Community Health Needs Assessment

2017 - 2019

December 2019

I am excited to present the 2019 Community Health Needs Assessment (CHNA) for Advocate Trinity Hospital. Our team conducted a comprehensive process including strategically reviewing primary and secondary data that is used to identify key health priorities within our community.

For this CHNA, Advocate Trinity partnered with the Alliance for Health Equity (AHE), a collaboration between the Illinois Public Health Institute, hospitals, health departments, and community organizations across Chicago and Cook County. The Alliance for Health equity was influential in providing data, guidance and technical support during the course of the CHNA process. Hospital staff, community members, and community partners collaborated to engage in discussions around the vital needs within Advocate Trinity's primary service area.

At Advocate Trinity, we recognize the importance in understanding and addressing the social determinants of health that interfere with health outcomes, access to healthy foods, safe neighborhoods and adequate housing. One of our goals is to address social and structural barriers that may affect health outcomes. We take pride in our programs that are working toward sustaining a healthier community. Although much has been done in the development and implementation of hospital and provider-based programs there are still other factors that remain a concern. In fact, emergency department rates for mental health, substance use, alcohol use, diabetes and asthma in Trinity hospital's service area are the highest compared to the state and county rates. Over the next three years we look forward to establishing new partnerships and strengthening current partnerships in response to addressing the priority health needs listed in this report.

Thank you for taking the time to review this CHNA report. We deeply appreciate the work of our Community Health Council and community partners who contributed to the development of the CHNA. I am honored to be a part of a hospital where everyone greets you with a smile, and care and compassion is second nature. We value your feedback. Please leave us a comment or express your thoughts after reading this report by using the link provided at the end of the report.

Respectfully submitted,

Rashard Johnson
President
Advocate Trinity Hospital

Table of Contents

I. Executive Summary

In 2018, Advocate Health Care merged with Aurora Health to create Advocate Aurora Health. Advocate Aurora Health (Advocate Aurora) is one of the largest providers in Illinois providing community health care, outreach and education. Illinois has 12 hospitals located across the Chicago metro area and central Illinois. Advocate Trinity Hospital (Advocate Trinity) is one of four hospitals in the southland region of Chicago with a mission to serve individuals, families and communities from a holistic approach. Advocate Trinity continues its partnership with The Alliance for Health Equity (The Alliance) formerly the Health Impact Collaborative of Cook County (HICCC). The Alliance is a coalition of non-profit and public hospitals, health departments and community-based organizations within Chicago and Cook County and is facilitated/supported by the Illinois Public Health Institute. The non-profit hospitals provide the funding for The Alliance. Through this coalition, primary and secondary data was collected for more than 100 indicators in Chicago and Suburban Cook County. The Advocate Trinity Community Health Council (CHC), with oversight responsibility of the CHNA process, considered the data from The Alliance CHNA report along with Trinity Hospital's emergency department (ED) and inpatient utilization data as they analyzed the health needs within the Trinity service area. After considering primary and secondary data from both a qualitative and quantitative perspective, The CHC selected three health priorities to address for the 2020-2022 implementation cycle—mental health, diabetes and food insecurity.

Advocate Trinity serves six zip codes in south Chicagoland including 60617, 60649, 60619, 60620, 06028, and 60643 known as the hospital's primary service area (PSA). The PSA has a population of 374,433 persons which is lower than a population of 380,375 in 2016. The population in the PSA has a median age of 39 and is 84% African American, 9% White and 10% Hispanic. Most of the population is between 25 and 64 years of age. The SocioNeeds Index, a proprietary index of Conduent Healthy Communities Institute, was consulted to understand the social conditions that deeply affect the health in the community. This index is a calculation using six indicators—including poverty, income, unemployment, occupation, education and language—and is a measurement of socioeconomic need and its correlation to poor health outcomes. The community areas with the highest socioeconomic index in Advocate Trinity's PSA include Roseland, South Shore, South Chicago and Auburn Gresham. Over the last three years, Advocate Trinity's PSA has experienced a significant increase in alcohol, substance use and emergency room visits due to mental illness. The population most affected showing increases in alcohol, substance use and mental illness are those ages 45-64 years of age. The ER rates among this population are higher than those of the state of Illinois. In addition, ER visits related to diabetes were also on an upward trend in 2017.

For the 2020-2022 implementation strategy cycle, Advocate Trinity's Community Health Councils (CHC) has prioritized mental health, diabetes and food insecurity as priority areas of focus. Advocate Trinity is currently completing an environmental scan in partnership with local community-based organizations and hospitals to learn more about resources available in the community. A secondary outcome of the environmental scan is the development of new partnerships to impact the health needs through a collective impact model. Mental illness is a new health need focus for Advocate Trinity and addressing it will require much planning and collaboration during the first year of the implementation plan. The Diabetes Prevention Program (DPP) will continue to be offered to community members and has recently been expanded to target the Hispanic population through funds received from the Chicago CARES Collaborative. Finally, in March of 2019, Advocate Trinity began implementation of the Healthy

Living Food Farmacy--a provider-driven program that gives the hospital's patients access to healthy food items. Advocate Trinity looks forward to expanding this program in 2019.

II. Description of Advocate Aurora Health and Advocate Trinity Hospital

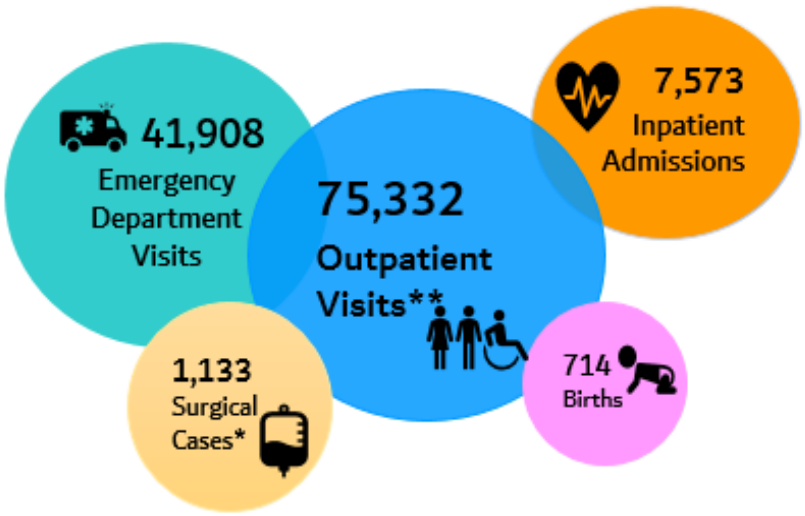
Advocate Aurora Health

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

Advocate Trinity Hospital

Advocate Trinity Hospital (Advocate Trinity) has provided high-quality, compassionate care to the residents of Chicago's Southeast Side for more than 120 years. Advocate Trinity is a 205-bed not-for-profit health care facility offering a full range of inpatient and outpatient services, including advanced cardiac and vascular care, women's services, endoscopy, oncology, dialysis and specialized ear, nose and throat services. The hospital is designated as a Primary Stroke Center, a Level II-Plus special care nursery and a Level II Comprehensive Emergency Service. Advocate Trinity cares for more than 124,000 patients each year, providing access to more than 450 physicians with expertise in over 55 specialties. Advocate Trinity is the first hospital in Chicago to be certified as a "Baby Friendly" Hospital, a designation from the World Health Organization recognizing the highest level of support for breastfeeding mothers and babies. The hospital is proud to be a community hospital where patients can receive advanced care in state-of-the-art facilities close to home.

Exhibit 1: Advocate Trinity Annual Statistics 2017



*Excludes 2,088 Outpatient surgeries
**Excludes 35,064 Advocate Medical Group outpatient visits
Source: Advocate Health Care Strategic Planning Department, 2017

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

Community Definition

Advocate Trinity defined its community for the 2014-2016 CHNA process as the hospital's total service area (TSA) of 12 zip codes. In 2016, the population of Advocate Trinity's TSA was an estimated 578,551, with a PSA population of 380,375 and a secondary service area (SSA) population of 198,176. Exhibit 2 displays Advocate Trinity's TSA area zip codes.

Exhibit 2: Advocate Trinity TSA Zip Codes 2016

City/Community	Zip Code	City/Community	Zip Code
South Chicago	60617	**Calumet City**	60643
Grand Crossing	60619	**Englewood**	60452
Auburn Gresham	60620	**Hegewisch**	60655
Roseland	60628	**West Englewood**	60453
Morgan Park	60643	**Woodlawn**	60467
South Shore	60649	**Riverdale**	60462

Communities with the Highest SocioNeeds Index Values

Advocate Trinity used the SocioNeeds Index, created by the Healthy Communities Institute (HCI), to better understand disparities in health outcomes correlated with income and socioeconomic disparities that exist within the hospital's TSA. The SocioNeeds Index is a measure of socioeconomic need that is correlated with poor health outcomes. Indicators for the index are weighted to maximize the correlation of the index with premature death rates and preventable hospitalization rates. This index combines multiple socioeconomic indicators (which range from poverty to education) into a single composite value. As a single indicator, the SocioNeeds Index can serve as a concise way to explain which areas are of highest need. The scores can range from one to 100. A score of 100 represents the highest socioeconomic need. The ranking of one to five is a comparison of each zip code to all others within the TSA; a five represents areas of highest socioeconomic need in comparison to others in the specific geographic area under consideration. Exhibit 3 shows the SocioNeeds Index values for zip codes in the hospital's TSA in 2016.

Exhibit 3: Advocate Trinity TSA SocioNeeds Index Values and Ranking 2016

Primary Service Area					Secondary Service Area				
Community Areas	Zip Code	Index	Rank	Pop.	Community Areas	Zip Code	Index	Rank	Pop.
Auburn Gresham	60620	95.3	5	70,876	Englewood	60621	99.8	5	33,936
South Chicago	60617	94.7	4	82,401	West Englewood	60636	99.2	5	38,852
Roseland	60628	94.6	4	69,727	Woodlawn	60637	97	4	48,494
South Shore	60649	93.9	3	46,292	Riverdale	60827	96.2	3	27,767
Grand Crossing	60619	91.9	2	61,816	Calumet City	60409	88	2	36,212
Morgan Park	60643	53.1	1	49,263	Hegewisch	60633	85	1	12,915

Source: Healthy Communities Institute, 2016

Overview of Collaborations

For the 2014-2016 community health needs assessment (CHNA), Advocate Trinity collaborated with numerous stakeholders. These key stakeholders and partners included the following.

- The Health Impact Collaborative of Cook County (HICCC)
- The South Chicago Neighborhood Network
- Advocate Trinity Community Health Council
- Advocate Trinity Governing Council

The Health Impact Collaborative of Cook County

In 2015, Advocate Health Care and its five hospitals principally serving Cook County (including Advocate Trinity) contributed financially and with in-kind resources to the formation and development of the Health Impact Collaborative of Cook County (HICCC), a project involving 26 hospitals, seven health departments and nearly 100 community-based organizations. The goal of the initiative was to work collaboratively on a county-wide CHNA and implementation plan once priorities were identified. The Illinois Public Health Institute (IPHI) served as the backbone organization for the collaborative in facilitating the work of the HICCC, including coordination of data collection, analysis, and interpretation and writing of the CHNA report.

Given the size and diversity of Cook County (second largest county in the U.S.), the collaborative created three regions—North, Central and South—for purposes of organizing the assessment process. Advocate Trinity was assigned to the South region consisting of both the south side of Chicago as well as southern suburbs of Chicago. As a part of the CHNA process, a strategic planning framework-**M**obilizing for **A**ction through **P**artnerships and **P**lanning (MAPP) was implemented in all three regions from February 2015-June 2016 in efforts to identify resources and prioritize health needs for communities within the regions.

The South Chicago Neighborhood Network

In 2015, Advocate Trinity developed a collaborative partnership with the South Chicago Neighborhood Network (SCNN) to address violence and homicide in the South Chicago community. The collaboration focused on preparing community members to work toward improving community health by offering organizational and public learning opportunities around trauma-informed care. Working together, the SCNN partners strived to make South Chicago a trauma-informed/trauma-sensitive community dedicated to supporting a culture of care for those who were impacted by violence. Community-level data and focus group studies were conducted through the SCNN collaboration, which informed the hospital about the communities needs around violence and trauma exposure in the hospital's TSA.

Community Health Council

For Advocate Trinity's 2014-2016 CHNA, the hospital engaged a CHC and collaborated with numerous stakeholders. This council was chaired by one of Advocate Trinity's Governing Council members and co-chaired by a community leader. The CHC's responsibilities were to oversee the hospital's 2014-2016 CHNA including data review and prioritization of health needs, and the development of implementation plans to address community health needs. Key stakeholders and partners included the following:

- Community-based organizations (CBOs)
- Members of Advocate Trinity's Governing Council
- Faith leaders
- Social Service Agencies
- Federally Qualified Health Centers (FQHCs)

The CHC functions as a subset of the hospital's Governing Council and all activities and decisions made by the CHC regarding the CHNA are submitted for approval by the full Governing Council.

Governing Council

As indicated above, a member of the Advocate Trinity's Governing Council serves as chair of the CHC, providing period feedback to the Governing Council on the CHC's progress. A majority of members serving on the hospital's Governing Council (65%) represent the community. The principal roles of Governing Council members are to: 1) support the hospital leadership in their pursuit of the hospital's goals; 2) represent the community's interests to the hospital; and 3) serve as an ambassador of the hospital in the community. For the CHNA, the role of the Governing Council is to provide input and to review and approve the recommendations of the CHC. Advocate Trinity's Governing Council approved the hospital's 2014-2016 CHNA Report, including identified priorities for action and implementation strategy, on November 22, 2016.

Summary of Assessment Process

Advocate Trinity's community health department collected and analyzed data for the hospital's TSA. In addition, hospital utilization data and program data from clinical and community-based programs were collected. This process resulted in the identification of seven community health needs that were brought to the CHC for discussion and prioritization, including:

- Asthma
- Cancer
- Diabetes
- Heart disease
- Hypertension/stroke
- Mental health
- Violence/homicide

The CHC ranked the most significant community health needs using the following criteria:

- Most prevalent health needs identified based on highest mortality rates
    - Highest incidence of disease in the community
    - Highest hospital admissions
- Availability of community partnerships
- Availability of current resources needed to plan and implement programs

Needs Identified and Priorities Selected

CHC members voted and prioritized the most significant health needs based on the above established criteria. The health issues with the highest number of votes were selected as the priority health needs. The CHC members identified asthma and diabetes as the priority health needs for the TSA. The integration of social determinants of health (SDOH) into the community health needs assessment and implementation plan was also an essential component of identifying and addressing root causes of chronic health issues. In efforts to align with the HICCC social determinants of health SDOH priorities, CHC members selected workforce development as Advocate Trinity's SDOH priority. Exhibit 4 highlights the hospital's priorities selected during the 2014-2016 CHNA process.

Exhibit 4: Advocate Trinity 2014-2016 CHNA Priority Areas

Summary of Implementation Programs and Key Accomplishments

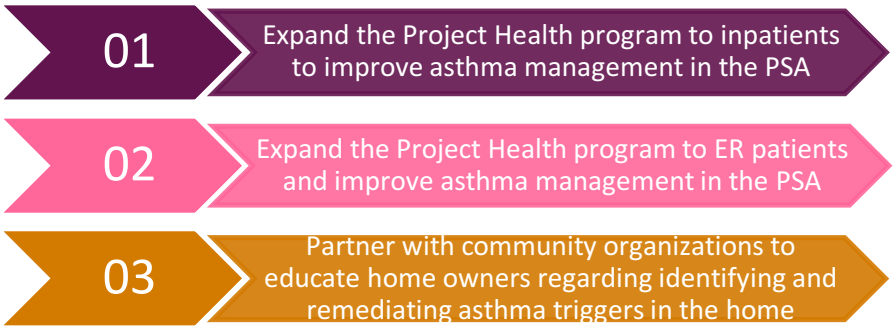
Advocate Trinity implemented several strategies to address each prioritized health need as identified through the 2014-2016 CHNA. The implementation plan strategies encompassed the Project HEALTH program for asthma, the CDC National Diabetes Prevention Program, and the Advocate Workforce Initiative.

Project H.E.A.L.T.H.

The goal of Project H.E.A.L.T.H (Healing Effectively after Leaving the Hospital) program was to reduce the incidence of uncontrolled asthma among adults age 18 and older in the PSA. The program involved the engagement of community health workers (CHW) who were responsible for educating patients regarding asthma self-management. Patients hospitalized or admitted to the ED due to asthma were assessed and offered home visits to identify environmental triggers and barriers to asthma

management. The CHWs provided health education and supportive resources to patients in efforts to prevent frequent ER room visits and hospitalizations.

Project Health program strategies included:



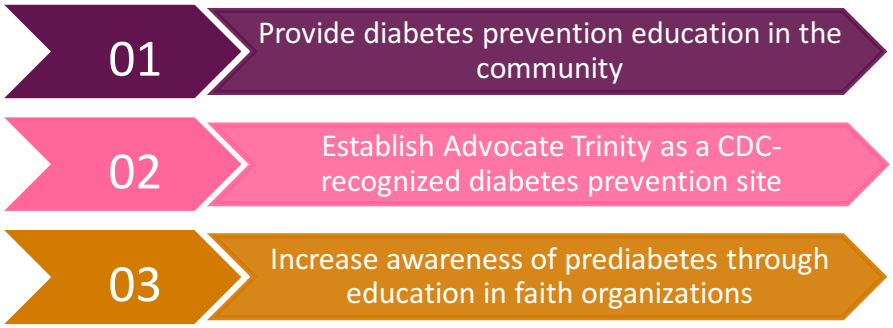
Program results for 2018 were as follows:

- The program served 980 patients, conducted 183 asthma control tests and made 10 home visits between 2017-2018.
- In partnership with the Metropolitan Tenants Organization (MTO), five community health workers received Healthy Homes training in August 2018.
- The community health team will re-evaluate the feasibility of partnering with MTO to educate home owners regarding identifying and remediating asthma triggers in the home.

Diabetes Prevention Program

The goal of the diabetes prevention program is to reduce the incidence of Type 2 diabetes among adults 18 and older in the PSA. Advocate Trinity's community health department successfully implemented the Centers for Disease Control and Prevention (CDC) National Diabetes Prevention Program (DPP). The program is designed to educate individuals who have been diagnosed with pre-diabetes about how to prevent or delay the onset of Type 2 diabetes. The DPP program as a yearlong program that accomplishes it's goal through education, diet and exercise. The hospital partnered with clinics, local churches and community organizations to host the program.

Diabetes Prevention Program strategies included:



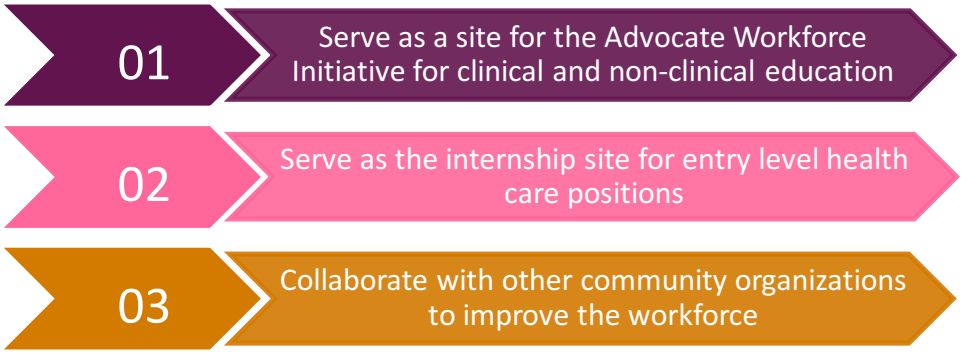
Program results for 2018 were as follows:

- There were two cohorts established with a total of 25 total participants.
- Sixty-eight percent of the participants were eligible to participate in the DPP program based on blood-based tests; 32 percent of the participants were eligible based on a risk assessment.
- Thirty-three percent of participants met the weight loss goal from the baseline.
- An additional 100 individuals attended educational workshops about diabetes at community partner sites.

Advocate Workforce Initiative

The goal of the Advocate Workforce Initiative was to reduce the unemployment in the Advocate Trinity TSA. Advocate Trinity serves as a site for the Advocate Workforce Initiative (AWI) – a program designed to prepare low-income residents to find clinical and non-clinical mid-level jobs upon completion of required education. Supported by a grant from JP Morgan Chase, the initiative trains and educates adults for entry to mid-level employment opportunities (i.e. phlebotomist, CNA, pharmacy technician, etc.). The Michael Health Reese Trust Fund supports the Pathways to Health Careers program, which affords high school students the opportunity to job shadow in various departments within the hospital to encourage them to prepare for a career in the healthcare field.

Advocate Workforce Initiative strategies included:



Program results as of 2018 were as follows:

- AWI provided job specific training to over 114 individuals with 88 (77 percent) of those individuals residing in the hospital's TSA.
- There were 278 interns accepted at Advocate Trinity through the AWI program.
- Over 95 students have completed the Pathways to Health Careers program internship.
- Thirty percent of program participants who completed the AWI program were employed by Advocate Health Care.

Input from the Community from the 2014-2016 CHNA

Although feedback mechanisms were in place for public comment and input on the 2014-2016 CHNA, the hospital did not receive any feedback from the community. The hospital will continue to encourage input from the community by providing various feedback mechanisms for the 2017-2019 CHNA.

Lessons Learned from the 2014-2016 CHNA

Advocate Trinity made progress toward accomplishing the strategies and initiatives adopted to address the top identified health priorities described in the 2014-2016 CHNA and Implementation Strategy Plan. The following lessons were learned from the 2014-2016 CHNA cycle.

Project H.E.A.L.T.H. Asthma Initiative—After conducting the 2014-2016 CHNA and executing strategies from the implementation plan, the hospital learned that continuous quality improvement and evaluation of the Project H.E.A.L.T.H program is needed to identify processes for administration of asthma activities. Community Health Workers will continue to conduct asthma control tests, home visits, and asthma action plans with identified patients. The community health team will re-evaluate the partnership with the MTO to determine feasibility of this strategy moving forward and develop a plan of action for the focus area.

Diabetes Prevention Program—To grow the DPP, the community health team must continue to grow the number of partners who are interested in hosting the program. Outreach will continue through internal/external media outlets and community-based organizations (CBOs) to promote and/or be a

host site for Advocate Trinity DPP classes. Program staff will continue to establish relationships with additional partners and seek avenues to conduct more sessions in the Latino community on the southeast side of Chicago.

Advocate Workforce Initiative—Advocate Trinity has seen a growing number of persons interested in completing their internship in the hospital's clinical areas and within the community health department. The community health department learned that to improve the quality of its workforce activities, the development of a survey is needed to capture actionable information regarding the program. A post internship survey will be established to capture data from participants and outcomes will be used to strengthen workforce development activities.

IV. 2017-2019 Community Health Needs Assessment

Community Definition

Advocate Trinity defines community as the hospital's PSA for the 2017-2019 CHNA. Within Advocate Aurora, the PSA is composed of the communities where 75 percent of the hospital's patients reside. The PSA consists of 6 zip codes, all within the city of Chicago, Illinois. The zip codes and corresponding community areas are listed in Exhibit 5.

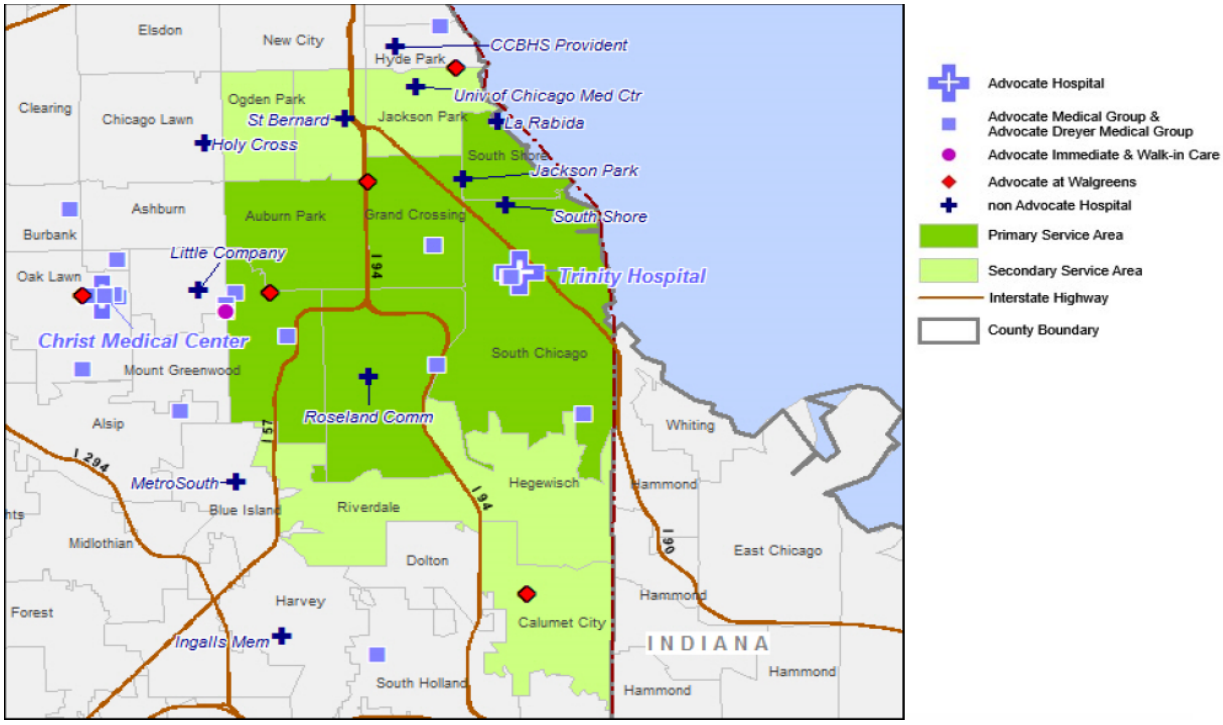
Exhibit 5: Advocate Trinity PSA Zip Codes and Community Names 2019

Advocate Trinity			
Zip Code	**City Name**	**Zip Code**	**City Name**
60617	South Chicago	60628	Roseland
60619	Greater Grand Crossing	60643	Morgan Park
60620	Auburn Gresham	60649	South Shore

Population

In 2019, the total population in Advocate Trinity's PSA was estimated at 374,433 persons. The PSA population decreased by 3.8 percent from 2010 to 2019. Comparatively, the state of Illinois population decreased by 0.46 percent (Conduent Healthy Communities Institute, 2019). Exhibit 6 shows a map of the Advocate Trinity PSA.

Exhibit 6: Advocate Trinity PSA 2019

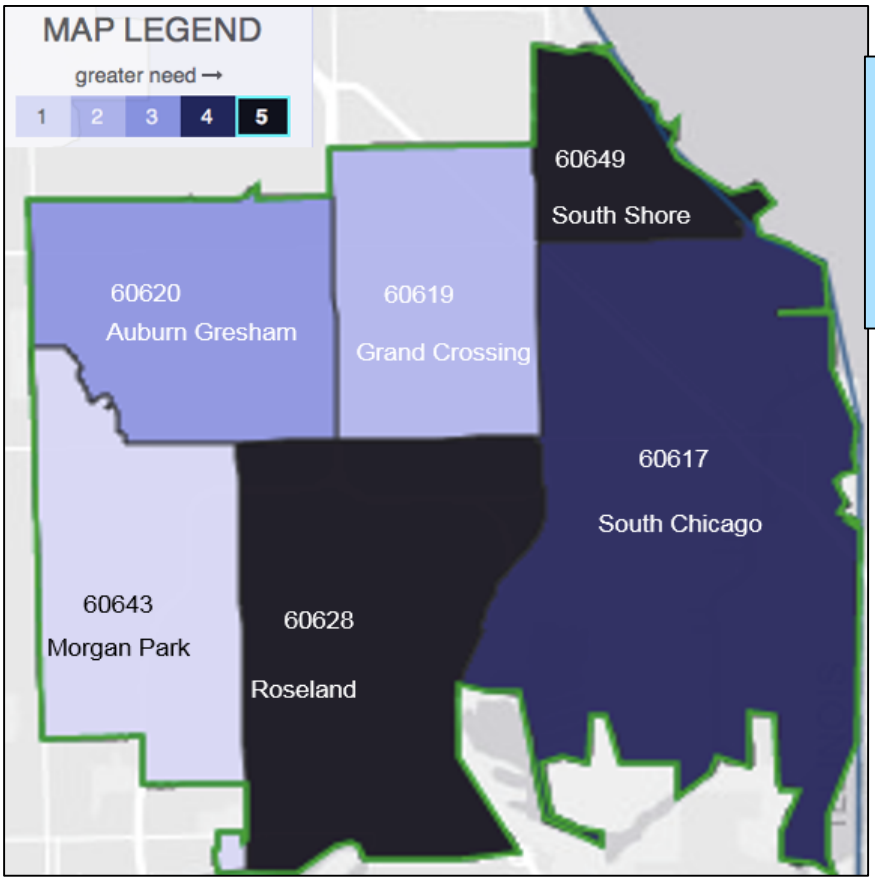


Source: Advocate Health Care Strategic Planning Department, 2017

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 value from zero (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 one (low need) to five (high need) based on their Index value. These values are sorted from low to high and divided into five ranks using natural breaks. These ranks are then used to color the zip codes having the highest SocioNeeds Indices with the darker colors. The hospital has several communities within the PSA that have greater socioeconomic needs compared to other communities in the PSA. Roseland, South Shore and South Chicago are Advocate Trinity's highest need communities and are all ranked as fours or fives. Exhibit 7 shows the SocioNeeds Index map for the hospital's PSA.

