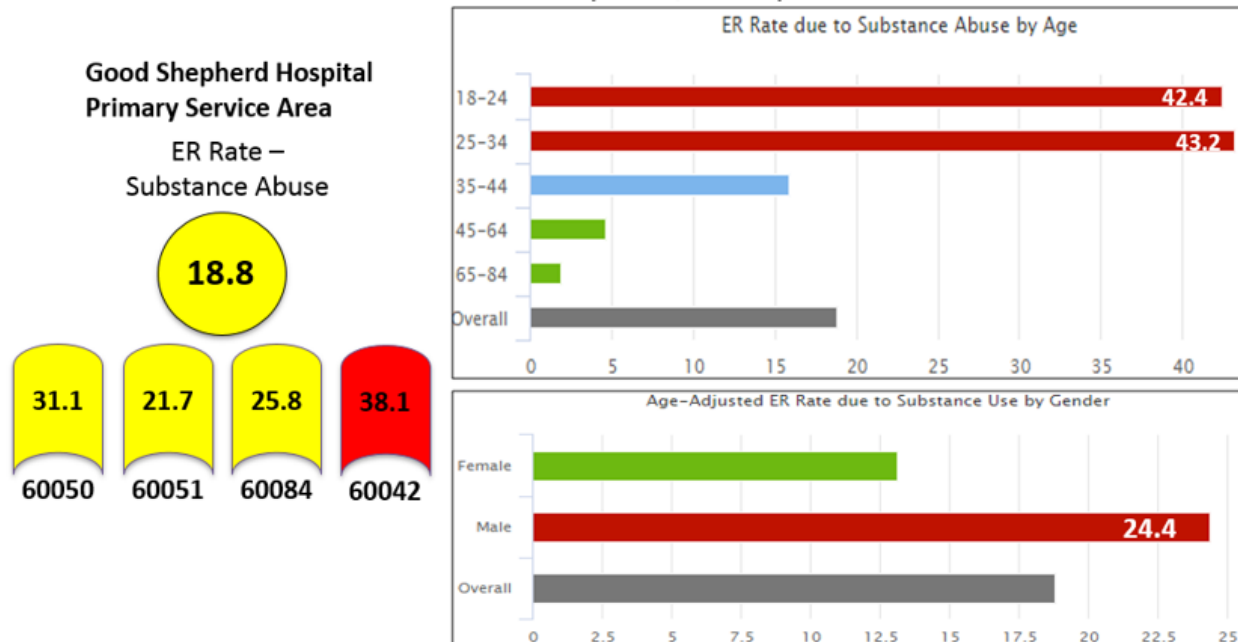
As shown in Exhibit 49, the following communities have ER rates due to substance use all within in the worst 50<sup>th</sup>–75<sup>th</sup> percentile (yellow indicator) compared to other Illinois zip codes:

- McHenry (60050) 31.1 ER visits per 10,000 population
- Wauconda (60084) 25.8 ER visits per 10,000 population
- McHenry (60051) 21.7 ER visits per 10,000 population.

The ER rate due to substance use for Island Lake (60042) is 38.1 ER visits per 10,000 population, which is in the worst 25<sup>th</sup> percentile (red indicator) compared to other Illinois zip codes.

Exhibit 49 provides an overview of the ER rates due to substance use. Only zip codes that are in the worst 50<sup>th</sup>–75<sup>th</sup> percentile (yellow indicator) and in the worst 25<sup>th</sup> percentile (red indicator) within the Advocate Good Shepherd PSA are listed.

**Exhibit 49: Advocate Good Shepherd PSA Age-Adjusted ER Rates due to Substance Use per 10,000 population 18 years and Older 2015-2017**



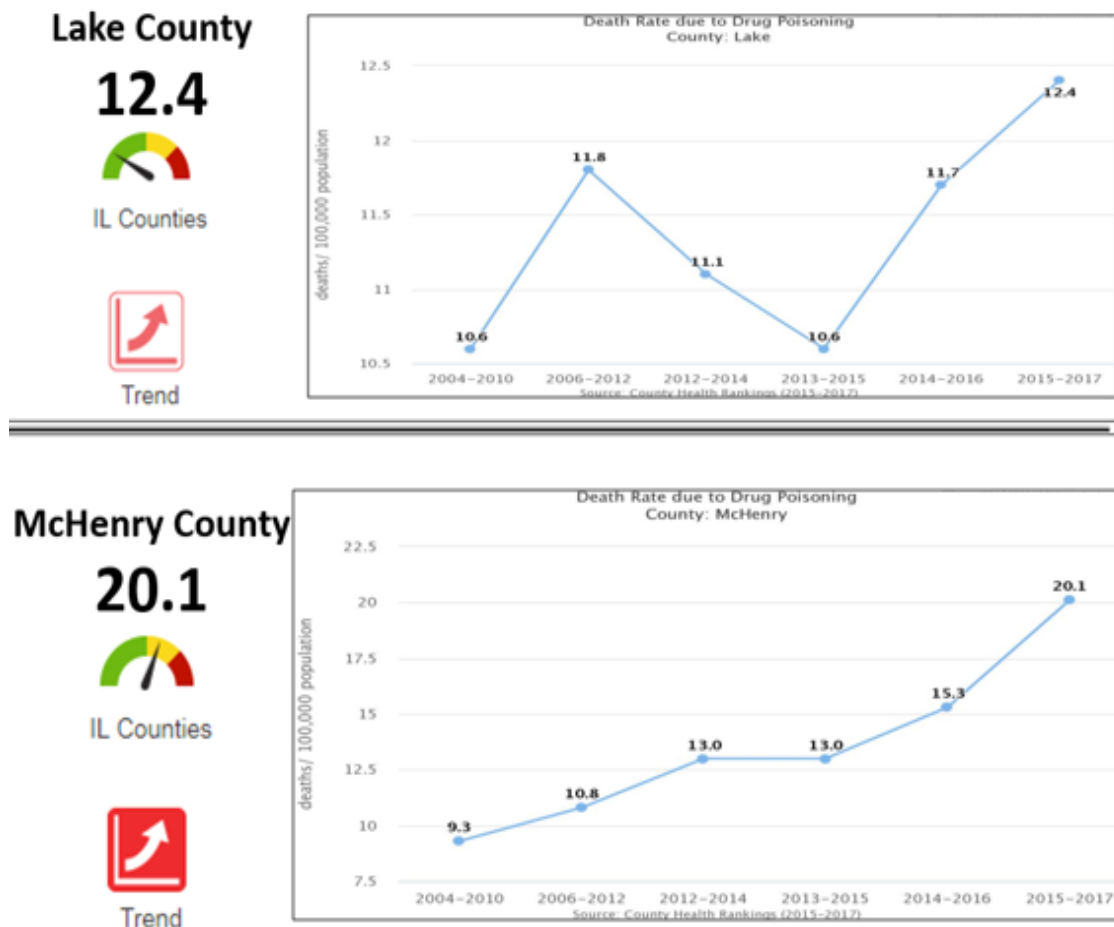
Source: Conduent Healthy Communities Institute, Illinois Hospital Association, 2019

## Death Rate Due to Drug Poisoning

Drug overdose deaths are the leading cause of death due to injury in the U.S., with over 100 drug overdose deaths occurring every day. The U.S. death rate due to drug overdose has been increasing over the last two decades. Drug overdose deaths may be accidental, intentional, or of undetermined intent (Conduent Healthy Communities Institute, 2019).

The death rate due to drug poisoning in McHenry County is in the worst 50<sup>th</sup>–75<sup>th</sup> percentile (yellow indicator) compared to other Illinois counties, and has shown a statistically significant increase over time, from 2004-2010 (9.3 deaths per 100,000 population) to 2015-2017 (20.1 deaths per 100,000 population). The death rate in Lake County is in the best 0-50<sup>th</sup> percentile (green indicator) compared to other Illinois counties. The Lake County death rate is increasing at a statistically significant level, as shown in Exhibit 50 (Conduent Healthy Communities Institute, County Health Rankings, 2019).

**Exhibit 50: Lake and McHenry County Death Rates Due to Drug Poisoning per 100,000 Population 2004-2017**



Source: Conduent Healthy Communities Institute, County Health Rankings, 2019

## **Teens Who Use Marijuana**

Marijuana is the most commonly used illicit drug abused in the U.S. According to 2018 IYS data, Lake and McHenry County 12<sup>th</sup> grade students (37 percent and 33 percent respectively) have the highest percentage of students who have used marijuana in the past 12 months when compared to other grade levels (8<sup>th</sup> and 10<sup>th</sup> grade students). The rate for Lake County is in the worst 25<sup>th</sup> percentile (red indicator) and the McHenry County rate is in the worst 50<sup>th</sup>-75<sup>th</sup> percentile (yellow indicator) compared to other Illinois counties. In 2016, the rates were very similar—McHenry County (36 percent) and Lake County (35 percent). Twenty-six percent of Lake County and 24 percent of McHenry County high school seniors have used marijuana in the last 30 days, compared to 24 percent for both counties in 2016.

According to the 2018 IYS, nine percent of 12<sup>th</sup> grade students in Lake County (up from seven percent in 2016) and seven percent in McHenry County (down from ten percent in 2016) indicated that they had driven or been in a vehicle six or more times when they had been using marijuana. When asked, ‘How wrong do you think it is for someone your age to smoke marijuana?’, one quarter of Lake County (up from 22 percent in 2016) and 23 percent of McHenry County (down from 25 percent in 2016) 12<sup>th</sup> grade students answered, ‘not wrong at all’ (Conduent Healthy Communities Institute, Center for Prevention Research and Development, Illinois Youth Survey, Lake County and McHenry County, 2016 and 2018).

## **Teen Substance Use**

According to the 2018 IYS data, 60 percent of high school seniors and 44 percent of 10<sup>th</sup> grade students in McHenry County had used a substance in the past 12 months. Substances included alcohol, cigarettes, inhalants or marijuana. The rates were 64 percent for McHenry County 12<sup>th</sup> grade students and 44 percent for 10<sup>th</sup> grade students in the 2016 IYS.

The percentages of teen substance use in Lake County are similar. In 2018, 40 percent of 10<sup>th</sup> grade students and 60 percent of 12<sup>th</sup> grade students had used a substance in the past 12 months. The rates declined slightly from the 2016 IYS, with 43 percent of Lake County 10<sup>th</sup> grade students and 62 percent of 12<sup>th</sup> grade students using any substance in the past year (Illinois Youth Survey, Lake County and McHenry County, 2016 and 2018).

## **Age-Adjusted ER Rate for Opioid Use per 10,000 population age 18 years and Older**

Drug overdose deaths, including those involving opioids, continue to increase in the U.S. Opioids are substances that work in the nervous system of the body or in specific receptors in the brain to reduce the intensity of pain. Overdose deaths from opioids, including prescription opioids, heroin, and synthetic opioids (like fentanyl) have increased nationally almost six times since 1999 (Centers for Disease Control and Prevention, 2019).

In the PSA, the ER rate due to opioid use for adults age 18 and older is 11.9 per 10,000 population. The rate is in the worst 50<sup>th</sup>–75<sup>th</sup> percentile range (yellow indicator) compared to Illinois counties and is lower than the Illinois rate (13 per 10,000 population) (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

The communities in the PSA with rates in the 50<sup>th</sup>–75<sup>th</sup> percentile (yellow indicator) compared to other Illinois zip codes are:

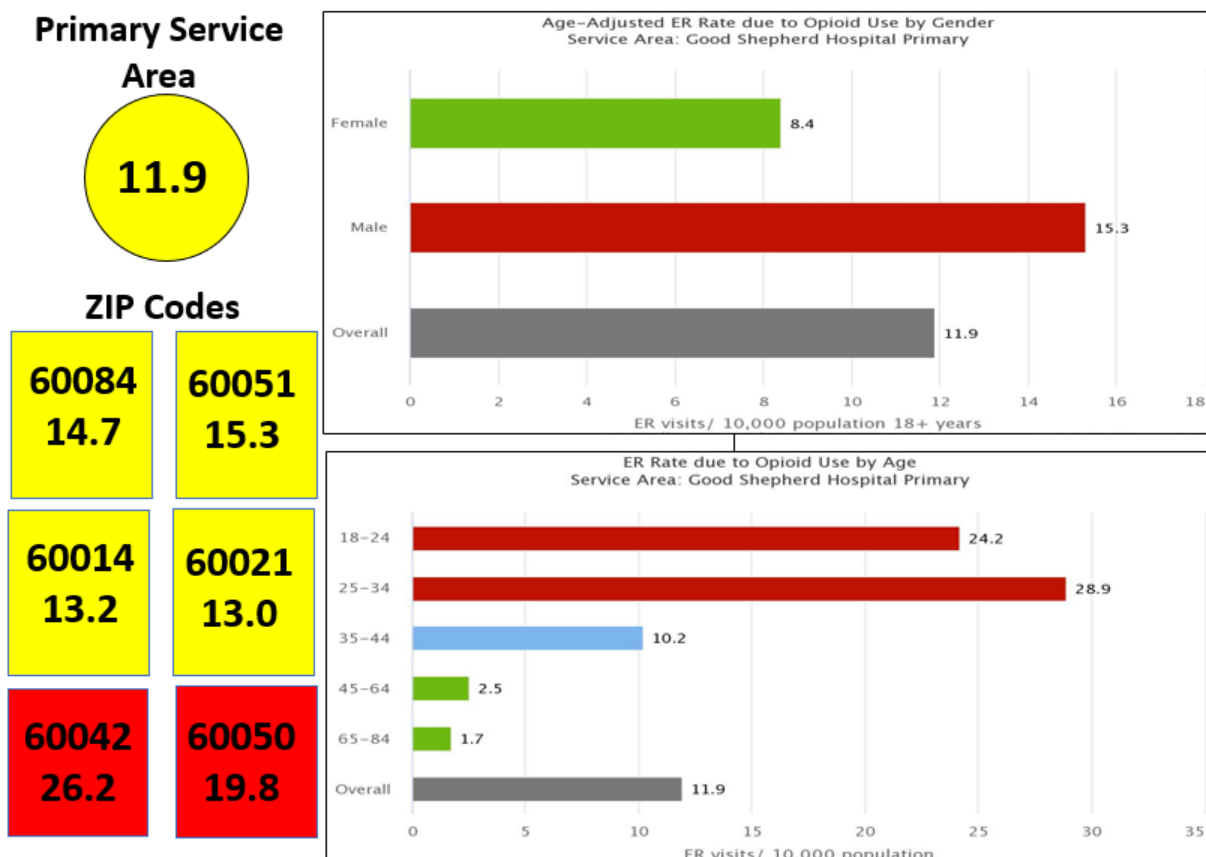
- McHenry (60051) 15.3 ER visits per 10,000 population
- Wauconda (60084) 14.7 ER visits per 10,000 population
- Crystal Lake (60014) 13.2 ER visits per 10,000 population
- Fox River Grove (60021) 13.0 ER visits per 10,000 population

The communities in the PSA with the highest rates, both in the worst 25<sup>th</sup> percentile (red indicator) compared to other Illinois zip codes are:

- Island Lake (60042) 26.2 ER visits per 10,000 population
- McHenry (60050) 19.8 ER visits per 10,000 population

Exhibit 51 provides a summary of the ER rates due to opioid use. Only zip codes that are in the worst 50<sup>th</sup>–75<sup>th</sup> percentile (yellow indicator) and in the worst 25<sup>th</sup> percentile (red indicator) within the Advocate Good Shepherd PSA are listed.

