



2018 Community Health Needs Assessment Report

Marianjoy Rehabilitation Hospital,
part of Northwestern Medicine



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Introduction

Marianjoy Rehabilitation Hospital, part of Northwestern Medicine (MRH), has a rich history of responding to and caring for the rehabilitative needs of residents in the Chicagoland area. The 127-bed facility located in Wheaton, Illinois, provides advanced rehabilitation and care to members of the immediate community, and also serves as a regional destination hospital for individuals in need of state-of-the-art rehabilitative care.

MRH has 100 acute inpatient rehabilitation beds and 27 Medicare-licensed, sub-acute beds for adult and pediatric patients recovering from illness or injury who require intensive therapy to regain their function and independence. The main hospital is a 170,000-square-foot facility with a number of unique inpatient and outpatient offerings, including specialty programs focused on the treatment of stroke, spinal cord injury, brain injury and orthopedic/musculoskeletal conditions, as well as conditions affecting pediatric patients.

MRH's comprehensive approach to rehabilitation addresses a patient's body, mind and spirit through personalized treatment programs in inpatient, comprehensive outpatient, sub-acute and physician clinics that specialize in rehabilitation medicine. MRH also provides inpatient and outpatient pediatric rehabilitation programs and is the only pain management program in Illinois accredited by CARF. The hospital includes a full-size Chartres labyrinth, therapeutic enabling gardens, a meditation room, a two-story chapel and many other unique features designed to establish it as a healing sanctuary.

Additionally, the Marianjoy Assistive Rehabilitation Technology Institute (MARTI) at MRH offers solutions to everyday problems of daily living encountered by individuals with disabilities. MARTI consists of seven distinct centers that apply advancements in technology to benefit individuals with disabilities through maximizing functional independence and expanding educational vocational, recreational and communicative opportunities. MARTI offers a specially designed fitness center and a specialized aquatic therapy center to support the needs of individuals striving to meet their therapy goals.

MRH 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 MRH 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

To ensure organizations that impact health in central DuPage County and represent the broad interests of the community were meaningfully engaged in reviewing and interpreting the findings of the CHNA, an External Steering Committee (ESC) was established. The purpose of the ESC was to develop priorities among the identified areas of opportunity and assist in the formation of a collaborative plan to address the top Priority Health Needs. ESC members include representatives from the following organizations:

DuPage County Health Department

AbilityLinks

DuPage Federation on Human Services Reform

SPR Consulting

DuPage Health Coalition (Access DuPage)

Edward Hines VA Hospital

Elmhurst CUSD 205

Donka, Inc.

Illinois Health and Hospital Association

DuPage Workforce Board

Naperville School District 203

Kensington International

People's Resource Center

The Community Health Needs Assessment

Background

A comprehensive CHNA was commissioned on behalf of Northwestern Medicine by Professional Research Consultants, Inc. (PRC). PRC is a nationally recognized healthcare consulting firm with extensive experience in conducting CHNAs in hundreds of communities across the United States since 1994.

The CHNA framework consisted of a systematic, data-driven approach to determine the health status, behaviors and needs of residents in the service area of MRH. The CHNA provided 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.

Methodology

As previously noted, the CHNA incorporates data from both quantitative and qualitative sources. Quantitative data input includes primary research (the PRC Community Health Survey) and secondary research (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. Once the data has been reviewed by MRH community health experts, executive leadership and key community stakeholders identify priority areas of need in which MRH 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 MRH is most uniquely suited to address

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

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

CHNA Goals

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

- 1 **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.
- 2 **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.
- 3 **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.

Quantitative data analysis: The community health survey

Quantitative data input included primary research (the PRC Community Health Survey) and secondary research (vital statistics and other existing health-related data). These quantitative components allowed for comparison to benchmark data at the state and national levels.

Survey instrument

The survey instrument used for the PRC Community Health Survey was based largely on the Centers for Disease Control and Prevention (CDC) Behavioral Risk Factor Surveillance System, 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. The final survey instrument was developed by Northwestern Medicine and PRC.

Community defined for this assessment

The study area for the survey effort was defined as the MRH service area and analyzed at the ZIP code level, and included the following ZIP codes:

60190	Winfield	60184	Wayne	60101	Addison
60139	Glendale Heights	60504	Aurora	60565	Naperville
60181	Villa Park	60532	Lisle	60540	Naperville
60187	Wheaton	60188	Carol Stream	60148	Lombard
60555	Warrenville	60189	Wheaton	60563	Naperville
60172	Roselle	60502	Aurora	60103	Bartlett
60108	Bloomington	60137	Glen Ellyn	60185	West Chicago
60133	Hanover Park	60505	Aurora		

Sample approach and design

To accurately represent the population studied and minimize bias, proven telephone methodology and random-selection techniques were applied. While this random sampling of the population produces a highly representative sample, it is a common and preferred practice to “weight” the raw data to further improve the representation. This was accomplished by adjusting the results of a random sample to match the geographic distribution and demographic characteristics of the population surveyed (post-stratification) to eliminate any naturally occurring bias.