Exhibit 7: Advocate Trinity PSA SocioNeeds Index Map



Highest SocioNeeds Index by Zip Code

60628 - Roseland
60649 – South Shore
60617 – South Chicago

Source: Conduent Healthy Communities Institute, 2019

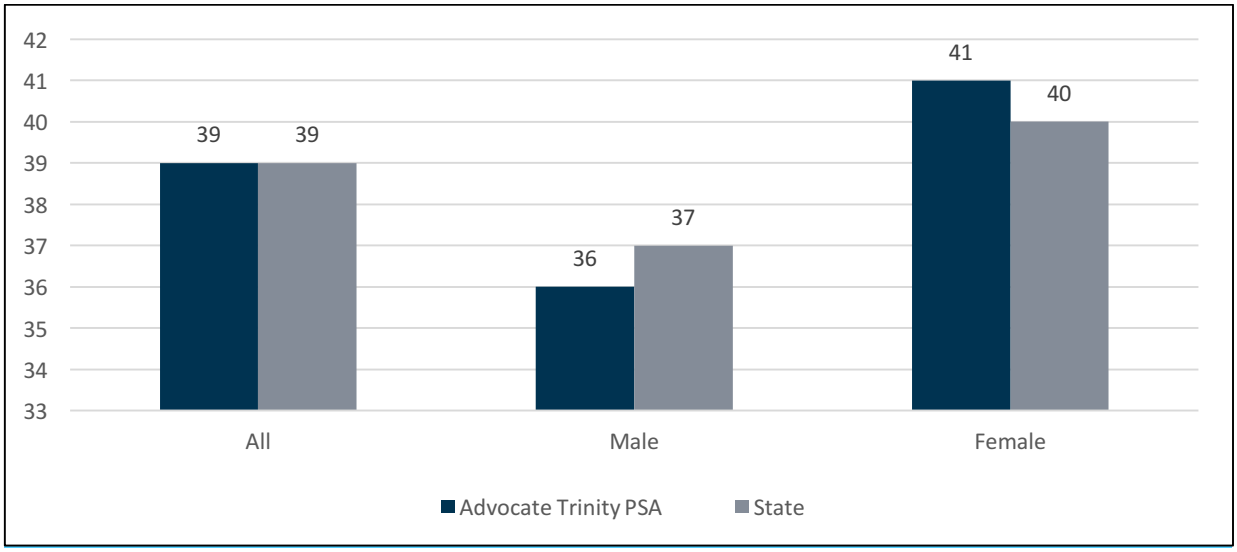
Demographics

Age and Gender

Median Age by Sex

The median age in the hospital's PSA is 39 years, which is equal to the state of Illinois median age of 39 years. In the Advocate Trinity PSA, the median age for males is 36 years while the median age for females is 41 years. This is comparable to the state of Illinois median age range for males (37 years) and females (40 years). Exhibit 8 shows the hospital's PSA population by median age and sex for the PSA and state of Illinois.

Exhibit 8: Advocate Trinity PSA Population by Median Age and Sex 2019

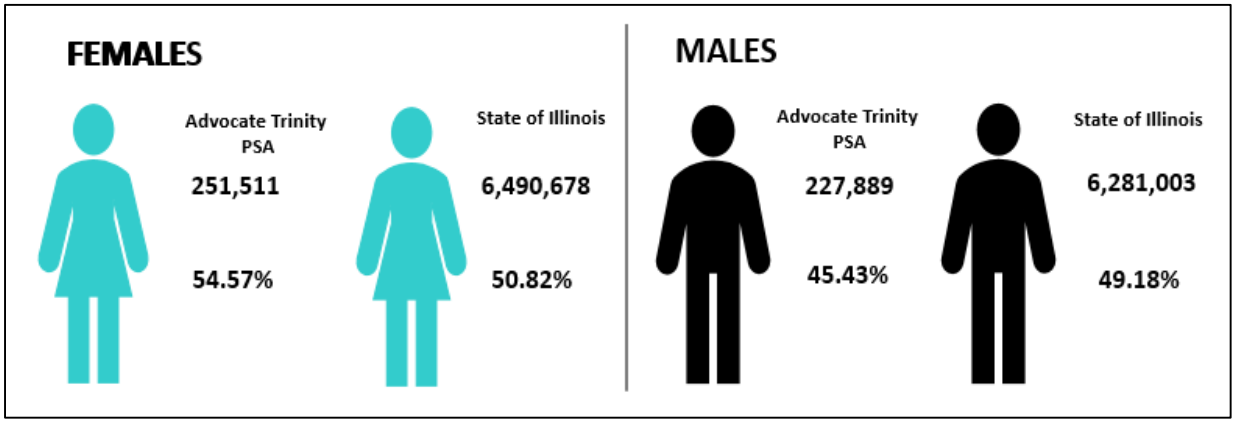


Source: Conduent Healthy Communities Institute, Claritas, 2019

Population by Sex

The hospital's PSA population is 54.57 percent female compared to 50.82 percent for the state of Illinois. There are 45.43 percent males in the hospital's PSA compared to 49.18 percent in the state of Illinois. Overall, there are slight differences in gender between the PSA and the state of Illinois among the male and female population. Exhibit 9 displays the total population by sex for the PSA and the state of Illinois.

Exhibit 9: Advocate Trinity PSA Population by Sex 2019

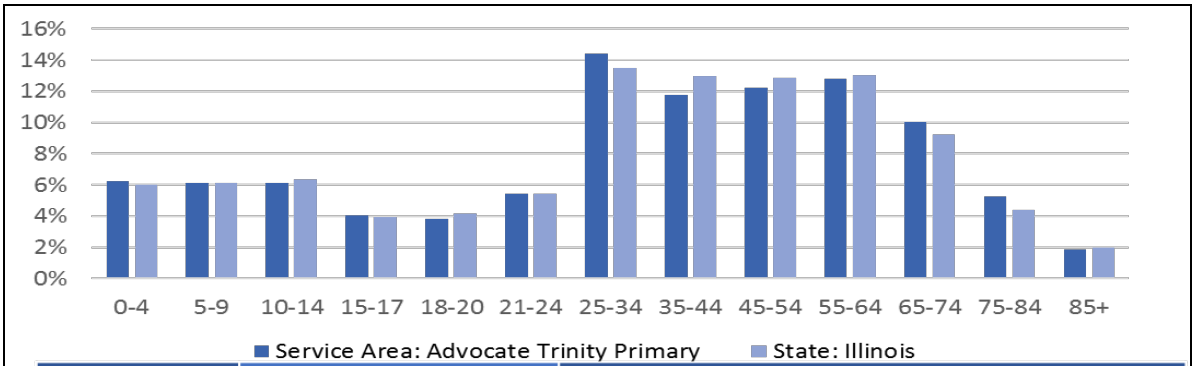


Source: Conduent Healthy Communities Institute, Claritas, 2019

Population by Age Group

Individuals aged 25-64 years make up the majority of the PSA's population (50.83 percent), which is slightly lower than the state of Illinois (52.34 percent). Overall, individuals aged 25-34 make up 13.89 percent of the PSA, while individuals aged 55-64 make up 13.24 percent of the PSA (Conduent Healthy Communities Institute, Claritas, 2019). Exhibit 10 displays the population by age group for the hospital's PSA and the state of Illinois.

Exhibit 10: Advocate Trinity PSA Population by Age Group 2019



Population by Age Group	Service Area: Advocate Trinity Hospital		State: Illinois	
	Persons	% Population	Persons	% Population
0-4	23,279	6.22%	765,044	5.99%
5-9	22,925	6.12%	780,381	6.11%
10-14	22,911	6.12%	811,994	6.36%
15-17	15,157	4.05%	505,923	3.36%
18-20	14,377	3.84%	532,593	4.17%
21-24	20,394	5.45%	692,058	5.42%
25-34	52,022	13.89%	1,721,027	13.48%
35-44	44,030	11.76%	1,656,780	12.97%
45-54	44,708	11.94%	1,644,576	12.88%
55-64	49,573	13.24%	1,661,318	13.01%
65-74	37,620	10.05%	1,178,821	9.23%
75-84	19,673	5.25%	564,342	4.42%
85+	7,764	2.07%	256,824	2.01%

Source: Conduent Healthy Communities Institute, Claritas, 2019

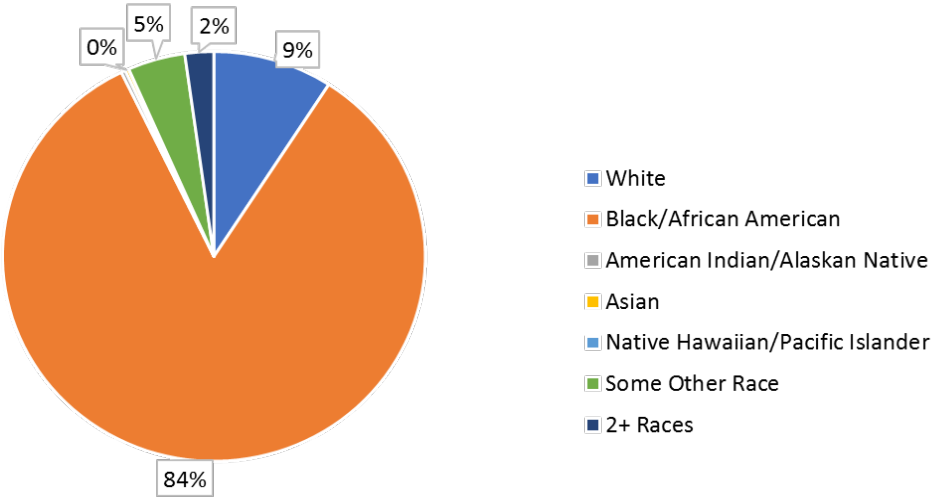
Race and Ethnicity

Population by Race

Advocate Trinity's PSA population is 83.64 percent Black/African American; 9.15 percent White; 4.39 percent Other Race; 2.21 percent 2+ Races; 0.27 percent Asian; 0.33 percent American Indian/Alaskan Native and 0.02 percent Native Hawaiian/Pacific Islander (Conduent Healthy Communities Institute,

Claritas, 2019). The PSA has a substantially larger Black/African American population when compared to the state of Illinois. See Exhibit 11 for more details on the racial composition of the PSA.

Exhibit 11: Advocate Trinity PSA Population by Race 2019



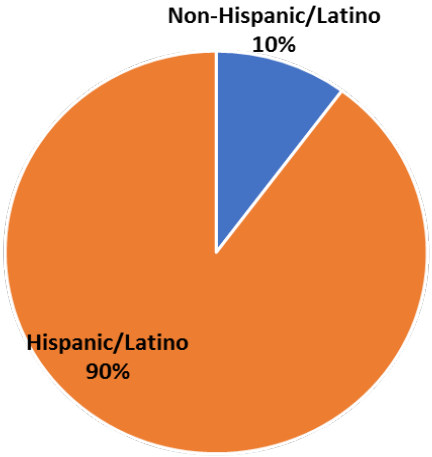
Population by Race	Advocate Trinity PSA		State: Illinois	
	Persons	% of Population	Person	% of Population
White	**34,266**	9.15%	**8,872,760**	69.47%
Black/African American	**313,158**	83.64%	**1,823,605**	14.28%
American Indian/Alaskan Native	**1,235**	0.33%	**46,983**	0.37%
Asian	**1,000**	0.27%	**728,041**	5.70%
Native Hawaiian/Pacific Islander	**81**	0.02%	**4,682**	0.04%
Some Other Race	**16,423**	4.39%	**950,675**	7.44%
2+ Races	**8,270**	2.21%	**344,935**	2.70%

Source: Conduent Healthy Communities Institute, Claritas, 2019

Population by Ethnicity

The ethnic makeup of the hospital's PSA is 89.85 percent Non-Hispanic and 10.15 percent Hispanic/Latino. The Hispanic/Latino population in the hospital's PSA is smaller at 10.15 percent as compared to the state of Illinois at 17.62 percent. Exhibit 12 shows the ethnic composition of the PSA (Conduent Healthy Communities Institute, Claritas, 2019).

Exhibit 12: Advocate Trinity PSA Population by Ethnicity 2019



Population by Ethnicity	Service Area: Advocate Trinity PSA		State: Illinois	
	Persons	% of Population	Persons	% of Population
Hispanic/Latino	**38,016**	10.15%	**2,250,985**	17.62%
Non-Hispanic/Latino	**336,417**	89.85%	**10,520,696**	82.38%

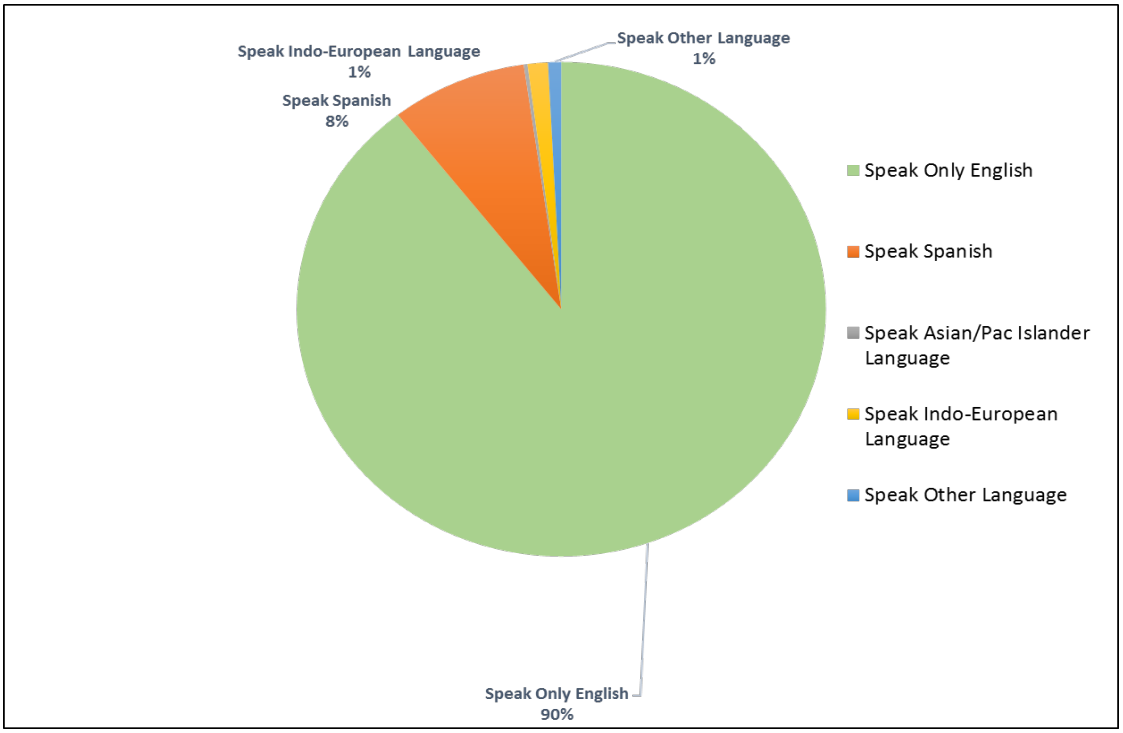
Source: Conduent Healthy Communities Institute, Claritas, 2019

Language Spoken at Home

Population Age 5+ Language Spoken at Home

Advocate Trinity serves a primarily English-speaking population with 89.41 percent of the population age 5 years and older speaking English only at home and 8.33 percent speaking Spanish at home (Conduent Healthy Communities Institute, Claritas, 2019). Comparatively, the state of Illinois has 77.20 percent of the population age 5 and older speaking English only at home and 13.37 percent of the population speaking Spanish at home (Conduent Healthy Communities Institute, Claritas, 2019). See Exhibit 13 for more details regarding languages spoken at home in the hospital's PSA.

Exhibit 13: Advocate Trinity PSA Population Age 5+ by Language Spoken at Home 2019



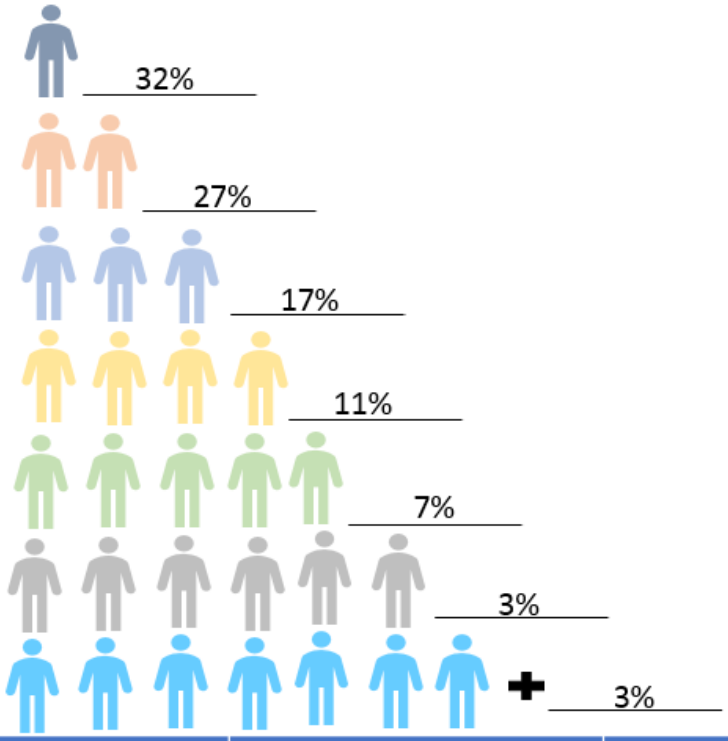
Source: Conduent Healthy Communities Institute, Claritas, 2019

Household/Family

Average Household Size and Number of People in Household

The average household size in the hospital's PSA is 2.59 persons with 91,981 families residing in 143,414 households. There are more one-person households in the hospital's PSA at 32.49 percent compared to all other household sizes. In the state of Illinois, there are more 2-person households at 30.92 percent compared to all other household sizes. Among household's in the hospital's PSA, 34.13 percent are households with children under the age of 18 years compared to the state of Illinois with 33.45 percent of households with children under the age of 18 years (Conduent Healthy Communities Institute, Claritas, 2019). Exhibit 14 shows the breakdown of the households in the hospital's PSA.

Exhibit 14: Advocate Trinity PSA Households by Number of People in Household 2019



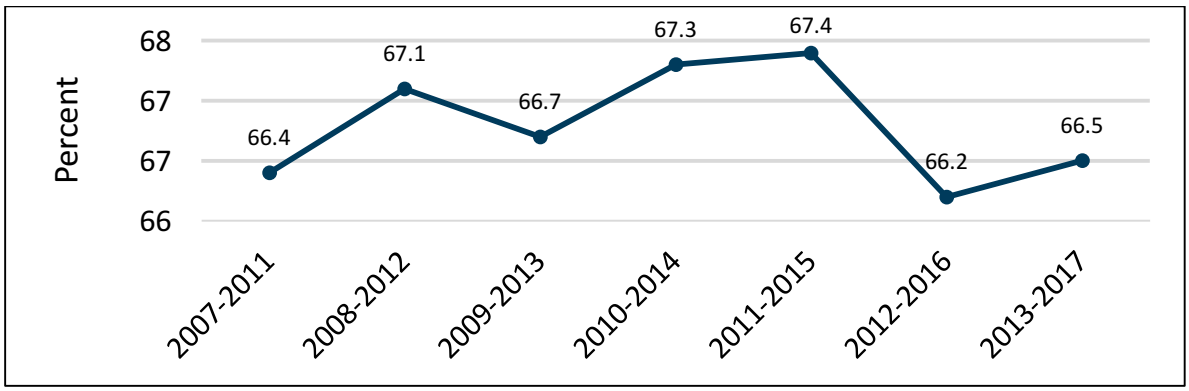
Households by Number of People in Household	Service Area: Advocate Trinity Primary		State: Illinois	
	Persons	% of Population	Person	% of Population
1-Person	46,598	32.49%	1,393,073	28.63%
2-Person	37,986	26.49%	1,504,435	30.92%
3-Person	23,759	16.57%	767,606	15.78%
4-Person	16,258	11.34%	644,735	13.25%
5-Person	9,462	6.60%	325,704	6.69%
6-Person	4,987	3.48%	138,074	2.84%
7+Person	4,364	3.04%	92,210	1.90%

Source: Conduent Healthy Communities Institute, Claritas, 2019

Single Parent Households

A single parent household is defined as children living with a male or female householder and where no spouse is present. Single parent households are at a higher risk for adverse health conditions including emotional and behavioral health problems. Children in single parent households are more likely to develop depression, smoke, and abuse alcohol and other substances (Conduent Healthy Communities Institute, Claritas, 2019). Exhibit 15 displays single parent households between years 2007–2017. Advocate Trinity's PSA had more than twice the percentage of single parent households between 2013-2017 at 66.5 percent compared to 32.4 percent in the state of Illinois and 33.3 percent in the U.S.

Exhibit 15: Advocate Trinity PSA Population by Single Parent Households 2007-2017

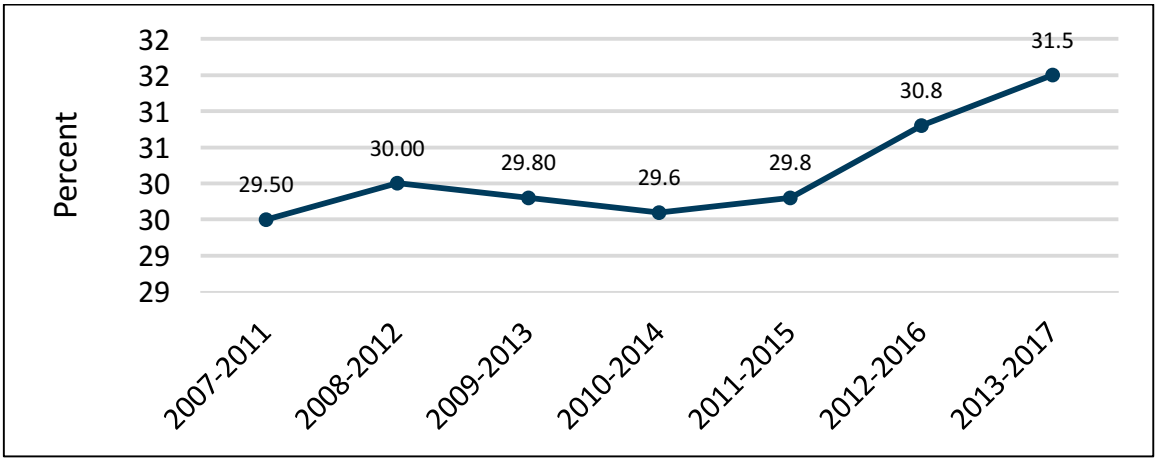


Source: Conduent Healthy Communities Institute, Claritas, 2019

People 65+ Living Alone

Older people who live alone may be at risk for institutionalization, limited access to support, social isolation, inadequate assistance in emergency situations or losing their independence. They may also be vulnerable due to poverty, disabilities, lack of access to care or inadequate housing (Conduent Healthy Communities Institute, Claritas, 2019). Between 2013-2017, there were 31.5 percent of people age 65 and older living alone compared to 28.5 percent within the state of Illinois and 26.2 percent in the U.S. (Conduent Healthy Communities Institute, Claritas, 2019). Exhibit 16 shows people age 65 and over living alone in Advocate Trinity's PSA.

Exhibit 16: Advocate Trinity PSA Population by People Age 65+ Living Alone 2007-2017



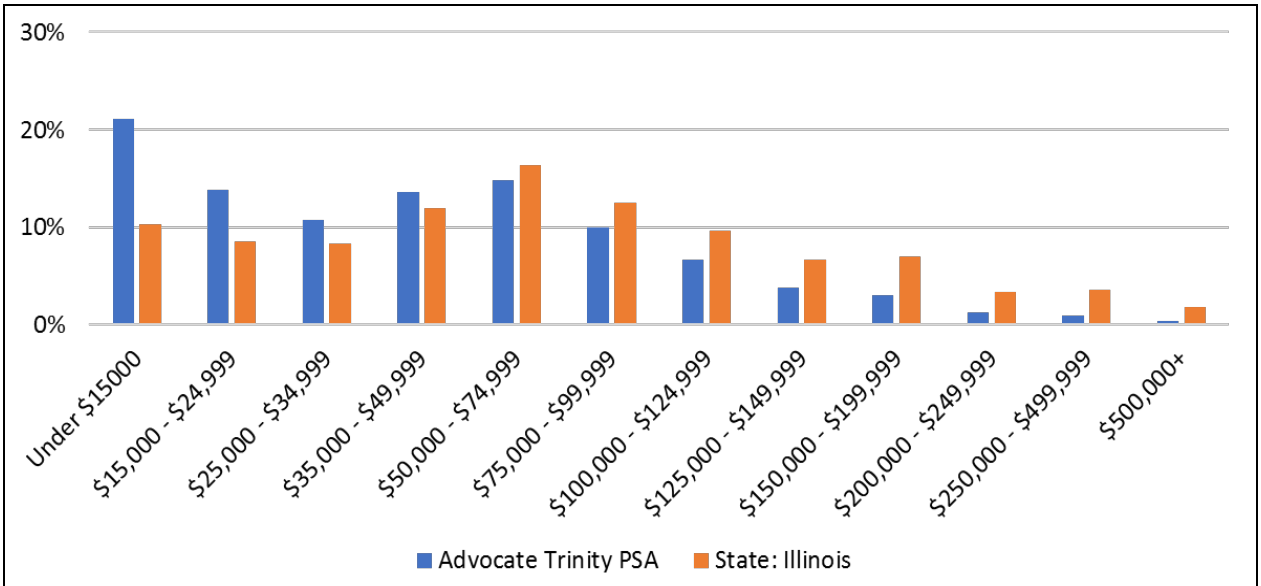
Source: Conduent Healthy Communities Institute, Claritas, 2019

Economics

Income

Poverty creates barriers to access, including health services, healthy food choices and other factors that contribute to poor health. Twenty-three-point six percent of the population in the hospital's PSA live in poverty, which is higher than Cook County at 15.9 percent. As of 2019, 21 percent of households have a household income level under $15,000 while 14 percent have a household income level between $15,000 to $25,000. Comparatively, the state of Illinois has 10 percent of households with income levels under $15,000 and eight percent of households have income levels between $15,000 to $25,000. The hospital's PSA has 45 percent of household income levels below $34,000 compared to the state of Illinois with 26 percent of household income levels below $34,000 (Conduent Healthy Communities Institute, Claritas, 2019). Exhibit 17 depicts the household income levels in the hospital's PSA.

