



2019 Community Health Needs Assessment

Northwestern Medicine Lake Forest Hospital



2019 Community Health Needs Assessment Hospital Report

For Northwestern Medicine Lake Forest Hospital

Key Dates

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Table of Contents

I. Executive Summary	4	j. Access to Care	
II. Introduction.....	5	i. Insurance	
a. About Northwestern Memorial HealthCare		ii. Barriers to Access	
b. About Northwestern Medicine Lake Forest Hospital		iii. Dental Care	
c. Acknowledgements		k. Summary of Focus Group Perceptions	
III. The Community Health Needs Assessment.....	7	l. Areas of Opportunity for Community Health Improvement	
a. Background		m. Additional Sources of Input & Key Partnerships	
b. Goals		V. Interpreting and Prioritizing Health Needs	26
c. NM LFH Community Service Area		a. Community Health Council	
d. Methodology		b. Prioritization Process	
i. Primary Data Collection		c. Hanlon Method	
ii. Secondary Data Collection		d. Community Stakeholder Input	
e. Information Gaps		e. Ranking of Needs	
f. Public Dissemination		VI. Priority Health Needs.....	30
g. Public Comment		VII. Development of Implementation Plan.....	31
IV. Key Findings	13	VIII. Existing Healthcare Facilities & Resources	32
a. Community Description		IX. Actions Taken to Address 2016 CHNA Priority Health Needs.....	33
b. Social Determinants of Health		a. Introduction	
c. General Health Status		b. Community Health Implementation Plan Outcomes	
d. Mental Health Status		i. Access to Healthcare Services	
e. Morbidity & Mortality		ii. Heart Disease & Stroke	
i. Cardiovascular Disease		iii. Mental Health Disorders & Substance Abuse	
ii. Cancer		X. Appendix.....	40
iii. Pulmonary Disease		a. Description of vulnerable populations represented	
iv. Diabetes		b. Resources (healthcare facilities and organizations)	
f. Injury & Violence		XI. Citations	45
g. Infectious Disease			
h. Births			
i. Health Behaviors			
i. Diet & Nutrition			
ii. Physical Activity			
iii. Obesity			
iv. Substance Abuse			
v. Tobacco Use			

Executive Summary

Since 2012, Northwestern Medicine Lake Forest Hospital (NM LFH) has formally completed a comprehensive Community Health Needs Assessment (CHNA) every three years, in accordance with federal IRS regulations §1.501(r)-3, to better understand the population it serves as well as the health issues that are of greatest concern within its community. The goal of the CHNA is to assess the health needs of residents within the defined NM LFH Community Service Area (CSA), identify and prioritize those needs, and identify resources potentially available to address priority health needs.

In 2018, NM LFH engaged the Lake County Health Department & Community Health Center to conduct a systematic, data-driven approach CHNA that incorporated data from both quantitative and qualitative sources. Following data collection and analysis at the county level, NM LFH took additional steps to review and interpret findings, including further data analysis of the NM LFH CSA and engagement of community partners. This process identified areas of opportunity for community health improvement. Prevalent health needs were identified across all socioeconomic groups, races and ethnicities, ages (over 18 years old), and genders. The assessment highlighted health disparities and needs that disproportionately impact the medically underserved and uninsured.

While many health needs were identified through the CHNA process, NM LFH, in conjunction with external partners representing the voice of the community, prioritized health needs of largest magnitude, seriousness, and trend, as well as those that would be best addressed through a coordinated response from a range of healthcare and community resources.

Through the CHNA process, the 2019 NM LFH priority health needs were identified as follows:

1. Access to Healthcare Services
 2. Chronic Disease
 3. Behavioral Health
 4. Social Determinants of Health
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In partnership with dedicated healthcare, social service, public health and policy organizations, NM LFH will develop a three year implementation plan, drawing on collective resources to make an impact on some of the most critical health needs of residents in its defined CSA. Information identified during the CHNA process will aid NM LFH in its determination of how to best commit resources to address priority health needs to improve the health of its community.

Introduction

Northwestern Memorial HealthCare (NMHC) is committed to our mission to provide quality medical care, regardless of the patient's ability to pay; to transform medical care through clinical innovation, breakthrough research and academic excellence; and to improve the health of the communities we serve. NMHC is a not-for-profit, integrated academic health system (Health System) committed to serving a broad community. NMHC provides world-class care at ten hospitals, three medical groups and more than 200 diagnostic and ambulatory locations in communities throughout Chicago and the north and west suburbs, one patient at a time.

Working together as Northwestern Medicine® (NM), NMHC and Northwestern University Feinberg School of Medicine (Feinberg) share a vision to transform medical care through clinical innovation, breakthrough research and academic excellence to make a positive difference in people's lives and the health of our communities.

Whether directly providing patient care or supporting those who do, every Northwestern Medicine® employee has an impact on the quality of the patient experience and the level of excellence we collectively achieve. This knowledge, expressed in our shared commitment to a single, patient-focused mission, unites us.

Mission

Northwestern Medicine® is a premier integrated academic health system where the patient comes first.

- We are all caregivers or someone who supports a caregiver
- We are here to improve the health of our community
- We have an essential relationship with Northwestern University's Feinberg School of Medicine
- We integrate education and research to continually improve excellence in clinical practice
- We serve a broad community and bring the best in medicine closer to where patients live and work

About Northwestern Medicine Lake Forest Hospital

From its beginning in 1899 as Alice Home on the campus of Lake Forest College, NM LFH has upheld its promise to provide Lake County residents convenient access to quality care supported by advanced diagnostics and technology. Located about 30 miles north of Chicago, this state-of-the-art, 114-bed hospital continues a long-standing commitment to deliver world-class medicine to the region.

The Health System proudly opened the new Lake Forest Hospital in March 2018 and the redeveloped campus provides access to primary, specialty and emergency care. Care at NM LFH is provided not only through the main hospital campus in suburban Lake Forest, but also at two outpatient facilities in Grayslake and Glenview. Since joining NMHC in 2010, NM LFH has created a seamless pathway to specialty care for its patients throughout the Health System.

With a focus on pre-arrival care, NM LFH is a trusted resource designated hospital in Lake County. NM LFH has a rich history of caring for its community and is dedicated to improving the health and wellness of community it serves by delivering evidenced based patient and community centered initiatives targeted at addressing the identified health needs of the community. NM LFH has more than 700 physicians practice in 68 specialties and in FY18 provided care for more than 8,000 inpatient admissions and had more

than 52,000 emergency visits. Among Lake County hospitals, NM LFH has consistently provided the highest percentage of charity care as a percent of patient revenue.

NM LFH has completed a comprehensive Community Health Needs Assessment (CHNA) to identify the highest-priority health needs of residents in our community and will use this information to guide new and enhance existing efforts to improve the health of our community. As described in detail in this report, the goal of the CHNA was to implement a structured, data-driven approach to determine the health status, behaviors and needs of all residents in the NM LFH service area. Through this assessment, we identified health needs that are prevalent among residents across all socioeconomic groups, races and ethnicities, as well as issues that highlight health disparities or disproportionately impact the medically underserved and uninsured.

Acknowledgments

NM LFH gratefully acknowledges the participation of a dedicated group of organizations that gave generously of their time and expertise to help guide and develop this 2019 CHNA:

Lake County Health Department and Community Health Center

Live Well Lake County

Lake County Community Health Worker Partnership

The Community Health Needs Assessment

Background

A comprehensive CHNA was commissioned on behalf of Northwestern Memorial HealthCare (“Northwestern Medicine”) by the Lake County Health Department and Community Health Center. (LCHD/CHC). LCHD/CHC is a public health accredited, state-certified public health department and a Joint Commission accredited community health center.

The CHNA framework consists of a systematic, data-driven approach to determine the health status, behaviors and needs of residents in the service area of NM LFH. The CHNA provides information to enable hospital leadership and key community stakeholders to identify health issues of greatest concern among all residents and decide how best to commit the hospital’s resources to those areas, thereby achieving the greatest possible impact on the community’s health status.

CHNA Goals

The NM LFH CHNA will serve as a tool toward reaching three related goals:

Improve residents’ health status, increase their life spans, and elevate their overall quality of life. A healthy community is one where its residents suffer little from physical and mental illness and enjoy a high quality of life.

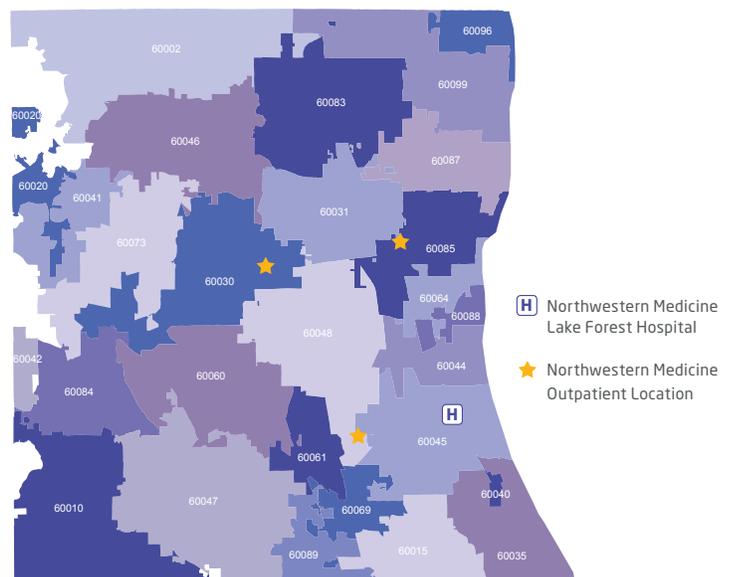
Reduce the health disparities among residents. By gathering demographic information along with health status and behavior data, it will be possible to identify population segments that are most at risk for various diseases and injuries. Intervention plans aimed at targeting these segments may then be developed to combat some of the socioeconomic factors that have historically had a negative impact on residents’ health.

Increase accessibility to preventive services for all community residents. More accessible preventive services will prove beneficial in accomplishing the first goal (improving health status, increasing life spans and elevating the quality of life), as well as lowering the costs associated with caring for late-stage diseases resulting from a lack of preventive care.

NM LFH Community Service Area

NM LFH’s primary service area is comprised of the below 28 ZIP codes, which account for 90.4% of patient volume. NM LFH’s primary service area closely aligns with the Lake County boundaries, so for data collection and assessment purposes, Lake County has been used as a proxy for the NM LFH CHNA Service Area.