### Exhibit 51: Age-Adjusted ER Rates due to Opioid Use per 10,000 Population 18 years and Older 2015-2017



Source: Conduent Healthy Communities Institute, Illinois Hospital Association, 2019

## Age-Adjusted Hospitalization Rate for Opioid Use per 10,000 population age 18 years and Older

The age-adjusted hospitalization rate due to opioid use in the PSA is 5.7 hospitalizations per 10,000 population age 18 years and older, which is in the worst 50<sup>th</sup>-75<sup>th</sup> percentile (yellow indicator) compared to other Illinois counties. The PSA rate is less than half the Illinois rate (11.7 per 10,000 population) (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

The same communities with the highest ER rates due to opioid use, also have the highest hospitalization rates due to opioid use, as shown below in Exhibit 52. The rates for these communities are in the worst 50<sup>th</sup>-75<sup>th</sup> percentile compared to other Illinois zip codes:

- Island Lake (60042) 12.9 hospitalizations per 10,000 population
- Wauconda (60084) 7.5 hospitalizations per 10,000 population
- Crystal Lake (60014) 7.4 hospitalizations per 10,000 population

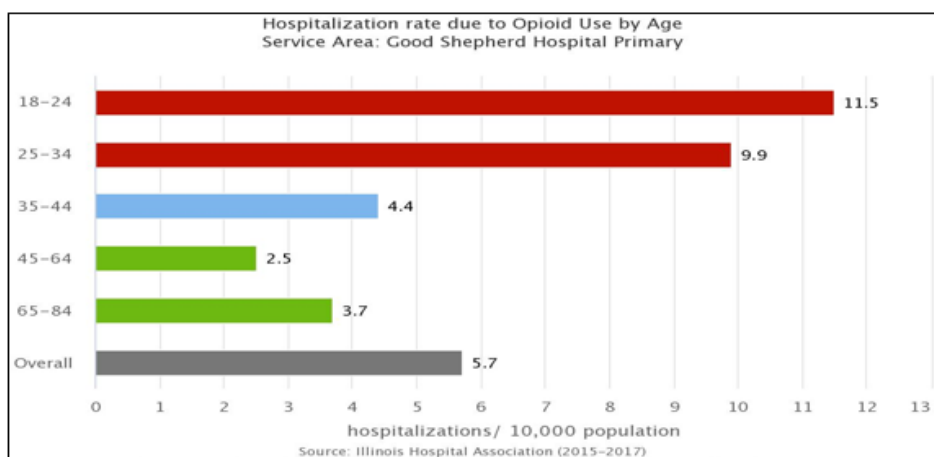
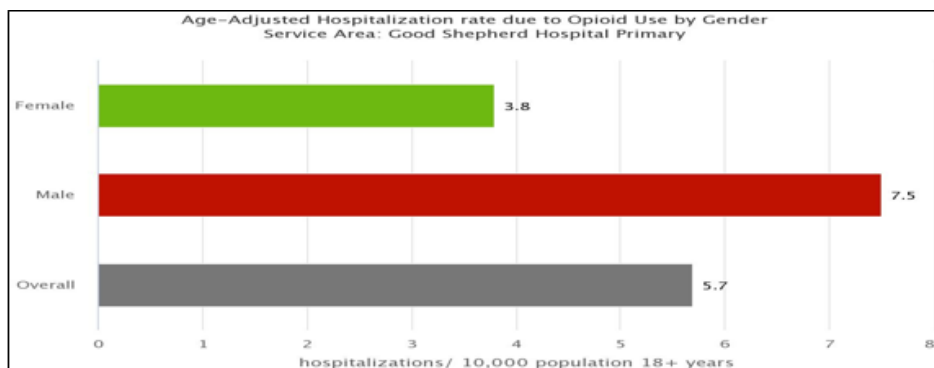
Exhibit 52 provides a summary of hospitalization rates due to opioid use. Only zip codes that are in the worst 50<sup>th</sup>-75<sup>th</sup> percentile (yellow indicator) and in the worst 25<sup>th</sup> percentile (red indicator) within the Advocate Good Shepherd PSA are listed.

**Exhibit 52: Advocate Good Shepherd PSA Age-Adjusted Hospitalization Rates due to Opioid Use per 10,000 population 18 years and Older 2015-2017**

### Primary Service Area



### ZIP Codes



Source: Conduent Healthy Communities Institute, Illinois Hospital Association, 2019

## Teens Who Use Prescription Drugs

According to the 2018 Illinois Youth Survey, five percent of high school seniors in McHenry County and eight percent in Lake County, have used prescription drugs not prescribed to them. In 2016, the rates were higher, at 11 percent for McHenry County and 10 percent for Lake County high school seniors. (Illinois Youth Survey, Lake County and McHenry County, 2016 and 2018).

### Exhibit 53: Student Prescription Drug Use by County 2018

#### **PRESCRIPTION DRUGS: Have you used prescription drugs not prescribed to you:**

McHenry County

		Yes	No	Total
10th	In the past 30 days	2%	98%	100%
	In the past year	5%	95%	100%
12th	In the past 30 days	3%	97%	100%
	In the past year	5%	95%	100%

Lake County

		Yes	No	Total
8th	In the past 30 days	2%	98%	100%
	In the past year	3%	97%	100%
10th	In the past 30 days	2%	98%	100%
	In the past year	5%	95%	100%
12th	In the past 30 days	3%	97%	100%
	In the past year	8%	92%	100%

Source: Illinois Youth Survey, 2019

### *Key Findings and Disparities: Substance Use*

- The smoking rate for teens in both counties are decreasing at a statistically significant rate over time.
- The rate is increasing for teens who use alcohol in Lake County, though not a statistically significant increase; whereas the McHenry County teen alcohol use rate is decreasing.
- In McHenry County, the rate of adults who drink excessively is in the worst 25<sup>th</sup> percentile (red indicator) compared to Illinois counties; the rate of alcohol impaired driving deaths in the county is also in the worst 25<sup>th</sup> percentile (red indicator) compared to Illinois counties, and is increasing at a statistically significant level over time.
- The PSA ER and hospitalization rates due to alcohol use are both in the worst 50<sup>th</sup> to 75<sup>th</sup> percentile (yellow indicator) compared to other Illinois counties.

### Disparities

- By age, the populations with the highest ER rates for alcohol use are individuals ages 18-24 years (50.4 ER visits per 10,000 population), ages 25-34 years (63.2 ER visits per 10,000 population) and ages 35-44 years (47.4 ER visits per 10,000 population), all above the overall PSA rate.
- In the PSA, the ER rate due to alcohol use for males (52.9 per 10,000 population) is significantly above the overall PSA rate.

- The population with the most hospitalizations for alcohol use are those ages 15-17 years (20.5 per 10,000 population) and Hispanics (18.5 per 10,000 population), both of which are significantly higher than the overall PSA rate.
- Adults ages 18-24 years (24.2 per 10,000 population) and ages 25-34 years (28.9 per 10,000 population) have the highest opioid use ER rates when compared to other age groups.
- Adults ages 18-24 years (11.5 per 10,000 population) and 25-34 years (9.9 per 10,000 population) have the highest opioid use hospitalization rates when compared to other age groups and are significantly above the overall PSA rate.

## Oral Health

Due to a change in methodology with the transition to ICD-10 coding, trend data is not available to compare change over time for the dental indicators below.

### *Age-Adjusted ER Rate due to Dental Problems per 10,000 population age 18 and Older*

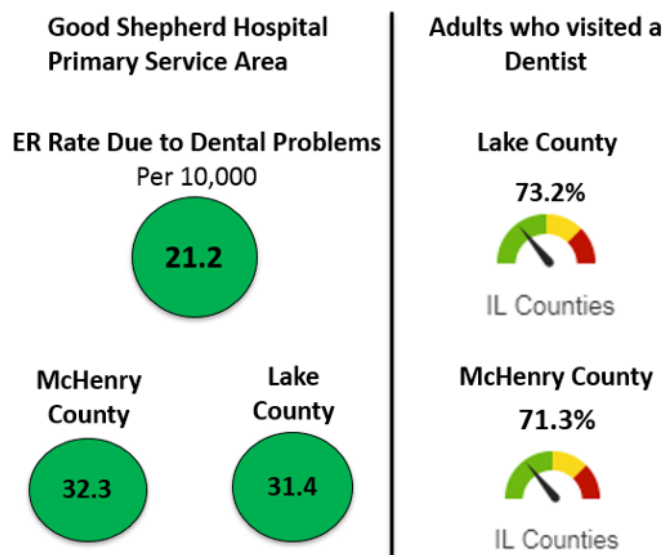
Dental related visits are a growing contributor to unnecessary emergency room visits. The age-adjusted ER rate due to dental problems for the Advocate Good Shepherd PSA is 21.2 visits per 10,000 population age 18 and older. The PSA rate is in the best 0–50<sup>th</sup> percentile (green indicator) when compared to other Illinois counties. The Advocate Good Shepherd PSA rate is also below the Illinois rate of 57.9 per 10,000 population (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

### *Adults Who Visited a Dentist*

Seventy-three percent of adults in Lake County and 71.3 percent in McHenry County have visited a dentist for any reason in the past year. Both counties are in the best 0–50<sup>th</sup> percentile (green indicator) when compared to other Illinois counties. The dentist rate in Lake County is 110 dentists per 100,000 population and is higher than the McHenry County rate of 60 dentists per 100,000 population. Both county rates have not changed significantly from the prior 2007-2009 rate (Conduent Healthy Communities Institute, Illinois Behavioral Risk Factor Surveillance System, 2014, County Health Rankings, 2016).

The rates for these two dental indicators are displayed in Exhibit 54.

**Exhibit 54: Advocate Good Shepherd Age-Adjusted ER Visit Rates Due to Dental Problems per 10,000 population 18 years and Older, 2015-2017 and Lake and McHenry County Adults Who Visited a Dentist 2016**



Source: Conduent Healthy Communities Institute, Illinois Hospital Association, 2019

## Dentist Rate

According to County Health Rankings, the dentist rate in McHenry County (60 dentists per 100,000 population) is almost half the rate it is in Lake County (112 dentists per 100,000 population). The rates in both counties are trending upward and are in the best 0-50<sup>th</sup> percentile (green indicator) compared to Illinois counties. The Illinois rate is 77 dentists per 100,000 population and the U.S. rate is slightly lower at 68 dentists per 100,000 population (Conduent Healthy Communities Institute, County Health Rankings, 2016).

## Key Findings and Disparities: Oral Health

- ER rate due to dental problems in the Advocate Good Shepherd PSA is in the best 0-50<sup>th</sup> percentile (green indicator) compared to other counties in Illinois.
- The rate of dentists per 100,000 population for Lake and McHenry Counties are increasing over time.

## Disparities

- The ER rates due to dental problems shown below are all significantly higher than the overall PSA rate:
  - African Americans (169.9 per 10,000 population)
  - Adults ages 25-34 years (87.8 per 10,000 population)
  - Adults ages 18-24 years (44.6 per 10,000 population)
  - Adults ages 35-44 years (42.6 per 10,000 population)

## Respiratory Disease

Due to a change in methodology with the transition to ICD-10 coding, trend data is not available for the respiratory disease ER and hospitalization rates within this section.

### *Pneumonia*

#### **Pneumonia Vaccination Rate**

The pneumococcal vaccine is very effective at preventing severe disease, hospitalization and death. The CDC recommends the current vaccine for adults ages 65 years and older, and children ages 2 and older who are at high risk for disease (The Centers for Disease Control and Prevention, 2018). The rate of adults that have received the pneumonia vaccination in Lake County is 26.6 percent and in McHenry County it is 20.5 percent. Both counties are in the worst 25<sup>th</sup> percentile (red indicator) compared to other Illinois counties. The Lake and McHenry County rates are lower than the overall Illinois rate (33.6 percent) (Conduent Healthy Communities Institute, Illinois Behavioral Risk Factor Surveillance Survey, 2010-2014).