Specifically, once the raw data were gathered, respondents were examined by key demographic characteristics (namely gender, age, race, ethnicity and poverty status) and a statistical application package applied, weighting variables that produced a sample that more closely matched the population for these characteristics. While the integrity of each individual’s responses was maintained, one person’s responses may have contributed to the whole the same weight as, for example, 1.1 respondents. Another respondent, whose demographic characteristics may have been slightly over-sampled, may have contributed the same weight as 0.9 respondents.

The poverty descriptions used in this report are based on administrative poverty thresholds determined by the U.S. Department of Health and Human Services. These guidelines define poverty status by household income level and number of persons in the household. (For example, the 2017 guidelines place the poverty threshold for a family of four at \$24,400 annual household income or lower.) In this report, “low income” refers to community members living in a household with defined poverty status or living just above the poverty level and earning up to twice (< 200 percent) of the poverty threshold. “Mid/high income” refers to those households living on incomes that are at least twice (> 200 percent) the federal poverty level.

The sample design and quality control procedures used in the data collection ensure that the sample is representative. Thus, the findings may be generalized to the total population of community members in the defined area with a high degree of confidence.

Quantitative data analysis: Public health, vital statistics and other data

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

Center for Applied Research and Environmental Systems (CARES)	OpenStreetMap (OSM)
Centers for Disease Control and Prevention (CDC)	U.S. Census Bureau
Community Commons	U.S. Department of Agriculture
ESRI ArcGIS Map Gallery	U.S. Department of Health and Human Services
Illinois Department of Public Health	U.S. Department of Justice, Federal Bureau of Investigation
National Cancer Institute, State Cancer Profiles	U.S. Department of Labor, Bureau of Labor Statistics

It must be noted that secondary data indicators reflect county-level data.

Benchmark data

Trending data was utilized throughout the report when available. State and national risk factor data was utilized as an additional benchmark against which to compare local survey findings. Source data included Behavioral Risk Factor Surveillance System (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 (HP2020) – a nationally recognized and evidence-based program – was also utilized as a significant source of benchmark data.

Qualitative data analysis: Community stakeholder input

Qualitative data input includes primary research gathered through an online key informant survey of various community stakeholders.

Online key informant survey

To solicit input from key informants – individuals who have a broad interest in the health of the community – an online key informant survey was included in the assessment process. A list of recommended participants was provided by MRH, which included names and contact information of physicians, public health representatives, other health professionals, social service providers and a variety of other community leaders. Potential participants were chosen because of their ability to identify primary concerns of the populations with whom they work as well as the overall community.

Key informants were contacted by email, introducing the purpose of the survey and providing a link to take the online survey. Reminder emails were sent as needed to increase participation. In all, 41 community stakeholders took part in the online key informant survey, including representatives of the following organizations:

DuPage Foundation	People’s Resource Center
DuPage Senior Citizens Council	SamaraCare
DuPage United	Senior Services Associates, Inc.
Educare West DuPage	Warrenville Park District
Fox Valley Special Recreation Association	Western DuPage Special Recreation Association
NAMI DuPage	West Chicago Public Library District
Northern Illinois Food Bank	Winfield Park District

Through this process, input was gathered from several individuals whose organizations work with low-income, minority populations and other medically underserved populations. Key informants were asked to rate the degree to which various health issues are a problem in their own community. Follow-up questions were asked for a description of how these issues may be better addressed.

Minority populations represented

To Minority/medically underserved populations that were represented within the key informant survey included included:

African American	Hispanic/ Homeless	Mentally ill
Arabic	Immigrant/refugee	Non-English-speaking
Asian	Laotian	Teen parent
Disabled	Low income	Undocumented
Elderly	Medicaid/Medicare recipient	Unemployed

Determination of significance

Differences noted in this report represent those determined to be significant. Statistical significance is determined based on confidence intervals (at the 95 percent confidence level) using question-specific samples and response rates. For purposes of this assessment, “significance” of secondary data indicators is determined by a 5 percent variation from the comparative measure.

Information gaps

While this MRH 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.

Supplemental disability surveys

To specifically assess the needs of individuals with disabilities in the MRH service area, input was also solicited from the following groups through an online survey form:

- People who received healthcare services from the MRH network within the past two years and provided a valid e-mail address
- People who registered with AbilityLinks, a national, web-based community where qualified job seekers with disabilities gain access to valuable networking opportunities
- Organizations that provide services and resources to people with disabilities who are affiliated with MRH and who seek assistance following return to the community

Public dissemination

This CHNA is available to the public and can be accessed through the following channels:

View, download and/or print the document without special computer hardware or software (other than software that is available to members of the public at no cost) without fee at nm.org/about-us/community-initiatives/community-health-needs-assessment

View a hard copy of the CHNA at MRH without fee upon request.

Key Findings and Opportunities: Quantitative Data

Community description

DuPage County encompasses 327.41 square miles and is home to a total population of 930,412 residents, according to latest census estimates. The county's population density is reported at 2,840.83 per square mile. DuPage County is predominately urban, with nearly all the population living in areas designated as urban.

