Community Health Needs Assessment

2017 - 2019

December 2019

Advocate Condell Medical Center (Advocate Condell) is pleased to present the 2017-2019 Community Health Needs Assessment (CHNA). Every three years, the medical center completes a comprehensive CHNA report that evaluates demographics, health outcomes and disparities in Lake County. The CHNA report also captures input from community residents through community health surveys conducted by local partners. Advocate Condell is committed to collaborative efforts that meet the health needs of all individuals, families and the community.

In 2019, the Community Health staff at Advocate Condell worked with the Community Health Council (CHC) to review the key health issues in Lake County. As a key health care provider in Lake County, we are not only committed to providing the safest and highest quality patient care, but also to help improve the health of Lake County residents by advancing population health efforts.

The CHC reviewed extensive emergency room and hospitalization data, incidence data, mortality data and other local and national survey data documents. This comprehensive data review is critical to addressing the needs of the community in Lake County, while providing guidance to future interventions. We would like to extend a special thank you to the community stakeholders involved in our Community Health Council and the Lake County Health Department for their assistance and guidance. Council members selected obesity and substance abuse as the top-two health priorities of focus for the next three years. The Advocate Condell Governing Council has 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 medical center in Lake County. Through strong partnerships, collective efforts, input from the community and effective programming, we hope to positively impact the health of all residents in Lake County.

Sincerely,

Matt Primack
President
Advocate Condell Medical Center

Mike Ploszek
President Emeritus
Advocate Condell Medical Center

Table of Contents

I. Executive Summary 1

II. Description of Advocate Aurora Health and Advocate Condell Medical Center 2

2 Advocate Aurora Health
2 Advocate Condell Medical Center

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

3 Community Definition
3 Communities with Highest SocioNeeds Index Values
4 Overview of Collaborations
5 Summary of Assessment Process
6 Needs Identified and Priorities Selected
6 Summary of Implementation Programs and Key Accomplishments
- 6 Mental Health
- 7 Obesity

8 Input from the Community
9 Lessons Learned

IV. 2017-2019 Community Health Needs Assessment 9

9 Community Definition
- 11 Population
- 13 Demographics
- 18 Household/Family
- 19 Economics
- 21 Employment
- 22 Education
- 24 Key Findings: Community Definition

25 Key Roles in the 2017-2019 Community Health Needs Assessment
- 25 Advocate Aurora System and Advocate Condell Leadership
- 25 Governing Council
- 25 Community Health Council
- 26 2017-2019 Advocate Condell CHC Members

27 Methodology
- 27 Timeline
- 27 Secondary Data
- 27 Primary Data

31 Health Status
35 Key Findings: Health Status
35 Health Care Coverage
40 Key Findings and Disparities: Health Care Coverage
40 Access to Care
42 Key Findings: Access to Care
43 Nutrition, Physical Activity and Obesity
47 Key Findings: Nutrition, Physical Activity and Obesity
47 Cancer
52 Key Findings and Disparities: Cancer
53 Cardiovascular Disease
60 Key Findings and Disparities: Cardiovascular Disease
61 Diabetes and Kidney Disease
68 Key Findings and Disparities: Diabetes and Kidney Disease
69 Infectious Diseases and Sexually Transmitted Infections
71 Key Findings: Infectious Diseases and Sexually Transmitted Infections
71 Mental Health
75 Key Findings and Disparities: Mental Health
76 Substance Abuse
84 Key Findings and Disparities: Substance Abuse
85 Alzheimer's Disease and Unintentional Falls
88 Key Findings and Disparities: Alzheimer's and Unintentional Falls
89 Oral Health
90 Key Findings and Disparities: Oral Health
90 Respiratory Disease
96 Key Findings and Disparities: Respiratory Disease
96 Maternal and Child Health
99 Key Findings: Maternal and Child Health
99 Social Determinants of Health
109 Key Findings and Disparities: Social Determinants of Health

V. Prioritization of Health-Related Issues 109

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

VI. Approval of Community Health Needs Assessment 113

VII. Overview of 2020-2022 Implementation Plan Goals 113

113 Obesity
113 Substance Abuse

VIII. Vehicle for Community Feedback 114

114 Community Feedback
115 Sharing Results

IX. Appendices 116

116 Appendix 1: 2017-2019 CHNA Data Sources
120 Appendix 2: Hanlon Method Score Sheet
121 Appendix 3: Effective and Evidence-Based Practices
122 Appendix 4: Economic Impact of Top Health Priorities
126 Appendix 5: SWOT Analysis Infographic Summary 2019
129 Appendix 6: Healthcare Foundation of Northern Lake County 2019
132 Appendix 7: Lake County Health Department CHNA 2019
133 Appendix 8: Advocate Condell Lake County Economy Snapshot

I. Executive Summary

Advocate Condell is committed to fulfilling the purpose of helping people live well by addressing the health needs of patients, families and the community. This work begins with a broad understanding of the assets, needs, challenges and social determinants facing the community. Advocate Condell has an extensive history of collaborating with community stakeholders to accomplish this task. By building sustainable relationships and collaborating with community organizations, the medical center has gained a stronger understanding of the community's needs. Collaborative efforts also enhance the medical center's ability to create solutions that are comprehensive and inclusive. The CHNA report outlines the process, references data sources and highlights strategies used to improve the health and vitality to the communities served in Lake County.

For purposes of the 2017-2019 CHNA process, Advocate Condell and the CHC defined the community as Lake County. In order to ensure a comprehensive representation of the health needs in Lake County, Advocate Condell was able to leverage local data through partnerships and health coalitions established in Lake County.

Through these partnerships, Advocate Condell collected qualitative data on health issues through the focus groups and interviews from the 2019 Healthcare Access in Northern Lake County assessment and through a survey of Gurnee and northwest Lake County communities conducted by the Lake County Health Department. Quantitative public health, emergency room and hospitalization data was gathered from more than 25 different sources. A key secondary data source was the Conduent Healthy Communities Institute, a centralized platform contracted by Advocate Aurora Health to evaluate disparities in the communities it serves.

In preparation for the selection of priorities, Advocate Condell's community health staff presented extensive data on demographics, social determinants of health and the eight most significant health issues in the county over a series of four meetings. Through analysis of the data, the CHC was able to determine key health issues and areas of need in Lake County. Council members used a modified Hanlon Method to select the top two health priorities. The CHC invested significant time and thought into determining the health priorities, considering the seriousness of the health priority and the effectiveness of available interventions in preventing the health problem. Obesity and substance abuse were the main health priorities selected for Advocate Condell.

The CHC and community health staff will work collaboratively to develop a detailed implementation plan for 2020-2022. The CHC will continue to meet regularly to review progress and evaluation of interventions and outcomes. Advocate Condell hopes that this report will prove to be valuable and will allow community members to gain a greater understanding of the health issues in Lake County.

II. Description of Advocate Aurora Health and Advocate Condell Medical Center

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 Condell Medical Center

Advocate Condell has been providing high quality, acute care to residents in the northern Chicago suburbs for 90 years. The medical center is the largest health care provider, and the only Level I trauma center in Lake County, Illinois, with 273 beds. Advocate Condell is a non-profit medical center that offers a full spectrum of medical services. Ranked a *100 Top Hospital* for the fourth time by Watson Health, the medical center offers comprehensive cardiac care and Lake County's most comprehensive cardiovascular program. A wide-range of orthopedic services from diagnostics to treatment and rehabilitation are offered. Advocate Condell also offers a full range of women's services, comprehensive cancer care, home health services, pediatric alternatives in creative rehabilitation therapy, state-of-the-art neurosurgical technologies and it is the only Sexual Assault Nurse Examiner (SANE) site in Lake County. The SANE team provides 24/7 care and support for victims of sexual assault. Exhibit 1 provides a summary of the services provided in 2018 by Advocate Condell.

Exhibit 1: Advocate Condell Statistics 2018

Category	Number
Admissions	15,638
Outpatient Visits	220,147
Births	1,134
Emergency Department Visits	59,346
Surgeries	10,555
Medical Staff Physicians	641

Source: Advocate Condell Finance Department, 2019

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

Community Definition

For the 2014-2016 CHNA, Advocate Condell defined the "community" as Lake County. The combined population of the Primary Service Area (PSA) and Secondary Service Area (SSA) equals 80 percent of the total population of Lake County. Because Advocate Condell serves all of Lake County, county data was utilized in the CHNA. While the CHC defined the community as Lake County, data from the medical center's PSA and SSA was also analyzed, as available, to further define specific health issues.

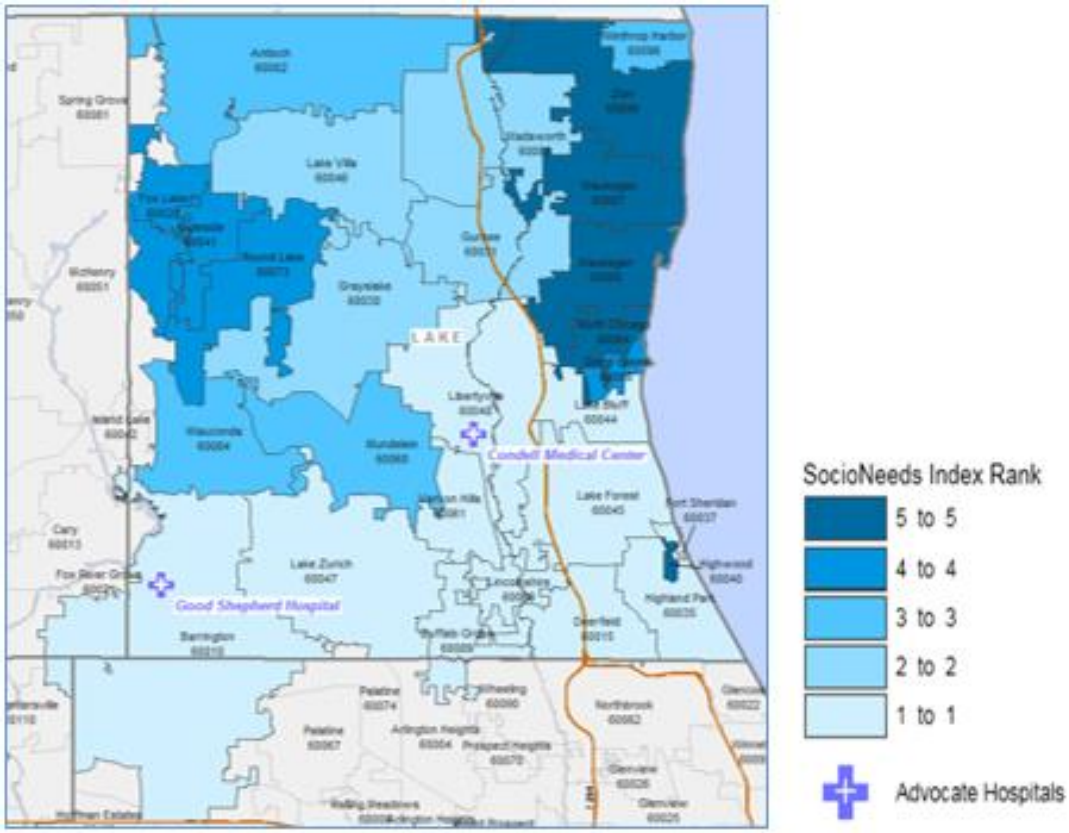
As of 2016, the population of Lake County was 707,030. The population of the PSA was 391,022 and the SSA population was 172,345. The three largest communities within the PSA were Waukegan (zip code 60085) with a population of 69,644: Round Lake (60073) with a population of 60,766 and Gurnee (60031) with a population of 38,842. The largest communities in the SSA were Buffalo Grove (60089) with a population of 41,380 and Zion (60099) with a population of 31,535. The growth rate of the PSA was quite slow, with only 0.83 percent growth from 2010 to 2016. The growth rate of the SSA was higher, increasing 1.09 percent since 2010. The growth rate of Lake County was 0.51 percent. Fifty percent of Lake County residents were female and 50 percent were male.

Communities with Highest SocioNeeds Index Values

In order to better identify the social needs that affect a person's ability to live well, the medical center 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 rankings using natural breaks. These ranks are then used to color the zip codes with the highest SocioNeeds Indices with the darker colors.

In 2016, the communities with the SocioNeeds Index ranking of 5 in Lake County were North Chicago (60064), Waukegan (60085), Waukegan (60087), Zion (60099) and Highwood (60040). The following Exhibit 2 shows the SocioNeeds rankings with the highest (worst) SocioNeeds rankings displayed in darker blue.

Exhibit 2: Lake County SocioNeeds Index Map 2016



Source: Healthy Communities Institute, 2016

Overview of Collaborations

Advocate Condell worked closely with the Lake County Health Department (LCHD) throughout the CHNA process in 2014-2016. The medical center received regular updates from the health department's ongoing Community Health Improvement Process (CHIP) and often consulted the LCHD Community Health Assessment staff for interpretation of data, as it was released. Additionally, Advocate Condell commissioned the health department to conduct two targeted community surveys in Waukegan and Wauconda. Waukegan is within the PSA for Advocate Condell and Wauconda is within the SSA. These communities were selected because both include a growing Hispanic population and areas of higher poverty. Additionally, Waukegan-60085 is a more densely populated community (69,644) and Wauconda (60084) has a smaller population, and is more "rural" in its identity with a population of 17,618.

The LCHD's community health improvement process, named Live Well Lake County, was developed within the **M**obilizing for **A**ction through **P**lanning and **P**artnerships, or MAPP, framework. MAPP is a community-driven strategic planning framework utilized in community health improvement. This framework assists communities not only in the prioritization of public health issues, but also in creating a platform to develop and implement efforts to address them, leading to action.

From early 2015 through spring 2016, the community health improvement process was guided by the Live Well Lake County Steering Committee, a diverse group of stakeholders from multiple sectors of Lake County that influence the health of the county residents. Advocate's director of community health for the north region is an active member of this steering committee.

For the 2014-2016 CHNA, Advocate Condell collaborated with numerous stakeholders. The key stakeholders included:

- Advocate Condell Community Health Council (CHC)
- Advocate Condell Governing Council
- Lake County Health Department
- Advocate system and medical center leadership

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/medical center in the system would have a community health expert to coordinate its community health work. Community health staff for Advocate Condell include a master's-prepared regional director of community health (overseeing Advocate Good Shepherd, Advocate Sherman and Advocate Condell) and a part-time bachelor's-prepared community health coordinator.

To begin the CHNA, Advocate Condell convened its long standing CHC to review primary and secondary health data. The CHC was co-chaired by two community representatives who also served as medical center Governing Council members. Other members of the CHC included community leaders representing and serving low-income and at-risk populations. Fifty percent of the CHC is comprised of community members and remaining members represent various medical center departments. In 2016, the council voted to ratify a formal charter, outlining its authority, purpose and scope.

Advocate Condell community health staff presented data to the CHC in a series of three meetings over an eight-month period. Advocate Condell worked closely with the Lake County Health Department for the CHNA development. Advocate Condell, along with Advocate Good Shepherd Hospital (Advocate Good Shepherd), commissioned the LCHD to conduct two targeted community surveys in Waukegan and Wauconda.

Advocate Condell consulted with several additional community organizations to inform the medical center of key issues for the CHNA. These included Erie HealthReach Waukegan (a Federally Qualified Health Center—FQHC), Mano a Mano Family Resource Center and the Lake County Opioid Initiative Task Force. Each of the organizations have a focus on medically underserved, low-income and minority populations.

Needs Identified and Priorities Selected

Community health staff presented demographic, economic, education, employment, social determinants of health and health data to the council. These results were coupled with key hospitalization and emergency department (ED) rates pulled from HCI. Key criteria for selection of the top health issues were incidence, prevalence and mortality rates within Lake County, coupled with community opinion and perspective from the surveys and other data sources. The health issues profiled were:

- Cardiovascular Disease
- Diabetes/Kidney Disease
- Obesity
- Mental Health
- Substance Abuse
- Maternal Health

Upon conclusion of the summary and criteria presentation, each CHC member used 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 of the year, CHC members reviewed the progress of current programs and the guidelines for implementation planning. 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.

Mental Health

For the 2014-2016 CHNA, the CHC selected mental health as one of the top health priorities. Advocate Condell is addressing mental health through three strategies. The first strategy is Mental Health First Aid training. Mental Health First Aid is an international evidence-based program, designed to help people recognize individuals with mental health problems and to provide skills to help those who are having a mental health crisis access help. Using the Mental Health First Aid curriculum, Advocate Condell targeted training first responders in Lake County.

In collaboration with Advocate Good Shepherd, Advocate Condell sponsored one Mental Health First Aid (MHFA) session in 2017. Twenty-three participants, including twenty police officers and two fire fighters attended this training. Two fire districts participated and three police districts were represented. Post-survey results indicated that 100 percent of participants reported they were more confident about recognizing and correcting misconceptions about mental health and mental illness. Additionally, 100 percent reported that they knew how to intervene with those at risk for suicide. All participants also reported that they had increased knowledge of de-escalation techniques. Advocate Condell also worked with Advocate Good Shepherd to sponsor one police officer from the Wauconda Police

Department to complete the 40-hour Mental Health First Aid Public Safety Instructor course. This police officer is now teaching Mental Health First Aid to other police officers and first responders in both Lake County and McHenry County.

The second strategy to address mental health was to increase the number of adults who are screened for depression and, if positive, referred to supportive services by health care professionals. 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 Condell screens patients in the ED for depression using the PHQ-9© screening tool.

Advocate Condell has strengthened relationships with the Lake County Health Department and mental health agencies throughout the county with the goal of improving the referral process. Health care professionals refer individuals who screen positive to community and mental health support services. 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.

The third strategy to address mental health was to strengthen Advocate Condell's linkages to community mental health agencies within the service area. In 2017, the Advocate north region director of community health became a member of the Lake County Health Department Behavioral Health Council to establish relationships with additional community mental health providers. In addition, Advocate Condell co-sponsored a joint Mental Health Resource Fair with Advocate Good Shepherd to introduce community mental health agencies and providers to medical center clinical staff. Resource fair attendees learned about services provided and insurance coverage accepted by the community mental health agencies.

Mental health and substance abuse are common co-occurring conditions. Though not specifically selected as a priority, Advocate Condell saw the need to implement a program to address the specific needs of community residents struggling with opioid use disorder. Advocate Condell entered into an agreement with Gateway Foundation Alcohol and Drug Treatment to place a full-time credentialed engagement specialist within the ED to work with patients presenting with opioid use disorder. The goal is to coordinate a direct transfer or referral into substance abuse treatment for patients coming into the ED. Gateway Foundation also employs a Recovery Coach to provide support and community outreach to individuals seeking treatment or in recovery. The program launched in December 2017. In 2018, the Engagement Specialist saw 117 patients. A total of 114 patients (97 percent) were referred for treatment, and of these, 73 patients (64 percent) kept the appointment with the treatment facility.

Obesity

Obesity was selected as the other top priority health issue for the 2014-2016 CHNA. Advocate Condell is addressing obesity in Lake County through three separate evidence-based programs. The first program, the Nutrition and Physical Activity Self-Assessment for Child Care (Go NAP SACC) program, is an evidence-based childcare facility intervention. The Go NAP SACC program is an early intervention program targeting infants through pre-kindergarten and aims to advance the childcare environment by

improving nutrition, physical activity and policies in the childcare center. Advocate Condell is leading the Go NAP SACC assessment process with childcare centers in communities with high SocioNeeds Index® scores within Lake County. The medical center has collaborated with Advocate Good Shepherd and Advocate Sherman Hospital (Advocate Sherman) to make this program a regional initiative. Additionally, Advocate Condell collaborated with the Lake County Health Department, who also was implementing the Go NAP SACC program. Community health staff held two planning meetings with the LCHD and seven additional meetings with community partners. Community health staff also provided a nutritional and physical activity training for home-based Spanish-speaking childcare centers with the LCHD. In addition, community health staff developed a NAP SACC information guide and promotional materials for recruiting childcare centers in the community. In 2017, Advocate Health Care led the launch of a multi-stakeholder Chicagoland coalition to raise funds to bring the web-based Go NAP SACC program to the state of Illinois.

The second obesity-prevention focused program 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 health and developmental consequences associated with FI. Individuals are screened using the Hunger Vital Sign® FI questionnaire and, if identified as food insecure, they are referred to community resources (food pantries, SNAP, meals on wheels, faith community meal programs, farmer's markets, community gardens). In 2017, a comprehensive Food and Nutrition Resource Guide was developed with 45 community resources included. Two different formats of the guide were designed—one for seniors and one for families. Sixteen participants in a diabetes education class held in Round Lake also completed food insecurity screening using the Hunger Vital Sign® screening tool, of which seven (44 percent) were identified as food insecure. Advocate Condell is working with the Northern Illinois Food Bank to enhance resources for food insecure individuals in Lake County, predominantly in areas of higher socioeconomic need. Advocate Condell began collaborating with the YWCA of Lake County, the Antioch Area Alliance for Healthcare Access and Mano a Mano Resource Center to screen their clients for food insecurity, using the Hunger Vital Sign® FI questionnaire.

The third initiative was to collaborate with the LCHD and other organizations to implement the *Let's Move!* walking initiative aimed at increasing physical activity within communities of lower socioeconomic status. To avoid duplication of services in the community, Advocate Condell coordinated the program with the "GO Lake County" walking campaign, which was launched in 2016. In 2017, Advocate Condell identified the Mundelein Park District as a partner to launch the GO Mundelein walking initiative. The official launch date for GO Mundelein was June 30, 2018. By the end of 2018, more than one hundred residents participated in the walks and survey results showed that over 79 percent of participants felt that it was important to have a walking program in their community. Advocate Condell also collaborated with the Round Lake Park District in 2018 to launch the GO Round Lake initiative in 2019.

Input from the Community

After the 2014-2016 CHNA was completed, it was posted on the medical center's website for public comment. Although many feedback mechanisms were put in place for the public to comment or provide input on the CHNA, the medical center did not receive any feedback from the community for the CHNA.

Lessons Learned

Advocate Condell identified three key lessons learned from the previous 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 startup 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. A third lesson learned was to strengthen internal partnerships at Advocate Condell and look for more opportunities to build shared strategies around the identified health priorities. An internal team can also increase program capacity and enhance long-term program sustainability.

IV. 2017-2019 Community Health Needs Assessment

Community Definition

For the 2017-2019 CHNA cycle, Advocate Condell defined the community as Lake County, encompassing all 27 zip codes as displayed in Exhibit 3. The combined population of the Advocate Condell PSA and SSA equals 79.6 percent of the total population of Lake County. Generally, about 75 percent of the Advocate Condell inpatient admissions live in PSA communities and 25 percent live in SSA communities. Given Advocate Condell has admissions from approximately 80 percent of the communities within Lake County, data was utilized for the entire county for purposes of the 2017-2019 CHNA.

Exhibit 3: Lake County Zip Codes and Population 2019

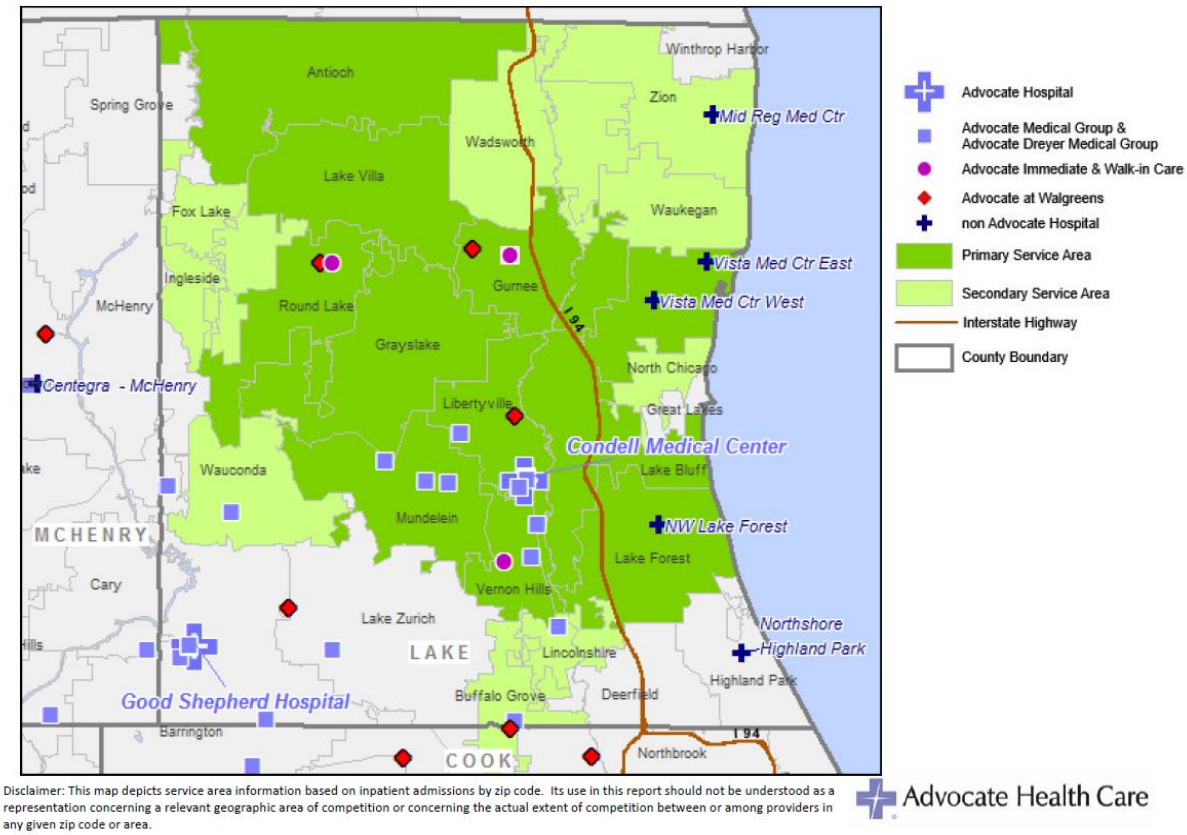
Zip Code	Community	Population
60064	North Chicago	14,371
60085	Waukegan	69,508
60099	Zion	31,346
60087	Waukegan	27,660
60073	Round Lake	60,781
60020	Fox Lake	10,760
60040	Highland Park/Fort Sheridan	5,127
60041	Volo/Fox Lake	9,926
60088	Great Lakes/North Chicago	14,994
60002	Antioch	25,304
60096	Wadsworth	6,535
60060	Mundelein	37,157

60084	Wauconda	17,077
60046	Lake Villa	35,317
60031	Gurnee	38,662
60030	Grayslake	38,086
60083	Beach Park/Wadsworth	9,654
60089	Buffalo Grove	40,433
60061	Vernon Hills	26,610
60044	Lake Bluff/Rondout	9,076
60047	Lake Zurich	41,498
60010	Barrington	44,825
60069	Lincolnshire	8,744
60015	Deerfield	25,900
60048	Libertyville	29,473
60035	Highland Park/Lake Forest	28,807
60045	Lake Forest	19,720

Source: Conduent Healthy Communities Institute, Claritas, 2019

Exhibit 4 displays the Advocate Condell service area of Lake County, with the PSA displayed in darker green and the SSA displayed in lighter green.

Exhibit 4: Advocate Condell Service Area Map 2019



Source: Advocate Aurora Business Development Analytics, 2019

Conduent Healthy Communities Institute

Conduent Healthy Communities Institute (Conduent HCI) was a key source of data for the Advocate Condell 2019 CHNA. All data collected through Conduent HCI was quantitative and included data comparisons between communities (zip codes) and counties in Illinois. These comparisons were exemplified in the form of community dashboards, which provided great insight on the health status of the medical center's community in comparison to other counties and communities in Illinois.

Advocate Health Care has a current contract with Conduent HCI. This robust platform contains 198 health and demographic indicators, including 38 hospitalization and ED visit indicators at the service area and zip code levels. Utilizing the Illinois Hospital Association COMPdata, Conduent HCI summarizes, age adjusts and averages the hospitalization and ED data for five-time periods from 2009-2017. The program also provides 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.

Conduent HCI provides a color code system that illustrates comparison of indicators across counties, service areas and zip codes.

Green (Good):	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.
Yellow (Fair):	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.
Red (Poor):	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 the Advocate Condell CHNA report, secondary data was pulled for Lake County. Throughout this CHNA document, indicators may be referred to as being green, yellow or red indicators, in reference to the above value ratings from Conduent Healthy Communities Institute. Additionally, indicators will be referenced in terms of their change over time. Trends that are increasing or decreasing at a statistically significant rate will be referred to as having a "statistically significant increase" or "statistically significant decrease." Trends that are not changing at a statistically significant rate will be referred to as "increasing" or "decreasing."

Population

Total Population and Percent Change

As of 2019, the total population in Lake County is 703,068 persons. From 2010 through 2019, Lake County has had a 0.06 percent decrease in population, slower than the 0.46 percent decrease in the state of Illinois. Neighboring counties such as Cook County (0.05 percent), McHenry County (0.33

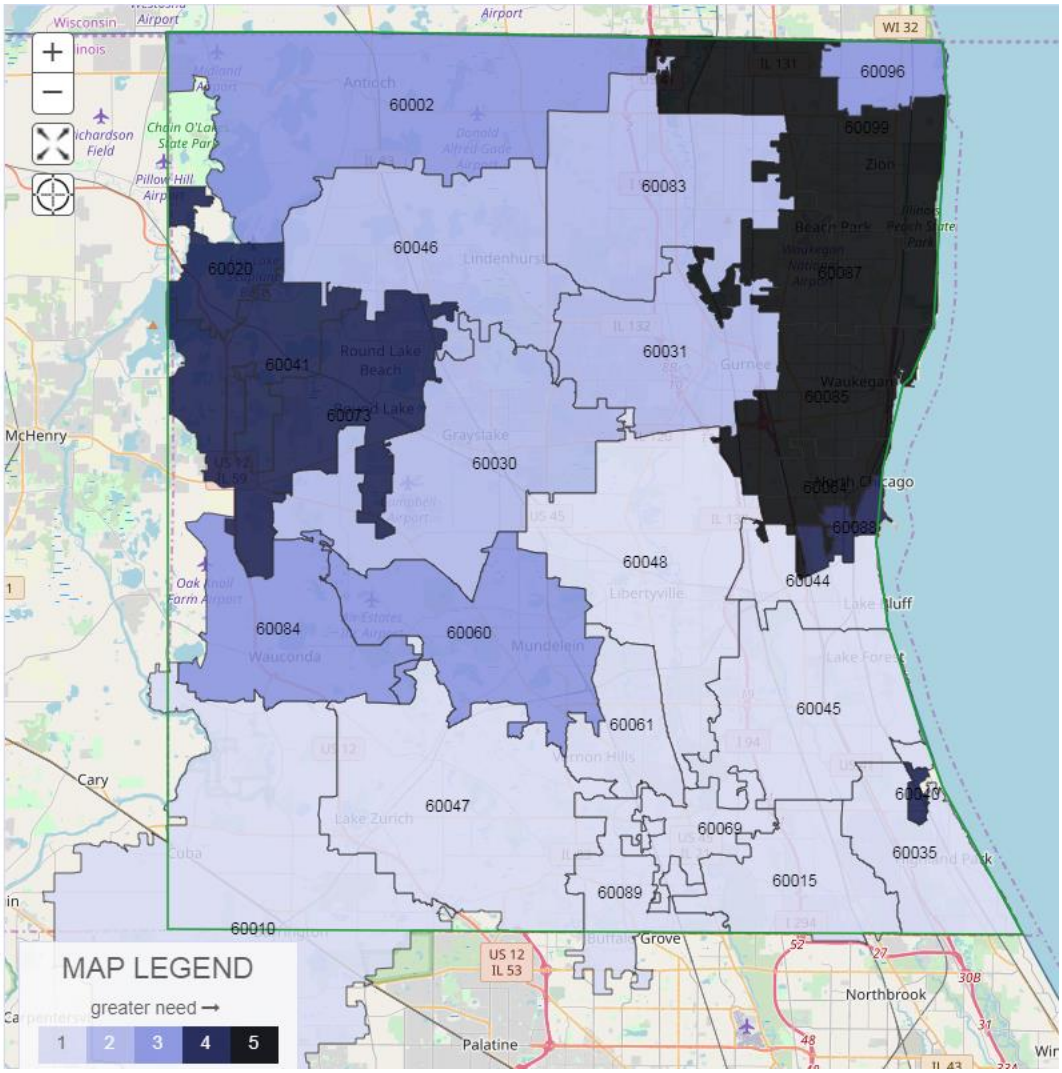
percent) and Kane County (4.51 percent) have experienced growth in population. The largest communities in Lake County (with over 40,000 persons) are zip codes 60085 Waukegan (69,508 persons); 60073 Round Lake (60,781 persons); 60010 Barrington (44,825 persons); 60047 Lake Zurich (41,498 persons) and 60089 Buffalo Grove (40,433 persons) (Healthy Communities Institute, Claritas, 2019).

Social Determinants of Health: SocioNeeds Index

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 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 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 Indices with the darker colors. There are several communities within Lake County that have greater socioeconomic needs compared to other communities in the county.

The communities of North Chicago (60064), Waukegan (60085), Zion (60099) and Waukegan (60087) are the highest need communities in Lake County. This means generally that the residents of these communities have higher rates of poverty and unemployment, lower education levels and a higher percentage who speak a language other than English at home. These communities are portrayed with the darkest shading in the SocioNeeds Index map in Exhibit 5.

Exhibit 5: SocioNeeds Index Map of Lake County 2019



Source: Conduent Healthy Communities Institute, 2019

Demographics

Median Age

The median age in Lake County is 38.5 years. When compared to the median age of women (40.1 years), the median age for Lake County men (36.9 years) is lower. Approximately 24 percent of the Lake County population is under 18 years of age and 16 percent of the population is 65 years and older. Sixty percent of the population in Lake County is between 18 and 65 years of age. Exhibit 6 displays the Lake County population by age groups (Conduent Healthy Communities Institute, Claritas, 2019).

Exhibit 6: Lake County Population by Age Group 2019

Population by Age Group	County: Lake	
	Persons	% of Population
0-4	41,365	5.88%
5-9	44,194	6.29%
10-14	49,771	7.08%
15-17	32,056	4.56%
18-20	33,969	4.83%
21-24	42,528	6.05%
25-34	78,067	11.10%
35-44	84,774	12.06%
45-54	98,614	14.03%
55-64	97,505	13.87%
65-74	61,567	8.76%
75-84	26,839	3.82%
85+	11,819	1.68%

Source: Conduent Health Communities Institute, Claritas, 2019.

When examining the median age for the four highest need communities in Lake County—North Chicago (60064), Waukegan (60085), Zion (60099) and Waukegan (60087)—all four communities have a lower (younger) median age than the Lake County median age. Furthermore, the median age for each of these four communities (all of which have the *highest* SocioNeeds Index ranking of 5) is younger than the median age for each of the ten communities in the county with the *lowest* SocioNeeds Index ranking of 1, as shown in Exhibit 7.

Exhibit 7: Median Age Comparison of Lake County Communities by SocioNeeds Index Ranking 2019

Community	ZIP Code	SocioNeeds Ranking	Median Age
North Chicago	60064	5	31.5
Waukegan	60085	5	32.8
Zion	60099	5	35.9
Waukegan	60087	5	32.8
Buffalo Grove	60089	1	45.6
Vernon Hills	60061	1	40.9
Lake Bluff	60044	1	45.8
Lincolnshire	60069	1	51.2
Lake Zurich	60047	1	43.8
Barrington	60010	1	47.4
Highland Park/Lake Forest	60035	1	46.7
Deerfield	60015	1	42.9
Libertyville	60048	1	45.7
Lake Forest	60045	1	47.2
Lake County			38.5

Source: Healthy Communities Institute, Claritas, 2019

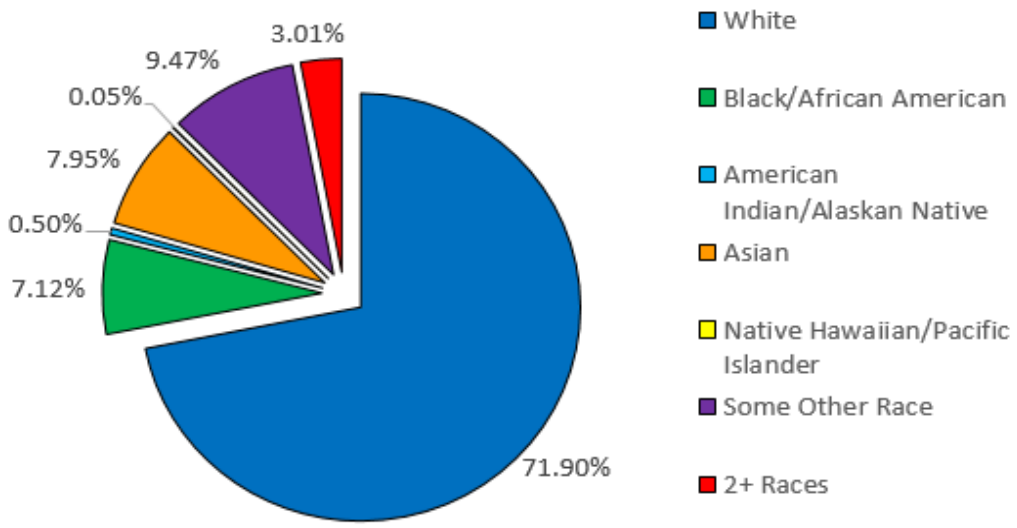
Gender

By gender, women account for 50.1 percent of the Lake County population and men account for 49.9 percent of the population (Conduent Healthy Communities Institute, Claritas, 2019).

Race

By race, the largest group in Lake County is the White population (71.9 percent). The second largest group are those that identify as some other race (9.5 percent). However, Lake County is also comprised of 7.9 percent Asian; 7.1 percent Black/African American; 0.5 percent American Indian/Alaskan Native; 3.0 percent two or more races and 0.1 percent Native Hawaiian/Pacific Islander (Conduent Healthy Communities Institute, Claritas, 2019). Exhibit 8 displays the breakdown of the Lake County population by race.

Exhibit 8: Lake County Population by Race 2019

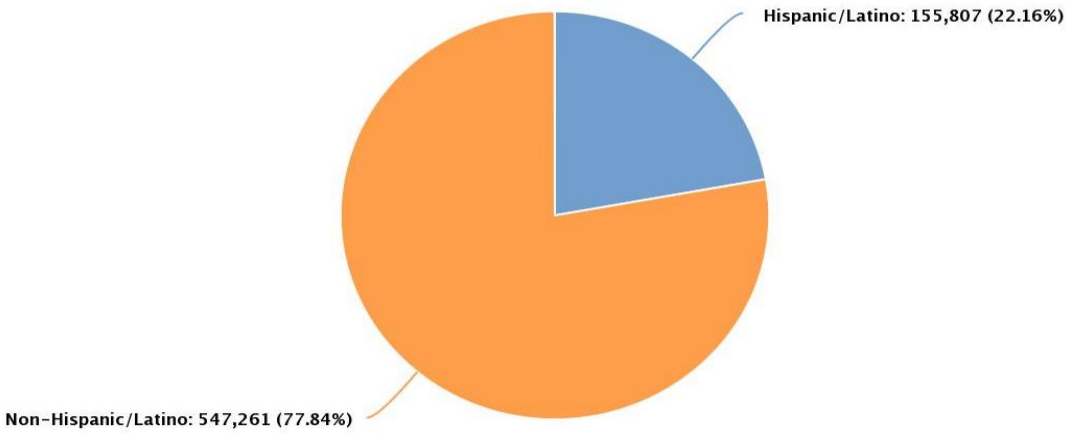


Source: Conduent Healthy Communities Institute, Claritas, 2019

Ethnicity

By ethnicity, 22.2 percent of the Lake County population is Hispanic/Latino and 77.8 percent is non-Hispanic/Latino, as shown in Exhibit 9 (Conduent Healthy Communities Institute, Claritas, 2019). Exhibit 9 displays the breakdown of the Lake County population by ethnicity.