#### **Age-Adjusted Death Rate due to Pneumonia and Influenza**

In Illinois, flu and pneumonia related death was the ninth leading cause of death. Nationally, Illinois is ranked 16<sup>th</sup>, accounting for 2,402 deaths in 2017 (Centers for Disease Control and Prevention, 2018). The age-adjusted death rate due to influenza and pneumonia in Lake County is 10.3 deaths per 100,000 population; it is 9.2 deaths per 100,000 population in McHenry County. Both counties are in the best 0-50<sup>th</sup> percentile (green indicator) when compared to Illinois counties. The rates are decreasing at a statistically significant rate over time in both Lake and McHenry County (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

#### **Age-Adjusted ER Rate due to Community Acquired Pneumonia per 10,000 population age 18 and Older**

In the Advocate Good Shepherd PSA, the community acquired pneumonia ER rate is 11.0 ER visits per 10,000 population age 18 years and older, which is almost half the Illinois rate (21.2 per 10,000 population). The ER rate for the PSA is in the best 0-50<sup>th</sup> percentile (green indicator) compared to other counties in Illinois (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

#### **Age-Adjusted Hospitalization Rate due to Community Acquired Pneumonia per 10,000 population age 18 and Older**

The hospitalization rate for community acquired pneumonia is 17.5 hospitalizations per 10,000 population age 18 and older. The PSA rate is only slightly lower than the Illinois rate (18.7 per 10,000 population). The hospitalization rate for the PSA is in the best 0-50<sup>th</sup> percentile (green indicator) compared to other Illinois counties (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

### **Age-Adjusted ER Rate due to Immunization-Preventable Pneumonia and Influenza per 10,000 population age 18 years and Older**

In the Advocate Good Shepherd PSA, the age-adjusted ER rate due to immunization preventable pneumonia and influenza is 7.1 ER visits per 10,000 population age 18 years and older. The PSA rate is lower than the Illinois rate (12.0 per 10,000 population). The PSA ER rate for immunization preventable pneumonia and influenza is in the best 0-50<sup>th</sup> percentile (green indicator) compared to Illinois counties (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

### **Age-Adjusted Hospitalization Rate due to Immunization-Preventable Pneumonia and Influenza per 10,000 population age 18 years and Older**

The age-adjusted hospitalization rate due to immunization-preventable pneumonia and influenza for the Advocate Good Shepherd PSA is 1.9 hospitalizations per 10,000 population age 18 and older, which is lower than the Illinois rate (2.2 hospitalizations per 10,000 population). The PSA rate is in the best 0–50<sup>th</sup> percentile (green indicator) compared to other Illinois counties (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

## **Asthma**

### **Age-Adjusted ER Rate due to Asthma per 10,000 population**

The CDC defines asthma as a disease that affects your lungs. It causes repeated episodes of wheezing, breathlessness, chest tightness, and nighttime or early morning coughing. Asthma can be controlled by taking medicine and avoiding the triggers that can cause an attack (Centers for Disease Control and Prevention, 2018).

The age-adjusted ER rate due to asthma is 17.1 per 10,000 population for the Advocate Good Shepherd PSA and is in the best 0-50<sup>th</sup> percentile (green indicator) compared to other counties in Illinois. The PSA rate is also lower than the Illinois rate of 41.9 per 10,000 population. No trend information is available for this indicator (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

### **Age-Adjusted Hospitalization Rate due to Asthma per 10,000 population**

In the Advocate Good Shepherd PSA, the age-adjusted hospitalization rate due to asthma is 3.5 per 10,000 population age 18 and older, which is in the best 0-50<sup>th</sup> percentile (green indicator) compared to other Illinois counties. The Illinois rate (7.0 per 10,000 population) is twice as high as the Advocate Good Shepherd PSA rate. No trend information is available (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

### **Age-Adjusted ER Rate due to Pediatric Asthma per 10,000 population Under 18 years old**

Asthma in children is a serious public health problem in the U.S.; it is one of the most common long-term diseases in children. Asthma in children results in missed days of school, limitations on daily activities, emergency department visits and hospitalizations (Conduent Healthy Communities Institute, 2019).

The Advocate Good Shepherd PSA age-adjusted ER rate for pediatric asthma is 28.1 ER visits per 10,000 population under 18 years old. The PSA rate is lower than the Illinois rate (62.6 per 10,000 population) and is in the 0-50<sup>th</sup> percentile (green indicator) compared to other Illinois counties. No trend information is available for this indicator (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

### **Age-Adjusted Hospitalization Rate due to Pediatric Asthma per 10,000 population Under age 18**

The rate of hospitalizations due to pediatric asthma in the Advocate Good Shepherd PSA (3.9 hospitalizations per 10,000 population) is less than the Illinois rate (8.5 per 10,000 population).

Similar to the pediatric ER visit rates, children ages 0-4 experience higher hospitalizations due to asthma compared to other age groups (5.8 per 10,000 population). Hispanic children (4.8 per 10,000 population) have higher hospitalization rates for asthma when compared to White children (3.6 per 10,000 population). Male children (5.2 per 10,000 population) have a higher hospitalization rate for asthma compared to females (2.4 per 10,000 population). However, none of these rates are at the level to be considered disparities (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

### **Age-Adjusted ER Rate due to Adult Asthma per 10,000 population age 18 years and Older**

For every 10,000 adults over the age of 18 years, 13.3 visit the emergency room with an asthma diagnosis, not including cystic fibrosis or other respiratory anomalies. The Advocate Good Shepherd PSA rate is in the 0–50<sup>th</sup> percentile (green indicator), compared to other Illinois counties, and is better than the Illinois rate (34.7 ER visits per 10,000 population). No trend information is available for this indicator (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

### **Age-Adjusted Hospitalization Rate due to Adult Asthma per 10,000 population age 18 years and Older**

In the Advocate Good Shepherd PSA, the age-adjusted hospitalization rate for adult asthma is 3.4 hospitalizations per 10,000 population age 18 and older and is in the 0-50<sup>th</sup> percentile (green indicator) compared to other Illinois counties. The PSA rate is also below the Illinois rate of 6.5 hospitalizations per 10,000 population. No trend information is available (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

### **Age-Adjusted ER Rate due to Chronic Obstructive Pulmonary Disorder (COPD) per 10,000 population age 18 and Older**

Chronic obstructive pulmonary disease (COPD), refers to a group of diseases that cause airflow blockage and breathing-related problems. COPD most commonly includes chronic bronchitis and emphysema and usually results from tobacco use, although it can also be a result of pollutants in the air, genetic factors and respiratory infections (Conduent Healthy Communities Institute, 2019).

The Advocate Good Shepherd PSA age-adjusted ER rate due to COPD is 9.5 ER visits per 10,000 population age 18 and older, which is less than half the Illinois rate (24.1 per 10,000 population). The PSA rate is in the best 0–50<sup>th</sup> percentile (green indicator) compared to other Illinois counties. No trend data is available (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

### **Age-Adjusted Hospitalization Rate due to COPD per 10,000 population age 18 and Older**

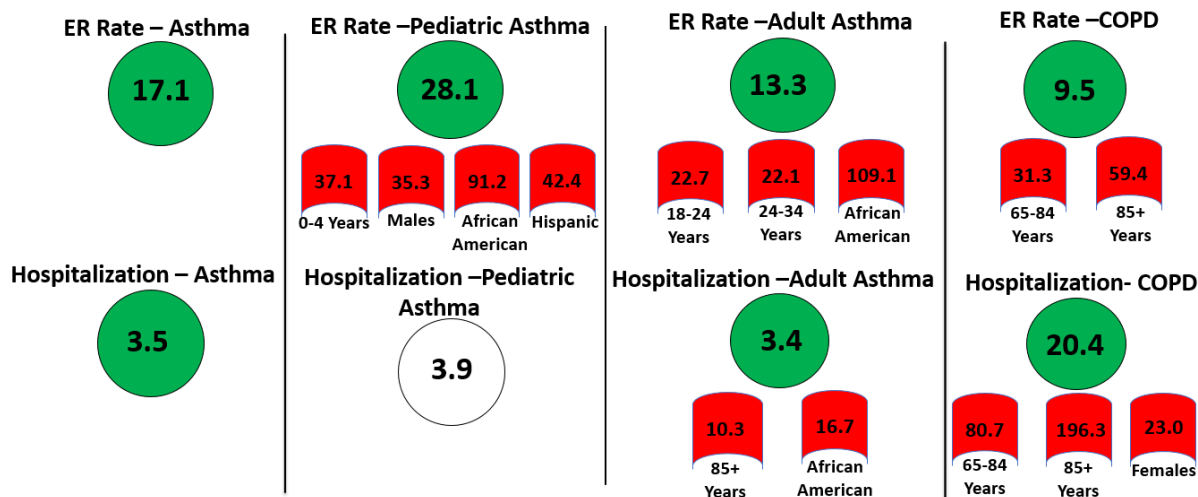
The age-adjusted hospitalization rate due to COPD is 20.4 hospitalizations per 10,000 population age 18 years and older in the Advocate Good Shepherd PSA. The COPD hospitalization rate is in the top 0-50<sup>th</sup> percentile (green indicator) compared to other Illinois counties, but is slightly lower than the Illinois rate (23.6 per 10,000 population) (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

The hospitalization rates due to COPD for the two zip codes of McHenry County fall within the worst 25<sup>th</sup> percentile (red indicator) compared to other Illinois zip codes:

- McHenry (60050) 36.7 per 10,000 population
- McHenry (60051) 34.2 per 10,000 population

A summary of these respiratory disease indicators is contained in Exhibit 55. Populations with the highest rates are listed in red.

## Exhibit 55: Advocate Good Shepherd PSA Respiratory Disease Indicators 2015-2017



Source: Conduent Healthy Communities Institute, Illinois Hospital Association, 2019

### Adults with Current Asthma

Eleven percent of McHenry County adults and 9.2 percent of Lake County adults have been told by a health care provider that they currently have asthma. McHenry County and Lake County are both in the worst 50<sup>th</sup>–75<sup>th</sup> percentile range (yellow indicator) when compared to other Illinois counties. In Illinois, 8.2 percent of adults have asthma and in the U.S., 9.4 percent have asthma. No trend information is available (Illinois Behavioral Risk Factor Surveillance System (2010-2014).

### Asthma in the Medicare Population

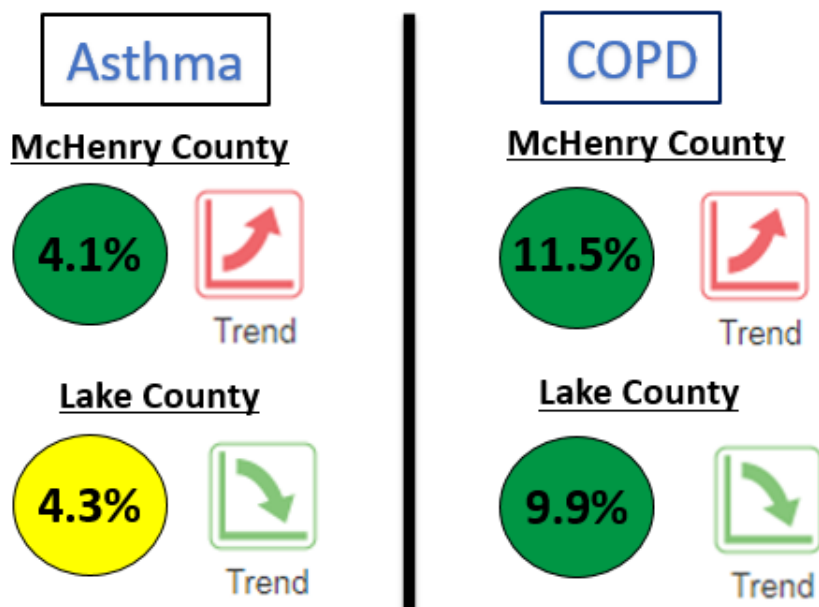
Among the Medicare population, 4.1 percent in McHenry County and 4.3 percent in Lake County were treated for asthma. Both McHenry and Lake Counties are below the Illinois rate of 4.9 percent and the U.S. rate of 5.1 percent of Medicare beneficiaries treated for asthma. The rate for Lake County is trending downward, but the McHenry County rate is trending upward. The McHenry County rate is in the best 0-50<sup>th</sup> percentile (green indicator), but the Lake County rate is in the worst 50<sup>th</sup>–75<sup>th</sup> percentile (yellow indicator) when compared to other Illinois counties. (Conduent Healthy Communities Institute, Centers for Medicare & Medicaid Services, 2017).

### COPD in the Medicare Population

In Lake County, 9.9 percent of Medicare beneficiaries are being treated for COPD and the rate is trending downward. In McHenry County, 11.5 percent of Medicare beneficiaries are being treated for COPD with the rate trending upward. Both county rates are in the best 0-50<sup>th</sup> percentile (green indicator), when compared to other Illinois counties. Both county rates are also lower than the Illinois rate (11.9 percent) and U.S. rate (11.7 percent) (Conduent Healthy Communities Institute, Centers for Medicare & Medicaid Services, 2017).

Exhibit 56 provides an overview of the asthma and COPD prevalence rates for the Medicare population.

**Exhibit 56: Advocate Good Shepherd PSA Medicare Beneficiaries Treated for Asthma and COPD by County, 2017**



Source: Conduent Healthy Communities Institute, Centers for Medicare & Medicaid Services, 2019

*Key Findings and Disparities: Respiratory Disease*

- Both Lake County and McHenry County vaccination rates for pneumonia are in the worst 25<sup>th</sup> percentile (red indicator) in comparison to other counties in Illinois.
- Adults with current asthma in McHenry County and Lake County are both in the worst 50<sup>th</sup>–75<sup>th</sup> percentile range (yellow indicator) when compared to other Illinois counties.
- The percentage of Medicare beneficiaries who were treated for asthma in 2017 in McHenry County is increasing over time.

**Disparities**

For respiratory disease in the PSA, there is a substantial disparity for African Americans. All of the following ER and hospitalization rates for African Americans are higher than the overall PSA rate. All of the rates below are for adults ages 18 and older, unless otherwise indicated.

- ER rate (25.8 per 10,000 population) due to community acquired pneumonia
- ER rate (19.9 per 10,000 population) due to immunization-preventable pneumonia
- ER rate (104.5 per 10,000 population) and hospitalization rate (13.2 per 10,000 population) due to asthma
- ER rate (91.2 per 10,000 population, under age 18) due to pediatric asthma

Asthma is having a significant effect on children, with high PSA ER rates due to asthma for infants and children. All of the ER rates due to asthma below are significantly higher than the overall PSA value. This indicator shows the rate per 10,000 population.