ZIP Code	City
60002	Antioch
60010	Barrington
60015	Deerfield
60020	Fox Lake
60030	Grayslake
60031	Gurnee
60035	Highland Park
60037	Fort Sheridan
60040	Highwood
60041	Ingleside
60044	Lake Bluff
60045	Lake Forest
60046	Lake Villa
60047	Lake Zurich
60048	Libertyville
60060	Mundelein
60061	Vernon Hills
60064	North Chicago
60069	Lincolnshire
60073	Round Lake
60083	Wadsworth
60084	Wauconda
60085	Waukegan
60087	Waukegan
60088	Great Lakes
60089	Buffalo Grove
60096	Winthrop Harbor
60099	Zion



Race/Ethnicity, Lake County	
Race/Ethnicity	Percent of Population
White, Non-Hispanic	61.4%
Hispanic or Latino	21.9%
Black or African American, Non-Hispanic	6.6%
Asian, Non-Hispanic	7.7%
Other	2.4%

Age, Lake County	
Age Group	Percent of Population
<18	24.4%
19-64	61.9%
>65	13.7%
Median Age	38.1

Methodology

As previously noted, the CHNA incorporates data from both quantitative and qualitative sources for the NM LFH community service area. Quantitative data input includes primary data collection (e.g. Lake County Health Department & Community Health Center Community Health Survey) and secondary data collection (e.g. vital statistics and other existing health-related data). These quantitative components allow for trending and comparison to benchmark data at the state and national levels. Qualitative data input includes primary data collection (e.g. Focus Group and Pairwise Survey). Once the data has been reviewed by NM LFH community health experts, executive leadership and key community stakeholders identify priority areas of need in which NM LFH is uniquely positioned to address and respond.

The entire CHNA process includes:

a comprehensive identification and prioritization of needs;

the identification of priority needs that NM LFH is most uniquely suited to address;

the development of a comprehensive Community Health Improvement Plan (CHIP) designed to guide NM LFH in addressing and responding to the identified priority needs via a process-driven methodology including goal development, strategies and measurable outcomes; and

a plan to partner with other key community stakeholders to support the remaining needs.

Primary Data Collection

Lake County Health Department & Community Health Center Community Health Survey

Instrument Development

The survey instrument used for the LCHD/CHC Community Health Survey was based largely on the Centers for Disease Control and Prevention (CDC) Behavioral Risk Factor Surveillance System (BRFSS), as well as various other public health surveys and customized questions addressing gaps in indicator data relative to health promotion and disease prevention objectives and other recognized health issues.

Questions included in the survey addressed community priorities and most questions were taken directly from the set used for the 2014 BRFSS survey. New questions were developed to meet data needs not addressed in the BRFSS. Wherever possible, BRFSS questions were adapted to create the new questions. Where no parallel questions were available, questions were written to match the voice and phrasing of BRFSS as much as possible. When creating new questions, special attention was given to CDC's Winnable Battles, Healthy People 2020 initiatives, and the Lake County 2011-2015 Community Health Improvement Plan. LCHD/CHC ensured the validity of responses by thoroughly vetting the new questions. New questions were translated by a native Spanish speaker at the Health Department. LCHD/CHC sought assistance from community partners to review the questions and ensure they are worded at an appropriate reading level to guarantee the survey's accessibility. They were reviewed for clarity by 20 LCHD/CHC staff and by 20 members of the public for a total of 40 question testers, 20 for each language (English and Spanish). Volunteers received printed copies of all new questions, plus 10 from BRFSS to act as controls. Volunteers in each language were broken into two groups of 10. Both groups took the complete survey and rated it based on clarity. The final survey instrument was developed by Northwestern Medicine and LCHD/CHC.

Survey Process

LCHD/CHC and NM LFH partnered to administer the CHNA survey to assess the current health status of Lake County, Illinois. The survey was conducted from April 2018 through June 2018. 5,000 randomly-selected households in these municipalities were contacted by mail in April 2018 and invited to participate in an anonymous online survey, available in English and Spanish. The address set is maintained by Lake County's GIS Department and covers 94% of residential occupied addresses and 68% of rental housing in Lake County. To compensate for underrepresentation of rental units, the proportion of rental properties was weighted stratified in proportion to the proportion of renters as identified by the U.S. Census' American Community Survey 5-Year Average 2012-2016. Randomization was conducted through Microsoft Excel. Once an address was selected, it was removed from the sample and could not be selected a second time, assuring 5,000 unique addresses were selected. 5,000 occupied residential addresses were selected because:

- Higher response rates are more valuable than low response rates to reach a target response number, and
- Responses increase with each round of follow-up.

Letters were mailed out to the randomly selected, occupied residential addresses. Letters were addressed to "(Town Name) Resident." The invitation letter was written in both English and Spanish, the two primary languages in these communities. Survey participation is optional and consent is implied by the respondent's participation, so no additional formal consent document was procured. Responses will be kept anonymous and participation presents no harm to participants.

Upon starting the survey, individuals confirmed their eligibility: respondents must be over 18 years of age and respondents must live in the geographic stratum being surveyed. Demographic data and location data

(ZIP code) were collected from each respondent. Surveys were available for 3 months, from April 2018 through June 2018. The online survey was written by a native English speaker and a native Spanish speaker. All data was captured through the online survey tool. Transition statements helped respondents move between topics. Households receiving the invitations received two follow-up, reminder notifications via postcard. These postcards were sent at the two- and six-week points following the initial invitation of April 2018. Postcards included information in English and Spanish on accessing the surveys. For analysis, responses were weighted for respondents' demographic characteristics. Weighting values were determined based the American Community Survey's 2012-2016 5-Year Averages for the individual communities.

Lake County Health Department & Community Health Center Community Focus Group

A focus group was conducted at Waukegan Public Library through coordination from the Lake County Community Health Worker Partnership (LCCHWP), Lake County Health Department and Community Health Center, and NM LFH. The participants were all Community Health Workers from either the Waukegan Public Library or from Mano a Mano Family Resource Center. Community Health Workers were recruited due to their unique position as utilizers of healthcare services and as a representative of LCCHWP. Fourteen community health workers were recruited through invitation and provided diverse geographic representation across the underserved communities of Lake County, with six representing from Waukegan (60085 and 60087), four representing Highwood (60040), two representing North Chicago (60064) and two representing the Round Lake area (60073). The focus group was conducted in Spanish; however, participants could speak in English or Spanish depending on their preference. The facilitator posed all questions provided by NM LFH.

The objectives of the focus group were:

1. To learn about the community health strengths, weaknesses and potential improvement opportunities in their community;
2. To learn about barriers to accessing health care; and
3. To learn about potential improvements to the Lake County Community Health Worker Partnership.

To elucidate responses, there were three guiding questions for the focus group:

1. What is a healthy community?
 2. What barriers exist in your community?
 3. How can the health of your community be improved?
-

The focus group recording was both translated to English and transcribed by LCHD/CHC. A thematic analysis was then performed. Units or phrases were collected from the transcript. These units were then grouped into categories. Finally, themes were developed from patterns seen throughout the categorized units. The themes were based on a commonality of opinions articulated by multiple participants and will be discussed in the results section of this CHNA.

Live Well Lake County Steering Committee

For the past several years, the Live Well Lake County Steering Committee (LWLCSC) has been overseeing the implementation of a community health implementation plan. The LWLCSC is comprised of nearly 20 community organizations, including government and key community organizations working together to identify ways a local community can address its human needs using its own

resources and resourcefulness. This collaboration is led by a steering committee of select community leaders. The steering committee serves as an organizer and catalyst, bringing together responsible organizations and advocating for development of real solutions. Their work revolves around the mission of achieving the highest level of health and wellness for all in Lake County and is carried out through several action teams: Go Lake County Network, Behavioral Health, Diabetes Prevention and Management, Eat Well, Health Literacy, and Tobacco Prevention and Cessation.

Secondary Data Collection

A variety of existing (secondary) data sources were consulted to complement the research quality of the CHNA. Data for the NM LFH service area were obtained from the following sources, with specific citations included throughout the report:

- Centers for Disease Control and Prevention
 - Illinois Department of Public Health
 - National Cancer Institute, State Cancer Profiles
 - U.S. Census Bureau
 - U.S. Department of Health and Human Services
 - U.S. Department of Justice, Federal Bureau of Investigation
 - U.S. Department of Labor, Bureau of Labor Statistics
 - Illinois Youth Survey
-

Benchmark Data

Trending data was utilized throughout the report when available. State and national risk factor data were utilized as an additional benchmark against which to compare local survey findings. Source data included BRFSS and Trend Data published by the CDC. State and national level vital statistics were also provided for comparison of secondary data indicators. Healthy

People 2020 – a nationally recognized and evidence-based program – was also utilized as a significant source of benchmark data.

Information gaps

While this NM LFH CHNA is quite comprehensive, it cannot measure all possible aspects of health in the community, nor can it adequately represent all possible populations of interest. It must be recognized that these information gaps might in some ways limit the ability to assess all of the community's health needs.

For example, certain population groups – such as those who are homeless, institutionalized, or only speak a language other than English or Spanish – may not be fully represented in the survey data. Other population groups—for example, pregnant women, lesbian/gay/bisexual/transgender residents, undocumented residents, and members of certain racial/ethnic or immigrant groups—might not be identifiable or might not be fully represented in numbers sufficient for independent analysis.

In terms of content, this assessment was designed to provide a comprehensive and broad picture of the health of the overall community. However, it is recognized that there are a number of medical conditions that were not specifically addressed.

Public Dissemination

The NM LFH CHNA Report is available to the public and can be accessed through the following channels:

- NM LFH Website: <https://www.nm.org/about-us/community-initiatives/community-health-needs-assessment>
- Hardcopy: A free, paper copy of the NM LFH CHNA Report is available at NM LFH upon request and without charge by calling 312.926.2301, emailing communityhealth@nm.org, or by visiting the main customer service desk in the first floor lobby at 1000 Westmoreland Road, Lake Forest, Illinois 60045.

Public Comment

NM LFH made its prior CHNA report publicly available in August 2016 through its website; through that mechanism, the hospital requested from the public written comments and feedback regarding the CHNA and implementation strategy. At the time of this writing, Northwestern Lake Forest Hospital had not received any written comments. However, through population surveys and key informant feedback, input from the broader community was considered and taken into account for this assessment when identifying and prioritizing the significant health needs of the community.

NM LFH will continue to use its website as a tool to solicit public comments and ensure that these comments are considered in the development of future CHNAs. Please submit comments to NMHCCommunityHealthNeedsAssessment@nm.org and include your name, organization (if applicable), and any feedback you have regarding the NMH CHNA report process or findings.

Key Findings and Opportunities: Quantitative Data

Community Description

The communities of Lake County have experienced significant growth from 2000 to 2010, with the overall population increasing from 644,537ⁱ to 704,596.ⁱⁱ The more recent data have been more stable, with the most recent population estimate totaling 703,520 residents in 2017.ⁱⁱⁱ Population changes across the full timespan tell a dynamic story of the changing face of those who live, work, and play in the community.

Demographics

Since 2000, Lake County has also grown older. The median age of residents in 2000 was 33.9 years and 29.3 percent of residents were under 18 years of age.^{xi} By 2017, the median age had increased to 38.1 and only 24.4 percent of residents were under 18, a decrease of over 17,000 residents in this age group.^{xii} Over 41,000 more seniors are Lake County residents than in 2000, growing from 8.5 percent of the population in 2000 to 13.7 percent in 2017.