Exhibit 9: Lake County Population by Ethnicity 2019

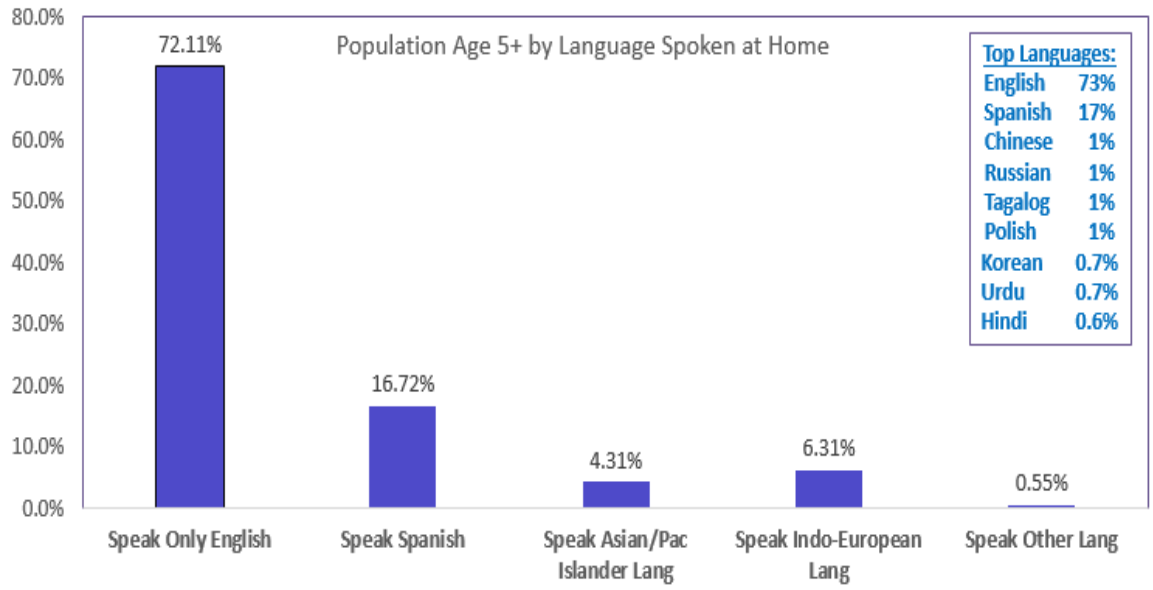


Source: Conduent Healthy Communities Institute, Claritas, 2019

Language Spoken at Home

English is the predominant language spoken by individuals in Lake County (72.1 percent) ages 5 and older, followed by Spanish (16.7 percent), Indo-European languages (6.3 percent), Asian/Pacific Islander languages (4.3 percent) and other languages (0.55 percent). Exhibit 10 displays the top languages spoken at home by Lake County residents, ages 5 and older.

Exhibit 10: Lake County Population by Language Spoken at Home Ages 5 and Older 2019



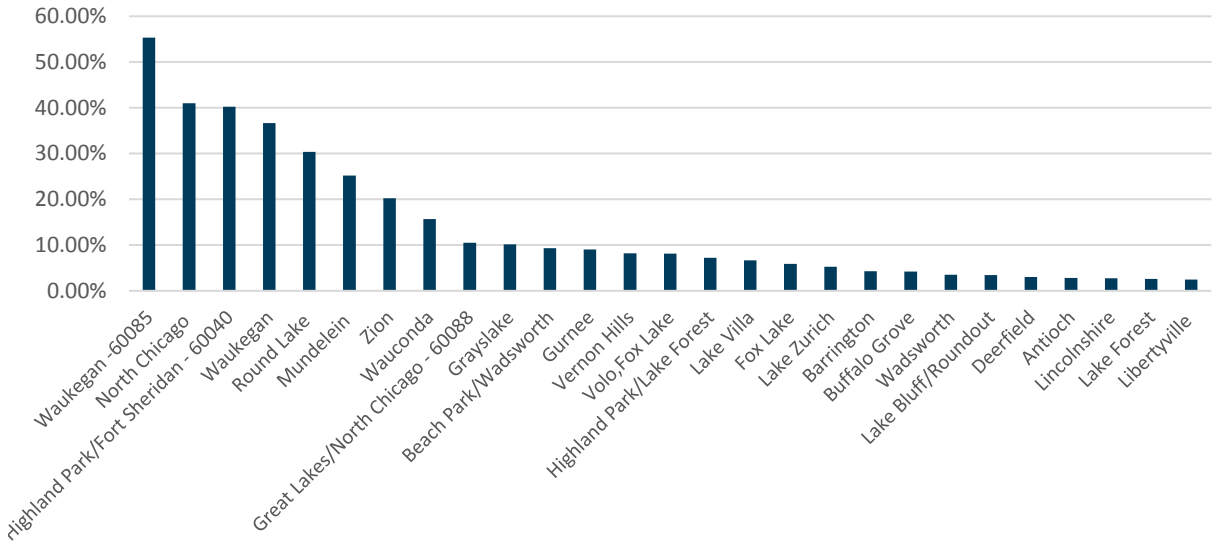
Source: Conduent Healthy Communities Institute, Claritas, 2019; Top Languages: American Community Survey, 2017

The following are observations about languages spoken in Lake County by residents ages five and older:

- By community, Wadsworth (93.4 percent), Antioch (91.4 percent) and Lake Forest (88.2 percent) are the top English-speaking communities in Lake County.
- The highest Asian/Pacific Islander language-speaking communities in Lake County are Lincolnshire (13.0 percent) and Vernon Hills (13.0 percent).
- The community of Vernon Hills has the largest Indo-European language-speaking population (16.1 percent), followed by Lincolnshire with 13.1 percent.
- The top three Spanish-speaking communities are Waukegan (60085) (55.3 percent); North Chicago (60064) (40.9 percent) and Highland Park/Fort Sheridan (60040) (40.2 percent).
- Although 22.2 percent of the Lake County population is Hispanic/Latino, only 16.7 percent speak Spanish at home.

Exhibit 11 displays the percentage of population ages five and older that speak Spanish at home for each of the 27 zip codes in Lake County.

Exhibit 11: Percent of Lake County Population Age 5+ that Speak Spanish at Home by Zip Code 2019



Source: Conduent Healthy Communities Institute, Claritas, 2019

Household/Family

Number of Households and Average Household Size

In Lake County, there are 245,275 households; 40.8 percent of the total households have children. The average household size in Lake County is 2.79 persons per household. Lake County has 100,032 households with children, which is 40.78 percent of the total households (Conduent Healthy Communities Institute, Claritas 2019).

Single-Parent Households

The rate of single-parent households in the county is experiencing a statistically significant increase. Data from the 2007-2011 American Community Survey shows that 21.5 percent of all households had a single parent. However, single parent households increased to 24.2 percent in the 2013-2017 survey (Conduent Healthy Communities Institute, American Community Survey, 2013-2017).

In Fox Lake, 51.1 percent of family households are single-parent households (the highest in Lake County), followed by North Chicago (48.6 percent), Waukegan (60085) (44.5 percent), Zion (43.7 percent) and Waukegan (60087) (43.6 percent). All of these communities have rates of single parent households that are in the worst 25th percentile (red indicator) in comparison to other Illinois zip codes (Conduent Healthy Communities Institute, American Community Survey, 2013-2017).

Seniors (ages 65 and older) Living Alone

According to 2013-2017 American Community Survey data, 24.7 percent of people 65 years of age and older are living alone in Lake County. This percentage is showing a statistically significant decrease over time. Lake County remains in the best 0-50th percentile (green indicator) when compared to the state rate (28.5 percent) and U.S. rate (26.2 percent).

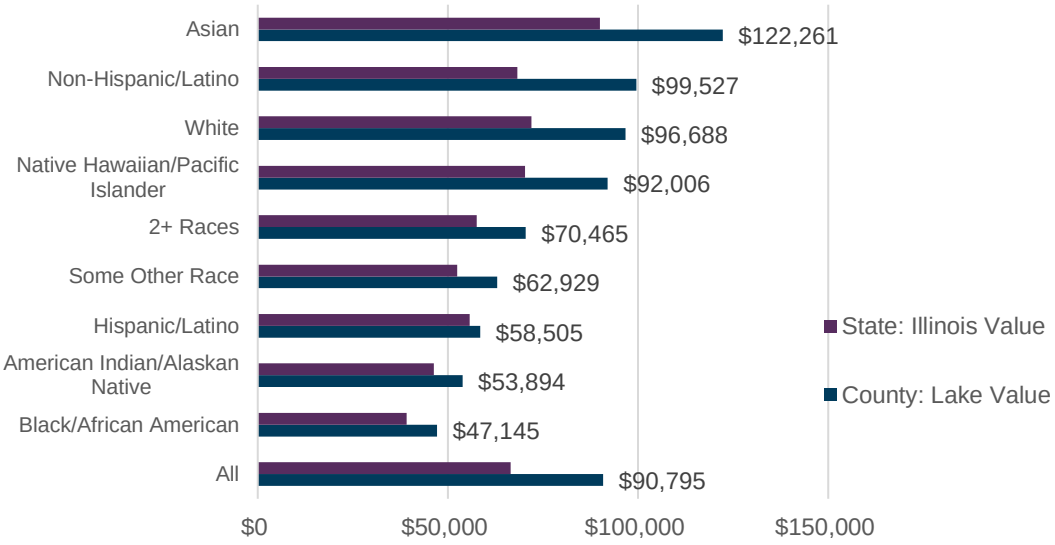
The top three communities with the highest percentage of people 65 years of age and older living alone are Fox Lake (43.7 percent), Grayslake (34.8 percent) and Wauconda (33 percent) (Conduent Healthy Communities Institute, American Community Survey, 2013-2017).

Economics

Median Household Income

In Lake County, the median household income is $90,795. The Lake County median household income varies greatly by race and ethnicity, as shown in Exhibit 12. Asians have the highest median household income and African Americans or Blacks have the lowest median household income (Conduent Healthy Communities Institute, Claritas, 2019).

Exhibit 12: Lake County Median Household Income by Race and Ethnicity 2019



Source: Conduent Healthy Communities Institute, Claritas, 2019

People Living Below Poverty Level

According to the 2013-2017 American Community Survey, 8.5 percent of people in Lake County are living below the Federal Poverty Level (FPL); the prior rate was 8.9 percent. When compared to the Illinois rate (13.5 percent) and the U.S. rate (14.6 percent), Lake County is in the best 0-50th percentile. The 2018 FPL guidelines indicate individuals making less than $25,400 for a family of four are

considered to be living in poverty. The female poverty rate (9.2 percent) is higher than the male poverty rate (7.8 percent).

People living below poverty level varies by race and ethnicity as well. In Lake County, 23.6 percent of the Black or African American population is living below the poverty level, the highest in the county, followed by 15.2 percent of Hispanic or Latino population. The communities with the highest percentage of residents living below the poverty level are North Chicago with 27 percent, Waukegan (60085) with 20.4 percent and Zion with 17.9 percent (Conduent Healthy Communities Institute, American Community Survey, 2013-2017).

Children Living Below Poverty Level

In Lake County, 11.5 percent of children ages 0 to 17 are living below the poverty level. Lake County is in the best 0-50th percentile (green indicator) when compared to Illinois (18.8 percent) and the U.S. (20.3 percent). However, of note is that 13.6 percent of children under age 6 are living below the poverty level in Lake County.

By race and ethnicity, the highest percentage of children living below the FPL are among the Black or African American population (35.0 percent), individuals that identified as Other Race (20.7 percent) and the Hispanic or Latino population (20.3 percent). North Chicago has the highest level, with 38 percent of children living below the poverty level, followed by Waukegan (60085) with 30.2 percent and Highland Park/Fort Sheridan (60040) with 28.6 percent (Conduent Healthy Communities Institute, American Community Survey, 2013-2017).

Individuals with Disabilities Living Below Poverty

In Lake County, 13.8 percent of individuals (ages 20 to 64 years) with any disability are living below the poverty level. Over time, the Lake County percentage has been decreasing; the prior value was 21.7 percent. Lake County is in the best 0-50th percentile and has a lower percentage of persons with disability living below the FPL when compared to Illinois (25.5 percent) and the U.S. (26 percent) (Conduent Healthy Communities Institute, American Community Survey, 2017).

Exhibit 13 provides a profile of the percent of Lake County individuals with disabilities living below poverty compared to Illinois and the U.S.

Exhibit 13: Lake County Percent of Persons with Disability Living Below Poverty as Compared to State of IL and the U.S. 2017

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

People 65+ Years Living Below Poverty Level

The percentage of older adults (ages 65 years and older) living below the FPL is 6.2 percent, which is increasing at a statistically significant level. Despite the increase, Lake County remains in the best 0-50th percentile, and is below the Illinois value (8.8 percent) and the U.S. value (9.3 percent).

By gender, a lower percentage of older adult males (4.6 percent) than older adult females (7.6 percent) are living below the poverty level. Racial and ethnic disparities also exist—the highest percentage of older adults living below the FPL are Hispanics or Latinos (15.6 percent), Blacks or African Americans (10.3 percent) and Asians (9.7 percent) (Conduent Healthy Communities Institute, American Community Survey, 2013-2017).

Employment

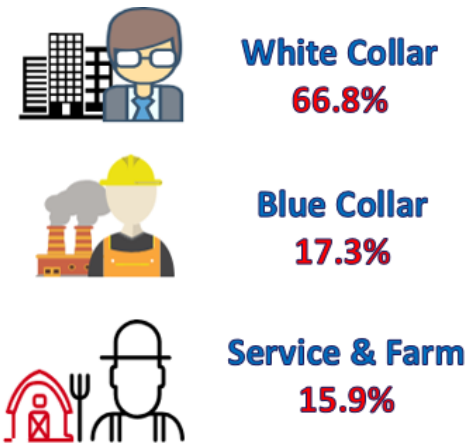
Unemployment

The percent of the total labor force that is unemployed in Lake County is 5.6 percent, lower than the unemployment rate for Illinois of 6.7 percent. For Lake County, the communities with the highest unemployment rates are North Chicago (30.3 percent), Zion (8.9 percent) and Fox Lake (8.7 percent). The unemployment rate does not vary greatly by gender; 5.8 percent of men are unemployed and 5.3 percent of women are unemployed in Lake County (Conduent Healthy Communities Institute, Claritas, 2019).

Top Industries for Employment

Sixteen percent of the employed population in Lake County (16 years of age and older) work in manufacturing, 11.9 percent in retail trade and 10.8 percent in health care or social assistance. Exhibit 14 breaks down the Lake County employed population by occupation group—67 percent of Lake County civilians (age 16 years and older) are working in white-collar jobs (Conduent Healthy Communities Institute, Claritas, 2019).

Exhibit 14: Lake County Employed Civilians Age 16 and Older by Occupation Group 2019



Source: Conduent Healthy Communities Institute, Claritas, 2019

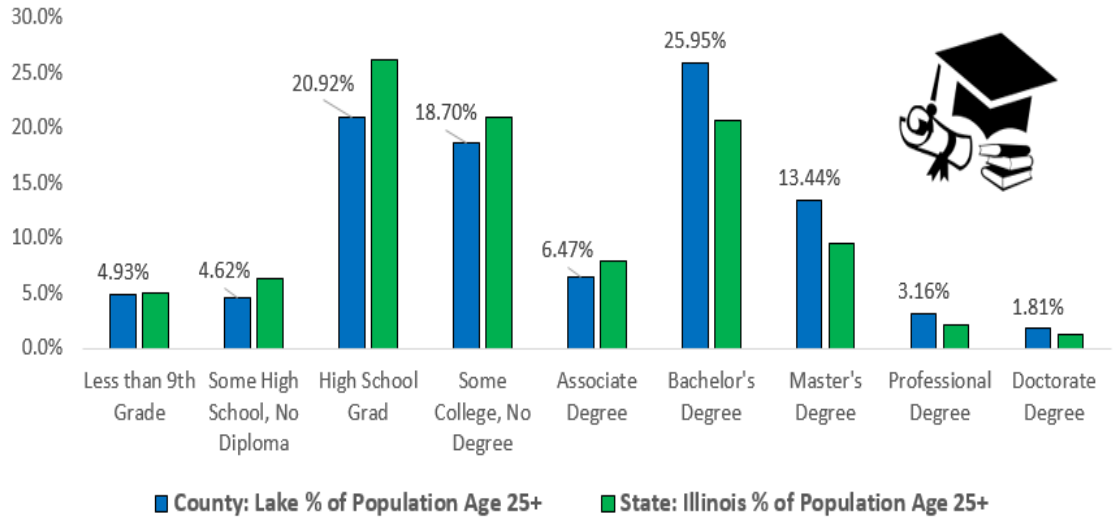
Education

Educational Attainment

Exhibit 15 shows that 44.4 percent of people ages 25 and older in Lake County have a bachelor's degree or higher. On the other end of the spectrum, 9.6 percent of the county's population has less than a high school diploma.

The communities with the lowest percentage of residents (ages 25 and older) with a bachelor's degree or higher are North Chicago at 11.4 percent, Waukegan (60085) at 14.4 percent and Zion at 17.3 percent. The rate of residents with a bachelor's degree for North Chicago is in the worst 25th percentile (red indicator) compared to other Illinois zip codes. Of note is that North Chicago also has 15 percent and Waukegan (60085) has 17.5 percent of its residents with less than a ninth grade education (Conduent Healthy Communities Institute, Claritas, 2019).

Exhibit 15: Lake County Population Age 25 and Older by Educational Attainment 2019



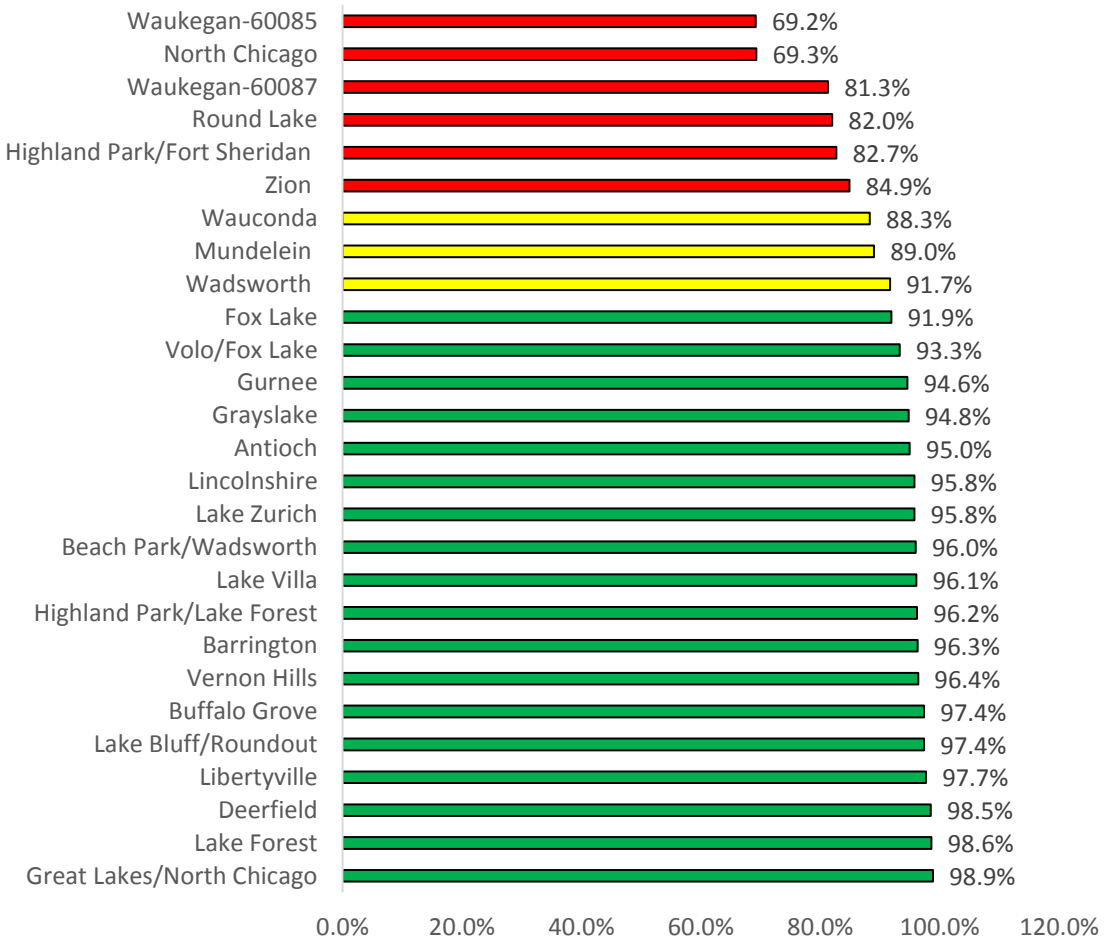
Source: Conduent Healthy Communities Institute, Claritas, 2019

High School Diploma Attainment

Approximately 90.3 percent of adults, ages 25 and older, have completed at least a high school degree or equivalent in Lake County. The percentage of Lake County adults who complete high school is higher than Illinois (88.6 percent) and the U.S. (87.3 percent). Over time, the rate has been on a statistically significant increase, from 88.6 percent in 2011 to 90.3 percent in 2017.

Six communities in Lake County have less than 87.4 percent of their population with a high school diploma or equivalent, which places them in the worst 25th percentile (red indicator) when compared to other zip codes in Illinois. These communities are shown in Exhibit 16 as red bars. The two communities with the lowest percentage of adults (ages 25 and older) with a high school diploma or equivalent are Waukegan (60085) at 69.2 percent and North Chicago at 69.3 percent (Conduent Healthy Communities Institute, American Community Survey, 2013-2017).

Exhibit 16: Lake County Population Ages 25 and Older with High School Degree by Zip Code 2013-2017



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

High School Graduation Rates

In Lake County, 89.7 percent of students graduated high school within four years of their first enrollment in 9th grade. The Lake County high school graduation rate is a green indicator (in the best 0-50th percentile) compared to Illinois counties. The Lake County graduation rate is higher than the state (85.6 percent) and U.S. rate (83.2 percent). Lake County is also exceeding the Healthy People 2020 target of 87 percent. The high school graduation rate in Lake County is showing a statistically significant increase (Conduent Healthy Communities Institute, County Health Rankings, 2014-2015).

Student-to-Teacher Ratio

This indicator shows 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, which is in the best 0-50th percentile when compared to other counties in Illinois. In Illinois, the rate is 15.7 students per teacher. The rate is increasing at a statistically significant level, when compared to the 2013-2014 National Center for Education Statistics of 18.2 students per teacher (Conduent Healthy Communities Institute, National Center for Education Statistics, 2016-2017).

Health Care Resources in the Defined Community

Advocate Condell's community health staff identified key health care resources within Lake County. These health care resources are listed below.

Name of Facility	Type of Facility	Location
Lake County Health Department	FQHC/Public Health Department	County-wide locations
Erie HealthReach Waukegan	FQHC	Waukegan
Fenix Clinic	Non-profit clinic	Highland Park
Northwestern Lake Forest	Hospital/Standalone ER	Lake Forest and Grayslake
Vista Health System	Hospital/Standalone ER	Waukegan/Lindenhurst
NorthShore University Health System	Hospital	Highland Park
Oak Street Health	Outpatient clinic for Medicare population	Waukegan

Key Findings: Community Definition

- In Lake County, North Chicago (60064), Waukegan (60085), Zion (60099) and Waukegan (60087) have the highest SocioNeeds ranking of 5, indicating that they are communities with higher socioeconomic needs.
- North Chicago, Waukegan (60085), Zion and Waukegan (60087), all have a younger median age than the Lake County median age.
- English (72 percent) is the dominant language spoken in Lake County, followed by Spanish (17 percent). The communities with the highest percentage of residents speaking Spanish at home are Waukegan (55.2 percent), North Chicago (40.9 percent) and Highland Park/Fort Sheridan (40.2 percent).
- The top three communities with the highest percentage of people 65 years of age and older living alone are Fox Lake (43.7 percent), Grayslake (34.8 percent) and Wauconda (33 percent).
- Asians have the highest median household income in Lake County at $122,261, which is 2.6 times higher than the median household income for African Americans at $47,145, the lowest median household income in the county.
- For Lake County, the communities with the highest unemployment rates are North Chicago (10.3 percent), Zion (8.9 percent) and Fox Lake (8.8 percent).
- The two communities with the lowest percentage of the population (ages 25 and older) with a high school degree or higher are Waukegan (60085) at 69.2 percent and North Chicago at 69.3 percent.

Key Roles in the 2017-2019 Community Health Needs Assessment

Advocate Aurora System and Advocate Condell Leadership

The Advocate Condell community health staff includes a part-time community health coordinator and a regional director of community health, covering 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 the community health programs are under the leadership of the Advocate Aurora chief external affairs officer. Locally, the Advocate Condell community health coordinator and the director of community health meet monthly with the director of service excellence and population health. Additionally, the community health staff meet regularly with the medical center's president to coordinate and align strategy for community health interventions.

Governing Council

The Advocate Condell Governing Council is comprised of 15 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 serves as co-chair of the CHC to ensure coordination of information. The Governing Council reviewed and approved the recommended health need priorities from the CHC on June 26, 2019, and later approved the full Advocate Condell 2019 CHNA Report on October 23, 2019.

Community Health Council

The CHC is co-chaired by two community representatives, one of which also serves as a Governing Council member of the medical center. The CHC is comprised of fourteen community members, representing 74 percent of the total membership. Non-Advocate-affiliated members represent the Lake County Health Department, a Federally Qualified Health Center, a faith-based organization, area school districts, the American Cancer Society, social service agencies, the Lake County Drug and Alcohol Prevention Task Force and law enforcement. Advocate Condell staff members serving on the CHC include representatives from the executive team, cardiac center, diabetes center, and business development and strategy department.

The affiliations and titles of the Advocate Condell Community Health Council members are provided in the following list. CHC members with an asterisk (*) represent low-income and/or minority populations. CHC members with a double-asterisk (**) represent medically underserved populations.

2017-2019 Advocate Condell Community Health Council Members

Members from the Community

- Libertyville School District, Retired School Principal, (CHC Co-Chair) and Advocate Condell Governing Council member
- American Cancer Society, Senior Market Manager, Community Engagement
- Mundelein Ivanhoe Congregational Church, Lead Pastor, (CHC Co-Chair)
- Libertyville School District 70, Superintendent
- Village of Libertyville, Economic Development Coordinator
- Village of Mundelein, Chief of Police
- Mundelein Park District, Superintendent of Recreation
- Community Resident of Lake County
- Mano a Mano Family Resource Center, Project Coordinator *
- Waukegan Public Library, Functional Health Literacy Program Coordinator *
- Lake County Housing Authority, Executive Director *
- Youth Family Counseling, Executive Director **
- Lake County Health Department, Director of Prevention **
- Erie Family Health Center, Director HCO Waukegan **

Members from Advocate Aurora

- Advocate Aurora, Director of Community Health, North Region
- Advocate Condell, Vice President for Clinical Excellence
- Advocate Condell, Community Health Coordinator
- Advocate Condell, Vice President of Clinical Service Lines and Support Services
- Advocate Condell, Director, Cardiovascular Services
- Advocate Condell, Director of Nursing and Clinical Operations
- Advocate Condell, Dietitian for Diabetes Care Center

Advocate Condell's community health staff presented data in a series of four meetings over a four-month period. Extensive demographic data and health data was presented during the first three meetings. On the fourth and final meeting, CHC members voted using a modified Hanlon Method to select the top two health priorities to focus on in the 2020-2022 implementation plan period. Obesity and substance abuse were selected.

Collaboration with Lake County Health Department

Advocate Condell community health program staff collaborated with the Lake County Health Department (LCHD) to administer a survey to assess the current health status of two communities in Lake County. These communities are Gurnee (60031), and Northwest Lake County including 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. Responses were

collected and weighted for different demographic features including age and sex of the respondents. The survey had 662 respondents—401 from Gurnee and 261 from Northwest Lake County. The 2019 survey results were compared to values from a previous survey conducted by the health department for a 2018 CHNA and the survey conducted on behalf of the Live Well Lake County Steering Committee in 2015 for the creation of the Community Health Improvement Plan. The results of these surveys serve as a pulse for the health challenges facing Lake County communities.

Collaboration with Other Key Stakeholders

Advocate Condell also consulted with a number of additional partner organizations on the medical center's CHNA. These included two partner Federally Qualified Health Centers (Lake County Health Department and Erie HealthReach Waukegan), the Lake County Opioid Task Force and the Healthcare Foundation of Northern Lake County. Each of the organizations have a focus on medically underserved, low-income and minority populations.

Methodology

Timeline

For the CHNA process, Advocate Condell gathered a variety of primary and secondary data from 2017 through 2019. This data was presented to the medical center's CHC over a period of three meetings and included demographic, economic, education, employment and health data. In the April 2019 meeting, CHC members selected the top two health priorities for the 2020-2022 implementation plan. The Advocate Condell Governing Council approved these priorities on June 26, 2019. The Governing Council approved the full 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 Condell collaborated with many partners to collect 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, County Health Rankings, Illinois State Department of Public Health, Illinois Hospital Association and the Conduent Healthy Communities Institute.

Primary Data

Specific health issues and opinions of the community were gathered for the CHNA from the following primary data source(s):

- Focus groups and one-on-one interviews conducted as part of the Healthcare Access in Northern Lake County, April 2019 Study
- Targeted geographic survey conducted as part of the Lake County Health Department CHNA, 2019

- Strengths, Weakness, Opportunities, Threats (SWOT) analysis facilitated by the Lake County Health Department of local Lake County stakeholders who serve on the Advocate Condell CHC, 2019

Health Care Access in Northern Lake County, April 2019

The Healthcare Foundation of Northern Lake County supports efforts that improve access to health services for underserved Lake County, Illinois residents. The priority service area for the foundation includes the communities of Antioch, Fox Lake, Grayslake—Third Lake, Great Lakes, Gurnee, and Lake Villa—Lindenhurst, North Chicago, Round Lake, Wadsworth, Waukegan and Zion. As part of the Healthcare Foundation's 2019 CHNA, both focus groups and one-on-one interviews were conducted to thoroughly understand healthcare access in northern Lake County. Focus groups and interviews with community members raised many issues that affect healthcare access, however, communication problems with medical providers and transportation were the most frequently expressed.

Health Care Access in Northern Lake County Focus Groups

The focus groups tried to reach residents who were themselves typical users of health care and who were representative of northern Lake County in terms of their area of residence, race/ethnicity and level of personal income. Standardized questions were used for consistency. More than 60 individuals participated in the focus groups, including:

- Seniors at Park Place Senior Center in Waukegan
- Latino residents at Mano a Mano Family Resource Center in Round Lake
- Community leaders in the Fox Lake area
- Persons associated with the National Black Nurses Association

Primary findings of the focus groups (in the order of most to least often mentioned) were related to:

- Communication problems
- Transportation
- System navigation
- High cost of care
- Wait for care
- Oral health, mental health and specialty care

Health Care Access in Northern Lake County One-on-One Interviews

Individual interviews were held with 15 local community experts, primarily working in the health or human service sector. Issues identified in the interviews included:

- Providers reporting increased collaboration and growing trend toward co-location
- Importance of programs that divert adults with mental health and/or substance abuse problems from incarceration
- Efforts by service organizations to branch out to new types of programs/more wellness programs or models
- The lack of providers in northwestern Lake County
- Need for additional accessible mental health services

- Medicaid is hard for patients to understand and use
- Immigrants are increasingly fearful of using health-related services

The results of the focus groups and interviews highlight key health issues in northern Lake County. Although this primary data represents issues for only a portion of Lake County, the report provided important input for the medical center's CHNA.

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. The surveyed areas included Gurnee (60031) and northwest Lake County (NWLC), which include 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 (CDC) Behavioral Risk Factor Surveillance System's (BRFSS) 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.

Lake County Health Department Survey Highlights

The following are some highlights from the 2019 survey findings.

- Although the percentage of Lake County residents who report their health as "very good" or "excellent" dipped from 78 percent in 2015 to 75 percent in 2019, a higher percentage of the Gurnee and NWLC residents had positive views on their general health in 2019, at 67 percent and 81 percent, respectively.
- High blood pressure or hypertension was the most prevalent physical health diagnosis reported by both Gurnee (29 percent) and NWLC (28 percent) residents in 2019. In 2018, 33 percent of Lake County residents indicated they had high blood pressure.
- In 2019, 42 percent of Gurnee residents stated that their mental health was not good for one or more days in the past month, worse than NWLC residents (39 percent). The rate for Lake County respondents was 36 percent in both 2018 and 2015.
- From the 2019 survey, thirty-five percent of NWLC residents reported binge drinking one or more times in the past 30 days, worse than the Gurnee rate of 24 percent. Thirty-one percent of Lake County respondents in the 2018 survey reported binge drinking and the rate was 28 percent for Lake County respondents in 2015.

The 2019 Lake County Health Department CHNA report included survey results for other key areas, such as access to health care, disabilities, social and community context, economic stability and physical environment. The results of the surveys serve as a pulse for the health challenges facing Lake County and specific communities in central and northwest Lake County.

CHC SWOT Analysis

As a supplemental assessment, Advocate Condell and the LCHD's Prevention team facilitated a Strengths-Weaknesses-Opportunities-Threats (SWOT) analysis with the Advocate Condell CHC members. The goal was to collect qualitative input on key health issues from the variety of community stakeholders that make up the council. Appendix 5 contains an infographic summary of the results. A brief summary of the SWOT analysis is presented below.

CHC-Identified Strengths

Advocate Condell's CHC recognized that Lake County has many strengths, primarily around community health and partnership coalitions. The top reoccurring themes for strengths were access to quality education, strong focus on community health, access to quality healthcare services and hospitals, community partnerships, access to nature, access to food pantries and strong collaborations on mental health awareness.

CHC-Identified Weaknesses

A major weakness identified in Lake County was transportation, which reduces access to health care services for Lake County residents. High-uninsured rates for certain populations in Lake County was also a major theme. Additionally, the council identified underage trends—such as vaping in teens and marijuana abuse as a major weakness in policy. Other issues were lack of affordable housing, disparities for populations in specific communities and pollution.

CHC-Identified Opportunities

Opportunities were themed around awareness, coordination and outreach. The CHC identified opportunities to increase awareness around mental health, such as anti-stigma campaigns, youth mental health awareness and physician awareness on mental health. Additionally, the council identified opportunities to enhance coordination of volunteer-based programs for the community to engage both youth and adults in Lake County. Lastly, opportunities to enhance outreach were mentioned, such as school education, health promotion, faith communities and building on existing programs, such as the community health worker (CHW) program.

CHC-Identified Threats/Challenges

Emerging threats in Lake County revolved around prescription medication overdose and the aging population. The opioid crisis has also increased in Lake County. In certain communities, violence was noted as much more prevalent. Hate crime and discrimination was also identified as a growing threat for certain racial and ethnic groups in Lake County. While social media has increased the ability to communicate, it is also a threat to both youth and adults for cyber-bullying and discrimination.

The results of this SWOT analysis were incorporated into the Advocate Condell 2017-2019 CHNA.

Health Status

Mortality Ranking

Mortality ranking indicates the ranking of the county in length of life according to the County Health Rankings and is based on a measure of premature death. A lower number (1 or 2) is considered the healthiest. Lake County has a ranking of 6 in overall length of life and is in the best 0-50th percentile (green indicator) when compared to other Illinois counties; DuPage County is ranked first in Illinois (Conduent Healthy Communities Institute, County Health Rankings, 2019).

Morbidity Ranking

According to the County Health Rankings, Lake County is ranked 19th in quality of life—placing it in the best 0-50th percentile (green indicator) compared to other Illinois counties. As stated earlier, a lower number (1 or 2) is considered healthiest. The ranking is based on a summary composite score calculated from the following measures: poor or fair health, poor physical health days, poor mental health days and low birthweight. In 2013, Lake County was ranked 52nd; the ranking has improved over time (County Health Rankings, 2018).

Top Causes of Death

The Lake County Health Department provided Advocate Condell with the top causes of death in Lake County (original source: Illinois Department of Public Health, Vital Statistics, 2017). The top three causes of death in Lake County by crude count were:

- Heart Disease
- Cancer
- Dementia

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

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

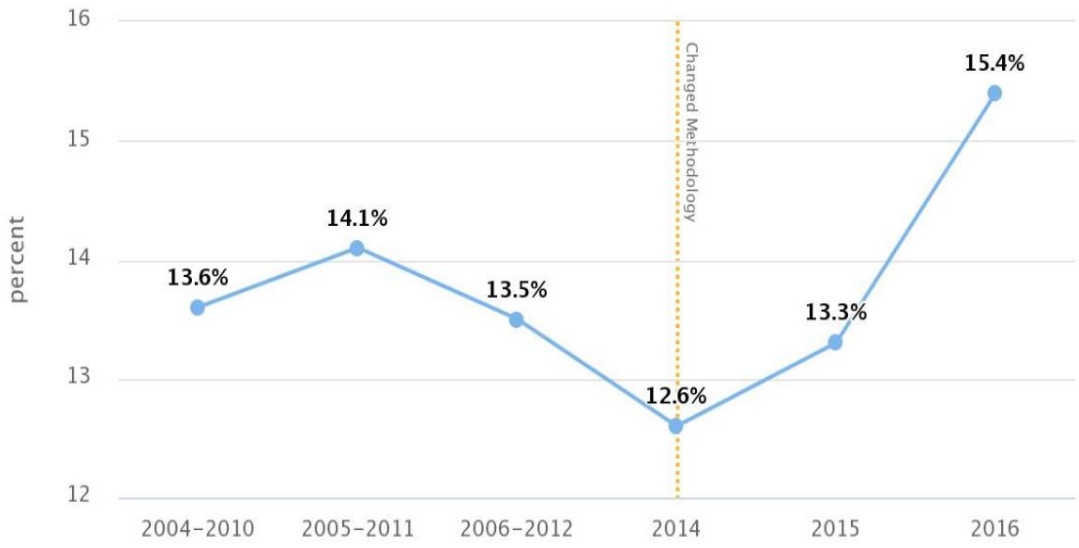
Health Behaviors Ranking (County Health Ranking)

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. High rankings (1 or 2) are considered the healthiest. Lake County is currently ranked 2nd after a previous ranking of 4th 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 reported their general health as either "poor" or "fair." When compared to other Illinois counties, Lake County is in best 0-50th percentile (green indicator). However, the percentage of adults that answered "poor" or "fair" has increased by 2.8 percent from 2014 to 2016, as shown in Exhibit 17. Note that due to a change in methodology in 2014, percentages prior to then should not be included when tracking change over time for this indicator. The percentage of adults who self-report their health as poor or fair in Lake County is lower than Illinois (17.2 percent) and the U.S. (16.0 percent) (Conduent Healthy Communities Institute, County Health Rankings, 2016).

Exhibit 17: Lake County Self-Reported Poor or Fair General Health 2004-2016



Source: Conduent Healthy Communities Institute, County Health Rankings, 2016

Life Expectancy

The life expectancy of Lake County is 81.6 years, which is in the best 0-50th percentile (green indicator) when compared to other Illinois counties and increasing. Individuals in Lake County live longer than individuals in Illinois for which life expectancy is 79.2 years. African Americans/Blacks have the lowest life expectancy when compared to other races and ethnicities, at 76.9 years; the life expectancy for White residents is 81.2 years and 86.6 years for Hispanics (Conduent Healthy Communities, County Health Rankings, 2015-2017).

Of the 143 census tracts found in Lake County, 13 are in the worst 25th percentile (red indicator) when compared to Illinois census tracts—all with a life expectancy less than 75.9 years of age. The lowest life expectancy in Lake County is 71.6 years in a census tract within the community of Zion. The highest life expectancy in the county is 88.2 years in a census tract near Wadsworth and Beach Park (Conduent Healthy Communities Institute, U.S. Small-Area Life Expectancy Estimates Project, 2010-2015). See

Exhibit 18 for zip codes in Lake County that are in the worst 25th percentile (red indicator) for life expectancy.