Demographics

It is important to understand the age distribution of the population, as different age groups have unique health needs that must be considered in planning to meet the needs of county residents. In DuPage County, 23.8 percent of the population are infants, children or adolescents age 0 to 17 years (up 0.4 percent from the 2015 CHNA). Another 63.3 percent are age 18 to 64 (up 1.1 percent), while only 12.9 percent are 65 and older (up 0.6 percent).

Race and ethnicity

In looking at race independent of ethnicity, 79.4 percent of residents in DuPage County are White and 4.7 percent are Black. When considering ethnicity, 13.9 percent of DuPage County residents are Hispanic or Latino. The county has a higher proportion of White residents and a lower proportion of Black residents than the state and U.S. The percentage of Hispanic and Latino residents is also lower than found in the state and U.S.

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 regularly seeing a doctor) influences our health. Our health is also determined in part by access to social and economic opportunities, resources that are available in the community, quality education, workplace safety, environmental factors and our personal relationships. The conditions in which we live explain, in part, why some Americans are healthier than others.

Poverty

The U.S. Census Bureau American Community Survey 5-Year Estimates (2011 to 2015) show 7.4 percent of the DuPage County population living below 100 percent of the Federal Poverty Level. This represents an increase of 0.5 percent over 2009 to 2013 census data. A total estimated 19.1 percent of residents (175,652 individuals) live below 200 percent of the Federal Poverty Level. This represents a notable 10.5 percent increase (6,807 individuals) from our previous assessment.

Education and employment

Among the Kane County population age 25 and older, an estimated 16.9 percent (56,865 people) do not have a high school education, which was a less favorable number than state (11.7 percent) and national (13.0 percent) findings.

According to data derived from the Illinois Department of Employment Security, the unemployment rate in Kane County was 3.8 percent in April 2018, trending more favorably than both the state and national unemployment rates..

Morbidity and mortality

A total of 64.3 percent of MRH survey respondents rated their overall health as “excellent” or “very good,” with 9.5 percent describing their overall health status as “fair” or “poor.” The remaining 26.1 percent rated their health as “good.”

Activity limitations

An individual can develop a disabling impairment or chronic condition at any point in life. According to HP2020, people with disabilities are more likely to:

- Experience difficulties or delays in getting the health care needed
- Not have had an annual dental exam
- Not have had a mammogram in the past two years
- Not have had a Pap test within the past three years
- Not engage in fitness activities
- Use tobacco
- Be overweight or obese
- Have high blood pressure
- Experience symptoms of psychological distress
- Receive less social-emotional support
- Have lower employment rates

Further, there are many social and physical factors that influence the health of people with disabilities. The following three areas for public health action have been identified, using the International Classification of Functioning, Disability and Health (ICF) and the three World Health Organization (WHO) principles of action for addressing health determinants.

- **Improve the conditions of daily life** by encouraging communities to be accessible so all can live in, move through, and interact with their environment; encouraging community living; and removing barriers in the environment using both physical universal design concepts and operational policy shifts.
- **Address the inequitable distribution of resources among people with disabilities and those without disabilities** by increasing appropriate health care for people with disabilities; education and work opportunities; social participation; and access to needed technologies and assistive supports.

- **Expand the knowledge base and raise awareness about determinants of health for people with disabilities by increasing the inclusion of people with disabilities** in public health data collection efforts across the lifespan; the inclusion of people with disabilities in health promotion activities; and the expansion of disability and health training opportunities for public health and healthcare professionals.

A total of 12.0 percent of survey respondents identified a limitation in activities in some way due to a physical, mental or emotional problem. Limitations were higher in women (13.6 percent) than men (10.3 percent) and highest among the 65+ year range (14.7 percent). Additionally, the prevalence was higher in low-income individuals (27.6 percent) and Hispanics (21.5 percent).

Individual activity limitation indicators included:

Difficulty walking or climbing stairs

Difficulty concentrating, remembering or making decisions

Difficulty doing errands alone

Difficulty dressing or bathing

Mental health status

A total of 68.6 percent of respondents reported their mental health as “excellent” or “very good” with 19.7 percent reporting “good” and 11.7 percent reporting “fair” or “poor.” Those reporting “fair” or “poor” mental health were most likely to be:

- Women (16.5 percent)
- Individuals ages 19 to 39 years (15.2 percent)
- Low-income individuals (31.5 percent)
- African Americans (16.2 percent)

A total of 19.1 percent of adults self-reported being diagnosed with a depressive disorder. This was higher than state trends, but lower than U.S. rates. This represents an increase from 15.9 percent in 2015. Additionally, 22.8 percent of respondents reported symptoms of chronic depression lasting two or more years. This was lower than U.S. data and trending similar to 2009 to 2015 rates (22.0 to 25.2 percent). The rate was highest in:

- Women (27.4 percent)
- Individuals ages 18 to 39 years (24 percent)
- Low-income individuals (36.3 percent)
- Asians (25.5 percent)

Between 2013 and 2015, the annual average age-adjusted suicide mortality rate was 8.9 deaths per 100,000 population in DuPage County – higher than trending rates, but lower than state and national rates. A total of 27.3 percent of survey respondents reported having ever sought treatment from a professional for a mental or emotional problem, compared to 30.8 percent nationally. Additionally, 11.7 percent acknowledged currently taking medication/receiving mental health treatment as compared to 13.9 percent nationally.