- Children ages 0-4 years (37.1 per 10,000 population)
- Children ages 5-9 years (30.6 per 10,000 population)
- Children ages 10-14 years (23.2 per 10,000 population)

The impact of respiratory disease is apparent in older adults as well, as the following indicators for the age group of 85 years and older are all significantly higher than the overall PSA rate:

- ER rate (21.4 per 10,000 population) and hospitalization rate (213.7 per 10,000 population) due to community acquired pneumonia
- Hospitalization rate (26.1 per 10,000 population) due to immunization-preventable pneumonia and influenza
- Hospitalization rate (10.3 per 10,000 population) due to asthma
- ER rate (59.4 per 10,000 population); and hospitalization rate (196.3 per 10,000 population) due to COPD

## Maternal and Child Health

### *Pre-Natal Care*

Smoking during pregnancy poses risks for both mother and fetus. In Lake County, 3.6 percent of mothers smoked during pregnancy, while the percent was almost twice as high in McHenry County at 6.7 percent. Both counties are in the best 0-50<sup>th</sup> percentile (green indicator) compared to other Illinois counties, but neither has achieved the Healthy People 2020 target of 1.4 percent. The rate for Lake County has improved slightly from the prior 2007 rate (3.7 percent), while the rate for McHenry County has increased slightly from the prior 2007 value of 6.6 percent (Conduent Healthy Communities Institute, Illinois Department of Public Health, 2008).

### *Birth Outcomes*

#### **Infant Mortality**

The infant mortality rate is 4.3 deaths per 1,000 live births in Lake County and 4.2 deaths per 1,000 live births in McHenry County. Both counties have met the Healthy People 2020 target of 6.0 deaths per 1,000 live births and both county rates are decreasing over time. Both county rates are below the Illinois rate value of 6.3 deaths per 1,000 live births and U.S. rate of 5.9 deaths per 1,000 live births (Conduent Healthy Communities Institute, Illinois Department of Public Health, 2014-2016).

## **Pre-Term Labor and Delivery**

Pre-term labor is labor that starts before 37 weeks of pregnancy have been completed. In the Advocate Good Shepherd PSA, 4.3 percent of mothers are hospitalized for pre-term labor and delivery, which is in the worst 50<sup>th</sup>–75<sup>th</sup> percentile range (yellow indicator) compared to other Illinois counties. No trend information is available (Conduent Healthy Communities Institute, Illinois Department of Public Health, 2014-2016).

## **Pre-Term Births**

In Lake County, 10.0 percent of births occur pre-term (with less than 37 weeks of completed gestation) and the rate is significantly increasing over time. For McHenry County, the pre-term birth rate is 9.9 percent, and it is trending downward over time. Both county rates are in the best 0-50<sup>th</sup> percentile (green indicator) compared to other Illinois counties. Neither county rate has met the Healthy People 2020 target of 9.4 percent, and both county rates are below the Illinois rate of 10.3 percent (Conduent Healthy Communities Institute, Illinois Department of Public Health, 2016).

## **Babies with Low Birth Weight**

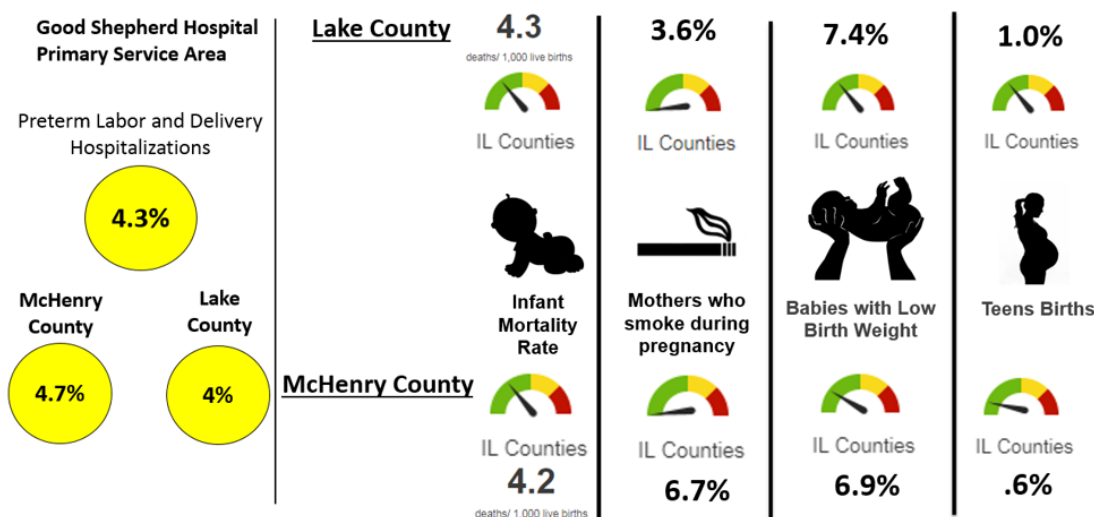
Babies born with low birth weight (weighing less than 2,500 grams (or five pounds eight ounces) are more likely to have health problems as compared to babies born of normal weight. The percent of babies with low birth weight is higher in Lake County (7.4 percent) than McHenry County (6.9 percent), but both are within the best 0-50<sup>th</sup> percentile (green indicator) compared to other Illinois counties. Both counties are decreasing, have met the Healthy People 2020 target of 7.8 percent, and are lower than the Illinois rate of 8.4 percent and the U.S. rate of 8.2 percent (Conduent Healthy Communities Institute, Illinois Department of Public Health, 2016).

## **Teen Births**

Teen births (percentage of all live births to females under 18 years of age) are decreasing over time, with the U.S. rate at 3.5 percent and the Illinois rate at only 1.4 percent in 2016. The teen birth rates have shown a statistically significant decrease in both counties over the past decade, with the 2016 rate at 0.6 percent for McHenry County and 1.0 percent for Lake County, and both are within the best 0–50<sup>th</sup> percentile (green indicator) compared to other Illinois counties (Conduent Healthy Communities Institute, Illinois Department of Public Health, 2016).

Exhibit 57 provides a summary of maternal, fetal and infant health indicators.

## Exhibit 57: Advocate Good Shepherd PSA, Lake and McHenry County Pre-Term Labor and Delivery Hospitalizations 2015-2017 and Maternal, Fetal and Infant Health Indicators by County 2015-2017



Source: Illinois Department of Public Health; Conduent Health Communities Institute, 2019

### Key findings: Maternal and Child Health

- Pre-term labor and delivery hospitalizations for Advocate Good Shepherd PSA are at 4.3 percent which falls within the worst 50<sup>th</sup>-75<sup>th</sup> percentile (yellow indicator) compared to other Illinois counties.
- Infant mortality rates in Lake County (4.3 deaths per 1,000 live births) and McHenry County (4.2 deaths per 1,000 live births) are lower than state and national rates.
- Teen births in both Lake County (1 percent) and McHenry County (0.6 percent) are continuing to significantly decline.
- Babies with low birth weight are within the best 0–50<sup>th</sup> percentile (green indicator) for both Lake County (7.4 percent) and McHenry County (6.9 percent).

## Alzheimer's Disease and Dementia

As of 2019, an estimated 5.8 million Americans of all ages are living with Alzheimer's or dementia in the U.S.; it is the sixth leading cause of death. As the number of older Americans grows rapidly, so too will the number of new and existing cases of Alzheimer's. By 2050, the number of people age 65 and older with Alzheimer's or dementia may grow to a projected 13.8 million, barring the development of medical breakthroughs to prevent, slow or cure Alzheimer's disease (Alzheimer's Association, 2019).

### Age-Adjusted Death Rate Due to Alzheimer's Disease

In Illinois, the age-adjusted death rate due to Alzheimer's disease is 25.2 deaths per 100,000 population, lower than the U.S. rate of 30.3 deaths per 100,000 population. In Lake County and

McHenry County, the death rate due to Alzheimer's disease is 23.2 deaths per 100,000 population and 25.7 deaths per 100,000 population, respectively—placing both counties in the best 0-50<sup>th</sup> percentile range (green indicator) when compared to other Illinois counties. However, the rates in both counties have slowly increased over time. By gender, females in Lake County (26.0 per 100,000 population) and McHenry County (28.0 per 100,000 population) have higher death rates due to Alzheimer's than males in Lake and McHenry County (18.5 per 100,000 population and 22.1 per 100,000 population, respectively) for Alzheimer's disease (Conduent Healthy Communities Institute, Centers for Disease Control and Prevention 2015-2017).

### *Alzheimer's Disease and Dementia: Medicare Population*

In both Lake County and McHenry County, 9.6 percent of Medicare beneficiaries were treated for Alzheimer's disease or dementia, both county rates are in the best 0-50<sup>th</sup> percentile (green indicator) compared to other Illinois counties. The rate is trending downward in Lake County, but trending upward in McHenry County (Conduent Healthy Communities Institute, Centers for Disease Control and Prevention and Centers for Medicare & Medicaid Services, 2017).

## **Social Determinants of Health**

Social determinants of health are conditions in the places where people live, learn, work and play. These conditions affect a wide range of health risks and outcomes (Centers for Disease Control and Prevention, 2018). Our health is also determined in part by access to social and economic opportunities; the resources and supports available in our homes, neighborhoods, and communities; the quality of our schooling; the safety of our workplaces; the cleanliness of our water, food, and air; and the nature of our social interactions and relationships (Healthy People 2020, HealthyPeople.gov, 2019). The following indicators are a selection of SDOH for the Advocate Good Shepherd PSA.

### *Physical Environment*

The physical environment includes all of the parts of where we live and work (e.g., homes, buildings, streets, and parks). The environment influences a person's level of physical activity and ability to have healthy lifestyle behaviors. The physical environment ranking system is based on a summary composite score calculated from the following measures: daily fine particulate matter, drinking water violations, severe housing problems, driving alone to work and long commute while driving alone (Conduent Healthy Communities Institute, 2019).

According to the 2019 County Health Rankings, Lake County and McHenry County's physical environments are ranked at 84<sup>th</sup> and 85<sup>th</sup>, respectively, compared to other Illinois Counties— which puts them within the worst 25<sup>th</sup> percentile (red indicator) (Conduent Healthy Communities Institute, County Health Rankings, 2019).

## Housing

### Homeownership

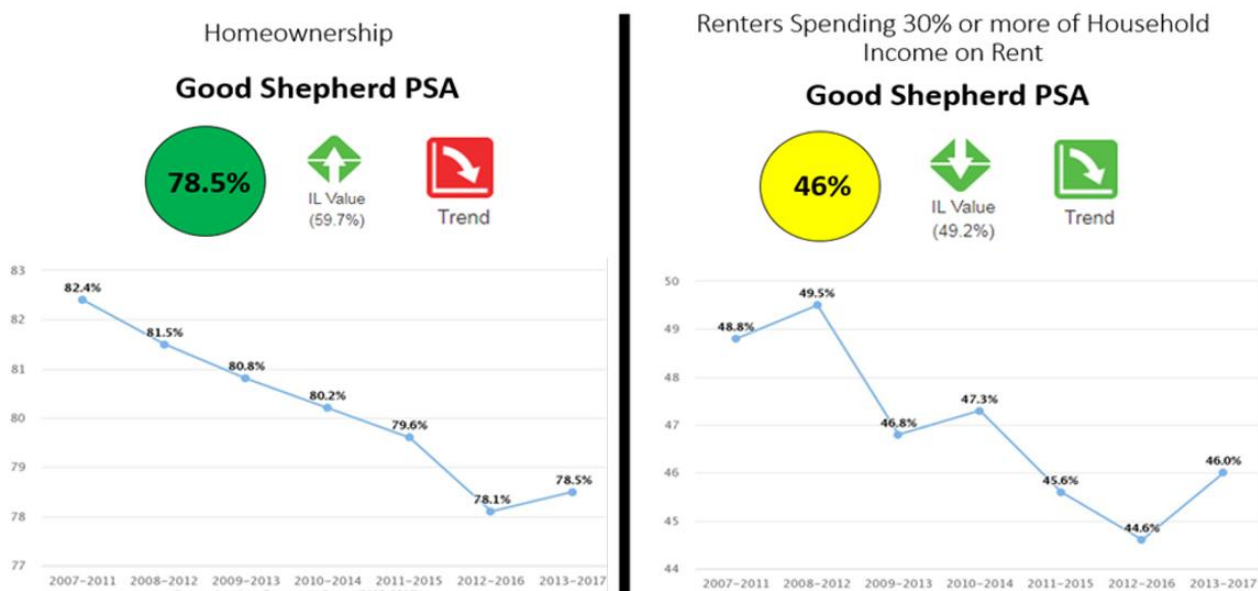
Homeownership has many benefits for both individuals and communities. Homeowners are more likely to improve their homes and to be involved in the community. Homeownership for the Advocate Good Shepherd PSA is 78.5 percent which indicates the percentage of all housing units that are occupied by homeowners. The Advocate Good Shepherd PSA falls within the best 0–50<sup>th</sup> percentile (green indicator) when compared to other Illinois counties. The percentage has dropped four percentage points in the 2011–2017 time period and the rate is decreasing at a statistically significant rate over time. The PSA home ownership rate is higher than the Illinois rate (59.7 percent) and the U.S. rate (56 percent) (Conduent Healthy Communities Institute, American Community Survey 2013–2017).

### Renters Spending 30 Percent or more of Household Income on Rent

Forty-six percent of Advocate Good Shepherd PSA renters are spending 30 percent or more of household income on rent. Spending a high percentage of household income on rent can create financial hardship, especially for lower-income renters. As shown in Exhibit 58, the indicator has shown a statistically significant decrease in the PSA for several years. The PSA rate is lower than the Illinois rate of 49.2 percent (Conduent Healthy Communities Institute, American Community Survey 2013–2017).

Exhibit 58 displays these housing indicators for the Advocate Good Shepherd PSA.