Exhibit 18: Lake County Life Expectancy in the Worst 25th Percentile, 2010-2017

Lake County Life Expectancy - 81.6 years					
Location (Census)	**Zip Code**	**Community**	**Indicator Rate from Conduent HCI**	**Indicator Rate Units**	**Compared to IL Census Tract**
17097860301	60099	Zion	71.6	years	Worst Percentile (<75.9)
17097862902	60064	North Chicago	71.8	years	Worst Percentile (<75.9)
17097860200	60099	Zion	72	years	Worst Percentile (<75.9)
17097860808	60002	Antioch	73.2	years	Worst Percentile (<75.9)
17097862605	60085	Waukegan	74.7	years	Worst Percentile (<75.9)
17097863100	60064; 60088	North Chicago; Great Lakes /North Chicago	75.1	years	Worst Percentile (<75.9)
17097862901	60064	North Chicago	75.2	years	Worst Percentile (<75.9)
17097860302	60099	Zion	75.3	years	Worst Percentile (<75.9)
17097861504	60031; 60085; 60087	Gurnee; Waukegan; Waukegan	75.3	years	Worst Percentile (<75.9)
17097862402	60085	Waukegan	75.6	years	Worst Percentile (<75.9)
17097861404	60030; 60073	Grayslake; Round Lake	75.7	years	Worst Percentile (<75.9)
17097861902	60031; 60085; 60087	Gurnee; Waukegan; Waukegan	75.9	years	Worst Percentile (<75.9)
17097866100	60087; 60085	Waukegan; Waukegan	75.9	years	Worst Percentile (<75.9)

Source: Conduent Healthy Communities Institute, County Health Rankings, 2019; Source for census tracts: Small-Area Life Expectancy Estimates Project (USALEEP), 2010-2015; Source for zip codes: Housing and Urban Development Office of Policy Development and Research; Source for zip code crosswalk data: U.S. Postal Service, Quarter 1, 2019

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. Males in Lake County have the life expectancy of 79.3 years and the rate is increasing. The life expectancy is in the best 0-50th 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 a life expectancy of over three years longer than males in the county. The female life expectancy rate is in the best 0–50th percentile (green indicator) in comparison to other counties in Illinois, and is increasing (Conduent Healthy Communities Institute, County Health Rankings, 2017).

Poor Physical Health

In Lake County, the average number of days that adults reported their physical health was not good was 3.5 days in the past 30 days. When compared to other Illinois and U.S counties, Lake County is in the best 0-50th percentile, and is below the Illinois value of 3.8 days. The Lake County rate is remaining stable (Conduent Healthy Communities Institute, County Health Rankings, 2016). Exhibit 19 displays the poor physical health indicator in Lake County in comparison to the Illinois and national rate.

Exhibit 19: Number of Days Lake County Adults Self-Reporting Physical Health Not Good 2016

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

Frequent Physical Distress

A person's assessment of his or her 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. In Lake County, 9.9 percent of adults stated that their physical health, which includes physical illness and injury, was not good for 14 or more of the past 30 days. Lake County is in the best 0-50th percentile, slightly lower than the Illinois rate of 10.9 percent and the U.S. rate of 15.0 percent. The prior rate for frequent physical distress in Lake County was 9.3 percent, better than the current rate (Conduent Healthy Communities Institute, County Health Rankings, 2016). Exhibit 20 illustrates the frequent physical distress indicator for Lake County, as compared to Illinois and U.S. values.

Exhibit 20: Lake County Adults Self-Reporting Frequent Physical Distress 2016

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

Key Findings: Health Status

In Lake County, 13 census tracts are in the worst 25th percentile (red indicator) for life expectancy compared to Illinois census tracts. The life expectancy for all of these census tracts is less than 75.9 years.

- The average life expectancy for Lake County is 81.6 years. The highest life expectancy in Lake County (88.2 years) is a census tract near Wadsworth and Beach Park. The community with the lowest life expectancy in Lake County (71.6 years) is a census tract within Zion, which is 16.6 years less than the highest life expectancy in the county.
- The top three causes of death in Lake County by crude count are heart disease, cancer and dementia. The top three causes of death by years of potential life lost are cancer, accidents and intentional self-harm (suicide).
- In Lake County, 15.4 percent of adults self-reported their general health as either “poor” or “fair” and the rate has increased by 2.1 percent from the prior rate.
- Lake County is ranked 19th in quality of life—placing it in the best 0-50th percentile (green indicator) compared to other Illinois counties; high rankings (1 or 2) are considered to be the healthiest**.**

Health Care Coverage

Adults with Health Insurance

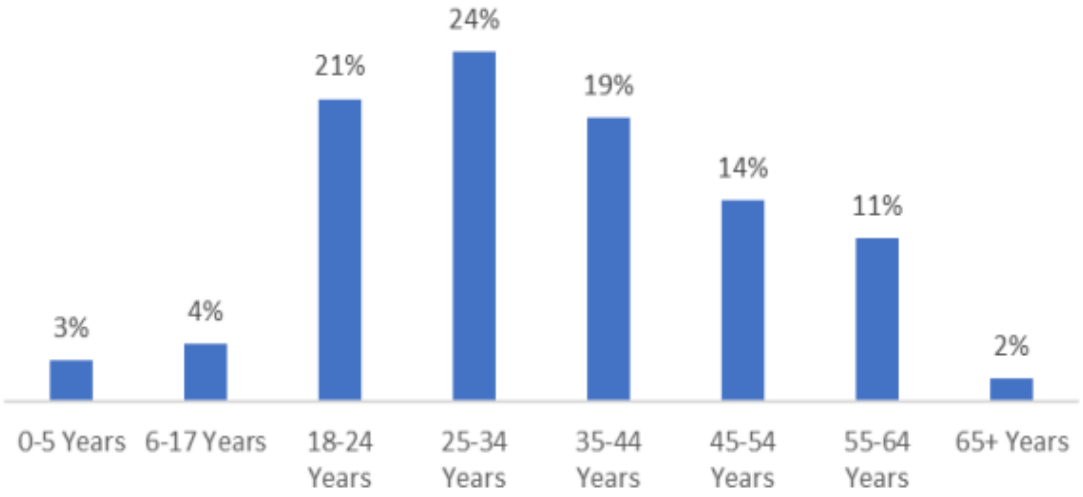
Medical costs in the U.S. are extremely high, so people without insurance may not be able to afford medical treatment or prescription drugs. They are also less likely to get routine checkups and screenings, so if they do become ill, they will not seek treatment until the condition is more advanced and therefore more difficult and costly to treat (Conduent Healthy Communities Institute, 2019).

The indicator considers adults aged 19-64 years that have any type of health insurance coverage. The rate of adults with health insurance in Lake County is 91.7 percent, which does not meet the Healthy People 2020 target of 100 percent of adults with coverage. The Illinois rate is 90.2 percent, slightly higher than the U.S. rate of 87.7 percent. Compared to other races and ethnicities, Hispanic/Latino adults (76.6 percent) and adults of “Other” race (69.2 percent) have the lowest rates of health insurance (Conduent Healthy Communities Institute, American Community Survey, 2017).

Insurance Coverage by Age, Race and Ethnicity for Northern Lake County

The 2019 Healthcare Access in Northern Lake County report examined rates of insurance within northern Lake County townships. Report findings indicated that, when compared to other racial and ethnic groups, Latinos (60 percent) have the highest uninsured rates in northern Lake County. Whites are the second largest (26 percent) uninsured group. Exhibit 21 displays the percentage of persons without health insurance by age in the northern Lake County townships.

Exhibit 21: Northern Lake County Persons without Health Insurance 2012-2016



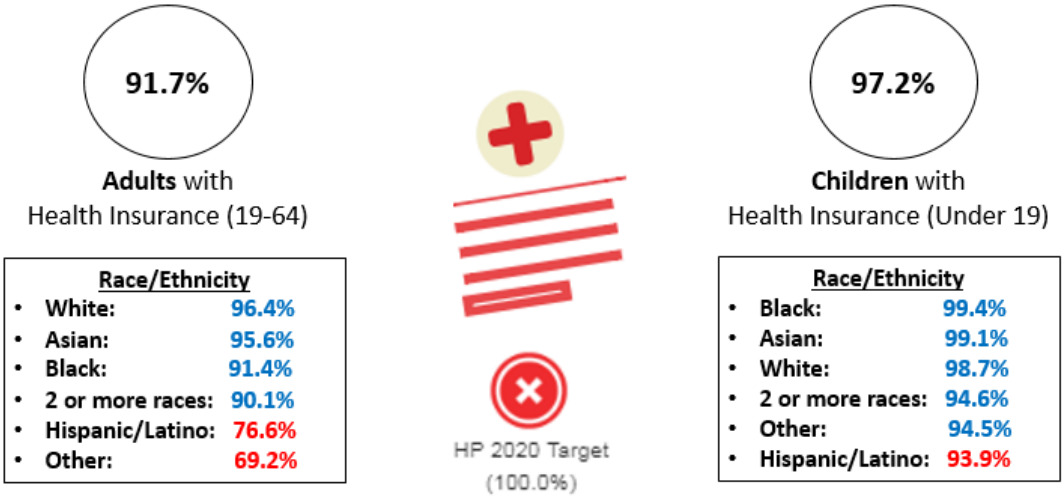
Source: Healthcare Access in Northern Lake County, Healthcare Foundation of Northern Lake County, Rob Paral and Associates, 2019

Children with Health Insurance

The children with health insurance indicator considers children under age 19 years that have any type of health insurance coverage. A total of 97.2 percent of children in Lake County have health insurance, which is in the best 0-50th percentile (green indicator) compared to Illinois counties. The Lake County percent is slightly better than Illinois (97.1 percent) and the U.S. (95 percent). However, the county percentage is below the Healthy People 2020 target of 100 percent coverage for all children. The rate of health insurance for Hispanic or Latino (93.9 percent) children is significantly worse (lower) than the county rate (Conduent Healthy Communities Institute, American Community Survey, 2017).

Exhibit 22 displays the percentage of adults and children in Lake County with health insurance, including by race and ethnicity. Percentages in red are significantly lower than the Lake County percentage.

Exhibit 22: Lake County Health Insurance Rate for Adults and Children 2017

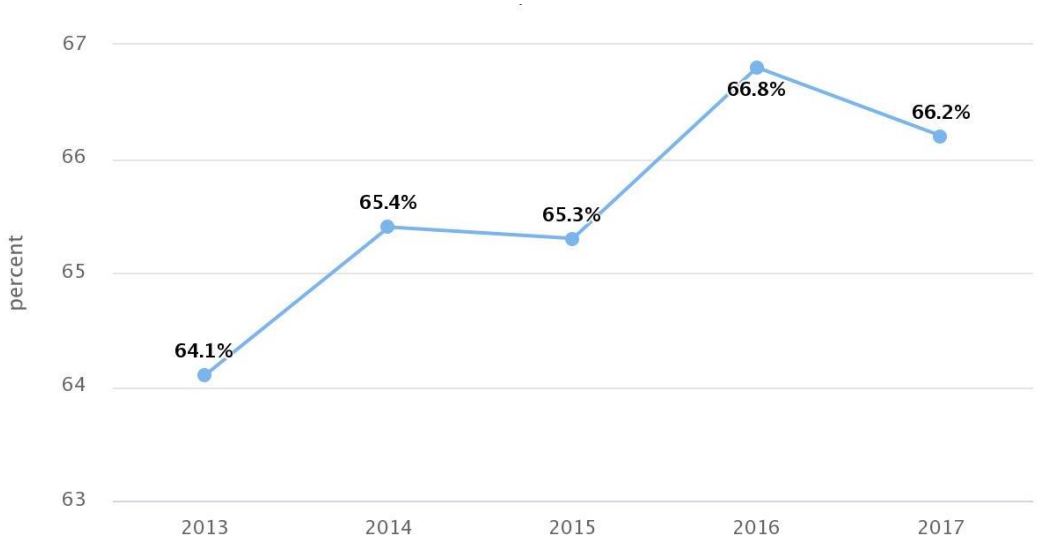


Source: Conduent Healthy Communities Institute, American Community Survey, 2019

Persons with Private Health Insurance Only

According to the 2017 American Community Survey, 66.2 percent of persons in Lake County have private health insurance only. Private insurance is a plan provided by an employer or union, a plan purchased by an individual from a private company or TRICARE or other military health care. A higher percentage of Lake County residents have private health insurance than in the U.S. (55.8 percent) or in Illinois (59 percent). The percentage of Lake County population with private health insurance is increasing, as shown in Exhibit 23 (Conduent Healthy Communities Institute, American Community Survey, 2017).

Exhibit 23: Pct. of Lake County Population with Private Health Insurance Only 2013-2017

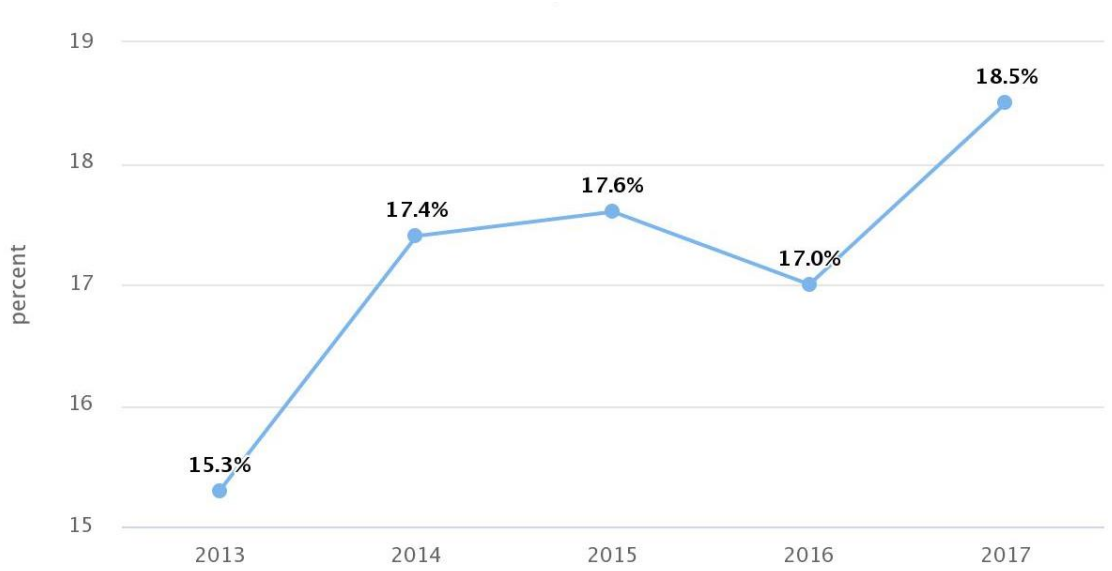


Source: Conduent Healthy Communities Institute, American Community Survey, 2019

Persons with Public Health Insurance Only

A total of 18.5 percent of individuals in Lake County have public health insurance only. Public health coverage includes the federal programs Medicare, Medicaid, VA Health Care (provided through the Department of Veterans Affairs), the Children's Health Insurance Program (CHIP), and individual state health plans. The percentage of residents with public health insurance only in Lake County is lower than in Illinois (23.3 percent) and the nation (23.6 percent). The Lake County rate for individuals with public health insurance has also been increasing; the prior rate was 17 percent (Conduent Healthy Communities Institute, American Community Survey, 2017). Exhibit 24 shows the change over time in the rate of Lake County residents with public health insurance only.

Exhibit 24: Pct. of Lake County Population with Public Health Insurance Only 2013-2017



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

Medicare Beneficiaries

As of July 31, 2018, there were 76,151 Medicare beneficiaries in Lake County (Centers for Medicare and Medicaid Services, Office of Enterprise Data and Analytics, July 2019). Advocate Aurora Business Development Analytics provided Advocate Condell with household data for Medicare beneficiaries by PSA. In the medical center's PSA, 21.3 percent of households are estimated to be covered by Medicare (Advocate Aurora Business Development Analytics, Sg2, 2019).

Medicare Health Care Costs

The Medicare health care cost per enrollee in Lake County is $9,799; the indicator considers the dollar amount of price-adjusted Medicare reimbursements per enrollee and includes Medicare Parts A and B. The Lake County rate is similar to the state rate ($9,981) and U.S. rate ($9,729). The rate is decreasing over time (Conduent Healthy Communities Institute, County Health Rankings, 2015).

Adults with Medicaid

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 57,802 of them were adults older than age 19 years (46.8 percent) (Illinois Department of Healthcare and Family Services, 2018). Advocate Aurora Business Development Analytics provided Advocate Condell with household data for Medicare beneficiaries, available only by PSA. In the medical center's PSA, 6.6 percent of households are estimated to be covered by Medicaid (9,918 households) (Advocate Aurora Business Development Analytics, Sg2, 2019).

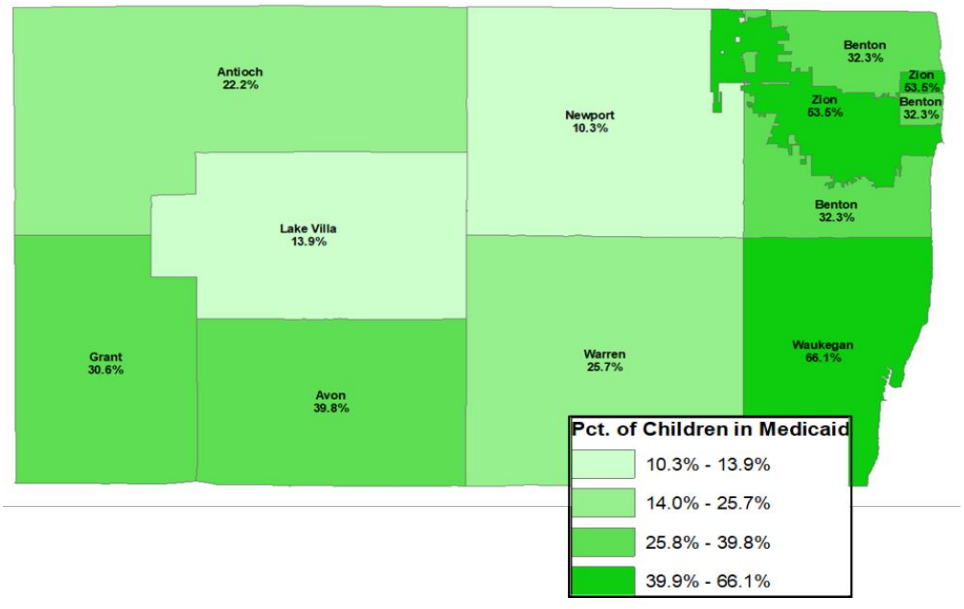
Children with Medicaid

In Lake County, as of June 30, 2018, there were 65,667 children under age 19 years enrolled in Medicaid, which is 53.2 percent of the total Lake County Medicaid enrollees (Illinois Department of Healthcare and Family Services, 2018).

Northern Lake County Children with Medicaid

Additionally, data from Healthcare Access in Northern Lake County indicates that 42 percent of northern Lake County children are insured through Medicaid. African American (62 percent) and Hispanic (62 percent) children are the largest groups with Medicaid coverage. The map in Exhibit 25 illustrates that Waukegan and Zion townships have the highest percentage of children enrolled in Medicaid (Healthcare Foundation of Northern Lake County, Health Access in Northern Lake County, 2019).

Exhibit 25: Pct. of Children Enrolled in Medicaid in Northern Lake County Townships 2012-2016



Source: Healthcare Access in Northern Lake County, Healthcare Foundation of Northern Lake County, Rob Paral and Associates, 2019

Dental Insurance

In Lake County, 0.09 percent of students do not have access to dental insurance or a dental clinic. Only 0.02 percent of students in the county are ineligible for dental insurance. The percent of students in Lake County that need a dentist that accepts Medicaid/All Kids is only 0.07 percent (Dental Examination Compliance Status of School-Age Children, Illinois State Board of Education, 2015).

Key Findings and Disparities: Health Care Coverage

In Lake County, 91.7 percent of adults (ages 19-64) have any type of health insurance coverage; although high, the county rate does not meet the Healthy People 2020 target of 100 percent of adults with health insurance.

- As of June 30, 2018, there were 123,469 (23 percent 18 years and older) total Medicaid enrollees in Lake County.
- Children under age 18 comprised 53.2 percent of the total Medicaid enrollees in Lake County as of June 30, 2018.
- As of July 31, 2018, there were 76,151 Medicare beneficiaries in Lake County, which is 75.9 percent of the total senior (65 and older) population.

Disparities

- In comparison to other races and ethnicities, Hispanic/Latino adults (76.6 percent) and adults classified as “Other” race (69.2 percent) have rates of health insurance that are lower than the county rate (91.7 percent) and are lowest among all races.
- The rate of health insurance for Hispanic/Latino children under age 19 (93.9 percent) is lower than the Lake County rate (97.2 percent).
- When comparing rates by race and ethnicity, the health insurance coverage rate for Hispanic/Latino children under age 19 (93.9 percent) is the lowest.

Access to Care

Health Professionals Shortage Area

Health Professionals 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 HPSA (Federally Qualified Health Centers- FQHCs), one low-income population Dental HPSA, one Dental facility FQHC HPSA and one Mental Health facility FQHC HPSA (https://data.hrsa.gov/tools/shortage-area/hpsa-find, 2019).

Medically Underserved Area/Population

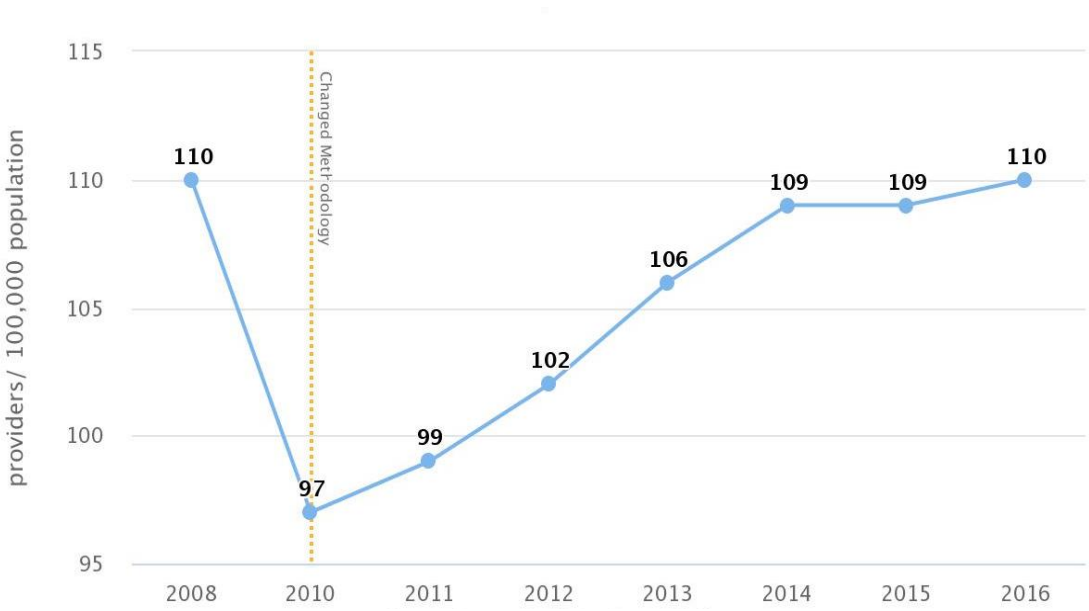
Medically Underserved Areas (MUA) or Medically Underserved Populations (MUP) are designated by HRSA as having too few primary care providers, high infant mortality, high poverty or a high elderly

population. In Lake County, there are four MUAs—one for the North Chicago service area, one for the Waukegan service area, one for the Zion service area and one for the Highland Park/Highwood service area (https://data.hrsa.gov/tools/shortage-area/mua-find, 2019).

Primary Care Provider Rate

Primary care providers include practicing physicians specializing in general practice medicine, family medicine, internal medicine, and pediatrics. The primary care provider rate in Lake County is 110 providers per 100,000 population, which places Lake County in the best 0-50th percentile (green indicator) when compared to other Illinois counties. In Illinois, the rate is 81 providers per 100,000 population and in the U.S., the rate is 75 providers per 100,000 population; both the rates are lower than Lake County. In 2011, the provider rate was 99 providers per 100,000 population. The Lake County primary care provider rate is increasing at a statistically significant rate. Due to a change in the source's calculation methodology, however, comparisons with data prior to 2010 is not recommended (Conduent Healthy Communities Institute, County Health Rankings, 2016). Exhibit 26 illustrates the Lake County primary care provider rate over time.

Exhibit 26: Lake County Primary Care Provider Rate 2008-2016



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

Clinical Care Ranking

According to the 2019 County Health Rankings report, Lake County has a clinical care ranking of 16, falling in the best 0-50th percentile (green indicator) compared to other counties in Illinois. The ranking system is based on a summary composite score calculated from the following measures: uninsured, primary care physician, mental health providers, dentists, preventable hospital stays, diabetic monitoring and mammography screening. Counties are ranked relative to the health of other counties in

the same state on a variety of health measures and those having high ranks (e.g., 1 or 2) are considered the healthiest (Conduent Healthy Communities Institute, County Health Rankings, 2018).

Non-Physician Primary Care Provider Rate

An increase in non-physician providers, such as nurse practitioners, physician assistants and clinical nurse specialists, is helping to make up for the decrease in primary care physicians. The non-physician primary care provider rate in Lake County is 63 providers per 100,000 population. Lake County is below both the Illinois rate (72 per 100,000 population) and the U.S. rate (88 per 100,000 population), but is in the best 0-50th percentile (green indicator) compared to Illinois counties. On a positive note, the non-physician provider rate is having a statistically significant increase, from 35 providers per 100,000 population in 2013 to 63 providers per 100,000 population in 2018 (Conduent Healthy Communities Institute, County Health Rankings, 2018).

Preventable Hospital Stays—Medicare Population 65+ Years

This indicator shows the hospital discharge rate for ambulatory care-sensitive conditions (ACSC) per 1,000 Medicare enrollees. The measure of preventable hospitalizations in a community indicates the quality and accessibility of primary health care services available. If the quality of care in the outpatient setting is poor, then people may be more likely to overuse the hospital as a main source of care and be hospitalized unnecessarily. An area with a higher density of primary care providers usually has lower rates of hospitalization for ambulatory care-sensitive conditions (Conduent Healthy Communities Institute, 2019).

The preventable hospital stay rate for the Medicare population in Lake County is 48.8 discharges per 1,000 Medicare enrollees. Lake County is in the best 0-50th percentile (green indicator) compared to Illinois counties, and has lower rates than Illinois (54.8 per 1,000 enrollees) and the U.S. (49.4 per 1,000 enrollees). However, the rate is showing a statistically significant increase, which may point to a need for increased access to primary health care services in the county (Conduent Healthy Communities Institute, The Dartmouth Atlas of Health Care, 2015).

Key Findings: Access to Care

The primary care provider rate in Lake County is 110 providers per 100,000 population, and increasing at a statistically significant rate. The Lake County rate is higher than both the state (81 per 100,000 population) and U.S. (75 per 100,000 population) rates.

- However, the Lake County non-primary care provider rate is also increasing at a statistically significant level. The Lake County rate is 63 providers per 100,000 population, which is below the state (72 per 100,000 population) and national (88 per 100,000 population) rates.
- The preventable hospital stay rate for the Medicare population in Lake County is 48.8 discharges per 1,000 Medicare enrollees, and is lower than the Illinois (54.8 per 1,000 enrollees) and U.S. (49.4 per 1,000 enrollees) rates. However, the rate of preventable hospital stays is seeing a statistically significant increase over time, which may point to a need for increased access to primary health care services in the county.

Nutrition, Physical Activity and Obesity

Nutrition

Adult Fruit and Vegetable Consumption

A healthy and balanced diet is essential in order to maintain a healthy weight and prevent chronic disease. According to the 2015 Lake County Health Department Community Survey, 15 percent of Lake County residents eat five or more servings of fruits and vegetables per day (livewelllakecounty.org/local-data, Lake County Interactive Health Map, 2015). The fruit and vegetable consumption percentage increased from 14.1 percent in the prior 2007-2009 survey (Illinois Department of Public Health, Illinois Behavioral Risk Factor Surveillance System, 2007-2009).

Teen Fruit Consumption

When examining the Illinois Youth Survey results for 2016 and 2018, the percentage of Lake County teens who consumed fruit two or more times daily in the past seven days actually decreased between 2016 and 2018. This decrease occurred for students in all three grade levels—8th, 10th and 12th. This same trend of decreased fruit consumption from 2016 to 2018 held true for Illinois as well. Exhibit 27 displays the Lake County and Illinois percentages of fruit consumption for the three grade levels in 2016 and 2018.

Exhibit 27: Lake County and State of Illinois Teen Fruit Consumption 2016 and 2018

Grade	2016		2018	
	Lake County Eat fruit 2 or more times per day in past 7 days	Illinois Eat fruit 2 or more times per day in past 7 days	Lake County Eat fruit 2 or more times per day in past 7 days	Illinois Eat fruit 2 or more times per day in past 7 days
8th grade	48%	44%	43%	42%
10th grade	43%	38%	40%	33%
12th grade	39%	35%	36%	31%

Source: Illinois Youth Survey, Lake County Report and State of Illinois Report, 2016 and 2018

Teen Vegetable Consumption

The Illinois Youth Survey results show that vegetable consumption for Lake County teens is much lower than their fruit consumption. There was no change between 2016 and 2018 in the percent of Lake County 8th grade students who ate vegetables three or more times daily in the past seven days. However, the vegetable consumption percent for both 10th grade and 12th grade students decreased between 2016 and 2018. Teen vegetable consumption for all three grades was slightly higher than the Illinois percentages in 2016 and 2018 (Illinois Youth Survey Lake County Report; Illinois Youth Survey

State of Illinois Report, 2016 and 2018). Exhibit 28 displays the 2016 and 2018 vegetable consumption percentages for Lake County and Illinois 8th, 10th and 12th grade students.

Exhibit 28: Lake County and Illinois Teen Vegetable Consumption 2016 and 2018

Grade	2016		2018	
	Lake County Eat vegetables 3 or more times per day in past 7 days	Illinois Eat vegetables 3 or more times per day in past 7 days	Lake County Eat vegetables 3 or more times per day in past 7 days	Illinois Eat vegetables 3 or more times per day in past 7 days
8th grade	19%	18%	19%	18%
10th grade	17%	15%	15%	12%
12th grade	15%	14%	14%	13%

Source: Illinois Youth Survey, Lake County Report and State of Illinois Report, 2016 and 2018

Physical Activity

Adults Who Are Sedentary

In Lake County, 19.8 percent of adults (ages 20 years and older) did not participate in any leisure-time activities (physical activities other than their regular job) during the past month. When compared to other Illinois counties, Lake County is in the best 0-50th percentile (green indicator). Over time, the percent for Lake County is decreasing, meaning that adults are becoming more active. Lake County is also meeting the Healthy People 2020 target of under 32.6 percent, and performing better than Illinois (22.2 percent) and the U.S. (23.0 percent) (Conduent Healthy Communities Institute, County Health Rankings, 2015). Exhibit 29 provides a summary of this indicator.

Exhibit 29: Percent of Lake County Adults Who are Sedentary Compared to IL and U.S. 2015

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

Teens Participating in Physical Activity

According to the IYS 2018 report, the percent of teens who participate in at least 60 minutes of physical activity every day for the past seven days, decreases as students get older. The 8th grade students

reported a higher percentage of physical activity (29 percent) than the 10th grade (26 percent) and 12th grade (21 percent) students. The same decrease in activity with increasing age was present in results from the 2016 IYS survey as well (Source: Illinois Youth Survey, Lake County Report, 2016 and 2018).

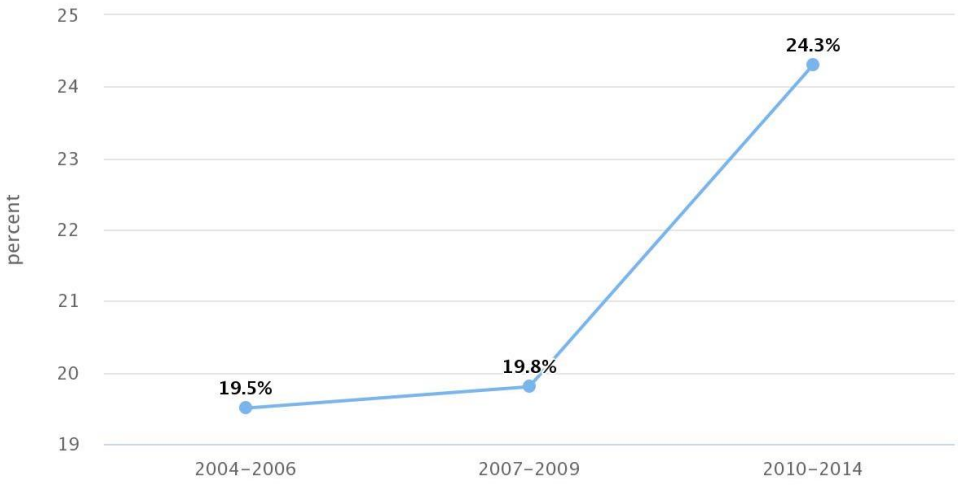
Weight Status

Adults Who Are Obese

According to the 2018 State of Obesity report, 31.8 percent of adults in Illinois are obese. Obesity rates for adults in Illinois have been increasing, up from 20.4 percent in 2000, from 12.1 percent in 1990. Illinois is ranked 24th among 51 states (data includes Washington, DC), with West Virginia ranked first (worst) with 39.5 percent of its adults classified as obese. Colorado is ranked 51st, placing it best in the nation compared to all other states, with only 23.0 percent of adults classified as obese. Non-Hispanic African Americans/Blacks had the highest prevalence of self-reported obesity in the nation (40.1 percent), followed by Hispanics (35.6 percent) and non-Hispanic Whites (30.8 percent) (The State of Obesity, Better Policies for a Healthier America, Illinois State Brief, Robert Wood Johnson Foundation, 2018).

For Lake County, the percentage of adults ages 18 and older who are obese is 24.3 percent. A BMI higher than 30 is considered obese. Lake County is in the best 0-50th percentile (green indicator) when compared to other Illinois counties and is meeting the Healthy People 2020 target of 30.5 percent. However, the rate of obesity in Lake County is increasing; the obesity rate increased by 4.5 percent from 2007-2009 to 2010-2014 as shown in Exhibit 30 (Conduent Healthy Communities Institute, Illinois Behavioral Risk Factor Surveillance System, 2010-2014).

Exhibit 30: Lake County Adults Ages 18 Years and Older Who Are Obese 2004-2014



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

Teen Obesity Percentage

According to the 2018 IYS, between 2016 and 2018, the percent of Lake County 8th grade students who are overweight or obese dropped by only one percent; there was no change between 2016 and 2018 in the percent of overweight or obese 10th and 12th grade students. The percent of overweight and

obese Lake County teens was lower (better) than the state obesity percentages in both 2016 and 2018 for all three grade levels (Illinois Youth Survey, Lake County Report, 2016 and 2018; Illinois Youth Survey, State of Illinois Report, 2016 and 2018). The 2016 and 2018 Illinois and Lake County percentages of teens who are overweight and obese for each grade level are indicated in Exhibit 31.

Exhibit 31: Lake County Overweight/Obese Teens by Grade Level Compared to Illinois 2016 and 2018

Grade	2016		2018	
	Lake County Overweight or Obese BMI (based on CDC guidelines)	Illinois Overweight or Obese BMI (based on CDC guidelines)	Lake County Overweight or Obese BMI (based on CDC guidelines)	Illinois Overweight or Obese BMI (based on CDC guidelines)
8th grade	21%	26%	20%	25%
10th grade	22%	27%	22%	26%
12th grade	22%	26%	22%	26%

Source: Illinois Youth Survey, Lake County Report, 2019; Illinois Youth Survey, State of Illinois Report, 2019

Child Obesity

The national childhood obesity rate is 18.5 percent. The rate varies among different age groups and rises as children get older: 13.9 percent of 2 to 5-year-olds, 18.4 percent of 6 to 11-year-olds and 20.6 percent of 12 to 19-year-olds are obese. There also are striking racial and ethnic disparities, 25.8 percent of Hispanic/Latino children and 22 percent of African American/Black children are obese in the U.S. (The State of Obesity, Better Policies for a Healthier America, National Childhood Obesity Trends, 2014 [Robert Wood Johnson Foundation, 2018]).

However, a nationwide study found a decline in obesity rates among 2 to 4-year-olds enrolled in WIC (the Special Supplemental Nutrition Program for Women, Infants and Children), from 15.9 percent in 2010 to 14.5 percent in 2014. In Illinois, the obesity rate for WIC participants was 15.2 percent in 2014; the rate declined from a peak of 20.3 percent in 2004 (The State of Obesity, Obesity Rate: WIC Participants ages 2-4, 2014 [Robert Wood Johnson Foundation, 2018]).

In Lake County, the obesity rates for children under age 18 living below the poverty level are highest in North Chicago (43 percent), 60085 Waukegan (36 percent), Zion (24 percent) and 60087 Waukegan (24 percent)—the four communities with the highest SocioNeeds ranking in the county (livewelllakecounty.org/local-data, 2019).

Key Findings: Nutrition, Physical Activity and Obesity

- Nationally, non-Hispanic African Americans/Blacks had the highest prevalence of self-reported obesity (40.1 percent), followed by Hispanics (35.6 percent) and non-Hispanic Whites (30.8 percent).
- The national childhood obesity rate is 18.5%. The rate varies among different age groups and rises as children get older: 13.9% of 2 to 5-year-olds, 18.4% of 6 to 11-year-olds and 20.6% of 12 to 19-year-olds have obesity. There also are striking racial and ethnic disparities, 25.8% of Latino children and 22% of Black children have obesity.
- In Illinois, the obesity rate for WIC participants was 15.2 percent in 2014; the rate declined from a peak of 20.3 percent in 2004.
- The adult obesity rate in Lake County is increasing. The rate increased 4.5 percentage points, from 19.8 percent (2007-2009) to 24.3 percent (2010-2014).
- In Lake County, adult fruit and vegetable consumption is lower for males (8.8 percent) when compared to females (19.1 percent) and the county rate (14.1 percent).
- Per the Illinois Youth Survey, Lake County 8th, 10th and 12th grade students all had fruit consumption rates higher than Illinois for these grade levels, in both 2016 and 2018.
- Illinois Youth Survey data shows that the overweight and obesity rates for Lake County 8th, 10th and 12th grade students were lower (better) than the state overweight and obesity levels in both 2016 and 2018.
- Between 2016 and 2018, the rate of overweight or obesity for Lake County 8th grade students dropped by only one percent and the rates remained the same for 10th and 12th grade students.

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 such as tumors and calcifications. Approximately 67.7 percent of Lake County Medicare beneficiaries, ages 67 to 69, have had a mammogram in the past two years. Lake County is in the best 0-50th percentile (green indicator) when compared to Illinois and U.S. counties. Over time, the rates for mammography screening among the Medicare population has steadily increased; the lowest reported percentage was 65.9 percent in 2011 (Conduent Healthy Communities Institute, 2018; The Dartmouth Atlas of Health Care, 2015).

Breast Cancer Incidence Rate

The incidence rate for breast cancer in Lake County is 144.1 cases per 100,000 females. The rates do not consider males. When compared to other counties in Illinois and the U.S., Lake County is in the worst 25th percentile (red indicator) and increasing at a statistically significant level. However, higher incidence rates may indicate higher screening rates and early detection. 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 County (Conduent Healthy Communities Institute, National Cancer Institute, 2011-2015).

Breast Cancer Death Rate

The age-adjusted death rate due to breast cancer in Lake County is 20.3 deaths per 100,000 females—the rates do not consider males. Of the 352,551 women in Lake County, an estimated 72 women die from breast cancer each year. Over time, the rates for breast cancer-related deaths are showing a statistically significant decrease. The highest reported death rates due to breast cancer in Lake County were 2005 through 2009 (23.9 deaths per 100,000 females). Lake County is in the best 0-50th percentile (green indicator), when compared to other Illinois and U.S. counties; Lake County is also meeting the Healthy People 2020 target of 20.7 deaths per 100,000 females. The African American/Black population has the highest death rate due to breast cancer (25.2 deaths per 100,000 females) compared to the White (20.8 deaths per 100,000 females) and Hispanic (14.3 deaths per 100,000 females) population (Conduent Healthy Communities Institute, National Cancer Institute, 2011-2015). Exhibit 32 provides a summary of the Lake County death rate due to breast cancer.