A total of 5.5 percent of survey respondents acknowledged being unable to get mental health services when needed in the past year, compared to the U.S. rate of 6.8 percent. Rates were highest in:

- Women (6.8 percent)
- Individuals ages 18 to 39 (11.4 percent)
- Low-income individuals (8.0 percent)
- Hispanics (21.8 percent)

Mental health was rated as a major problem by 64.7 percent of key informants, citing challenges such as:

- Access to care/services
- Denial/stigma
- Affordability
- Inadequate funding

Morbidity and mortality

Together, cardiovascular disease (heart disease and stroke) and cancers accounted for more than one-half of all deaths in DuPage County. The top five 2013 to 2015 age-adjusted death rates per 100,000 population for selected causes included:

- Cancers (143.0)
- Diseases of the heart (131.8)
- Stroke (30.8)
- Chronic lower respiratory diseases (29.9)
- Unintentional injuries (23.6)

All rates were lower than state and national rates.

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. 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, these deaths are mostly 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 27.9 percent of all deaths in DuPage County.

A total of 6.2 percent of survey respondents acknowledged having been told by their healthcare A total of 33.4 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 an increase from 32.7 percent in the 2015 MRH CHNA.

Among adults with multiple high blood pressure readings, 83.0 percent reported taking action to control their levels.

A total of 36.5 percent of adults reported a diagnosis of high cholesterol. This represents a notable increase from 34.3 percent in our 2015 assessment and an HP2020 target of 13.5 percent or lower.

Among adults with self-reported high blood cholesterol readings, 81.3 percent reported taking action to control their levels.

Regarding total risk of cardiovascular disease, 83.6 percent of respondents reported one or more risk factors, including being overweight, smoking cigarettes, being physically inactive, or having high blood pressure or high cholesterol levels. Risk and/or behaviors were highest in:

Men (88.4 percent)	Low-income individuals (93.8 percent)
Individuals 65 years and over (90.9 percent)	Hispanics (98 percent).

Heart disease and stroke were rated as a major (31.3 percent) and moderate (34.4 percent) problem by key informants citing concerns such as:

General wellness, physical activity and nutrition being ignored	Fast-paced lives
Stress	Diet
	Genetics

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 MRH 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 2011 and 2013, the annual average age-adjusted cancer mortality rate was 149.3 deaths per 100,000 residents in DuPage County; the rate was notably higher among non-Hispanic Blacks and Whites. The rate decreased slightly in 2015 to 143.0 per 100,000 residents.

Lung cancer remains the leading cause of cancer deaths in DuPage County, followed by female breast cancer, prostate cancer and colorectal cancer.

The incidence of female breast cancer ranked higher in DuPage County than in Illinois or in the U.S.

When queried regarding screenings:

Among women age 50 to 74 years, 76.7 percent reported having had a mammogram in the past two years. This represented a decrease from 84.6 percent in 2015.

Among women age 21 to 65 years, 81.4 percent reported having had a Pap smear within the past three years. This represented a downward decrease from 87.3 percent in 2015 and 90.4 percent in 2012.

Among adults age 50 to 75 years, 774.8 percent reported having a colorectal cancer screening. This represented an increase from 67.9 percent in 2015.

A total of 70.6 percent of key informants rated cancer as either a major or moderate problem in DuPage County, citing concerns such as:

Cancer is growing in epidemic proportions

The number of women diagnosed with breast cancer exceeding state and national rates

Economic impact.

Pulmonary disease

Asthma and chronic obstructive pulmonary disease (COPD) pose significant public health burdens. The age-adjusted mortality rate per 100,000 population is lower in DuPage County than in Illinois and in the U.S.

Currently, 5.6 percent of adult survey respondents suffer from COPD, down from 8.4 percent in 2015.

Additionally, 6.9 percent of adults surveyed report a diagnosis of adult asthma, trending slightly lower than the 2015 rate of 7.1.

Among parents surveyed, 9.5 percent of children within the MRH service area were reported to have asthma. This represents an increase from 8.1 percent in 2015.

A total of 38.7 percent of key informants rated respiratory disease as either a moderate or major problem in DuPage County, citing concerns such as:

Extensive smoking in refugee camps.

Overall high rate of tobacco use.

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 2011 and 2013, the annual average age-adjusted diabetes mortality rate was 11.3 deaths per 100,000 residents in DuPage County, well below regional, state and national rates; age-adjusted mortality by race was highest among the Hispanic population. In 2015 the rate dropped to 10.9.

In 2018, 9.2 percent of survey respondents reported having been diagnosed with diabetes, and an additional 7.5 percent reported having "pre-diabetes." The prevalence of diabetes has increased modestly from 8.5 percent in our 2015 survey.