Race and ethnicity

As Lake County grew, the population became more diverse. The total number of non-Hispanic whites has decreased from 472,968^{iv} to 431,852^v from 73.1 percent of Lake County's residents to 61.4 percent. In 2017, 46,327 Non-Hispanic black residents represent 6.6 percent of the population, up in count from 44,721 in 2000 but overall a smaller percentage of the population. 53,834 Non-Hispanic Asian residents comprise 7.7 percent of the population, more than doubling the 25,105 residents in 2000. 153,833 Lake County residents are Hispanic or Latino, the largest minority in Lake County. This group is 21.9 percent of Lake County's population, growing by 61,117 individuals since 2000.

In 2000, 14.8 percent of residents (a total of 95,536) were born outside of the U.S.^{vi} In 2017, the total had increased to 129,551 (18.4 percent); of this group, about half (49.3 percent) are naturalized citizens.^{vii} 28.2 percent of residents speak a language other than English at home; 16.9 percent primarily speak Spanish at home, followed by 6.5 percent of other Indo-European languages and 4.2 percent of Asian or Pacific Island languages.^{viii, ix} 9.8 percent of residents speak English less than "very well." 4.7 percent of households were "limited English speaking."^x

Social Determinants of Health

Health starts in our homes, schools, workplaces, neighborhoods and communities. We know that taking care of ourselves (including eating well, staying active, not smoking and making regular visits to the doctor) influences our health. Our health is also determined in part by access to social and economic opportunities, community resources, quality education, workplace safety, environmental factors and our relationships. The conditions in which we live explain, in part, why some Americans are healthier than others.

Income and Poverty

Lake County is economically diverse, with some communities economically thriving while others struggle. With a median household income of \$85,895, Lake County has the fourth highest in the state.^{xvi} The overall metric, however, hides the differences between communities. For example, in the most recent available ZIP code five-year estimates, one community (Lake Forest, 60045) had a median household income of over double this value, at \$167,073.^{xvii} Two communities (North Chicago, 60064 and Waukegan, 60085), including the largest in Lake County (Waukegan, 60085), had less than half of the county median (\$34,777 and \$41,995 respectively).^{xviii}

In 2000, 5.7 percent of Lake County residents reported being in poverty in the previous 12 months.^{xi} Although the census-measured poverty rate peaked in 2011 at 11.4 percent, the poverty rate remains elevated.^{xx} In 2017, 7.4 percent of residents and 9.5 percent of children were below the federal poverty line.^{xxi}

As with median household income, different communities in Lake County are affected by different rates of poverty. In North Chicago (60064), the most recent available data describe an overall rate of poverty at 28.1 percent, with 39.2 percent of children living below the poverty line.^{xxii} Black or African American residents are the most likely to struggle with poverty (20.3 percent). Residents of Hispanic or Latino origin are also more likely to live in poverty (11.3 percent) than the general Lake County population.

Education and employment

Overall, Lake County adults have high levels of educational attainment. Rates of educational attainment have increased since 2000.^{xiii} At 44.9 percent, Lake County ranks third in Illinois for the percentage of adults 25 years or older with a bachelor's degree, up from 38.6 percent of adults. 90.6 percent of adults 25 years or older have completed high school, ranking 13th highest in Illinois and an increase over the 86.6 percent of adults with these credentials in 2000.^{xiv} Disparities exist between Lake County communities, with rates of adults who have attained high school or higher as low as 68.5 percent and bachelor's attainment at 10.6 percent in North Chicago (60064).^{xv}

Housing

Housing costs are a significant burden for many households in Lake County. 24.6 percent of those who own their homes and 43.8 percent of those who rent are spending greater than 30 percent of their income on housing costs over the past 12 months. Overall, 29.7 percent of households spend more than 30 percent of income on housing.^{xxiii}

General Health Status

Expanding on the concept of general health status, a person's physical health status can influence their optimal health and well-being. Measuring an individual's physical health within the past month by evaluating the self-reported number of days a person would consider their health "good" or "not good," and examining how a person's physical health influenced their usual activities provides further information about how physical health status impacts their overall functioning and health.

A total of 97 percent of the NM LFH service area adults believe the community is a healthy place to live, work and play.^{xxiv}

75 percent report that their personal health is "very good" or "excellent."^{xxiv}

On average, adults described having "not good" physical health for 3.3 days in the past month, lower than the 3.8 days calculated for the state of Illinois in 2014.^{xxv}

Physical health kept residents from their usual activities for 1.6 days.^{xxiv}

Physical pain kept adults from their normal activities 2.3 days in the past month.^{xxiv}

Mental Health Status

Just as physical health contributes to someone's overall well-being, so does mental health. Mental health concerns can limit a person's ability to cope with life stressors, engage in relationships, and complete usual activities such as self-care and school or work activities. An individual does not have to have a mental health diagnosed condition to feel that their mental health is "not good" at times.

22 percent of residents reporting having been diagnosed with a mental condition.^{xxiv}

- 17 percent of residents reported being diagnosed with depression, a slight decrease from 2015.^{xxiv, xxviii}
- 12 percent of residents reported being diagnosed with a mental condition other than depression.^{xxiv}

36 percent of residents reported their mental health was not good for one or more days with 9 percent reporting their mental health was not good for a week or more.^{xxiv}

Mental health kept adults from their usual activities for 0.8 days in the past month.^{xxiv}

- In the past month, 16 percent of residents reported mental health kept them from usual activities one or more days.^{xxiv}

At some point in their lives, 7 percent of residents have considered suicide, with nearly 1 percent attempting suicide.^{xxiv}

A shortage of mental health providers, especially in schools, is detrimental to residents of Lake County was identified as a priority by the focus group.^{xxvi}

The stress and fear surrounding deportation and potential familial separation that has a detrimental impact on the mental health of Lake County residents was identified as a priority by the focus group.^{xxvi}

Morbidity and Mortality

Cardiovascular disease

Heart disease is the leading cause of death in the U.S., with stroke following as the third leading cause. Together, heart disease and stroke are among the most widespread and costly health problems facing our nation today, accounting for more than \$500 billion in healthcare expenditures. Healthy People 2020 (HP2020) stresses that the risk of Americans developing and dying from cardiovascular disease would be substantially reduced if changes were made in diet, physical activity and management of high blood pressure, cholesterol and smoking. Fortunately, they are most preventable, especially if intervention is provided across the lifespan of the disease—from early education, prevention and screening to early diagnosis, prompt treatment and comprehensive aftercare. In planning responses to the priority needs of their communities, hospitals can positively impact the health burdens of all chronic diseases by addressing the disease across the continuum of its lifespan.

Together, cardiovascular disease (heart disease and stroke) accounted for 25 percent of all deaths in Lake County in 2017.^{xxvii}

A total of 9 percent of survey respondents acknowledged having been told by their healthcare provider that they either had heart disease or had a stroke.^{xxiv}

A total of 33 percent of adults reported being told at some point that their blood pressure was high, exceeding the HP2020 target of 26.9 percent or lower. This finding represented a slight decrease from 35 percent in the 2015 NM LFH CHNA.^{xxiv, xxviii}

Heart disease was the highest cause of hospitalization in Lake County when not counting newborns and deliveries, with a rate of 800.0/100,000. Cerebrovascular disease (stroke) was the seventh highest cause with a rate of 222.7/100,000. These accounted for 10.4 percent of all hospital discharges.^{xxix}

Cancer

Continued advances in cancer research, detection and treatment have resulted in a decline in both incidence and death rates for all cancers. Yet cancer remains a leading cause of death within the NM LFH service area. Once again, intervention across the lifespan of the disease poses an opportunity for hospitals to focus on prevention through education, and early diagnosis and treatment through access to routine screenings.

Between 2012 and 2016, the annual average crude cancer mortality rate was 156.3 deaths per 100,000 residents in Lake County; the rate was notably higher among non-Hispanic blacks and whites. The rate had increased slightly from 149.2 per 100,000 residents.^{xxvii}

Lung cancer remains the leading cause of cancer deaths in Lake County, followed by female breast cancer, prostate cancer and colorectal cancer.^{xxviii}

The incidence of the most common cancer types was lower in Lake County than in Illinois.^{xxx}

15 percent of Lake County residents reported ever being diagnosed with some form of cancer.^{xxiv}

- 10 percent report being diagnosed with skin cancer.^{xxiv}
- 8 percent report being diagnosed with some other cancer.^{xxiv}

When queried regarding screenings:

Among women age over 40 years, 61.4 percent reported having had a mammogram in the past year.

Among women, 85.8 percent reported ever having had a Pap smear and 72.9 reported having had a Pap smear within the past year.^{xxv}

Among adults over age 50, 72.1 percent reported having a colorectal cancer screening.^{xxv}

Among men over age 40, 51.7 percent have ever had a PSA screening test for prostate cancer.^{xxv}

Pulmonary Disease

Asthma and chronic obstructive pulmonary disease (COPD) were also significant public health burdens.

Chronic lower respiratory diseases comprised 4.8 percent of all deaths in Lake County in 2017.^{xxvii}

A total of 3 percent of adults reported being told they ever had COPD - down slightly from 4 percent in 2015.^{xxiv}

Of all deaths in Lake County, 4.8 percent were attributed to chronic lower respiratory diseases.^{xxviii}

A total of 3 percent of survey respondents reported having COPD. This was lower than the Illinois rate of 6.2 percent.^{xxv}

Currently, 18 percent of adult survey respondents reported they had ever been told they have asthma – up from 12 percent in 2015.^{xxiv}

Diabetes

Diabetes is another disease that continues to increase in both incidence and prevalence in the U.S. Increasing numbers coupled with earlier onset of the disease pose a growing concern about the potential to overwhelm the existing healthcare system.

Between 2012 and 2016, the annual average crude diabetes mortality rate was 19.1 deaths per 100,000 residents in Lake County, well below regional, state and national rates.^{xxvii}

Diabetes is the 11th most common cause of hospitalization in Lake County with a rate of 130.3 discharges per 100,000 residents.^{xxix}

In 2018, 8 percent of respondents reported having been diagnosed with diabetes, and an additional 9 percent reported having “pre-diabetes.” The prevalence of pre-diabetes has decreased from 14 percent in 2015.^{xxiv}

62 percent of respondents reported having had their blood sugar level tested within the past three years.^{xxv}

Injury and Violence

Injuries and violence are widespread in society. HP2020 notes that both unintentional injuries and those caused by acts of violence are among the top 15 killers for Americans of all ages. Poisoning (including accidental drug overdose), falls, motor vehicle accidents and suffocation accounted for the majority of accidental deaths in the hospital's service area in 2015.