**Exhibit 58: Advocate Good Shepherd PSA Homeownership and Renters Spending 30 Percent or More of Household Income on Rent 2007–2017**



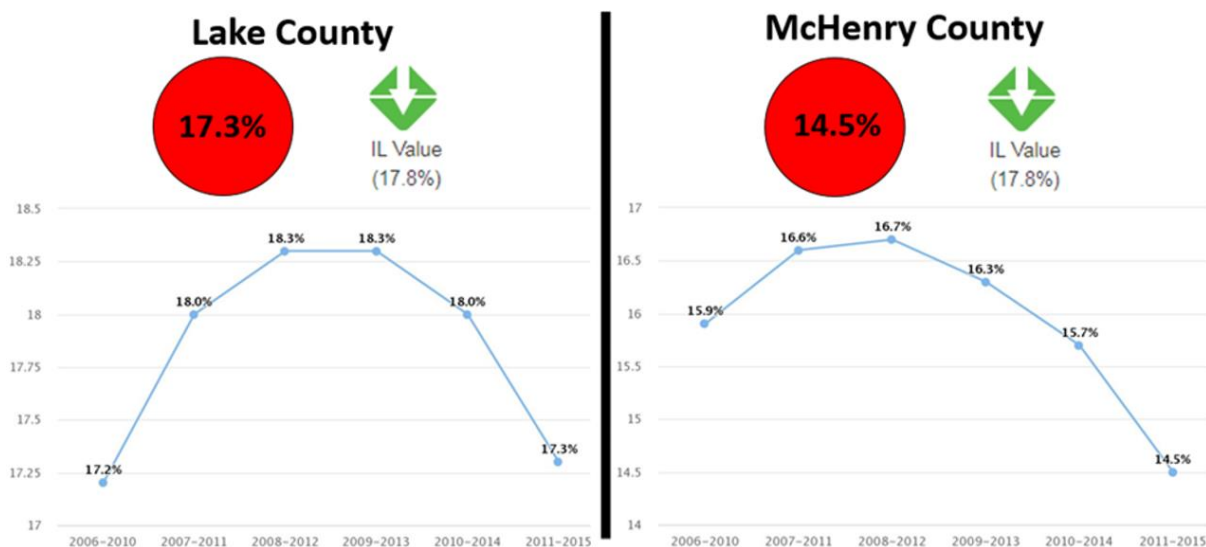
Source: Conduent Healthy Communities Institute, American Community Survey, 2019

## Severe Housing Problems

Severe housing problems is measured by the percentage of households with at least one of the following problems: overcrowding, high housing costs, lack of kitchen or lack of plumbing facilities. As displayed in Exhibit 59, 17.3 percent of the homes in Lake County have a severe housing problem; the percent is 14.5 in McHenry County. The percentages for both counties are in the worst 25<sup>th</sup> percentile (red indicator) compared to other Illinois counties, but are below the Illinois rate (17.8 percent) (Conduent Healthy Communities Institute, County Health Rankings, 2011-2015).

The Lake County and McHenry County rates of severe housing problems are displayed in Exhibit 59.

**Exhibit 59: Severe Housing Problems for Lake and McHenry County 2006-2015**



Source: Conduent Healthy Communities Institute, County Health Rankings, 2019

## Transportation

### Households Without a Vehicle

Vehicle ownership is directly related to the ability to travel and not having a vehicle limits access to essential local services such as supermarkets, post offices, doctors' offices and hospitals. In the Advocate Good Shepherd PSA, 2.9 percent of households do not have a vehicle. This rate is in the best 0-50<sup>th</sup> percentile (green indicator) compared to other counties in Illinois and rising over the last several years. The Illinois (10.8 percent) and U.S. (8.8 percent) rates are higher than the PSA rate (Conduent Healthy Communities Institute, American Community Survey, 2013-2017).

### Mean Travel Time to Work

Long commutes for workers can contribute to health problems such as headaches, anxiety and increased blood pressure. The average daily travel time to work in the Advocate Good Shepherd PSA is 33.9 minutes for workers 16 years of age and older. The PSA has a longer work commute than the

Illinois (28.7 minutes) and U.S. (26.4 minutes) averages. The PSA indicator is trending upward and is in the worst 25<sup>th</sup> percentile (red indicator) compared to other Illinois counties (Conduent Healthy Communities Institute, American Community Survey, 2013-2017).

### **Workers Commuting by Public Transportation**

The use of public transportation by workers in the Advocate Good Shepherd PSA is 3.7 percent—short of meeting the Healthy People 2020 target of 5.5 percent. The PSA is in the best 0-50<sup>th</sup> percentile (green indicator) compared to other Illinois counties and is favorably trending upward. The PSA rate is lower than the rates for Illinois (9.4 percent) and the U.S. (5.1 percent) (Conduent Healthy Communities Institute, American Community Survey, 2013-2017).

### **Workers Who Drive Alone to Work**

Driving alone to work consumes more fuel and resources than other modes of transportation. Driving alone also increases traffic congestion, especially in areas of greater population density. In the Advocate Good Shepherd PSA, 81.4 percent of workers ages 16 years and older get to work by driving alone in a car, truck or van. The trend is remaining the same over time. The PSA rate is in the best 0-50<sup>th</sup> percentile (green indicator) compared to other Illinois counties, however, it is higher than the Illinois (73.3 percent) and U.S. (76.4 percent) rates (Conduent Healthy Communities Institute, American Community Survey, 2013-2017).

### **Solo Drivers with a Long Commute**

Lake County, 45.8 percent of commuters drive alone to work and commute for more than 30 minutes; the percentage is higher in McHenry County at 49.7 percent. Both county percentages are higher than the Illinois (40.9 percent) and U.S. (35.2 percent) rates. Both counties rates are in the worst 25<sup>th</sup> percentile (red indicator) compared to other Illinois counties. The percentage of solo drivers with a long commute is also unfavorably rising in both counties (Conduent Healthy Communities Institute, County Health Rankings, 2013-2017).

## ***Air Quality***

### **Annual Ozone Air Quality**

This indicator gives a grade to each county in the U.S. based on the annual number of ozone action days. The air quality index grade for Lake County is a D, with four days that ozone levels exceeded U.S. standards during the three-year measurement period. The Lake County grade is in the worst 25<sup>th</sup> percentile (red indicator) compared to other Illinois counties, and is unfavorably increasing over time. The air quality index grade for McHenry County is an F, with five days that ozone levels exceeded U.S. standards during the three-year measurement period, and is also in the worst 25<sup>th</sup> percentile (red indicator) compared to other Illinois counties. The McHenry County rate is unfavorably increasing at a statistically significant rate over time (Conduent Healthy Communities Institute, American Lung Association, 2015-2017).

## Annual Particle Pollution

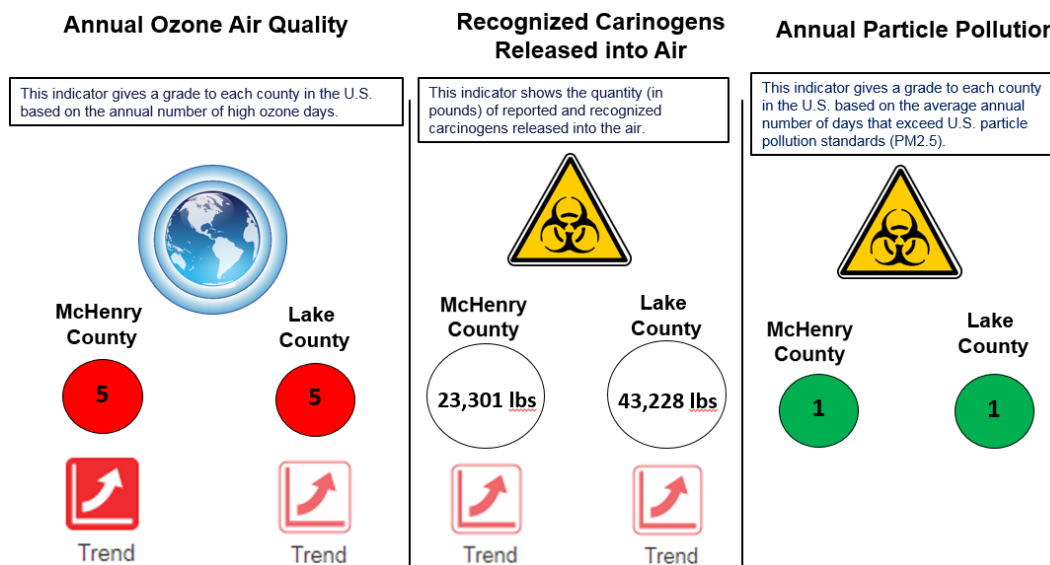
Particle pollution refers to the amount of particulate matter in the atmosphere. Inhaling particulate matter can adversely affect health through illnesses such as asthma, cardiovascular problems or premature death. As shown in Exhibit 60, in both Lake County and McHenry County, the average annual number of days that exceeded U.S. particle pollution standards (PM2.5) is one day. The rate in both counties is in the best 0-50<sup>th</sup> percentile (green indicator) compared to other counties in Illinois. The latest trend data for McHenry County (2015-2017) indicates the rate is stable; no trend data is available for Lake County (Conduent Healthy Communities Institute, American Lung Association, 2015-2017).

## Recognized Carcinogens Released into the Air

Recognized carcinogens are compounds with strong scientific evidence that they can cause cancer. In McHenry County, 23,301 pounds are released and in Lake County 43,228 pounds of reported recognized carcinogens are released into the air. The amount of carcinogens being released into the air is increasing in both counties. The quantity is based on fugitive and point source emissions of 179 recognized U.S. Occupational Safety and Health Administration (OSHA) carcinogens. Data from all industry sectors subject to reporting under the Toxic Release Inventory (TRI) program are included (Conduent Healthy Communities Institute, U.S. Environmental Protection Agency, 2017).

Exhibit 60 provides a summary of the air quality indicators.

**Exhibit 60: Lake and McHenry County Air Quality 2017**



Source: Conduent Healthy Communities Institute, American Lung Association, U.S. Environmental Protection Agency, 2019

## *Built Environment*

### **Park and Recreation Facilities**

Access to exercise opportunities can increase physical activity among residents, which research shows is linked to a wide array of health benefits. According to the 2019 County Health Rankings report, 99 percent of individuals in Lake County live reasonably close to a park or recreational facility; McHenry County has a lower percentage of 91.7 percent. Both counties are in the best 0-50<sup>th</sup> percentile (green indicator) when compared to other Illinois counties, and are higher than the Illinois rate (90.8 percent) and U.S. rate (83.9 percent). Trend information is not available for this indicator (Conduent Healthy Communities Institute, County Health Rankings, 2019).

### **Recreation and Fitness Facilities**

In Lake County, there are 0.16 fitness and recreation centers per 1,000 population; there are 0.12 per 1,000 population in McHenry County. The rates in both counties are unfavorably trending downward, but Lake County still exceeds the overall U.S. rate (0.06 facilities per 1,000 population) for fitness facilities (Conduent Healthy Communities Institute, U.S. Department of Agriculture-Food Environment Atlas, 2014).

## *Access to Food*

### **Food Security and Access to Healthy Foods**

Food insecurity is an economic and social indicator of the health of a community. The U.S. Department of Agriculture (U.S.D.A.) defines food insecurity as limited or uncertain availability of nutritionally adequate foods or uncertain ability to acquire these foods in socially acceptable ways.

The Food Insecurity (FI) rate shows the percentage of the population that experienced food insecurity at some point during the year. The food insecurity rate in Lake County is 6.5 percent and the rate in McHenry County is slightly lower at 6.4 percent. The FI rates in Lake and McHenry Counties are both decreasing at a statistically significant rate. The rates in both counties are also lower than the Illinois (10.9 percent) and the U.S. (12.5 percent) rates and are in the best 0-50<sup>th</sup> percentile (green indicator) when compared to other counties in Illinois (Conduent Healthy Communities Institute, Feeding America, 2017).

### **Child Food Insecurity**

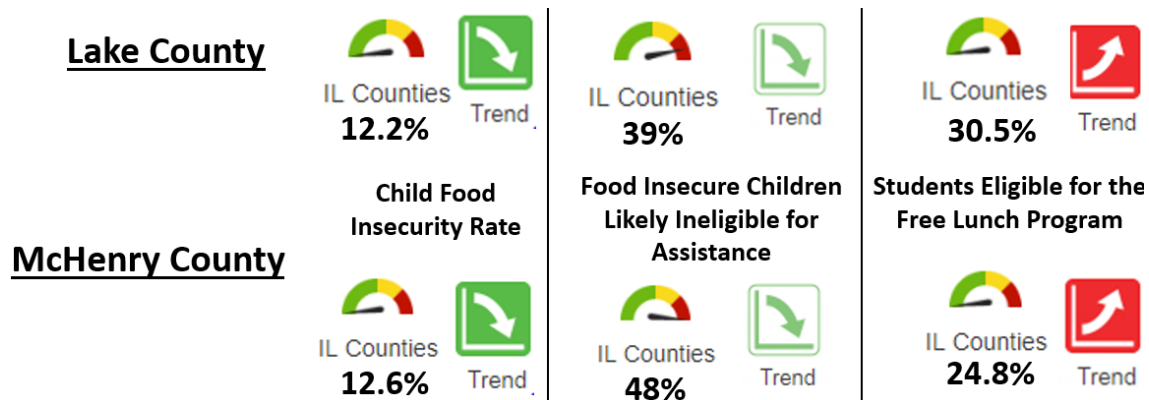
As of 2017, 12.2 percent of children under age 18 years in Lake County were living in a household that experienced food insecurity at some point during the year. In a four-year time period (2012-2017) the Lake County child food insecurity rate decreased by five percent. As shown in Exhibit 61, the McHenry County rate is 12.6 percent of children experiencing food insecurity. Both county rates are decreasing over time at a statistically significant rate and both fall within the best 0–50<sup>th</sup> percentile (green indicator) compared to other Illinois counties (Conduent Healthy Communities Institute, Feeding America, 2017).

## Food Insecure Children Likely Ineligible for Assistance

Both Lake and McHenry County are in the worst 25<sup>th</sup> percentile (red indicator) for food insecure children likely ineligible for assistance, when compared to other Illinois counties. Forty-eight percent of children in McHenry County are reported as food insecure in households with incomes above 185 percent of the federal poverty level. The rate is 39 percent in Lake County. The rates in both counties are decreasing over time (Conduent Healthy Communities Institute, Feeding America, 2017).

Exhibit 61 provides a summary of these food insecurity indicators.