The prevalence of diabetes was higher in men, adults 65 years and over, low-income individuals and Asian non-Hispanics.

Among individuals not having been diagnosed with diabetes, only 51.1 percent reported having had their blood sugar level tested within the past three years. This is a decrease from 55.4 percent in 2015.

Diabetes was identified as a major problem in DuPage County by 55.9 percent of key informants, citing concerns such as.

Lack of education and poor diet among immigrant population – unaware of long-term consequences of unmanaged diabetes

Insufficient preventive education

Insufficient support and education after diagnosis (tertiary intervention)

Sugar intake out of control

Inability to eat healthy

Increase in children diagnosed with diabetes

Insufficient nutrition, physical activity and weight management

Affordable care

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. While considered "accidental," most events are predictable and preventable. Beyond their immediate health consequences, injuries and violence have a significant impact on the well-being of the community by contributing to:

- Premature death
- Disability
- Poor mental health
- High medical costs
- Lost productivity

The leading causes of accidental death in DuPage County between 2013 and 2015 were:

- Poisoning/noxious substances (37.8 percent)
- Falls (27.4 percent)
- Motor vehicle accidents (16.6 percent)
- Suffocation (5.3 percent)

Between 2013 and 2015, the average annual age-adjusted motor vehicle crash mortality rate was 4.0 per 100,000 residents in DuPage County – notably below state and national rates and significantly below the HP2020 target of 12.4 or lower. Additional survey data noted:

Among survey respondents, 90.4 percent reported "always" wearing a seat belt when driving or riding in a vehicle, and 92.5 percent of parents reported their child "always" wearing a seat belt.

Among MRH service area children, 43.2 percent were reported to "always" wear a helmet when riding a bicycle. This is modestly lower than 2015 reports of 45.1 percent.

The annual average age-adjusted homicide rate was 0.9 deaths per 100,000 residents in DuPage County, notably below state and national rates.

Violent crimes were reported at a rate of 86.5 crimes per 100,000 residents, well below regional, state and national rates. Among DuPage County residents, 1.1 percent of survey respondents acknowledged having been a victim of a violent crime within the past five years.

Additionally, 8.8 percent of survey respondents reported having been hit, slapped or hurt in any way by an intimate partner. While this was lower than the U.S. rate of 14.2 percent, it was an increase from the 2015 assessment of 7.4 percent.

Injury and violence were rated as major (6.3 percent) and moderate (31.3 percent) problems in the community, with one key informant noting that many of their clients are victims of violence.

Infectious disease

Acute respiratory infections, including pneumonia and influenza, are the eighth-leading cause of death in the U.S., accounting for 56,000 deaths annually according to HP2020. Among survey respondents, 75 percent received a flu shot within the past year – significantly up from 47.2 percent in 2015. However, among high-risk adults, only 47.3 percent received a flu shot within the past year.

Among adults age 65 and older, 80.8 percent have received a pneumonia vaccination at some point in their lives. This trend is higher than 2015 rates of 75.5 percent, but lower than the U.S. rate of 82.7 percent. Additionally, only 40.5 percent of high-risk adults received a pneumonia vaccination.

Among key informants, 25.0 percent perceived immunizations and infectious disease as a moderate problem.

Modifiable Health Risks

Factors contributing to premature death

The most prominent contributing factors to premature mortality in the United States in 2000 were lifestyle and behaviors, including tobacco use (an estimated 435,000 deaths), diet and activity patterns (400,000 deaths), alcohol use (85,000 deaths), infectious disease (75,000 deaths), exposure to toxic agents (55,000 deaths), use of motor vehicle (43,000 deaths), use of firearms (29,000 deaths), and illicit use of drugs (17,000 deaths). 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, argue persuasively that there exists an urgent need to establish a more preventive orientation in today's U.S. healthcare model.

At MRH, we believe that this is a shared responsibility among 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 on the reduction/elimination of many of the prominent contributors to mortality in U.S. healthcare systems.

Diet and nutrition

Strong science exists supporting the benefits of consuming a healthy diet and maintaining a healthy body weight. The goal of promoting healthy diets and healthy weight encompasses increasing household food security and eliminating hunger. The demonstration of a healthy diet includes:

- Consuming a variety of nutrient-dense foods across the food groups
- Limiting the intake of saturated and trans fats, cholesterol, added sugars, sodium and alcohol
- Limiting caloric intake to meet caloric need.

Social and physical factors thought to influence diet include:

Knowledge and attitudes	Food assistance programs
Skills	Economic price systems
Social support	Retail venues, local restaurants
Societal and cultural norms	Marketing
Food and agricultural policies	Access to healthy, nutrition-dense foods

A total of 29.2 percent of survey respondents reported eating five or more servings of fruits and/or vegetables per day; however, only 20.3 percent of low-income respondents were likely to consume the recommended servings. While 14.8 percent of respondents reported little or no difficulty accessing fresh produce, 31.7 percent of low-income respondents and 25.6 percent of Hispanic respondents reported that it was “somewhat” or “very” difficult to access affordable fresh fruits and vegetables.