Exhibit 17: Advocate Trinity PSA and State of Illinois Households by Income 2019



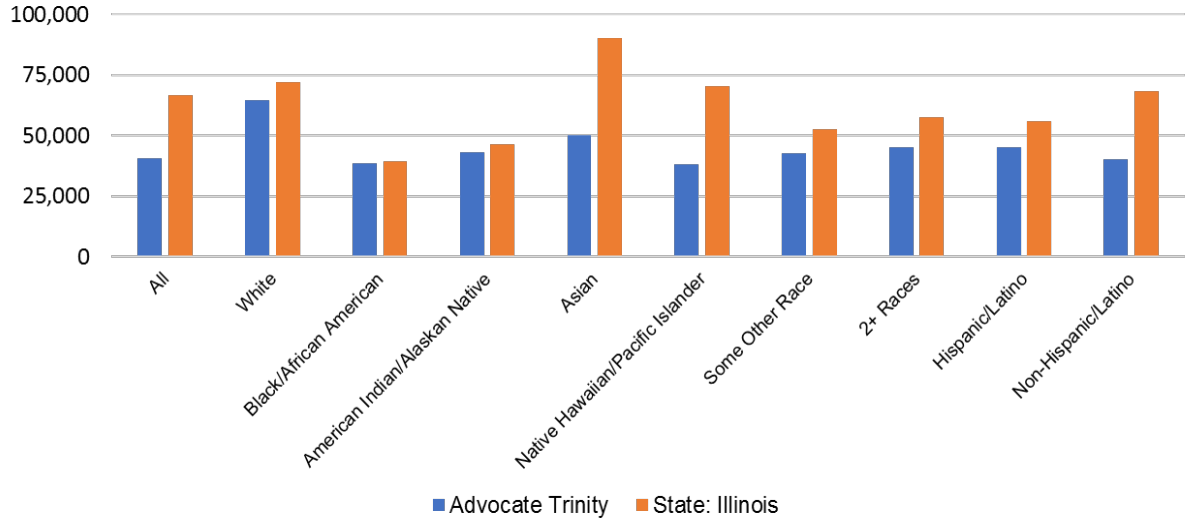
Households by Income	Advocate Trinity Primary Service Area		State: Illinois	
	Households	% of Households	Households	% of Households
Under $15000	**30,245**	21.09%	**502,369**	10.32%
$15,000 - $24,999	**19,807**	13.81%	**417,596**	8.58%
$25,000 - $34,999	**15,429**	10.76%	**403,487**	8.29%
$35,000 - $49,999	**19,564**	13.64%	**584,624**	12.01%
$50,000 - $74,999	**21,195**	14.78%	**795,830**	16.36%
$75,000 - $99,999	**14,220**	9.92%	**610,384**	12.54%
$100,000 - $124,999	**9,532**	6.65%	**466,589**	9.59%
$125,000 - $149,999	**5,462**	3.81%	**322,110**	6.62%
$150,000 - $199,999	**4,363**	3.04%	**339,204**	6.97%
$200,000 - $249,999	**1,745**	1.22%	**163,692**	3.36%
$250,000 - $499,999	**1,364**	0.95%	**172,888**	3.55%
$500,000+	**488**	0.34%	**87,064**	1.79%

Source: Conduent Healthy Communities Institute, Claritas, 2019

Median Household Income by Race and Ethnicity

As of 2019, the median household income by race and ethnicity for the PSA is $40,710 as compared to a value of $66,487 in the state of Illinois. There are notable income disparities when comparing median household income in the PSA for Asians and Whites versus other races and ethnicities. Asians have a median household income of $49,965 for the PSA and Whites have a median household income of $64,666. In contrast, the median household income for Black/African Americans residing in the PSA is $38,352. Black/African Americans have the lowest median household income for the PSA and the state of Illinois among all racial/ethnic groups (Conduent Healthy Communities Institute, Claritas, 2019). Exhibit 18 depicts the median household income by race and ethnicity.

Exhibit 18: Advocate Trinity PSA Median Household Income by Race/Ethnicity 2019



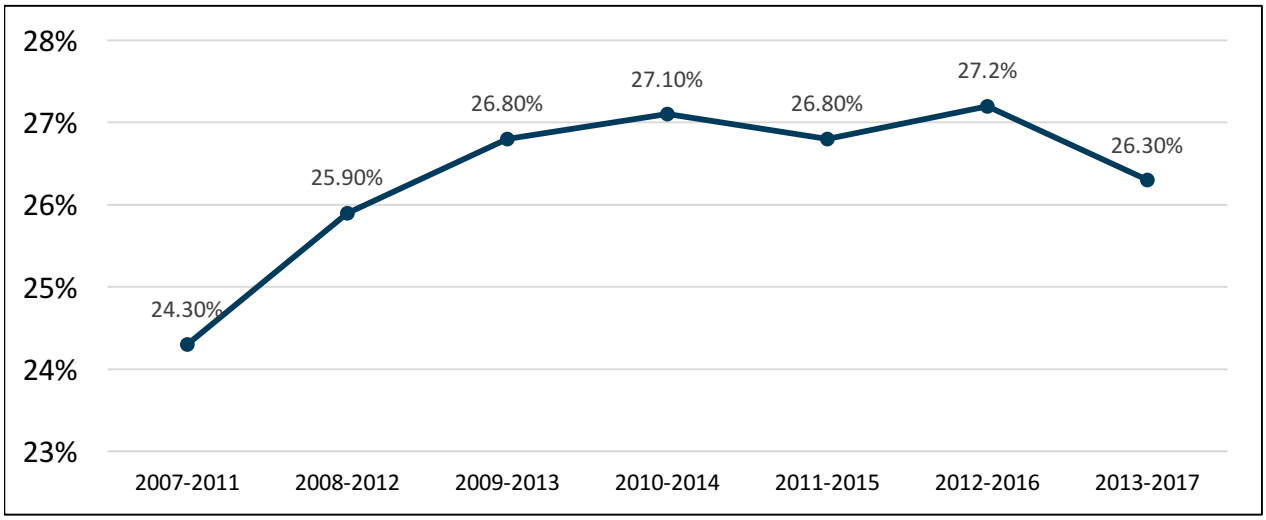
Median Household Income by Race/Ethnicity	Advocate Trinity Primary Service Area	State: Illinois
	Value	Value
All	$40,710	$66,487
White	$64,666	$71,965
Black/African American	$38,352	$39,105
American Indian/Alaskan Native	$42,945	$46,315
Asian	$49,965	$89,990
Native Hawaiian/Pacific Islander	$37,890	$70,259
Some Other Race	$42,685	$52,421
2+ Races	$45,173	$57,588
Hispanic/Latino	$44,897	$55,737
Non-Hispanic/Latino	$40,303	$68,287

Source: Conduent Healthy Communities Institute, Claritas, 2019

People Living Below the Federal Poverty Level

The number of families in the PSA as of 2019 that are living below 100 percent of the federal poverty level (FPL) is 19,146 or 20.82 percent of the population, which is double compared to the state of Illinois at 313,034 or 9.80 percent. The number of families with children living below 100 percent of the FPL in the PSA is 14,082 or 15.31 percent. This is more than triple the state of Illinois number of families with children living below 100 percent of the FPL at 235,695 or 7.38 percent. There are 38.8 percent of children residing in the hospital's PSA that live below the FPL, which is substantially higher than the state of Illinois at 18.8 percent. Between the years 2013-2017 there were 26.3 percent of people living below the FPL compared to 13.5 percent in the state of Illinois and 14.6 percent in the U.S. (Conduent Healthy Communities Institute, 2019). Exhibit 19 displays people living below the FPL in the PSA.

Exhibit 19: Advocate Trinity PSA Population Living Below FPL 2007-2017



Source: Conduent Healthy Communities Institute, Claritas, 2019

Employment

The unemployment rate among individuals 16 years of age and older in Advocate Trinity's PSA is 17 percent, which is more than double the Illinois unemployment rate at 6.7 percent. The male unemployment rate is slightly higher at 17.8 percent compared to the female unemployment rate at 16.3 percent (Conduent Healthy Communities Institute, 2019). According to the Chicago Health Atlas, between 2012-2016, Advocate Trinity PSA communities had some of the highest unemployment rates within the city of Chicago. The communities include Roseland (26.0 percent), Greater Grand Crossing (23.9 percent), Auburn Gresham (23.6 percent), South Chicago (22.1 percent), and South Shore (20.8 percent) (Illinois Department of Public Health, Vital Statistics, 2019). The top three industries for employment are healthcare (19.56 percent), transportation/warehousing industries (11.29 percent) and educational services (9.99 percent) (Conduent Healthy Communities Institute, 2019).

Education

Educational Level

In Advocate Trinity's PSA, there are 36,783 or 14.40 percent of the population age 25 years and older who have less than a high school diploma, which is relatively high compared to the state of Illinois with 982,203 persons or 11.31 percent of the population with less than a high school diploma. In terms of higher education, there were 21.5 percent of people in the PSA age 25 and older who had their bachelor's degree or higher (Conduent Healthy Communities Institute, Claritas, 2019).

Health Care Resources in the Defined Community

There are several hospitals, federally qualified health centers (FQHCs), the Chicago Department of Public Health (CDPH) and the Cook County Health System (CCHS) clinics which serve Advocate Trinity's PSA. The facility type and location of health care resources located in the PSA are listed in Exhibit 20.

Exhibit 20: Advocate Trinity PSA Health Care Resources

Facility	Type of Facility	Location
Advocate Trinity Hospital	Hospital	Chicago, Illinois
Roseland Hospital	Hospital	Chicago, Illinois
South Shore Hospital	Hospital	Chicago, Illinois
Jackson Park Medical Center	Hospital	Chicago, Illinois
Access Community Health Network	Federally Qualified Health Center	Chicago, Illinois
Aunt Martha's Community Health Center	Federally Qualified Health Center	Chicago, Illinois
Chicago Family Health Center	Federally Qualified Health Center	Chicago, Illinois
Miles Square Health Center	Federally Qualified Health Center	Chicago, Illinois
Cook County Health Center (CCHS)	CCHS Clinic	Chicago, Illinois
Chicago Department of Public Health (CDPH)	CDPH Clinic	Chicago, Illinois

Source: Chicago Department of Public Health, 2019

Key Findings: Community Definition

- The total population of Advocate Trinity's PSA decreased by 3.8 percent between 2010–2019. The population in the PSA is 54.57 percent female and 45.43 percent male.
- The median age of the PSA is 39 years with females at a median age of 41 and males at a median age of 36.
- Advocate Trinity's PSA consists of 83.64 percent Black/African American, 9.15 percent White, 4.39 percent Other Race, 2.21 percent 2+ Races, 0.27 percent Asian, 0.33 percent American Indian/Alaskan Native and 0.02 percent Native Hawaiian/Pacific Islander.
- Eighty-nine percent of people in the PSA speak English only at home compared to 77.2 percent in Illinois.
- Advocate Trinity's PSA had more than twice the percentage of single parent households at 66.5 percent compared to 32.4 percent in the state of Illinois.
- The percent of households in the Trinity PSA that have an income level under $15,000 (21 percent) is more than double that of the state of Illinois (10 percent).
- The communities with the highest SocioNeeds Index values are South Chicago (60617), Roseland (60628) and South Shore (60649).
- The percentage of people living below 100 percent of the FPL is 26.3 percent of the population compared to 13.5 percent in the state of Illinois. The number of PSA families with children living below 100 percent of the FPL is 38.8 percent compared to 18.8 percent in the state of Illinois.
- There is a 17.0 percent unemployment rate for the PSA; more than twice as high as both the Cook County (7.74 percent) and the state of Illinois rate (6.70 percent).

Key Roles in the 2017-2019 Community Health Needs Assessment

Advocate Aurora System and Advocate Trinity Leadership

Advocate Aurora continues to purchase resources from the Conduent Healthy Communities Institute to provide an internet-based data resource for its eleven hospitals in Illinois for the 2017-2019 CHNA cycle. HCI provides each hospital with a multitude of health and demographic indicators for hospitalization and ED visits at the service area and zip code levels.

In the Chicago South region, which includes Advocate Trinity, a doctorate prepared regional community health director is responsible for the overarching activities of the community health department. In March 2019, a doctorate prepared regional manager was hired for the Chicago South region for Advocate Aurora. The regional manager oversees the CHNA process, including the convening of the CHC, community health planning/program development and community benefit reporting at the three south region hospitals. The manager is also responsible for providing leadership to assure that the community health interventions are aligned with the hospital's CHNA findings and Advocate Aurora Health's population health mission. Additionally, a community health coordinator is responsible for supporting the completion of the hospital's CHNA and Implementation Plan, which includes ensuring community strategies are executed to address prioritized health needs.

Governing Council

The hospital's Governing Council is comprised of community leaders and executive level hospital staff. The principal roles of each governing council member are to support hospital leadership in achievement of the hospital's goals, represent the community's interests to the hospital and to serve as a hospital ambassador in the community. Advocate Trinity's Governing Council is comprised of 16 members, representing a broad spectrum across community sectors. Members represent the faith community, medical, business and industry fields. One member of the Governing Council also serves as the chair of the Community Health council to ensure the sharing of information between the two councils. The hospital's Governing Council also reviews and approves the CHNA report, including the prioritized health needs. In November 2019, leaders of the CHC presented the CHNA process and prioritized health needs to the hospital's Governing Council. This resulted in the Governing Council's approval and adoption of Advocate Trinity's 2017-2018 CHNA Report on November 26, 2019.

Community Health Council

Advocate Trinity convened a CHC in March 2019. The CHC's responsibilities are to oversee community health strategy for the hospital, review data and prioritize health needs identified for the 2017-2019 CHNA, and to oversee the development and implementation of the hospital's community health strategies. Chaired by a member of Advocate Trinity's Governing Council and managed by the regional director and manager of community health, the CHC is comprised of a variety of representatives from the community. The CHC functions as a subset of the hospital's Governing Council and all activities and decisions made by the CHC regarding the CHNA are submitted for approval by the full Governing Council. The affiliations and titles of Advocate Trinity's Community Health Council members are provided below. Members representing underserved, low-income and/or minority populations are also indicated below.

<u>Representatives from the Community</u>

- Advocate Trinity, Governing Council Member, Co-Chair Advocate Trinity Community Health Council (serves underserved and/or low-income and/or minority)
- Advocate Trinity, Governing Council Member, Advocate Trinity Community Health Council (serves underserved and/or low-income and/or minority)
- Chicago Family Health Center, Coordinator, Maternal Programs (serves medically underserved and/or low-income and/or minority)
- Chicago Family Health Center, Coordinator, Outreach (serves medically underserved and/or low-income and/or minority)
- Claretian Associates, Executive Director (serves underserved and/or low-income and/or minority)
- Calumet Heights, Community Member
- Metropolitan Family Services, Executive Director (serves medically underserved and/or low-income and/or minority)
- South Chicago Community Member 1
- South Chicago, Community Member 2
- Superior Ambulance Company, VP, Operations

- Southeast Calumet Heights Homeowners Association, President (serves underserved and/or low-income and/or minority)
- Southeast Calumet Heights Homeowners Association, VP, Governmental Affairs (Co-Chair, Advocate Trinity Community Health Council) (serves underserved and/or low-income and/or minority)

Advocate Aurora System and Hospital Staff

- Advocate Trinity, Coordinator, Community Health
- Advocate Aurora, Regional Manager, Community Health
- Advocate Aurora, Regional Director, Community Health
- Advocate Aurora, Regional Vice President, Mission and Spiritual Care

Collaborations with Health Departments and/or Hospitals

The Alliance for Health Equity

Advocate Trinity is a member of The Alliance, a collaborative of 37 non-profit and public hospitals, health departments and regional and community-based organizations working to improve health equity, wellness and quality of life across Chicago and Suburban Cook County. Facilitated by the Illinois Public Health Institute, the collaborative shares resources and works together on a CHNA process including data collection, priority setting and health improvement implementation planning for the region. Exhibit 21 lists the hospitals and health systems that are members of The Alliance.

The Alliance's member hospitals and health systems are very active in designing and implementing a collective health equity impact that includes:

- Collaborate with IPHI, hospitals, health departments, and community-based organizations to design and implement the CHNA process
- Participate in identifying indicators for data analysis, developing survey questions, and prioritizing focus groups for input
- Share existing data or assessments that are relevant and/or contribute to analysis of data
- Engage networks of community partners and hospital staff to collect community input, and take that input into account in defining community health priorities for local service areas
- Review assessment data and assist with developing findings and identifying priority strategic issues
- Designate a steering committee representative to provide strategic guidance to The Alliance and IPHI staff

Exhibit 21: Alliance for Health Equity Members

Nonprofit Hospital Members	
Advocate Children's Hospital	Loyola Medicine-Gottlieb Memorial Hospital
Advocate Christ Medical Center	Loyola Medicine-Loyola University Medical Center
Advocate Illinois Masonic Medical Center	Loyola Medicine-MacNeal Hospital
Advocate Lutheran General Hospital	Mercy Hospital & Medical Center
Advocate South Suburban Hospital	Northwestern Memorial Hospital
Advocate Trinity Hospital	Norwegian American Hospital
AMITA Adventist Medical Center La Grange	Palos Community Hospital
AMITA Alexian Brothers Medical Center, Elk Grove Village	Roseland Community Hospital
AMITA Holy Family Medical Center	Rush Oak Park
AMITA Resurrection Medical Center	Rush University Medical Center
AMITA St. Alexius Medical Center and Alexian Brothers Behavioral Health Hospital	Sinai Health System-Holy Cross Hospital
AMITA Saint Francis Hospital	Sinai Health System-Mount Sinai Hospital
AMITA Saint Joseph Hospital	Sinai Health System-Schwab Rehabilitation Hospital
AMITA Saints Mary and Elizabeth Medical Ctr	South Shore Hospital
Ann & Robert H. Lurie Children's Hospital of Chicago	Swedish Covenant Hospital
Jackson Park Hospital	University of Chicago Medicine
The Loretto Hospital	University of Chicago Medicine-Ingalls Memorial Hospital
Public Hospital Partners	
Cook County Health-Stroger Hospital	Cook County Health-Provident Hospital
University of Illinois Hospital & Health Sciences System	
Public Health Department Partners	
Chicago Department of Public Health	Evanston Health and Human Services Department
Cook County Department of Public Health	Village of Skokie, Health Department

Source: The Alliance for Health Equity, 2019

Collaboration with Other Key Stakeholders

As mentioned above, through The Alliance, other key stakeholders include the Cook County Department of Public Health, the National Alliance for Mental Health (NAMI), and community-based organizations. Detailed information related to other collaborations may be found in the accompanying report—Community Health Needs Assessment for Chicago and Suburban Cook County, 2019 posted beside this report on our CHNA webpage at:

https://advocatehealth.sharepoint.com/sites/AO/sites/support%20centers/departments/employee-and-occupational-health

Imani Green Health Advocates Partnership

In 2018, an interdisciplinary collaboration between Trinity United Church of Christ, Advocate Health Care, the Nature Conservancy, the Morton Arboretum, the USDA Forest Service and the University of Illinois at Chicago, was formed to promote nature and health in Chicago's South Side neighborhoods. A career development program known as the "Imani Green Health Advocates" (IGHA) was established to provide young adults, especially those with barriers to employment, an opportunity to:

- Explore careers in the community health services and conservation fields
- Earn a living wage while gaining invaluable, intangible assets such as professional networks and transferrable skills
- Create positive change for the health of Chicago's South Side communities, especially Advocate Trinity's primary service area (PSA) neighborhoods of Washington Heights, Cottage Grove Heights and West Pullman and surrounding environments
- Grow as individuals, through a supportive, affirming and encouraging environment

In 2019, the IGHA program participants and trainees conducted a comprehensive evaluation of both the social determinants of health and ecological determinants of health of Advocate Trinity's PSA. The foundation for this evaluation was Advocate Trinity's CHNA, to which the team contributed an Urban Tree Health Assessment of a representative sample of trees across the hospital's PSA. Based upon the findings of tree health, trees were planted in high-need areas within Advocate Trinity's PSA. In addition to training in urban forestry, the program also trained the "Advocates" as community health workers who assisted in implementation of various community health projects. The Urban Tree Health Assessment summary is available in Appendix 2.

Methodology

Timeline

Advocate Trinity's CHNA process utilized a mixed methods approach, which included the collection and review of secondary data from existing sources and primary data from both qualitative (survey) and quantitative methods (focus groups). The methodology for the CHNA had three components: 1) use of data collected through The Alliance (February 2018-March 2019); 2) use of the Conduent Healthy Community Institute's platform to review PSA, county, state and zip code level data (March 2016-August 2019); and 3) use of internal hospital data (2017).

Collaborative Assessment Model and Process

The Alliance completed a collaborative CHNA between March 2018 and March 2019. Primary and secondary data from a diverse range of sources were utilized for robust data analysis and to identify community health needs in Chicago and Suburban Cook County. The IPHI worked with the CHNA committee and steering committee of The Alliance to design and facilitate a collaborative, community-

engaged assessment. As with the 2015-2016 collaborative CHNA, the 2017-2019 CHNA process is adapted from the **M**obilizing for **A**ction through **P**lanning and **P**artnerships (MAPP) framework, a community-engaged strategic planning framework that was developed by the National Association for County and City Health Officials (NACCHO) and the CDC. Both the Chicago and Cook County Departments of Public Health use the MAPP framework for community health assessment and planning. The MAPP framework promotes a system focus, emphasizing the importance of community engagement, partnership development, and the dynamic interplay of factors and forces within the public health system. The Alliance chose this inclusive, community-driven process to leverage and align with health department assessments and to actively engage stakeholders, including community members, in identifying and addressing strategic priorities to advance health equity.

Primary Data Collection

Multiple data collection strategies were employed to collect data for the 2017–2019 CHNA. Primary data collection for the CHNA was conducted by The Alliance and collaborative partners utilizing four methods:

1. Community input surveys
2. Community resident focus groups and learning map sessions
3. Health care and social service provider focus groups
4. Forces of Change Assessment (FOCA) and Health Equity Capacity Assessment led by partner health departments

Community Input Surveys

Between October 2018 and February 2019, The Alliance partners collected 5,934 community-wide input surveys from individuals 18 or older living in Chicago and Suburban Cook County. There were 574 survey responses collected from Advocate Trinity's service area. The demographic profile of survey respondents is illustrated in Exhibit 22. The surveys were available on paper and online, and were disseminated in English, Spanish, Chinese and Polish. The surveys included questions asking respondents about the health status of their communities, community strengths, opportunities for improvement and priority health needs. Hospitals, community-based organizations and health departments distributed the surveys with the intention of gaining insight from priority populations that are typically underrepresented in assessment processes. Priority populations included communities of color, immigrants, LGBTQ+ community members, individuals with disabilities and low-income communities.

The intention of the community input survey was to complement existing community health surveys distributed throughout Chicago and Suburban Cook County by local health departments. IPHI and the CHNA committee took the following steps to develop the survey tool: (1) IPHI drafted a survey based on review of 13 example community input surveys; (2) CHNA committee members from hospitals and health departments provided input; (3) IPHI incorporated revisions from CHNA committee members and the University of Illinois at Chicago Survey Research Laboratory; (4) IPHI made edits based on a health literacy review; (5) IPHI and two member hospitals piloted the survey at three community-based events; and (6) IPHI made final edits to address minor challenges identified at the pilot events. The final survey tool included 16 questions—three questions related to zip code/community of residence, nine

demographic questions, two multi-select questions about health problems and what's needed for a healthy community, and two open-ended questions about community strengths and improvements needed.

Paper surveys were entered into the SurveyGizmo online platform so that electronic and paper surveys could be analyzed together. Survey data analysis was conducted using SAS 9.4 statistical analysis software and Microsoft Excel 2016.

Exhibit 22: Advocate Trinity PSA Demographics of Survey Respondents 2019

Advocate Trinity PSA

ALLIANCE FOR HEALTH EQUITY — Hospitals and Communities Improving Health Across Chicago and Cook County

Race/Ethnicity (n=345)	Pct
Asian	0.3%
African American/Black	85%
Hispanic/Latinx	7%
White	2%
Multiracial	6%

Age (n=351)	Pct
18-24	9%
25-34	13%
35-44	14%
45-54	17%
55-64	18%
65-74	18%
75-84	8%
85 or older	3%

Household Income (n=303)	Pct
Less than $10,000	16%
$10,000 to $19,999	13%
$20,000 to $39,999	**21%**
$40,000 to $59,999	18%
$60,000 to $79,999	16%
$80,000 to $99,999	6%
Over $100,000	10%

Children in Household (n=341)	Pct
None	63%
Yes, age 0-4	13%
Yes, age 5-12	16%
Yes, age 13-17	18%

Someone in the Household with a Disability (n=340)	Pct
Yes	27%
No	73%

Source: The Alliance for Health Equity, 2019

Focus Group and Learning Map Host Organizations

Between August 2018 and February 2019, IPHI worked with The Alliance partners to hold a total of 52 community input sessions (focus groups and learning map sessions) with priority populations such as veterans, individuals living with mental illness, communities of color, older adults, caregivers, teens and young adults, LGBTQ+ community members, adults and teens experiencing homelessness, families with children, faith communities, adults with disabilities, and children and adults living with chronic conditions, such as diabetes and asthma. The community input sessions included 31 focus groups conducted by IPHI and 21 learning map sessions led by West Side United. In addition to the 52 community input sessions, there were also five focus groups with health care and social service providers hosted by Swedish Covenant Hospital, MacNeal Hospital, and South Shore Hospital. Exhibits 23 and 23.1 list all the focus group and learning map session host organizations.

Exhibit 23: The Alliance List of Focus Group and Learning Map Host Organizations 2019

ABJ Services	Greater Galilee Baptist Church
Affinity Community Services	Habilitative Systems
After School Matters (2 groups)	Hanul Family Alliance
Alivio Medical Center	Housing Forward-Tenant's Club Meeting
AMITA Saints Mary and Elizabeth Medical Center	Kedvale New Mount Zion M.B. Church
Asian Human Services Family Health Center	Maine Community Youth Assistance Foundation
Breakthrough	NAMI Chicago family members
BUILD, Inc.	NAMI Chicago individuals with lived experience
By the Hand	New Moms (2 groups)
Chicago Public Library-Austin-Irving Park	New Morning Star MB Church (2 groups)
Chicago Public Library-Edgebrook Branch	Northwest Side Housing Center
Chicago Public Library-Jefferson Park Branch	Oak Park River Forest Food Pantry
Chicago Public Library-Oriole Park Branch	Oakley Square Apartments (3 groups)
Chicago Youth Programs	PLOWS Council on Aging
CJE SeniorLife	Restoration Ministries
Coalition of Hope	Rich Township VFW Post 311
Cristo Rey Jesuit High School	Saint Stephen AME
Deborah's Place	Solutions for Care
El Valor	Southwest Organizing Project (2 groups)
Enlace Chicago	Teen Living Program
Evanston General Assistance (2 groups)	Temple of Faith MB Church
Friedman Place	Theace Goldsberry Community House (2 groups, parents and youth)
Frisbie Senior Center	TCA Health, Inc.
Garfield Park Community Council	Timothy Community Corporation
Gary Comer Youth Center	UCAN (2 groups, community residents and youth)

Source: The Alliance for Health Equity, 2019

Exhibit 23.1: Community Leader and Provider Focus Groups

Faith Leaders, countywide
Immigrant service providers
South Shore Hospital community service providers
Swedish Covenant Hospital community service providers
MacNeal Hospital health care providers

Source: The Alliance for Health Equity, 2019

Focus group facilitators asked participants about the underlying root causes of health issues seen in their communities and specific strategies for addressing those health needs. IPHI developed the focus group questions using resources from existing CHNA toolkits and peer-reviewed studies, in consultation with the CHNA committee and colleagues at partner health departments. Each focus group was hosted by a community-based organization or hospital, and participation ranged from three to forty people. Most focus groups were 90 minutes long with an average of 10 participants. Feedback from all 52 community input sessions (focus groups and learning map sessions) was combined and included in the assessment, along with input from five provider focus groups.

Secondary Data Collection

As indicated in the section above, Advocate Trinity collaborated with many partners to collect PSA, county and state data. Secondary data collection was conducted through the use of several platforms, including Conduent Healthy Communities Institute (Conduent HCI). Details regarding the hospital's 2017-2019 CHNA secondary data sources are listed below.

Conduent Healthy Communities Institute

In early 2017, Advocate Health Care signed a second three-year contract with Conduent HCI to continue to provide an internet-based data resource platform for Advocate's 11 hospitals during the 2017-2019 CHNA cycle. This robust platform offered the hospitals 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 was able to summarize, age adjust and average the hospitalization and ED data for five-time periods from 2009-2017. The Conduent HCI contract also provided a wealth of county and zip code data comparisons, a SocioNeeds Index visualizing vulnerable populations within service areas and counties, a Healthy People 2020 tracker, and a database of promising and evidence-based interventions.

As indicated, Conduent HCI was a key source of data for the 2017-2019 CHNA. This secondary data was crucial in analyzing the hospital's PSA health needs as the database was the only source that provided such an extensive amount of data specific to the 2017-2019 CHNA defined community. All data collected through HCI was quantitative and included data comparisons between PSA communities and counties in Illinois. These comparisons were exemplified in the form of community dashboards, which provided great insight regarding the health status of the hospital's PSA in comparison to other counties and communities in Illinois.

Conduent HCI provides a gauge 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.

Throughout the CHNA, indicators may be referred to as being in the green, yellow or red zone, in reference to the above value ratings from HCI.