**Exhibit 61: Lake and McHenry County Childhood Food Insecurity 2017**



Source: Conduent Healthy Communities Institute, Feeding America, 2019

## SNAP-Certified Stores

The Supplemental Nutrition Assistance Program (SNAP) is a federal program that provides nutrition benefits to low-income individuals and families that are used at stores to purchase food. SNAP stores include supermarkets, grocery stores, convenience stores, warehouse club stores, specialized food stores and meal service providers that serve eligible persons (U.S. Department of Agriculture, 2018). As of 2016, the rate of SNAP-certified stores in McHenry County is 0.4 stores per 1,000 population and 0.5 stores per 1,000 population in Lake County. Both counties are in the worst 25<sup>th</sup> percentile (red indicator) compared to other Illinois counties. The number of SNAP-certified stores is stable in McHenry County, but is unfavorably trending downward in Lake County (Conduent Healthy Communities Institute, U.S. Department of Agriculture, 2018).

## Farmers Market Density

A farmers market is a retail outlet in which vendors sell agricultural products directly to customers. The farmers market density in Lake County is 0.02 markets per 1,000 population and 0.03 markets per 1,000 population in McHenry County. The rate has remained stable from 2011-2016 in both counties. Farmers markets offer fresh and affordable produce to community members, while supporting local agriculture (Conduent Healthy Communities Institute, U.S. Department of Agriculture-Food Environment Atlas, 2016).

## **Fast Food Restaurant Density**

Fast food restaurants often serve foods high in fat and calories. Access to fast food influences frequent consumption of fat and calories and increases the risk of individuals becoming overweight and unhealthy. For every 1,000 population, there are 0.77 fast food restaurants in Lake County and 0.70 in McHenry County. These include limited-service establishments where people pay before eating. The fast food restaurant density in Lake County is in the worst 25<sup>th</sup> percentile (red indicator), while McHenry County is in the worst 50<sup>th</sup>-75<sup>th</sup> percentile (yellow indicator) when compared to other Illinois counties. The rates in both counties are unfavorably trending upward (Conduent Healthy Communities Institute, U.S. Department of Agriculture-Food Environment Atlas, 2014).

## **Food Environment Index**

The food environment index combines two measures of food access: the percentage of the population that is low-income and has low access to a grocery store, and the percentage of the population that did not have access to a reliable source of food during the past year (food insecurity). The index ranges from 0 (worst) to 10 (best) and equally weights the two measures. According to the 2019 County Health Rankings, Lake County is ranked a 9.0, followed closely by McHenry County at 8.9. Both counties are in the best 0-50<sup>th</sup> percentile (green indicator) compared to other Illinois counties and are trending upward. The Illinois index (8.7) and U.S. index (7.7) are higher than both Lake and McHenry County (Conduent Healthy Communities Institute, County Health Rankings, 2019).

## **Liquor Store Density**

A liquor store is defined as a business that primarily sells packaged alcoholic beverages, such as beer, wine and spirits. There are 11.5 liquor stores per 100,000 population in Lake County and 10.1 stores per 100,000 population in McHenry County. Both counties are in the worst 50<sup>th</sup>-75<sup>th</sup> percentile (yellow indicator) compared to other Illinois counties. While Lake County is trending unfavorably upward, McHenry County is trending downward. The rate in Illinois is 10.3 stores per 100,000 population and in the U.S., the rate is 10.5 stores per 100,000 population (Conduent Healthy Communities Institute, U.S. Census-County Business Patterns, 2016).

## **Grocery Store Density**

There are strong correlations between the density of grocery stores in a neighborhood and the nutrition and diet of its residents. Grocery store density shows the number of supermarkets and grocery stores per 1,000 population. Convenience stores and large general merchandise stores, such as supercenters and warehouse club stores, are not included. In Lake County, there are 0.16 stores per 1,000 population, followed closely by McHenry County with 0.15 stores per 1,000 population. The grocery store density rate in McHenry County is trending favorably upward, while the rate is unfavorably trending downward in Lake County. Both counties are in the worst 50<sup>th</sup>-75<sup>th</sup> percentile (yellow indicator) compared to Illinois counties (Conduent Healthy Communities Institute, U.S. Department of Agriculture-Food Environment Atlas, 2015).

## **Low Access to a Grocery Store**

The accessibility, availability and affordability of healthy and varied food options in the community increase the likelihood that residents will have a balanced and nutritious diet. Low access to a grocery store is defined as living more than one mile from a supermarket or large grocery store if in an urban area, or more than 10 miles from a supermarket or large grocery store if in a rural area. Both counties are considered rural, which means 35.3 percent of Lake County and 43.2 percent of McHenry County residents travel over 10 miles to the grocery store. Both counties are in the worst 25<sup>th</sup> percentile (red indicator) when compared to other Illinois counties. The rate for Lake County in 2015 favorably decreased from the previous 2010 rate of 36.2 percent, but the rate for McHenry County unfavorably increased slightly in 2015 from 43.1 percent in 2010 (Conduent Healthy Communities Institute, U.S. Department of Agriculture-Food Environment Atlas, 2015).

## **Households with No Car and Low Access to a Grocery Store**

This indicator displays the percentage of housing units that do not have a car and are more than one mile from a supermarket or large grocery store if in an urban area, or more than 10 miles from a supermarket or large grocery store if in a rural area. For both McHenry and Lake County, 1.4 percent of housing units do not have car and have low access to a grocery store. Both counties are in the best 0-50<sup>th</sup> percentile (green indicator) compared to Illinois counties. The Lake County rate remained stable with its prior 2010 rate and the McHenry county rate favorably decreased by 1.5 percent from the prior 2010 rate (Conduent Healthy Communities Institute, U.S. Department of Agriculture-Food Environment Atlas, 2015).

## **Low-Income and Low Access to a Grocery Store**

This indicator displays the percentage of the total population in a county that is low-income and living more than one mile from a supermarket or large grocery store if in an urban area, and more than 10 miles from a supermarket or large grocery store if in a rural area. In McHenry County, 7.1 percent of individuals with low-income population live further than 10 miles away from a grocery store; the rate is 5.8 percent in Lake County. Both counties are in the worst 50<sup>th</sup>–75<sup>th</sup> percentile (yellow indicator) compared to Illinois counties, and unfavorably rising over time (Conduent Healthy Communities Institute, U.S. Department of Agriculture-Food Environment Atlas, 2015).

## **Children with Low Access to a Grocery Store**

An estimated 9.1 percent of children in Lake County, and 12.6 percent of children in McHenry County, live more than 10 miles from the nearest supermarket or large grocery store. The rates in both counties are trending favorably downward yet are still in the worst 25<sup>th</sup> percentile (red indicator) when compared to other Illinois counties (Conduent Healthy Communities Institute, U.S. Department of Agriculture-Food Environment Atlas, 2015).

## **People ages 65 years and Older with Low Access to a Grocery Store**

This indicator displays the percentage of adults ages 65 years and older living more than one mile from a supermarket or large grocery store if in an urban area, or more than 10 miles from a supermarket or

large grocery store if in a rural area. In Lake County, 3.7 percent of seniors 65 years and older have low access to a grocery store; in McHenry County the percent is 3.4 percent. When compared to other counties in Illinois, Lake and McHenry Counties are in the worst 50<sup>th</sup>–75<sup>th</sup> percentile (yellow indicator). The McHenry County rate remained stable compared to the 2010 rate, but the Lake County rate favorably decreased (Conduent Healthy Communities Institute, U.S. Department of Agriculture-Food Environment Atlas, 2015).

## *Social Environment*

### **Social and Economic Factors Ranking**

The social and economic factors ranking illustrates the ranking of the county compared to other Illinois counties for social and economic factors. The ranking is based on a summary composite score calculated from the following measures: high school graduation, some college, unemployment, children in poverty, income inequality, children in single-parent households, social associations, violent crime rate and injury death rate. The counties with higher rankings are considered to be healthier. According to the 2019 County Health Rankings, McHenry County is ranked 7<sup>th</sup>, while Lake County is ranked 12<sup>th</sup>. Both counties are in the best 0-50<sup>th</sup> percentile (green indicator) when compared to other Illinois counties (Conduent Healthy Communities Institute, County Health Rankings, 2019).

### **Violent Crime Rate**

Violent crimes include homicide, forcible rape, robbery and aggravated assault. In Lake County, the violent crime rate is 154.2 crimes per 100,000 population; McHenry County's rate is 95.7 crimes per 100,000 population. Both counties fall within the best 0-50<sup>th</sup> percentile (green range) compared to other counties in Illinois and are lower than the rate for Illinois (403.1 crimes per 100,000 population) and the U.S. (386.5 crimes per 100,000 population). The violent crime rate is trending downward in McHenry County, but trending upward in Lake County (Conduent Healthy Communities Institute, County Health Rankings, 2014-2016).

### **Alcohol Impaired Driving Deaths**

Alcohol-impaired driving deaths account for 34.3 percent of motor vehicle crash deaths in Lake County. Although the rate is favorably decreasing in a statistically significant direction, Lake County remains in the worst 50<sup>th</sup>–75<sup>th</sup> percentile (yellow indicator) when compared to other Illinois and U.S. counties. In McHenry County, the percent is higher with 44.3 percent of motor vehicle crash deaths involving alcohol and is increasing at a statistically significant rate. McHenry County is in the worst 25<sup>th</sup> percentile (red indicator) compared to other Illinois and U.S. counties. Both counties are also exceeding the overall rate for Illinois (32.6 percent) and the U.S. (28.6 percent) (Conduent Healthy Communities Institute, County Health Rankings, 2013-2017).

### **Substantiated Child Abuse Rate**

The substantiated child abuse indicator considers the number of children under 18 years of age that experienced abuse or neglect. The substantiated child abuse rate for Lake County is 8.4 cases per 1,000 population. The rate is 7.2 cases per 1,000 population in McHenry County. The rate in McHenry

County is decreasing, but in Lake County it is trending upward. The Illinois (9.7 cases per 1,000 population) and U.S. (9.2 cases per 1,000 population) rates are higher than the rates in both counties (Conduent Healthy Communities Institute, Illinois Department of Children and Family Services, 2015).

### **Age-Adjusted ER Rate due to Unintentional Falls per 10,000 population ages 18 and Older**

Falls are the leading cause of injury deaths among older adults. In the Advocate Good Shepherd PSA, the age-adjusted ER rate for unintentional falls is 186.4 ER visits per 10,000 population age 18 years and older. This indicator includes cases where the first-listed cause of injury is “injury due to fall.” The Advocate Good Shepherd PSA rate is in the best 0-50<sup>th</sup> percentile (green indicator) compared to Illinois counties, as shown in Exhibit 62 (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

### **Age-Adjusted Hospitalization Rate due to Unintentional Falls**

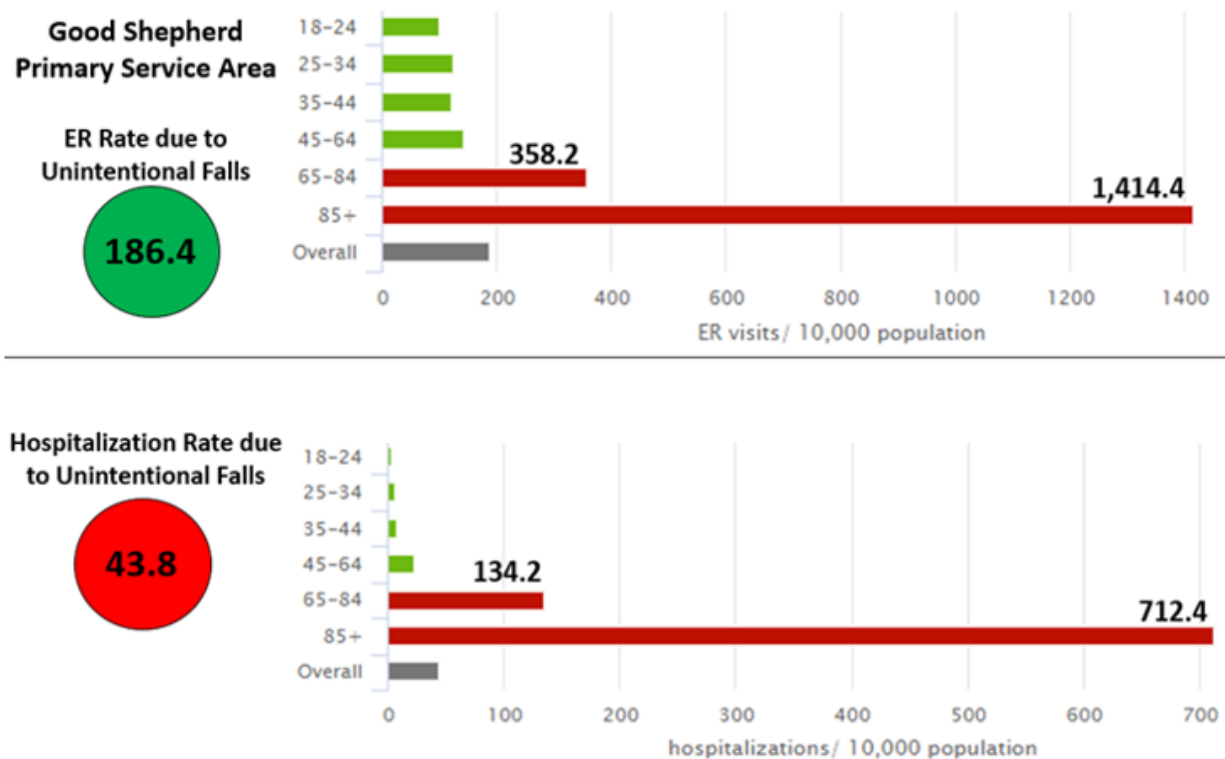
In the Advocate Good Shepherd PSA, the age-adjusted hospitalization rate for unintentional falls is 43.8 hospitalizations per 10,000 population. The PSA rate is in the worst 25<sup>th</sup> percentile (red indicator) compared to other Illinois counties, and higher than the overall Illinois rate (38.6 hospitalizations per 100,000 population) (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

The following communities have hospitalization rates due to unintentional falls that are within the worst 25<sup>th</sup> percentile (red indicator) compared to other Illinois zip codes:

- McHenry (60050) 59.4 per 10,000 population
- Fox River Grove (60021) 54.0 per 10,000 population
- Crystal Lake (60014) 49.2 per 10,000 population
- Island Lake (60042) 47.9 per 10,000 population
- Algonquin (60102) 45.5 per 10,000 population
- Wauconda (60084) 45.5 per 10,000 population

Exhibit 62 provides a summary of the unintentional fall indicators.