U.S. Department of Agriculture data reported that 22.6 percent of DuPage County residents have low food access or live in a “food desert,” meaning that they do not live near a supermarket or large grocery store. These findings were more favorable than state or national findings.

Physical activity

In another recent study of DuPage residents conducted by PRC, a total of 25.9 percent of respondents reported no leisure-time physical activity in the past month. Additionally, a total of 24.1 percent of respondents acknowledged participating in regular, sustained moderate or vigorous physical activity. Access to safe and affordable places for exercise was not a problem for the majority of respondents without physical limitations. Between 2008 and 2012, there were 14.5 recreation/fitness facilities for every 100,000 population in DuPage County. This is in addition to more than 25,000 acres of open area in the DuPage County Forest Preserve District.

Among service area children age 2 to 17 years, 24.6 percent were reported to have had 60 minutes of physical activity on each of the seven days preceding the interview. These results were lower than national findings (50.5 percent). It was interesting to note that girls were less likely to engage in physical activities than boys (18.6 percent vs. 29.4 percent respectively), and activity time decreased with age.

Overweight/obesity

Based on self-reported heights and weights, 65.9 percent were overweight (BMI of 25 or higher), and 31.7 percent were obese (BMI of 30 or higher). Current reports demonstrate an increase from 63.9 percent overweight and 25.9 percent obese in 2015 data. Of the 31.7 percent of individuals reporting obesity, 49.5 percent were low income and 52.2 percent were Hispanic.

Based on heights and weights reported by surveyed parents, 27.3 percent of children ages five to 17 years were overweight (BMI > 85th percentile) and 12.3 percent were obese (BMI > 95th percentile).

Nutrition, physical activity and weight were perceived as major problems by 45.9 percent of key informants who cited reasons including education, access to affordable healthy foods, school lunch menus and inadequate opportunity for physical activity.

Substance abuse

Substance abuse has a major negative impact on individuals, families and communities, and its effects directly impact teenage pregnancy rates, domestic violence, child abuse, motor vehicle accidents, fights, crime, homicide and suicide. HP2020 defines substance abuse as a set of related conditions associated with the consumption of alcohol and illicit drugs.

Age-adjusted deaths from cirrhosis/liver disease and age-adjusted drug-induced deaths remained lower than regional, state and national rates. A total of 26.8 percent of service area respondents acknowledged excessive drinking, and 6.5 percent acknowledged having driven in the past month after having too much to drink. Additionally, 4.2 percent of adult respondents acknowledged using an illicit drug in the past month.

A total of 56.8 percent of key informants characterized substance abuse as a “major” problem in the community, citing barriers to treatment such as self-imposed barriers, cost/insurance, access to care, and lack of funding to support treatment programs. Key informants who rated substance abuse as a “major” problem most often identified alcohol, heroin/other opioids and marijuana as the most problematic substances in the community.

Tobacco use

Tobacco use is the single-most preventable cause of death and disease in the U.S. according to HP2020. Tobacco use causes cancer, heart disease, lung disease and premature birth. A total of 9.5 percent of survey respondents currently smoke cigarettes. Among households, 8.5 percent have someone who smokes cigarettes in the home, and 5.9 percent of these households have children who are exposed to smoke. Additionally, a total of 2.4 percent of service area adults use some type of smokeless tobacco. A total of 36.4 percent of survey respondents identified tobacco use as a moderate problem, while an additional 12.1 percent identified it as a major problem, citing concerns such as the number of new teen smokers, and proliferation of e-cigarettes and vapor smoking.

Access to healthcare services

A person’s ability to access health services has a profound effect on every aspect of their health, yet, according to HP2020, almost one in four Americans do not have a primary care provider (PCP) or health center where they can receive regular medical services. Approximately one in five Americans (children and adults under age 65) do not have medical insurance. 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. Increasing access to both routine medical care and medical insurance are vital steps in 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 | Reduce the likelihood of premature (early) death |
| Detect and treat illnesses or other health conditions | Increase life expectancy ² |
| Increase quality of life | |

A total of 5.4 percent of survey respondents age 18 to 64 reported having no healthcare coverage as compared to 10.7 percent statewide and 13.7 percent nationwide. Major payor sources for MRH patients included Medicare and HMO/PPO.

Barriers to healthcare access

A total of 35.6 percent of survey respondents reported some type of difficulty or delay in obtaining services in the past year. Women, individuals ages 40 to 64, low-income, Hispanic and Asian individuals reported the most difficulties accessing healthcare services. Notable barriers to healthcare access included:

- | | |
|---|-----------------------------|
| Inconvenient office hours | Cost of prescriptions |
| Difficulty obtaining a provider appointment | Difficulty finding a doctor |
| Cost of a doctor visit | Lack of transportation |

A total of 18.4 percent of key informants perceived access to healthcare services as a major problem in the community, citing reasons such as access to care for the undocumented, system issues such as Medicare/Medicaid managed care plans and high deductibles, social determinants such as housing, education/literacy levels and language/cultural barriers. Key informants also identified mental health care, specialty care and substance abuse treatment as the most difficult to access in the community.