Other Available National and Local Data

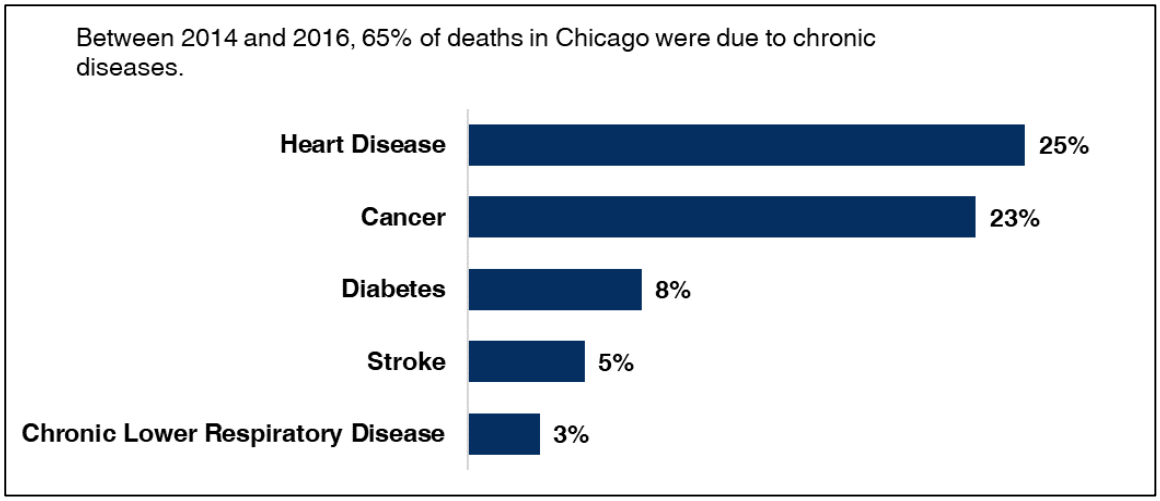
Between June 2018 and June 2019, Advocate Trinity staff collected pertinent community health data for the hospital's PSA. Other data sources reviewed included the Chicago Health Atlas, Illinois Department of Public Health, Chicago Department of Public Health, Advocate Trinity patient utilization data, City of Chicago-Healthy Chicago 2.0, Healthy People 2020, and the CDC (state and county health data). A comprehensive list of data resources is provided in
Appendix 1.

Health Status

Leading Causes of Death

In the U.S., 60 percent of adults have a chronic disease and 40 percent of adults have two or more chronic diseases. Chronic diseases including heart disease, cancer and diabetes are the leading causes of death and disability in the U.S. and are a leading driver of healthcare costs (Centers for Disease Control and Prevention, 2019). According to the Illinois Department of Public Health, heart disease, cancer, stroke, accidents, and lower respiratory disease are the top five causes of death in the state. In the Advocate Trinity PSA, the same trends in the leading causes of death were observed from 2014 to 2016 with 65% of all deaths being attributed to chronic disease (Exhibit 24).

Exhibit 24: Chicago Leading Causes of Death 2016

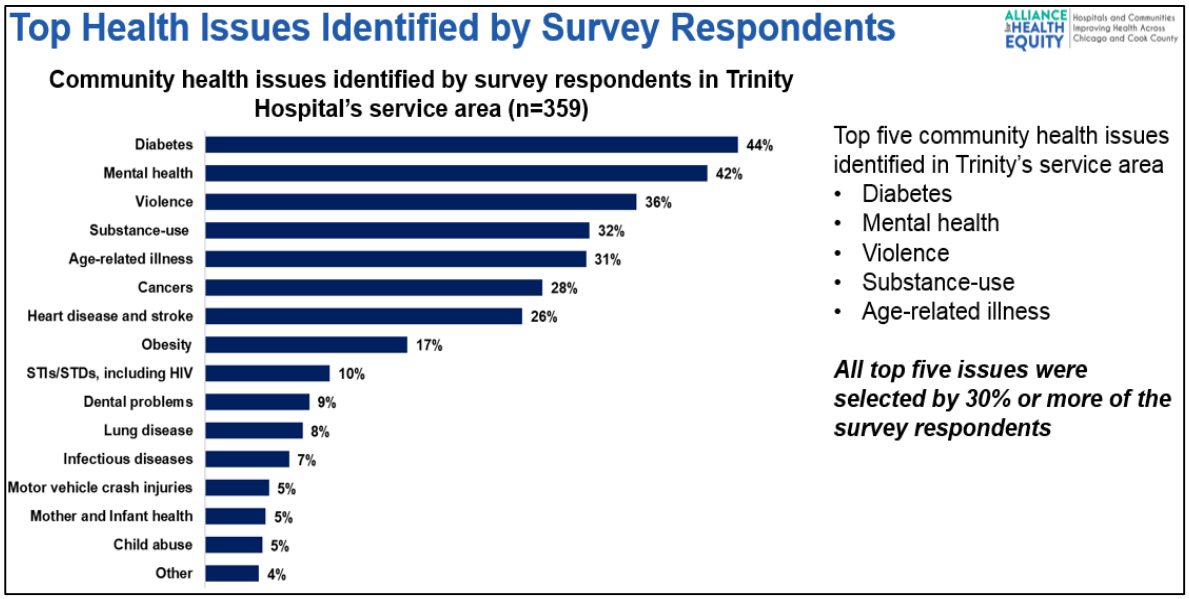


Source: The Alliance for Health Equity, Illinois Department of Public Health, 2019

Advocate Trinity PSA Top Health Concerns

Top health concerns were identified from survey respondents residing in Advocate Trinity's PSA. Respondents indicated that diabetes (44 percent), mental health (42 percent), violence (36 percent), substance use (32 percent) and age-related illness (31 percent) are top health concerns. Exhibit 25 shows the top health concerns identified in Advocate Trinity's service area.

Exhibit 25: Advocate Trinity PSA Top Health Issues Per Survey Respondents 2019



Source: The Alliance for Health Equity, Illinois Department of Public Health, 2019

Life Expectancy

According to the World Health Report, life expectancy is defined as the average number of years that a newborn is expected to live if current mortality rates continue to apply. Life expectancy at birth reflects the overall mortality level of a population. It summarizes the mortality pattern that prevails across all groups—children and adolescents, adults and the elderly. From 2010 to 2015, the average life expectancy at birth was 73.5 years of age in the hospital's PSA compared to Cook County at 78.5 years (National Center for Health Statistics—USALEEP, 2019). Data indicate that individuals residing in more affluent communities have a longer life expectancy when compared to individuals that reside in lower socio-economic communities. For example, the life expectancy for someone living in Grand Crossing is 69 years compared to the life expectancy of someone living in Hyde Park (a nearby community not in the hospital PSA) at 82 years, which is a 13-year difference in life expectancy. Exhibit 26 shows life expectancy at birth for the Advocate Trinity PSA.

Exhibit 26: Advocate Trinity PSA Life Expectancy at Birth 2017

Neighborhood	Zip Code	Life Expectancy
South Chicago	60617	73
Grand Crossing	60619	69
Auburn Gresham	60620	72
Roseland	60628	70
Morgan Park	60643	75
South Shore	60649	71

Source: Chicago Health Atlas, 2019 https://www.chicagohealthatlas.org/indicators/life-expectancy

Key Findings: Health Status

- Between 2014 and 2016, the five leading causes of death in the hospital's PSA were heart disease, cancer, diabetes, stroke and chronic lower respiratory disease.
- Sixty-five percent of all deaths are due to chronic disease, while heart disease and cancer account for almost 50 percent of deaths due to chronic disease in the PSA.
- The average life expectancy for the hospital PSA is 73.5 years of age compared to that of Cook County at 78.5 years and the state of Illinois at 78.7 years.
- Individuals residing in more affluent communities have a longer life expectancy when compared to individuals that reside in lower socio-economic communities.
- Communities with the lowest life expectancy in the hospital's PSA include Grand Crossing (60619), Roseland (60628) and South Shore (60649). These communities are also among the highest SocioNeeds.

Health Care Coverage and Access to Care

Health Care Coverage

Medical costs in the U.S. are extremely high, so individuals without health insurance may not be able to afford medical treatment or prescription drugs. Individuals who lack health insurance are also less likely to get routine checkups, which increases the risk of late-stage diagnoses for various chronic diseases. In addition, many small businesses are unable to offer health insurance to employees due to rising health insurance premiums (Conduent Healthy Communities Institute, American Community Survey, 2019). In this section, data was analyzed using county level data due to lack of availability of PSA data for adults and children with health insurance and persons with private and public insurance. The indicator “Health Insurance Coverage by Households” was analyzed using PSA level data.

Adults with Health Insurance

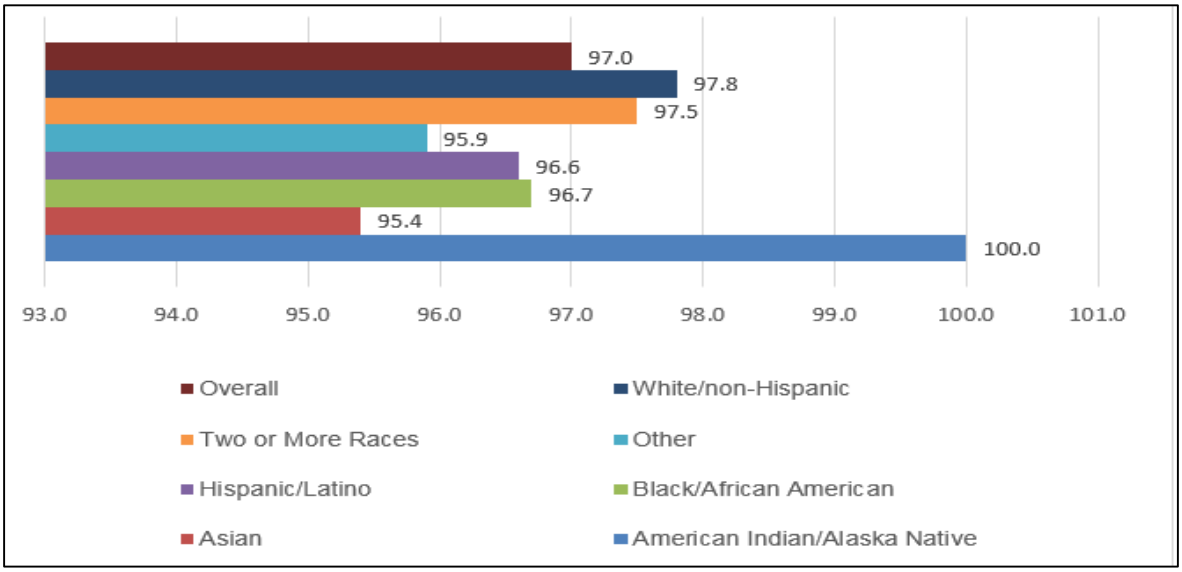
In Cook County 87.4 percent of adults age 19 and over have health insurance. This value is slightly lower than the Illinois and U.S. at 90.2 percent and 87.7 percent, respectively. More females (89.0 percent) have health insurance when compared to males (85.7 percent) in the county. Cook County has the lowest percent of adults with health insurance compared to the surrounding six counties (Conduent Healthy Communities Institute, American Community Survey, 2018).

Children with Health Insurance

Health insurance for children is particularly important. To stay healthy, children require regular checkups, dental and vision care, and medical attention for illness and injury. Children with health insurance are more likely to have better health throughout their childhood and adolescence. They are more likely to receive required immunizations, fall ill less frequently, obtain necessary treatment when they do get sick, and perform better at school. Having health insurance lowers barriers to accessing care, which is likely to prevent the development of more serious illnesses. This is not only of benefit to the child but also helps lower overall family health costs. Due to the implementation of the Affordable Care Act, changes were made to the definition of a "qualifying child." Under the ACA, a qualifying child is under age 19 at the close of the calendar year. Therefore, age categories used to measure health insurance now define those aged 18 and under as children (Conduent Healthy Communities Institute, American Community Survey, 2019).

In Cook County, 97.0 percent of children had health insurance in 2017. This value is comparable to the state of Illinois at 97.1 percent and higher than the U.S. at 95.0 percent. Data indicates that in all race and ethnicity categories more than 95 percent of children under age 19 had health insurance. One-hundred percent of children surveyed in the American Indian/Alaska Native population had health insurance. Exhibit 27 shows children with health insurance by ethnicity (Conduent Healthy Communities Institute, American Community Survey, 2017).

Exhibit 27: Cook County Children with Health Insurance by Ethnicity 2017

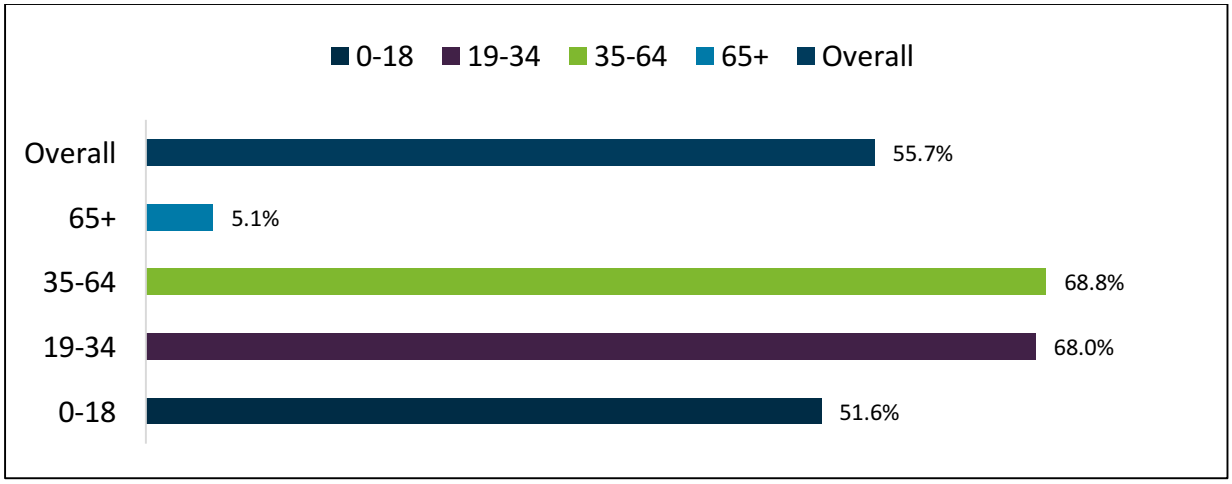


Source: Conduent Healthy Communities Institute, American Community Survey, 2018

Persons with Private Health Insurance Only

Private health insurance is the most common type of health insurance in the U.S. In 2017, 55.7 percent of people who reside in Cook County had private health insurance. This value is lower than Illinois at 59 percent and the U.S. at 55.8 percent. Most private insurance covered individuals are in the 19-64-year-old age range (Exhibit 28).

Exhibit 28: Cook County Persons with Private Health Insurance Only 2017

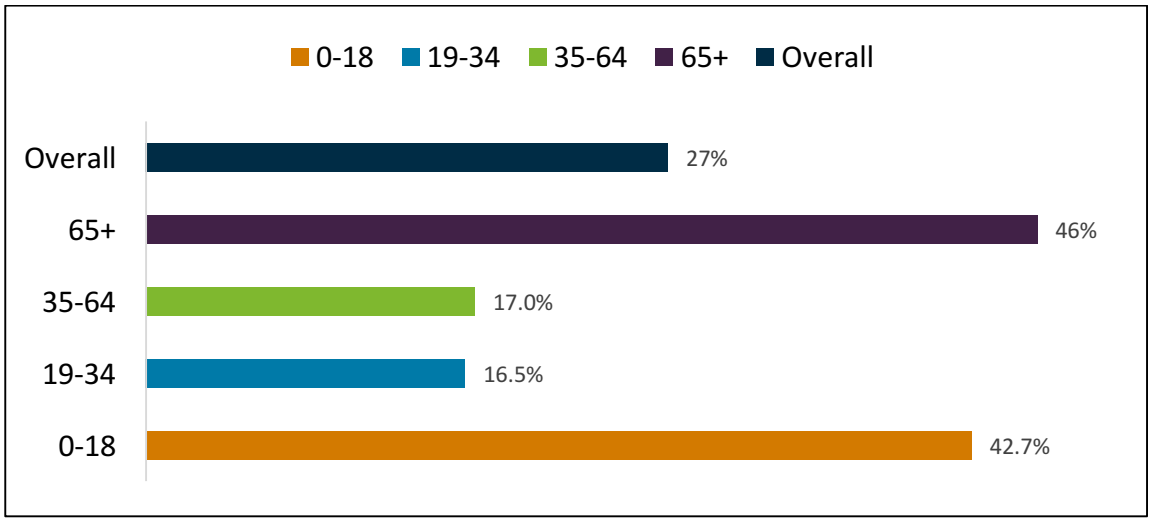


Source: Conduent Healthy Communities Institute, American Community Survey, 2018

Persons with Public Health Insurance Only

Public health coverage includes the federal programs Medicare, Medicaid, and VA Health Care (provided through the Department of Veterans Affairs), the Children's Health Insurance Program (CHIP) and individual state health plans. In Cook County, 27.0 percent of the population had public health insurance, which is more than the state at 23.3 percent and the U.S. at 23.6 percent. The 65 and over and 0-18 years-old age groups in Cook County had the greatest level of public health insurance at 46.1 and 42.7 percent, respectively (Conduent Healthy Communities Institute, American Community Survey, 2018). Exhibit 29 illustrates populations with public health insurance in Cook County.

Exhibit 29: Cook County Population with Public Health Insurance Only by Age 2017

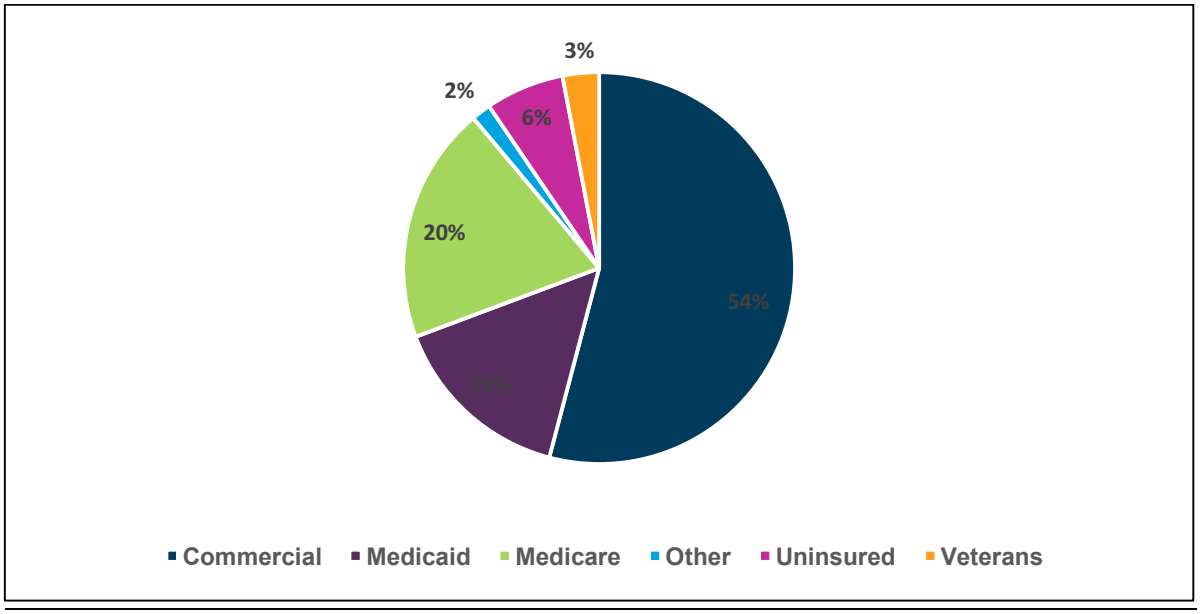


Source: Conduent Healthy Communities Institute, American Community Survey, 2018

Health Insurance Coverage by Households

In Advocate Trinity's PSA, there are 54.1 percent of households with commercial insurance, 19.6 percent of households with Medicare, 15.2 percent with Medicaid and 6.55 percent of households that are uninsured. A total of 146,726 households have health insurance coverage in the PSA. Exhibit 30 depicts insurance coverage by households in the PSA.

Exhibit 30: Advocate Trinity PSA Health Insurance Coverage by Household 2019



Source: Advocate Aurora Business Development Analytics, Sg2, 2019

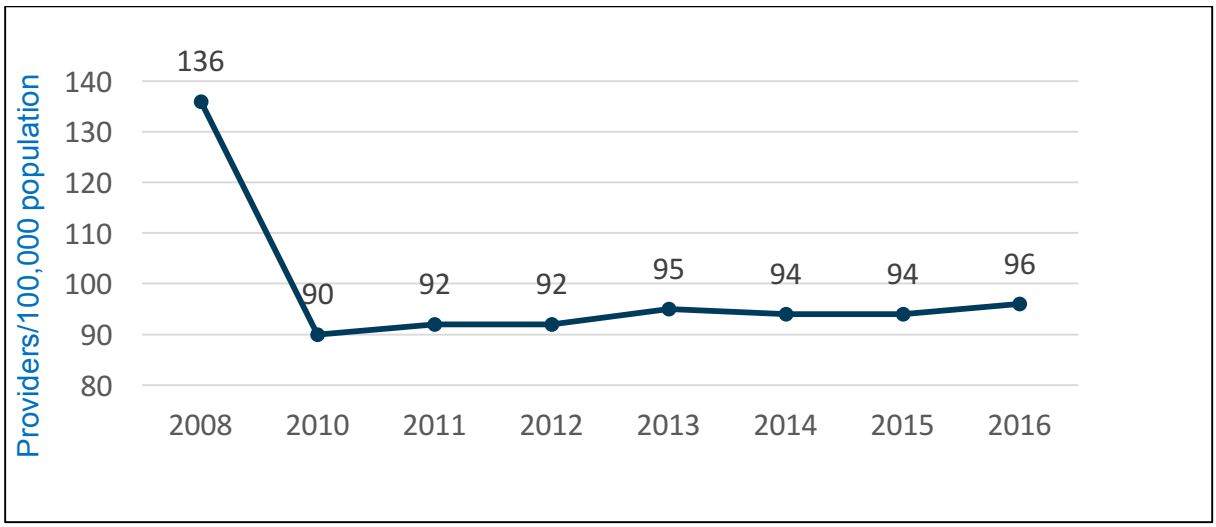
Access to Care

Primary Care Provider Rate

Primary care providers include practicing physicians specializing in general practice medicine, family medicine, internal medicine and pediatrics. Access to primary care providers increases the likelihood that community members will have routine checkups and screenings. Moreover, those with access to primary care are more likely to know where to go for treatment in acute situations. Communities that lack a sufficient number of primary care providers typically have members who delay necessary care when sick, resulting in more severe and complicated medical conditions (Conduent Healthy Communities Institute, 2019). Due to lack of PSA level data, county level data was used to analyze the indicators for primary care providers and non-physician primary care providers.

Compared to Illinois Counties, Cook County has a value of 96 providers per 100,000 population which is in the top 50 percent (green indicator) of counties. Counties with a value higher than 43 providers per 100,000 population are in the top 50 percent, while counties with a value lower than 31 providers per 100,000 population are in the bottom 25 percent. Exhibit 31 depicts the primary care provider rate for Cook County.

Exhibit 31: Cook County Primary Care Provider Rate 2008-2016

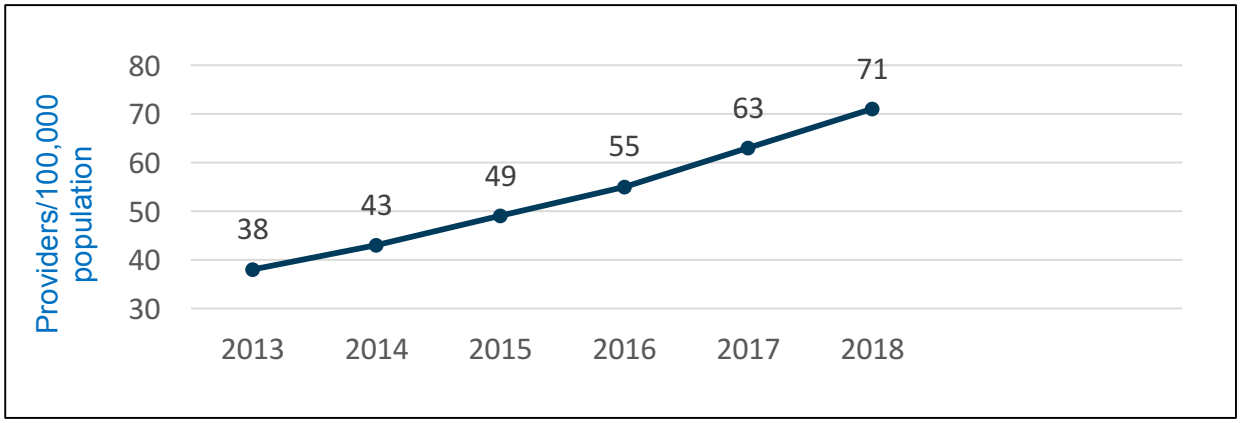


Note: Due to changes in methodology, data should not be compared to previous or following time periods.
Source: Conduent Healthy Communities Institute, County Health Rankings, 2019

Non-Physician Primary Care Provider Rate

The number of non-physician clinicians has been increasing and is projected to continue to rise, partially making up for the shortfall of physicians. Primary care providers who are not physicians include nurse practitioners (NPs), physician assistants (PAs) and clinical nurse specialists. Compared to Illinois Counties, Cook County has a value of 71 providers per 100,000 population, which is in the top 50 percent (green indicator) of counties. Counties in the top 50 percent have a value higher than 56 while counties in the bottom 25 percent have a value lower than 38. Since 2013, the number of non-physician clinicians has nearly doubled rising from 38 providers per 100,000 population to 71 providers per 100,000 population over a six-year span. Exhibit 32 shows the non-physician primary care provider rate for Cook County.

Exhibit 32: Cook County Non-Physician Primary Care Provider Rate 2013-2018



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

Key Findings: Health Care Coverage and Access to Care

- Among Cook County adults age 19 and over, 87.4 percent are identified as having health insurance in Cook County.
- Ninety-seven percent of children have health insurance in Cook County.
- In Cook County, more than 95 percent of children under age 18 have health insurance; 100 percent of children in the American Indian/Alaska Native have health insurance.
- There are 55.7 percent of people who reside in Cook County who have private health insurance; the majority are individuals in the 19-64 years of age.
- In Cook County, 27 percent of the population have public health insurance compared to the state of Illinois at 23.3 percent.
- Since 2012, there has been a consistent decline in Medicare reimbursement rates.
- Cook County is ranked in the best 50 percent of counties for primary care provider and non-physician primary care provider rate.

Modifiable Health Behaviors

Tobacco Use

The World Health Organization states that approximately one-third of all tobacco users in this country will die prematurely because of their dependence on tobacco. Areas with a high smoking prevalence will also have greater exposure to secondhand smoke for non-smokers, which can cause or exacerbate a wide range of adverse health effects such as cancer, respiratory infections, and asthma. According to the CDC, tobacco use brings premature death to almost half a million Americans each year and contributes to profound disability (Conduent Healthy Communities Institute, County Health Rankings, 2019).

Adults who Smoke

According to the Chicago Health Atlas, the adult smoking rate represents the percent of adults who report that they've smoked at least 100 cigarettes in their life and report that they now smoke cigarettes every day or some days. The adult smoking rate in the city of Chicago is 16.8 percent among the sample drawn from the household population of adults 18 years of age and older who reside in the city of Chicago. Each community area within the hospital's PSA exhibits a higher adult smoking rate when compared to the city of Chicago adult smoking rate. The communities include South Chicago (35.3 percent), Greater Grand Crossing (28.5 percent), Roseland (27.1 percent), South Shore (25.0 percent), Morgan Park (21.3 percent) and Auburn Gresham (20.2 percent) (Illinois Department of Public Health, Behavioral Risk Factor Surveillance System (2000-2009); Chicago Department of Public Health, Healthy Chicago Survey (2014-2016).

Teens who Smoke

Health behavior patterns formed in adolescence play a crucial role in health throughout life. Individuals who start smoking young are more likely to have a long-term addiction to nicotine than people who start smoking later in life, putting them at greater risk for smoking-related illness and death. According to the CDC, tobacco use is responsible for nearly half a million deaths per year among adults in the U.S. If smoking prevalence among adolescents persists, it is estimated that 5 million persons under the age of 18 will die prematurely from smoking-related diseases. Due to the lack of PSA data, county level data was analyzed to understand the significance of the issue for this indicator.