**Exhibit 62: Advocate Good Shepherd PSA ER and Hospitalization Rates due to Unintentional Falls per 10,000 population age 18 and Older 2015-2017**



Source: Conduent Healthy Communities Institute, Illinois Hospital Association, 2019

**Social Isolation—People Age 65 years and Older Living Alone**

People age 65 years and over who live alone may be at risk for social isolation, limited access to support or inadequate assistance in emergency situations. In the Advocate Good Shepherd PSA, 21.6 percent of seniors are living alone, which is in the best 0-50<sup>th</sup> percentile (green indicator) compared to other Illinois and U.S. counties. This rate is lower than the Illinois rate (28.5 percent) and U.S. rate (26.2 percent), and displays a statistically significant decrease over time (Conduent Healthy Communities Institute, American Community Survey, 2013-2017).

*School Climate*

**Students Feel Safe in School**

According to the 2018 IYS, 10 percent of Lake County 12<sup>th</sup> grade students do not feel safe at school, while 62 percent say they feel safe at school (18 percent answered neutral). In McHenry County, nine percent of 12<sup>th</sup> grade students do not feel safe at school, while 72 percent do feel safe at their school (19 percent answered neutral). This compares to the 2016 IYS whereby nine percent of Lake County seniors in high school do not feel safe at school, while 77 percent say they feel safe at school (15 percent answered neutral). The 2016 IYS results show eight percent of 12<sup>th</sup> grade students do not feel

safe at school, while 78 percent do feel safe at their school (13 percent answered neutral) (Illinois Youth Survey, 2016 and 2018).

### **Student Threatened to Hurt You**

In the 2018 IYS, McHenry County students were asked ‘during the past 12 months has another student threatened to hurt you?’ A total of 14 percent of 10<sup>th</sup> grade students and 11 percent of 12<sup>th</sup> grade students answered yes to this question. In 2016, the rates were 15 percent for 10<sup>th</sup> grade students and 11 percent for 12<sup>th</sup> grade students.

In Lake County, students felt safer and less threatened as they got older (8<sup>th</sup> grade students at 15 percent; 10<sup>th</sup> grade students at 11 percent and 12<sup>th</sup> grade students at nine percent). In 2016 the rates for Lake County students were 8<sup>th</sup> grade students at 15 percent, 10<sup>th</sup> grade students at 13 percent and 12<sup>th</sup> grade students at 10 percent (Illinois Youth Survey, 2016 and 2018).

### *Key Findings: Social Determinants of Health*

- The food insecurity rate in Lake County is 6.5 percent and significantly trending downward. The rate in McHenry County is slightly lower at 6.4 percent and also significantly trending downward.
- For the social and economic factors ranking, McHenry County is ranked 7<sup>th</sup>, while Lake County is ranked 12<sup>th</sup> out of 102 Illinois counties.
- Alcohol-impaired driving deaths account for 34.3 percent of motor vehicle crash deaths in Lake County.
- In McHenry County, 44.3 percent of motor vehicle crash deaths involve alcohol and the rate is significantly trending upward.
- In the Advocate Good Shepherd PSA, 21.6 percent of seniors are living alone, which is in the best 0-50<sup>th</sup> percentile (green indicator) compared to Illinois and U.S. counties.

### **Disparities**

ER rates due to unintentional falls that are higher than the overall PSA rate occur in the following age groups:

- Adults ages 65-84 years (358.2 per 10,000 population)
- Adults ages 85 years and older (1,414.4 per 10,000 population)
- Females (208.3 per 10,000 population).

Hospitalization rates due to unintentional falls that are higher than the overall PSA rate occur in the following age groups:

- Adults ages 85 years and older (712.4 per 10,000 population)
- Adults ages 65-84 years (134.2 per 10,000 population).

## V. Prioritization of Health-Related Issues

### Priority Setting Process

Advocate Good Shepherd community health department staff presented demographic and health data for the PSA or county when necessary to the hospital's CHC through a series of three meetings in 2019. At the fourth meeting of the year, council members were guided through a modified version of the Hanlon Method for prioritizing health problems. The health issues selected by the CHC were obesity and substance abuse.

### Health Needs Selected

#### *Obesity*

Obesity was selected as a priority for the 2014-2016 CHNA cycle. Since this time period, the prevalence of obesity in the U.S. has continued to steadily increase. Obesity prevalence rates as of 2017 show all states had more than 20 percent of adults with obesity, as determined by BMI measurements in the obese range. In 2017 obesity prevalence rates for Illinois remain between 30 and 35 percent. The rates are even higher for Illinois Hispanic adults and non-Hispanic African American adults (Prevalence of Self-Reported Obesity Among U.S. Adults by Race/Ethnicity, State and Territory, BRFSS, 2017). More than sixteen percent of Illinois adolescents are obese. Fifteen percent of Illinois WIC preschoolers, ages two to four, are obese. In Lake County, 24 percent of adults are obese, and the rate is 26 percent in McHenry County. Seven percent of Lake County adults are food insecure and 13 percent of McHenry County adults are food insecure. Obesity is a serious concern because it is associated with poorer mental health outcomes, reduced quality of life, and the leading causes of death in the U.S. and worldwide, including diabetes, heart disease, stroke, and some types of cancer (Centers for Disease Control and Prevention, Adult Overweight and Obesity Causes and Consequences, 2017). Because of its strong correlation to chronic diseases and other health conditions, the CHC voted to continue focusing on obesity as a priority health issue.

#### *Substance Abuse*

Substance abuse was the second health issue identified as a priority need within the Advocate Good Shepherd PSA. Two specific health behaviors were discussed as central to the issue in the PSA—excessive alcohol use in adults and the high percentage of teens vaping. The hospitalization due to alcohol use rate in adults is in the worst 25<sup>th</sup> percentile (red indicator) compared to other Illinois counties, for the PSA. Survey results from the Lake County 2018 survey indicated that 77 percent of adults had a drink or alcohol in the past 30 days, and 31 percent indicated that they had binged alcohol one or more times in the past 30 days. The alcohol impaired driving death rates for Lake and McHenry County are also in the worst 25<sup>th</sup> percentile (red indicator) compared to other Illinois counties, and the rate is continuing to increase in McHenry County.

The rate of teens in both counties that use alcohol and marijuana are in the worst 50<sup>th</sup>–75<sup>th</sup> percentile (yellow indicator), and vaping rates are high—with 37 percent of McHenry County and 31 percent of

Lake County high school seniors indicating they had used e-cigarettes in the last 30 days in 2018. Alcohol use, marijuana use and vaping are already areas of focus in the McHenry County Substance Abuse Coalition and the Lake County Opioid Initiative Task Force. New initiatives are in the initial planning stages, which allows Advocate Good Shepherd the opportunity to build a collaborative approach with community partners to address these serious substance use issues as a priority.

## Health Needs Not Selected

### *Diabetes*

Diabetes was not identified as one of the priority health needs for the Advocate Good Shepherd PSA, although diabetes prevalence is increasing over time both nationally and locally. Action teams are actively addressing diabetes in both Lake County and McHenry County, coordinated through each of the local health departments. Evidence-based initiatives are underway, including the Diabetes Self-Management Program (Stanford Model) and Diabetes Prevention Program in both counties. Activities include diabetes prevention, diabetes screening to identify diabetes and pre-diabetes, and education on diabetes self-management. These initiatives involve a wide range of stakeholders including immigrant-rights organizations, public libraries, FQHCs and hospital systems. Because programs to address diabetes are already in place, the CHC made the decision to continue to focus on obesity as a priority, given its impact on the risk for pre-diabetes and diabetes.

### *Cardiovascular Disease*

Cardiovascular disease was not selected as a health priority. Over the past decade, heart disease death rates have dropped in both Lake County and McHenry County. While heart disease rates are declining, males and older adults have slightly higher rates. The hospital currently promotes and conducts heart health risk assessments using the American Heart Association tool, conducts heart scan CTs to identify calcium in the heart, and promotes prevention measures such as good nutrition and physical activity in the community. All of these activities are coordinated with the Advocate Heart Institute programs focused on treating cardiovascular disease in the PSA and the public health departments in McHenry County and Lake County. Since heart disease death rates are declining and many community-based programs to address cardiovascular disease are already active, the CHC decided it was more beneficial to prioritize obesity because of its impact on the risk for heart disease.

### *Mental Health*

Mental health was not selected as a priority for the current CHNA cycle even though it was selected in the previous CHNA cycle. As of 2015-2017, ER rates for the PSA (both for adults and pediatrics) due to mental health are in the best 50<sup>th</sup> percentile range (green indicator). Over the past three years, Advocate Good Shepherd has implemented the evidence-based training, Mental Health First Aid (MHFA), throughout the PSA—focusing on training adults who work with youth. In Lake County, there is a county-wide initiative to implement MHFA training, involving stakeholders from across the county. The LCHD received a grant from the federal Substance Abuse and Mental Health Services Administration (SAMHSA) to train 90 new MHFA instructors over a three-year period. Advocate Good Shepherd community health staff have been active members of the MHFA action team. Advocate Good Shepherd

also sponsored two Spanish-speaking community members and one local police officer to complete the MHFA instructor training, building capacity to train Spanish-speaking residents and first responders. Advocate Good Shepherd has worked closely with the National Alliance for Mental Illness (NAMI) Barrington chapter to develop and launch a website named Healthy Barrington, which helps individuals find mental health providers in the Barrington area and throughout the Chicagoland area. There are also active Behavioral Health Councils in place for both Lake County and McHenry County, focusing on improving mental health provider capacity and streamlining service provision; the director of community health sits on these committees. Since a great deal of work is already being done to address mental health in the PSA, the CHC voted for the hospital to turn its attention to substance abuse for the next three-year period.

## Cancer

The cancer incidence rates for the PSA are in the best 0-50<sup>th</sup> percentile (green indicator) compared to other Illinois counties, and are trending downward in both Lake County and McHenry County. The only exception is for breast cancer, which is increasing at a statistically significant rate. As part of the requirements to maintain certification with the Commission on Cancer, Advocate Good Shepherd implements cancer screening, and prevention education on an annual basis. Over the past three years community health staff have worked with the Advocate Good Shepherd Cancer Center staff to address barriers to navigation, and promote early screening and detection for colorectal cancer, skin cancer and lung cancer. Because activities related to cancer screening and prevention are already integrated into the regular programming of both the community health program and the Cancer Center, and cancer incidence rates are trending down for all but breast cancer, the CHC determined it was prudent to focus on other health priorities.

## VI. Approval of Community Health Needs Assessment

The Advocate Good Shepherd CHC selected obesity and substance abuse as the health priorities on April 25, 2019. The Advocate Good Shepherd Governing Council approved the two recommended health priorities of obesity and substance abuse on June 11, 2019, and approved the hospital's 2017-2019 CHNA Report on October 8, 2019. The Advocate Health Care Network Board approved Advocate Good Shepherd's 2017-2019 CHNA Report at the system level on December 16, 2019.

## VII. Overview of 2020-2022 Implementation Plan Goals and Community Resources

The Advocate Good Shepherd community health director and community health coordinator will lead the development of the CHNA 2020-2022 Implementation Plan with the assistance of the CHC. The plan will outline goals, strategies and metrics to measure the impact of specific interventions. Progress will be monitored and reported annually. Community health staff will identify best practice models and evidence-based programs to use as the basis for program planning to address the priorities of obesity and substance abuse. Additionally, in the implementation planning, Advocate Good Shepherd will consider the SDOH that are related to the selected priority health issues.

### Obesity

The hospital will continue its commitment to the Food Insecurity (FI) screening and referral program for older adults in 2020-2022. The screening for food insecurity may be expanded to additional agencies throughout the service area. Currently FI screening is being conducted internally within the diabetes and senior services departments. Staff will seek to increase the number of hospital departments implementing the FI screening and referral program. Community health staff will also continue its relationship with the Northern Illinois Food Bank, and explore strategies to connect with the onsite Smart Farm to increase access to fresh produce in food pantries and at other locations in the PSA. On property owned by the hospital, Smart Farm operates grows and donates close to eight tons or 16,000 pounds of produce each year and teaches workshops for kids and adults. With any new programs, the hospital will focus on high need communities—those communities within the PSA with a higher SocioNeeds Index ranking. Obesity has also been a top priority of the Lake County and McHenry County Health Departments, and both counties have action teams for obesity and nutrition. Advocate Good Shepherd will continue to participate in these teams and will work collaboratively with both health departments in the planning and development of interventions. Other programs that promote healthy lifestyle, good nutrition and fitness will also be explored both internally and externally.

### Substance Abuse

The McHenry County Substance Abuse Coalition is a current recipient of the Drug-Free Communities Grant. The coalition monitors substance abuse data throughout the county and implements community prevention programs. For 2020-2022 interventions, community health staff will work with the coalition and other community partners to address alcohol use and youth vaping (use of e-cigarettes). The community health staff are already working closely with the Healthier Barrington Coalition and the Be Strong Barrington organization to develop strategies to decrease vaping and educate parents and teens in the Barrington area. Additionally, the community health staff will continue to work closely with the community relations department in Advocate Good Shepherd to coordinate evidence-based interventions with hospital promotional events, wherever possible. Collaborative planning is underway to develop strategies to decrease vaping with the McHenry County Health Department, McHenry County Mental Health Board, the Lake County Health Department and Northwestern Medicine in McHenry County. Advocate Good Shepherd has a strong existing partnership with Gateway Foundation for the Warm Handoff program. The hospital contracts with Gateway Foundation to place an

Engagement Specialist within the ER team to coordinate individuals who come to the ER for opioid use disorder, or other substance use issues, into substance use treatment. The hospital will explore ways to expand and refine this program to address opioid use in the PSA. As Advocate Good Shepherd develops its 2020-2022 implementation plan, community health staff will strive to align strategies to make the most positive impact on substance abuse.