Primary care services

Individuals with a usual source of care have better outcomes, fewer disparities and lower health-related costs due to routine care, timely intervention and close follow-up. Having a consistent PCP is associated with:

- Greater patient trust
- Good patient-provider communication
- Increased likelihood that patients will receive appropriate care

Due to the collaborative efforts of Northwestern Medicine Central DuPage Hospital (NMCDH), MRH, the DuPage County Health Department and multiple health/human service organizations, service area residents have access to significantly more primary care providers than throughout the state or nation. DuPage County provides 145.6 PCPs per 100,000 population, as compared to between 80 and 95 PCPs at the state and national level. Additionally:

A specific source of primary care was acknowledged by 80.2 percent of survey respondents

A doctor's office is used for medical care by 71.1 percent

A total of 71.8 percent have visited their healthcare provider for a checkup in the past year

A total of 84.6 percent said their children have visited a PCP for a routine checkup in the past year

A total of 5.5 percent of survey respondents acknowledged use of the emergency room more than once in the past year due to:

Emergency situations (51.6 percent)

Weekend/after-hours situations (22.4 percent)

Access problems (3.4 percent)

Supplemental disability survey

To specifically assess the needs of individuals with disabilities in the MRH service area, input was also solicited from two groups through an online survey.

- Group 1: People who received health care from the MRH network within the past two years and provided a valid email address (aka Community)
- Group 2: People who registered with AbilityLinks, a national, web-based community where qualified job seekers with disabilities gain access to valuable networking opportunities (aka AbilityLinks)

The goal of the additional survey was to gain input from constituencies who look to MRH for service or partnership, and who better understand overall health concerns and need in the community, especially for persons with disabilities and impairments. The surveys were developed and administered by MRH; results were shared with PRC for inclusion in the CHNA. The surveys included the following eight categories:

Disability and impairment	Housing
Access to healthcare services	Technology and assistive devices
Transportation	Students
Employment	Individual background

Surveys were sent to 1,197 Community members and generated a return rate of 23.6 percent (283 respondents). Surveys were also sent to 251 AbilityLinks members and generated a response rate of 12.4 percent (31 respondents).

Disability prevalence

Mobility/physical disability was the most prevalent health condition in both the Community (61.6 percent) and AbilityLinks (40 percent) samples. It was also noted that only 15.7 percent of respondents from the Community were born with their disability, as compared to 33.3 percent of AbilityLinks respondents. A total of 60 percent of Community respondents rated their disability as moderate to somewhat severe, as compared to 71.5 percent of the AbilityLinks respondents.

Activity limitations

A total of 39.6 percent of Community respondents required assistance with basic needs as compared to 26.3 percent of AbilityLinks respondents. Family members or friends provided the greatest level of assistance to both groups – Community (50 percent) and AbilityLinks (26.3 percent).

Health insurance coverage

A total of 48.5 percent of Community respondents reported Medicare as their primary source of health insurance, followed by health insurance through work/union (23.6 percent).

Access to health services

A total of 7.7 percent of Community respondents stated that they were unable to get medical care in the past year, compared to 31.6 percent of AbilityLinks respondents. AbilityLinks members, in general, reported a greater level of dissatisfaction overall with access to health services as compared to Community respondents. Affordability of prescriptions was least satisfying to Community respondents.

Transportation

A majority of Community respondents (72.5 percent) and AbilityLinks respondents (55.6 percent) reported that transportation was not a problem. However, 29.6 percent of Community and 27.8 percent of AbilityLinks respondents acknowledged difficulty in the use of public transportation..

Employment

A total of 42.3 percent of Community respondents reported being retired or not working. AbilityLinks respondents were split between unemployment (10.3 percent), looking for work (26.3 percent) and working part-time (31.6 percent). Additionally, 31.6 percent of AbilityLinks respondents reported that lack of jobs that accommodate disabilities was a primary reason for unemployment. A total of 68.5 percent of AbilityLinks respondents agreed that persons with a disability are able to find out about job training. Additionally, 52.6 percent of AbilityLinks respondents agreed that persons with a disability are able to find assistance in finding work when needed.

Housing

A total of 11.5 percent of individuals in the Community survey reported currently lacking housing that meets their needs, while almost one-third (31.6 percent) of AbilityLinks respondents reported a similar lack of necessary housing. Cost was reported as the main factor in both surveys. When asked about independent living, 88.2 percent of Community respondents and 84.2 percent of AbilityLinks respondents reported that their homes allow for independent living.

Supportive/special equipment

When questioned regarding the need for special equipment that was not already owned, 18.4 percent of Community respondents and 21.1 percent of AbilityLinks respondents acknowledged the need for additional equipment. Barriers to obtaining equipment included:

- Affordability
- Never tried to get it
- Don't know where to get it
- Declined by insurance
- Not comfortable using it.