Since 2010, there has been a consistent decline in the number of teens who smoke in Cook County—declining from 16 percent in 2010 to five percent in 2018. This value is also lower than the state of Illinois at nine percent (Conduent Healthy Communities Institute, Center for Prevention Research and Development, Illinois Youth Survey, 2018).

Alcohol Use

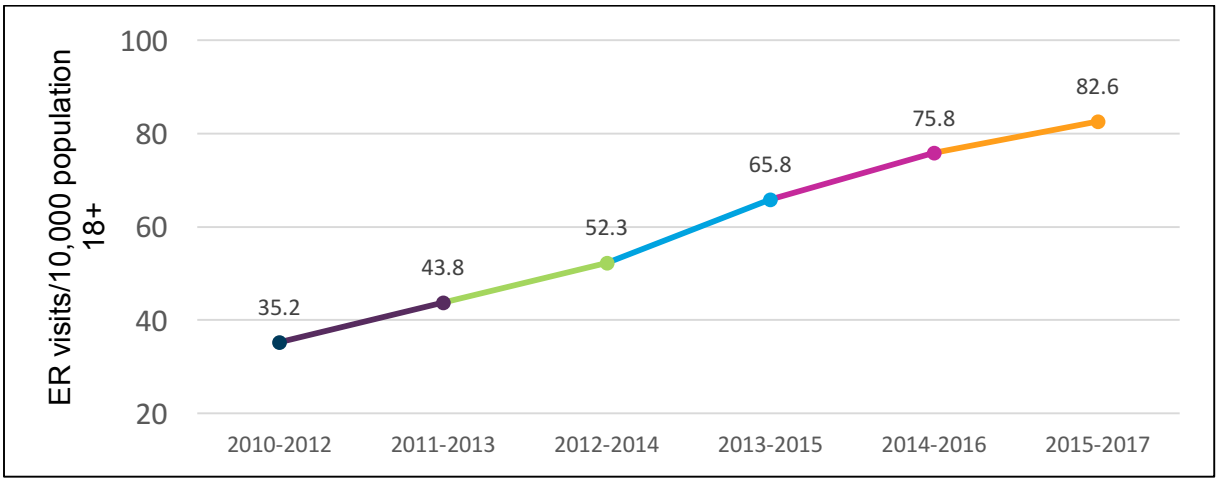
According to research by the National Institute on Alcohol Abuse and Alcoholism, adolescents who begin drinking at a young age are more likely to develop alcohol dependence than those who begin drinking at age 21. Patterns formed during adolescence play a critical role in health throughout adulthood. Alcohol use also impairs judgment and can lead to other high-risk behaviors, such as drunk driving and unprotected sexual activity (Conduent Healthy Communities Institute, 2019).

Age-Adjusted ER Rate due to Alcohol Use

Alcohol abuse includes alcohol dependence syndrome, nondependent alcohol abuse, alcoholic psychoses, toxic effects of alcohol and excessive blood level of alcohol. According to the CDC, excessive alcohol use, either in the form of heavy drinking or binge drinking, can lead to an increased risk of health problems, such as liver disease or unintentional injuries (Conduent Healthy Communities Institute, 2019).

The rate of alcohol use continues to increase in the hospital's PSA. Advocate Trinity's PSA age-adjusted ER rate due to alcohol use for adults age 18 years and older is 82.6 per 10,000 population, which is higher than the Cook County rate of 69.2 and the state rate of 55.0 per 10,000 population. The hospital's PSA communities with the highest age-adjusted ER visit rates due to alcohol abuse per 10,000 population include South Chicago (90.8), Grand Crossing (105.9) and South Shore (107.1). Exhibit 33 shows the age-adjusted ER Rate due to alcohol use in the PSA.

Exhibit 33: Advocate Trinity PSA Age-Adjusted ER Rate due to Alcohol Use 2010-2017

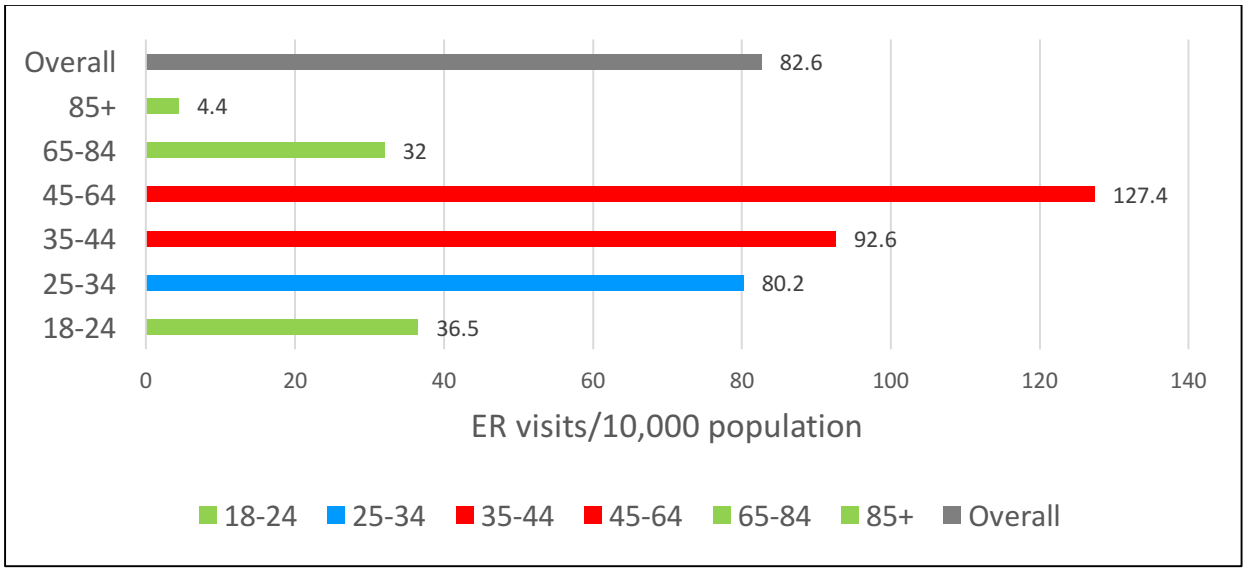


Note: Due to changes in methodology, data should not be compared to previous or following time periods.
Source: Conduent Healthy Communities Institute, Illinois Hospital Association, 2017

Age-Adjusted ER Rate due to Alcohol Abuse by Age

In 2015-2017, the age-adjusted ER rate due to alcohol abuse per 10,000 population in the hospital's PSA is 35.9 in the 18-24 year old age group, 88.1 in the 25-34 year old age group, 95.9 in the 35-44 year old age group and 133.0 in the 45-64 year old age group. Data indicates that individuals between the ages of 35-64 years of age had higher rates of ER visits due to alcohol abuse compared to all other age groups combined (Exhibit 34).

Exhibit 34: Advocate Trinity PSA Age-Adjusted ER Rate due to Alcohol Abuse by Age 2015-2017

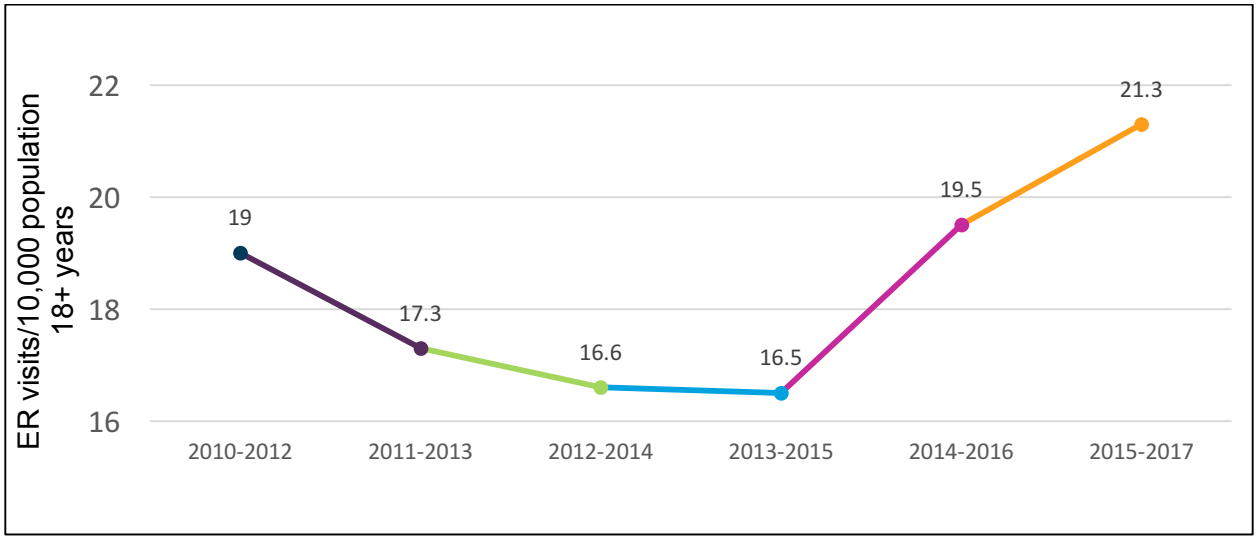


Note: Due to changes in methodology, data should not be compared to previous or following time periods.
Source: Conduent Healthy Communities Institute, Illinois Hospital Association, 2018

Age-Adjusted Hospitalization Rate due to Alcohol Use

From 2010 to 2017 the age-adjusted hospitalization rate due to alcohol use for adults ages 18 and older has fluctuated over time, which is partially due to different methods of ICD-10 patient records coding. In 2013-2015, the age adjusted hospitalization rate was at 16.5 per 10,000 population and increased to 21.3 per 10,000 population in 2015-2017. The hospitalization rate of 21.3 per 10,000 population in 2015-2017 was higher compared to a state rate of 4.8 per 10,000 population (Exhibit 35).

Exhibit 35: Advocate Trinity PSA Age-Adjusted Hospitalization Rate due to Adult Alcohol Use 2010-2017



Note: Due to changes in methodology, data should not be compared to previous or following time periods.
Source: Conduent Healthy Communities Institute, Illinois Hospital Association, 2018

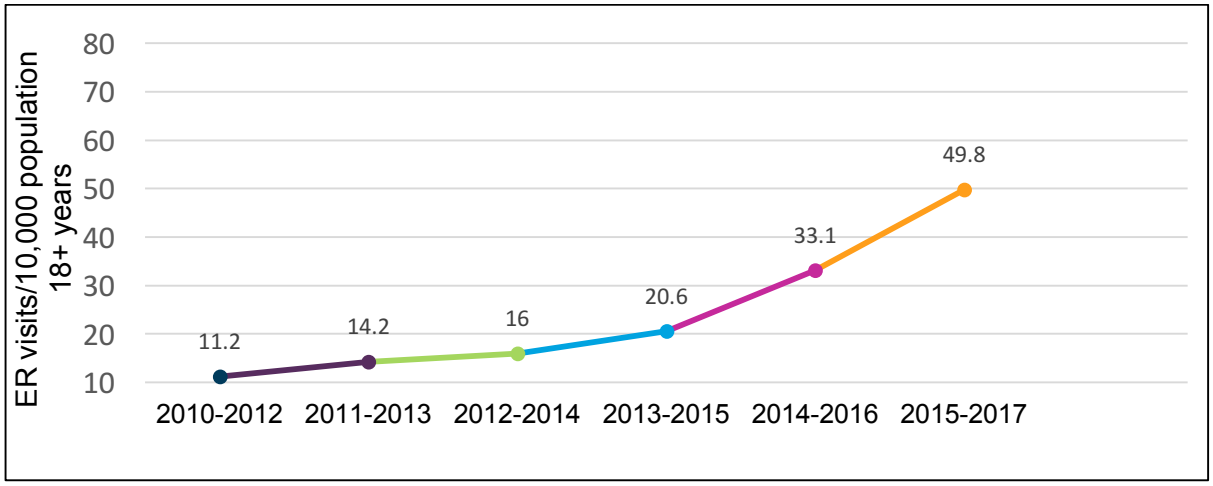
Substance Use

Substance abuse is a major public health issue that has a strong impact on individuals, families, and communities. The use of illicit drugs, abuse of alcohol, and addiction to pharmaceuticals is linked to serious health conditions such as heart disease, cancer and liver diseases. Substance abuse also contributes to a wide range of social, physical, mental and public health problems (Conduent Healthy Communities Institute, 2019).

Age-Adjusted ER Rate due to Substance Use

In Cook County, the age-adjusted ER rate due to substance use for those 18 years and over is 49.8 per 10,000 population. The rate of ER visits due to substance abuse is high when compared to the state of Illinois at 28.9 per 10,000 population. The hospital's PSA rate in 2015-2017 is 49.8 per 10,000 population, which is higher than the county rate. The PSA communities with the highest age-adjusted ER visits per 10,000 population due to substance abuse are South Shore (69.7), Grand Crossing (78.8) and Roseland (85.1). It should be noted that during each survey cycle, there was a change in methodology due to complete coding of patient records of ICD-10 coding in 2015-2017 (Exhibit 36).

Exhibit 36: Advocate Trinity PSA Age-Adjusted ER Rate due to Substance Use 2010-2017

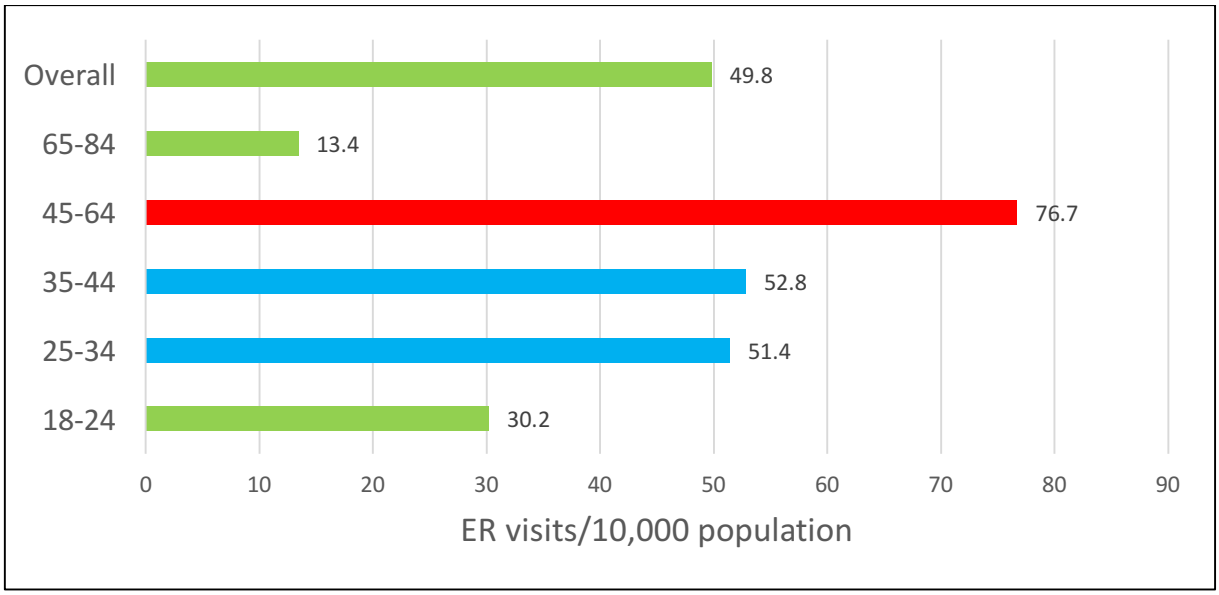


Note: Due to changes in methodology, data should not be compared to previous or following time periods.
Source: Conduent Healthy Communities Institute, Illinois Hospital Association, 2019

Age-Adjusted ER Rate due to Substance Use by Age/Gender/Race and Ethnicity

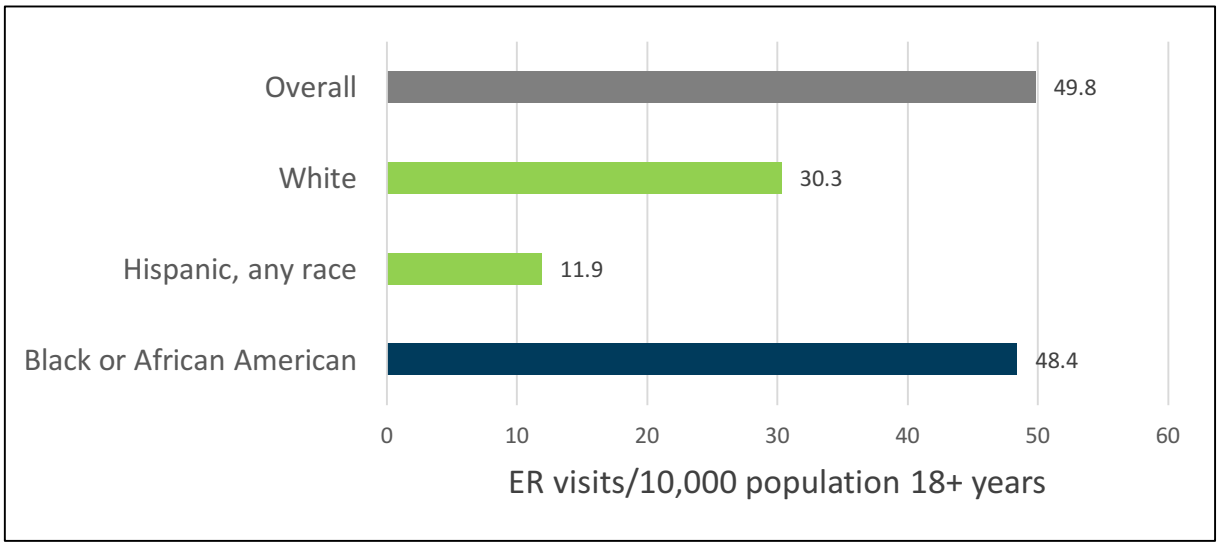
In 2015-2017, the age-adjusted ER rate per 10,000 population due to substance use by age in the hospital's PSA was 30.2 in the 18-24 year old age group, 51.4 in the 25-34 year old age group, 52.8 in the 35-44 year old age group and 76.7 in the 45-64 year old age group. When compared to the overall rate of 49.8 per 10,000 population, data indicate that individuals between the ages of 45–64 years of age had substantially higher rates of ER visits (76.7 per 10,000) due to substance use compared to all other age groups combined (Exhibit 36). Males have higher rates of ER visits due to substance abuse (74.5 per 10,000 population) compared to females (30.5 per 10,000 population). A comparison of ER visits rates due to substance use by race/ethnicity shows that African Americans have higher rates of ER visits due to substance abuse at 48.4 per 10,000 population among all other races (Exhibit 37).

Exhibit 37: Advocate Trinity PSA Age-Adjusted ER Rate due to Substance Abuse by Age 2015-2017



Note: Due to changes in methodology, data should not be compared to previous or following time periods.
Source: Conduent Healthy Communities Institute, Illinois Hospital Association, 2019

Exhibit 38: Advocate Trinity PSA Age-Adjusted ER Rate due to Substance Abuse by Race/Ethnicity 2015-2017



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

Key Findings: Modifiable Health Behaviors

- There is a consistent reduction in smoking rates in Cook County for both adults and adolescents. The number of Cook County teens who smoke declined from 16 percent in 2010 to five percent in 2018.
- Alcohol abuse increased in both the Advocate Trinity's PSA and in Cook County between 2010-2017.
- The hospital's PSA communities with the highest age-adjusted ER visit rates due to alcohol abuse include South Chicago, Grand Crossing and South Shore.
- There is an increase in substance abuse rates in the hospital's PSA, which is higher than the Cook County rate and the state of Illinois rate.
- The hospital's PSA communities with highest age-adjusted ER visit rates due to substance abuse include South Shore, Grand Crossing and Roseland.
- African American males have a higher substance abuse rate than any other population group.

Disease and Chronic Conditions

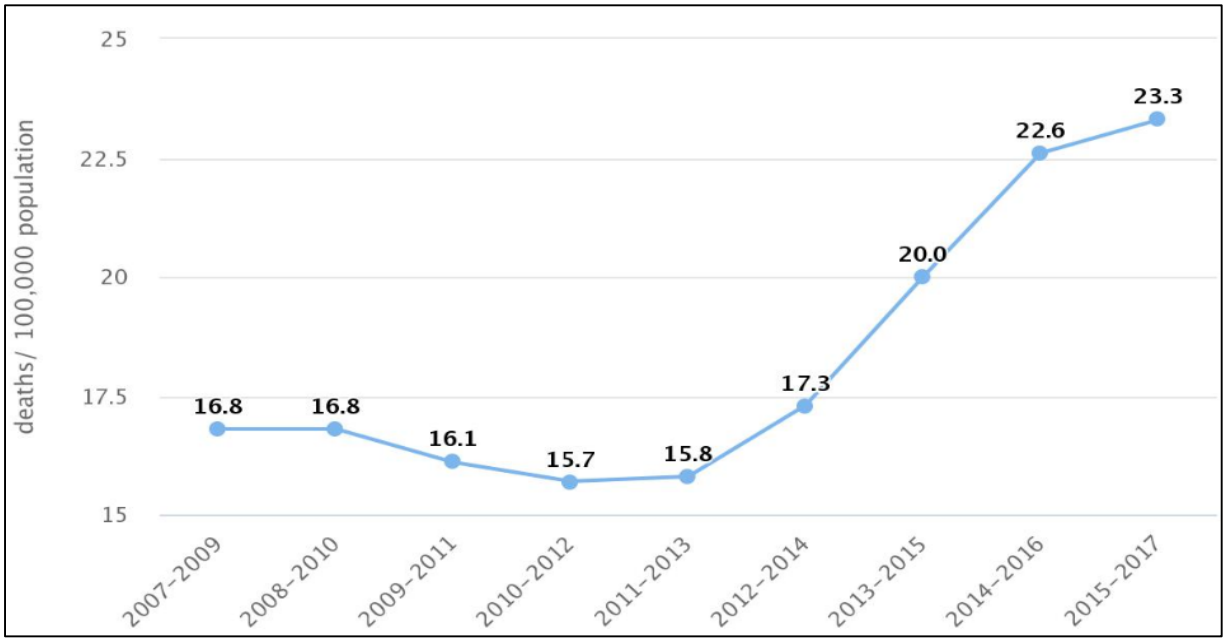
Alzheimer's Disease and Dementia

According to the Centers for Disease Control and Prevention, Alzheimer's disease is the fifth leading cause of death among adults aged 65 and older. The Alzheimer's Association notes that the number of people age 65 and older with Alzheimer's disease is estimated to reach 7.1 million by 2025, representing a 40 percent increase from the estimated 5 million people age 65 and older currently affected by the disease. Medicare costs for those with Alzheimer's and other dementias are estimated to be $107 billion in 2013. Females have a higher incidence of Alzheimer's disease compared to males within Cook County (Conduent Healthy Communities Institute, Centers for Medicare and Medicaid Services, 2019). Due to the lack of PSA-level data, county-level data was used to analyze rates of Alzheimer's Disease.

Age-Adjusted death rate due to Alzheimer's Disease

In Cook County, the age-adjusted death rate due to Alzheimer's Disease is 23.3 deaths per 100,000 population. Although the value is increasing over time, the rate is lower than the Illinois value of 25.2 per 100,000 population and the U.S. value of 30.3 per 100,000 population. When compared to Illinois counties, Cook County is in the top 50 percent quartile (green indicator) (Conduent Healthy Communities Institute, Centers for Disease Control and Prevention, 2019). See Exhibit 39.

Exhibit 39: Cook County Age-Adjusted Death Rate due to Alzheimer's Disease 2007-2017



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

Cancer

Breast Cancer

Breast cancer is a leading cause of cancer death among women in the U.S. According to the American Cancer Society, about 1 in 8 women will develop breast cancer and about 1 in 36 women will die from breast cancer. Breast cancer is associated with increased age, hereditary factors, obesity and alcohol use. Since 1990, breast cancer death rates have declined progressively due to advancements in treatment and detection (Conduent Healthy Communities Institute, National Cancer Institute, 2019). Due to a lack of PSA level data, county level data was used to analyze the indicator for breast cancer incidence rate. Community area data by zip code was used to analyze age-adjusted death rate due to breast cancer in females.

Age-Adjusted Death Rate due to Breast Cancer

According to the Chicago Health Atlas, the age-adjusted death rate due to breast cancer in Chicago (2017) was 25.6 deaths per 100,000 females. All zip codes within the hospital's PSA have a lower breast cancer death rate than the Chicago rate. The age-adjusted death rates due to breast cancer in community areas within Advocate Trinity's PSA are listed in Exhibit 40.

Exhibit 40: Advocate Trinity PSA Age-Adjusted Death Rate due to Breast Cancer 2013-2017

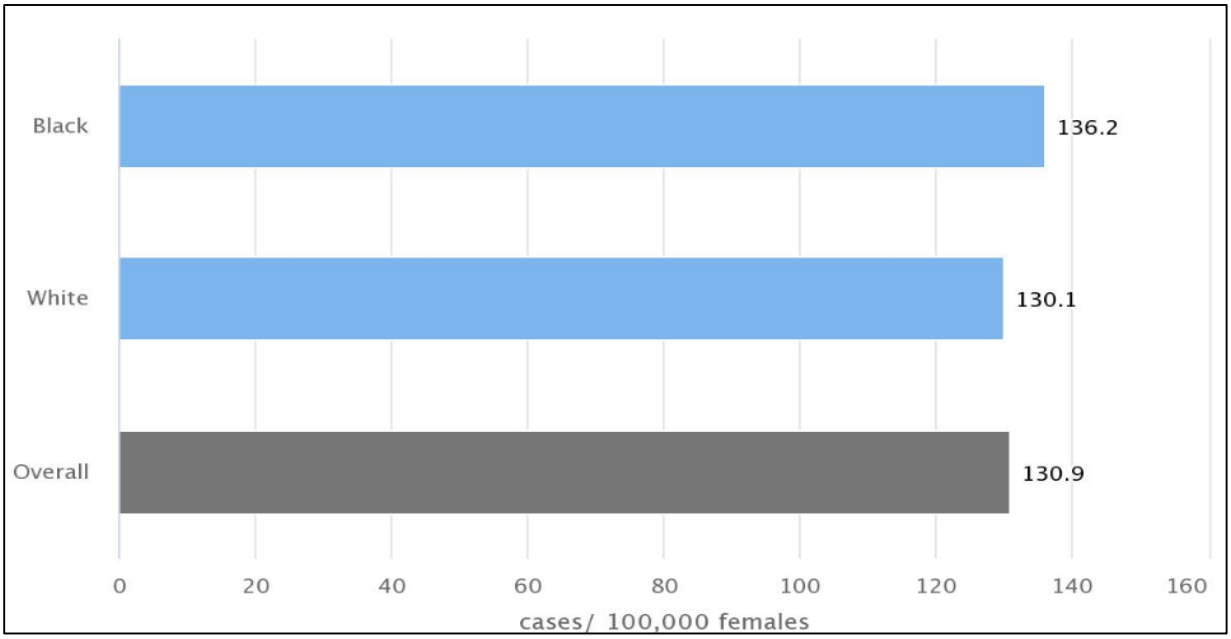
Community Area	Breast Cancer Death Rate per 100,000 Females	Community Area	Breast Cancer Death Rate per 100,000 Females
South Chicago (60617)	23.1	Morgan Park (60643)	15.1
Roseland (60628)	19.0	South Shore (60649)	20.5
Auburn Gresham (60620)	23.0	Greater Grand Crossing (60619)	19.7
Chicago	25.6		

Source: Chicago Health Atlas, Illinois Department of Public Health, 2019

Breast Cancer Incidence Rate

The incidence rate for breast cancer in Cook County is 130.9 cases per 100,000 females, which is in the second worst quartile (yellow indicator) of counties in Illinois. Illinois counties in the top 50 percent quartile have rates lower than 125.9 cases per 100,000 females, while counties in the worst 25 percent quartile have rates higher than 134.5 cases per 100,000 females. However, the county value is comparable to the state value of 131.7 cases per 100,000 females. Data indicates that when comparing the breast cancer incidence rates between Black (136.2 cases per 100,000) and White (130.1 cases per 100,000) females in Cook County, there is not a significant difference in the incidence rates (Exhibit 41).