Exhibit 32: Lake County Age-Adjusted Death Rate due to Breast Cancer Compared to IL and U.S. Counties 2011-2015

Source: Conduent Healthy Communities Institute, National Cancer Institute, 2011-2015

Colorectal Cancer

Colorectal Cancer Screening Rate

Among Lake County adults, ages 50 and over, 72.1 percent have had a sigmoidoscopy or colonoscopy exam. Over time, the colorectal cancer screening rates have increased in Lake County; the prior rate was 62 percent in 2007-2009. In Illinois, the colorectal cancer-screening rate is 68.3 percent in 2016, slightly higher than the U.S. screening rate of 67.3 percent. When compared to McHenry, Kane, DuPage and Cook Counties, the colorectal cancer screening rates are highest in Lake County (Conduent Healthy Communities Institute, Illinois Behavioral Risk Factor Surveillance System, 2010-2014).

Waukegan (50.7 percent) is in the worst 25th percentile (red indicator) for colorectal cancer screening, compared to the 500 largest cities in the nation. Waukegan is also not meeting the Healthy People 2020 target of 70.5 percent or higher of individuals who have completed colorectal cancer screening (Conduent Healthy Communities Institute, CDC 500 Cities Project, 2014).

Colorectal Cancer Incidence Rate

According to the Centers for Disease Control and Prevention (CDC), colorectal cancer is one of the most commonly diagnosed cancers in the U.S. In Lake County, the colorectal cancer incidence rate is 38 cases per 100,000 population. The highest incidence rates reported in Lake County were in 2005-2009 (44.4 cases per 100,000 population). Similar to the death rate, the colorectal cancer incidence rate is showing a statistically significant decrease and meeting the Healthy People 2020 target of 39.9 cases per 100,000 population. For this indicator, Lake County is also in the best 0-50th percentile (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).

Colorectal Cancer Death Rate

In Lake County, the age-adjusted death rate due to colorectal cancer is 12.5 deaths per 100,000 population—equivalent to 67 deaths out of 535,682 adults ages 18 and older. The death rate has been decreasing every year from 15.3 deaths per 100,000 population in 2005-2009. This decrease is statistically significant. Lake County is also meeting the Healthy People 2020 target (14.5 deaths per 100,000 population) and is in the best 0-50th percentile (green indicator).

By gender, males have higher death rates due to colorectal cancer (14.9 deaths per 100,000 population) than females (10.6 deaths per 100,000 population) in Lake County. Additionally, African Americans/Blacks (19.8 deaths per 100,000 population) have a higher death rate due to colorectal cancer when compared to Hispanics (8.5 deaths per 100,000 population) and Whites (12.4 deaths per 100,000 population) in Lake County (Conduent Healthy Communities Institute, National Cancer Institute, 2011-2015). Exhibit 33 provides an overview of the Lake County death rate due to colorectal cancer, compared to other benchmarks.

Exhibit 33: Lake County Age-Adjusted Death Rate due to Colorectal Cancer per 100,000 Females Compared to IL and U.S. Counties 2011-2015

Source: 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 through 65, it is recommended that they have a Pap test and a Human Papillomavirus (HPV) test every five years. The percentage of women, ages 18 and over, who have had a Pap smear in the past year is 72.9 percent for Lake County. The Lake County rate is above the Illinois rate (65.6 percent) and falls in the best 0-50th percentile (green indicator) compared to other Illinois counties. However, the prior 2007-2009 rate was 83.4 percent, which indicates that the screening rate for early signs of cervical cancer is decreasing in Lake County (Conduent Healthy Communities Institute, Illinois Behavioral Risk Factor Surveillance System, 2010-2014).

Cervical Cancer Incidence Rate

The cervical cancer incidence rate in Lake County is much lower when compared to other Illinois counties. For cervical cancer, 4.7 cases are diagnosed per 100,000 females in Lake County. The Lake County cervical cancer incidence rate is decreasing at a statistically significantly level. The county incidence rate is also lower than the Illinois rate (7.7 cases per 100,000 females) and the U.S. rate (7.5 cases per 100,000 females). Historically, the highest reported cervical cancer incidence rate in Lake County occurred in 2005-2009 when the rate was 6.5 cases per 100,000 females (Conduent Healthy Communities Institute, National Cancer Institute, 2011-2015).

Lung Cancer

Lung and Bronchus Cancer Incidence Rate

From 2006 through 2010, the lung and bronchus cancer incidence rate was at its highest point in Lake County, with 62.5 cases per 100,000 population. Data from 2011-2015 indicates that the incidence rate has decreased to 56.1 cases per 100,000 population, which is a statistically significant decrease. Compared to Lake County, the Illinois (66.0 cases per 100,000 population) and U.S. (60.2 cases per 100,000 population) rates are higher. Males (59.6 cases per 100,000 population) have higher incidence rates of lung and bronchus cancer than females (53.9 cases per 100,000 population) (Conduent Healthy Communities Institute, National Cancer Institute, 2011-2015).

Lung Cancer Death Rate

The Lake County age-adjusted death rate due to lung cancer is 37.9 deaths per 100,000 population. The highest reported rate was from 2006-2010 (44.5 deaths per 100,000 population). Since then, the Lake County rate has seen a statistically significant decrease. The Illinois rate is 46.3 deaths per 100,000 population and the U.S. rate is 43.4 deaths per 100,000 population. Lake County is also in the best 0-50th percentile (green indicator) when compared to Illinois and U.S. counties, and is meeting the Healthy People 2020 target (45.5 deaths per 100,000 population) for this indicator.

In Lake County, males (43.2 deaths per 100,000 population) have higher death rates from lung cancer than females (34.1 deaths per 100,000 population) and the rate for males is higher than the county rate. African Americans/Blacks (49.5 deaths per 100,000 population) have the highest lung cancer death rate in Lake County compared to other races and ethnicities. The lung cancer death rates for Asian/Pacific Islanders (21.5 deaths per 100,000) and Hispanics/Latinos (12.3 deaths per 100,000 population) are lower than the county rate, but the death rate for Whites (38.4 deaths per 100,000 population) is higher than the county rate (Conduent Healthy Communities Institute, National Cancer Institute, 2011-2015). Exhibit 34 provides a summary of the Lake County lung cancer death rate.

Exhibit 34: Lake County Age-Adjusted Death Rate due to Lung Cancer per 100,000 Females Compared to IL and U.S. Counties 2011-2015

Source: Conduent Healthy Communities Institute, National Cancer Institute, 2011-2015

Oral Cavity and Pharynx Cancer

Oral Cavity and Pharynx Incidence Rate

The incidence rate for oral cavity and pharynx cancer in Lake County is in the best 0-50th percentile (green indicator), at 10.9 cases per 100,000 population. Over time, the incidence rate for the county has been increasing. In Lake County, males (14.6 cases per 100,000 population) have incidence rates that are higher than the county rate and are nearly two-times higher than the rate for females (7.5 cases per 100,000 population). Whites (11.2 cases per 100,000 population) have a higher incidence rate than African American/Blacks (8.1 cases per 100,000 population) in Lake County (Conduent Healthy Communities Institute, National Cancer Institute, 2011-2015).

Prostate Cancer

Prostate Cancer Incidence Rate

In Lake County, for every 100,000 males, there are 103.1 cases related to prostate cancer. Lake County remains in the best 0-50th percentile (green indicator) when compared to other Illinois counties. Lake County is also performing better than Illinois (114.9 cases per 100,000 males) and the U.S. (109 cases per 100,000 males), when comparing incidence rates. The prostate cancer incidence rate is showing a statistically significant decrease. The highest reported rate was from 2006-2010, with 147.4 prostate cases per every 100,000 males in Lake County. However, African Americans/Blacks (144.1 per 100,000 males) have a prostate cancer incidence rate that is higher than that for Whites (100.6 per

100,000 males) and the county rate (Conduent Healthy Communities Institute, National Cancer Institute, 2011-2015).

Death Rate Due to Prostate Cancer

The age-adjusted death rate due to prostate cancer in Lake County is 18.3 deaths per 100,000 males—the rates do not consider females. The death rate is decreasing at a statistically significant level, and is in the best 0-50th percentile (green indicator) when compared to Illinois and U.S. counties. Lake County also has a lower prostate cancer death rate than the state (20.5 deaths per 100,000 male) and the U.S. (19.5 deaths per 100,000 population) and is meeting the Healthy People 2020 target (21.8 deaths per 100,000 population).

Despite the positive progress in the county, disparities do exist; the prostate cancer death rate for African Americans/Blacks (38.7 deaths per 100,000 males) is more than two times higher than Whites (18.0 deaths per 100,000 population) and two times higher than the Lake County death rate (Conduent Healthy Communities Institute, National Cancer Institute, 2011-2015). Exhibit 35 provides a summary of the Lake County prostate cancer death rate compared to Illinois and the U.S.

Exhibit 35: Lake County Age-Adjusted Death Rate due to Prostate Cancer Compared to IL and U.S. Counties 2011-2015

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

Key Findings and Disparities: Cancer

- The Lake County cervical cancer incidence rate is decreasing at a statistically significantly level, and the cervical cancer screening rate is decreasing.
- The Lake County colorectal cancer incidence rate is showing a statistically significant decrease.
- In Lake County, both the incidence rate and death rate due to lung and bronchus cancer have shown a statistically significant decrease.
- The Lake County incidence rate for oral cavity and pharynx cancer has been increasing.
- The prostate cancer incidence rate for Lake County is showing a statistically significant decrease.
- The incidence rate for breast cancer in Lake County is in the worst 25th percentile (red indicator) and is increasing at a statistically significant rate.
- The death rates due to lung, breast, prostate and colorectal cancer are all decreasing.

Disparities

In Lake County, there are several disparities related to cancer for African Americans/Blacks when compared to other races and ethnicities. African Americans/Blacks have:

- A higher death rate due to breast cancer (25.2 deaths per 100,000 females)
- A higher death rate due to colorectal cancer (19.8 deaths per 100,000 population)
- A higher lung cancer death rate (49.5 deaths per 100,000 population)
- A prostate cancer incidence rate (144.1 per 100,000 males) that is higher than Whites (100.6 per 100,000 males)
- A death rate due to prostate cancer (38.7 deaths per 100,000 males) that is more than two times higher than the rate for Whites (18.0 deaths per 100,000 males) and two times higher than the Lake County death rate (18.3 deaths per 100,000 males)

Males have higher death rates due to colorectal cancer (14.9 deaths per 100,000 population) than females (10.6 deaths per 100,000 population), and a higher death rate from lung cancer (43.2 deaths per 100,000 population) than females (34.1 deaths per 100,000 population) in Lake County.

Whites have a higher incidence rate of oral cavity and pharynx cancer (11.2 cases per 100,000 population) than African Americans/Blacks (8.1 cases per 100,000 population) in Lake County.

Cardiovascular Disease

Age-Adjusted Hospitalization Rate Due to Heart Failure

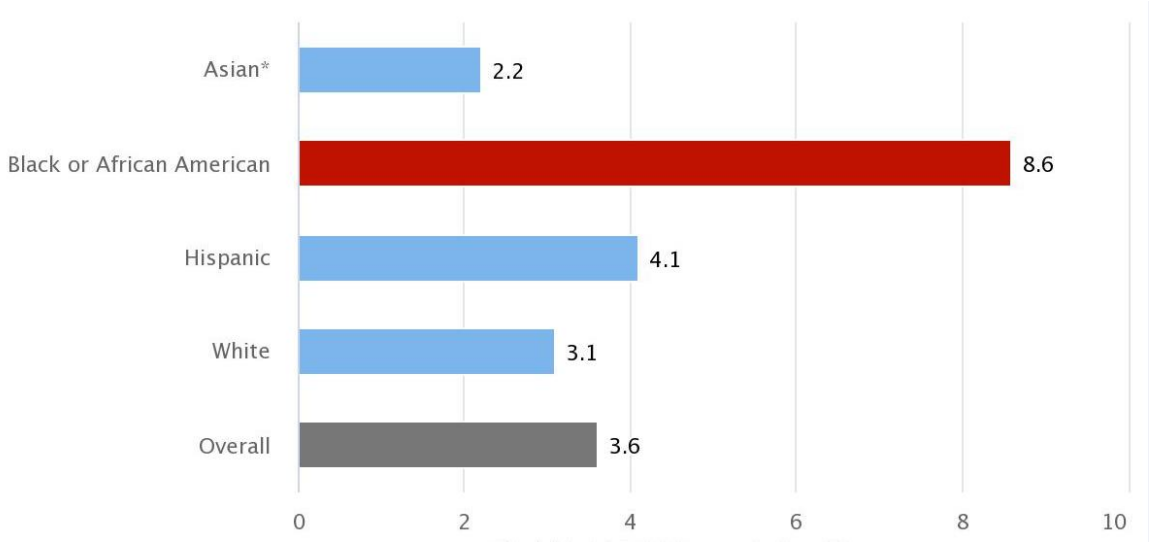
Heart failure is a condition in which the heart cannot pump enough blood to the body's other organs. In Lake County, the hospitalization rate due to heart failure is a growing concern. For every 10,000 population, 30.7 hospitalizations occur among adults ages 18 years and older. Lake County is in the 50th-75th percentile (yellow indicator) when compared to other Illinois counties. In comparison to the heart failure hospitalization rate for Illinois (36.3 per 10,000 population), the county rate is lower.

The two highest risk groups by age are adults ages 65-84 years (103.9 hospitalizations per 10,000 population) and 85 years and older (453.2 hospitalizations per 10,000 population). Both of these age groups have rates higher than all other adult age groups. By gender, males (35.8 hospitalizations per 10,000 population) have a higher rate than females (26.8 hospitalization rates per 10,000 population) and the rate for males is higher than the Lake County rate (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

Age-Adjusted Emergency Room Visit Rate Due to Heart Failure

The Lake County age-adjusted emergency room visit rate due to heart failure is 3.6 visits per 10,000 population aged 18 years and older, which is in the best 0-50th percentile (green indicator) when compared to Illinois counties. The 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 much lower for Lake County. Blacks or African Americans (8.6 ER visits per 10,000 population) have the highest ER rate due to heart failure, compared to any other race or ethnicity, as shown in Exhibit 36.

Exhibit 36: Lake County Age-Adjusted ER Rate due to Heart Failure by Race and Ethnicity 2015-2017



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

Age-Adjusted Hospitalization Rate Due to Hypertension

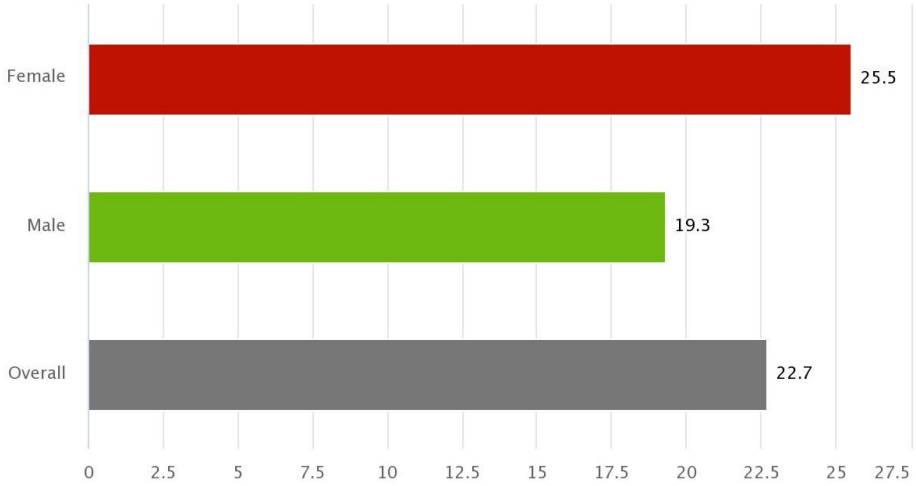
High blood pressure, also known as hypertension, is a significant increase in blood pressure in the arteries—often referred to as the "silent killer." Hypertension often has no warning signs or symptoms, and about one of every three adults have high blood pressure (CDC, 2019). In Lake County, the hospitalization rate due to hypertension is 4.3 hospitalizations per 10,000 population (adults age 18 and older), which is lower than the Illinois rate of 4.6 hospitalizations per 10,000 population. However, when compared to other Illinois counties, the Lake County rate is a yellow indicator (in the worst 50th -75th percentile).

Similar to the hospitalization rates for heart failure, the adults ages 65-84 years (11.3 hospitalizations per 10,000 population) and ages 85 years and older (30.3 hospitalizations per 10,000 population) have the highest rates of hospitalization due to hypertension among all adult age groups. American Indians or Alaskan Natives (29.5 hospitalizations per 10,000 population) and Blacks or African Americans (16.9 hospitalizations per 10,000 population) have the highest hospitalization rates due to hypertension, compared to other races and ethnicities (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

Age-Adjusted Emergency Room Rate Due to Hypertension

The ER rate due to hypertension in Lake County is 22.7 ER visits per 10,000 population, which is better (lower) than the Illinois rate (36.4 ER visits per 10,000 population) and in the best 0-50th percentile (green indicator) when compared to counties in Illinois. Females (25.5 ER visits per 10,000 population) actually have a higher rate of ER visits than males (19.3 ER visits per 10,000 population) and the rate is worse than the Lake County rate (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017). Exhibit 37 illustrates the ER rate due to hypertension by gender.

Exhibit 37: Lake County Age-Adjusted ER Rate due to Hypertension by Gender 2015-2017



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

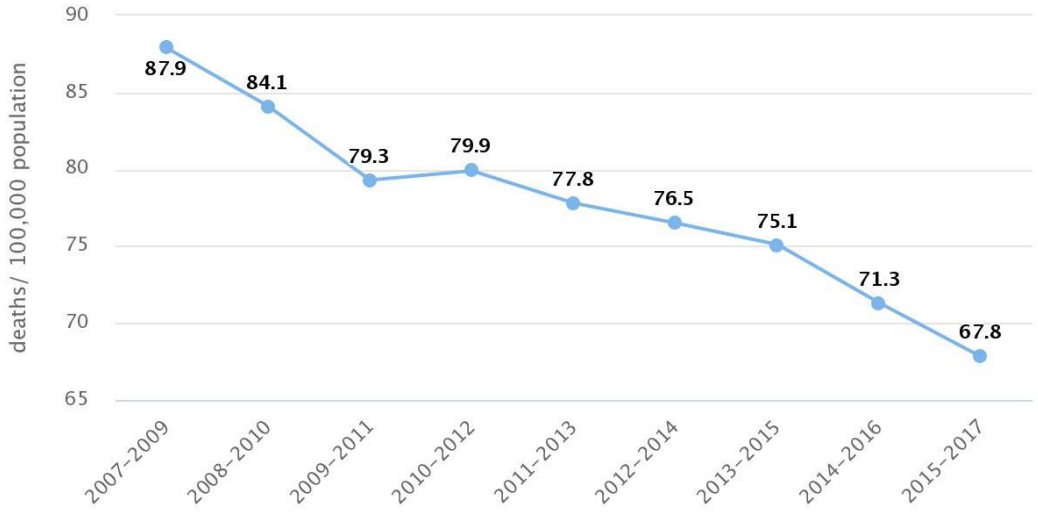
Age-Adjusted Death Rate Due to Cerebrovascular Disease (Stroke)

According to Conduent Healthy Communities Institute, "cerebrovascular disease refers to conditions, including stroke, caused by problems with the blood vessels suppling the brain with blood" (Conduent Healthy Communities Institute, 2019). The age-adjusted rate due to cerebrovascular disease and stroke is 29.5 deaths per 100,000 population for Lake County. There has been a statistically significant decrease in the death rate in Lake County and the rate is in the best 0-50th percentile (green indicator) when compared to other Illinois and U.S. counties. The death rate for cerebrovascular disease is also lower than the Illinois (38.4 deaths per 100,000 population) and the U.S. (37.5 deaths per 100,000 population) rates. Lake County is also meeting the Healthy People 2020 target of 34.8 deaths per 100,000 population (Conduent Healthy Communities Institute, Centers for Disease Control and Prevention, 2015-2017).

Age-Adjusted Death Rate Due to Coronary Heart Disease

According to the CDC, coronary heart disease kills over 370,000 people every year and is the most common type of heart disease. The death rate due to coronary heart disease for Illinois is 87 deaths per 100,000 population and the rate is 94.8 deaths per 100,000 population for the U.S.. When compared to other Illinois and U.S. counties, Lake County is in the best 0-50th percentile (green indicator) with 67.8 deaths per 100,000 population. Over time, the county death rate due to coronary heart disease is decreasing at a statistically significant rate. The Lake County death rate is meeting the Healthy People 2020 target of 103.2 deaths per 100,000 population. In Lake County, men (90.5 deaths per 100,000 population) are at greater risk than women (50.3 deaths per 100,000 population) are for coronary heart disease-related deaths (Conduent Healthy Communities Institute, Centers for Disease Control and Prevention, 2015-2017). Exhibit 38 shows the decline in the death rate due to coronary heart disease over time.

Exhibit 38: Lake County Age-Adjusted Death Rate due to Coronary Heart Disease 2007-2017



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

High Cholesterol Prevalence

According to the CDC, one in six adults have high cholesterol; high cholesterol is a major risk factor for heart disease and the fifth leading cause of death in the U.S. Nationally, an estimated 95 million adults (ages 20 or older) have total cholesterol levels higher than 200 mg/dL. In the U.S., the prevalence rates for total cholesterol over 240 mg/dL was highest among Hispanic men with 13.1 percent and non-Hispanic White women with 14.8 percent from 2015 to 2016 (Centers for Disease Control and Prevention, 2019).

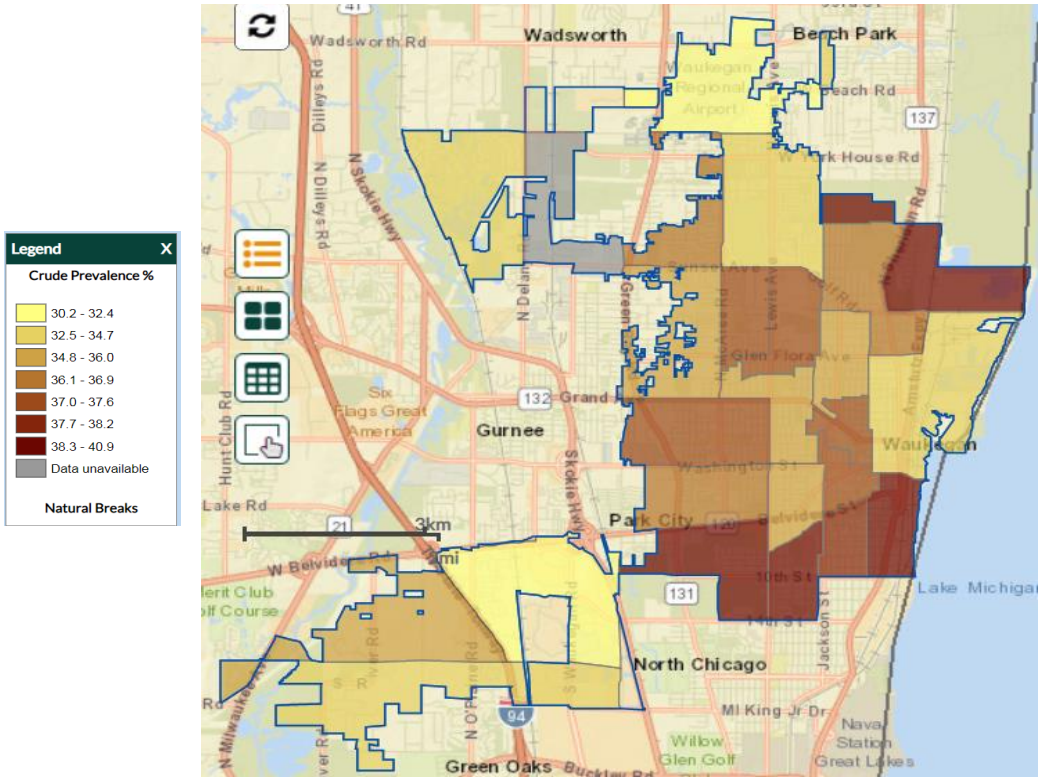
In Lake County, the high cholesterol prevalence rates for adults 25 and older is 33.6 percent. Of an estimated 459,185 adults over the age of 25 in Lake County, approximately 154,286 adults have high cholesterol. Although Lake County is in the best 0-50th percentile when compared to other Illinois counties, this indicator is not meeting the Healthy People 2020 target of 13.5 percent (Conduent Healthy Communities Institute, Illinois Behavioral Risk Factor Surveillance System, 2007-2009). Exhibit 39 provides a summary of cholesterol prevalence in Lake County compared to key benchmarks.

Exhibit 39: Lake County High Cholesterol Prevalence Compared to IL and U.S. 2007-2009

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

In Waukegan, the highest rates of cholesterol prevalence are within census tracts in southern and eastern Waukegan, as shown in the darkest brown shading on the map in Exhibit 40. Crude prevalence rates in these census tracts range from 39.7 percent to 40.9 percent, all of which are above the county prevalence rate of 33.6 percent (500 Cities Project, Centers for Disease Control and Prevention, 2018).

Exhibit 40: Model-Based Estimates for High Cholesterol Among Adults in Waukegan 2015



Source: 500 Cities Project, Centers for Disease Control and Prevention, 2018

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. The high blood pressure prevalence rate in Lake County is 24.5 percent, affecting almost 112,500 adults ages 25 and older. Lake County remains in the best 0-50th percentile (green indicator) when compared to other Illinois counties and is meeting the Healthy People 2020 target of 26.9 percent for this indicator. The high blood pressure prevalence rate for Illinois is 30.8 percent, slightly lower than the U.S. rate of 32.3 percent (Conduent Healthy Communities Institute, Illinois Behavioral Risk Factor Surveillance System, 2007-2009).

In Waukegan, the southern census tracts have the highest cholesterol prevalence and the highest prevalence for high blood pressure, ranging from 37.5 percent to 40.1 percent, much higher than the 24.5 percent prevalence for Lake County (500 Cities Project, Centers for Disease Control and Prevention, 2018).

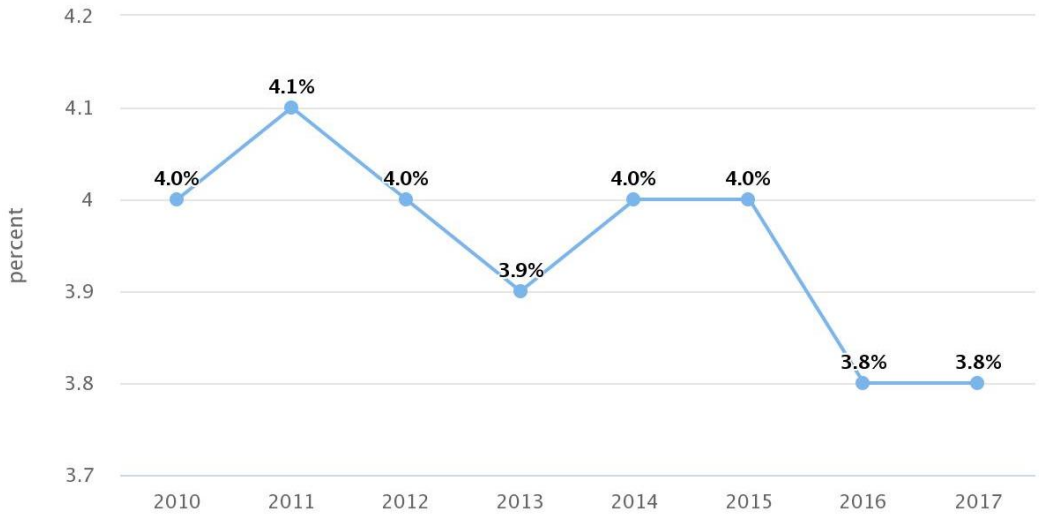
Medicare Cardiovascular Indicators

The following are a series of cardiovascular indicators for the Medicare population. Medicare is the federal health insurance program for persons ages 65 years or older, persons under age 65 years with certain disabilities, and persons of any age with end-stage renal disease.

Stroke: Medicare Population

The rate of Medicare beneficiaries treated for stroke in 2017 is 3.8 percent. When compared to other Illinois counties, Lake County is a yellow indicator (50th-75th percentile). The percentage is decreasing over time, as shown in Exhibit 41 (Conduent Healthy Communities Institute, Centers for Medicare & Medicaid Services, 2017).

Exhibit 41: Lake County Medicare Population Treated for Stroke 2010-2017



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

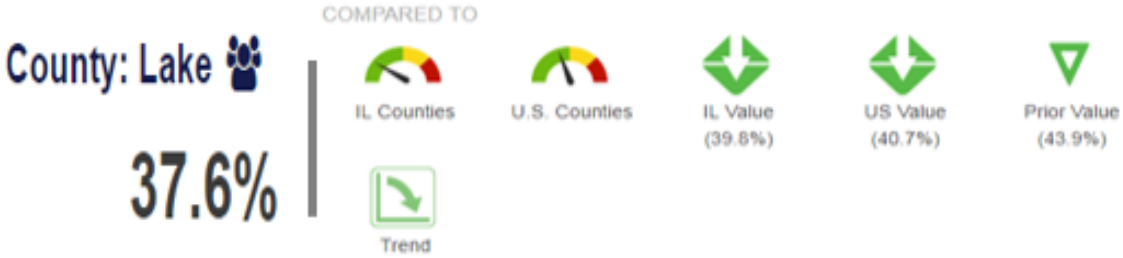
Ischemic Heart Disease: Medicare Population

Ischemic heart disease is characterized by “the narrowing of the arteries of the heart, resulting in less blood and oxygen reaching the heart muscle. In Lake County, 24.3 percent of Medicare beneficiaries were treated for ischemic heart disease in 2017. The highest reported percentage was in 2010 (28.4 percent) and since then there has been a statistically significant decrease. Lake County is in the best 0-50th percentile (green indicator) and has a lower percentage than Illinois (26.8 percent) and the U.S. (26.9 percent) (Conduent Healthy Communities Institute, Centers for Medicare & Medicaid Services, 2017).

Hyperlipidemia: Medicare Population

The increase of fat, cholesterol and triglycerides, in the blood is also known as hyperlipidemia. Approximately 37.6 percent of Medicare beneficiaries in Lake County were treated for hyperlipidemia in 2017. From 2010 through 2016, the percentage remained steady between 43 percent and 45.3 percent. However, the percentage is now decreasing, falling 6.3 percent from 2016 through 2017. Lake County is in the best 0-50th percentile (green indicator) and has a lower percentage than Illinois (39.8 percent) and the U.S. (40.7 percent) (Conduent Healthy Communities Institute, Centers for Medicare & Medicaid Services, 2017). Exhibit 42 provides a summary of Medicare beneficiaries with hyperlipidemia.

Exhibit 42: Lake County Medicare Beneficiaries Treated for Hyperlipidemia 2017



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

Hypertension: Medicare Population

As stated earlier, a normal blood pressure reading should be less than 120/80 mm Hg for an adult. For 2017, the percentage of Medicare beneficiaries treated for hypertension in Lake County was 53.2 percent. The percentage of Medicare beneficiaries treated for stroke has fluctuated, but is decreasing. In 2010 the percentage was 53 percent, reaching its highest point in 2011 (53.6 percent) and dropping to its lowest point in 2015 (51.7 percent), then increasing again by 1.6 percent in 2016 (53.3 percent). In Lake County, the percentage remains in the best 0-50th percentile (green indicator) and is lower than the rates for Illinois (58.2 percent) and the U.S. (57.1 percent) (Conduent Healthy Communities Institute, Centers for Medicare & Medicaid Services, 2017).

Atrial Fibrillation: Medicare Population

The American Heart Association defines Atrial Fibrillation (AFib) as “a quivering or irregular heart beat that can lead to blood clots, stroke, heart failure and other heart-related complications” (AHA, 2016). The CDC estimates that 2.7 to 6.1 million people living in the U.S. have atrial fibrillation—rates which are projected to increase with the aging of the population. In Lake County, the percentage of Medicare beneficiaries who were treated for atrial fibrillation (9.1 percent) is higher than both the U.S. (8.4 percent) and Illinois (8.9 percent), and is a yellow indicator (worst 50th-75th percentile) compared to Illinois counties. The lowest reported percentage for Lake County was in 2010 (8.8 percent) and since then it has been on a statistically significant increase (Conduent Healthy Communities Institute, Centers for Medicare and Medicaid Services, 2017).

Heart Failure: Medicare Population

Among the Medicare population, 12.9 percent of beneficiaries were treated for heart failure in Lake County. Since 2010 (14.9 percent), the heart failure percentage has been on a statistically significant decrease. The lowest reported percentage was in 2015 (12.2 percent), but the rate slightly increased by 2017 (12.9 percent). Lake County is doing better than the U.S. (15.2 percent) and Illinois (13.9 percent). Lake County is in the best 0-50th percentile (green indicator) when compared to Illinois counties (Conduent Healthy Communities Institute, Centers for Medicare and Medicaid Services, 2017).

Key Findings and Disparities: Cardiovascular Disease

There has been a statistically significant decrease in the death rate due to cerebrovascular disease (stroke) and coronary heart disease in Lake County.

- In Lake County, 9.1 percent of Medicare beneficiaries have been treated for atrial fibrillation, and the rate is experiencing a statistically significant increase.
- Males (90.5 deaths per 100,000 population) have a higher death rate than females (50.3 deaths per 100,000 population) due to coronary heart disease.
- Females (25.5 ER visits per 10,000 population) have a higher ER rate due to hypertension than males (19.3 ER visits per 10,000 population).

Disparities

Disparities do exist for several cardiovascular indicators. In comparison to other races and ethnicities, African Americans or Blacks have the following disparities:

- The highest ER rate due to both heart failure (8.6 ER visits per 10,000 population) and due to hypertension (73.9 per 10,000 population)
- The second highest hospitalization rate due to hypertension (16.9 hospitalizations per 10,000 population)
- The highest death rate due to coronary heart disease (96.4 deaths per 100,000 population)

American Indians or Alaskan Natives have the highest hospitalization rate due to hypertension (29.5 hospitalizations per 10,000 population), and the second highest ER rate due to hypertension (51.1 per 10,000 population) as compared to other races and ethnicities.

The North Chicago ER rate due to hypertension (62.8 ER visits per 10,000 population) is in the worst 25th percentile (red indicator) compared to other Illinois zip codes. Compared to other zip codes in Illinois, the highest hospitalization rates due to heart failure occur in the communities of North Chicago (76.6 hospitalizations per 10,000 population), and both zip codes of Waukegan— 60085 (51.2 hospitalizations per 10,000 population) and 60087 (46.8 hospitalizations per 10,000 population).

Older adults have the highest hospitalization rates due to hypertension—ages 65-84 years (11.3 hospitalizations per 10,000 population) and ages 85 years and older (30.3 hospitalizations per 10,000 population), as compared to other age groups.

Older adults also have the highest ER rates due to heart failure (10.9 ER visits per 10,000 population) for adults ages 65-84 years and (49.3 ER visits per 10,000 population) for adults ages 85 years and older, both higher than the Lake County ER rate (3.6 per 10,000 population).

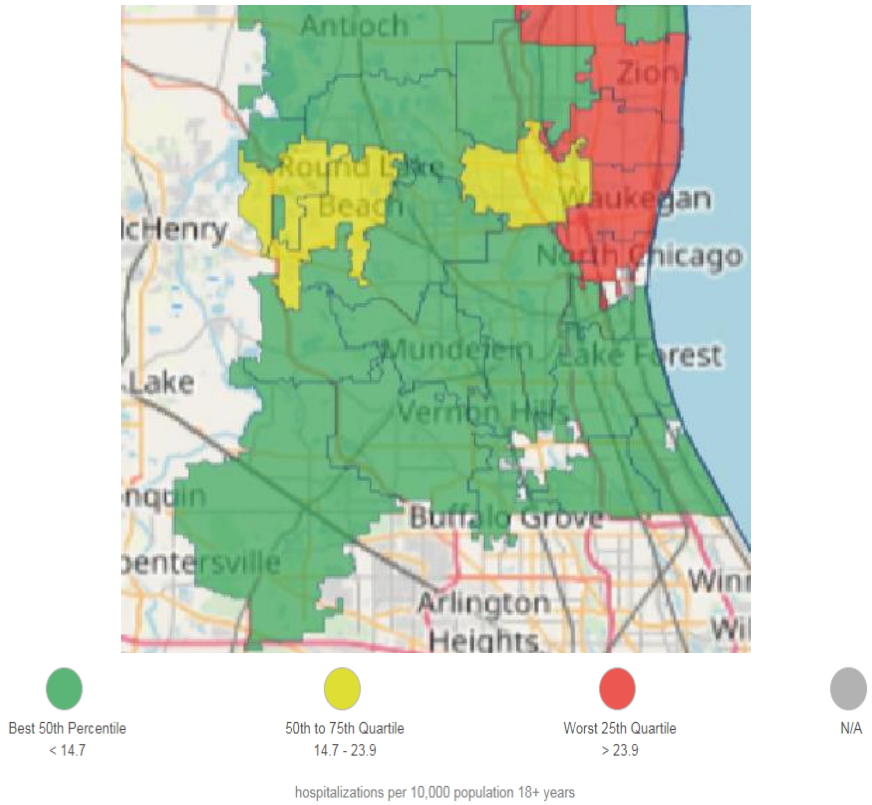
Diabetes and Kidney Disease

Age-Adjusted Hospitalization Rate Due to Diabetes

The age-adjusted hospitalization rate due to diabetes is 15.1 hospitalizations per 10,000 population 18 years and older. When compared to other Illinois counties, Lake County is in the worst 50th-75th percentile (yellow indicator). Lake County is below the Illinois value of 17.6 hospitalizations per 10,000 population. Similar to the other diabetes indicators, adults age 65-84 (27.9 hospitalizations per 10,000 population) and over 85 (35.9 hospitalizations per 10,000 population) have hospitalization rates highest among all adult age groups. Men (17.4 hospitalizations per 10,000 population) have higher hospitalizations due to diabetes than women (13.3 hospitalizations per 10,000 population) (Conduent Healthy Communities Institute, Illinois Hospitalization Association, 2015-2017).

In Lake County, there are four communities in the worst 25th percentile (red indicator) for diabetes-related hospitalization rates, compared to other Illinois zip codes. These communities are North Chicago (43.2 hospitalizations per 10,000 population), Zion (39.5 hospitalizations per 10,000 population), 60087 Waukegan (29.1 hospitalizations per 10,000 population) and 60085 Waukegan (28.4 hospitalizations per 10,000 population). The identified communities also have socioeconomic disparities, which research shows increases risk for chronic disease (Conduent Healthy Communities Institute, Illinois Hospitalization Association, 2015-2017). Exhibit 43 maps the location of these communities, displayed in red.