## VIII. Vehicle for Community Feedback

### Community Feedback

Advocate Good Shepherd welcomes all feedback regarding the 2017-2019 CHNA Report. Any member of the community wishing to comment on this report, can click on the link below to complete a CHNA feedback form. Questions will be addressed and comments will also be considered during the next CHNA cycle.

<http://www.advocatehealth.com/chnareportfeedback>

**If you experience any issues with the link to our feedback form or have any other questions, please click below to send** an email to us at:

[AHC-CHNAReportCmtFeedback@advocatehealth.com](mailto:AHC-CHNAReportCmtFeedback@advocatehealth.com)

This report can be viewed online at Advocate Health Care's Community Health Needs Assessment Report webpage via the following link:

<http://www.advocatehealth.com/chnareports>

A paper copy of this report may also be requested by contacting the hospital's Community Health Department.

### Sharing Results

In addition to the opportunity to provide feedback through the means described above, Advocate Good Shepherd community health staff will proactively present the results of the 2017-2019 CHNA to hospital leadership, clinical service line staff, community partners and coalitions. Feedback from the community will be collected verbally and electronically through the comments and questions portion of the presentations. Additional presentations will be scheduled as requested.

## IX. Appendices

(All data was verified and website links were fully functional within the CHNA Report and Appendices as of September 1, 2019.)

### Appendix 1: 2017-2019 Community Health Needs Assessment Data Sources

Advocate Aurora Business Development Analytics, 2019  
Advocate Aurora Business Development Analytics, Sg2, 2019  
Advocate Good Shepherd Hospital Finance Department, 2019

Community Survey of the McHenry County Healthy Community Study, Health Systems Research, Division of Health Policy and Social Science Research, University of Illinois College of Medicine at Rockford, 2017. Full documents can be accessed at the following websites:

<https://www.mchenrycountyil.gov/home/showdocument?id=71354>

<https://www.mchenrycountyil.gov/home/showdocument?id=71454>

<https://www.mchenrycountyil.gov/home/showdocument?id=71360>

Conduent Healthy Communities Institute. Accessed via a contract with Advocate Health Care. Website is unavailable to the public. The following data sources were accessed through the portal:

- American Community Survey, 2012-2016, 2013-2017
- American Fact Finder, 2017
- American Lung Association, 2015-2017
- Centers for Disease Control and Prevention, 2015-2017, 2019
- Centers for Medicare and Medicaid Services, 2017
- Center for Prevention Research and Development, Claritas, 2019
- County Health Rankings, 2015, 2016, 2017, 2018, 2019
- Feeding America, 2017
- Illinois Behavioral Risk Factor Surveillance System, 2007-2009, 2010-2014
- Illinois Department of Children and Family Services, 2015
- Illinois Department of Public Health, 2014-2016, 2017
- Illinois Hospital Association, 2015-2017
- Illinois Youth Survey, 2018
- National Cancer Institute, 2011-2015
- National Center for Education Statistics, 2016-2017
- National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention, 2016
- U.S. Census-County Business Patterns, 2016
- U.S. Department of Agriculture-Food Environment Atlas, 2014, 2015, 2016
- U.S. Small-Area Life Expectancy Estimates Project, 2010-2015
- The Dartmouth Atlas of Health Care, 2015

Dental Examination Compliance Status of School-Age Children, Illinois State Board of Education, 2015  
[https://www.isbe.net/Documents/dental\\_report1314.pdf](https://www.isbe.net/Documents/dental_report1314.pdf)

Healthier Barrington Survey, 2017

<http://www.barringtonarealibrary.org/files/2017%20healthier%20barrington%20survey.pdf>  
<http://www.barringtonarealibrary.org/files/healthier%20barrington%20summary%202017.pdf>

Illinois Department of Healthcare and Family Services, 2018

<https://www.illinois.gov/hfs/MedicalClients/Pages/medicalprograms.aspx>

Illinois Youth Survey, 2018

<https://iys.cprd.illinois.edu/>

*Lake County Health Department Community Health Needs Assessment, 2019*

The Lake County Health Department and Community Health Center (LCHD) and Advocate Condell partnered to administer a survey to assess the current health status of two community areas in Lake County: Gurnee (as identified by zip code 60031) and northwest Lake County (NWLC) including communities of Antioch (60002), Fox Lake (60020) and Lake Villa (60046). The survey was adapted from national tools. Randomly selected households in these municipalities were contacted by mail in mid-June and invited to participate in an anonymous online survey, available in English and Spanish. The survey had 662 respondents—401 from Gurnee and 261 from northwest Lake County.

The results of the 2019 survey were compared to values from a previous 2018 survey conducted to support 2018 Community Health Needs Assessments, and the 2015 survey conducted on behalf of the Live Well Lake County Steering Committee for the creation of the county's Community Health Improvement Plan. For context, additional data was included from the Centers for Disease Control and Prevention's Behavioral Risk Factor Surveillance System's website to include the most recent data available for Illinois and the Chicago-Naperville-Elgin IL-IN-WI Metropolitan Statistical Area (MSA), which includes Will, Grundy, Kendall, Kane, DeKalb, McHenry, DuPage, Cook, and Lake counties in Illinois; Lake, Porter, Newton, and Jasper counties in Indiana, and Kenosha county in Wisconsin. All state and MSA data used here are available on the CDC's BRFSS Prevalence and Trends Data website.

## Appendix 2: Hanlon Method Score Sheet

Health Concern	A	B	C	D	
	Size	Seriousness	Effectiveness of Interventions	Priority Score (A+2B)C	
Substance Abuse	4.3	9.4	9.3	216.4	1
Mental Health	5	8.4	7.1	155.7	3
Diabetes	1.4	8.4	6.8	124.0	5
Heart Disease	2.2	8.3	6.9	129.7	4
Healthy Eating /Nutrition	7.2	8.7	8.4	206.6	2
Sexually Transmitted Infections	1	2.5	3.2	19.2	6
Unintentional Falls	4	1.8	4.3	32.7	7

## Appendix 3: Effective and Evidence-Based Practices

### Effective and Evidence-Based Practices

4/10/2019

	HCI Promising Practices	County Health Rankings and City Health Dashboard	The Community Guide
Classification Labels	Evidence-Based and Effective Practices	Scientifically Supported	Recommended
Substance Use	Children/Teens (112) Adults/Elderly (49)	Alcohol and Drug Use (15)	Children/Teens (8) Adults/Elderly (23) Excessive Alcohol Consumption (7)
Mental Health	Children/Teens (77) Adults/Elderly (25)		Children/Teens (2) Adults/Elderly (3) Mental Health (4)
Respiratory	Children/Teens (19) Adults/Elderly (3)	Air and Water Quality (6)	Children/Teens (1) Adults/Elderly (0) Asthma (2)
Diabetes	Children/Teens (11) Adults/Elderly (30)	Diet and Exercise (26)	Children/Teens (2) Adults/Elderly (2) Diabetes (9)
Heart Disease	Children/Teens (4) Adults/Elderly (28)	Diet and Exercise (26)	Children/Teens (0) Adults/Elderly (0) Cardiovascular Disease (10)
Healthy Eating/Nutrition and Active Living	Children/Teens (98) Adults/Elderly (64)	Diet and Exercise (26)	Children/Teens (8) Adults/Elderly (8) Physical Activity (13) Obesity (8) Nutrition (5)
Immunizations & Infections Disease	Children/Teens (57) Adults/Elderly (46)	Sexual Activity (7)	Children/Teens (16) Adults/Elderly (0) Vaccination (15) HIV/AIDS, STIs and Pregnancy (9)

## Appendix 4: Economic Impact of Top Health Priorities 2019

### Economic Impact of Top Health Priorities 2019

#### Substance Abuse

- Abuse of tobacco, alcohol and illicit drugs is costly to our nation, exacting more than **\$740 billion** in costs in 2010 related to crime, lost work productivity and health care (National Institute on Drug Abuse).
- The total cost of excessive alcohol use in the U.S. reached **\$249 billion** in 2010, or about \$2.05 per drink (CDC).
- Most (77%) of these costs were due to binge drinking. Nationally, 1 in 6 people binge drink (CDC).
- Most of the costs resulted from losses in workplace productivity (72% of the total cost), health care expenses for treating problems caused by excessive drinking (11% of total), law enforcement and other criminal justice expenses (10%), and losses from motor vehicle crashes related to excessive alcohol use (5%) (CDC).
- In **Illinois**, the estimated cost of alcohol use in 2010 was over \$9.7 billion, which is \$757 per capita or about \$1.86 per drink (CDC).
- The total economic burden of prescription opioid overdose, abuse and dependence to the U.S. in 2013 is estimated to be **\$78.5 billion**. Over one third of this amount is due to increased health care and substance abuse treatment costs (**\$28.9 billion**) (Med Care, 2016 October, Volume 54, U.S. National Library of Medicine, National Institutes of Health).

#### Mental Health

- Each year, serious mental illness costs Americans **\$193 billion** in lost earnings (American Journal of Psychiatry).
- Much of the economic burden of mental illness is not the cost of care, but the loss of income due to unemployment, expenses for social supports, and a range of indirect costs due to a chronic disability that begins early in life (NIH).
- Depression and anxiety have a significant economic impact; the estimated cost to the global economy is **U.S. \$1 trillion** per year in lost productivity. (WHO)
- Suicide costs society over **\$44.6 billion** a year in combined medical and work loss costs. The average suicide costs **\$1,164,499** (CDC).
- The economic burden of schizophrenia, bipolar disorder and major depressive disorder in adults in **Illinois** is estimated to be at least **\$1.4 billion for each serious mental illness (MacEwan JP, Seabury S, et al. Pharmaceutical Innovation in the treatment of schizophrenia and mental disorders.**

#### Respiratory Disease

- The yearly cost of asthma in the U.S. is around **\$56 billion** (2009 dollars). The direct costs make up almost **\$50.1 billion**. Hospital stays are the largest part of that cost. Indirect costs make up **\$5.9 billion**. This includes lost pay from sickness or death and lost work output from missed school or work days (EPA).

- Nationally, children with asthma **miss 2.48 more days of school** each year than children without asthma.
- In Illinois, **\$383 million** was spent on asthma hospitalizations in 2010 (IDPH).
- In 2010, the cost of COPD in the U.S. was projected to be approximately **\$50 billion**, which includes \$20 billion in indirect costs and \$30 billion in direct health care expenditures (ClinicoEconomics and Outcomes Research, U.S. National Library of Medicine, National Institutes of Health).
- Total costs incurred by COPD patients are approximately \$6000 higher than non-COPD patients (COPD Foundation).

## Diabetes

- The total of diagnosed diabetes in 2017 in the U.S. was **\$327 billion**, including **\$237 billion** in direct medical costs and **\$90 billion** in reduced productivity (American Diabetes Association).
- The largest components of medical expenditures for diabetes are:
  - hospital inpatient care (30% of the total medical cost),
  - prescription medications to treat complications of diabetes (30%),
  - anti-diabetic agents and diabetes supplies (15%), and
  - physician office visits (13%) (American Diabetes Association).
- People with diagnosed diabetes incur average medical expenditures of \$16,752 per year, of which about \$9601 is attributed to diabetes (American Diabetes Association).
- People with diagnosed diabetes on average have medical expenditures approximately 2.3 times higher than what they would be in the absence of diabetes (American Diabetes Association).
- Diabetes and prediabetes cost an estimated **\$12.2 billion in Illinois** each year (American Diabetes Association).

## Heart Disease

- In 2016, cardiovascular disease cost America **\$555 billion**. By 2035, the cost will skyrocket to **\$1.1 trillion**.” (American Heart Association)
- 1 in every 6 health care dollars is spent on cardiovascular disease. (CDC)
  - On average, an employee with cardiovascular disease costs his or her employer nearly 60 hours and over \$1,100 more in lost productivity per year than an employee without cardiovascular disease. (RTI International for the American Heart Association)
  - Studies have found **Illinois** spends more than **\$12.5 billion** a year in health care dollars to treat chronic diseases. The financial burden from the impact of lost work days and lower employee productivity during the same period resulted in an annual economic loss of **\$43.6 billion** (IDPH).
  - Chronic diseases are largely preventable conditions associated with an individual's health and lifestyle choices. At least 80 percent of premature heart disease, stroke and type 2 diabetes and 40 percent of cancer diagnoses could be prevented through healthy diet, regular physical activity and avoidance of tobacco products.

## Obesity

- The estimated annual medical cost of obesity in the U.S. was **\$147 billion** in 2008 U.S. dollars (CDC).
- The medical costs for people who are obese were **\$1,429 higher** than those of normal weight (CDC).
- The annual nationwide productive costs of obesity-related absenteeism range between **\$3.38 billion** (\$79 per obese individual) and **\$6.38 billion** (\$132 per obese individual).
- Obesity costs the **Illinois** health care system and taxpayers nearly **\$3.4 billion** per year (Illinois Alliance to Prevent Obesity).

## Adult Immunizations

- The estimated total remaining economic burden at approximately **\$9 billion** in 2015 from vaccine-preventable diseases related to ten vaccines recommended for adults ages nineteen and older. Unvaccinated individuals are responsible for almost 80 percent, or **\$7.1 billion**, of the financial burden (CDC).
- This burden includes unexpected increases in health expenditures and lost income as a result of reduced functional capacity. (Health Affairs, November 2016, U.S. National Library of Medicine, National Institutes of Health).

## Sexually Transmitted Infections (STIs)

- In February 2013, CDC published two analyses to provide an in-depth look at the human and economic burden of STIs in the U.S.
- The CDC concluded that STIs place a significant economic strain on the U.S. healthcare system. Conservative estimates indicate that the lifetime cost to treat eight of the most common STIs contracted in just one year is **\$15.6 billion** in 2010 dollars. The eight common STIs included are chlamydia, gonorrhea, hepatitis B virus (HBV), herpes simplex virus type 2 (HSV-2), HIV, Human papillomavirus (HPV), syphilis and trichomoniasis.
- Because some STIs, especially HIV, require lifelong treatment and care, they are by far the costliest. In addition, HPV is particularly costly due to the expense of treating HPV-related cancers. However the annual cost of curable STIs is also significant, at **\$743 million**. Among these, chlamydia is most common and therefore the costliest (CDC).