Exhibit 41: Cook County Breast Cancer Incidence Rate 2011-2015



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

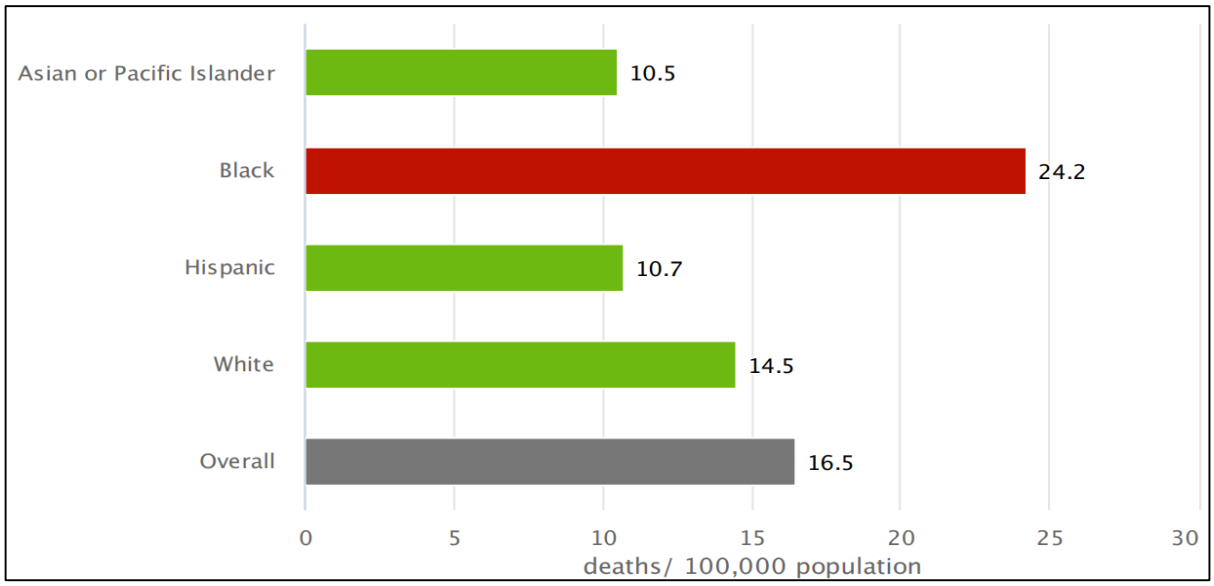
Colorectal Cancer

According to the CDC, colorectal cancer—cancer of the colon or rectum—is one of the most commonly diagnosed cancers and the second leading cancer killer in the U.S. The CDC estimates that if all adults aged 50 or older had regular screening tests for colon cancer, as many as 60% of the deaths from colorectal cancer could be prevented (Conduent Healthy Communities Institute, National Cancer Institute, 2019). Due to the lack of PSA level data, county level data was used to analyze the indicators for colorectal cancer.

Age-Adjusted Death Rate due to Colorectal Cancer

Exhibit 42 shows the age-adjusted colorectal cancer rate in Cook County between 2005-2015. The age-adjusted death rate due to colorectal cancer in Cook County is 16.5 deaths per 100,000 population, which is lower than the previous value of 19.4 per 100,000 population. Although the death rate has continued to decline since 2005, the rate for males remains high at 20.4 per 100,000 population; and even higher for the Black population at 24.4 deaths per 100,000 population.

Exhibit 42: Cook County Age-Adjusted Death Rate due to Colorectal Cancer 2005-2015



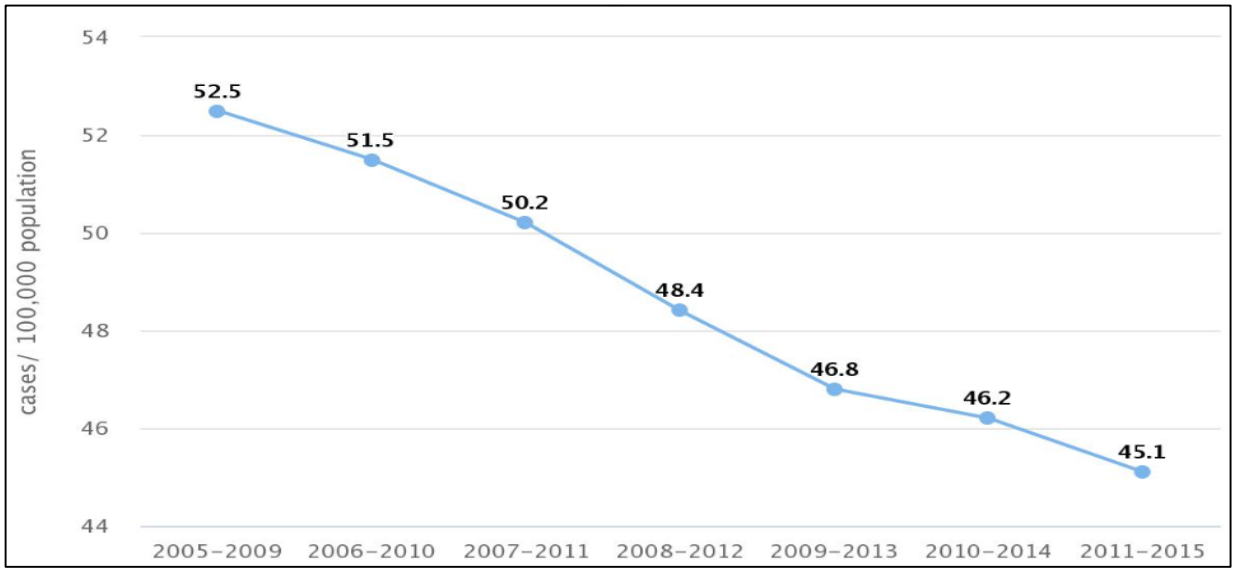
Source: Conduent Healthy Communities Institute, National Cancer Institute, 2019

Colorectal Cancer Incidence Rate

The Cook County incidence rate of colorectal cancer has decreased over time (Exhibit 43). The incidence rate of colorectal cancer among Blacks is 54.9 cases per 100,000 population, which is significantly worse than the overall rate of 45.1 cases per 100,000 population in Cook County. The incidence rate for the White population is 41.9 cases per 100,000 population, which is lower than the overall value in Cook County. The Cook County rate is higher than both the state of Illinois rate at 43.9 cases per 100,000 population and the U.S. rate at 39.2 cases per 100,000 population. Males and

Black/African Americans have a higher incidence rate per 100,000 population than any other group (Conduent Healthy Communities Institute, National Cancer Institute, 2019).

Exhibit 43: Cook County Colorectal Cancer Incidence Rate 2005-2015



Source: Conduent Healthy Communities Institute, National Cancer Institute, 2018

Cervical Cancer

Cervical cancer that is detected early is one of the most successfully treatable cancers and can be cured by removing or destroying the pre-cancerous or cancerous tissue. Cervical cancer is detected by Pap test screenings and is most often caused by human papillomavirus (HPV), which is a type of infection transmitted through sexual contact and can lead to cervical cancer (Conduent Healthy Communities Institute, National Cancer Institute, 2018). Due to the lack of PSA level data, county level data was used to analyze the indicators for cervical cancer.

Cervical Cancer Incidence Rate

In Cook County, 68.5 percent of women 18 and over had a Pap smear in the past year, which is a decrease from the prior percentage (74.9 percent) but higher than the state of Illinois at 65.6 percent (Conduent Healthy Communities Institute, Illinois Behavioral Risk Factor Surveillance System, 2016). Since 2005, the incidence rate for cervical cancer among females has continued to improve, going from 10.3 cases per 100,000 population to 8.4 cases per 100,000 population between 2011-2015. However, the rate of cervical cancer remains high among Black/African American women at 11.1 cases per 100,000 population as compared to White women at 7.6 cases per 100,000 population (Conduent Healthy Communities Institute, National Cancer Institute, 2018).

Lung Cancer

According to the American Lung Association, more people die from lung cancer annually than any other type of cancer, exceeding the total deaths caused by breast cancer, colorectal cancer and prostate

cancer combined. The greatest risk factor for lung cancer is duration and quantity of smoking. While the mortality rate due to lung cancer among men has reached a plateau, the mortality rate due to lung cancer among women continues to increase. African Americans have the highest risk of developing lung cancer (Conduent Healthy Communities Institute, National Cancer Institute, 2018). Due to the lack of PSA level data, county level data was used to analyze the indicators for lung cancer.

Age-Adjusted Death Rate due to Lung Cancer

The age-adjusted death rate due to lung cancer in Cook County is 42.7 deaths per 100,000 population, which is lower than the state of Illinois at 46.3 and the U.S. at 43.4 deaths per 100,000 population. Over time, the age-adjusted death rate due to lung cancer has decreased in Cook County going from 44.7 deaths per 100,000 in 2009-2013 to 42.7 deaths per 100,000 population in 2011-2015. Cook County also has a lower rate of death due to lung cancer compared to other counties in Illinois and the U.S. There are racial disparities in deaths due to lung cancer with Blacks/African Americans experiencing significantly higher rates (56.2 deaths per 100,000 population) compared to the White and Asian races at 40.0 deaths per 100,000 population and 21.9 deaths per 100,000 population, respectively. Males also have higher death rates due to lung cancer (53.4 per 100,000) as compared to females (35.2 deaths per 100,000 population) (Conduent Healthy Communities Institute, National Cancer Institute, 2018).

Lung Cancer Incidence Rate

Over a ten-year period, the incidence rate for lung cancer has decreased from 68.1 cases per 100,000 population between 2005 and 2009 to 61.3 cases per 100,000 population in 2011-2015. However, as indicated above, males and Blacks/African Americans continue to have the highest rate of deaths due to lung cancer per 100,000 population (Conduent Healthy Communities Institute, National Cancer Institute, 2018).

Prostate Cancer

Prostate cancer is a leading cause of cancer death among men in the U.S. According to the American Cancer Society, about 1 in 7 men will be diagnosed with prostate cancer, with one in 36 that will die from prostate cancer. The two greatest risk factors for prostate cancer are age and race, with men over the age of 65 and men of African descent possessing the highest incidence rates of prostate cancer in the U.S. (Conduent Healthy Communities Institute, National Cancer Institute, 2018). Due to lack of PSA level data, county level data was used to analyze the indicators for prostate cancer.

Age-Adjusted Death Rate due to Prostate Cancer

Over a ten-year period, Cook County has seen a consistent decrease in the age-adjusted death rate due to prostate cancer. Compared to the 2005 rate of 29.4 deaths per 100,000 males, the current rate of 23.7 deaths per 100,000 males shows marked improvement within the county. However, the Cook County rate among males remains higher than the Illinois rate at 20.5 deaths per 100,000 population and the U.S. at 19.5 deaths per 100,000 males (Conduent Healthy Communities Institute, National Cancer Institute, 2018).

Prostate Cancer Incidence Rate

In Cook County, the incidence rate for those impacted by prostate cancer is 118.7 per 100,000 population. This rate is higher than Illinois at 114.9 per 100,000 population and the U.S. at 109.0 per 100,000 population. Compared to Illinois counties, Cook County has a value that is in the second worst quartile (yellow indicator) of counties. The incidence rate of prostate cancer cases has seen a significant decline in the county over a ten-year period, however, the Black/African American population continues to have the highest rates of prostate cancer with 175.7 cases per 100,000 population (Conduent Healthy Communities Institute, National Cancer Institute, 2018).

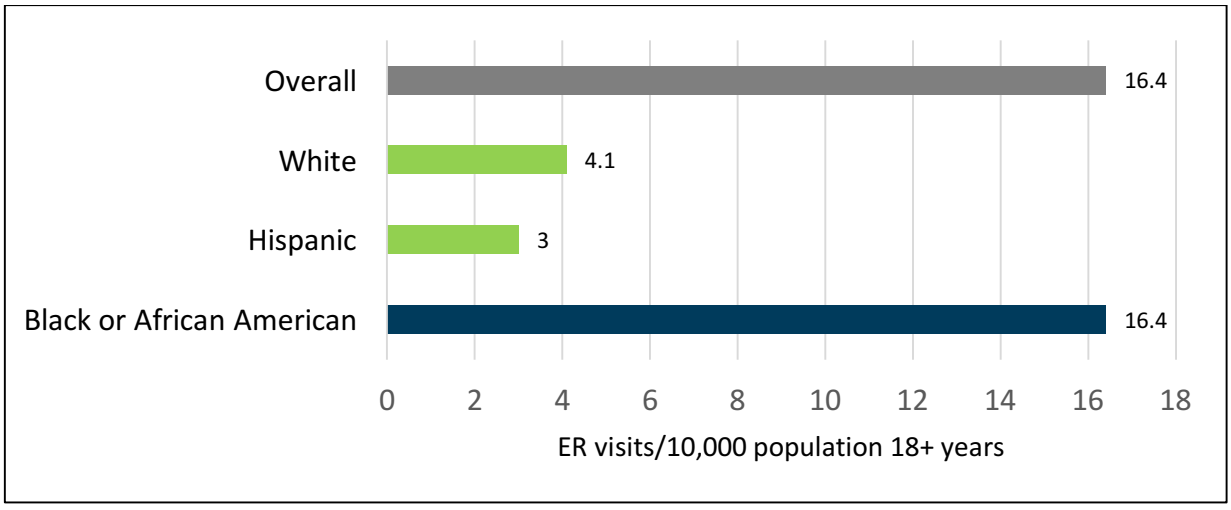
Cardiovascular Disease

Heart failure is a condition in which the heart can't pump enough blood to the body's other organs. This can result from a variety of conditions, including coronary artery disease, diabetes, past heart attack, hypertension, heart infections, diseases of the heart valves or muscle and congenital heart defects. According to the Centers for Disease Control and Prevention, approximately 5.7 million people in the U.S. have heart failure, and about half of people who develop heart failure will die within five years of diagnosis (Conduent Healthy Communities Institute, 2018).

Age-Adjusted ER Rate due to Heart Failure

The age-adjusted ER rate due to heart failure in the PSA is 16.4 ER visits per 10,000 population ages 18 years and older, which is double the Cook County rate at 7.1 per 10,000 population and the state rate at 8.7 per 10,000 population ages 18 years and older. In the hospital's PSA, those age 45 and older experience higher rates of heart failure compared to other age groups. Males have a higher rate of heart failure at 20.0 per 10,000 population compared to females at 13.5 per 10,000 population. Blacks/African Americans have more than four times the rate of heart failure compared to Whites (Exhibit 44).

Exhibit 44: Advocate Trinity PSA Age-Adjusted ER Rate due to Heart Failure 2018

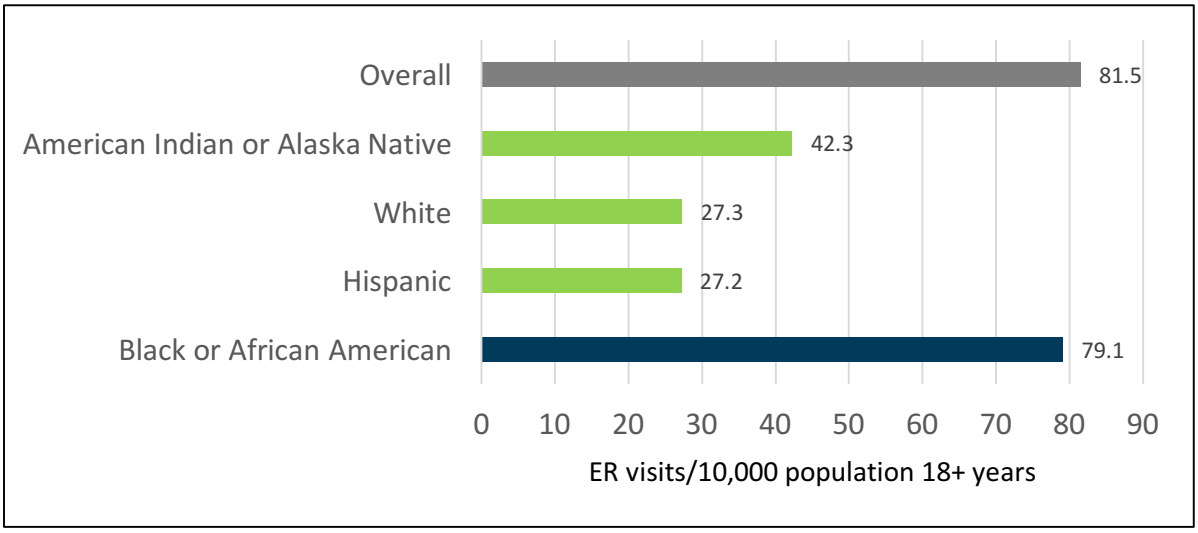


Source: Conduent Healthy Communities Institute, Illinois Hospital Association, 2019

Age-Adjusted Hospitalization Rate due to Heart Failure

The age-adjusted hospitalization rate due to heart failure in the hospital's PSA is 81.5 hospitalizations per 10,000 population aged 18 years and older, which is nearly double the Cook County rate of 42.5 per 10,000 population. The PSA rate of hospitalization due to heart failure is also high compared to Illinois at 36.3 hospitalizations per 10,000 population aged 18 years and older. Populations with the highest rates of hospitalization due to heart failure include those age 45 and older, and Blacks/African Americans (Exhibit 45).

Exhibit 45: Advocate Trinity PSA Age-Adjusted Hospitalization Rate due to Heart Failure 2015-2017



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

Hypertension

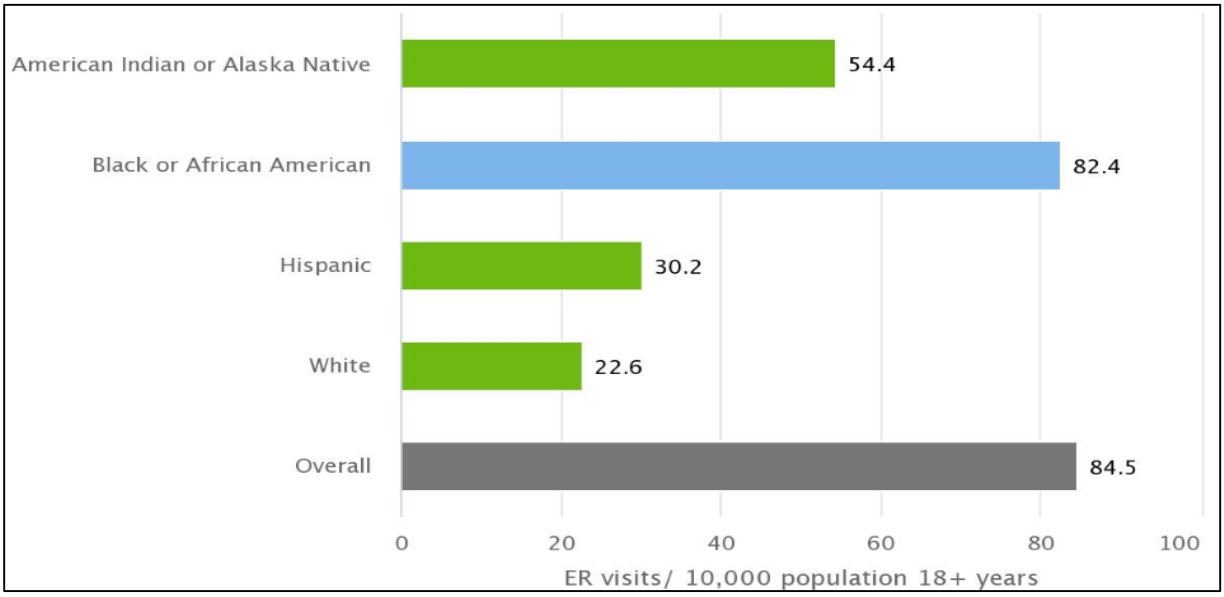
Hypertension, also known as high blood pressure, is a significant increase in blood pressure in the arteries. Hypertension is the leading cause of stroke and a major cause of heart attacks, and if left untreated can lead to damage of the blood vessels and kidneys, vision loss, and angina. Many factors affect blood pressure, including salt intake, kidney health, and hormone levels. The risk for high blood pressure increases with obesity, diabetes, high salt intake, high stress levels, high alcohol intake, and tobacco use. According to the CDC, nearly one in three adults have hypertension with only half of these individuals having their condition under control (Conduent Healthy Communities Institute, 2019).

Age-Adjusted ER Rate due to Hypertension

The overall age-adjusted ER rate due to hypertension in the hospital's PSA is 84.5 ER visits per 10,000 population which is nearly double the Illinois rate at 36.4 per 10,000 population and Cook County at 44.2 per 10,000 population. The ER hypertension visit rates in the PSA are increase starting at age 35 and continue to increase for those 85 and older. The PSA emergency room rate for hypertension (92.5 ER visits per 10,000 population) is significantly high when compared to the county rate of 48.7 and the state rate of 39.3. Females and males have similar rates of age-adjusted ER visits due to hypertension

at 83.8 per 10,000 population and 84.4 per 10,000 population respectively (Conduent Healthy Communities Institute, Illinois Hospital Association, 2019). African Americans have a higher ER rate due to hypertension compared to other races (Exhibit 46).

Exhibit 46: Advocate Trinity PSA Age-Adjusted ER Rate due to Hypertension 2015-2017



Source: Conduent Healthy Communities Institute, Illinois Hospital Association, 2018

Age-Adjusted Hospitalization Rate due to Hypertension

From 2010 to 2016, the age adjusted hospitalization rate due to hypertension in the hospital's PSA demonstrated slight improvements at 18.0 per 10,000 population and 12.7 per 10,000 population, respectively. From 2016 to 2018, the number of hospitalizations has slightly increased from 12.7 hospitalizations per 10,000 population to 15.0 hospitalizations per 10,000 population. However, males are hospitalized at a higher rate for hypertension (15.3 hospitalizations per 10,000 population) compared to females (13.1 hospitalizations per 10,000 population). Blacks/African Americans have a higher rate of hospitalization due to hypertension when compared to other races (Conduent Healthy Communities Institute, Illinois Hospital Association, 2019).

Cerebrovascular Disease (Stroke)

Cerebrovascular disease refers to conditions, including stroke, caused by problems with the blood vessels supplying the brain with blood. Cerebrovascular disease is a leading cause of death in the U.S., and although it is more common in older adults, it can occur at any age. The most important modifiable risk factor for cerebrovascular disease and stroke is high blood pressure. Other risk factors include high cholesterol, heart disease, diabetes mellitus, physical inactivity, obesity, excessive alcohol use and tobacco use (Conduent Healthy Communities Institute, 2019).

Age-Adjusted Death Rate due to Stroke

In 2017, the age-adjusted death rate due to stroke for Chicago was 51.7 deaths per 100,000 population. From 2013-2017, the age-adjusted death rate due to stroke is higher in four community areas within the hospital's PSA when compared to the Chicago rate. The communities of Greater Grand Crossing and South Shore have the highest death rates due to stroke of 73.5 deaths per 100,000 population and 66.4 deaths per 100,000 population, respectively. Exhibit 47 shows the age-adjusted death rate due to stroke in the Advocate Trinity PSA (Chicago Health Atlas, Illinois Department of Public Health, 2019).

Exhibit 47: Advocate Trinity PSA and Chicago Age-Adjusted Death Rates due to Stroke 2013-2017

Community Area	Stroke Death Rate per 100,000 Population	Community Area	Stroke Death Rate per 100,000 Population
South Chicago (60617)	51.1	Morgan Park (60643)	52.3
Roseland (60628)	61.2	South Shore (60649)	66.4
Auburn Gresham (60620)	64.9	Greater Grand Crossing (60619)	73.5
Chicago (2017)	51.7		

Source: Chicago Health Atlas, Illinois Department of Public Health, 2019

Age-Adjusted Death Rate due to Coronary Heart Disease

In 2017, the age-adjusted death rate due to coronary heart disease for Chicago was 96.6 deaths per 100,000 population. From 2013-2017, the age-adjusted death rate due to coronary heart disease is higher in all community areas within the hospital's PSA when compared to the Chicago rate. The communities of Auburn Gresham and Roseland have the highest death rates due to coronary heart disease of 130.8 deaths per 100,000 population and 129.1 deaths per 100,000 population, respectively. Exhibit 48 shows the age-adjusted death rate due to coronary heart disease in the Advocate Trinity PSA (Chicago Health Atlas, Illinois Department of Public Health, 2019).

Exhibit 48: Advocate Trinity PSA and Chicago Age-Adjusted Death Rate due to Coronary Heart Disease 2013-2017

Community Area	Coronary Heart Disease Death Rate per 100,000	Community Area	Coronary Heart Disease Death Rate per 100,000
South Chicago (60617)	113.7	Morgan Park (60643)	109.9
Roseland (60628)	129.1	South Shore (60649)	116.4
Auburn Gresham (60620)	130.8	Greater Grand Crossing (60619)	110.3
Chicago (2017)	96.6		

Source: Chicago Health Atlas, Illinois Department of Public Health, 2019

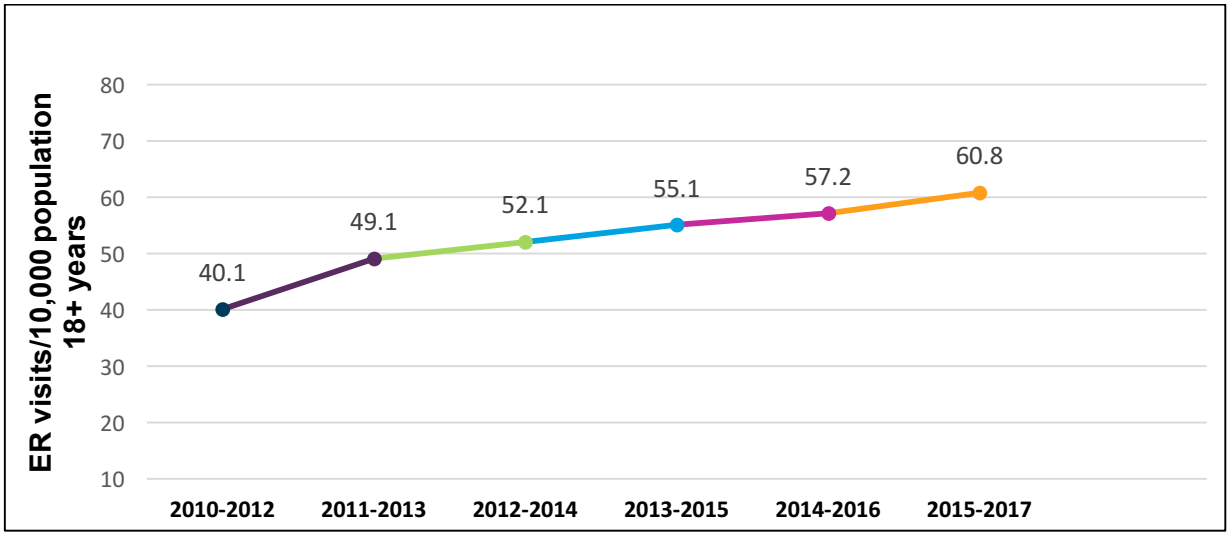
Diabetes

According to the National Diabetes Education Program, "diabetes is a group of diseases marked by high levels of blood glucose resulting from defects in insulin production, insulin action, or both." Diabetes can have a harmful effect on most organ systems in the human body; it is a frequent cause of renal disease and lower-extremity amputation, and a leading cause of blindness among working age adults. Persons with diabetes are also at increased risk for ischemic heart disease, neuropathy and stroke. The prevalence of diagnosed Type 2 diabetes increased six-fold in the latter half of the last century according to the CDC. Diabetes risk factors, including obesity and physical inactivity, have played a major role in this dramatic increase. Age, race and ethnicity are also important risk factors. The CDC estimates the direct economic cost of diabetes in the U.S. to be about $100 billion per year. This figure does not consider the indirect economic costs attributable to potential work time lost to diabetes-related illness or premature death (Conduent Healthy Communities Institute, Illinois Hospital Association, 2018).

Age-Adjusted ER Rate due to Diabetes

The age-adjusted ER rate due to diabetes for Advocate Trinity's PSA is 60.8 ER visits per 10,000 population, which is almost three times higher than Illinois at 27.7 ER visits per 10,000 population and nearly double the Cook County rate of 33.2 ER visits/10,000 population (Conduent Healthy Communities Institute, Illinois Hospital Association, 2018). The communities with the highest rates of diabetes include South Chicago (62.4 per 10,000 population), Grand Crossing (62.9 per 10,000 population) and Roseland (68.8 per 10,000 population). Exhibit 49 shows the hospital's PSA age-adjusted ER rates due to diabetes over time.