Exhibit 43: Lake County Age-Adjusted Hospitalization Rate due to Diabetes by Zip Code 2015-2017



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

Age-Adjusted Emergency Room Rate Due to Diabetes

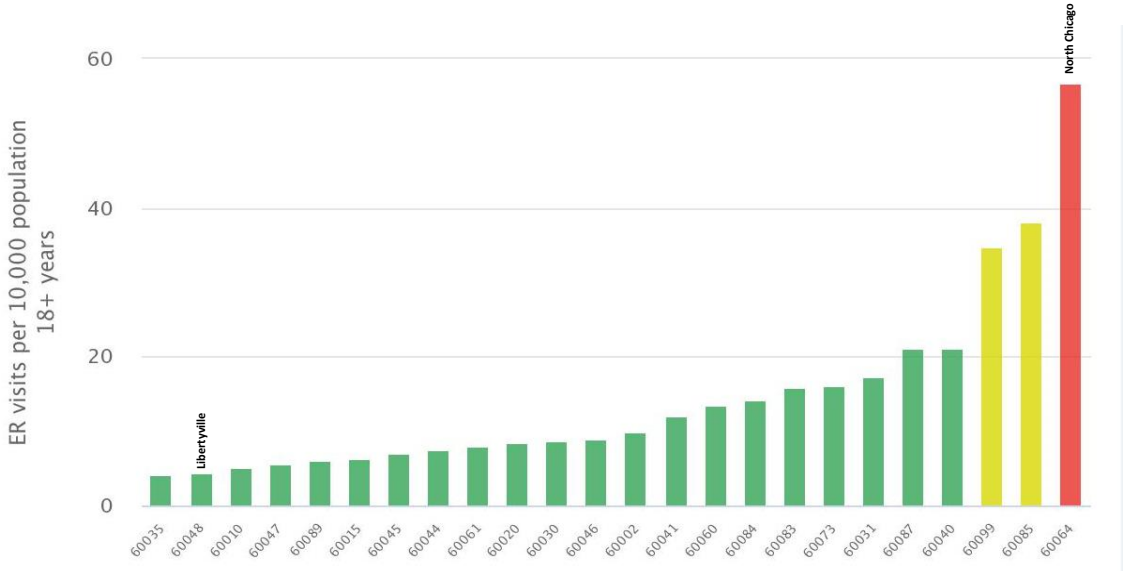
The age-adjusted ER rate due to diabetes is 14.3 ER visits per 10,000 population, which affects an estimated 766 adults out of a population of 535,682 adults ages 18 and older in Lake County. When compared to other Illinois counties, the ER rate due to diabetes is in the best 0-50th percentile (green indicator) for Lake County. The Illinois rate is 27.7 ER visits per 10,000 population. The indicator does not include cases of gestational diabetes, only cases of a primary diagnosis of Type 1 and Type 2 diabetes. The population most affected are older adults with the highest rate compared to other age groups at 24.6 ER visits per 10,000 population for ages 85 years and older, followed by ages 65-84 years, with 23.5 ER visits per 10,000 population (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

North Chicago is the only community in the worst 25th percentile (red indicator) when compared to other Illinois zip codes, with the highest ER rates due to diabetes (56.6 ER visits per 10,000 population). Populations living in high poverty communities often have higher ER rates due to diabetes. In North Chicago, 14.6 percent of seniors are living below the FPL and eight percent of households are on cash public assistance—the highest in Lake County. In Libertyville, a wealthier community, less than one percent of the population lives on cash public assistance, only 2.5 percent of seniors live below poverty level and the ER rates due to diabetes (4.3 hospitalizations per 10,000 population) are in the best 0-50th

percentile when compared to other Illinois zip codes. While social and economic factors may not be the only determining factors, they are contributing factors to poor health outcomes (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

Exhibit 44 displays the Lake County ER rate due to diabetes by zip code. The rate for North Chicago is indicated in red; since it is in the worst 25th percentile (red indicator) compared to other Illinois zip codes.

Exhibit 44: Lake County Age-Adjusted ER Rate due to Diabetes by Zip Code 2015-2017



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

Age-Adjusted Hospitalization Rate Due to Uncontrolled Diabetes

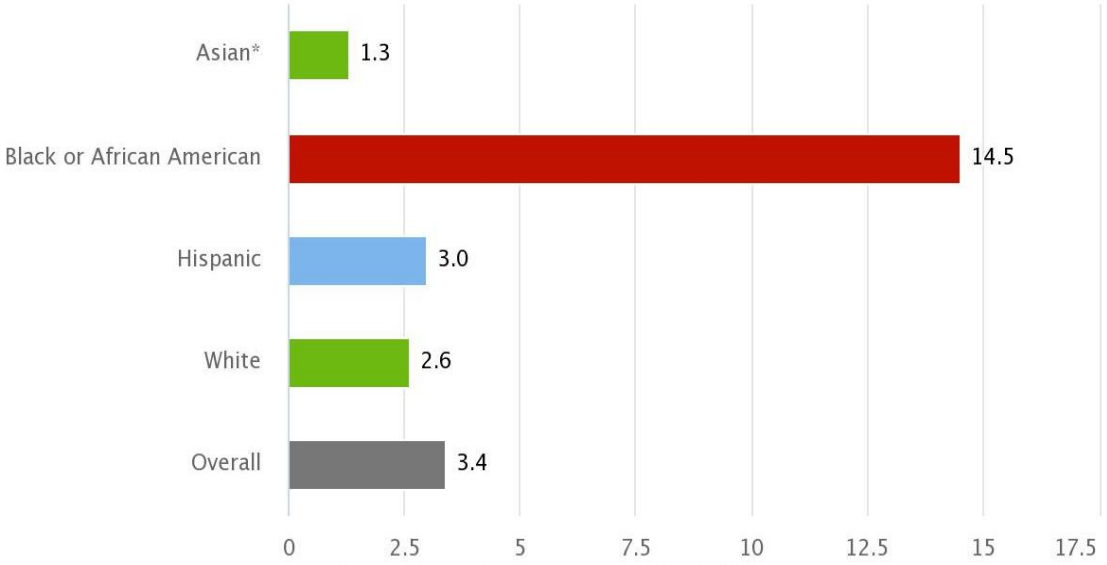
According to Conduent Healthy Communities Institute, uncontrolled diabetes is a non-specific diagnosis, which indicates that the patient's blood sugar level is not kept within acceptable levels by his or her current treatment routine. The hospitalization rate due to uncontrolled diabetes includes cases with a primary diagnosis of uncontrolled diabetes, and cases of gestational, short-term and long-term complications are excluded.

Lake County is in the worst 50th-75th percentile (yellow indicator) for hospitalization rates due to uncontrolled diabetes (3.4 hospitalizations per 10,000 population). Approximately 182 adults over 18 years of age are affected by uncontrolled diabetes. While the rate may seem low, the Lake County rate is high when compared to other Illinois counties. The Illinois rate is 3.7 hospitalizations per 10,000 population. The data consistently shows that older adults ages 65-84 (8.4 hospitalizations per 10,000 population) and ages 85 and older (12.5 hospitalizations per 10,000 population) are the most hospitalized for uncontrolled diabetes. African Americans or Blacks (14.5 hospitalizations per 10,000 population) have a rate for uncontrolled diabetes that is three-times higher than any other race or ethnicity in Lake County. The lowest rates by race and ethnicity are Asians (1.3 hospitalizations per

10,000 population) (Conduent Healthy Communities Institute, Illinois Hospitalization Association, 2015-2017).

Exhibit 45 displays the hospitalization rate due to uncontrolled diabetes for Lake County by race and ethnicity. The rate for African Americans or Blacks is indicated in red.

Exhibit 45: Age-Adjusted Hospitalization Rate Due to Uncontrolled Diabetes by Race and Ethnicity 2015-2017



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

Age-Adjusted Emergency Room Rate Due to Uncontrolled Diabetes

The age-adjusted ER rate due to uncontrolled diabetes is 8.6 ER visits per 10,000 population. For this indicator, Lake County is in the best 0-50th percentile (green indicator), with a rate lower than the Illinois rate of 14.0 ER visits per 10,000 population. Again, older adults ages 65-84 (15.2 ER visits per 10,000 population) and ages 85 and older (16.6 ER visits per 10,000 population) have the highest ER rates due to uncontrolled diabetes compared to the other age groups; both age groups also have rates that are higher than the Lake County rate (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

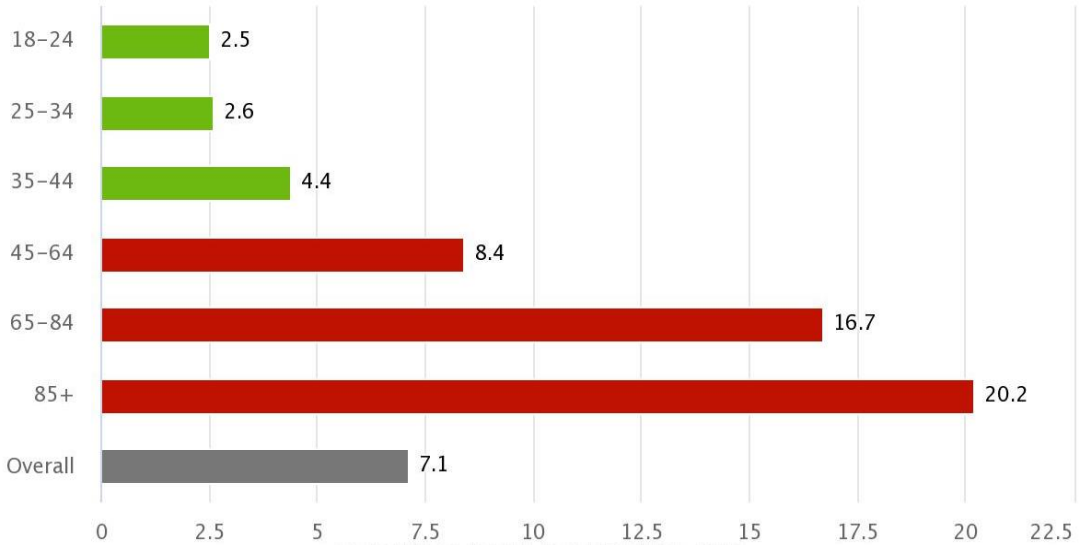
Age-Adjusted Hospitalization Rate Due to Long-Term Complications of Diabetes

Long-term complications of diabetes include cases with eye, renal, neurological or circulatory complications or complications not otherwise specified. The indicator does not consider gestational diabetes. The age-adjusted hospitalization rate due to long-term complications of diabetes is 7.1 hospitalizations per 10,000 population for Lake County. When compared to other Illinois counties, this is lower than the Illinois rate of 8.6 hospitalization per 10,000 population.

Men (9.6 hospitalizations per 10,000 population) experience higher hospitalization rates than women (5.0 hospitalizations per 10,000 population). By age, seniors ages 85 years and older (20.2 hospitalizations per 10,000 population) have the highest rate of the adult age groups. All adults ages 45-64 years (8.4 per 10,000 population), 65-84 years (16.7 per 10,000 population) and ages 85 years and older all have hospitalization rates above the county rate (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

Exhibit 46 shows hospitalizations due to long-term complications of diabetes by age group. The age groups with rates higher than the county rate (7.1 per 10,000 population) are indicated in red.

Exhibit 46: Lake County Age-Adjusted Hospitalization Rates due to Long-Term Complications of Diabetes by Age 2015-2017



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

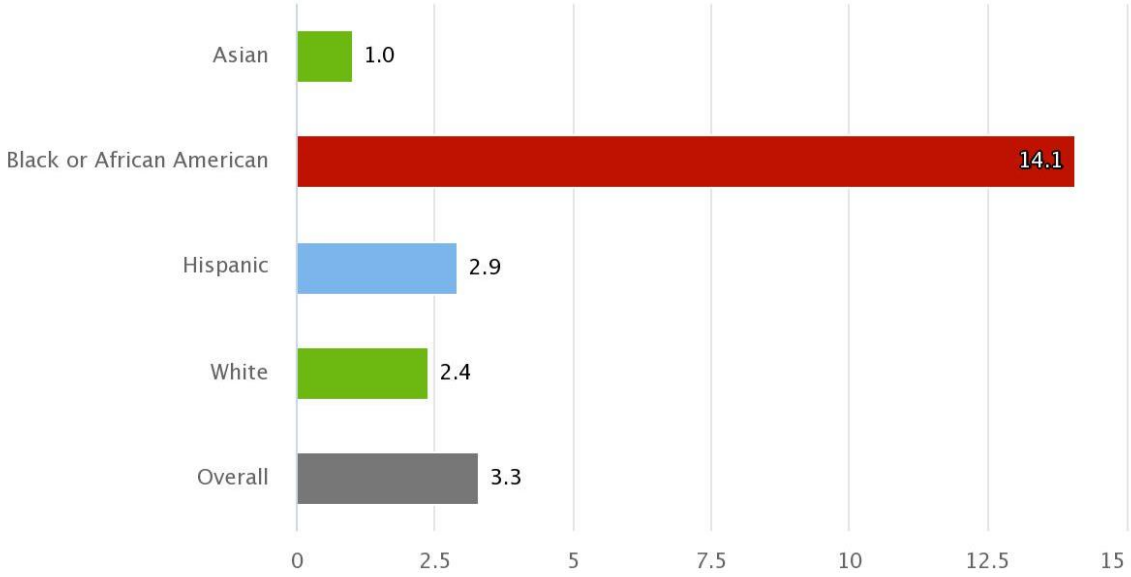
Age-Adjusted Emergency Room Rate Due to Long-Term Complications of Diabetes

The Lake County age-adjusted ER rate due to long-term complications of diabetes is 3.3 ER visits per 10,000 population ages 18 years and older. The county is in the best 0-50th percentile (green indicator) when compared to other Illinois counties and the rate is much lower than the rate for Illinois (5.6 hospitalization per 10,000 population).

In Lake County, seniors ages 65-84 (5.8 ER visits per 10,000 population) visit the ER more frequently than any other age group for long-term complications of diabetes. Similar to the outcomes for short-term complications of diabetes, African Americans or Blacks (14.1 hospitalizations per 10,000

population) also have the highest ER rate for long-term complications of diabetes when compared to other races and ethnicities, as shown in Exhibit 47. The rate for African Americans or Blacks is displayed in red (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

Exhibit 47: Lake County Age-Adjusted ER Rate due to Long-Term Complications of Diabetes by Race and Ethnicity 2015-2017

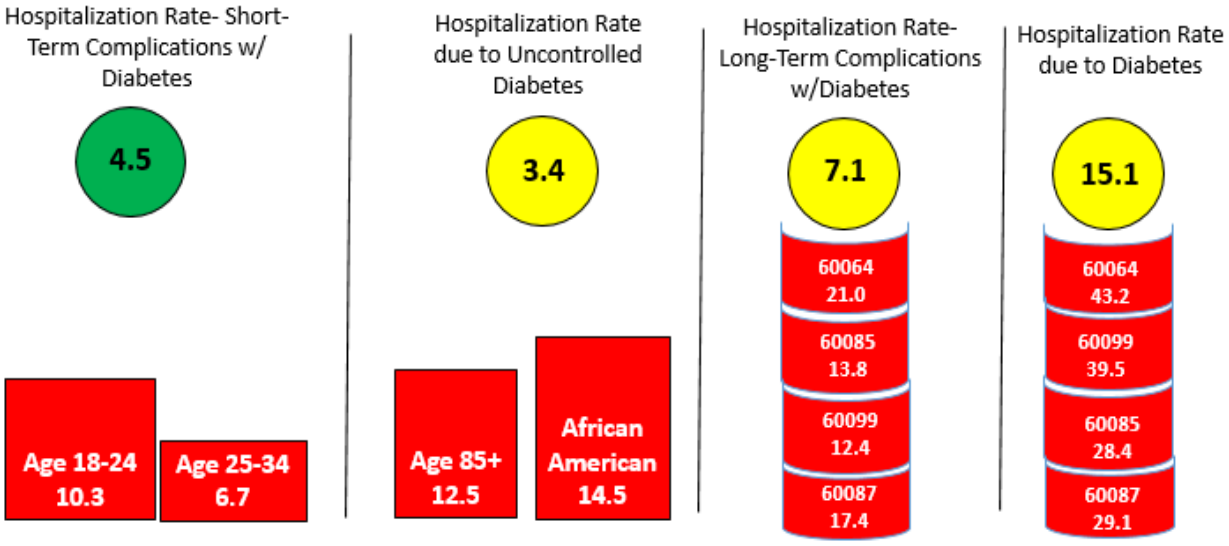


Source: Conduent Healthy Communities Institute, Illinois Hospital Association, 2019.

In reviewing the hospitalization rates for all the above diabetes indicators, the Lake County rates fall in the worst 50th-75th percentile (yellow indicator) compared to other counties in the state, as displayed in the Exhibit 48 by the yellow bubbles. Additionally, as shown in red in the same exhibit, the following disparities are noted for hospitalization rates:

- Older adults (ages 85 and older) have a higher rate of hospitalization due to long-term complications of diabetes, compared to other age groups.
- African Americans/Blacks have a higher rate of hospitalization due to uncontrolled diabetes than any other race or ethnicity.
- The communities of North Chicago, Waukegan and Zion have higher rates of hospitalization for diabetes and long-term diabetes-related issues, compared to other Illinois zip codes.

Exhibit 48: Lake County Hospitalization Rates due to Diabetes and Disparities 2015-2017



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

Diabetes in the Medicare Population

Among the Medicare population, 24.2 percent of Lake County beneficiaries were treated for diabetes. Over an eight-year period, the rates have not fallen below 23 percent nor have they exceeded 24.2 percent. Despite the minor fluctuation, the Lake County rate is increasing over time. The Lake County rate is better than the Illinois (27.2 percent) and U.S. (27.2 percent) rates and is in the best 0-50th percentile (green indicator) when compared to other counties in the state (Conduent Healthy Communities Institute, Centers for Medicare & Medicaid Services, 2017).

Adults Ages 20 and Older With Diabetes

The rate of adults, ages 20 and older, who have ever been diagnosed with diabetes in Lake County is 7.8 percent. The data does not include women who were diagnosed with diabetes during the course of their pregnancy. The lowest reported rate in an eight-year period was in 2015 at 6.7 percent, and the rate was at its highest point in 2012 at 9.0 percent. Over time, the rate is decreasing. Lake County is in the best 0-50th percentile (green indicator) when compared to the Illinois and U.S. counties. The Illinois (9.1 percent) and U.S. (10.2 percent) rates are both higher than the Lake County rate (Conduent Healthy Communities Institute, County Health Rankings, 2016).

Chronic Kidney Disease: Medicare Population

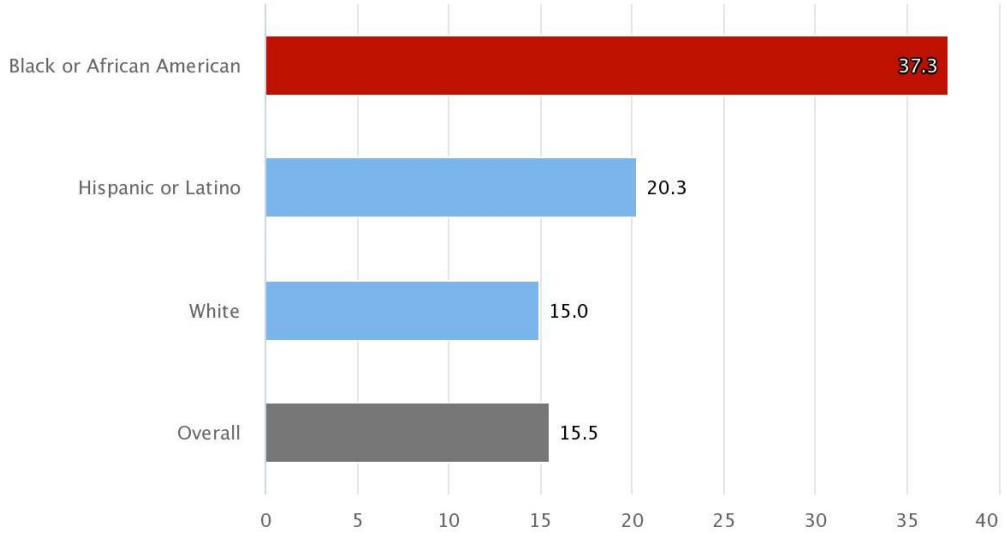
As of 2017, 21.6 percent of Medicare beneficiaries were treated for chronic kidney disease (CKD) in Lake County. The primary causes of CKD are associated with poor diabetes self-management and high blood pressure. In Lake County, the percentage of CKD in the Medicare population is increasing. In 2010, the rate was 13.1 percent and has since increased by 8.5 percent through 2017. However, Lake County has a better percentage than Illinois and the U.S., both at 24.0 percent. The CKD percentage in

the Medicare population is an even greater issue in neighboring counties, such as in McHenry (22.5 percent), Kane (22.6 percent) and Cook (24.8 percent), all with higher rates than Lake County.

Age-Adjusted Death Rate Due to Kidney Disease

The age-adjusted death rate due to kidney disease in Lake County is 15.5 deaths per 100,000 population. The conditions considered under kidney disease are nephritis, nephrotic syndrome and nephrosis. The highest rate reported over an eight-year period was from 2008 through 2010 (15.9 deaths per 100,000 population) and currently the rate remains stable. When compared to other counties in the U.S. and Illinois, Lake County is in the best 0-50th percentile (green indicator). The Illinois rate is 17.0 deaths per 100,000 population, higher than the U.S. rate of 13.2 deaths per 100,000 population. Men (18.9 deaths per 100,000 population) experience higher death rates due to kidney disease than women (13.0 deaths per 100,000 population). The Black or African American (37.3 deaths per 100,000 population) population experience higher death rates when compared to other groups, as indicated in Exhibit 49 (Conduent Healthy Communities Institute, Centers for Disease Control and Prevention, 2015-2017).

Exhibit 49: Lake County Age-Adjusted Death Rate due to Kidney Disease by Race and Ethnicity 2015-2017



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

Key Findings and Disparities: Diabetes and Kidney Disease

- Nationally, American Indians/Alaskan Natives have the highest prevalence of diagnosed diabetes for both men (14.9 percent) and women (15.3 percent), which is consistent with national findings (Centers for Disease Control and Prevention, National Diabetes Statistics Report, 2017).
- Nationally, among people of Hispanic ethnicity, Mexicans have the highest prevalence of diagnosed diabetes (13.8 percent), followed by Puerto Ricans (12.0 percent), Cubans (9.0

percent), and Central/South Americans with 8.5 percent (Centers for Disease Control and Prevention, National Diabetes Statistics Report, 2017).

- In Lake County, for adults ages 20 and older, 8.8 percent of men have a diagnosis of diabetes and 7.0 percent of women (7.0 percent) have a diagnosis of diabetes (Conduent Healthy Communities Institute, Centers for Disease Control and Prevention, 2016).
- Lake County is a yellow indicator (in the worst 50th-75th percentile compared to Illinois counties) for hospitalizations due to diabetes (15.1 per 10,000 population), due to uncontrolled diabetes (3.4 per 10,000 population) and due to long-term complications with diabetes (7.1 per 10,000 population).
- In Lake County, the percentage of chronic kidney disease in the Medicare population is increasing.

Disparities

Compared to other races and ethnicities, American Indians or Alaskan Natives have the highest hospitalization rate due to long-term complications of diabetes (34.5 hospitalizations per 10,000 population), followed by African Americans/Blacks (17.2 per 10,000 population) and Hispanics (11.3 per 10,000 population).

Compared to all other races and ethnicities:

- African Americans/Blacks have the highest ER rate due to both short-term complications of diabetes (1.1 per 10,000 population) and long-term complications of diabetes (14.1 ER visits per 10,000 population).
- African Americans/Blacks have the highest hospitalization rate due to both short-term complications of diabetes (19.3 per 10,000 population).
- African Americans/Blacks have the highest death rate (37.3 deaths per 100,000 population) due to kidney disease.

The communities with the highest SocioNeeds ranking also have several disparities for diabetes.

- North Chicago (21.0 per 10,000 population), Waukegan- 60087 (17.4 per 10,000 population), Waukegan-60085 (13.8 per 10,000 population) and Zion (12.4 per 10,000 population) have the highest hospitalization rates for long-term complications of diabetes, all in the worst 25th percentile (red indicator) compared to other Illinois zip codes.
- The ER rate due to diabetes for North Chicago (56.6 per 10,000 population) is the only rate in the worst 25th percentile (red indicator) compared to other Illinois zip codes.

Infectious Disease and Sexually Transmitted Infections

Chlamydia Incidence Rate

In the nation, chlamydia is one of the most frequently reported bacterial sexually transmitted infections (STIs). The chlamydia incidence rate for Lake County, 432.2 per 100,000 population, is seeing a statistically significant increase and is in the worst 25th percentile (red indicator) when compared to other Illinois counties. An estimated 2,315 adults, ages 18 and older are affected by chlamydia in Lake County. In Illinois, the chlamydia incidence rate is 561.4 cases per 100,000 population and 497.3 cases

per 100,000 population for the U.S. (Conduent Healthy Communities Institute, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, 2016).

Gonorrhea Incidence Rate

In 2008, the gonorrhea incidence rate was 68.8 cases per 100,000 population. By 2010, the rate decreased to 42.8 cases per 100,000 population—the lowest reported rate over a nine-year period. However, the incidence rate for gonorrhea is rising in Lake County. For every 100,000 individuals in 2016, 68.8 cases of gonorrhea were reported in Lake County; an estimated 369 individuals are affected by gonorrhea (Conduent Healthy Communities Institute, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, 2016).

Syphilis Incidence Rate

In Lake County, the syphilis incidence rate is 4.0 cases per 100,000 population. An estimated 21 adults age 18 and older are affected by syphilis. In 2010, Lake County had the lowest reported rate of 0.7 cases per 100,000 population. Since 2010, the syphilis incidence rate has increased in Lake County. However, the rate in Lake County is much lower than the rate for Illinois (9.8 cases 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) is known to damage the immune system, which can lead to acquired immunodeficiency syndrome (AIDS), a life-threatening condition. In 2017, Lake County experienced 31 cases of HIV. Although the total number of cases are not high, the rates have seen a statistically significant decrease over time; the highest reported year for HIV cases was in 2011 with 53 cases (Conduent Healthy Communities Institute, Illinois Department of Public Health, 2017).

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 had 11 cases of tuberculosis, but the rate is increasing at a statistically significant rate. The highest reported cases for Lake County was 18 in 2016 (Conduent Healthy Communities Institute, Illinois Department of Public Health, 2017).

Hepatitis

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 following hepatitis indicators.

Age-Adjusted Hospitalization Rate due Hepatitis

The age-adjusted hospitalization rate due to hepatitis is 1.0 hospitalization per 10,000 population 18 years and older for Lake County. The indicator considers cases with a primary diagnosis of acute or chronic viral hepatitis, acute or chronic toxic liver disease with hepatitis, cytomegaloviral hepatitis, mumps hepatitis, alcoholic hepatitis, autoimmune hepatitis and chronic hepatitis not elsewhere classified. The Lake County ER rate is equal to the Illinois ER rate due to hepatitis (1.0 per 10,000 population) (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

Age-Adjusted Emergency Room Rate due to Hepatitis

Lake County experiences very few ER visits due to hepatitis, only 0.2 ER visits per 10,000 population ages 18 years and older. The indicator considers the same cases as listed for hospitalization. In Illinois, the rate is slightly higher, at 0.5 ER visits per 10,000 population (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

Key Findings: Infectious Diseases and Sexually Transmitted Infections

The chlamydia incidence rate for Lake County, 432.2 per 100,000 population, is seeing a statistically significant increase and is in the worst 25th percentile (red indicator) compared to Illinois counties.

- Tuberculosis cases in Lake County are also increasing at a statistically significant rate.
- The incidence rates for gonorrhea (68.8 cases per 100,000 population) and syphilis (4.0 cases per 100,000 population) are both increasing in Lake County.
- The number of HIV cases in Lake County are decreasing at a statistically significant rate.

Mental Health

Mental disorders have become one of the leading causes of disability in the U.S. According to the National Alliance on Mental Illness (NAMI), approximately one in five Americans (46.6 million) experiences mental illness in a given year (National Alliance on Mental Illness, 2019).

Age-Adjusted Emergency Room Rate due Mental Health

Lake County is in the best 0-50th percentile (green indicator) when compared to other Illinois counties, with an age-adjusted ER rate of 74.1 ER visits per 10,000 population for adults ages 18 and older. The indicator considers a wide range of cases such as adjustment disorders; anxiety disorders; attention deficit conduct and disruptive behavior disorders; delirium, dementia, amnestic and other cognitive disorders; mood disorders; personality disorders; schizophrenia and other psychotic disorders.
For Illinois, the rate is higher, at 95.3 ER visits per 10,000 population. Young adults have the highest ER rates—ages 18-24 years (122.6 ER visits per 10,000 population) and ages 25-34 years (115.5 ER visits per 10,000 population) compared to other age groups. When compared to men (68.2 ER visits per 10,000 population), women (79.9 ER visits per 10,000 population) have higher ER rates due to mental health (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

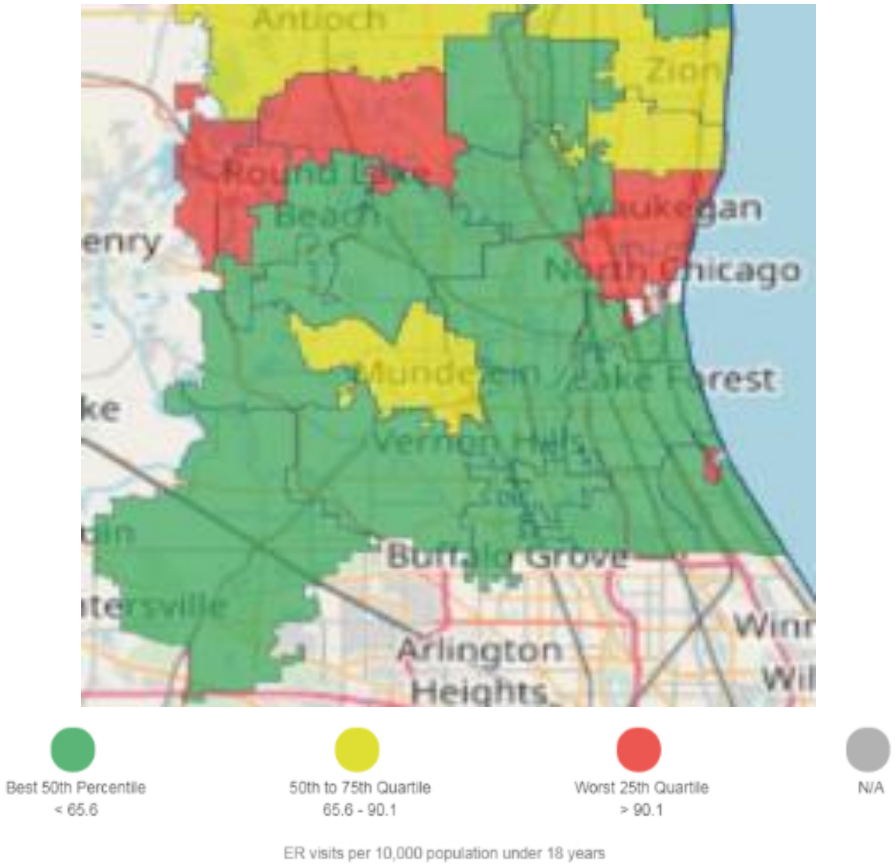
Age-Adjusted Emergency Room Rate due to Pediatric Mental Health

This indicator considers the same cases listed in adult mental health above. In Lake County, the age-adjusted ER rate due to pediatric mental health is 66.2 ER visits per 10,000 population under 18 years. The rate for Lake County is higher than the Illinois rate of 64.5 ER visits per 10,000 population and falls in the best 0-50th percentile (green indicator) compared to counties in Illinois. By age, children ages 10 through 14 years (98.1 ER visits per 10,000 population) and ages 15 through 17 years (198.2 ER visits per 10,000 population) are the most affected and have rates higher than the county rate. The data also indicates that female children (75.6 ER visits per 10,000 population) are more likely to visit the ER for mental health than male children (57.3 ER visits per 10,000 population). By community, the highest ER rates due to pediatric mental health (compared to other Illinois counties) occur in:

- 60040 Highland Park/Fort Sheridan (113.3 per 10,000 population)
- 60064 North Chicago (107.0 10,000 population)
- 60046 Lake Villa (94.4 per 10,000 population)
- 60041 Ingleside (93.8 per 10,000 population)
- 60020 Fox Lake (91.3 per 10,000 population)
- 60085 Waukegan (90.7 per 10,000 population).

Exhibit 50 displays these communities in red, indicating that they fall within the worst 25th percentile (red indicator) compared to other Illinois zip codes.

Exhibit 50: Age-adjusted ER Rate due to Pediatric Mental Health by Zip Code 2015-2017



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

Age-Adjusted Emergency Room Rate Due to Adolescent Suicide and Intentional Self-Inflicted Injury

For every 10,000 adolescents (ages 10-17 years) approximately 65.1 come to the ER for suicide and self-injury-related cases in Lake County. When compared to other counties in Illinois, Lake County is in the best 0-50th percentile (green indicator) for adolescent suicide and intentional self-inflicted injury. However, the Illinois rate (63.9 per 10,000 population) is lower than the county rate. Adolescents between ages 15 and 17 years of age experience higher ER visits (108.8 per 10,000 population) compared to the other age groups. Females (90.8 per 10,000 population) also have higher ER rates than males (40.8 ER visits per 10,000 population) for suicide and self-injury-related ER visits (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

According to the 2018 Illinois Youth Survey, 15 percent of 10th grade students (down from 16 percent in 2016) and 14 percent of 12th grade students (the same as 2016) seriously considered attempting suicide in the past 12 months. IYS results for 2018 in the state of Illinois showed 16 percent of 10th grade students (same as 2016) and 15 percent of 12th grade students (up from 14 percent in 2016) had seriously considered suicide (Illinois Youth Survey, Lake County Report and Illinois Youth Survey State of Illinois Report, 2016 and 2018).

Age-Adjusted Emergency Room Rate Due to Adult Suicide and Intentional Self-Inflicted Injury

For adults, the age-adjusted ER rate due to suicide and intentional self-inflicted injury is in the best 0-50th percentile (green indicator) at 26.4 ER visits per 10,000 population ages 18 and older. The county rate is below the Illinois rate of 34.3 per 10,000 population. Adults between the ages of 18-24 years (57.0 ER visits per 10,000 population) and 25-34 years (42.3 ER visits per 10,000 population) experience higher visits to the ER when compared to adults over the age of 35 years. Men and women have the same rate of ER visits due to suicide and intentional self-inflicted injury (26.5 per 10,000 population) (Conduent Healthy Communities Institute, Illinois Hospital Association 2015-2017).

Poor Mental Health

The average number of days that adults report their mental health is not good in the past 30 days is 3.2 days in Lake County. In Illinois, the average is 3.5 days and 3.8 days for the U.S. When compared to other Illinois and U.S. counties, Lake County ranks in the best 0-50th percentile (green indicator) for adults who report their mental health was not good in the past 30 days (Conduent Healthy Communities Institute, County Health Rankings, 2016).

Frequent Mental Distress

Frequent mental distress considers adults who 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. In Lake County, 9.6 percent of adults reported having frequent mental distress. The Lake County rate is better

than the state (10.0 percent) and the national percentage (15.0 percent). In comparison to other Illinois and U.S. counties, Lake County is in the best 0-50th percentile (green indicator) for adults who reported that their mental health was not good for 14 or more of the past 30 days (Conduent Healthy Communities Institute, County Health Rankings, 2016).

Depression in the Medicare Population

Depression is an on-going condition that negatively effects a person's feeling, behaviors and their thought process. Among the Medicare population, 14.3 percent received treatment for depression in Lake County. The lowest reported percentage was in 2010 (12 percent) and the rate is increasing at a statistically significant rate. Although the rates are on the rise, Lake County remains in the best 0-50th percentile (green indicator) when compared to other Illinois and U.S. counties. In Illinois, 16.4 percent of Medicare beneficiaries were treated for depression, lower than 17.9 percent in the U.S. (Conduent Healthy Communities Institute, Centers for Medicare & Medicaid Service, 2017). Exhibit 51 displays the increase over time in the percent of Medicare beneficiaries diagnosed with depression.

Exhibit 51: Lake County Percent of Medicare Population Treated for Depression 2010-2017

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

Age-Adjusted Death Rate Due to Suicide

For every 100,000 individuals in Lake County, an estimated 9.6 deaths result from suicide. Over a nine-year measurement period, the rates have fluctuated between 9.2 and 10.0 deaths per 100,000 population. The highest reported death rate was from 2010 through 2012 (10.0 deaths per 100,000 population). Lake County is in the best 50th percentile (green indicator) compared to Illinois counties, and is meeting the Healthy People 2020 target of 10.2 deaths per 100,000 population. Men and women have the same rate of ER visits due to suicide and intentional self-inflicted injury, however, men have much higher death rate due to suicide (15.2 deaths per 100,000 population) than women (4.4 deaths

per 100,000 population) in Lake County (Conduent Healthy Communities Institute, Centers for Disease Control and Prevention, 2015-2017).

Key Findings: Mental Health

The percentage of Medicare beneficiaries diagnosed with depression in Lake County is seeing a statistically significant increase.

- The ER rate due to mental health for both adults and pediatrics is in the best 0-50th percentile (green indicator) compared to other counties in the state.
- In Lake County, 9.6 percent of adults report having frequent mental distress, which is slightly lower than the rate for adults in Illinois (10 percent).
- The ER rates due to both adolescent and adult suicide and intentional self-injury are both in the best 0-50th percentile (green indicator) compared to Illinois counties.
- The Lake County death rate due to suicide (9.6 deaths per 100,000 population) is meeting the Healthy People 2020 target of 10.2 deaths per 100,000 population).

Disparities

Disparities by race and ethnicity are evident for both pediatric and adult mental health indicators:

- American Indians or Alaskan Natives (107.4 per 10,000 population) and African Americans or Blacks (102.1 per 10,000 population) have higher rates of pediatric ER visits due to mental health compared to all other races and ethnicities.
- American Indian or Alaskan Native adults (48.6 per 10,000 population) and African Americans or Blacks (41.4 ER visits per 10,000 population) also have higher ER rates due to adult suicide and intentional self-injury compared to other races and ethnicities.

The highest ER rates due to pediatric mental health occur in Highland Park/Fort Sheridan (113.3 per 10,000 population), North Chicago (107.0 per 10,000 population), Lake Villa (94.4 per 10,000 population), Ingleside (93.8 per 10,000 population), Fox Lake (91.3 per 10,000 population) and 60085 Waukegan (90.7 per 10,000 population). All rates fall within the worst 25th percentile (red indicator) compared to other zip codes in Lake County.

The communities of 60085 Waukegan (135.8 per 10,000 population), North Chicago (134.8 per 10,000 population), Fox Lake (129.8 ER visits per 10,000 population) and Zion (127.2 ER visits per 10,000 population) have the highest ER rates due to mental health compared to other Illinois zip codes—all in the worst 25th percentile (red indicator).

The highest ER rates due to adolescent suicide and intentional self-inflicted injury occur in Lake Villa (142.6 ER visits per 10,000 population) and Fox Lake (130.4 ER visits per 10,000 population), both falling in the worst 25th percentile (red indicator), compared to Illinois zip codes.

Fox Lake (59.0 ER visits per 10,000 population) is the only community in the worst 25th percentile (red indicator), compared to other Illinois zip codes, for ER visits due to adult suicide and intentional self-injury.

Substance Abuse

Tobacco Use

Teens Who Smoke

Over time, the percentage of teens who smoke in Lake County is decreasing at a statistically significant rate. The percentage for Lake County high school seniors smoking cigarettes is in the best 0–50th percentile (green indicator) compared to other Illinois counties According to the CDC's national statistics, between 2011 and 2018 the current (past 30 day) cigarette smoking rates among high school (9-12 grades) students dropped from 15.8 percent to 8.1 percent. This same trend is reflected among Illinois teens. In the 2018 Illinois Youth Survey, four percent of Lake County 12th grade students (down from six percent in 2016) reported smoking cigarettes on at least one day during the 30 days prior to the survey. In 2010, the percentage was at its highest point, with a 15 percent teen smoking rate (Center for Prevention and Research and Development, Lake County and McHenry County Illinois Youth Survey, 2016 and 2018).

Teens Who Use E-Cigarettes

While the numbers of teens who smoke cigarettes is decreasing, the use of e-cigarettes (vaping) is increasing among high school students. According to the 2018 IYS, 31 percent (up from 18 percent in 2016) of Lake County high school seniors had used e-cigarettes in the past 30 days prior to the survey. The same increase was reflected in the state of Illinois IYS survey results—27 percent of 12th grade students smoked an e-cigarette in the past 30 days in 2018, up from 18 percent in 2016 (Center for Prevention and Research and Development, Lake County, McHenry County and State of Illinois Reports, Illinois Youth Survey, 2016 and 2018).