Between 2013 and 2017, the fatalities per 100,000 population in Lake County has risen from 4.8 to 6.7 – notably below state and national rates and significantly below the HP2020 target of 12.4 or lower.^{xxvii}

Among survey respondents, 90.2 percent reported “always” wearing a seat belt when driving or riding in a vehicle.^{xxiv}

One of the largest causes of injuries in the elderly is falls. 28.8 percent of seniors had a fall in the past 12 months.^{xxv}

The annual average homicide rate was 0.7 deaths per 100,000 residents in Lake County, notably below state and national rates.^{xxvii}

Violent crimes were reported at a rate of 144.5 crimes per 100,000 residents, well below state and national rates.^{xxi}

Among high school seniors, 23 percent report having ever been bullied.^{xxii}

Infectious Disease

Respiratory illnesses

Acute respiratory infections, including pneumonia and influenza, are the eighth leading cause of death in the U.S., accounting for 56,000 deaths annually.^{xxvii}

Among adults, 38.4 percent reported having received a flu vaccination in the past year.^{xxv}

Among adults, 26.6 percent reported ever having had a pneumonia vaccination.^{xxv}

Human immunodeficiency virus (HIV)

HIV continues to be a major public health crisis with an estimated 1.1 million Americans affected and about 38,000 new cases annually in the U.S.^{xxxiii}

In 2018, the HIV diagnosis rate in Lake County was 130 per 100,000, lower than the state rate of 330 per 100,000.^{xxxiv}

Sexually transmitted diseases

In 2016, the chlamydia incidence rate in Lake County was 432.4 cases per 100,000 residents, and the gonorrhea incidence rate was 68.8 cases per 100,000 residents, both notably lower than state (562.7 per 100,000 for chlamydia and 165.2 per 100,000 for gonorrhea) and national rates (497.3 per 100,000 for chlamydia and 145.8 per 100,000 for gonorrhea).^{xxxv}

Births

The number of births in Lake County between 2010 and 2016 decreased by 9 percent.

A total of 7.4 percent of all births between 2010 and 2016 were low birth weight and 1.2 percent were very low birth weight. 12.9% of African American newborns were low birth weight, the highest rate for any demographic group in Lake County, followed by 8.1% of Asian American newborns.^{xxxvi}

Between 2010 and 2016, 10 percent of all births were preterm.^{xxxvi}

Between 2012 and 2016, 78.5% of newborns had prenatal care starting during the first trimester and African American and Hispanic newborns were much less likely to begin care early (62.0% and 71.2%).^{xxxvi}

In 2016, 4.1 percent of live births in Lake County were to mothers under the age of 20. This is a decrease from 7.4 percent in 2010.^{xxxvi}

8.5% of Lake County mothers giving birth from 2012-2016 experienced diabetes. 5.4% experienced pregnancy-related hypertension and 1.4% of mothers had chronic hypertension.^{xxxvi}

The average infant death rate during that same period decreased 36 percent to 3.5 infant deaths per 1,000 live births, which is lower than regional, state and national rates.^{xxxvi}

Health Behaviors

The most prominent contributors to mortality in the U.S. are tobacco, diet, activity patterns, alcohol, microbial agents, toxic agents, motor vehicles, firearms, sexual behavior and illicit use of drugs. Smoking remains the leading cause of mortality, although many researchers believe that poor diet and physical inactivity may soon overtake tobacco as the leading cause of death. These

findings, coupled with escalating healthcare costs and an aging population, indicate an urgent need to establish a more preventive orientation in today's U.S. healthcare model.

At NM LFH, we believe that this is a shared responsibility between public health systems and the hospitals and medical centers that provide care to populations within their respective service areas. Utilizing a collaborative, evidence-based approach to prevention, screening and chronic disease management will allow for an optimum impact in the reduction/elimination of many of the prominent contributors to mortality in U.S. healthcare system.

Diet and Nutrition

A total of 81 percent of survey respondents reported eating two or more servings of fruits and/or vegetables per day; however, only 17 percent of survey respondents reported eating five or more servings of fruits and/or vegetables per day.^{xxiv}

While most respondents reported little or no difficulty accessing fresh produce, 8 percent of respondents reported that they have not been able to have fruits and vegetables because of cost and 3 percent of survey respondents reported not being able to have fruits and vegetables because I didn't have transportation to a store that sold them.^{xxiv}

Of Lake County adults, nearly 22 percent drink at least one sugar sweetened beverage (e.g. soda) daily.^{xxiv}

Only 51 percent of Lake County high school seniors report eating fruit at least one time per day, and only 47 percent of Lake County high school seniors report eating vegetables at least one time per day.^{xxii}

In 2018, 12 percent of Lake County high school seniors reported going hungry at least sometimes in the past 30 days because there was not enough food in their home.^{xxii}

Physical Activity

A total of 82.1 percent of Lake County adults report getting exercise in the past month.^{xxv}

A total of 67 percent of survey respondents exercise for half an hour three or more days per week with the average days getting 30 minutes or more of exercise at 3.5 days.^{xxiv}

Among Lake County high school seniors, 77 percent are physically active three or more days per week.^{xxxii}

On an average school day, 29 percent of Lake County high school seniors spend four or more hours playing video or computer games or using a computer for something that is not school work.^{xxxii}

Lake County residents need access to year-round, low-cost, safe places to exercise was identified as a priority by the focus group.^{xxvi}

Obesity

Nearly 23 percent of Lake County adults are obese and a further 24 percent of Lake County adults are overweight.^{xxvii}

The average percent of population that is obese varies greatly between ZIP codes within Lake County, with the highest percent in 60064 (North Chicago) at 35.7 percent and the lowest in 60045 (Lake Forest) at 11.7 percent.^{xxvii}

Based on self-reported heights and weights, 9 percent of Lake County high school seniors are obese and 13 percent are overweight.^{xxii}

Diminishing preventable diseases, especially obesity, is vital to Lake County residents was identified as a priority by the focus group.^{xxvi}

Substance Abuse

Of survey respondents, 77 percent of Lake County adults have had a drink of alcohol in the past 30 days, 24 percent have had alcohol on 14 days of the past 30 days and a further 13 percent have had alcohol on 21 of the past 30 days.^{xxiv}

Of survey respondents, 31 percent of Lake County adults have binge drank one or more times in the past 30 days.^{xxiv}

27 percent of Lake County high school seniors have ridden in a car driven by someone (including themselves) who was "high: or had been using alcohol or drugs.^{xxxii}

Of survey respondents, 6 percent of Lake County adults have had marijuana in the past 30 days, while 26 percent of Lake County high school seniors report having had marijuana in the past 30 days.^{xxiv, xxxii}

Of survey respondents, 8 percent of Lake County adults have been prescribed an opioid medication for pain.^{xxiv}

All drug deaths in Lake County are up 39.1 percent between 2013 and 2016, with opioid deaths up 60.0 percent.^{xxvii}

Tobacco Use (Including e-cigarettes and vaping)

A total of 14.4 percent of Lake County adults currently smoke cigarettes.^{xxv}

Additionally, 2.6 percent of Lake County adults use some type of smokeless tobacco.^{xxv}

While only 4 percent of Lake County high school seniors smoke cigarettes, 31 percent have used an e-cigarette in the past 30 days. This is an increase of 15 percent in just two years.^{xxxii}

Access to Care

Access to health services has a profound effect on every aspect of a person's health, yet almost one in four Americans do not have a primary care provider (PCP) or health center where they can receive regular medical services. Increasing access to both routine medical care and medical insurance is vital for improving the health of all Americans. Access to health services affects a person's health and well-being.

Regular and reliable access to health services can:

- Prevent disease and disability
 - Detect and treat illnesses or other health conditions
 - Increase quality of life
 - Reduce the likelihood of premature (early) death
 - Increase life expectancy
-

Insurance

Approximately one in ten Americans (children and adults under age 65) does not have medical insurance. ^{xxxviii} People without medical insurance are more likely to lack a usual source of medical care, such as a PCP, and are more likely to skip routine medical care due to costs, increasing their risk for serious and disabling health conditions. When they do access health services, they are often burdened with large medical bills and out-of-pocket expenses.

5.8 percent of Lake County adults have no insurance coverage. This is down from 10.0 percent in 2015, and is notably lower than state (10.7 percent) and national (13.7 percent) reports. ^{xxxix}

The age group that has the most people without health insurance is 26 to 34 year olds, with nearly 16.6 percent without health insurance coverage. ^{xxxix}

15.8 percent of Latinos in Lake County do not have health insurance, making them the most likely demographic group to be uninsured. ^{xxxix}

Expensive health care and lack of insurance were cited as major impediments for Lake County residents to access health care as identified by the focus group. ^{xxvi}

Barriers to Access

Barriers to access can come in different forms.

7 percent of survey respondents could not receive healthcare in the previous 12 months because of transportation. ^{xxiv}

9 percent of survey respondents could not receive healthcare in the previous 12 months because of cost. ^{xxiv}

33 percent of survey respondents did not know that their insurance covers preventive services. ^{xxiv}

Extension of appointment hours to early morning and later into the evening will increase uptake of health care by Lake County residents was identified as a priority by the focus group. ^{xxvi}

Access to Primary Care

Due to the collaborative efforts of NM LFH, Erie HealthReach Waukegan and multiple health/human service organizations, service area residents have access to significantly more PCPs than throughout the state or nation. Lake County provides 920 PCPs per every person in the county as compared to 1,240 PCPs for every person at the state level.^{xxx}

Among survey respondents, 20 percent of Lake County adults do not have a regular source of care, and 30 percent of Lake County adults did not have a routine checkup in the past year.^{xxiv}

Cultural competence and positive patient-provider relationships are essential to Lake County residents' decision to continually access health care was identified as a priority by the focus group.^{xxvi}

Dental Care

Among survey respondents, 26 percent of Lake County adults did not have a dental visit in the past year.^{xxiv}

Summary of Focus Group Perceptions

As noted throughout this report, focus group participants were asked three guiding questions: 1) What is a healthy community, 2) What barriers to health care exist in your community, and 3) How can the health of your community be improved?

The following top themes were identified:

Reduce preventable diseases^{xxiv}

Increase access to health care^{xxiv}

Reduce the shortage of mental health services^{xxiv}

The threat of deportation in the Latino community is detrimental to health^{xxiv}

Areas of Opportunity for Community Health Improvement

The following areas of opportunity were identified through this CHNA and represent potential areas to consider for intervention.

Topic	Identified Need/Concern
Access to Health Care	<ul style="list-style-type: none"> • Lack of health insurance • Lack of transportation • Cost of care • Routine source of care • Access to healthcare was an important theme from the focus group participants
Accidents and Unintentional Injuries	<ul style="list-style-type: none"> • The rate of senior falls • Seat belt safety
Behavioral Health (Mental Health and Substance Abuse)	<ul style="list-style-type: none"> • “Not good” mental health days • Rates of mental health conditions • Rates of illicit drug usage • Mental health was an important theme from the focus group participants
Cancer	<ul style="list-style-type: none"> • A leading cause of death in Lake County • Skin cancer prevalence • Access to cancer screenings
Cardiovascular Diseases	<ul style="list-style-type: none"> • The leading cause of death in Lake County • Rates of heart disease • Rates of hospital discharges • High blood pressure prevalence (hypertension) • High blood pressure management
Diabetes	<ul style="list-style-type: none"> • Prevalence of pre-diabetes • Prevalence of diabetes
Healthy Pregnancies	<ul style="list-style-type: none"> • Decreasing birth rate • Teenage birth rate • Low birth weight and preterm births
Infectious Diseases	<ul style="list-style-type: none"> • Rising rates of sexually transmitted infections • Low flu shot and pneumonia vaccination compliance

continued >

Topic	Identified Need/Concern
Obesity	<ul style="list-style-type: none">• Overweight and obesity in children and adults• Younger adults less likely to get recommended servings of fruits and/or vegetables daily• Physical activity levels
Pulmonary Disease (Including Tobacco Use)	<ul style="list-style-type: none">• A leading cause of death in Lake County• Rates of asthma• Rates of Chronic Obstructive Pulmonary Disease• Increasing rates of youth tobacco usage (including e-cigarettes and vaping)
Social Determinants of Health	<ul style="list-style-type: none">• Poverty rates• Educational attainment• Unemployment• Household Income• Housing stress and affordability• Cultural competence• Language barriers (non-English speakers)

Additional Sources of Input and Key Partnerships

Lake County Health Department and Community Health Center

Concurrent with the development of the NM LFH CHNA, the Lake County Health Department and Community Health Center is conducting a comprehensive needs assessment of residents in Lake County. NM LFH staff and leadership are actively involved in the development of this assessment and will continue to interface with the health department and other key health/social service organizations to meet the need within the county.