Exhibit 49: Advocate Trinity PSA Age-Adjusted ER Rate due to Diabetes 2010-2017

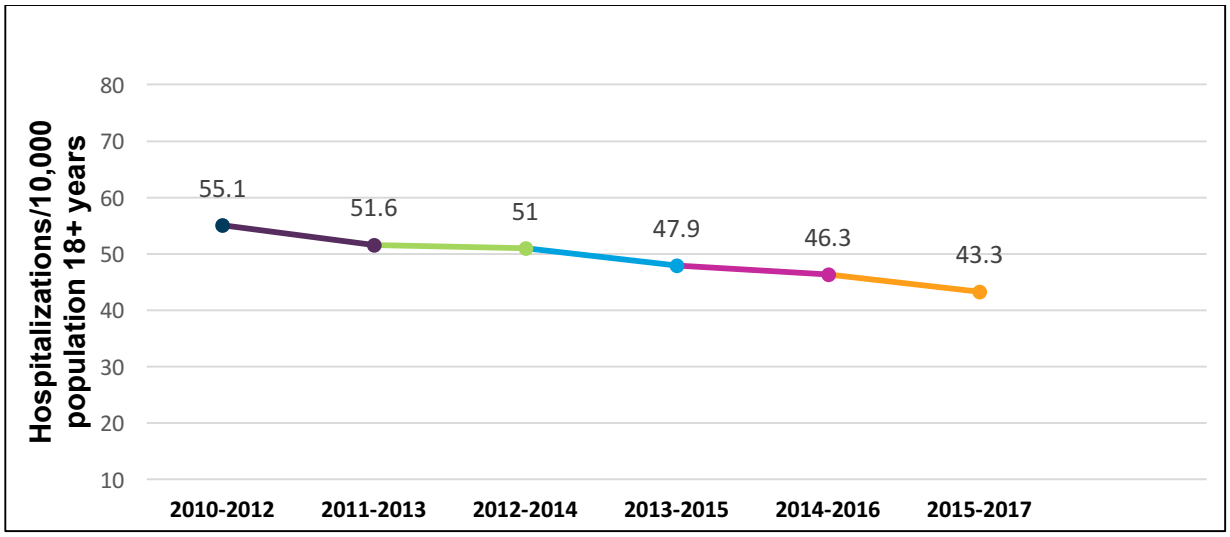


Source: Conduent Healthy Communities Institute, Illinois Hospital Association, 2019

Age-Adjusted Hospitalization Rate due to Diabetes

Advocate Trinity's PSA age-adjusted hospitalization rate due to diabetes is 43.3 per 10,000 population, more than double both the state of Illinois rate at 17.6 per 10,000 population and the Cook County rate at 21.4 per 10,000 population. When compared to Illinois counties, the hospital's PSA has a rate that is in the bottom 25 percent (red indicator) of service areas. Service areas in the best 50 percent have a value lower than 11.8 per 10,000 population (Exhibit 50). The age-adjusted diabetes hospitalization rates are highest for the communities of South Shore (44.1 per 10,000 population), Auburn Gresham (46.8 per 10,000 population) and Grand Crossing/Avalon (49.7 per 10,000 population) (Conduent Healthy Communities Institute, Illinois Hospital Association, 2019).

Exhibit 50: Advocate Trinity Age-Adjusted Hospitalization Rate due to Diabetes 2010-2017



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

Mental Health

According to the Centers for Disease Control, mental health is an important part of overall health and well-being. Mental health includes an individual's emotional, psychological and social well-being, and affects how one thinks, feels and acts. It also helps determine how individuals handle stress, relate to others and make healthy choices. Mental health is important at every stage of life, from childhood and adolescence through adulthood. Mental disorders are one of the leading causes of disability in the U.S. In any given year, approximately 13 million American adults have a seriously debilitating mental illness. Furthermore, unstable mental health can lead to suicide, which accounts for the death of approximately 30,000 Americans every year (Conduent Healthy Communities Institute, Illinois Hospital Association, 2019).

Age-Adjusted ER Rate due to Mental Health

In the hospital PSA, the age-adjusted ER rate due to mental health is 149.4 visits per 10,000 population in 2015-2017. This rate is higher compared to the state of Illinois at 95.3 and Cook County at 93.1 ER visits due to mental health per 10,000 population. The age-adjusted ER rate due to pediatric mental health is 53.8 ER visits per 10,000 population under the age of 18 years, which is lower than the state of Illinois at 64.5 per 10,000 population and Cook County at 54.5 per 10,000 population. The age-adjusted ER rate due to suicide and intentional self-inflicted injury is 45.7 per 10,000 population. The rate is high compared to the state of Illinois at 34.3 per 10,000 population and Cook County at 32.3 per 10,000 population (Conduent Healthy Communities Institute, Illinois Hospital Association, 2019).

There are three zip codes in the hospital's PSA that exceed the overall PSA rate of 149.4 visits per 10,000 population for age-adjusted ER rates due to mental health in 2015-2017. The communities are listed in exhibit 51.

Exhibit 51: Advocate Trinity PSA Communities Exceeding the Overall PSA Value due to Mental Health 2015-2017

Zip Code	Community Area	Age-Adjusted ER Rate due to Mental Health
60620	Auburn Gresham	157.8
60619	Grand Crossing/Avalon	166.6
60649	South Shore	182.5

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

Respiratory Disease

Asthma

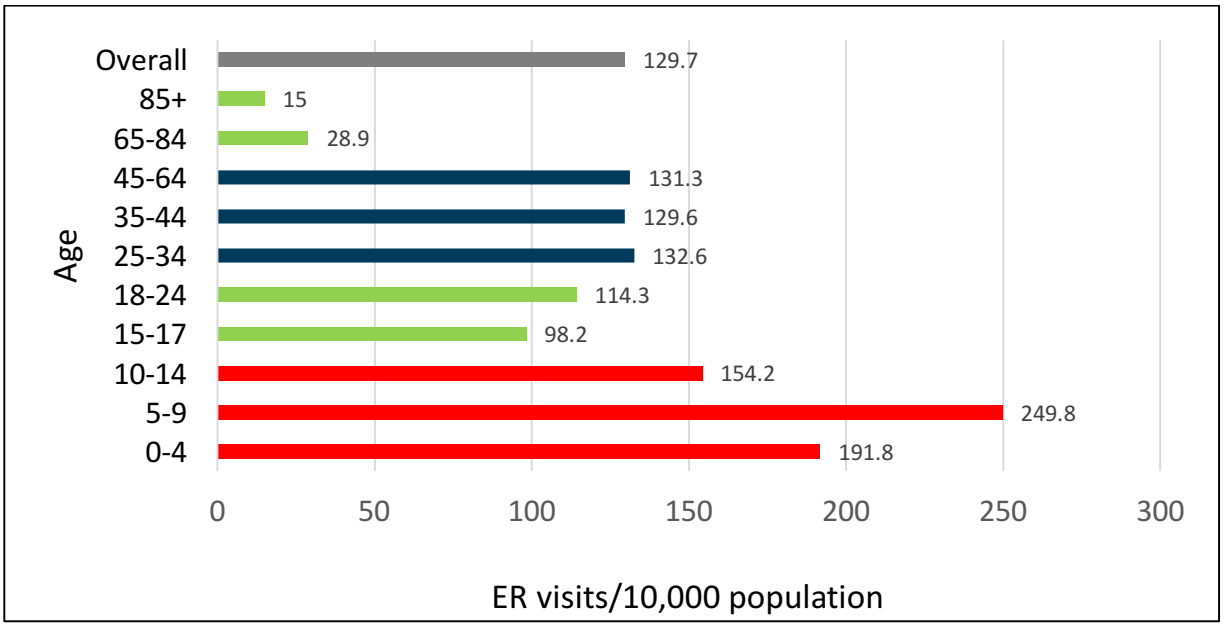
Asthma is a disease that affects the lungs, in which a person's air passages become inflamed and the narrowing of the respiratory passages makes it difficult to breathe. Asthma is one of the most common long-term diseases in children, but it also affects millions of adults nationwide. Asthma in children is a serious public health problem in the U.S. The National Health Interview Survey has found that persons under age 18 have higher rates of asthma than any other age group. Asthma in children results in missed days of school, limitations on daily activities, emergency department visits and hospitalizations. Moreover, asthma disproportionately affects low-income and minority children (Conduent Healthy Communities Institute, Illinois Hospital Association, 2019).

Age-Adjusted ER Rates Due to Asthma

The age-adjusted ER rate due to asthma for Advocate Trinity's PSA is 129.7 per 10,000 population, which is three times higher than the Illinois rate at 41.9 per 10,000 population and more than double the Cook County rate at 54.6 per 10,000 population. The rate of ER visits due to asthma for adults is 111.6

ER visits per 10,000 population, which is nearly three times higher than Illinois at 34.7 per 10,000 population and well over double Cook County at 44.9 per 10,000 population. The rate of ER visits due to pediatric asthma is 182.0 per 10,000 population, which again is almost three times higher than Illinois at 62.6 per 10,000 population and more than double the Cook County rate at 82.6 per 10,000 population (Exhibit 52). The age groups 0-14 and 18-34 have the highest rates of age-adjusted ER visits due to asthma compared to the overall rate among all age groups (Conduent Healthy Communities Institute, Illinois Hospital Association, 2019). Exhibit 52 depicts the age-adjusted ER visit rate by age.

Exhibit 52: Advocate Trinity PSA Age-Adjusted ER Rates due to Asthma by Age 2015-2017



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

Age-Adjusted Hospitalization Rates Due to Asthma

The age-adjusted hospitalization rate due to asthma is nearly three times higher in the hospital's PSA at 20.5 hospitalizations per 10,000 population compared to the state of Illinois at 7.0 hospitalizations per 10,000 population and more than double the Cook County rate at 9.9 hospitalizations per 10,000 population. The rate of hospitalizations due to asthma for adults is 19.7 hospitalizations per 10,000 population, which is three times higher than Illinois at 7.0 per 10,000 population and double Cook County at 9.9 per 10,000 population. The rate of hospitalizations due to pediatric asthma is 22.7 hospitalizations per 10,000 population, which is more than double both Illinois at 12.0 per 10,000 population and Cook County at 8.5 hospitalizations per 10,000 population. (Conduent Healthy Communities Institute, Illinois Hospital Association, 2019). See Exhibit 53.

Exhibit 53: Advocate Trinity PSA, Cook County and Illinois Age-Adjusted ER and Hospitalization Rates Due to Asthma 2015-2017

Indicator per 10,000 population	Advocate Trinity PSA	Cook County	Illinois
Age-Adjusted ER Rate Due to Asthma	129.7	54.6	41.9
Age-Adjusted ER Rate Due to Adult Asthma	111.6	44.9	34.7
Age-Adjusted ER Rate Due to Pediatric Asthma	182.0	82.6	62.6
Age-Adjusted Hospitalization Rate Due to Asthma	20.5	9.9	7.0
Age-Adjusted Hospitalization Rate Due to Adult Asthma	19.7	9.9	7.0
Age-Adjusted Hospitalization Rate Due to Pediatric Asthma	22.7	12.0	8.5

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

Key Findings: Disease and Chronic Conditions

- Breast cancer continues to be the leading cause of death among women in the U.S, however cancer death rates are declining overall in breast, colorectal, cervical, lung and prostate cancer.
- Cardiovascular disease is increasing in the hospital's PSA with the highest rates among Blacks/African Americans.
- Blacks/African Americans have more than four times the rate of heart failure compared to Whites.
- The overall age-adjusted ER rate due to hypertension in the hospital PSA is nearly double the state value and the Cook County value.
- The age-adjusted ER rates due to diabetes in the hospital's PSA is almost three times as high as the state value, but comparable to the Cook County value.
- Mental health indicators show an increase in the PSA and Cook County. There are three zip codes in the hospital PSA that exceed the overall PSA value for age-adjusted ER rates due to mental health.
- Asthma rates in the hospital's PSA are nearly three times the state value and twice the Cook County value.

Environment

Housing

Homeownership has many benefits for both individuals and communities. Homeowners are more likely to improve their homes and to be involved in civic affairs, both of which benefit the individual and the community. In the PSA, 40.6 percent of housing units in the PSA are occupied by homeowners. The percent of homeowners is low compared to Cook County (50.9 percent), Illinois (59.7 percent) and the U.S. (56.0 percent) (Conduent Healthy Communities Institute, American Community Survey, 2019).

Renters Spending 30% or More of Household Income on Rent

Spending a high percentage of household income on rent can create financial hardship, especially for lower-income renters. With a limited income, paying a high rent may not leave enough money for other expenses, such as food, transportation and medical expenses. Moreover, high rent reduces the proportion of income a household can allocate to savings each month. In the hospital's PSA, 63.3 percent of renters spend at least 30 percent or more of their household income on rent, while in Cook County 50.8 percent of renters spend 30 percent or more of their income on rent (Conduent Healthy Communities Institute, American Community Survey, 2019).

Transportation

Lengthy commutes cut into workers' free time and can contribute to health problems such as headaches, anxiety, and increased blood pressure. Longer commutes require workers to consume more fuel, which is both expensive for workers and damaging to the environment. Public transportation offers mobility to U.S. residents, particularly people without cars. Transit can help bridge the spatial divide between people and jobs, services, and training opportunities. Public transportation is also beneficial because it reduces fuel consumption, minimizes air pollution and relieves traffic. Driving alone to work consumes more fuel and resources than other modes of transportation, such as carpooling, public transportation, biking and walking. Driving alone also increases traffic congestion, especially in areas of greater population density (Conduent Healthy Communities Institute, 2019).

Mean Travel Time to Work and Commute by Public Transportation

In the hospital's PSA, 27.6 percent of households do not have a vehicle. Vehicle ownership is directly related to the ability to travel. Generally, people living in a household without a car make fewer than half the number of journeys compared to those with a car. This limits their access to essential local services such as supermarkets, post offices, doctors' offices and hospitals. Most households with above-average incomes have a car, while only half of low-income households own a car. The average travel time to work for those residing in the hospital's PSA is 40.0 minutes. This is higher than Illinois and the U.S. at 28.7 and 26.4 minutes, respectively. The percentage of workers in the hospital PSA who commute by public transportation is 27.4 percent. This percentage is larger than the State of Illinois at 9.4 percent and the U.S. at 5.1 percent. In the hospital's PSA, 58.0 percent of workers drive alone to work, which is less than the state and U.S. at 73.3 and 76.4 percent, respectively (Conduent Healthy Communities Institute, American Community Survey, 2019).

Food Security and Access to Healthy Foods

Food insecurity is an economic and social indicator of the health of a community. The U.S. Department of Agriculture (USDA) defines food insecurity as limited or uncertain availability of nutritionally adequate foods or uncertain ability to acquire these foods in socially acceptable ways. Poverty and unemployment are frequently predictors of food insecurity in the U.S. Food insecurity is associated with chronic health problems in adults, including diabetes, heart disease, high blood pressure, hyperlipidemia, obesity, and mental health issues, including major depression. The availability and affordability of healthy food options in the community increases the likelihood that residents will have a

balanced and nutritious diet. Low income and underserved areas often have limited numbers of stores that sell healthy foods. People who live far away from grocery stores are less likely to access healthy food options on a regular basis and are more likely to consume foods which are readily available at convenience stores and fast food outlets (Conduent Healthy Communities Institute, 2019).

Limited Food Access

The Chicago Health Atlas food access rates represent the percentage of people with low income and living more than one-half mile from the nearest supermarket, supercenter or large grocery store among the total population. In the city of Chicago, the food access rate was 8.5 per 100,000 population in 2015. In Advocate Trinity's PSA, the communities of Roseland and South Shore had rates that were triple the Chicago rate, and Greater Grand Crossing which had a rate over double the Chicago rate. The food access rates for communities in the hospital's PSA were the following: Roseland (38.2 per 100,000 population), South Shore (32.0 per 100,000 population), Greater Grand Crossing (23.3 per 100,000 population), Morgan Park (12.6 per 100,000 population), South Chicago (12.2 per 100,000 population) and Auburn Gresham (10.7 per 100,000 population) (Chicago Health Atlas, U.S. Department of Agriculture (USDA) Food Access Research Atlas, 2019).

Urban Tree Health

Trees provide numerous benefits for nature and human health. Trees can improve human health directly by providing shade and cooling through a process called evapotranspiration, reducing the risk of heat-related illnesses and death. Trees also help reduce environmental risk factors associated with chronic conditions by absorbing particulate matter from the atmosphere, which can help mitigate the risk of acute upper respiratory episodes, especially in areas with high vehicular traffic. Street trees are also associated with a lower prevalence of childhood asthma. In addition, trees and greenspaces (such as parks) promote outdoor activity, which is a critical factor in reducing the risk of obesity. In addition, tree canopy and greenspaces can contribute to increased mental well-being, reduced blood pressure, and improved prosocial behavior among children and adults. Recent research suggests that urban tree cover may have an inverse relationship to gun violence (Imani Green Health Advocates, Urban Tree Health Report, 2019).

Overall, canopy cover for Cook County is almost 19 percent. For the six individual zip codes in the Advocate Trinity PSA, canopy cover ranged between 17 percent and 32 percent (Exhibit 53.1). There are notable differences in the canopy coverage among the zip codes in the PSA and Cook County. The average for Cook County while substantial, is only half of the target of 40 percent tree canopy coverage believed to provide optimal human health benefits (Arbor Day Foundation, 2019). Roseland (60628) and South Chicago (60617) are below the county average, while the remaining zip codes in this evaluation are above the county average, but lower than the 40 percent target. This would suggest that in order to optimize human health benefits, additional tree canopy cover is needed (Imani Green Health Advocates, Urban Tree Health Report, 2019).

Exhibit 53.1: Canopy Cover in Cook County and Zip Codes in PSA

Zip Code	Neighborhood	% Canopy
60643	Morgan Park	31.7%
60628	Roseland	18.5%
60649	South Shore	23.5%
60617	South Chicago	16.8%
60620	Auburn Gresham	22.1%
60619	Grand Crossing	22.4%
Cook County		18.7%

Note: Average tree stress (1=healthy, 10=stressed)
Source: U.S. Department of Agriculture, 2019

The number of trees, average tree stress and diameter of trees sampled in each zip code are listed in Exhibit 53.2. South Shore (60649) was not included in the tree health assessment due to transportation limitations between the IGHA worksite and proximity to the South Shore community. The tree sample was comprised of 71 species and almost 1,500 trees. Trees in the survey area are of significant size. Nine of the ten most sampled tree species had Diameters at Breast Height (DBH) over ten inches. The greater DBH of trees is advantageous to these communities because larger trees may offer greater benefits for people and nature (Imani Green Health Advocates, Urban Tree Health Report, 2019).

Exhibit 53.2: Number of Trees Sampled by Zip Code

Zip Code	Neighborhood	# Trees	Tree Stress	Diameter
60617	South Chicago	83	7.1	20.0
60619	Grand Crossing	196	7.1	18.5
60620	Auburn Gresham	106	7.0	16.7
60628	Roseland	965	5.1	18.4
60643	Morgan Park	112	6.7	18.1

Note: Average tree stress (1=healthy, 10=stressed)
Source: Imani Green Health Advocates, Urban Tree Health Report, 2019

Exhibit 53.3 shows the top ten species of trees sampled. The top ten species sampled made up 76 percent of the trees assessed. Ash species were the 4th most common species and made up seven percent of trees sampled. Ash trees are likely to be affected by emerald ash borer (EAB) (*Agrilus planipennis*), a non-native invasive bark-boring beetle that kills ash trees. As research suggests, the canopy loss could lead to an increase in human mortality, especially in those areas where there are additional risk factors associated with chronic diseases and conditions. On average, tree stress was greater than five (based on a scale of one [healthy] to ten [stressed]) for all species, indicating that within the PSA tree health could be improved (Imani Green Health Advocates, Urban Tree Health Report, 2019).

Exhibit 53.3: Top Ten Tree Species in Target Area

Species	# trees	Tree Stress	Diameter
Norway maple	332	5.7	18.5
Silver maple	242	5.7	26.0
Honey locust	158	7.6	18.4
Ash spp.	104	6.3	15.7
Freeman maple	89	5.6	20.0
American basswood	50	5.9	14.1
Linden	37	5.5	13.3
Swamp White Oak	35	5.3	9.0
Sugar maple	33	6.1	19.9
Red Maple	26	7.4	12.5

Source: Imani Green Health Advocates, Urban Tree Health Report, 2019

Overall, the trees in the five surveyed zip codes (five of six in Advocate Trinity's PSA) had a stress index greater than five, suggesting the population of trees in these neighborhoods is relatively stressed. Given that these trees are large-diameter, efforts should be made to improve tree health in these areas and begin succession planning in areas with high concentration of ash trees to avoid canopy loss due to ash mortality from EAB (Imani Green Health Advocates, Urban Tree Health Report, 2019).

Honey locust (*Gleditsia triacanthos*) and red maple (*Acer rubrum*) trees had the highest stress scores, on average (stress index 7.6 and 7.4, respectively). This information should also influence reforestation (planting trees in locations that were once forested) and afforestation (planting trees where they did not previously exist) efforts to ensure newly-planted tree species have optimum chance for establishment and long-term health (Imani Green Health Advocates, Urban Tree Health Report, 2019).

Social Environment

Violent Crime Rate

A violent crime is a crime in which the offender uses or threatens to use violent force upon the victim. Violent crimes include homicide, forcible rape, robbery and aggravated assault. Violence negatively impacts communities by reducing productivity, decreasing property value and disrupting social services (Conduent Healthy Communities Institute, 2019). The violent crime rate indicates the rate of crime incidents relating to violence, including homicide, criminal sexual assault, robbery, aggravated assault and aggravated battery. In 2014-2016, the violent crime rate for the communities in Advocate Trinity's PSA was: Greater Grand Crossing (10,680 violent crime incidents per 100,000 population), South Shore (8,704 violent crime incidents per 100,000 population), South Chicago (8,533 violent crime incidents per 100,000 population), Auburn Gresham (8,165 violent crime incidents per 100,000 population), Roseland (7,916 violent crime incidents per 100,000 population) and Morgan Park (4,214 violent crime incidents per 100,000 population). Comparatively, the violent crime rate in the city of Chicago was 4,491 violent crime incidents per 100,000 population in 2014-2016. The violent crime rate

is significantly greater than the city of Chicago violent crime rate in all of the communities served by Advocate Trinity (Chicago Data Portal, U.S. Census Bureau, 2010 Census).

Homicide by District

Homicide is an indicator that represents neighborhood and community safety. Neighborhoods that are shaded yellow in the following exhibit had between 49-70 homicides in 2017. Several neighborhoods that fall into yellow or blue districts are part of the Advocate Trinity PSA. Exhibit 54 shows homicide by district and reflects the criminal homicides by district.

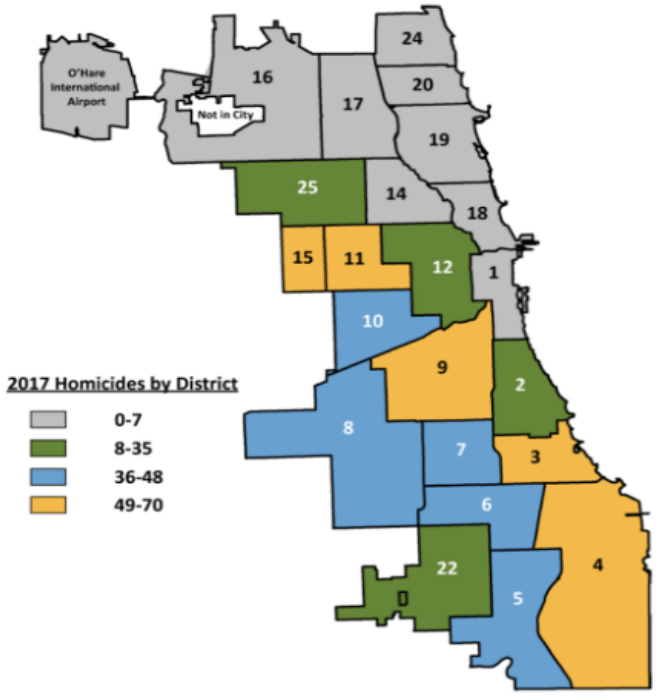
District 3: South Shore (60649)
District 4: South Shore (60649), South Chicago (60617), Hegewisch (60633)
District 9: New City (60609)
District 5: Roseland (60628), Morgan Park (60643) Riverdale (60827)
District 6: Roseland (60628), Grand Crossing (60619)
District 7: Englewood (60621)
District 8: Clearing (60638), Ashburn (60652), Chicago Lawn (60629).

Exhibit 54: Advocate Trinity PSA Homicides by District 2017

Criminal Homicide (Murder)—Supplemental Information

Criminal Homicide by District

District	2016	2017	% Change
1	9	4	-55.56%
2	26	28	7.69%
3	39	51	30.77%
4	40	49	22.50%
5	44	46	4.55%
6	59	47	-20.34%
7	86	48	-44.19%
8	58	43	-25.86%
9	64	51	-20.31%
10	49	44	-10.20%
11	94	70	-25.53%
12	27	26	-3.70%
14	10	6	-40.00%
15	59	54	-8.47%
16	4	4	0.00%
17	11	4	-63.64%
18	5	6	20.00%
19	8	5	-37.50%
20	3	2	-33.33%
22	26	24	-7.69%
24	12	7	-41.67%
25	36	34	-5.56%
Total	769	653	-15.08%



Source: Chicago Police Department Annual Report, 2019; https://home.chicagopolice.org/uploads/2018/10/2017-Annual-report.pdf

Key Findings: Environment and Social Environment

- At least 40 percent of housing units in the Advocate Trinity PSA are occupied by homeowners which is unfavorably lower than both Illinois and U.S. values.
- The percentage of workers in the hospital's PSA that commute by public transportation is 27.4 percent. This value is favorably higher than the State of Illinois value of 9.4 percent, and higher than the U.S. value of 5.1 percent of workers that commute by public transportation.
- The average commute to work in the hospital PSA is 40 minutes.
- In the hospital PSA, 27.6 percent of households do not have a vehicle.
- The violent crime rate in all the communities served by Advocate Trinity is significantly greater than the city of Chicago violent crime rate. Over 80 percent of communities within the Advocate Trinity PSA have a violent crime rate that is double the city of Chicago rate.

V. Prioritization of Health-Related Issues

Priority Setting Process

Advocate Trinity's community health team reviewed additional data from primary and secondary sources. The data highlighted the most prevalent health issues within the hospital's PSA. After a thorough review of hospital data, data from The Alliance and the Conduent Healthy Communities Institute's platform, the overarching health issues were summarized and presented to the hospital's Community Health Council for prioritization on July 17, 2019. Data presented to the council targeted the following health conditions identified as significant within Advocate Trinity's PSA:

- Heart disease
- Cancer
- Diabetes
- Mental health
- Substance abuse
- Asthma

The following criteria were also considered in making selections:

- Hospital and community resources available to address the health issue
- Hospital's capacity to address the health issue
- Importance of the health problem to the community

After discussion and review of significant data findings, the CHC members were instructed to rank the six health conditions by voting on those that they perceived to be the most important to addressing health needs for the communities within the hospital's PSA. A consensus model of prioritizations was utilized. Members were each provided five sticky dots and instructed to vote by placing the dots onto flip charts representing the greatest health need in the community. During the prioritization session, CHC members were asked to place their votes in any distribution, weighting any health condition with

one, more than one or all votes based on the selection criteria mention earlier. At the end of the voting session the numbers were tallied and the health issues with the highest number of votes were chosen as the priority areas to focus on during the 2020-2022 CHNA community health improvement implementation cycle. The council members selected two chronic diseases as priority areas to focus on for the coming 2020-2022 implementation plan cycle—mental health and diabetes. In addition, food insecurity was selected as the SDOH the hospital will address for the next three years in efforts to align with The Alliance and the Advocate Aurora health equity foci.

Health Needs Selected as Priorities

As mentioned above, the CHC members selected mental health and diabetes as the top priorities. In addition, food insecurity was identified as the SDOH which aligns with The Alliance's social determinant priorities for a more collective impact. Therefore, as a result of the 2017-2019 CHNA process, Advocate Trinity selected three priorities for implementation planning:

- Mental Health
- Diabetes
- Food Insecurity (social, economic and structural determinants of health)

Mental Health

It was recognized by the council that mental health is a growing health issue in the hospital's PSA. The CHC selected mental health as the most pertinent health need priority due to the increase in ED and hospitalization rates, and the growing need for community services and resources. This is a health need that is also related to substance abuse as many substance users/abusers also experience mental health issues and many individuals with mental health disorders experience substance abuse issues. The high rates of ED visits and hospitalization due to mental health issues are preventable through employing coping mechanisms and resilience training. The hospital will investigate programs that prevent mental health emergencies and decrease ED visits and hospitalization due to mental health issues.