Adults Who Smoke

The Centers for Disease Control and Prevention estimated that 14 percent of U.S. adults were "current" cigarette smokers in 2017, equivalent to 34.3 million adults. Of the 34.3 million adults that smoke, 75 percent smoked every day. The percentages consider adults 18 years and older who self-reported cigarette use either "every day" or "some days" (CDC, National Health Interview Survey, 2017).

In Lake County, 13.8 percent of adults smoke cigarettes. Although Lake County is not meeting the Healthy People 2020 target of 12 percent, it is in the best 0-50th percentile (green indicator) when compared to Illinois and U.S. counties. The Illinois percentage is 15.8 percent; the U.S. percentage is 17.1 percent. The prior percentage (13.6 percent) was slightly lower in Lake County (Conduent Healthy Communities Institute, County Health Rankings, 2016).

Alcohol Use

Teens Who Use Alcohol

In the nation, an estimated 623,000 adolescents ages 12-17 had an alcohol use disorder; 5.1 percent of that group received treatment (National Survey on Drug Use and Health, 2015). Research shows that underage drinking could interfere with brain development and increase an adolescent's risk of developing an alcohol use disorder.

Lake County is in the second worst 50th-75th percentile (yellow indicator) when compared to 77 Illinois counties for teens using alcohol, and the percent is increasing over time. In the 2018 IYS survey, 42 percent of Lake County 12th grade students reported drinking alcohol on at least one occasion during the 30 days prior to the survey, a slight increase from 41 percent in 2016. The Lake County alcohol usage is very similar to Illinois, at 40 percent in 2018 and 41 percent in 2016 for 12th grade students.

Additionally, IYS results indicate that the percent of high school seniors who are binge drinking decreased slightly from 2016 to 2018 (from 21 percent to 19 percent). The IYS results for Illinois 12th grade students also decreased from 2018 to 2016 (Center for Prevention and Research and Development, Lake County, McHenry County and State of Illinois Reports, Illinois Youth Survey, 2016 and 2018).

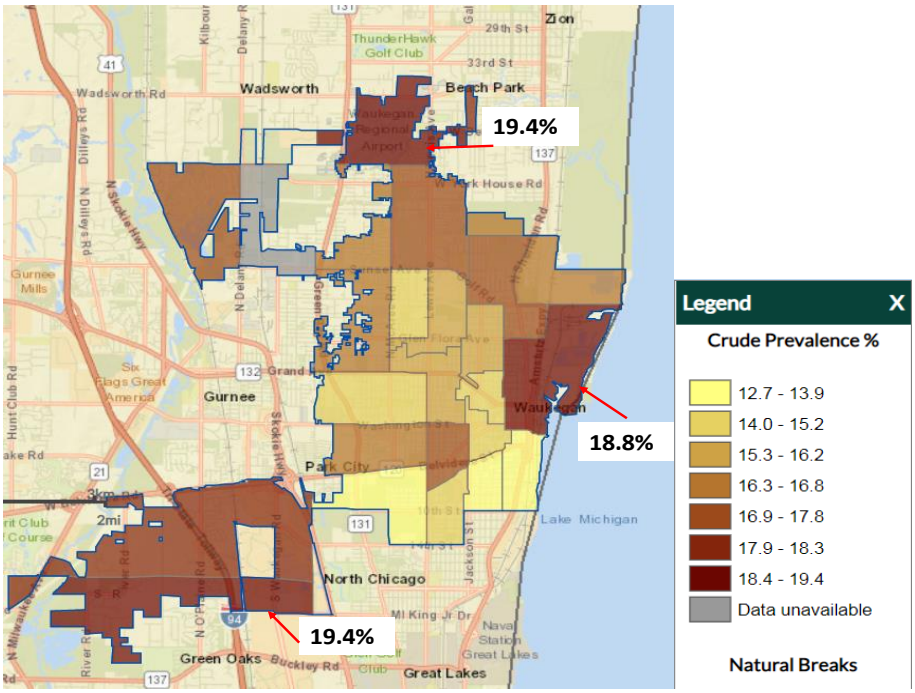
Adults Who Drink Excessively

In the 2019 State of Mental Health in America report, 6.1 percent of Americans reported having an alcohol use disorder in the past year. Additionally, data from the 2015 Behavioral Risk Factor Surveillance System report identified Illinois as a state with high prevalence rates for adult binge drinking—the adult binge-drinking rate in Illinois is between 18.2 percent and 24.9 percent.

In Lake County, 18.4 percent of adults reported heavy drinking in the 30 days prior to the survey or binge drinking on at least one occasion during that period. The percentage of adults who drink excessively in Lake County is in the best 0-50th percentile (green indicator) when compared to other Illinois counties and it is meeting the Healthy People 2020 target of 25.4 percent. For Illinois, the percentage is 21.1 percent and 18 percent for the U.S. When compared to the seven neighboring counties, Lake County has the lowest rate; McHenry County has the highest rate at 23 percent rate (County Health Rankings, 2016).

According to the CDC's 500 Cities Project data, three of the twenty-six census tracts found in the Waukegan area have rates of binge drinking above 18.4 percent. In fact, the rates for these three tracts range from 18.8 percent to 19.4 percent. Approximately 6,940 individuals live in these three census tracts combined (Centers for Disease Control and Prevention, 500 Cities Project, 2016). The three census tracts with the highest rates of binge drinking in Waukegan are shown in the map in Exhibit 52 as dark brown.

Exhibit 52: Model-Based Estimates for Binge Drinking Among Adults in Waukegan, Illinois 2016



Source: Centers for Disease Control and Prevention, 500 Cities Project, 2019

Age-Adjusted Emergency Room Rate Due to Alcohol Abuse

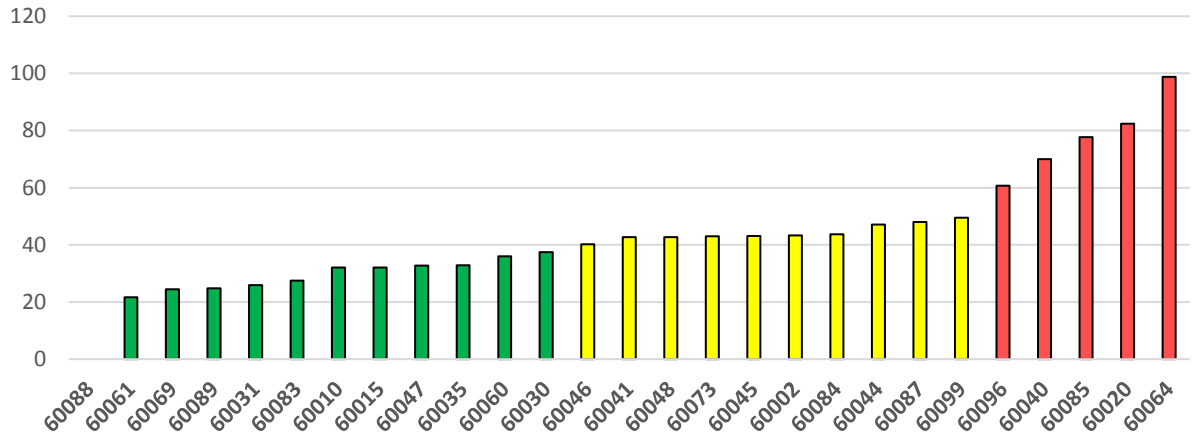
Research also indicates that alcohol-related ER visits in the U.S. have increased by nearly 50 percent from 2006 to 2014. According to George F. Koob, PH.D, the Director of the National Institute on Alcohol Abuse and Alcoholism, "…in just nine years, the number of people transported to the ER annually for medical emergencies caused or exacerbated by alcohol increased from about three million to five million" (National Institute on Alcohol Abuse and Alcoholism, 2018).

For Lake County, the age-adjusted ER rate due to alcohol abuse for adults 18 years and older is 43.1 ER visits per 10,000 population. When compared to other Illinois counties, Lake County is in the second worst 50th-75th percentile (yellow indicator). The highest ER rates are among adults ages 25-34 years (58.3 ER visits per 10,000 population) and 45-64 years (48.0 ER visits per 10,000 population). When compared to women (29.4 ER visits per 10,000 population), men (57.1 ER visits per 10,000 population) have much higher ER rates for alcohol abuse. The alcohol abuse indicator includes the following conditions: dependence syndrome, nondependent alcohol abuse, alcoholic psychoses, toxic effects of alcohol, and excessive blood level of alcohol. The rate also includes diseases of the nervous system, digestive system and circulatory system caused by alcohol.

The communities with the highest ER visits due to alcohol abuse per 10,000 population in Lake County are North Chicago (98.8 per 10,000 population), Fox Lake (82.4 per 10,000 population), 60085 Waukegan (77.7 per 10,000 population), Highland Park/Fort Sheridan (70.0 per 10,000 population), and Wadsworth (60.7 per 10,000 population). These communities all have rates in the worst 25th percentile (red indicator) compared to other Illinois zip codes (Conduent Healthy Communities Institute,

Illinois Hospital Association, 2015-2017). Exhibit 53 displays the ER rates due to alcohol abuse for Lake County by zip code. The zip codes in the worst 25th percentile (red indicator) compared to Illinois zip codes are displayed in red. The rate is not available for zip code 60088.

Exhibit 53: Lake County Age-Adjusted ER Rate due to Alcohol Use by Zip Code 2015-2017



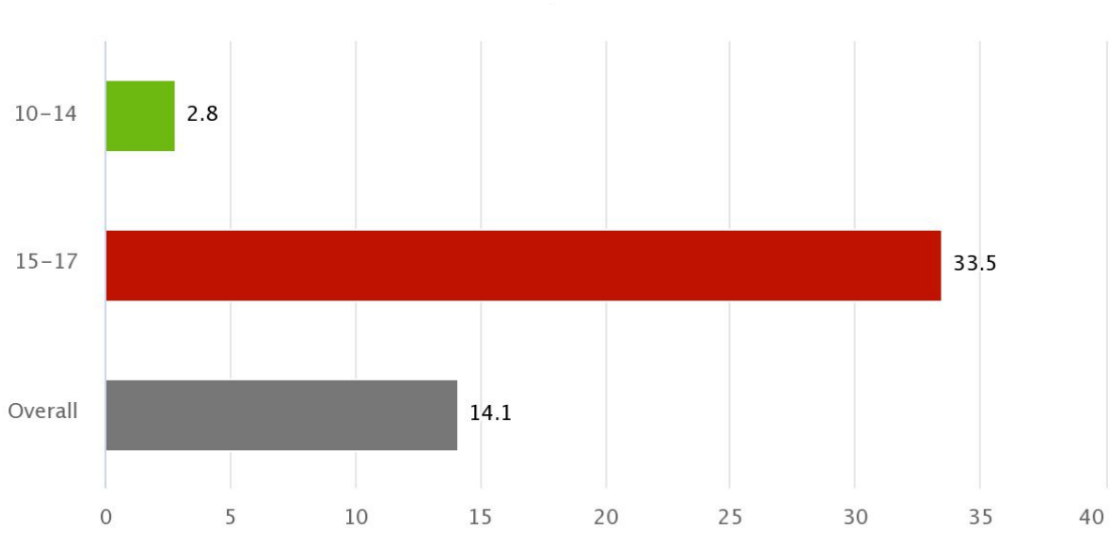
Source: Conduent Healthy Communities Institute, Illinois Hospital Association, 2019

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

This indicator includes any cases with a diagnosis of alcohol related disorder (use, abuse, dependence) or external causes of injury indicating alcohol poisoning, either unintentional, assault, or unspecified intent. For adolescents, ages 10-17 years, the age-adjusted ER rate due to alcohol use in Lake County is 14.1 ER visits per 10,000 population. The Lake County rate is higher than the Illinois rate (10.9 ER visits per 10,000 population). By age, the rate is highest for adolescents ages 15-17 years (33.5 ER visits per 10,000 population), compared to the other age groups under 17 years. Females (16.2 ER visits per 10,000 population) have higher ER visits for alcohol use than males (12.2 ER visits per 10,000 population) (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

Exhibit 54 shows the ER rate due to alcohol use for the adolescent age groups in Lake County.

Exhibit 54: Lake County Age-Adjusted ER Rate due to Adolescent Alcohol Use by Age 2015-2017



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

Age-Adjusted Hospitalization Rate Due to Adult Alcohol Use

The age-adjusted hospitalization rate due to alcohol abuse for adults ages 18 years and older in Lake County is 17.9 hospitalizations per 10,000 population. The Lake County rate is in the worst 25th percentile (red indicator) compared to other counties in Illinois, but is better (lower) than Illinois (18.1 hospitalizations per 10,000 population). The indicator considers acute or chronic alcohol abuse. Alcohol abuse includes dependence syndrome, nondependent alcohol abuse, alcoholic psychoses, toxic effects of alcohol and excessive blood level of alcohol. The rate also includes diseases of the nervous system, digestive system and circulatory system caused by alcohol.

Adults ages 45-64 years (28.3 hospitalizations per 10,000 population) have higher hospitalizations rates for alcohol use than any other adult age group. Men (25.6 hospitalizations per 10,000 population) also experience higher hospitalization rates when compared to women (10.4 hospitalizations per 10,000 population).

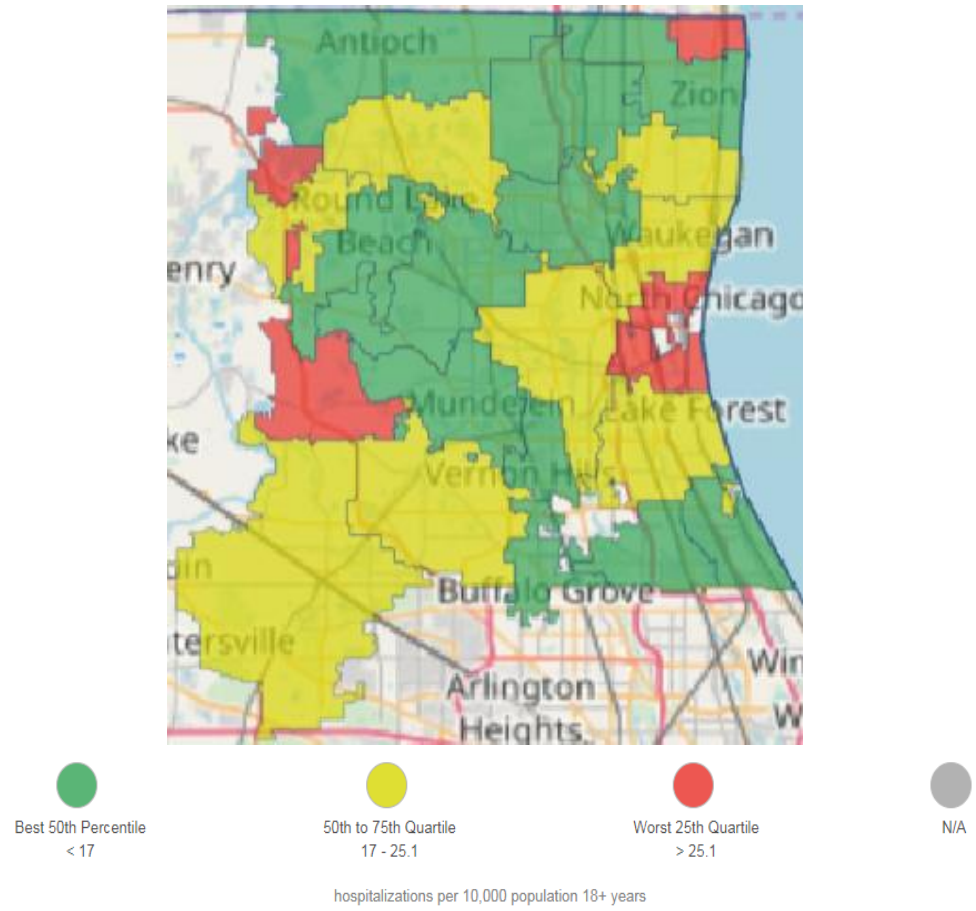
The communities with the highest hospitalization rates in Lake County are:

- Fox Lake (43.1 per 10,000 population)
- North Chicago (28.3 per 10,000 population)
- Lake Bluff/Rondout (26.0 per 10,000 population)
- Wadsworth (25.6 per 10,000 population)
- Wauconda (25.5 per 10,000 population).

These communities are in the worst 25th percentile (red indicator) when compared to other Illinois zip codes (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017). The map that follows (Exhibit 55) displays the Lake County communities with the highest hospitalization rates

due to alcohol use in red, indicating they are in the worst 25th percentile (red indicator) compared to other Illinois zip codes.

Exhibit 55: Lake County Age-Adjusted Hospitalization Rate due to Alcohol Use by Zip Code 2015-2017



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

Other Substances

Age-Adjusted Emergency Room Rate Due to Substance Abuse

This indicator includes the use, abuse, and dependence of opioids, cannabis, sedatives, hypnotics, anxiolytics, cocaine, other stimulants, hallucinogens, nicotine, inhalants, and other psychoactive substances. For Lake County, the age-adjusted ER rate due to substance abuse is 16.7 ER visits per 10,000 population. The ER rate is highest among young adults ages 18-24 years (29.8 ER visits per 10,000 population) and 25-34 years (34.8 ER visits per 10,000 population).

Males (20.4 ER visits per 10,000 population) have higher rates than females (12.9 ER visits per 10,000 population) and the rate for males is higher than the Lake County rate. Lake County is in the worst 50th-75th percentile (yellow indicator), when compared to other Illinois counties. Fox Lake (34.6 ER visits per 10,000 population) has the highest ER rate due to substance abuse in the county, and it is in the

only community in the worst 25th percentile (red indicator) compared to other zip codes in Illinois (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

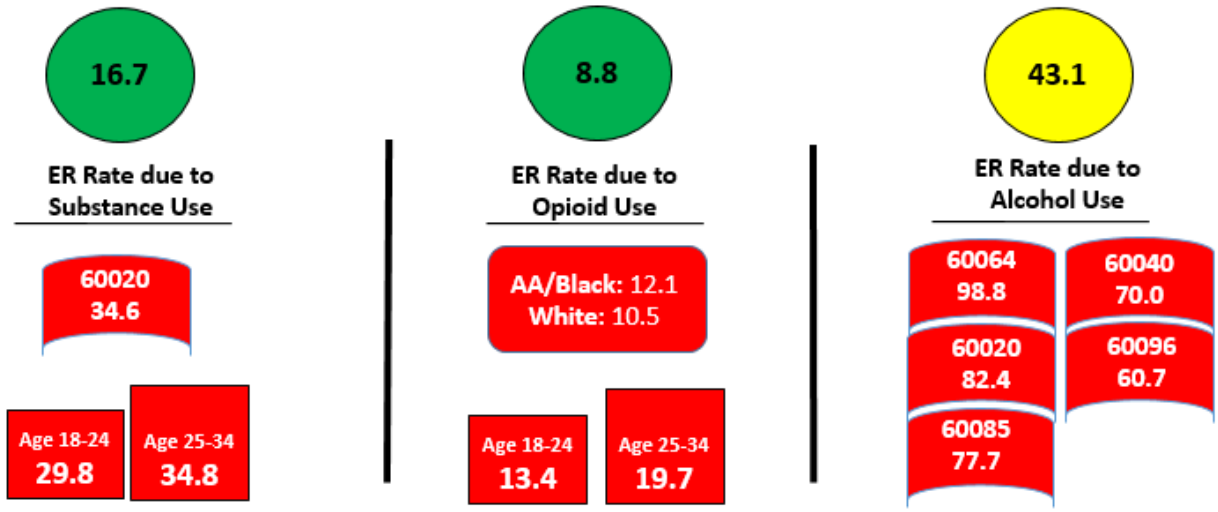
Age-Adjusted Emergency Room Rate for Opioid Use for Adults

Opioid use is a serious health concern across the nation and in Lake County. The Lake County age-adjusted emergency room rate for opioid use for adults (18 years and older) is 8.8 ER visits per 10,000 population. This is in the best 0-50th percentile (green indicator) when compared to other Illinois counties and lower than the Illinois rate of 13.0 per 10,000 population.

Again, young adults, ages 25-34 years (19.7 per 10,000 population) and ages 18-24 years (13.4 per 10,000 population) have the highest rates compared to all adult age groups. Males (10.7 per 10,000 population) have a much higher rate than females (6.9 per 10,000 population). (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

Exhibit 56 displays the ER rates due to substance use, opioid use and alcohol use. The circles represent the Lake County ER rates and red shapes indicate the disparities by zip code, race/ethnicity or age group.

Exhibit 56: Lake County ER Rates due to Substance Use, Opioid Use and Alcohol Use 2015-2017



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

Death Rate Due to Drug Poisoning

According to the Centers for Disease Control and Prevention, the age-adjusted rate of overdose deaths in the U.S. increased by 9.6 percent from 2016 (19.8 deaths per 10,000 population) to 2017 (21.7 deaths per 10,000 population). The data suggests that opioid related deaths accounted for 67.8 percent of the 70,237 total overdose deaths in 2017. Illinois was identified as a state with a statistically significant increase in drug overdose death rates, increasing by 14.3 percent from 2016 to 2017 (Center for Disease Control and Prevention, 2018).

The death rate due to drug poisoning in Lake County is 12.4 deaths per 100,000 population. When compared to 58 other Illinois counties, Lake County is in the best 0-50th percentile (green indicator). The Illinois rate (18.3 deaths per 10,000 population) and the U.S. rate (19.3 deaths per 10,000 population) for drug-poisoning deaths are much higher than the Lake County rate. However, the prior rate for Lake County was 11.7 deaths per 100,000 population; the death rates are increasing (Conduent Healthy Communities Institute, County Health Rankings, 2015-2017).

Exhibit 57 provides data from the Lake County Coroner's office, tracking deaths by substance in Lake County from 2009-2018. Deaths due to heroin, fentanyl and drug combinations containing these two substances have been increasing in the county.

Exhibit 57: Lake County Deaths by Substance 2009-2018

Year	All	Heroin	Fentanyl	Cocaine	RX	Heroin + Rx + Fentanyl
2009	82	30	---	12	40	70
2010	79	34	---	13	32	66
2011	81	35	---	5	41	76
2012	78	35	---	10	33	68
2013	64	25	---	13	26	51
2014	72	39	---	7	26	65
2015	69	42	5	4	18	67
2016	70	31	8	3	11	59
2017	81	29	23	12	11	63
2018	*92*	*36*	*33*	*6*	*19*	*75*

Source: Lake County Corner and Opioid Initiative, 2019
Resource link: https://www.cdc.gov/drugoverdose/data/statedeaths.html

Teens Who Use Marijuana

For 2018, IYS data indicates that 26 percent of 12th grade students (up from 24 percent in 2016) used marijuana one or more times during the 30 days prior to the survey - placing Lake County in the worst 25th percentile (red indicator) when compared to other Illinois counties. Marijuana usage in 2018 for Lake County high school seniors is one percent higher than Illinois (25 percent). Despite the slight increase from 2016 to 2018, marijuana use among 12th grade students is decreasing over time (Conduent Healthy Communities Institute, Center for Prevention Research and Development, Illinois Youth Survey, Lake County, 2016 and 2018).

Key Findings and Disparities: Substance Use

- According to the Lake County Coroner's Office, deaths due to heroin, fentanyl and drug combinations containing these two substances have been increasing in the county.
- Twenty-six percent of 12th grade Lake County students reported using marijuana one or more times during the 30 days prior to the Illinois Youth Survey – a slight increase from 24 percent in 2016.
- While the numbers of teens who smoke cigarettes is decreasing at a statistically significant rate, the use of e-cigarettes (vaping) is increasing among high school students; in 2018, 31 percent (up from 18 percent in 2016) of high school seniors had used e-cigarettes in the past 30 days.
- Forty-two percent of 12th grade students reported drinking alcohol on at least one occasion during the 30 days prior to the IYS, a slight increase from 41 percent in 2016.
- The Lake County hospitalization rate due to alcohol abuse for adults ages 18 years and older (17.9 per 10,000 population) rate is in the worst 25th percentile (red indicator) compared to other counties in Illinois.

Disparities

- The highest ER rates due to alcohol abuse in Lake County are for American Indians or Alaskan Natives (74.9 ER visits per 10,000 population) African Americans/Blacks (69.4 ER visits per 10,000 population), compared to other races and ethnicities. Both rates are significantly higher than the Lake County rate of 43.1 per 10,000 population).
- When compared to other races and ethnicities, Whites (20.2 hospitalization per 10,000 population) and American Indians or Alaskan Natives (25.2 hospitalizations per 10,000 population) experience the highest hospitalization rates for adult alcohol use. The rates for these two groups are significantly higher than the county rate (17.9 per 10,000 population).
- The hospitalization rate due to adult alcohol use in Lake County is in the worst 25th percentile (red indicator) compared to Illinois counties – a red indicator, at 17.9 per 10,000 population. However, the hospitalization rates are much higher in Fox Lake (43.1 per 10,000 population), North Chicago (28.3 per 10,000 population), Lake Bluff (26.0 per 10,000 population), Wadsworth (25.6 per 10,000 population) and Wauconda (25.5 per 10,000 population). The rates for these communities are in the worst 25th percentile (red indicator) compared to other Illinois zip codes.
- Fox Lake (60020) is the only community in the worst 25th percentile (red indicator) compared to other Illinois zip codes for ER rates due to substance abuse, with 34.6 ER visits per 10,000 population.
- African Americans or Blacks (12.1 per 10,000 population) and Whites (10.5 per 10,000 population) have the two highest ER rates due to substance abuse, and the two highest ER rates due to opioid use - (12.1 per 10,000 population for African Americans) and (10.5 per 10,000 population for Whites).

Alzheimer's Disease and Unintentional Falls

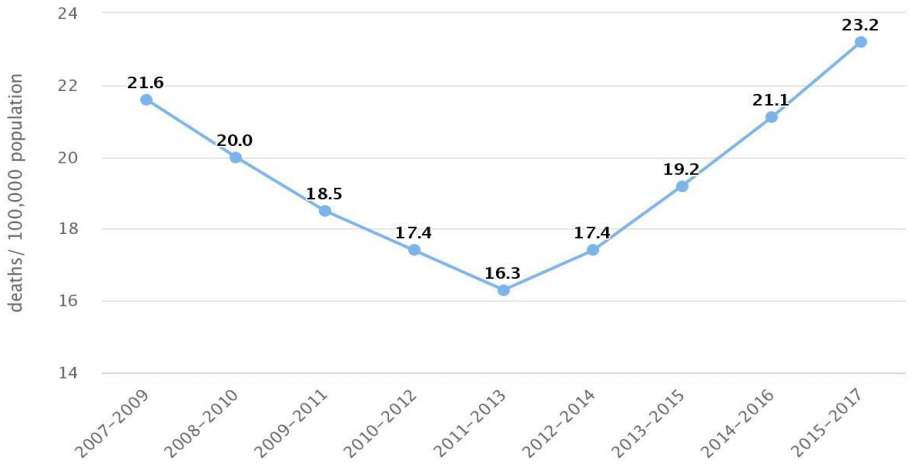
Alzheimer's Disease and Dementia

Age-Adjusted Death Rate due to Alzheimer's Disease

In the United States, Alzheimer's disease is the 6th leading cause of death and an estimated 5.8 million Americans (all ages) are living with the disease in 2019 (Alzheimer's Association, 2019). In Illinois, the age-adjusted death rate 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, the age-adjusted death rate due to Alzheimer's disease is 23.2 deaths per 100,000 population, which is in the best 0-50th percentile (green indicator) compared to other Illinois counties. However, the rates are increasing over time.

Females (26.0 deaths per 100,000 population) have higher death rates than males (18.5 deaths per 100,000 population) for Alzheimer's disease. Hispanics (20.0 deaths per 100,000 population) have the lowest death rate due to Alzheimer's disease, compared to Whites (24.1 deaths per 100,000) and African Americans or Blacks (23.5 deaths per 100,000 population) (Conduent Healthy Communities Institute, Centers for Disease Control and Prevention, 2015-2017). Exhibit 58 illustrates the increase in the death rate due to Alzheimer's disease in Lake County.

Exhibit 58: Age-Adjusted Death Rate due to Alzheimer's Disease 2007-2017



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

Alzheimer's Disease or Dementia: Medicare Population

According to the Alzheimer's Association, the 5th leading cause of death among those ages 65 and older is Alzheimer's disease and is also a primary cause for disability and poor health. Additionally, "Medicare beneficiaries with Alzheimer's disease or other dementias are more likely than those without dementia to have other chronic conditions, such as heart disease, diabetes and kidney disease" (Alzheimer's Association, 2019).

In 2017, 9.6 percent of Medicare beneficiaries in Lake County were treated for Alzheimer's disease or dementia. When compared to other Illinois counties, Lake County is in the best 0 - 50th percentile (green indicator). However, the Lake County percentage is better when compared to the 10.7 percent in Illinois and the 10.8 percent in the U.S (Conduent Healthy Communities Institute, Center for Medicare & Medicaid Services, 2017).

Unintentional Falls

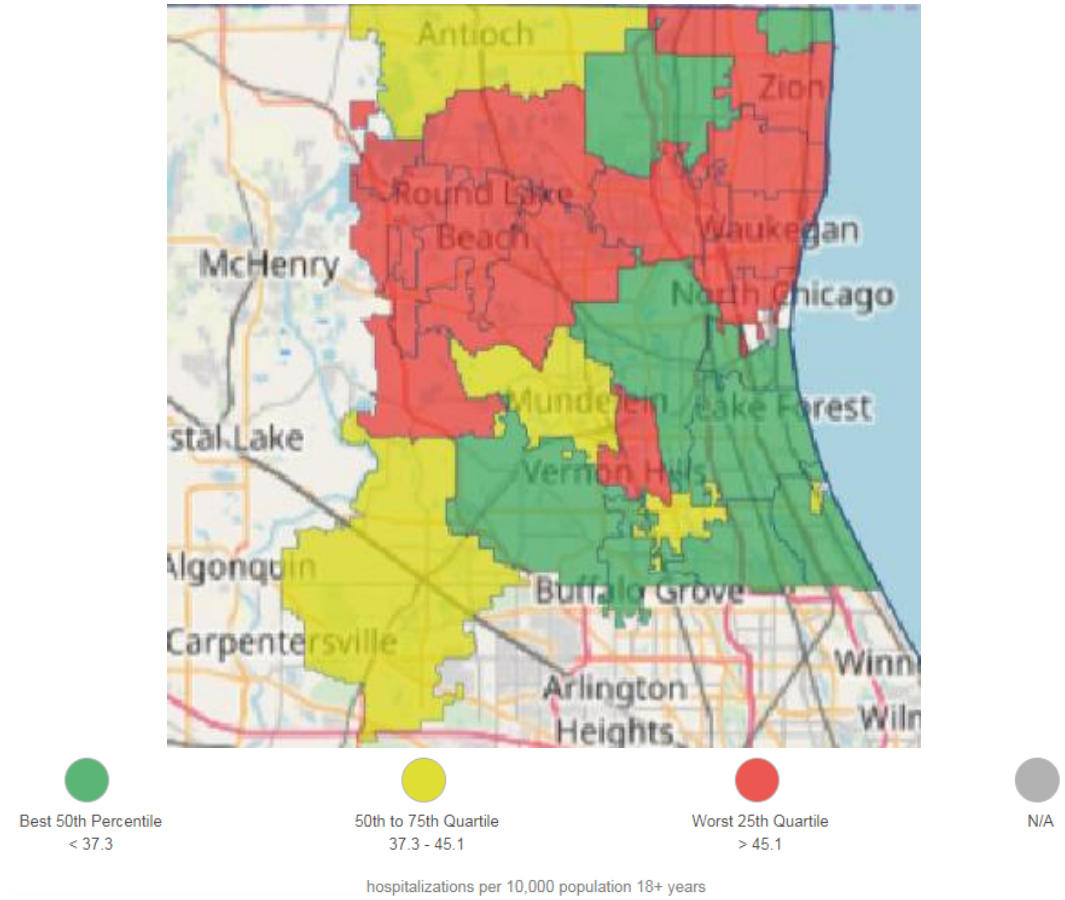
Age-Adjusted Hospitalization Rate Due to Unintentional Falls

When compared to other Illinois counties, the hospitalization rate due to unintentional falls (45.6 hospitalization per 10,000 population) in Lake County is in the worst 25th percentile (red indicator) and is much higher than the Illinois rate (38.6 per 10,000 population). The rates for older adults - ages 65-84 years (138.5 per 10,000 population) and ages 85 and older (691.3 per 10,000 population) are significantly higher than the Lake County rate. According to Conduent Healthy Communities Institute, falls are a leading cause of injury deaths among older adults.

There are 11 communities (12 zip codes) with hospitalization rates due to unintentional falls that are in the worst 25th percentile (red indicator) compared to Illinois zip codes. These communities are Fox Lake Vernon Hills, Grayslake, Gurnee North Chicago, Lake Villa, Ingleside, Waukegan (both 60085 and 60087), Zion, Round Lake and Wauconda (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

Exhibit 59 provides a map illustrating these 12 zip codes in Lake County, displayed in red, which indicates they are in the worst 25th percentile, compared to Illinois zip codes.

Exhibit 59: Lake County Age-Adjusted Hospitalization Rate due to Unintentional Falls by Zip Code 2015-2017



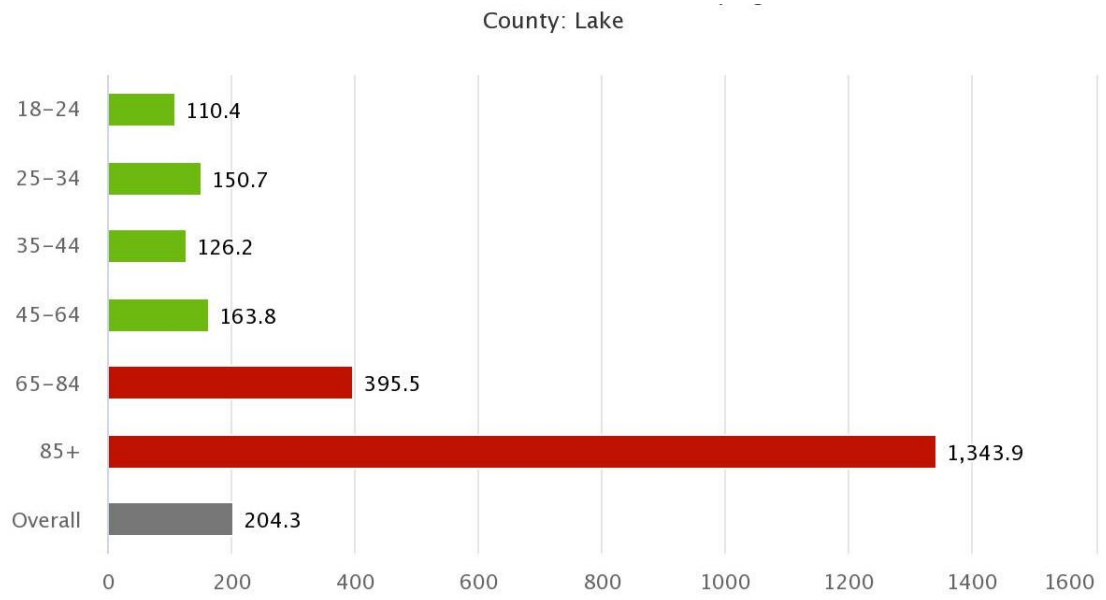
Source: Conduent Healthy Communities Institute, Illinois Hospital Association, 2019

Age-Adjusted Emergency Room Rate Due to Unintentional Falls

The Lake County age-adjusted ER rate due to unintentional falls is 204.3 ER visits per 10,000 population ages 18 years and older. The indicator considers cases where the first-listed cause of injury is due to fall. Lake County is in the best 0-50th percentile (green indicator) when compared to other Illinois counties. The Lake County rate is slightly better than the Illinois (206.2 ER visits per 10,000 population) rate. Adults over the age of 65 years of age have rates significantly higher than the county rate – 395.5 per 10,000 population for ages 65-84 years and 1,343.9 per 10,000 population for ages 85 and older. Women (239.0 ER visits per 10,000 population) have higher ER rates when compared to men (167.1 ER visits per 10,000 population). In Lake County, no communities are in the worst 25th percentile (red indicator) when compared to other Illinois zip codes (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

Exhibit 60 illustrates the Lake County ER rate due to unintentional falls by age. The age groups in red are significantly higher than the Lake County rate.

Exhibit 60: Lake County Age-Adjusted ER Rate due to Unintentional Falls by Age 2015-2017



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

Key Findings and Disparities: Alzheimer's Disease and Unintentional Falls

- The age-adjusted death rate due to Alzheimer's disease are trending upward in Lake County.
- The death rate for females (26.0 deaths per 100,000 population) due to Alzheimer's disease are higher than the death rate for males (18.5 deaths per 100,000 population) in Lake County.
- The percent of Medicare beneficiaries treated for Alzheimer's disease or dementia is decreasing over time.

Disparities

American Indians or Alaskan Natives (533.9 ER per 10,000 population) and African Americans or Blacks (251.1 ER visits per 10,000 population) have the highest ER rates due to unintentional falls. These rates are both significantly higher than the Lake County rate (204.3 per 10,000 population).

The highest hospitalization rates due to unintentional falls occur in the following communities, all of which are in the worst 25th percentile (red indicator) compared to Illinois zip codes:

- 60020 Fox Lake (66.6 hospitalizations per 10,000 population)
- 60061 Vernon Hills (63.5 hospitalizations per 10,000 population)
- 600630 Grayslake (61.7 hospitalizations per 10,000 population)
- 60031 Gurnee (52.0 hospitalizations per 10,000 population)
- 60064 North Chicago (51.5 hospitalizations per 10,000 population)
- 60046 Lake Villa (51.1 hospitalizations per 10,000 population)
- 60041 Ingleside (50.7 hospitalizations per 10,000 population)
- 60085 Waukegan (50.6 hospitalizations per 10,000 population)
- 60087 Waukegan (48.1 hospitalizations per 10,000 population)

- 60099 Zion (46.7 hospitalizations per 10,000 population)
- 60073 Round Lake (46.5 hospitalizations per 10,000 population)
- 60084 Wauconda (45 5hospitalizations per 10,000 population).

Oral Health

Age-Adjusted Emergency Room Rate Due to Dental Problems

The age-adjusted ER rate due to dental problems in Lake County is 31.4 ER visits per 10,000 population. When compared to the other Illinois counties, Lake County is in the best 0-50th percentile (green indicator) and has a lower rate when compared to Illinois (57.9 ER visits per 10,000 population). Dental problems include cases with a primary diagnosis of teeth or jaw disorders, jaw pain, diseases of oral soft tissues (excluding gum and tongue lesions), fitting and adjustment of dental prosthetic or orthodontic aftercare and dental examination. Adults ages 25-34 years (83.6 ER visits per 10,000 population) experience more visits to the ER for dental problems than any other age group in Lake County. In Lake County, women (34.6 ER visits per 10,000 population) have higher ER visits than men (28.3 ER visits per 10,000 population) (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

Adults Who Visited a Dentist

According to the 2010-2014 Illinois Behavioral Risk Factor Surveillance System, 73.2 percent of adults in Lake County visited a dentist or dental clinic for any reason in the past year. When compared to the prior rate (2007-2009), the rate decreased by 4.8 percent and stable. Lake County is in the best 0-50th percentile (green indicator) and performing better than the Illinois (65.6 percent) and the U.S. (66.4 percent) rates (Conduent Healthy Communities Institute, Illinois Behavioral Risk Factor Surveillance System, 2010-2014).

For the census place (city) of Waukegan, 52.1 percent of adults have visited a dentist in the past year, which is in the worst 25th percentile (red indicator) compared to the 500 largest cities in the U.S. (Conduent Healthy Communities Institute, CDC-500 Cities Project, 2014).