The Illinois Project for Local Assessment of Needs (IPLAN) is a community health assessment and planning process that is conducted every five years by local health jurisdictions in Illinois. Utilizing the Mobilizing for Action through Planning and Partnerships (MAPP) model, IPLAN is grounded in the core functions of public health and addresses public health practice standards. The completion of IPLAN fulfills most of the requirements for Local Health Department certification under Illinois Administrative Code Section 600.400: Certified Local Health Department Code Public Health Practice Standards.

Live Well Lake County

In August 2010, a group of community leaders formed Live Well Lake County, a countywide collaboration between representatives from a variety of community based organizations, government agencies, healthcare systems and academic institutions. As the community health assessment is developed in to a community health improvement plan, priorities and strategies will be aligned with the NM LFH CHNA and the NM LFH implementation plan.

Many strategies will be implemented through Live Well Lake County, represented by the following entities:

Advocate Aurora Health Care

Antioch Area Healthcare Accessibility Alliance

Audubon Society

Catholic Charities

Healthcare Foundation of Northern Lake County

Gorter Family Foundation

The Lake County Community Foundation

Lake County Forest Preserves

Lake County Health Department and Community Health Center

Lake County Housing Authority

Lake County Regional Office of Education

Lake County Regional Office of Education

Lovell Federal Healthcare Center/ NAVSTA Great Lakes

Mano a Mano Family Resource Center

National Recreation Foundation

Nicasa

Northwestern Medicine Lake Forest Hospital

Rosalind Franklin University of Medicine and Science

YouthBuild Lake County

The purpose of Live Well Lake County is to guide the community health assessment process, prioritize community issues, and collaborate with one another and with other partners to take action and improve the overall health and well-being of all who live, learn, work, and play in Lake County. Utilizing the MAPP process, Live Well Lake County completed four countywide assessments between April 2015 and December 2015. The assessments included:

Community health survey

Conducted in fall 2015, this assessment collected data on the health status and behaviors of Lake County residents to identify gaps and priorities to be addressed by programs and partners and inform intervention strategies.

Community perceptions survey

Conducted in fall 2015, this assessment collected community voices to understand the opinions and perceptions of Lake County residents regarding the quality of life and health in their community. This countywide survey received more than 2,300 responses.

Local system assessment

This assessment gathered partners in a day-long event that assessed the strengths and weaknesses of local systems that support the well-being of Lake County residents. It provided valuable feedback regarding system performance and opportunities for improvement.

Forces of change assessment

During the forces of change assessment, community leaders brainstormed trends, factors and events that affected the quality of life and the associated threats and opportunities.

Community health status assessment

The community profile provided a snapshot of the well-being of DuPage County residents by displaying quantitative information on health status, quality of life and risk factors.

Additional information regarding the Live Well Lake County Community Assessment may be accessed at www.livewelllakecounty.org.

Live Well Lake County Priorities

Data from the current assessments described above formed the basis for the top four priorities identified by Lake County:

Cardiovascular Disease and Hypertension

Obesity

Diabetes

Behavioral Health

NM LFH continues to support Live Well Lake County and is building a stronger relationship with the organization to further promote access to care for the underserved.

Interpreting and Prioritizing Health Needs

Community Health Council

Following completion of the CHNA, NM LFH leadership convened the Community Health Council (CHC) to review the findings. This multidisciplinary committee was made up of key internal stakeholders who were selected based on strong collaborative efforts to improve the health of the community, including the medically underserved, minority and low-income populations. The varied backgrounds of the committee members provided diverse insight into prioritizing identified health indicators. Departments represented and rationale is as follows:

NM LFH Department	Rationale
External Affairs	Knowledge of community relationships, data and hospital resources
Analytics	Knowledge of patient data, IS systems and analytics
Case Management	Knowledge of social determinants of health, patient barriers and community resources
Emergency Medicine	Knowledge of patient needs, social determinants of health, and local emergency medical resources
Hospital Operations	Knowledge of hospital and staff operations
Human Resources	Knowledge of diversity and inclusion strategies
Medical Staff	Knowledge of medical staff operations and knowledge
Nursing	Knowledge of patients, barriers and community nursing
Philanthropy	Knowledge of community programming and fundraising opportunities
Process Improvement	Knowledge of process improvement strategies
Quality	Knowledge of hospital quality data and resources
Strategy	Knowledge of business development and strategies

Prioritization Process

A planned and structured process was used to facilitate prioritization of the identified health needs. Tools and data utilized in the process included the CHNA data, IPLAN data, an organizational asset inventory and alignment with guiding principles for response to community need.

Organizational guiding principles included:

Importance of the problem to the community

- Is there a demonstrated community need?
- Will action impact vulnerable populations?
- Does the identified health need impact other community issues?

Availability of tested approaches or existing resources to address the issues

- Can actionable goals be defined to address the health need?
- Does the defined solution have specific and measurable goals that are achievable in a reasonable timeframe?

Opportunity for collective impact

- Can the need be addressed in collaboration with community or campus partners to achieve significant, long-term outcomes?
- Are organizations already addressing the health issue?

Applicability of NM LFH as a change agent (such as acting as a partner, researcher or educator, or in a position to share knowledge or funding)

- Does NM LFH have the research or education expertise/resources that address the identified health need?
- Does NM LFH have clinical services or other expertise/resources that address the identified health need?

Estimated resources, timeframe and size of impacted population

NM LFH developed a timeline and process to engage the CHC and community stakeholders in prioritizing community needs. Based on the Lake County Health Department community health assessment and additional secondary data analysis, eleven top community health needs were identified.

1. Access to Health Care
2. Accidents and Injuries
3. Behavioral Health
4. Cancer
5. Cardiovascular Disease
6. Diabetes
7. Healthy Pregnancies
8. Infectious Disease
9. Obesity
10. Pulmonary Disease
11. Social Determinants of Health

For each top community health need, an infographic was created that detailed the prevalence of the condition/issue, its morbidity, and its mortality, making for easy comparison across needs. These infographics were distributed to the CHC with the following instructions for objective analysis:

- **Magnitude:** How many people in the community are/will be impacted?
- **Seriousness and impact:** How does the identified need impact health and quality of life?
- **Feasibility:** What capacity/assets currently exist to address the need?
- **Consequences of inaction:** What impact would inaction have on the population health of the community?
- **Trend:** How has the need been changing over time?

Modified Hanlon Method

To objectively compare community health needs, NM LFH utilized a modified Hanlon Method to assign scores to each need. The traditional Hanlon method considers four criteria of individual health problems: size of the problem, seriousness of the problem, estimated effectiveness of the solution, and PEARL factors (propriety, economic feasibility, acceptability, resource availability, and legality). For the modified method, there is a focus only on the first two criteria (size and seriousness). To remove as much subjectivity as possible from the “seriousness” criteria, specific values are enumerated. Morbidity, mortality and equity were deemed to be the values that drive seriousness, allowing health equity to be incorporated into all future decisions throughout the process. A score value is assigned to the prevalence of the need, its morbidity, its mortality, health equity factors and its geographic comparability. At the end, an objective score is assigned and needs can be ranked.

Community Stakeholder Input in Prioritization

NM LFH developed a survey tool to formally solicit input from organizations who are representative of the assessed community area, including those who serve medically underserved, low income and minority populations, to begin the process of ranking priority health needs (defined as health needs that could be impacted the most by the work of NMLFH and partner organizations participating on the CHC).

In March, 2019, the tool, a Pairwise Survey, was distributed to the following organizations:

College Bound Opportunities

Erie HealthReach Waukegan

Lake County Board of Health

Lake County Workforce Development

Live Well Lake County Member Organizations:

- Advocate Aurora Health Care
- Antioch Area Healthcare Accessibility Alliance
- Audubon Society
- Catholic Charities
- Gorter Family Foundation
- Lake County Forest Preserves
- Lake County Housing Authority
- Lake County Regional Office of Education
- Mano a Mano Family Resource Center
- National Recreation Foundation
- Nicasa
- Northwestern Medicine Lake Forest Hospital

- Rosalind Franklin University Health Clinics
- Rosalind Franklin University of Medicine and Science
- YouthBuild Lake County

North Chicago School District 187

Round Lake School District 116

Waukegan Public Library

Waukegan School District 60

Waukegan to College

The survey utilized a pairwise comparison technique that is the process of comparing needs in pairs to judge which need is preferred. Because comparing the needs directly to each other may be subjectively difficult, NM LFH used intervention strategies to address the needs as proxies for the survey comparison. The strategies were selected evidence-based interventions identified by The Community Guide to Preventive Services run by the U.S. Department of Health and Human Services. This led to more realistic results of priorities. By April 2019, NM LFH received over 600 responses to the survey representing over 15 different community organizations. The CHC Pairwise Survey results were compared to the Live Well Lake County member organizations' survey results to help prioritize potential needs.

Ranking of Needs

In April 2019, the NM LFH CHC was asked to compile the information collected in the Lake County Health Department community health assessment, the infographics, the pairwise surveys, the modified Hanlon method and group discussions to rank the needs into priorities.

An identified need is not addressed if NM LFH is not best positioned to help due to the following situations:

NM LFH has limited expertise, services or resources in the identified area of need

Public health or other organizations typically address the need

Other organizations have infrastructure and plans already in place to better meet the need

Broader initiatives in the Implementation Plan will address or significantly impact the need

Priority Health Needs

Americans are living longer, but they are sicker. While we are experiencing consistent increases in life expectancy, our longer lives are burdened with increasing chronic illnesses. Sedentary behavior and preventable chronic disease are compromising our community's health.

Hand-in-hand with a decreasing quality of life is an astounding increase in the economic impact of managing these diseases. The Robert Wood Johnson Foundation estimates that by the year 2030, annual medical costs associated with treating preventable obesity-related diseases are estimated to increase to \$66 billion, with a resultant loss in economic productivity of between \$390 and \$580 billion annually.

To that end, NM LFH has identified four priority health needs that will enable us and our community partners to maximize the health benefits generated by our collective resources over the next few years. In selecting these priorities, we considered the degree of community health need, capacity and available resources of other agencies to meet the need, and the suitability of our own expertise and resources to address the need. In particular, we identified health needs that would be addressed through a

coordinated response from a range of healthcare and community resources. We believe these health needs will be impacted through the integrated efforts of our organization and our community partners.