Diabetes

The CHC and community health department voted for diabetes as a chronic condition that needs to continue to be prioritized as a result of secondary data outcomes within the PSA. Uncontrolled diabetes continues to be a factor in the hospital's PSA as well as in Cook County. Advocate Trinity has implemented the evidence-based CDC National Diabetes Prevention Program, Prevent T2, in the community and in partnership with community-based organizations and faith communities. Since 2017, the program has proven successful for participants who have completed the year-long series of classes. To establish the hospital as a designated diabetes prevention program, the hospital will continue to implement this strategy, and data will be collected and submitted in accordance with the program guidelines. Diabetes affects people of different backgrounds, ages and ethnicities. Continuing this program empowers individuals to take control of their health.

Food Insecurity

Advocate Trinity will address food insecurity (FI) for the 2020-2022 CHNA community health improvement implementation cycle in a commitment to addressing social determinants of health and health inequity. FI was also selected to align with efforts and strategies for diabetes prevention. FI is a household level factor of limited or uncertain access to adequate food and contributes to stress and poor nutrition making individuals susceptible to chronic disease. The lack of access to adequate food can worsen health problems and increase financial strain through decreased employability due to chronic disease (The Alliance for Health Equity, Community Health Needs Assessment, 2019). Several community areas in the Advocate Trinity PSA are at risk for FI. The hospital will establish several strategies to enhance initiatives that increase access to healthy food choices within its PSA and patient population.

Health Needs Not Selected as Priorities

Cancer

Advocate Trinity did not select cancer as a health priority because the hospital has multiple programs and services in place to address this health issue. Advocate Trinity's Oncology Center programs are structured to facilitate a multidisciplinary environment that provides minimally invasive procedures and advanced surgical intervention to treat cancer. The Oncology Center includes advanced diagnostics, imaging services, interventional radiology and an infusion center. The hospital has a Cancer Committee to develop, approve and implement the strategic plans, goals and objectives of Advocate Trinity's cancer programs and to provide oversight for ongoing programs and outreach services. The Cancer Committee ensures that community outreach plans reflect the cancer experience at Advocate Trinity and that the defined community needs are addressed. Advocate Trinity's oncology nurse navigator, in collaboration with the community health department, work to implement outreach services in the community. Outreach activities include community education for breast cancer prevention, prostate cancer prevention and additional community health education, including healthy lifestyle education for cancer prevention.

Substance Abuse

A second health need identified but not selected is substance abuse. Advocate Trinity is a community hospital that does not have a psychiatric unit and does not provide ongoing treatment for substance abuse. However, in order to meet the immediate needs of its ED patients and inpatients, and provide for continuity of care, the hospital provides treatment options through Advocate Behavioral Health Services and the Family Care Network located at Advocate Christ. Advocate Behavioral Health Services and Family Care Network provide adult inpatient psychiatric program, older adult inpatient program to help older adults regain psychological stability, adolescent partial hospitalizations and substance abuse-partial hospitalization for short-term intensive treatment of chemical dependence. Upon treatment and prior to discharge, patients are connected to the behavioral health programs and provided resources to organizations that assist the patient based on the patient's unique needs (i.e., substance abuse facility or detox center).

Heart Disease

One of the health issues identified but not selected as a prioritized health need was heart disease. Advocate Trinity is addressing the heart disease needs of the community through the Advocate Heart Institute. The Advocate Heart Institute's services are comprehensive and range from cardiovascular diagnostics and detection to treatment and surgery, using the most advanced diagnostic and therapeutic tools available. The institute also offers CPR training, a free heart risk assessment and an affordable heart CT scan. In 2015, Advocate Trinity opened a new cardiac catheterization lab, which offers procedures to diagnose cardiovascular conditions. In addition to the new catheterization lab, the hospital developed a new state-of-the-art cardiac rehabilitation facility offering Phase I and II cardiac rehabilitation exercise and lifestyle education programs to the community. The hospital offers a number of community education programs both at the hospital and throughout the community. These educational programs include lectures, seminars and support group meetings for congestive heart failure, diabetes education, heart risk assessments, and senior breakfast club lectures covering a range of topics pertinent to senior heart health. In addition to these services, Advocate Trinity provides access to health education, and cholesterol, glucose and blood pressure screenings.

Asthma

Asthma was another health issue identified but not selected as a prioritized health need during this CHNA cycle. Advocate Trinity's Asthma program uses a unique, multi-disciplinary team approach to asthma care. The program offers board certified pulmonologists to develop and monitor treatment protocols and standing orders for care, and an asthma nurse educator who oversees the program and provides patient education and serves as a link to the community to ensure the patient's asthma is managed. Other team members include respiratory care practitioners who provide breathing treatments and teach patient education in the hospital and community. In addition, the Asthma Program offers many educational programs to help people better understand their condition and manage their asthma. Educational programs include one-on-one individualized education sessions for people encountering difficulties managing their asthma, and monthly asthma education classes covering self-management, peak flow monitoring and addressing environmental triggers.

VI. Approval of Community Health Needs Assessment

Advocate Trinity's Governing Council fully approved the 2017-2019 Community Health Needs Assessment Report, including identified priorities for future action, on November 26, 2019. The Advocate Health Care Network Board approved Advocate Trinity's 2017-2019 CHNA Report at the system level on December 16, 2019.

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

While the full implementation plan for addressing Advocate Trinity's three priorities will be posted in 2020, this section reviews the goals, potential strategies and potential partners for each of the health needs selected, as well as a plan for disseminating results of the CHNA to the community.

Priority Area: Social Determinant of Health – Food Insecurity

Goal

Increase access to healthy food choices in the Advocate Trinity PSA

Potential Strategies

- Expand Advocate Trinity Hospital's Food Farmacy program to community members in the PSA
- Develop and implement a food insecurity screening tool for Food Farmacy participants
- Develop and implement an evaluation tool for behavior change of Food Farmacy participants
- Implement community garden asset mapping
- Assess social and structural barriers to accessing healthy food options in the hospital's PSA

Community Resources

- Greater Chicago Food Depository, Illinois Public Health Institute and The Alliance
- Advocate Trinity Hospital clinical providers and dieticians
- City of Chicago farmers markets, colleges, universities, faith communities and community-based organizations

Priority Area: Diabetes

Goal

Reduce the incidence of Type 2 Diabetes in the PSA of Trinity Hospital

Potential Strategies

- Expand the National Diabetes Prevention (DPP), Prevent T2 to community-based organizations, federally qualified health centers and faith communities
- Increase awareness of and access to the DPP program by partnering with public affairs and marketing
- Train and employ bilingual Spanish/English lifestyle coaches and facilitate Spanish speaking sessions as a means to increase DPP access to the Hispanic population
- Complete an environmental scan to assess social and structural barriers of community members experience when accessing diabetes prevention services

- Increase partnerships and collaboration with federally qualified health centers, faith communities and community-based organizations in efforts to expand diabetes prevention services to their patients

Community Resources

- Illinois Public Health Institute, Chicago Department of Public Health
- National Diabetes Prevention Program
- Community-based organizations and faith partners

Priority Area: Mental Health

Goal

Increase access and availability of resources to reduce violence in the Trinity PSA

Potential Strategies

- Plan and implement Mental Health First Aid and trauma-informed trainings in the PSA
- Inform and educate the community about becoming trauma-informed through partnering with the South Chicago Neighborhood Network and the Advocate Trauma Recovery Center
- Develop partnerships and collaborate with neighboring hospitals and organizations that provide inpatient and outpatient mental health and substance use/abuse services
- Conduct mental health and substance use/abuse asset mapping in the PSA
- Partner with Advocate's faith community nurse located in South Chicago to screen and refer individuals for anxiety, mental health and social isolation

Community Resources

- Community Health Council members and community and faith-based partners
- Advocate Trauma Recovery Center
- The South Chicago Neighborhood Network.
- Advocate's South Chicago Faith Community Nurse and Community Connector

VIII. Vehicle for Community Feedback

Community Feedback

Advocate Trinity 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 and 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 hospital's Community Health Department.

Sharing Results

Dissemination of results and activities with internal and external stakeholders is an instrumental part of the hospitals community health activities. Results will be shared through several mechanisms, including social media, hospital intranet, during CHC meetings, at local events related to community health priorities and during internal hospital staff meetings. Advocate Trinity will also consider presenting at local conferences and events regarding programmatic outcomes. Some tools that will be used to deliver this information include power point presentations, factsheets, short reports and posters.

IX. Appendix

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

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

Advocate Aurora Business Development Analytics, Sg2, 2019
Advocate Health Care Strategic Planning Department, 2017

The Alliance for Health Equity, 2019 Community Healthy Needs Assessment,
Community Health Needs Assessment for Chicago and Suburban Cook, 2019
https://allhealthequity.org/projects/2019-chna-reports/

Chicago Health Atlas, 2019
https://www.chicagohealthatlas.org/
The following data sources were accessed through the Chicago Health Atlas portal:
Illinois Department of Public Health
Feeding America

Centers for Disease Control and Prevention, Leading Causes of Death, 2019
https://www.cdc.gov/nchs/fastats/leading-causes-of-death.htm

Chicago Department of Public Health, Healthy Chicago 2.0, 2016
https://www.chicago.gov/city/en/depts/cdph/provdrs/healthychicago.html

Chicago Police Department, Annual Report, 2019
https://home.chicagopolice.org/uploads/2018/10/2017-Annual-report.pdf

Conduent Healthy Communities Institute, 2018. Healthy Communities Institute, a Xerox Company, 2019, accessed via a contract with Advocate Health Care. Website unavailable to public. The following data sources were accessed through the HCI portal:

American Community Survey, 2019

Cook County Department of Public Health, 2019

County Health Rankings, 2019

Centers for Medicare and Medicaid Services, 2019

Illinois Hospital Association, 2018

National Cancer Institute, 2018-2019

Illinois Department of Public Health, Infant Mortality Statistics, 2018
http://www.dph.illinois.gov/data-statistics/vital-statistics/infant-mortality-statistics

Imani Green Health Advocates, Urban Tree Health Report, 2019

NAMI Chicago, Roadmap to Wellness, 2019
https://namichicago.org/en/roadmap/

United States Department of Agriculture, Urban Tree Canopy Assessment, 2019
https://www.nrs.fs.fed.us/urban/utc/

WePLAN 2020, Community Health Assessment, 2016
https://www.cookcountypublichealth.org/health-equity/weplan-2020/

Appendix 2: Advocate Trinity CHNA: Urban Tree Health Assessment Report

Advocate Trinity Hospital Community Health Needs Assessment: Urban Tree Health Assessment Report

Report prepared by Dr. Rich Hallett (USDA Forest Service), Dr. Michelle Johnson (USDA Forest Service) and Rachel Holmes (The Nature Conservancy)
Submitted on November 20, 2019

Trees provide numerous benefits for nature and people. They can improve human health directly – for instance, they provide shade and cooling through a process called evapotranspiration, reducing the risk of heat-related illnesses and death.[i] Shade from trees can also help reduce exposure to the sun's harmful rays, thereby reducing one's risk of skin cancer. Trees also help reduce environmental risk factors associated with chronic conditions – for instance, they can absorb particulate matter from the atmosphere, which can help mitigate the risk of acute upper respiratory episodes, especially in areas with high vehicular traffic.[ii] Street trees are also associated with a lower prevalence of childhood asthma.[1][iii] Trees and greenspaces (such as parks) also promote outdoor activity, which is a critical factor in reducing the risk of obesity.[iv]

In addition to physical health and well-being, tree canopy and greenspaces improve mental well-being, reduce blood pressure, and improve prosocial behavior among children and adults.[v] Trees can improve social cohesion, as well. For example, street trees have a calming effect on traffic and recent research suggests that urban tree cover may have an inverse relationship to gun violence.[vivii] Trees also impact economic status – a social determinant of health – by increasing property values and by providing urban forestry-related career opportunities through the tree care industry.[viii]

Trees and greenspaces offer myriad benefits to people, especially people living in cities where access to nature is more limited than those in suburban or rural settings; yet, not all urban dwellers have access to greenspaces, or live in neighborhoods with adequate tree canopy. For instance, there is a positive relationship between socioeconomic status of a neighborhood and tree canopy cover: neighborhoods with higher average income and education tend to have higher tree canopy cover than those neighborhoods predominantly inhabited by people with less income and less education.[ix] Urban forest managers, researchers and policymakers nationwide are working to address these disparities which are deeply rooted in the history of urban development.

City trees and greenspaces, the source of these tremendous benefits, are under threat from catastrophic events such as wildfires and hurricanes, non-native tree-killing insects and diseases, and the systemic deforestation associated with development, to name only a few. In fact, one of the most significant threats to Chicago's urban trees is the emerald ash borer (EAB) (*Agrilus planipennis*). EAB is a non-native invasive bark-boring beetle that kills ash trees in a period of two to five years, depending on the initial health of the tree upon infestation, and the degree of infestation. EAB was first discovered in Illinois in 2006 and has been decimating ash canopy ever since. A recent study evaluated the relationship between canopy loss due to ash mortality and human mortality due to cardiovascular

[1] A street tree is a tree planted between the sidewalk and the curb, an area sometimes referred to as a "curb strip," "tree lawn," or "snow shelf."

conditions and lower-respiratory-tract illness. Researchers found that there was an increase in mortality in counties infested with EAB versus counties not infested – specifically, an additional 6113 deaths due to lower respiratory illness and 15,080 deaths due to cardiovascular-related conditions occurred across the 15 counties surveyed in the study.[x]

In the forest, trees are self-sustaining in optimal environmental conditions yet in the city, trees are subject to poor soils and soil compaction, drought conditions, and intense heat and solar radiation from the reflective surfaces of the built environment. Urban forest managers must monitor and evaluate the health of urban trees, paying close attention to the signs of stress such as leaf discoloration or fine twig dieback. If addressed early enough, many tree conditions can be mitigated and a tree's health restored, leading to maximum environmental and human health-related benefits for nature and people.

Partnership

In order to promote the health of urban trees and address canopy disparities in Chicago's South Side, the Imani Green Health Advocates (IGHA) Program was formed. Now in its second year, IGHA, Imani Works! first offering of career development program, operationalizes the belief that a healthy, whole community is one where both nature and people thrive. In order to achieve this goal, a team of collaborators, collectively referred to as the IGHA Leadership Team—including Trinity United Church of Christ (Trinity), Trinity 95th and Cottage Grove Planned Community Development LLC" (d/b/a Imani Village) (IV), The Nature Conservancy (TNC), Advocate Trinity Hospital (Advocate Trinity), University of Illinois at Chicago (UIC), The Morton Arboretum (Morton), and the USDA Forest Service (USFS)—have established IGHA which is a career development program that provides young adults, especially those with barriers to employment, an opportunity to:

1. Explore careers in the health services and conservation fields
2. Earn a living wage while gaining invaluable, intangible assets, such as professional networks and transferrable skills
3. Create positive change for the health of Chicago's South Side communities, especially Advocate Trinity's PSA neighborhoods, including Washington Heights, Cottage Grove Heights and West Pullman and surrounding environments
4. Grow as individuals through a supportive, affirming and encouraging environment

The seven "Advocates"—IGHA program participants or trainees—worked as a team to conduct a comprehensive evaluation of both the social determinants of health and ecological determinants of health of Advocate Trinity's PSA. The foundation for this evaluation was Advocate Trinity's CHNA, to which the team has contributed an urban tree health assessment of a representative sample of trees across the hospital's PSA communities. This tree health assessment was designed and implemented by TNC, Morton, and USFS. Based upon the findings of tree health, the Advocates prioritized community-based tree-planting in high-need areas within Advocate Trinity's PSA communities.

Figure 1. Two Imani Green Health Advocates are surveying trees outside of the Advocate community health center at Imani Village. The tree farthest to the left is a standing dead ash tree which was infested by the emerald ash borer (EAB).

Methods

A non-stressor specific tree health monitoring protocol, created by Dr. Rich Hallett, a USDA Forest Service research scientist, was used for the tree health evaluations. The protocol involves a series of six ocular observations of an individual tree's crown (branches and leafy part of the tree), which is often where trees first show signs of stress. These observations (metrics), which are documented in terms of percentage present, include: fine twig dieback, leaf defoliation, leaf discoloration, crown light exposure, crown transparency, and crown vigor. Additional information about these metrics can be accessed online here. Because Chicago is threatened by several insects and pathogens that kill trees including the emerald ash borer, the Advocates also conducted a comprehensive evaluation of the signs and symptoms of an insect infestation or disease. These signs/symptoms include the presence of cankers (rotting tissue), exudation (secretions of fluids), epicormic sprouts (sprouts along the base of the tree), and the presence of adult insects, among others. Many of these signs/symptoms require the observer to indicate "presence/absence," but others require the observer to choose from a prepopulated list of specific features or characteristics. For instance, the observer can document the shape and/or size of exit holes, the holes created by a wood-boring beetle when it matures and finally exits the tree.

Little to no prior experience evaluating trees is necessary for this evaluative protocol, although some familiarity with tree identification is essential. To that end, four of the Advocates, specifically hired to complete this tree health evaluation, were trained on tree identification prior to beginning field work. Working in pairs daily for five weeks, the Advocates evaluated a representative sample of approximately 1500 street trees across Advocate Trinity's PSA. All data was entered into a data collection mobile device application ("app") called Healthy Trees, Healthy Cities on a tablet. An online web portal was used to manage the data, once entered into the database. An open-source program called Carto was used to create a geospatial representation of the data, for further analysis.

Additionally, Urban Tree Canopy analysis (UTC) data was also used to calculate percentages of canopy by PSA/zip code. These data were acquired using satellite imagery, and analyzed by the University of Vermont's Spatial Analysis Lab.

Results

Overall canopy cover for Cook County is almost 19%. For the 6 individual zip codes (Advocate Trinity's PSA neighborhoods) within Cook county, canopy cover ranged between 17% and 32% (Table 1). Health assessments were done on a sub-sample of individual trees within 5 of the PSA

neighborhoods.[2] The sample was comprised of 71 species and almost 1,500 trees. The number of trees, average tree stress and diameter for each zip code are listed in Table 2.

Zip Code	Neighborhood	% Canopy
60643	Morgan Park	31.7%
60628	Roseland	18.5%
60649	South Shore	23.5%
60617	South Chicago	16.8%
60620	Auburn Gresham	22.1%
60619	Grand Crossing	22.4%
Cook County		18.7%

Table 1. Canopy cover by zip code and for all of Cook

Zip Code	Neighborhood	# Trees	Tree Stress	Diameter
60617	South Chicago	83	7.1	20.0
60619	Grand Crossing	196	7.1	18.5
60620	Auburn Gresham	106	7.0	16.7
60628	Roseland	965	5.1	18.4
60643	Morgan Park	112	6.7	18.1

Table 2. Number of trees sampled by zip code. Average tree stress (1=healthy, 10=stressed) and diameter (inches) are included.

Species	# trees	Tree Stress	Diameter
Norway maple	332	5.7	18.5
Silver maple	242	5.7	26.0
Honey locust	158	7.6	18.4
Ash spp.	104	6.3	15.7
Freeman maple	89	5.6	20.0
American basswood	50	5.9	14.1
Linden	37	5.5	13.3
Swamp White Oak	35	5.3	9.0
Sugar maple	33	6.1	19.9
Red Maple	26	7.4	12.5

Table 3. The top ten species sampled showing average tree stress (1= healthy, 10= stressed) and average diameter.

The top ten species sampled made up 76% of the trees assessed (Table 3). Ash species were the 4th most common species. Ash trees are likely to be impacted by emerald ash borer. On average tree stress was greater than five (based on a scale of one (healthy) to ten (stressed)) for all species indicating that within these zip codes tree health could be improved.

[2] South Shore (60649) was not included in the tree health assessment due to transportation limitations getting from Imani Village (95th and Cottage Grove), where the Advocates were based, to South Shore.

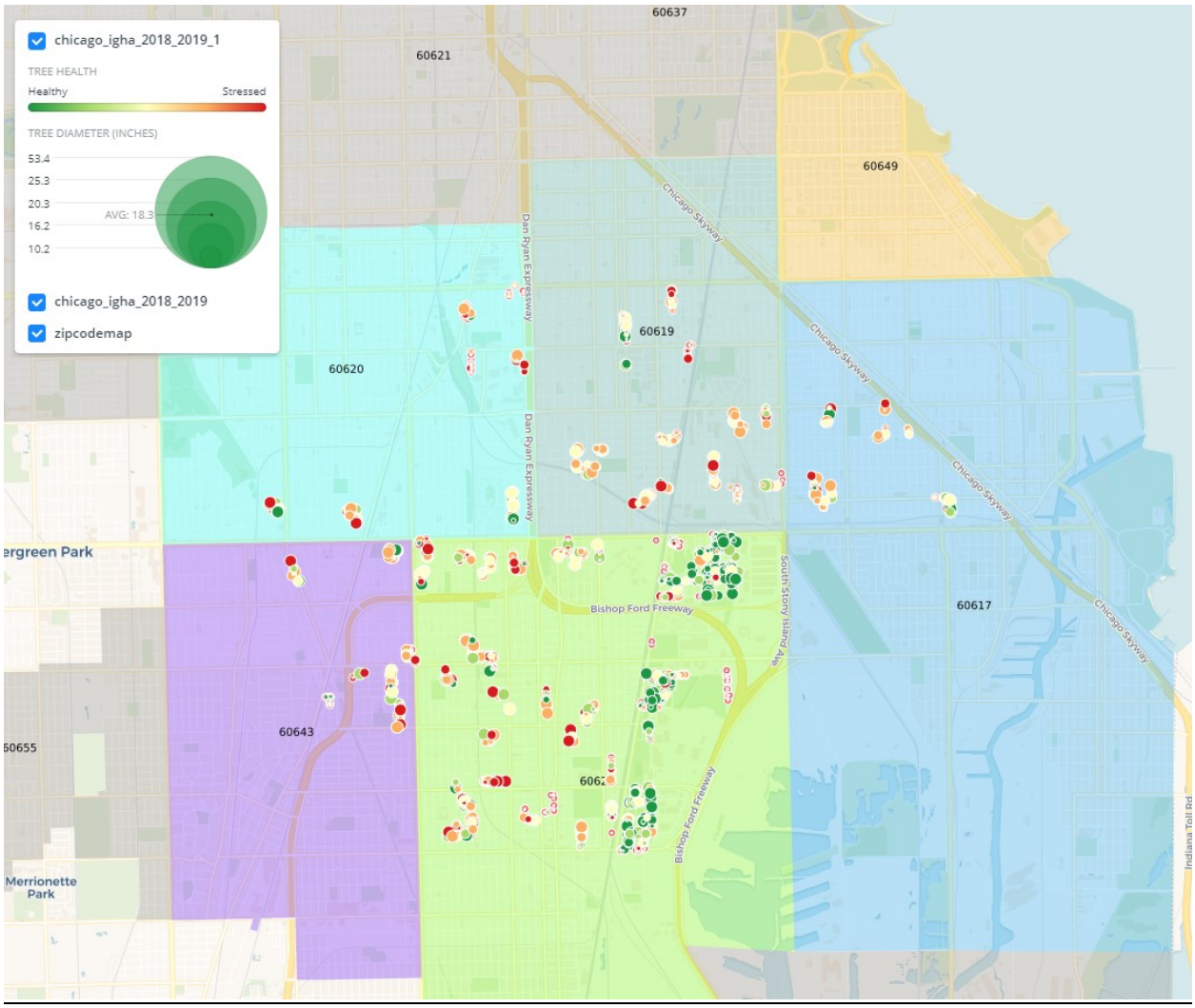


Figure 2. A geospatial representation of the tree health data collected as part of this tree health assessment. The size of the dot indicates the size of the tree, and the color indicates the relative stress index of the tree. An interactive map can be accessed here.

Discussion

There are significant differences in the canopy coverage among the survey areas. The average for Cook County – approximately 19% - while substantial, is only half of the target 40% tree canopy believed to provide optimal human health benefits, according to a team of researchers led by Dr. Kathleen Wolf.[xi] Roseland and South Chicago are below the county average, while the remaining PSA's in this evaluation are above the county average, but lower than the 40% target. This would suggest that in order to prioritize human health benefits, additional tree canopy cover is needed.

Trees in the survey area are of significant size: nine of the ten most sampled tree species had Diameters at Breast Height (DBH) over ten inches. This is advantageous to these communities because larger trees may offer greater benefits for people and nature.

Seven percent of the trees sampled were ash trees (*Fraxinus spp.*), which are likely to succumb to the emerald ash borer (EAB) (*Agrilus planipennis*). As research suggests, this canopy loss could lead to an

increase in human mortality, especially in those areas where there are additional risk factors associated with chronic diseases and conditions.

Overall, the trees in the five surveyed zip codes (five of six Trinity Hospital PSA's) had a stress index greater than five, suggesting the population of trees in these neighborhoods is relatively stressed. Given that these trees are large-diameter, efforts should be made to improve tree health in these areas, and begin succession planning in areas with high concentration of ash trees to avoid canopy loss due to ash mortality from EAB. Efforts to address tree stress include a professional evaluation to identify specific tree conditions and regular stewardship (e.g., mulching, watering, pruning, protection).

Honey locust (*Gleditsia triacanthos*) and red maple (*Acer rubrum*) trees had the highest stress scores, on average (stress index 7.6 and 7.4, respectively). This evaluation did not include diagnoses of specific conditions that lead to stress; therefore, further investigation is required to understand why these two species appeared stressed. This information should also influence reforestation (planting trees in locations that were once forested) and afforestation (planting trees where they did not previously exist) efforts to ensure newly-planted tree species have optimum chance for establishment and long-term health.

Additional Opportunities

This pilot study was intended to highlight the linkage between tree health and human health, provide tree health data that can be used to guide local tree management efforts toward improved human health, and provide jobs for people living in the hospital's PSA's. Additional efforts like this should be undertaken to understand canopy cover and canopy health in each of Advocate Trinity's PSA's.

Future survey efforts include opportunities to link tree health data, environmental variables such as temperature, and human health variables to gain a more holistic understanding of the social and ecological determinants of health through balanced survey design. These data can be represented spatially to understand health and environmental inequities across communities served by Advocate Aurora Health.

With the data gathered from this evaluation, and other environmental indicators, a management plan based on tree canopy cover, tree health and human health can be created. This has never been done before but would help ensure that people living in Advocate Trinity's PSA's have access to the many health benefits provided by trees. Once management recommendations have been established, a green jobs training program could be established to implement the recommendations, ensuring that the canopy reaches its full potential in provision of benefits, and improving the lives of individuals through gainful employment.

---

[i] McDonald, RI., T Kroeger, P Zhang, P Hammel. The Value of US Urban Tree Cover for Reducing Heat-Related Health Impacts and Electricity Consumption. *Ecosystems*. 2019

[ii] Baldauf, RW., L. Jackson, G. Hagler, et al. (2011). The role of vegetation in mitigating air quality impacts from traffic emissions. *Air and Waste Management Associations Magazine for Environmental Managers*, January, p. 30-33

[iii] Lovasi, GS., JW Quinn, KM Neckerman, MS Perzanowski, A Rundle. Children living in areas with more street trees have lower prevalence of asthma. *Journal of Epidemiology and Community Health.* 2008. July 62(7): 647-649.

[iv] Ellaway, A., S Mcintyre, X Bonnefoy. 2005. Graffiti, greenery, and obesity in adults: secondary analysis of European cross sectional survey. *The British Medical Journal*, 331(7517), 611-612.

[v] Based on research cited in the *Green Infrastructure and Health Guide* prepared by Oregon Health and Outdoors Initiative. July 2018.

[vi] Burden, D. (2006). Urban street trees: 22 benefits and specific applications. Glatting Jackson and Walkable Communities, Inc.

[vii] Kondo et al. 2017 The Association between Urban Tree Cover and Gun Assault: a Case-control and Case-crossover study. *American Journal of Epidemiology* 186 (3)

[viii] Wolf, K.L. August 2007. City Trees and Property Values. Arborist News 16, 4: 34-36

[ix] Iverson, L. R. & Cook, E. A. (2000). Urban forest cover of the Chicago region and its relation to household density and income. Urban Ecosystems, 4 (2), 105–124

[x] Donovan, GH., DT Butry, YL Michael, JP Prestemon, AM Liebhold, D Gatziolis, MY Mao. 2013. The Relationship Between Trees and Human Health: Evidence from the Spread of the Emerald Ash Borer. *American Journal of Preventive Medicine*. 44(2): 139-145

[xi] In-person presentation on emerging research, given by Dr. Kathleen Wolf at the Arbor Day Foundation's Partners in Community Forestry Conference, November 21, 2019 in Cleveland, Ohio.