Dentist Rate

Access to dental providers is an important element for increasing the percentage rate of adults who visited a dentist – which may also reduce the ER rates due to dental problems in the county. When compared to Illinois and U.S. counties, Lake County is in the best 0-50th percentile (green indicator) for dentist rate (112 dentists per 100,000 population). The rates are seeing a statistically significant increase, surpassing the Illinois (77 dentists per 100,000 population) and the U.S. (68 dentists per 100,000 population) rates (Conduent Healthy Communities Institute, County Health Rankings, 2017).

Key Findings: Oral Health

- The dentist rate for Lake County rate (112 dentists per 100,000 population) is seeing a statistically significant increase.
- In Waukegan, only 52.1 percent of adults have visited a dentist in the past year, which is in the worst 25th percentile (red indicator) compared to the 500 largest cities in the U.S.
- Adults ages 25-34 years (83.6 ER visits per 10,000 population) have the highest rate of ER visits due to dental problems, compared to the other adult age groups.
- Women (34.6 ER visits per 10,000 population) have higher ER visits due to dental problems when compared to men (28.3 ER visits per 10,000 population). The ER visit rate for women is also higher than the Lake County rate (31.4 ER visits per 10,000 population).

Disparities

American Indians or Alaskan Natives (60.7 ER visits per 10,000 population) and African Americans or Blacks (123.2 ER visits per 10,000 population) have higher ER rates for dental problems compared to other races and ethnicities.

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.

Adult 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, which is in the worst 25th percentile (red indicator) compared to other Illinois counties. The county rate is lower than the 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 9th leading cause of death. Nationally, Illinois is ranked 16th, (one being the worst) accounting for 2,402 deaths in 2017 (CDC, 2018). The age-adjusted death rate due to influenza and pneumonia in Lake County is 10.3 deaths per 100,000 population. Lake County is in the best 0-50th percentile (green indicator) when compared to Illinois and U.S. counties. The county rate decreasing at a statistically significant rate. Men (11.8 deaths per 100,000 population) have slightly higher death rates when compared to women (9.4 deaths per 100,000 population) in Lake County (Conduent Healthy Communities Institute, Centers for Disease Control and Prevention, 2015-2017).

Age-Adjusted Hospitalization Rate due to Immunization Preventable Pneumonia and Influenza

The age-adjusted hospitalization rate due to immunization-preventable pneumonia and influenza is 1.9 hospitalizations per 10,000 population. The Lake County rate is lower than the Illinois rate of 2.2 hospitalizations per 10,000 population and in the best 0-50th percentile (green indicator) when compared to counties in Illinois. The highest hospitalization rates due to immunization preventable pneumonia and influenza occur in older adults, specifically ages 65-84 years (5.7 hospitalizations per 10,000 population) and ages 85 years and older (23.4 hospitalizations per 10,000 population) (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

Age-Adjusted Emergency Room Rate due Immunization Preventable Pneumonia and Influenza

For every 10,000 individuals ages 18 and older, an estimated 9.6 individuals visit the ER for immunization-preventable pneumonia and influenza. Lake County is in the best 0-50th percentile (green indicator) when compared to other Illinois counties and has a better rate than Illinois (12.0 ER visits per 10,000 population). The highest ER rate by age is for adults ages 25-34, with 15.3 ER visits per 10,000 population. Men (7.9 per 10,000 population) have lower rates of ER visits than women (11.5 per 10,000 population) do (Conduent Healthy Communities Institute, 2018. Illinois Hospital Association, 2015-2017).

Age-Adjusted Hospitalization Rate Due to Adult Asthma

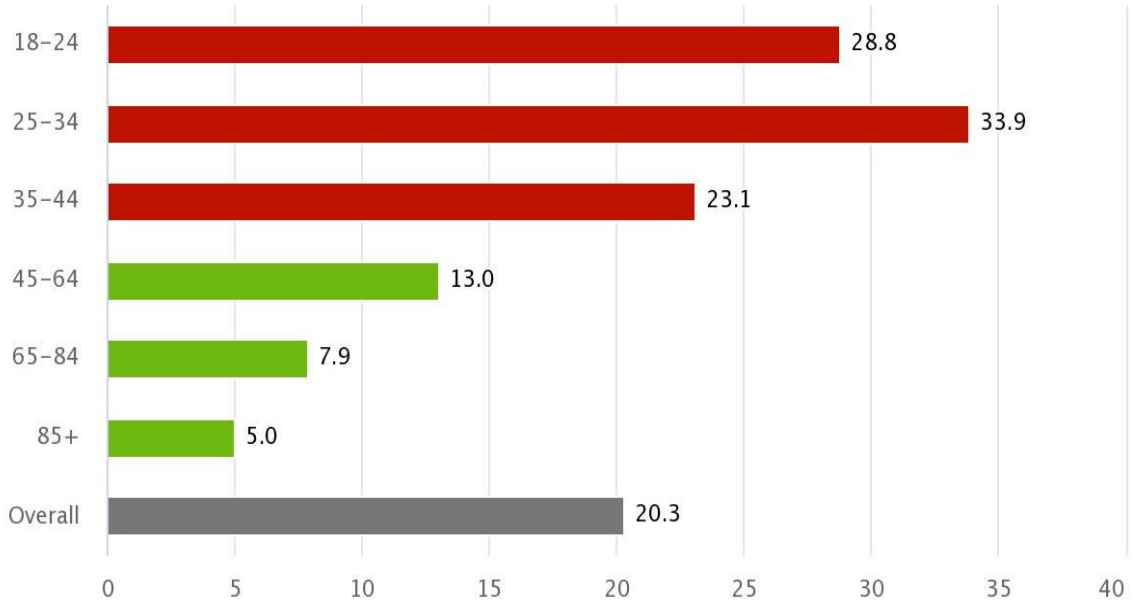
Asthma is defined as “a condition in which a person’s air passages become inflamed, and the narrowing of the respiratory passages makes it difficult to breathe” (Conduent Healthy Communities Institute, 2018). The age-adjusted hospitalization rate due to adult asthma is 4.9 hospitalizations per 10,000 population in Lake County. When compared to other Illinois counties, Lake County is in the 50th – 75th percentile (yellow indicator). Seniors, ages 85 years and older have the highest hospitalization rate with 10.7 hospitalizations per 10,000 population, compared to other adult age groups. Adult women (6.5 hospitalization per 10,000 population) have hospitalization rates due to asthma almost two times higher than males (3.2 hospitalizations per 10,000 population) (Conduent Healthy Communities, Illinois Hospital Association, 2015-2017).

Age-Adjusted Emergency Room Rate Due to Adult Asthma

In Lake County, the ER rate due to adult asthma is 20.3 ER visits per 10,000 population and is in the best 0 – 50th percentile (green indicator). In contrast to hospitalization rates due to asthma, younger adults (18-44 years of age) are more frequently visiting the emergency room for asthma. The highest rate is for ages 25-34 (33.9 per 10,000 population), followed by ages18-24 years (28.8 per 10,000 population) and ages 35-44 years (23.1 per 10,000 population). Women (25.8 per 10,000 population) have much higher ER visit rates than men (14.9 per 10,000 population) for asthma (Conduent Healthy Communities, Illinois Hospital Association, 2015-2017).

Exhibit 61 shows the ER rate due to adult asthma by age. The age groups in red are significantly higher than the Lake County rate.

Exhibit 61: Lake County Age-Adjusted Emergency Room Rate Due to Adult Asthma by Age 2015-2017



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

Age-Adjusted Hospitalization Rate Due to Pediatric Asthma under age 18 Years

In Lake County, the age-adjusted hospitalization rate due to pediatric asthma is 5.2 hospitalizations per 10,000 population under 18 years—lower than the Illinois rate of 8.5 hospitalizations per 10,000 population. Children ages 0 through 4 years (8.1 hospitalizations per 10,000 population) have higher hospitalization rates than any other age bracket (0-18) in Lake County (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

Age-Adjusted Emergency Room Rate Due to Pediatric Asthma under age 18 Years

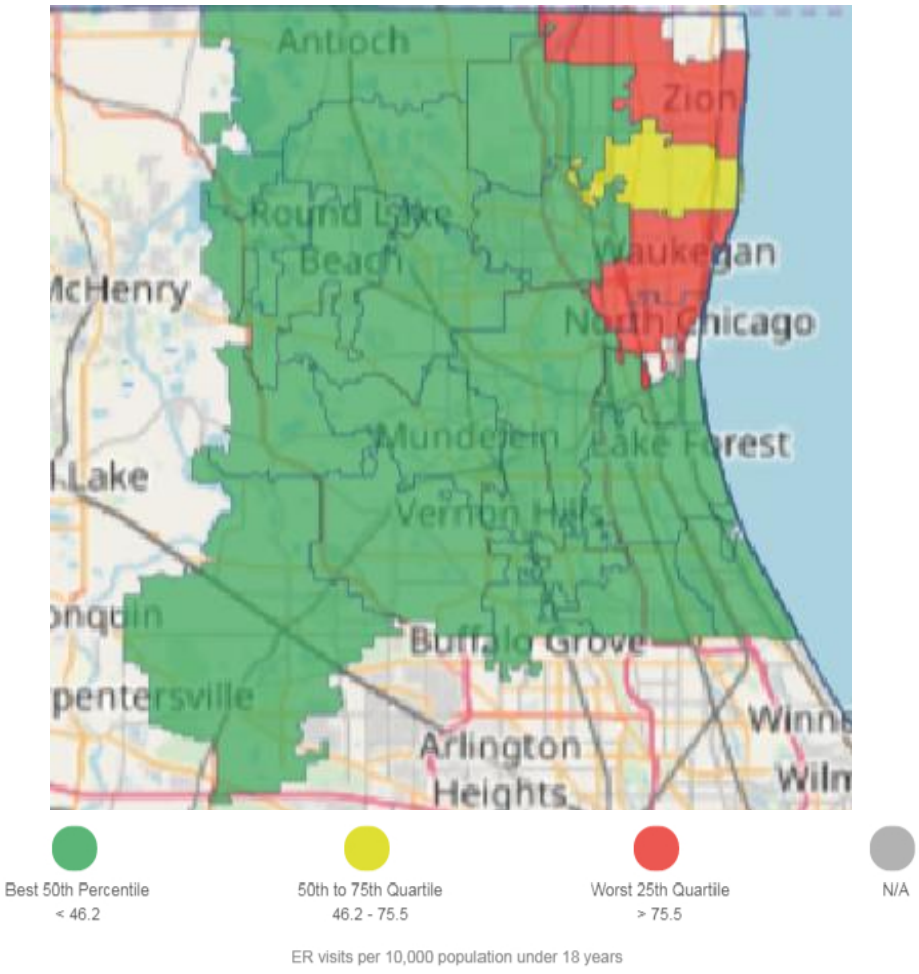
For every 10,000 children under the age of 18 years, a rate of 44.9 visit the emergency room with an asthma diagnosis, not including cystic fibrosis or other respiratory anomalies. Lake County is a yellow indicator when compared to other Illinois counties – in the worst 50th – 75th percentile. However, the county rate is lower than the Illinois rate of 62.6 ER visits per 10,000 population. For this indicator, children age of 5 through 9 (58.6 ER visits per 10,000 population) experience higher visits to the emergency room due to asthma.

By community, the areas identified in the worst 25th percentile (red indicator), compared to Illinois zip codes, for adult ER visits due to adult asthma are also the same three communities in the worst 25th

percentile (red indicator) for ER visits due to pediatric asthma. North Chicago (103.3 ER visits per 10,000 population) has the highest ER rate due to asthma, followed by Zion (95 ER visits per 10,000 population) and 60085 Waukegan (92.7 ER visits per 10,000 population) (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

These communities are displayed in red in Exhibit 62.

Exhibit 62: Lake County Age-Adjusted ER Rate Due to Pediatric Asthma per 10,000 Population Under 18+ Years 2015-2017



Source: Conduent Healthy Communities, Illinois Hospital Association, 2019

Adults With Current Asthma

Approximately 9.2 percent of Lake County adults have been told by a health care provider that they currently have asthma. Lake County in in the worst 50th-75th percentile (yellow indicator) when compared other Illinois counties. In Illinois, 8.9 percent of adults have asthma; in the U.S. 9.4 percent of adults have asthma (Conduent Healthy Communities Institute, Illinois Behavioral Risk Factor Surveillance System, 2010-2014).

Asthma in the Medicare Population

Among the Medicare population, 4.3 percent were treated for asthma in Lake County, which falls in the worst 50th-75th percentile (yellow indicator) compared to other counties in the state. From 2010 through 2014, the percentages fluctuated between 4.3 percent and 4.6 percent. However, the rate is decreasing over time. The most current data is for 2017 and the data indicates that the percentage remains at 4.3 percent. In Illinois, 4.9 percent of Medicare beneficiaries were treated for asthma - lower than the 5.1 percent for Medicare beneficiaries in the U.S. (Conduent Healthy Communities Institute, Centers for Medicare and Medicaid Services, 2017).

Age-Adjusted Hospitalization Rate due to COPD

The age-adjusted hospitalization rate due to COPD is 21.9 hospitalizations per 10,000 population age 18 years and older in Lake County. The COPD hospitalization rate is in the top 0-50th percentile (green indicator) compared to other Illinois counties, but is slightly lower than the Illinois rate (23.6 per 10,000 population). Older adults, ages 85 years and older (151.7 per 10,000 population) and ages 65-84 years (83.6 per 10,000 population) have the highest hospitalization rates due to COPD, compared to the other adult age groups.

Females (24.2 per 10,000 population) again have higher hospitalization rates than males (19.4 per 10,000 population). American Indians or Alaskan Natives (107.0 per 10,000 population) and African Americans or Blacks (60.7 per 10,000 population) have the highest hospitalization rates due to COPD among all races and ethnicities (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

The communities with the highest hospitalization rates due to COPD are:

- North Chicago (51.9 hospitalizations per 10,000 population)
- Zion (49.7 hospitalizations per 10,000 population)
- Waukegan-60085 (46.3 hospitalizations per 10,000 population)
- Fox Lake (37.6 hospitalizations per 10,000 population).

Age-Adjusted ER Rate due to Chronic Obstructive Pulmonary Disorder (COPD)

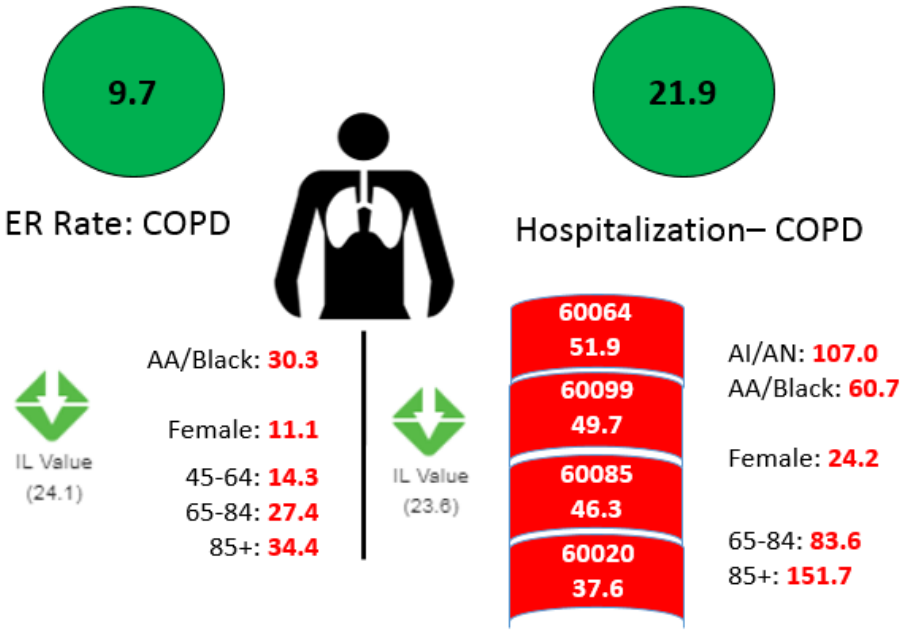
Chronic obstructive pulmonary disease (COPD), refers to a group of diseases that cause airflow blockage and breathing-related problems. COPD most commonly includes chronic bronchitis and emphysema and usually results from tobacco use, although it can also be a result of pollutants in the air, genetic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

The Lake County age-adjusted ER rate due to COPD is 9.7 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 Lake County rate is in the best 0–50th percentile (green indicator) compared to other Illinois counties. No trend data is available. Adults ages 85 years and older again have the highest rate (34.4 per 10,000 population), followed by ages 65-84 (27.4 per 10,000 population) and ages 45-64 (14.3 per 10,000 population); all have values significantly higher than the Lake County rate. Women (11.1 per 10,000 population) have higher rates than men (8.3 per 10,000 population) for visits to the ER due to COPD. African Americans

or Blacks (30.3 per 10,000 population) have the highest ER rates due to COPD among all races and ethnicities (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

Exhibit 63 provides a summary of the ER and hospitalization rates due to COPD, including rates by age, gender and race/ethnicity which are significantly higher than the Lake County rate (displayed in red). The summary also includes zip codes with rates that fall in the worst 25th percentile compared to Illinois zip codes, also displayed in red.

Exhibit 63: Lake County ER Rate and Hospitalization Rate due to COPD 2015-2017



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

COPD in the Medicare Population

Chronic Obstructive Pulmonary Disease (COPD) is a condition that restricts airflow into the lungs; COPD affects 9.9 percent of Lake County Medicare beneficiaries. The percentage is in the best 0-50th percentile (green indicator) compared to other Illinois and U.S. counties. Lake County is doing better than the Illinois percentage (11.9 percent) and the national rate (11.7 percent) for this indicator. The rate of Medicare beneficiaries treated for COPD decreased by one percent, when compared to the prior rate (2016). Over an eight-year period, data shows that the percentage of Medicare beneficiaries with COPD is trending down in Lake County (Conduent Healthy Communities Institute, Centers for Medicare and Medicaid Services, 2017).

Key Findings and Disparities: Respiratory Disease

- The death rate due to pneumonia and influenza is decreasing at a statistically significant rate.
- The rate of adults that have received the pneumonia vaccination in Lake County is 26.6 percent, which is in the worst 25th percentile (red indicator) compared to other Illinois counties.
- Adult women (6.5 hospitalization per 10,000 population) have hospitalization rates due to asthma almost two times higher than males (3.2 hospitalization per 10,000 population).
- Hospitalization rates for COPD are also higher for women (24.2 per 10,000 population) than men (19.4 per 10,000 population).
- Asthma in the Lake County Medicare population (4.3 percent) is decreasing.

Disparities

- African Americans/Blacks (24.3 ER visits per 10,000 population) and American Indians/Alaskan Natives (23.3 ER visits per 10,000 population) have the highest ER rates due to immunization preventable pneumonia and influenza, and also have the highest hospitalizations due to pediatric asthma—at 29.5 hospitalizations per 10,000 population for American Indians/Alaskan Natives and 16.1 hospitalizations per 10,000 population for African Americans/Blacks.
- African Americans/Blacks (104.5 ER visits per 10,000 population) and American Indians/ Alaskan Natives (48.3 ER visits per 10,000 population) have higher ER rates due to adult asthma than other races and ethnicities.
- The African American/Black population has a rate 20.3 hospitalizations per 10,000 population due to adult asthma—more than four times higher than the Lake County rate of 4.9 per 10,000 population.
- Emergency room rates for adult asthma are highest in North Chicago (71.1 per 10,000 population), 60085 Waukegan (49.9 per 10,000 population) and Zion (49.5 per 10,000 population).
- The same three communities have the highest rates for hospitalizations due to adult asthma—North Chicago (13.1 hospitalizations per 10,000 population), 60085 Waukegan (11.1 hospitalizations per 10,000 population) and Zion (15.0 hospitalizations per 10,000 population).

Maternal and Child Health

Pre-Natal Care

Smoking During Pregnancy

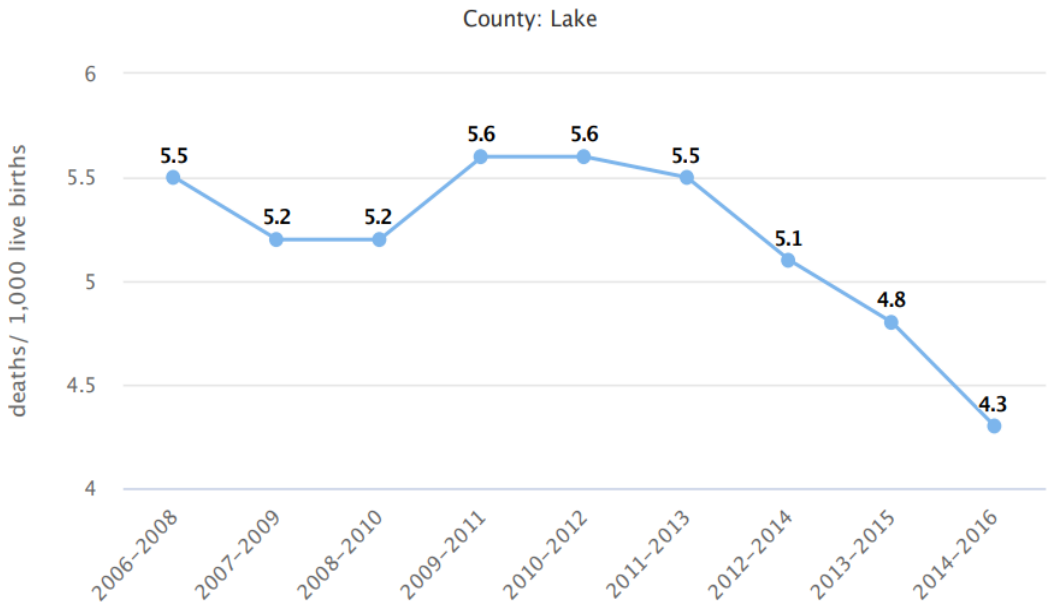
The rate of mothers who smoked and/or used tobacco during pregnancy (3.6 percent) is low in Lake County and is in the best 0-50th percentile (green indicator) when compared to other Illinois counties. The rate is much lower than the Illinois rate of 7.9 percent and the U.S. rate of 9.7 percent. However, Lake County is not meeting the Healthy People 2020 target of 1.4 percent (Conduent Healthy Communities Institute, Illinois Department of Public Health, 2008).

Birth Outcomes

Infant Mortality

For every 1,000 live births, an estimated 4.3 infants die within their first year of life in Lake County. The causes of death vary from birth defects, low birth weight, Sudden Infant Death Syndrome (SIDS) maternal complications during pregnancy. The indicator is not specific to any condition, other than the babies that have died in their first year of life. When compared to other Illinois Counties, Lake County is in the best 0-50th percentile (green indicator) with lower infant mortality rates. Over a nine-year measurement period, the data indicates that the rates have decreased. The highest reported period for infant mortality was 2009-2012 with a rate of 5.6 deaths per 1,000 live births. Lake County is meeting the Healthy People 2020 target of under 6.0 deaths per 10,000 population and is lower than the U.S. (6.3 deaths per 1,000 live births) and Illinois (5.9 deaths per 1,000 live births) rate (Conduent Healthy Communities Institute, Illinois Department of Public Health, 2014-2016). Exhibit 64 shows the declining infant mortality rate in Lake County.

Exhibit 64: Lake County Infant Mortality Rate per 1,000 Live Births 2006-2016



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

Preterm Births

In Lake County, 10.2 percent of births occur within less than 37 weeks of complete gestation, also known as preterm births. Preterm births require specialized medical care, which requires most infants to stay in intensive care nurseries. The percent of preterm births in Lake County is experiencing a statistically significant increase. The lowest reported percentage was in 2009 (8.7 percent). Lake County is also not meeting the Healthy People 2020 target of 9.4 percent (Conduent Healthy Communities Institute, Illinois Department of Public Health, 2017).

Exhibit 65 provides a summary of the Lake County percentage of preterm births compared to various benchmarks.

Exhibit 65: Lake County Percentage of Preterm Births 2017

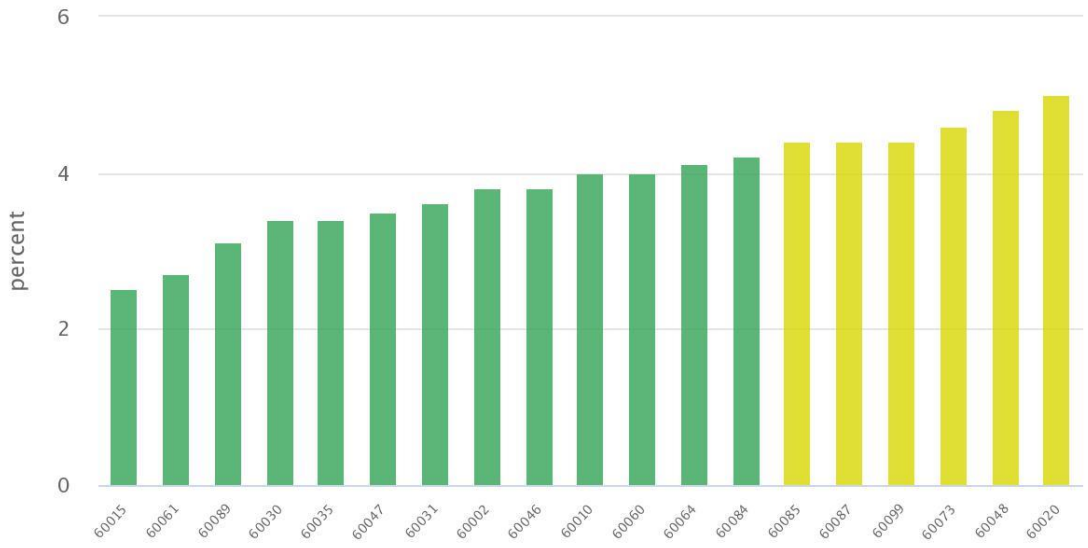
Source: Conduent Healthy Communities Institute, Illinois Department of Public Health, 2019

Preterm Labor and Delivery Hospitalization

Research from the American College of Obstetricians and Gynecologists associate preterm labor with premature birth, which increases an infant's risk for health complications. In Lake County, 4.0 percent of women are hospitalized for preterm labor and delivery. Lake County is in the best 0-50th percentile (green indicator) when compared to other Illinois counties. However, African American or Black (6.1 percent) women are at greater risk for preterm labor and delivery when compared to Hispanic (3.8 percent), White (3.9 percent), Asian (2.4 percent) and American Indian or Alaskan Native (3.5 percent) women (Conduent Healthy Communities Institute, Illinois Hospital Association, 2015-2017).

The communities in Exhibit 66 shown in yellow (50th-75th percentile) with a rate between 4.2 percent and 5.1 percent are Fox Lake (60020), Libertyville (60048), Round Lake (60073), Zion (60099), Waukegan (60087 and 60085). Lake County has no communities that exceed 5.1 percent, in the worst 25th percentile (red indicator).

Exhibit 66: Lake County Preterm Labor and Delivery Hospitalizations by Zip Code 2015-2017



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

Babies with Low Birth Weight

Babies with low birth weight are identified as weighing less than five pounds and eight ounces or 2,500 grams. In Lake County, 7.9 percent of babies are born with low birth weight. Although the rates are in the best 0-50th percentile (green indicator) when compared to other Illinois counties, the rates are gradually increasing. Similar to preterm birth rates, the lowest reported rate for low birth weight babies was in 2009 (7.2 percent). Although Lake County is not meeting the Healthy People 2020 target of under 7.8 percent, the rates are much better when compared to the Illinois (8.5 percent) and U.S. (8.3 percent) rates (Conduent Healthy Communities Institute, Illinois Department of Public Health, 2017).

Key Findings: Maternal and Child Health

- In Lake County, 4.0 percent of mothers are hospitalized for preterm labor and delivery. The rates are higher for African American mothers (6.1 percent) when compared to Lake County.
- Ten percent of pregnancies in Lake County are preterm births, with less than 37 weeks of completed gestation. The county rate is experiencing a statistically significant increase and is not meeting the Healthy People 2020 goal of 9.4 percent.
- In Lake County, the infant mortality rate (4.3 per 1,000 live births) is in the best 0-50th percentile (green indicator) and trending down.
- When compared to Illinois (8.4 percent), Lake County (7.4 percent) has a lower percentage of babies born with low birth weight.
- An estimated 3.6 percent of mothers in Lake County smoke during pregnancy, which is in the best 0-25th percentile (green indicator), but still not meeting the Healthy People 2020 target of 1.4 percent.

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 Lake County.

Physical Environment

According to the 2019 County Health Rankings, Lake County's physical environment is ranked 85th when compared to other Illinois counties—falling in the worst 25th percentile (red indicator). The 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. In 2013, Lake County was in the best 0-50th percentile, ranked 41st compared to other Illinois counties (Conduent Healthy Communities Institute, County Health Rankings, 2019).

Housing

Homeownership

According to the 2007-2011 American Community Survey, homeowners occupied 71.8 percent of Lake County housing units. As of 2013-2017, the homeownership rate decreased to 68.4 percent. However, Lake County is still in the best 0-50th percentile (green indicator) when compared to other counties. Illinois (59.7 percent) and the U.S. (56.0 percent) have lower rates of homeownership. The communities in the worst 25th percentile (< 60.7 percent homeownership) are North Chicago (36.7 percent), 60085 Waukegan (37.7 percent), Zion (55.4 percent), 60087 (Waukegan), Fox Lake (54.8 percent), and 60040 Highland Park/Fort Sheridan (Conduent Healthy Communities Institute, American Community Survey, 2013-2017).

Renters Spending 30 Percent or More of Household Income on Rent

Approximately 49.5 percent of renters in Lake County are spending 30 percent of their household income on rent. Lake County is in the worst 25th percentile (red indicator), when compared to other Illinois counties, and is decreasing. The rate for Illinois is 49.2 percent and 50.6 percent for the U.S.

Disparities exist for individuals 15-24 years of age (64.8 percent) and seniors ages 65 and older (60.6 percent); both age groups have higher rates when compared to Lake County. Since 2007, the lowest reported rate for Lake County was from 2012 through 2016 (45.8 percent). In Lake County, seven communities are in the worst 25th percentile, when compared to other Illinois zip codes. In each community, more than 52 percent of the population living there spends over 30 percent of household income on rent. The communities spending more on rent are Lincolnshire (87.1 percent), 60085 Waukegan (62.7 percent), North Chicago (61.7 percent), 60088 Great Lakes/North Chicago (54.7 percent), Round Lake (54.4 percent), 60041 Ingleside (54.2 percent) and 60035 Highland Park with 53.3 percent (Conduent Healthy Communities Institute, American Community Survey, 2013-2017).

Severe Housing Problems

Severe housing is classified as having at least one of the following four housing problems: overcrowding, high house costs, lack of kitchen or lack of plumbing facilities. Data from the 2011-2015 County Health Rankings indicates that 17.3 percent of Lake County households have severe housing problems. For this indicator, Lake is in the worst 25th percentile (red indicator) compared to other Illinois and U.S. counties (Conduent Healthy Communities Institute, County Health Rankings, 2011-2015).

Transportation

Households Without a Vehicle

The percentage of households that do not have a vehicle is 4.7 percent—significantly lower than the Illinois (10.8 percent) and the U.S. (8.8 percent) rate. Over a seven year-measurement period, the highest reported rate was 5.0 percent from the 2010-2014 American Community Survey. Although the rate has not significantly decreased, it is trending downward. Compared to Illinois zip codes, Lake

County has six communities in the worst 25th percentile for households without a vehicle—North Chicago (12.1 percent), 60085 Waukegan (11.4 percent), Zion (9.9 percent), Lincolnshire (9.2 percent), 60040 Highwood (9.1 percent) and Fox Lake with 7.5 percent (Conduent Healthy Communities Institute, American Community Survey, 2013-2017).

Mean Travel Time to Work

The mean travel time to work for workers 16 years of age and older is 30 minutes for Lake County. Lengthy commutes are often contributing to less free time and health problems such as anxiety, increased blood pressure, headaches and more. Counties in the best 0-50th percentile commute less than 18 minutes. Lake County (30 minutes) is in the worst 25th percentile (red indicator) when compared to Illinois (28.7 minutes) and the U.S. (26.4 minutes). By gender, males (31.9 minutes) travel longer than females (27.7 minutes) in Lake County. By community, ten zip codes are in the worst 25th percentile (>30.5 minutes) when compared to other Illinois zip codes. Fox Lake has the highest mean travel time of 40 minutes to work (Conduent Healthy Communities Institute, American Community Survey, 2013-2017).

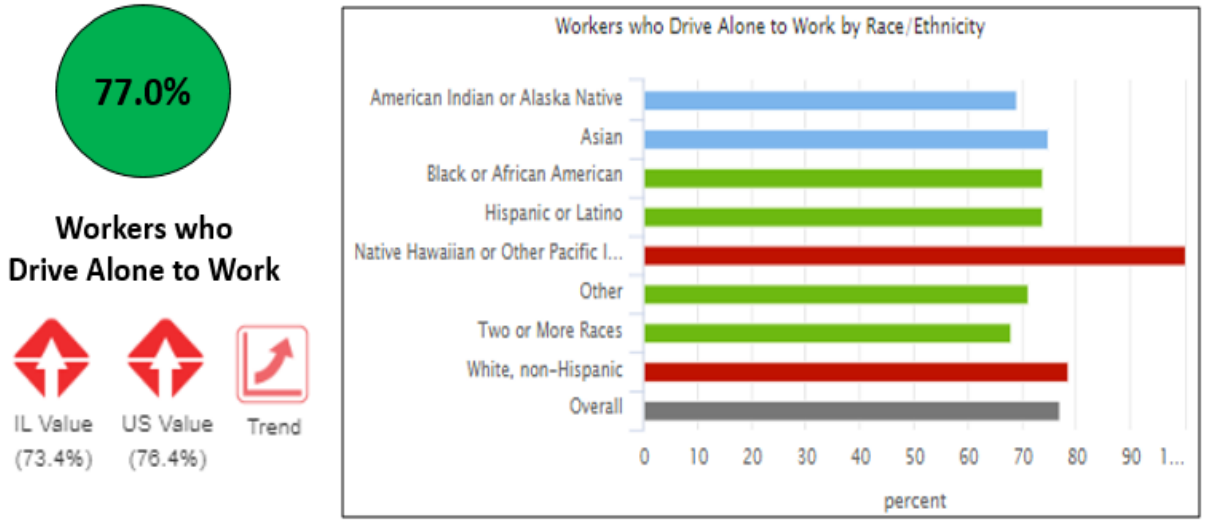
Workers Commuting by Public Transportation

The use of public transportation by workers in Lake County is 4.4 percent—short of meeting the Healthy People 2020 target of 5.5 percent, but is increasing at a statistically significant rate. Lake County is in the best 0-50th percentile (green indicator) when compared to other Illinois and U.S. counties but has a much lower rate than Illinois (9.4 percent) and the U.S. (5.1 percent) rate. Public transportation is less used by workers 16-19 years of age (1.9 percent) and most used by workers 55 through 59 (5.5 percent) years of age. In Lake County, men (5.1 percent) have higher use of public transit than women (3.6 percent) do. In addition, Hispanic or Latino workers (1.9 percent) have the lowest rates for use of public transportation than any other racial or ethnic group in Lake County. Lastly, of the 27 zip codes in Lake County, only seven are meeting the Healthy People 2020 target of less than 5.5 percent (Conduent Healthy Communities Institute, American Community Survey, 2013-2017).

Workers Who Drive Alone to Work

In Lake County, 77 percent of workers drive alone to work. The rate has increased over time but Lake County remains in the best 0-50th percentile (green indicator) when compared to other Illinois and U.S. counties. The indicator considers workers ages 16 years and over who get to work by driving alone in a car, truck or van. Over 78 percent of workers who drive alone to work are adults between the ages of 25 and 59 years of age. Native Hawaiian or other Pacific Islanders (100 percent) and White workers (78.7 percent) had the highest rates of driving alone by race and ethnicity (Conduent Healthy Communities Institute, American Community Survey, 2013-2017) as displayed in Exhibit 67. The rates for these two groups are displayed in red as they are significantly higher than the Lake County rate (77 percent).

Exhibit 67: Lake County Workers Who Drive Alone to Work by Race and Ethnicity 2013-2017



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

Solo Drivers with a Long Commute

In Lake County, 45.8 percent of commuters who drive alone to work commute for more than 30 minutes. The county rate is in the worst 25th percentile (red indicator) compared to Illinois counties. The rate is increasing and is higher than Illinois (40.9 percent) and the U.S. (35.2 percent) (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. According to the air quality index, Lake County has a grade of an F, with five days that ozone levels exceeded U.S. standards during the three-year measurement period. The Lake County grade is in the worst 25th percentile (red indicator) of Illinois counties and is increasing over time (Conduent Healthy Communities Institute, American Lung Association, 2015-2017).

Exhibit 68 displays the annual ozone air quality ranking for Lake County. Lake County is in the worst 25th percentile (>3 days) (red indicator) for the number of days that ozone levels exceeded U.S. standards.

Exhibit 68: Lake County Annual Ozone Air Quality Ranking 2015-2017

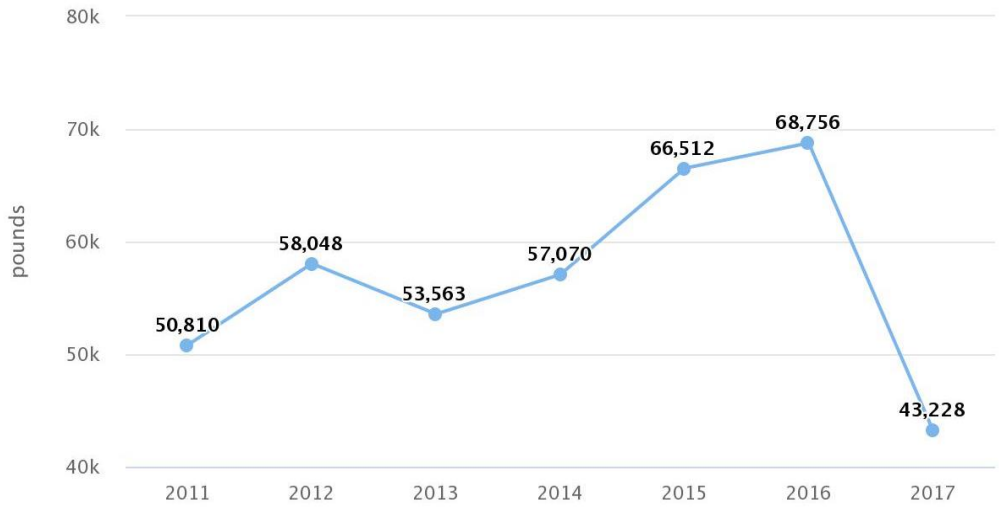
Source: Conduent Healthy Communities Institute, American Lung Association, 2019

Recognized Carcinogens Released into the Air

In Lake County, there were 43,228 pounds of reported and recognized carcinogens released into the air in 2017. The rate is increasing over time. The prior rate in 2016 for Lake County was 68,756 pounds of carcinogens released into the air, so there was a substantial one-year decrease (Conduent Healthy Communities Institute, U.S. Environmental Protection Agency, 2017).

Exhibit 69 displays the year-over-year change in the number of pounds of reported and recognized carcinogens released into the air in Lake County.

Exhibit 69: Lake County Recognized Carcinogens Released into Air by Pounds 2011-2017



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

Built Environment

Physical Activity

Access to Exercise Opportunities

Proximity to exercise opportunities, such as parks and recreation facilities, has been linked to an increase in physical activity among residents. According to the 2019 County Health Rankings report, 99 percent of individuals in Lake County live reasonably close to a park or recreational facility. Lake County is in the best 0-50th percentile (green indicator) when compared to other Illinois and U.S. counties. The rate for Illinois is 90.8 percent and the U.S. rate is 83.9 percent (Conduent Healthy Communities Institute, County Health Rankings, 2019).

Recreation and Fitness Facilities

According to data from the 2014 U.S. Department of Agriculture Food Environment Atlas, there are 0.16 fitness and recreational centers per 1,000 population in Lake County. The rate is decreasing, but Lake County still exceeds the 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).