Through this process, the 2019 NM LFH priority health needs were identified as follows:

1. Access to Healthcare Services
 2. Chronic Disease
 3. Behavioral Health
 4. Social Determinants of Health
-

Development of Implementation Plan

NM LFH will create an External Steering Committee to assist in the development of a comprehensive Implementation Plan that addresses each priority health need. NM LFH and its community health partners share a vision of a healthy community and are committed to working together to address significant health needs.

Through its affiliation with Northwestern Medicine, NM LFH and its sister organizations within Northwestern Medicine can support efforts to positively change the health status of our community by taking on any of a number of roles:

A direct clinical service provider, through application of our research and education expertise

An educator, by sharing our knowledge of health literacy, quality improvement or information technology

A supporter, by providing indirect support to organizations that can impact health

A funder, by funding initiatives undertaken by others

The Implementation Plan will specify resources NM LFH and its community partner organizations will direct toward each priority health need. A general listing of the collective assets that could potentially be directed toward impacting priority health issues includes:

Clinical care resources and facilities of NM LFH and its community partner organizations

Established, replicable, community-based clinical and health promotion programs addressing both highly prevalent and targeted chronic health conditions

Research and education expertise among Northwestern University Feinberg School of Medicine physicians

Financial assistance programs at NM LFH

Policies and procedures that broaden and simplify access to healthcare for the uninsured or underinsured

Advocacy resources at NM LFH and its community partner organizations

Planning and oversight resources

Management expertise in quality improvement and information technology

Existing Healthcare Facilities and Resources

NM LFH also recognizes that a large number of healthcare facilities and organizations within Lake County respond to health needs and support health improvement efforts. A list of those that were found through publicly available information sources as of May 2019 is included in Appendix B.

Actions Taken to Address 2016 CHNA Priority Health Needs

Introduction

An aging population, coupled with a rise in the incidence of chronic disease, challenges all U.S. healthcare providers to think outside of the box when it comes to the future of health care. Maintaining awareness of a community's health needs is imperative in an environment as dynamic and diverse as Chicago's northern suburbs, especially when it involves planning and responding to the needs of demographically diverse populations.

The successful implementation of any community benefit strategy requires a comprehensive assessment of need coupled with knowledge of key community stakeholders and existing health collaboratives. No single institution can comprehensively address all of the health needs of a community, nor can it work independently of other key community stakeholders and existing outside initiatives.

A quality CHNA and its ensuing Implementation Plan must consider the strengths and expertise of its organization in addition to its ability to mobilize effective partnerships, which will result in the maximized use of every dollar expended to address unmet community need.

In 2016, NM LFH identified three priority health needs in response to the CHNA. In selecting priorities, NM LFH considered the degree of community need for additional resources, the capacity of other agencies to meet the need, and the suitability of its own expertise and resources to address the health need.

The priority health needs identified for targeted efforts were:

1. Access to healthcare services
 2. Cardiovascular disease including stroke
 3. Mental health and substance abuse
-

NM LFH and key community partners collaborated to address the above priority health needs. This status report summarizes the impact of the strategies outlined in NM LFH's 2016 Community Health Implementation Plan (CHIP) and the Community Health Implementation Plan Report (CHIP-R). For a more comprehensive discussion of the strategies and related outcomes/ impact, please refer to NM LFH's 2016 Community Health Implementation Plan Report.

Community Health Implementation Plan Outcomes

I. Access to healthcare services

Access to comprehensive, quality healthcare services is important for the achievement of health equity and for increasing quality of life. It impacts overall physical, social and mental health status, as well as prevention of disease and disability; detection and treatment of health conditions; preventable death; and life expectancy. Improving healthcare services depends in part on ensuring that people have a usual and ongoing source of care. People with a usual source of care have better health outcomes and fewer disparities and costs. Improving healthcare services also includes increasing access to and use of evidence-based preventive services. Clinical preventive services are services that prevent illness by detecting early warning

signs or symptoms before they develop into a disease (primary prevention) or detect a disease at an earlier and often more treatable stage (secondary prevention). Efforts to increase access to health care include: increasing capacity to provide quality medical care to underserved communities through the construction of a new hospital; providing targeted, community centered vaccination clinics for school-aged youth; and providing transportation assistance to medically underserved patients.

Strategy 1: Continued innovation and process improvement to reduce barriers to accessing care (including specialty care and diagnostic services) for medically underserved populations

Increase capacity to provide quality medical care to underserved communities through the construction of a new hospital

NM LFH is committed to improving the health of Lake County. By emphasizing healthy lifestyles and primary and preventative care at a medical home, we can reduce overall healthcare expenditures and improve the health of our communities. Since the implementation of the Affordable Care Act, the uninsured rate in Lake County has dropped to nearly 8%, with many of the newly insured coming through Illinois's Medicaid expansion. However, despite becoming insured, many barriers to care continue to exist including appointment availability, phantom provider networks, and lack of specialty and sub-specialty care.

Northwestern Medicine proudly opened its new Lake Forest hospital facility in March of 2018. This state-of-the-art facility continues a long-standing commitment to deliver world-class medicine to the region, while using its natural surroundings to create a healing, tranquil environment for our patients, visitors and staff. The hospital features all private inpatient rooms, advanced technology and increased privacy for patients and visitors. It is part of a redeveloped campus that provides access to primary, specialty and emergency care, as well as a seamless pathway

to specialty care from throughout the Northwestern Medicine network. This includes access to leading-edge clinical trials through Northwestern University Feinberg School of Medicine, an integration that also fosters an environment of world-class patient care, academic inquiry and innovative research. Over 700 physicians practice at NM LFH, board-certified in 68 medical specialties included regionally recognized specialties of geriatrics, orthopedics and urology departments.

- In FY18, 43.8% of inpatients and outpatients were on Medicaid, Medicare or self-pay.
- In FY18, 62.5% of emergency department encounters were on Medicaid, Medicare or self-pay.
- In FY18, 40% of emergency department encounters were to people from our service area's most disparate communities.
- In FY18, 50% of births were to minority mothers.

Provide transportation assistance to medically underserved patients.

Transportation barriers are often cited in northern Lake County as a barrier to accessing quality and timely medical care. This barrier may lead to missed appointments, delayed care, or people not seeking care in the first place, and often forces people to wait hours for a bus that may not run routinely in order to get around. Consequences of lack of transportation can manifest in poorer management of chronic disease and poorer health outcomes. This social determinant of health mainly affects the poorer population in northern Lake County who may face additional barriers to care, including access to insurance, language barriers and cost.

Because these patients are often seeking care at a local clinic, NM LFH partnered with a local federally qualified health center (FQHC), Erie HealthReach Waukegan, and Lyft, the rideshare transportation company, to provide transportation vouchers to patients without access to a vehicle. In FY18, 409 Lyft rides were provided

to patients for medical care for any patient needing transportation assistance.

Support local safety net providers

Northern Lake County has a several Health Professional Shortage Areas and Medically Underserved Areas and projections show the disparity in healthcare increasing. To help meet the medical needs of residents, NM LFH leveraged its long standing relationship with Erie Health Clinics to support the opening of the Erie HealthReach clinic in Waukegan and NM LFH continues to provide significant financial support for the operational costs of Erie HealthReach. Through this partnership, Erie HealthReach Waukegan patients are able to seek specialty and sub-specialty care through NM LFH. Similarly, NM LFH patients who qualify for services are referred to Erie HealthReach Waukegan for care.

Continued support was expanded with a partnership between Erie and the Northwestern McGaw Family Medicine Residency Program. Since accepting its first class in June, 2015, the Northwestern McGaw Family Medicine Residency Program at Lake Forest Hospital has quickly established itself as a local and national leader in primary care education. As the only Family Medicine program in Lake County, its graduates are uniquely positioned to meet the comprehensive primary care needs of this diverse area. Residents spend their three years in the program training in three distinct sites in Lake County. At Lake Forest Hospital, residents take a lead role in treating a wide range of complex acute illnesses alongside some of the top specialists in the state. At the Northwestern Grayslake Family Medicine Clinic, residents navigate a multitude of payor systems as the primary care physicians for their patient panels. At Erie HealthReach Waukegan, residents work to help their patients overcome social determinants of health in a nationally recognized Federally Qualified Health Center. The unique curriculum design of program also allows residents to meaningfully engage the Lake County community and pursue their own scholarly activity projects. Through financial support and shared physician resources, Erie HealthReach is now able to

address the healthcare needs of nearly 7,000 individuals annually.

Strategy 2: Increased access to vaccines for school-aged youth

Providing targeted, community centered vaccination clinics for school-aged youth.

Immunizations are one of our greatest defenses against many serious illnesses. In the state of Illinois, all students entering, transferring or advancing into kindergarten through 12th grades are required to show proof of receipt of two doses of mumps and two doses of rubella vaccine. In addition, students entering, transferring or advancing into kindergarten, 6th or 9th grades are required to show proof of receipt of two doses of varicella vaccine. If students cannot or are not vaccinated or do not show proof or exemption, they are excluded from school until they are able to meet the requirements. According to the Illinois State Board of Education's most recent statistics (2015-2016), in the North Chicago School District 187, over 6 percent of the student population was excluded from school due to lack of vaccination compliance.

NM LFH is helping address the need for access to vaccines for school-aged children in North Chicago. Working in collaboration with The Grainger Foundation, North Chicago Community Partners and the North Chicago School District 187, NM LFH provided funding for, and has worked to develop, an efficient way to administer vaccines to elementary-age children to ensure they are prepared to start the new school year. In FY2018, NM LFH began administering Tdap and MCV vaccinations to children in this school district. NM LFH administered over 20 vaccinations, free of charge, in FY18, accounting for nearly 10 percent of the excluded population. Expansion of the program is planned in FY19.

Strategy 3: Collaborate with other Lake County-focused workgroups and agencies to support efforts that increase access to health care

Provide support for the Live Well Lake County Steering Committee

NM LFH provides active support for the Health Literacy Action Team, which has two stated goals: 1) Provide visible, simple health information for residents in their language, and 2) Increase number of people who have a PCP or a medical home. The Lake County Community Health Worker Partnership was launched as a collaborative effort in 2012, with the primary mission to improve health literacy and navigation for medically underserved and at-risk populations in Lake County through building capacity and utilization of Community Health Workers (CHWs). The Partnership implements this mission by training members' CHWs on identified pertinent health and leadership topics, sharing best practices and resources in the field, promoting the networking of Lake County CHW teams, advocating for the role of CHWs in the healthcare system and supporting organizations in the development of CHW programs.

The CHW Partnership aims to build community health literacy by providing training to community health workers in Lake County that focus on topics or trends identified by the community as needed or of importance. The CHW curriculum focuses on community health needs that have been identified by local research as priorities for low-income and immigrant communities in our county. Health Literacy and Training priorities include, but are not limited to: cardiovascular disease, hypertension, diabetes, cancer, sexually-transmitted diseases, insurance benefits, mental health, nutrition, obesity and popular education strategies. The CHW Partnership continues to expand to new organizations and new cities.