Food Security and Access to Healthy Foods

Child Food Insecurity

The child food insecurity indicator considers the percentage of children living in households that experience food insecurity at some point during the year. In Lake County, 12.2 percent of children under 18 years of age are food insecure. When compared to Illinois (15.7 percent) and the U.S. (17.0 percent), Lake County has a lower percentage of children who are food insecure. The highest reported percentage in Lake County was in 2012 (18.2 percent) but has since decreased by six percent (Conduent Healthy Communities Institute, Feeding America, 2017).

Food Insecurity

The food insecurity percentage for Lake County is 6.5 percent (an estimated 34,819 adults, ages 18 and older affected) and decreasing when compared to previous years. The highest reported percentage was 10.4 percent in 2011. The Lake County percentage is lower than the Illinois (10.9 percent) and the U.S. (12.5 percent) percentage. Additionally, Lake County ranks in the best 0-50th percentile (green indicator) when compared to other counties in both Illinois and the U.S. (Conduent Healthy Communities Institute, Feeding America, 2017).

Food Insecure Children Likely Ineligible for Assistance

An estimated 39 percent of food insecure children are likely ineligible for federal nutrition assistance in Lake County due to living in a household with incomes above 185 percent of the FPL. Lake County is in

the worst 25th percentile (red indicator) when compared to counties in Illinois (34 percent) and the U.S. (21 percent). However, the percentage is trending downward in Lake County. In 2012, the percentage was 43 percent. (Conduent Healthy Communities Institute, Feeding America, 2017).

SNAP-Certified Stores

Access to Supplement Nutrition Assistance Program (SNAP)-certified stores is important for low-income residents to meet their daily nutritional needs. However, the rate of SNAP-certified stores in Lake County is 0.5 stores per 1,000 population. Lake is in the worst 25th percentile (red indicator) when compared to other Illinois and U.S. counties. Additionally, the rates for available SNAP-certified stores are decreasing over time (Conduent Healthy Communities Institute, U.S. Department of Agriculture-Food Environment Atlas, 2016).

Farmers Market Density

Farmers markets offer fresh and affordable produce to community members, while supporting local agriculture. For 2016, the Lake County farmers' market density rate is 0.02 markets per 1,000 population. The rate has remained the same for 2011, 2012, 2013 and 2016. (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 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. The fast food restaurant density is in the worst 25th percentile (red indicator) when compared to other Illinois and U.S. counties and the rate is increasing (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: 1) the percentage of the population that is low-income and has low access to a grocery store; and 2) 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. Lake County is ranked a 9.0, which is near the best. The lowest reported ranking was in 2016 (8.5). The Illinois ranking is 8.7 and the U.S. ranking is 7.7 (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. The liquor store density rate for Lake County is 11.5 stores per 100,000 population. When compared to other Illinois and U.S. counties, Lake County is in the worst 50th-75th percentile and trending upward. The lowest reported rate for Lake County was 10.8 stores per 100,000 population in

2012. The rate for Lake County is also higher than the Illinois (10.3 stores per 100,000 population) and the U.S. (10.5 stores per 100,000 population) rates (Conduent Healthy Communities Institute, U.S. Census–County Business Patterns, 2016).

Grocery Store Density

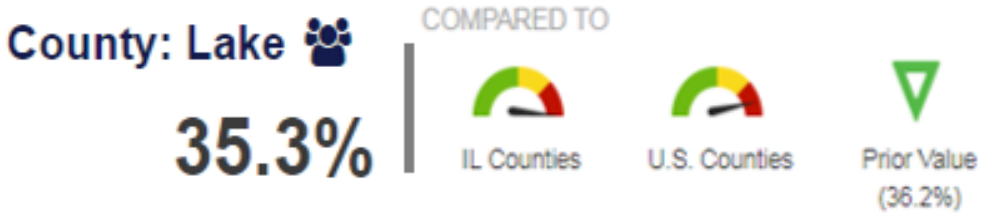
The number of supermarkets and grocery stores per 1,000 population is 0.16 stores in Lake County, in the worst 50th-75th percentile (yellow indicator) compared to other Illinois and U.S. counties. The indicator does not consider convenience stores and large general merchandise stores such as supercenters and warehouse club stores. The rate is decreasing, ultimately affecting county residents' ability to access fresh foods in their local neighborhood.

People with Low Access to a Grocery Store

An estimated 35.3 percent of people in Lake County have low access to a grocery store. 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. Lake County is in the worst 25th percentile (red indicator) when compared to Illinois and U.S. Counties. However, since 2010 (36.2 percent) the rate has decreased (Conduent Healthy Communities Institute, U.S. Department of Agriculture-Food Environment Atlas, 2015).

Exhibit 70 displays the percent of residents with low access to a grocery store, compared to the Illinois and U.S. benchmarks.

Exhibit 70: Lake County Percent of Residents with Low Access to a Grocery Store 2015



Source: Conduent Healthy Communities Institute, U.S Department of Agriculture-Food Environment Atlas, 2019

Households with No Car and Low Access to a Grocery Store

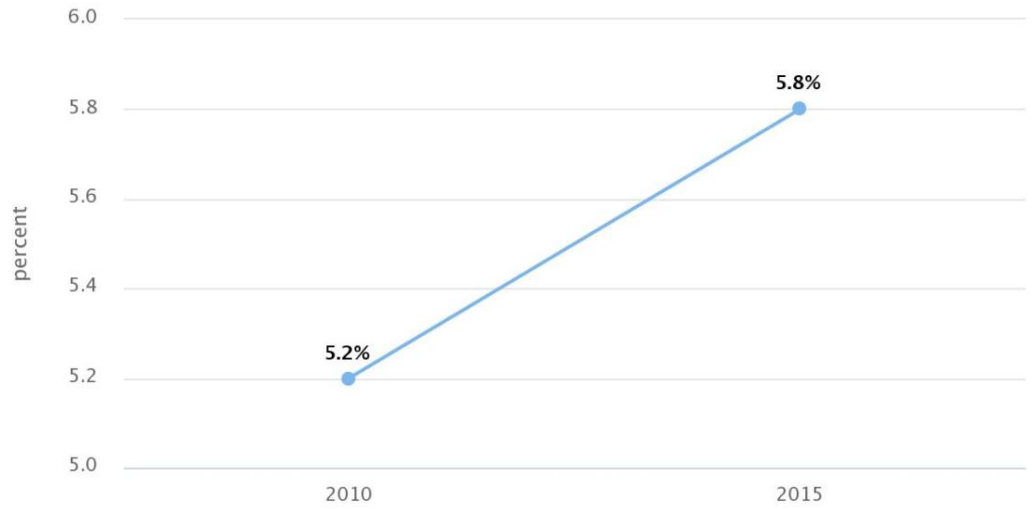
For Lake County, 1.4 percent of housing units do not have car and have low access to a grocery store, in the best 0-50th percentile (green indicator) when compared to other Illinois and U.S. counties (Conduent Healthy Communities Institute, U.S. Department of Agriculture-Food Environment Atlas, 2015).

Low Income and Low Access to a Grocery Store

In Lake County, 5.8 percent of the total population is low income with low access to a grocery store. When compared to other Illinois counties, Lake County is a yellow indicator (within the 50th-75th percentile); the rate did increase from the prior rate (5.2 percent) (Conduent Healthy Communities Institute, U.S. Department of Agriculture, Food Environment Atlas, 2015).

Exhibit 71 shows the increase in the percent of the Lake County population with low-income and low access to a grocery store from 2010 to 2015.

Exhibit 71: Percent of Lake County Population Who Is Low Income with Low Access to a Grocery Store 2010-2015



Source: Conduent Healthy Communities Institute, U.S Department of Agriculture-Food Environment Atlas, 2019

Children with Low Access to a Grocery Store

Lake County is also in the worst 25th percentile (red indicator) for children with low access to a grocery store, when compared to other Illinois and U.S. counties. An estimated 9.1 percent of children live more than 10 miles from the nearest supermarket or larger grocery store (Conduent Healthy Communities Institute, U.S. Department of Agriculture-Food Environment Atlas, 2014).

People 65 and Older with Low Access to a Grocery Store

Only 3.7 percent of seniors, ages 65 and older, have access to a grocery store in Lake County. When compared to other Illinois and U.S. counties, Lake County is in the worst 50th-75th percentile (yellow indicator) for this indicator. (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 shows the ranking of the county in social and economic factors according to the County Health Rankings. 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. In 2013, Lake County has a ranking of 21. By 2019, Lake County improved with a ranking of 12, placing Lake County in the best 0-50th 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. Lake County remains in the best 0-50th percentile (green indicator) when compared to Illinois counties. The violent crime rate is much lower in Lake County than in Illinois (403.1 crimes per 100,000 population) and the U.S. (386.5 crimes per 100,000 population). The highest reported rate was 2007-2009 (193.8 crimes per 100,000 population) data (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 percentage is experiencing a statistically significant decrease, Lake County remains in the worst 50th-75th percentile (yellow indicator) when compared to other Illinois and U.S. counties. Lake County percentage is also exceeding Illinois (32.6 percent) and the U.S. (28.6 percent). Lake County had the highest reported percentage of alcohol impaired driving deaths (45.5 percent) from 2008 through 2012 (Conduent Healthy Communities Institute, County Health Rankings, 2013-2017).

Substantiated Child Abuse Rate per 1,000 Children under 18+ Years

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 children. The rates in Lake County are gradually increasing, but remains a green indicator—in the best 0–50th percentile compared to Illinois. The rate has risen from 6.4 cases in 2014 to 8.4 cases in 2015 (Conduent Healthy Communities Institute, Illinois Department of Children and Family Services, 2016).

Key Findings: Social Determinants of Health

- Of the households in Lake County, 17.3 percent have severe housing problem (overcrowding, high housing costs, lack of kitchen or lack of plumbing facilities).
- Lake County is in the worst 25th percentile (red indicator) when compared to Illinois and U.S. counties, with a mean travel time to work of 30 minutes. Fox Lake has the highest mean travel time to work in Lake County at 40 minutes.
- The air quality in Lake County (Grade F) is in the worst 25th percentile (red indicator).
- In Lake County, 12.2 percent of children under 18 years of age are food insecure. The rate is decreasing at a statistically significant rate.
- In Lake County, 39 percent of food insecure children are likely ineligible for federal nutrition assistance, which falls in the worst 25th percentile (red indicator) when compared to counties in Illinois and the U.S.
- Alcohol-impaired driving deaths account for 34.3 percent of motor vehicle crash deaths in Lake County. Although the percentage is decreasing at a statistically significant rate, Lake County remains in the worst 50th-75th percentile (yellow indicator).
- The rate of solo drivers with long commutes in Lake County is higher than the Illinois and U.S. rate, and Lake County is in the worst 25th percentile (red indicator) when compared to other counties.

V. Prioritization of Health-Related Issues

Priority Setting Process

Advocate Condell's community health department provided four comprehensive data presentations from January through April 2019 to the CHC. The presentations were divided into sections, each highlighting key elements of Lake County's demographics, the eight major health issues and key social determinants of health. At the fourth meeting of the year, CHC 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 a health priority in the 2014-2016 CHNA cycle and chosen as a priority again for the 2017-2019 CHNA cycle. In the U.S., the prevalence rates for obesity continue to rise steadily. As of 2017, the prevalence rates show all states had more than 20 percent of adults with obesity (with BMI measurements in the obese range), including Illinois. For 2017, the prevalence rates for Illinois remain between 30 percent and 35 percent. Obesity affects all ages; more than sixteen percent of Illinois adolescents are obese and fifteen percent of Illinois WIC preschoolers, ages two to four, are obese. In Lake County, 24.3 percent of adults are obese, 22 percent of 12th grade students are overweight or

obese, and the obesity rates for children (under age 18) living below poverty are highest in North Chicago (43 percent), Waukegan 60085 (36 percent), Zion (24 percent) and Waukegan 60087 (24 percent). 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 obesity rates continue to remain high and due to 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 top need in Lake County. Two specific health behaviors were discussed as central to the issue in the PSA—excessive alcohol use in adults and teens, and the high percentage of teen vaping. The hospitalization rate due to adult alcohol use is in the worst 25th percentile (red indicator) in Lake County, and the rate of alcohol impaired driving deaths (34.3 percent) is in the worst 50th-75th percentile, compared to other Illinois counties. The percentage of 12th grade students that use alcohol (42 percent) is in the worst 50th-75th percentile compared to Illinois counties, and the rate is increasing. Vaping rates are also increasing, with 31 percent (up from 18 percent in 2016) of Lake County high school seniors indicating they had used e-cigarettes in the 30 days before the Illinois Youth Survey.

Work to address substance abuse in adults and teens is already active in Lake County, which allows Advocate Condell the opportunity to build a collaborative approach to address these serious substance abuse issues as a priority. Key partners are the Lake County Health Department and the Lake County Opioid Initiative. The 2014 National Survey of Drug Use and Health estimates that one-third of people experiencing substance abuse issues also suffer from a mental illness (a co-occurring disorder), and a growing body of evidence supports a strong connection between the two (National Alliance on Mental Illness, 2017). The CHC emphasized to community health staff that underlying mental health issues should be considered when developing strategies to address substance abuse. Community health staff will build on the strong existing relationships to design programs to collectively address substance abuse in Lake County.

Health Needs Not Selected

Diabetes

Diabetes was identified as one of the key health needs in Lake County, and while the diabetes prevalence rates are increasing over time both nationally and locally, it was not selected as a priority by Advocate Condell's CHC. Of the ten diabetes indicators evaluated, no indicators were in the worst 25th percentile (red indicators) when compared to other Illinois counties; the diabetes ER utilization and hospitalization rates are stable in Lake County. Furthermore, extensive collaborative work between multiple stakeholders is in place to address diabetes in Lake County, through the Live Well Lake County diabetes action team. The Diabetes Self-Management Program (Stanford Model), the CDC Diabetes Prevention Program and a new program, Healthy Habits-Healthy You, are all being implemented across the county. 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

While cardiovascular disease affects an estimated 315,458 individuals (including high blood pressure, cholesterol and more) in Lake County, the mortality rates for coronary heart disease are seeing a statistically significant decrease. Over the past decade, heart disease death rates have dropped in Lake County. The medical center currently promotes and conducts heart health risk assessments using the American Heart Association's tool and conducts heart scan CTs to identify calcium in the heart. All of these activities are coordinated with the Advocate Heart Institute programs focused on treating cardiovascular disease in the county. Advocate Condell promotes prevention measures such as good nutrition and physical activity in the community, serving as an active member of the "GO Lake County" action team and works closely with the communities of Mundelein, Round Lake and Wauconda to support their "GO" campaigns. 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 selected as a top priority in the last CHNA cycle. According to the 2015-2017 Illinois hospitalization data, ER rates due to adult mental health are in the best 0-50th percentile range (green indicator). The only indicator in the second worst 50th-75th percentile (yellow indicator) is for pediatric ER rates due to mental health. Adult and adolescent ER rates due to suicide and intentional self-inflicted injury are also in the best 0-50th percentile (green indicator). Over the past three years, Advocate Condell has implemented the evidence-based training, Mental Health First Aid (MHFA) in Lake County, focusing on training adults and first responders. In Lake County, there is a countywide initiative to implement MHFA training. 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 Condell's community health staff have been active members of the MHFA action team. There is also a Behavioral Health Council in place in Lake County, focusing on improving mental health provider capacity and streamlining service provision, as well as a workgroup focusing on decreasing mental health stigma. 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 county, the CHC voted for the medical center to turn its attention to substance abuse for the next three-year period.

Cancer

The cancer incidence rates for the county are in the best 0-50th percentile (green indicator) compared to other Illinois counties, and are trending down. The only exception is for breast cancer, which is increasing at a statistically significant rate. However, death rates due to breast cancer are experiencing a statistically significant decrease. As part of the requirements to maintain certification with the Commission on Cancer, Advocate Condell implements cancer screening and prevention education on an annual basis. Over the past three years, community health staff have worked with the Advocate Condell Cancer Center staff to address barriers to navigation, such as health literacy, and to 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 cancers except breast cancer, the CHC determined it was prudent to focus on other health priorities.

Other Health Concerns: STIs, Unintentional Falls and Maternal Health

Based on the CHC's votes using the modified Hanlon method, sexually transmitted infections, unintentional falls and maternal health were not selected as health priorities. Even though the incidence rates for chlamydia, gonorrhea and syphilis are all increasing, the CHC agreed that addressing the selected priorities (obesity and substance abuse) has the potential of impacting a much greater number of Lake County residents. Additionally, Advocate Condell offers extensive maternal health programming and has an existing partnership with the Lake County Health Department to promote breastfeeding and to link lower-income new mothers to the WIC program. Advocate Good Shepherd has a strong Matter of Balance program, an evidence-based intervention to help improve strength in older adults, in order to reduce injury from falls. Community health staff are exploring ways to bring this program into Lake County.

VI. Approval of Community Health Needs Assessment

The Advocate Condell CHC selected obesity and substance abuse as the health priorities on April 17, 2019. The Advocate Condell Governing Council approved the two recommended health priorities of obesity and substance abuse on June 26, 2019, and approved the medical center's 2017-2019 CHNA Report on October 23, 2019. The Advocate Health Care Network Board approved Advocate Condell's 2017-2019 CHNA Report at the system level on December 16, 2019.

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

Obesity

To address obesity, Advocate Condell will continue its commitment to the Food Insecurity (FI) screening and referral program predominantly focusing on communities of high socioeconomic need and the senior population 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 Program, Wound Center and Cancer Center. Staff will seek to increase the number of medical center departments implementing the FI screening. Community health staff will also continue its collaboration with the Northern Illinois Food Bank and other community organizations addressing obesity in the "Eat Well" Live Well Lake County action team. Identifying the extent of food insecurity in specific communities has allowed the development of the pilot Rx Mobile Pantry Program in Round Lake, offered in partnership with the Northern Illinois Food Bank, Avon Cares Food Pantry, Mano a Mano Family Resource Center, the YWCA of Lake County and the Round Lake Library. In 2020-2022, Advocate Condell will work with these partners to refine and expand the Rx Mobile Pantry program, and explore additional strategies to address food insecurity in other communities.

Advocate Condell aligned with the GO Lake County walking initiative in its previous action plan and worked collaboratively with the Mundelein Park District and the Round Lake Park District to establish the GO walking initiative in their communities. The community health team will explore opportunities to sustain and grow the program in the established communities, as well as implement internal GO campaigns within the Advocate Condell campus, to promote walking for staff and visitors. Advocate Condell community health staff will continue to participate in these teams and will work collaboratively with the Lake County Health Department in the planning and development of interventions. Additional evidence-based programs that promote healthy lifestyle, good nutrition and fitness will also be explored both internally and externally.

Substance Abuse

In efforts to align programming for substance abuse, Advocate Condell's community health staff is actively involved in the Lake County Opioid Task Force and the Lake County Behavioral Health Council. During the program-planning phase, staff will work in coordination with local coalitions to align

interventions that address alcohol use and youth vaping (use of e-cigarettes). Advocate Condell's community health staff are already working closely with the Lake County Health Department to develop strategies to decrease vaping and educate parents and teens in the Libertyville area. Collaborative planning is underway to develop strategies to decrease vaping countywide with the Lake County Health Department. Awareness campaigns, designed by youth, to help educate parents and teens on vaping are being piloted in school districts where vaping rates were highest from the 2016 IYS survey, and these education programs are expanding. Community health staff will build on lessons learned from these pilot programs to address vaping and alcohol use in school districts with high rates from the 2018 IYS.

Community health staff will also seek consultation from substance abuse experts within the LCHD Substance Abuse Program to address adult use of opioids and alcohol. Advocate Condell also has a strong existing partnership with Gateway Foundation for the Warm Handoff program. The medical center 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 abuse issues, into treatment. Advocate Condell's community health staff will continue working with Gateway Foundation to improve and expand the reach of the program. As Advocate Condell 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 Condell welcomes all feedback regarding the 2019 Community Health Needs Assessment. 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 within thirty days. 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-CHNAReportCmtyFeedback@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 Community Health Department.

Sharing Results

In addition to the opportunity to provide feedback through the means described above, the Advocate Condell community health staff will proactively present the results of the 2019 CHNA to medical center 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

Data provided by Advocate Aurora Health:

Advocate Aurora Business Development Analytics, 2019
Advocate Aurora Business Development Analytics, Sg2, 2019
Advocate Condell Finance Department, 2019

Lake County Community Survey Data:

Healthcare Access in Northern Lake County, 2019
www.hfnlc.org/CommunityNeedsAssessment.pdf

Live Well Lake County Community Health Assessment (CHA), 2016-2021
www.lakecountyil.gov/CHA2016

Lake County Health Department Community Health Needs Assessment, prepared for Advocate Condell Medical Center, 2019. This publication was developed by the Lake County Health Department, under contract to Advocate Aurora Health, and is not a publicly available document. Data may be shared upon request.

Conduent Healthy Communities Institute:

Conduent Healthy Communities Institute, 2019. Accessed via a contract with Advocate Aurora Health. 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, 2018
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

Additional data sources were referenced for the completion of the Advocate Condell CHNA. Each data source is available to the public through its respective organization.

Illinois Youth Survey 2016 and 2018:

- Center for Prevention Research and Development. Illinois Youth Survey: Lake County Report, 2018. Retrieved from www.iys.cprd.illinois.edu

500 Cities: Waukegan

- Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Population Health. 500 Cities Project Data, 2018. Retrieved from www.cdc.gov/500cities

Cardiovascular Disease:

- American Heart Association. (2016). What is Atrial Fibrillation (AFib or AF)? Retrieved from www.heart.org
- American Heart Association. (2017). Monitoring Your Blood Pressure at Home. Retrieved from www.heart.org
- Centers for Disease Control and Prevention. (2017). Atrial Fibrillation Fact Sheet Data & Statistics, IDHDSP, CDC. Retrieved from www.cdc.gov
- Centers for Disease Control and Prevention. (2019). High Cholesterol Facts. Retrieved from www.cdc.gov
- Mayo Clinic. (2018). Low Blood Pressure (hypotension). Retrieved from www.mayoclinic.org

Obesity:

- Center for Disease Control and Prevention (2017), National Health and Nutrition Examination Survey, 2015-2016. Retrieved from www.cdc.gov
- Center for Prevention Research and Development. Illinois Youth Survey. (2018). Lake County Report. Retrieved from www.iys.cprd.illinois.edu
- Food Research and Action Center (2015). Understanding the Connections: Food Insecurity and Obesity. Retrieved from frac.org
- Robert Wood Johnson Foundation. (2019). State of Obesity. Retrieved from www.stateofobesity.org

Diabetes:

- American Diabetes Association. (2018). Statistics about Diabetes. Retrieved from www.diabetes.org

- Centers for Disease Control and Prevention. National Diabetes Statistics Report (2017). Atlanta, GA: Centers for Disease Control and Prevention, U.S. Dept. of Health and Human Services; 2017. Retrieved from www.cdc.gov

Mental Health:

- Centers for Disease Control and Prevention. (2019). Youth and Tobacco Use | CDC. Retrieved from www.cdc.gov

- Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Population Health. (2018). 500 Cities Project Data. Retrieved from https://www.cdc.gov/500cities.

- Mental Health America. (2018). State of Mental Health in America Past Reports: Mental Health America. Retrieved from mhanational.org

- MentalHelp, American Addiction Centers. (2019). Mental Health in the LGBT Community. Retrieved from www.mentalhelp.net

- National Alliance on Mental Illness (NAMI). Mental Health by the Numbers. Retrieved from www.nami.org

- The National Institute on Drug Abuse (2018). Monitoring the Future: National Survey Results on Drug Use, 1975-2018. www.monitoringthefuture.org

Substance Abuse:

- Centers for Disease Control and Prevention. (2019). Youth and Tobacco Use | CDC. Retrieved from www.cdc.gov

- Lake County Health Department. (2017). Tobacco Use in Lake County, 2010-2014. Retrieved from www.lakecountyil.gov

- MentalHelp, American Addiction Centers. (2019). Mental Health in the LGBT Community. Retrieved from www.mentalhelp.net

- National Institute on Alcohol Abuse and Alcoholism. (2019). Alcohol Facts and Statistics. Retrieved from www.niaaa.nih.gov

- National Institute on Alcohol Abuse and Alcoholism. (2018). NIH study shows steep increase in rate of alcohol-related ER visits. Retrieved from www.niaaa.nih.gov

- The National Institute on Drug Abuse (2018). Monitoring the Future: National Survey Results on Drug Use, 1975-2018. www.monitoringthefuture.org

Immunizations and Infectious Disease:

- Centers for Disease Control and Prevention. (2019). HIV in the United States and Dependent Areas. Retrieved from www.cdc.gov

- Centers for Disease Control and Prevention. (2018). Stats of the State of Illinois. Retrieved from www.cdc.gov

Adults and Aging:

- Alzheimer's Association. (2019). Alzheimer's Disease Facts and Figures Report. Retrieved from www.alz.org

Dental:

- Illinois State Board of Education (2015). Dental Examination Compliance Status of Kindergarten, Second and Sixth Grade Children in Illinois for School Year 2013-2014. Retrieved from www.isbe.net

Appendix 2: Advocate Condell Modified Hanlon Method Score Sheet 2019

Health Concern	A Size	B Seriousness	C Effectiveness of Interventions	D Priority Score (A+2B)C	Final Votes
Obesity	6.1	8.7	8.1	190.1	1
Substance Abuse	3.4	9.1	8.3	180.2	2
Mental Health	3.0	8.7	8.1	164.9	3
Cardiovascular Disease	3.4	8.6	8.0	164.1	4
Diabetes	2.1	8.6	7.8	149.4	5
Respiratory Disease	2.1	7.2	5.7	93.8	6
Sexually Transtitted Infections	1.7	5.7	6.7	86.9	7
Maternal Health	1.0	6.6	6.1	86.2	8
Falls	4.0	5.1	4.7	66.4	9
This document is not to be disseminated					

Appendix 3: Effective and Evidence-Based Practices Handout

	Conduent 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/El 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)
Maternal, Fetal and Infant Health	Children/Teens (23) Adults/Elderly (3)	Comprehensive Clinic based Programs for Pregnant and Parenting Teens (1) Centering Pregnancy (1)	Maternal, Infant and Child Health (33)
Falls	Children/Teen (1) Adults/Elderly (10)	Falls (6)	Older Adults- Physical Activity (30)

Appendix 4: Economic Impact of Top Health Priorities 2019 Handout

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, one in six 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 workdays (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 workdays 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).

Maternal Health

In 2007, the Institute of Medicine reported that the cost associated with premature birth in the United States was $26.2 billion each year. Here's how the numbers add up:

- **$16.9 billion** in medical and health care costs for the baby
- **$1.9 billion** in labor and delivery costs for mom
- **$611 million** for early intervention services. These are programs for children from birth to age 3 with disabilities and developmental delays. They help children learn physical, thinking, communicating, social and self-help skills that normally develop before age 3.
- $1.1 billion for special education services. These services are specially designed for children with disabilities ages 3 through 21. They help children with development and learning. Children can get these services at school, at home, in hospitals and in other places, as needed.
- $5.7 billion in lost work and pay for people born prematurely (Institute of Medicine)

In **Illinois**, the 2015 cost of preterm births is more than $250 million annually

- **$230 million** in medical costs through **age 5**
- **$16 million** in special education services
- **$9 million** in Early Intervention services (March of Dimes)

Falls

In 2015, total medical costs for falls in the U.S. totaled more than $50 billion. These include:

- $29 Billion Medicare

- $12 Billion Private/Out of Pocket
- $9 Billion Medicaid (CDC)

Because the U.S. population is aging, both the number of falls and the costs to treat fall injuries are likely to rise.

Lifetime costs associated with unintentional fall injuries in 2014 among Illinois residents ages 65 and older are estimated to be over $2.35 billion. Most of these costs were associated with injuries requiring hospitalizations.

- Deaths **$136 million**
- Hospitalizations **$2 billion**
- Emergency Room visits $**173 million**

Appendix 5: Advocate Condell CHC SWOT Analysis Infographic Summary 2018

Strengths:

Focus on Community Health

- community Health Workers
- Community organization involvement

Access to Resources on the internet, local libraries

Access to Quality Education

- high school, Colleges & Universities)

Community Organization / Health Collaboration

Access to Quality Health Care Services & Hospital Partnerships

Faith-Based Community Resources and Partnerships

Strengths:

Access to Food Pantries

- Eat Well Action Team
- Food initiatives
- Food Insecurity partnerships

Access to Nature

- Preserves and Park Districts

Mental Health Awareness

- Stigma reduction
- Behavioral Health Coalitions

ServicePoint

- Non-clinical and Clinical Linkages

Diversity

- Cultural Variety

Weakness

Transportation

- Limited transportation
- Health care services access

Underage Trends

- Vaping trend
- Marijuana abuse / behavioral
- E-cigarettes trends

Isolation

- Immigrant families, family crisis
- Social groups, cliques, stigmas etc.
- Isolated zip codes, populations, etc.
- Limited affordable housing

Healthcare Access

- Uninsured population
- Poor access to quality care
- Disjoined EHRs
- Limited BH capacity
- Cultural competent care

Disparities

- Graduation disparities
- School funding
- Financial disparities
- Racial and Ethnic disparities
- Single moms, child care

Opportunities

Awareness

- Lack of Resources
- Youth Behavioral Health Management
- Physician Education on MH
- Leverage anti-stigma movement
- New capacity in BH due to Lake County funding

Coordination

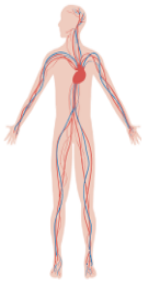
- Build volunteer programs
- Involve southern Lake County communities
- Leverage, engage business involvement
- Strategically coordinate with hospitals to fund and count for community benefits
- Untapped grant funding
- Advance health equity conversations
- Build on strengths and technology

Outreach

- School education
- Health promotion
- Community health workshops
- Innovative ways to meet people in their own communities
- Faith communities
- Build on community health worker (CHW)

Threats/Challenges

Increase Violence in the Community



Increase in Chronic Diseases

Increase Hate Crime and Discrimination

Political Environment and state budget

Social Media

Over-prescription of Medication and overdose

Aging Population

Appendix 6: Healthcare Foundation of Northern Lake County Summary and Observations 2019

The following are excerpts from the Healthcare Foundation of Northern Lake County Community Needs Assessment, completed in April 2019. The full report can be found at: https://www.hfnlc.org/wp-content/uploads/2016/10/Community-Needs-Assessment.pdf

Summary and Observations.
This report examines issues that affect access to healthcare in the service area of the Healthcare Foundation of Northern Lake County (HFNLC). To prepare the report, original data collection and analysis was conducted, including discussions with local members of the community. Some key findings include:

Northern Lake County is increasingly diverse.
Northern Lake County is quite diverse: non-Whites are 47 percent of the area, and Waukegan and Zion Township are "majority-minority" areas, while Avon Township is 35 percent Latino. Immigrants are about a third of Waukegan and Avon Township's populations and six of the nine townships in northern Lake County are at least ten percent foreign born.
Since year 2000, the Latino share of the region has risen nine percentage points, from 21 percent in 2000 to 30 percent, while the White share of the region has fallen by nine percentage points, to 53 percent. Over the past 16 years, the share of area residents who have a college degree has risen by four percentage points, to 28 percent, but at the same time the poverty rate has risen by four points, to include 12 percent of the population.

Many more residents have health insurance, but large numbers remain without coverage.
There are about 39,000 uninsured persons in northern Lake County, down from 48,000 in 2013. One in five persons aged 20-44 don't have health insurance and almost 25 percent of Latinos have no insurance coverage. Additionally, almost half of immigrants who are not U.S. citizens lack insurance.

Medicaid is key for children.
Almost 39 percent of all children in northern Lake County get their healthcare via Medicaid. At the same time, our interviews find that the public is confused about how to navigate the Medicaid system.

Medical specialists and practitioners are not evenly spread in Lake County.
In northern Lake County there is only one general practice physician for every 5,000 low- income residents. There are fewer than two providers per 1,000 low-income persons in the case of obstetricians/gynecologists, pediatricians, psychiatrists/neurologists and registered nurses. If the entire population is considered, providers-per-population numbers fall even lower. Some zip codes in northern Lake County appear to be lacking specialists almost entirely. Zip code 60002 in the Antioch area, for example, has no general practitioners, obstetricians/gynecologists, pediatricians or psychiatrists/neurologists with their primary practice location in the area. Zip codes 60083 (Wadsworth) and 60096 (Zion area) each have zero professionals in seven of the nine specialist categories.

Health needs are not the same for all groups.
Health needs of pregnant women and newborn babies account for 39 percent of Latino hospital admissions in northern Lake County, compared to 20 percent for Blacks and 18 percent for Whites. The rate of reported mental health disease and disorders, while low, is twice as high for Blacks (at seven percent of hospital admissions) as it is for Latinos (at three percent of admissions), which may reflect actual need or may reflect cultural bias against behavioral healthcare among Latinos.

Poor health outcomes track poverty at the local level.
The three local zip codes with the highest poverty levels – North Chicago 60064, Waukegan 60085 and Zion 60099 – have among the worst 25th health-related measures based on health-related indicators used by the Illinois Department of Public Health.

Community members highlight many issues, but some are more frequently raised.
Focus groups and interviews with community members raised many issues that affect healthcare access. But communication problems with medical providers and transportation were the most frequently expressed.

Focus Group Findings

Communication problems.
Interviewees and focus group participants described many instances of the general public experiencing poor communication in the course of getting medical care:
Inadequate explanations. Focus group participants said it was common for there to be poor communication between patients and doctors. They said that a person can leave an encounter with a medical provider without really understanding what was going on and what the next steps were. “Low-income populations,” said one focus group attendee, “tend to go to different doctors with no communication between them. Every time they go, they have to start all over again.”

Community-Specific Concerns. Lake County is home to large Latino immigrant populations and we heard comments about the lack of doctors who can communicate in Spanish. As a result, sometimes patients speak with a doctor who is right in front of them, but the patient and doctor are actually talking into telephone handsets, through which an interpreter is going back and forth between two languages. We heard of a phone interpretation session with a doctor in which a mother did not feel she could “push back” against a doctor’s diagnosis of her child’s illness because the mother didn’t feel that she was communicating well enough.

From African-American respondents we heard about community members not trusting medical providers. One person talked about how her mother told stories of how the news of the Tuskegee Study made her never want to trust a doctor again. Other respondents said that they have seen African-American patients treated differently than others. African-Americans who seek pain medication, for example, might not get prescriptions they need because a doctor doesn’t believe that they are sincere about needing relief from pain and are instead going to abuse a medication. A respondent also brought up the problem of sickle cell anemia and said that there is very little information in the African-American community about what to do about it.

Digital information. Patients lack adequate Internet access and they struggle with medical websites. They might have a slow internet connection on their home computer, they may not be comfortable with using websites, or they may not even have a home computer. Respondents did say, however that many people have digital access through their smart phones (which, of course, is not optimal for complicated, interactive websites.) So many people can be reached via applications like Facebook. But the social media is a "double-edged sword," one person said. False information on Facebook about immigration enforcement can lead to immigrants in northern Lake County completely re-routing their driving on a given day.

Public Education. A subset of the communication-related comments we heard related to public education. As one person in the Park Place group put it "Having health classes - teach people about health, nutrition, etc. so people make good, informed decisions about their own healthcare." In Round Lake, a participant described needing education opportunities that take place in the community.

Transportation

After issues related to communication problems, the topic of transportation rose frequently in our conversations. We heard about transportation problems among low-income African-American communities in Waukegan, among Latino immigrants in Round Lake Beach, and among White seniors in Fox Lake. It appeared to be an issue that cuts across income, geography, race and education levels.

Participants talked about how few bus routes exist in northern Lake County, and how the few that do exist are infrequent, don't go far enough, and are not available at all hours. One person described sick persons needing to pay $18 for a one-way cab ride to a doctor. The problem, of course, is worse on the western side of the county, where there are even fewer bus routes, and where getting around involves transferring from one route to another.

Some local governments and non-profit groups offer ride services that take people to the doctor, but these services lack staff and capacity to fully meet the need. The legal liabilities involved with driving an individual to a doctor holds some potential volunteers back from offering rides. Car rides given by volunteers may not be appropriate for medically compromised persons. We heard of an individual's struggle to move about on public transportation while carrying a respiratory assistance device.

Appendix 7: 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 (zip code 60002), Fox Lake (zip code 60020) and Lake Villa (zip code 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 are available on the CDC's BRFSS Prevalence and Trends Data website.

Appendix 8: Lake County Economy Indicators Dashboard Shapshot 2012-2016

*Full dashboards on a variety of indicators are available upon request.

Advocate Condell Medical Center Lake County Zip Codes				Economy					
Rank	Zip Code	Community/County/State	Population	Household with Cash Public Assistance Income	Homeownership	Renters Spending 30% of More of Household Income on Rent	Children Living Below Poverty Level	People 65+ Living Below Poverty Level	Median Household Income
	US	US Value		2.7%	55.9%	47.3%	21.2%	9.3%	$55,322
	State	Illinois Value		2.5%	59.6%	49.6%	19.5%	8.8%	$59,196
	County	Lake		2.1%	68.3%	45.8	12.2%	6.1%	$79,886
5	60064	North Chicago	14,371	8.0%	36.7%	61.7%	39.2%	14.6%	$34,777
5	60085	Waukegan	69,508	6.0%	37.7%	52.0%	31.5%	15.1%	$41,995
4	60099	Zion	31,346	4.6%	55.4%	87.1%	23.2%	6.4%	$51,145
4	60087	Waukegan	27,660	2.6%	57.7%	51.9%	22.7%	9.0%	$54,333
4	60073	Round Lake	60,781	2.2%	72.6%	54.4%	13.5%	7.6%	$66,485
3	60020	Fox Lake	10,760	1.3%	54.8%	49.6%	8.5%	13.0%	$52,163
3	60040	Highland Park/Fort Sheridan	5,127	1.7%	40.0%	49.6%	26.6%	6.4%	$54,189
3	60041	Volo,Fox Lake	9,926	4.4%	76.7%	54.2%	8.6%	2.3%	$62,236
3	60088	Great Lakes/North Chicago	14,994	1.7%	0.0%	54.7%	12.0%	15.5%	$57,424
2	60002	Antioch	25,304	2.3%	66.4%	40.6%	12.0%	7.0%	$77,107
2	60096	Wadsworth	6,535	2.4%	70.9%	32.9%	13.7%	6.3%	$81,068
2	60060	Mundelein	37,157	1.2%	73.8%	46.4%	13.5%	2.9%	$80,000
2	60084	Wauconda	17,077	1.2%	72.0%	45.0%	4.9%	5.9%	$77,747
1	60046	Lake Villa	35,317	1.1%	79.7%	46.1%	2.6%	4.4%	$83,969
1	60031	Gurnee	38,662	1.6%	70.2%	42.9%	5.9%	6.7%	$86,664
1	60030	Grayslake	38,086	1.0%	75.0%	42.6%	6.7%	7.2%	$81,454
1	60083	Beach Park/Wadsworth	9,654	1.4%	77.1%	41.0%	3.4%	5.7%	$90,077
	60089	Buffalo Grove	40,433	1.0%	75.1%	36.7%	3.8%	7.2%	$101,479
1	60061	Vernon Hills	26,610	1.0%	66.1%	47.8%	4.2%	10.7%	$96,263
1	60044	Lake Bluff/Roundout	9,076	2.2%	66.8%	34.8%	1.6%	2.3%	$102,380
1	60047	Lake Zurich	41,498	1.5%	87.0%	32.9%	4.2%	1.8%	$130,005
1	60010	Barrington	44,825	0.5%	83.3%	47.4%	5.7%	4.8%	$130,526
1	60069	Lincolnshire	8,744	0.3%	74.3%	87.1%	3.5%	4.5%	$91,739
1	60015	Deerfield	25,900	1.3%	82.0%	45.2%	4.7%	4.9%	$137,691
1	60048	Libertyville	29,473	0.3%	79.5%	40.6%	1.8%	2.5%	$128,075
1	60035	Highland Park/Lake Forest	28,807	0.7%	77.6%	53.3%	7.7%	4.6%	$130,262
1	60045	Lake Forest	19,720	0.4%	78.9%	38.8%	4.2%	2.3%	$167,073