II. Heart Disease and Stroke

Heart disease is the leading cause of death in the U.S., with stroke following as the third leading cause. These chronic conditions are among the most widespread and costly health problems facing the nation today. Fortunately, they are also among the most preventable. The risk of Americans developing and dying from cardiovascular disease would be substantially reduced if major improvements were made across the U.S. population in diet, physical activity, and control of high blood pressure and cholesterol. In addition, obesity and cardiovascular disease are significantly influenced by physical and social environments and by public policies that affect the quality and safety of these environments. This includes access to educational opportunities; opportunities for physical activity (including access to safe and walkable communities); access to healthy foods; quality of working conditions and worksite health; availability of community support and resources; and access to affordable, quality health care. NM LFH continues to be a trusted source for heart health education and provides community programs that increase awareness and education and offer screenings for hypertension and related health conditions. Efforts include: continuing to support and expand diagnostic and specialty care services related to stroke; supporting a legislative agenda to address health risk behaviors including tobacco use policies; and the promotion of community physical activity events through Go Lake County expansion.

Strategy 1: Continue to support and expand diagnostic and specialty care services related to stroke

Continuing to support and expand diagnostic and specialty care services related to stroke

Stroke is the leading cause of disability and the fifth leading cause of death in the U.S. according to the American Stroke Association. When a patient is suffering

a stroke, every minute counts. Thanks to advances in technology, patients with stroke symptoms can now be rapidly assessed by a neurologist 24/7, even if the specialist is physically located many miles away. The Northwestern Medicine telestroke program features a two-way video and audio system that allows a board-certified neurologist from the comprehensive stroke centers at Northwestern Memorial Hospital and Northwestern Medicine Central DuPage Hospital to conduct a virtual physical exam and to collaborate with the emergency medicine teams at area hospitals. The Northwestern Medicine telestroke program is offered to several hospitals in Illinois, including NM LFH. The videoconferencing system connects the neurologist and patient through a secure internet connection. Using the camera, the neurologist can perform observational tests, such as gauging how a patient's pupils respond to light sources and monitoring how well the patient can move and speak. Simultaneously, through the electronic medical record, the neurologist has instant access to the patient's medical information, including vital signs, CT scans and lab results. In FY18, our NM LFH conducted 231 telestroke consultations and the Northwestern Medicine Grayslake Outpatient Center conducted 81 telestroke consultations.

Strategy 2: Increased coordination of hospital community education efforts

Supporting a legislative agenda to address health risk behaviors including tobacco use policies

Tobacco kills over 480,000 people each year, more than automobile crashes, gun violence and opiate overdoses combined, and the developing teenage brain is particularly vulnerable to the effects of nicotine. In Lake County, 14 percent of residents are considered smokers. However, according to the most recent Illinois Youth Survey, youth tobacco use has doubled since 2010 with 31 percent of 12th graders having used an e-cigarette in the past 12 months. Medical efforts to address youth tobacco use have not been effective as rates continue to climb. Literature shows that the most effective interventions to curb youth tobacco use have been to

raise the minimum legal sales age of tobacco products from 18 to 21. More than 95% of addicted smokers start before age 21. This intervention has been shown to decrease youth tobacco use in other communities, and so it was adopted as a course of action by the Tobacco Prevention and Cessation Action Team as part of the Live Well Lake County Steering Committee. Through this action team, NM LFH has worked with local home-rule communities within Lake County to pass legislation raising the minimum legal sales age of tobacco products from 18 to 21. In FY18:

Four communities raised the minimum legal sales age of tobacco products from 18 to 21.

The total population covered by new tobacco 21 legislation is almost 150,000 people.

The total population under age 18 covered by new tobacco 21 legislation is almost 37,000 people.

Strategy 3: Collaborate with other Lake County-focused workgroups and agencies to support efforts that impact heart disease and stroke

Promotion of physical activity through Go Lake County expansion

The benefits of physical activity are well known: increased cardiovascular fitness; reduced risk of heart disease and stroke; improved management of conditions such as hypertension, high cholesterol and, diabetes; increased muscle strength; and reduced body fat. Joining a gym is a barrier for many that makes staying active difficult, especially through long winter months. In FY17, through the Be Active: Walking Action Team as part of the Live Well Lake County Steering Committee, NM LFH worked to create the Go Lake County initiative. GO Lake County is a walking initiative that promotes healthy and active living through programming and events within Lake County communities. GO enables everyone in Lake County to increase their level of daily physical activity and foster community engagement. GO events or

programs are open to everyone in Lake County and are intended to be free.

In FY18, NM LFH supported expansion of Go Lake County programming.

In FY18, the number of communities with active Go Lake County park districts and partnerships grew to 12.

Over 5,000 people across those communities were able to attend free walking events, increasing physical activity.

III. Mental health disorders and substance abuse

Mental health is a state of successful performance of mental function, resulting in productive activities, fulfilling relationships with other people, and the ability to adapt to change and cope with challenges. Mental health is essential to personal well-being, family and interpersonal relationships, and the ability to contribute to society. Mental disorders are health conditions that are characterized by alterations in thinking, mood, and/or behavior that are associated with distress and/or impaired functioning. Mental disorders contribute to a host of problems that may include disability, pain or death. The resulting disease burden of mental illness is among the highest of all diseases. The existing model for understanding mental health and mental disorders emphasizes the interaction of social, environmental and genetic factors throughout the lifespan. In behavioral health, researchers identify risk factors (which predispose individuals to mental illness), and protective factors (which protect them from developing mental disorders). Researchers now know that the prevention of mental, emotional and behavioral (MEB) disorders is inherently interdisciplinary and draws on a variety of different strategies. NM LFH efforts to address mental health disorders include: expansion of psychiatric services; evaluating the feasibility of co-locating primary care and mental health services within the

outpatient psychiatry clinic to increase alignment with best practices in mental health care; and drug education and prevention programming with students in our local schools, and with parents in our local community through Text-A-Tip.

Strategy 1: Implement behavioral healthcare services within the primary care setting and secure additional psychiatry resources at NM LFH

Expansion of psychiatric services

Since FY16, NM LFH has seen a significant increase in behavioral health inpatient and emergency department patient volume. NM LFH seeks solutions that can be implemented in parallel to system planning, thereby offering these patients treatment in the appropriate care settings based on their diagnosis. After discharge from the hospital, outpatient care was needed to close the loop on referral visits. In FY17, NM LFH created a new NM Psychiatry Clinic dedicated to providing psychiatric care to residents in Lake County. In FY18, NM LFH expanded the clinic with the addition of more psychiatric staff to provide behavioral health services, increasing capacity in our community. New outpatient and consultation clinic visits have increased with the onboarding of new providers.

- Created an NM psychiatry clinic in Lake County
- Hired one new psychiatrist
- Hired two new psychiatric APNs
- 70% increase in unique patient visits

Evaluate the feasibility of implementing behavioral healthcare services within the primary care setting.

Due to insurance limitations, a nationwide shortage of psychiatrists, and a tendency for patients to see their PCP for mood disorders, psychiatric care may not be pursued as often as it should be. In response, NM LFH began work to evaluate the feasibility of offering behavioral healthcare services within the primary care setting, based on the Collaborative Care Model, to strengthen the linkage between primary care and mental health in an effort to improve access and

reduce obstacles to receiving mental health services. The program brings psychiatric care to patients by embedding behavioral health screenings and services within the primary care setting. If the patient is a fit for the program based on depression screening scores and symptoms, the PCP refers the patient to the behavioral healthcare manager (BHCM) who coordinates treatment with the consulting psychiatrist and communicates the plan to both the PCP and the patient. The team is in constant communication to address the patients' symptoms, medications, and progress. Treatment provided in the program is outcomes-oriented. The goal for the program's patients is to get to remission which is defined as having minimal to no symptoms of depression. Success of the program was defined as an increase in access to depression treatment within the primary care setting, as well as a reduced wait-time to be seen by a behavioral health resource.

The pilot will launch in FY19, and will focus on increased behavioral health care coordination for individuals within the primary care setting. We anticipate that increased access and engagement will enhance the overall health and well-being among this patient population. If the pilot proves successful, NM LFH will seek to roll this clinical intervention out to its various outpatient primary care clinics.

Strategy 2: Advocate for adequate mental health services and reimbursement

Participation in Lake County Mental Health Coalition

In 2016, Lake County Board Chairman Aaron Lawlor and former State Senator Susan Garrett created the Lake County Mental Health Coalition with the intention of improving behavioral health infrastructure across Lake County. NM LFH was invited to participate and became an active member of the Coalition and associate action teams. A pilot initiative was launched that looked at a jail diversion data sharing effort between Lake County Jail, Lake County Sheriff, Lake County Health Department, NICASA, and PADS. This led to the formation of the data sharing action team. These organizations were tasked with sharing mental health data with the intention of determining needs and gaps

across the system. At the time of the creation of the action team, NM LFH was the only participating hospital.

Strategy 3: Collaborate with other Lake County-focused workgroups and agencies to support efforts that impact mental health

Drug education and prevention programming with students in our local schools, and with parents in our local community through Text-A-Tip

NM LFH supports Lake Forest LEAD, a local non-profit organization dedicated to the promotion of healthy family relationships and the prevention of alcohol, drug use and other risky behavior by youth. LEAD has served the Lake Forest, Lake Bluff, and Knollwood, IL communities for nearly 30 years. There are a variety of long-term issues that LEAD is seeking to address, including underage drinking and drug abuse; prevention of prescription, over-the-counter and illegal drug abuse by youth and adults; promotion of mental health and wellness; reducing stigma related to depression and other mental health issues; and the prevention of suicide. A significant and successful strategy in the NMFLH and LEAD partnership has been the 24/7 anonymous text crisis line, Text-A-Tip. LEAD has seen a dramatic increase in the number of people who benefit from its programming, both in our local Lake Forest and Lake Bluff community and across the nation. LEAD has conducted trainings, programs and workshops in nearly 20 states over the past two years, and our Text-A-Tip hotline is now accessible to over seven million people, almost doubling in scope since this time last year, and including the entirety of Lake and McHenry Counties in Illinois. Finally, LEAD's online and social media presence has seen an increase of over 500% in the past three years. Text-A-Tip is now available to over seven million people nationwide. Text-A-Tip has been able to deliver wellness checks and emergency personnel to teens in crisis, and has led to interventions in suicide and self-harm situations, violence situations, and situations of drug overdose. Aside from the actual lives saved to date, the resource allows students a 24/7 place to turn when they are in need of emotional support. It is safe, anonymous, and always available.

Appendix A

Organization	Description of medically underserved, low-income or minority populations represented (from publicly available sources, May 2019)
Lake County Health Department	<p>The mission of the Lake County Health Department is to promote the health and well-being of all who live, work, and play in Lake County. As the largest human service provider in Lake County, the Health Department believes that services must be available without barriers. No residents are turned away due to an inability to pay. They also believe in providing services in an environment of mutual respect, free of discrimination or bias. The department provides active programming in the areas of behavioral health, dental health, disease control, emergency preparedness, environmental health, family health, food safety, obesity and nutrition, health promotion, population health and women's health.</p>
Live Well Lake County	<p>Live Well Lake County is a collaboration of government and key community organizations working together to identify ways a local community can address its human needs using its own resources and resourcefulness. This collaboration is led by a steering committee of select community leaders. The steering committee serves as an organizer and catalyst, bringing together responsible organizations and advocating for development of real solutions. Their work revolves around the mission of achieving the highest level of health and wellness</p> <p>for all in Lake County and is carried out through several action teams: Go Lake County Network, Behavioral Health, Diabetes Prevention and Management, Eat Well, Health Literacy, and Tobacco Prevention and Cessation.</p>
Erie HealthReach Waukegan	<p>HealthReach invited Erie to open in Lake County to increase resident access to affordable health care. Erie shares the HealthReach commitment to providing high quality, compassionate care. Erie is motivated by the belief that health care is a human right, we provide high quality, affordable care to support healthier people, families and communities and has the vision of all people living their healthiest lives. Erie HealthReach delivers high quality care to over 7,000 medical patients in the language of their choice and with respect for their cultural values and beliefs. Nearly all of their providers are bilingual in English and Spanish. Their community-based health centers are portals to high quality care—and a higher quality of life—regardless of a patient's ability to pay.</p>
Northwestern Medical Group (NMG)	<p>The Northwestern Medical Group is one of the largest independent multi-specialty physician groups in Illinois. NMG is led by experienced physicians who continually seek innovations through a model of QEA: Quality, Efficiency and Access. NMG provides quality care in advanced facilities and implements the latest technology. Through secure access of an electronic health record and patient portal (MyChart), physicians and patients stay closely connected.</p>

Organization	Description of medically underserved, low-income or minority populations represented (from publicly available sources, May 2019)
<p>Lake County Community Health Worker Partnership</p>	<p>The Lake County Community Health Worker Partnership was launched as a collaborative effort in 2012 with the primary mission to improve health literacy and navigation for medically underserved and at-risk populations in Lake County through building capacity and utilization of Community Health Workers (CHWs). The Partnership implements this mission by training members' CHWs on identified pertinent health and leadership topics, sharing best practices and resources in the field, promoting the networking of Lake County CHW teams, advocating for the role of CHWs in the healthcare system, and supporting organizations in the development of CHW programs. The CHW Partnership aims to build community health literacy by providing training to community health workers in Lake County that focus on topics or trends identified by the community as needed or of importance. The CHW curriculum focuses on community health needs that have been identified by local research as priorities for low-income and immigrant communities in our county.</p>
<p>Mano a Mano Family Resource Center</p>	<p>Mano a Mano's mission is to empower immigrant families in Lake County, IL to become full participants in American life. Their vision is an integrated community where everyone has access to opportunities and pathways to success. Mano a Mano serves as a nexus of the local immigrant community, offering a one-stop-shop for health resources and services, educational classes and workshops, and immigration legal services for some of the hardest to reach, most vulnerable families and individuals. Serving over 4,500 individuals every year, Mano a Mano is the only immigrant-serving agency in all of Lake County that provides such a comprehensive array of culturally competent supportive services to our growing immigrant communities.</p>

Appendix B

The following are healthcare facilities and organizations in Lake County, Illinois, found through publicly available information sources as of May 2019:

Acute-care hospitals/emergency rooms

Advocate Aurora Condell Medical Center
Advocate Aurora Good Shepherd Hospital
Vista Medical Center East
Vista Ambulatory Care Center
North Shore Highland Park Hospital
Northwestern Medicine Grayslake
Outpatient Center
NM LFH

Emergency medical services (EMS)

Murphy Ambulance
Superior Ambulance
A-TEC Ambulance

Federally qualified health centers and other safety net providers

Captain James A. Lovell Federal Health Care Center
Erie HealthReach Waukegan
Lake County Health Department and Community Health Center

Home health care

Advantage Home Health
Advocate Home Health Services
Amedisys Home Health Care
American Home Care Express Inc.
Assured Healthcare
Care in the Home
Centegra
Coram Healthcare
Dimensions Home Health Care
Focus Home Health Care
Gentle Homecare, Inc.
Greenpath Health Group
Guardian
Healthtrends
Healthquest Home Care, LLC
Heartland Home Care & Hospice
HHI Infusion Services
Home Staff Inc.
Integrated Home Healthcare

Home health care (continued)

Kenosha Visiting Nurse Association

Lexington Merit HHC

Life Care HHC

Medtec Home Health Agency

Meridian Home Health Care Services, Inc.

My Life Home Health Care

North Shore University Home Health

Nursefinders

Phoenix Home Care

Prescence Health HHS

Shay Health Care Services, Inc.

VMI Home Care

Visiting Nurse Association of Fox Valley

Hospice care

JourneyCare

Kindred Hospice

Meridian Palliative & Hospice Care

Vista Home Health & Star Hospice

Vitas Hospice

Seasons Hospice

Mental health services/facilities

Allendale Association

Arden Shore Child and Family Services

Captain James A. Lovell Federal Health Care Center

Community Youth Network

Erie HealthReach Waukegan

Gateway Foundation

JEM Treatment Center Inc.

Lake Behavioral Hospital

Lake County Health Department and Community Health Center

NAMI

Nicasa

Renacer Latino

Symetria Health

Youth and Family Counseling

Skilled nursing facilities

Alden Estates of Barrington	Glenlake Nursing and Rehab	Pavilion of Waukegan
Alden Long Grove Rehab	Grove at the Lake	Radford Green Care and Rehab
Aperion Care	Hillcrest Retirement Village	Rolling Hills Manor
Arlington Rehab and Living Center	Lake Forest Place	The Village at Victory Lakes
Brentwood North Nursing and Rehab	Lexington of Lake Zurich	The Whitehall North
Claremont Rehab and Living Center	Libertyville Manor and Rehab	Victory Lakes Continuing Care
Claridge Healthcare Center	Manorcare of Highland Park	Wauconda Healthcare and Rehab
	Manorcare of Libertyville	Winchester House

Citations

- i United States Census Bureau. Census 2000 Summary File 4 (SF4) - Sample Data. Profile of Demographic Characteristics: 2000 (DP-1).
- ii United States Census Bureau. 2010 American Community Survey 1-Year Estimates. Age and Sex (S0101).
- iii United States Census Bureau. 2017 American Community Survey 1-Year Estimates. Age and Sex (S0101).
- iv United States Census Bureau. Census 2000 Summary File 1 (SF1) - 100-Percent Data. Profile of Demographic Characteristics: 2000 (DP-1).
- v United States Census Bureau. 2017 American Community Survey 1-Year Estimates. ACS Demographic and Housing Estimates (DP-05).
- vi United States Census Bureau. Census Summary File (SF-3) - Sample Data. Profile of Selected Social Characteristics: 2000 (DP-2).
- vii United States Census Bureau. 2017 American Community Survey 1-Year Estimate. Selected Characteristics of the Native and Foreign Born Populations (S0501).
- viii United States Census Bureau. 2017 American Community Survey 1-Year Estimate. Language Spoken at Home (S1601).
- ix United States Census Bureau. 2017 American Community Survey 1-Year Estimate. Selected Characteristics of the Native and Foreign Born Populations (S0501).
- x United States Census Bureau. Census 2000 Summary File 4 (SF4) - Sample Data. Profile of Demographic Characteristics: 2000 (DP-1).
- xi United States Census Bureau. 2017 American Community Survey 1-Year Estimates. Age and Sex (S0101).
- xii United States Census Bureau. Census Summary File (SF-3) - Sample Data. Profile of Selected Social Characteristics: 2000 (DP-2).
- xiii United States Census Bureau. 2017 American Community Survey 1-Year Estimate. Educational Attainment (S1501).
- xiv United States Census Bureau. 2012-2016 American Community Survey 5-Year Estimate. Educational Attainment (S1501).
- xv United States Census Bureau. 2017 American Community Survey 1-Year Estimate. Median Income in the past 12 months (in 2017 Inflation-adjusted dollars) (S1903).
- xvi United States Census Bureau. 2012-2016 American Community Survey 5-Year Estimate. Median Income in the past 12 months (in 2016 Inflation-adjusted dollars) (S1903).
- xvii United States Census Bureau. 2012-2016 American Community Survey 5-Year Estimate. Median Income in the past 12 months (in 2016 Inflation-adjusted dollars) (S1903).
- xviii United States Census Bureau. Census 2000 Summary File 3 (SF3). Profile of Selected Economic Characteristics: 2000 (DP-3).
- xix United States Census Bureau. 2011 American Community Survey 1-Year Estimate. Poverty Status in the Past 12 Months (S1701).
- xx United States Census Bureau. 2017 American Community Survey 1-Year Estimate. Poverty Status in the Past 12 Months (S1701).
- xxi United States Census Bureau. 2012-2016 American Community Survey 5-Year Estimate. Poverty Status in the Past 12 Months (S1701).
- xxii United States Census Bureau. 2017 American Community Survey 1-Year Estimates. Financial Characteristics (S2503).
- xxiii United States Census Bureau. 2010 American Community Survey 1-Year Estimates. Health Insurance Coverage Status (S2701).
- xxiv Lake County Community Health Status Assessment, 2018.
- xxv 2014 Lake County Round 5 Illinois County BRFS.

- xxvi 2018, October 10. Focus Group. Lake County Health Department, Interviewer.
- xxvii Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2016 on CDC WONDER Online Database, released December, 2017. Data are from the Multiple Cause of Death Files, 1999-2016, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program.
- xxviii Lake County Community Health Status Assessment, 2015.
- xxix Illinois Department of Public Health. EMS Reporting System. 2012-2015 Illinois Health and Hospital Association Hospital Discharge Database Descriptive Statistics of Aggregate Hospital Discharge Data.
- xxx Illinois Department of Public Health, Illinois State Cancer Registry, data as of November 2017.
- xxxi United States Department of Justice, Federal Bureau of Investigation. (2014, 2016). Crime in the United States, 2014 and 2016.
- xxxii Center for Prevention Research & Development at the University of Illinois at Urbana-Champaign. 2018 Lake County Illinois Youth Survey Report.
- xxxiii U.S. Department of Health & Human Services and supported by the Secretary's Minority AIDS Initiative Fund (SMAIF). HIV Basics. Data & Trends : U.S. Statistics.
- xxxiv National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP), 2015.
- xxxv Illinois Department of Public Health. Sexually Transmitted Diseases in Illinois. 2016 Epidemiological Summary and Yearly Trends Data for 2007-2016.
- xxxvi United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Division of Vital Statistics, Natality public-use data 2007-2017, on CDC WONDER Online Database, October 2018.
- xxxvii Lake County Health Department. Obesity in Lake County: 2015 Status Report. Accessed at: <http://www.lakecountyil.gov/DocumentCenter/View/4571/Obesity-in-Lake-County-2015-Status-Report-PDF?bidId=>
- xxxviii Centers for Disease Control and Prevention, 2017. National Center for Health Statistics, Health Insurance Coverage.
- xxxix United States Census Bureau. 2017 American Community Survey 1-Year Estimates. Selected Characteristics of Health Insurance Coverage in the United States (S2701).
- xxxx National Plan and Provider Enumeration System (NPES), NPI Registry, 2018.



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