Education

A total of 4.4 percent of community respondents are pursuing an education as compared to 15.8 percent of AbilityLinks respondents. Additionally, 44.3 percent of Community respondents and 50 percent of AbilityLinks respondents disagree that there are enough student programs that focus on job placement.

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 Needs/Concerns
Access to Healthcare Services	<ul style="list-style-type: none"> • Difficulty accessing healthcare services: <ul style="list-style-type: none"> Finding a physician Inconvenient office hours Cost of doctor visit • Affordability of prescriptions • Supplemental surveys: Cost and "not covered by insurance" were main reasons that Community and AbilityLinks members could not get medical care • Affordability was a key dissatisfier for Community respondents • Access to good insurance • Access to rehab services or general medical care.
Heart Disease and Stroke	<ul style="list-style-type: none"> • Second-leading cause of death in DuPage County • High blood pressure prevalence • Heart disease and stroke ranked as a top concern in the online key informant survey • Disabilities related to heart disease and stroke
Injury and Violence	<ul style="list-style-type: none"> • Injury and Violence • Ongoing bicycle helmet education (children) • Ongoing car seat safety education/injury prevention • Seat belt usage • Disabilities related to injuries and violence

Mental Health	<ul style="list-style-type: none"> • Suicide deaths • Mental health ranked as a top concern in the online key informant survey
Substance Abuse	<ul style="list-style-type: none"> • Overall alcohol use and binge drinking • Seeking help for alcohol/drug issues • Illicit drug use • Substance abuse ranked as a top concern in the online key informant survey
Nutrition, Physical Activity and Weight	<ul style="list-style-type: none"> • Physical activity, nutrition and weight ranked as a top concern in the online key informant survey
Potentially Disabling Conditions	<ul style="list-style-type: none"> • Arthritis prevalence (50+) • Supplemental surveys: Mobility/physical disability was the most prevalent health condition in both the Community and AbilityLinks samples • More than one-third of individuals taking part in the supplemental surveys characterized their disability as “severe” or “somewhat severe” • A total of 26 percent of AbilityLinks respondents and 40 percent of Community respondents require assistance with basic needs
Meeting the Specialty Needs of Disabled Individuals	<ul style="list-style-type: none"> • Promoting independence • Access to fitness and physical activity • Transportation • Employment training • Specialized housing/equipment

Additional sources of input and key partnerships

DuPage County Health Department

Concurrent with the development of the MRH CHNA, the DuPage County Health Department also conducted a comprehensive needs assessment of residents in DuPage County.

The IPLAN (Illinois Project for Local Assessment of Needs) is a community health assessment and planning process that is conducted every five years by local health jurisdictions in Illinois. Utilizing the Assessment Protocol for Excellence in Public Health (APEX-PH) 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.

Impact DuPage

In August 2013, a group of community leaders formed Impact DuPage, a countywide initiative aimed at creating a common understanding of community needs, gaps and priorities that will advance the well-being of the DuPage County community. Utilizing the Mobilizing for Action through Planning and Partnership (MAPP) process, Impact DuPage

completed four countywide assessments between June 2014 and December 2014. Partners are currently developing an action plan to address the priorities identified in these assessments. The assessments included:

Landscape review

Conducted in fall 2014, the purpose of this assessment was to collect community voices to learn perceptions about quality of life in DuPage County. This was done through a countywide survey, with more than 2,000 responses:

Local system assessment

This assessment gathered partners in a day-long event that assessed the strength and weaknesses of local systems that support the well-being of DuPage 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 quality of life, and the associated threats and opportunities.

Community Profile

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 Impact DuPage Community Assessment can be found at www.impactdupage.org/index.php?module=htmlpages&func=display&pid=5011.

Impact DuPage priorities

Data from the assessments described above formed the basis for the top five priorities identified by DuPage County:

- | | |
|---------------------------|--------------------|
| Affordable housing | Substance abuse |
| Mental health | Healthy lifestyles |
| Access to health services | |

Interpreting and prioritizing health needs

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, key informant feedback, an organizational asset inventory, and alignment with guiding principles for response to community need. Organizational guiding principles include:

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 other organizations already addressing the health issue?

Applicability of MRH as a change agent (as a partner, researcher, educator, in a role to share knowledge or provide direct funding, etc.)

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

Estimated resources, timeframe and size of impacted population

MRH developed a survey tool to formally solicit input from leaders and identify their organizations' Priority Health Needs (defined as health needs that could be impacted the most by the work of MRH and partner organizations participating on the ESC). MRH leaders were asked to identify top priorities from among the areas of opportunity identified by PRC using the following prioritization criteria:

- **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?

The survey results were compiled, and the highest Priority Health Needs were determined, taking into account the findings of the CHNA, the survey findings, and discussion around the guiding principles and prioritization criteria. Attention was also focused on assessment of internal and external capabilities. An asset analysis was conducted, which included a review of current initiatives and exploration of ways to better coordinate efforts. The potential for duplicative efforts was identified in addition to existing gaps.

- Identified needs are not addressed if MRH is not best positioned to address them because:
- MRH has limited expertise, services or resources to address the needs
- The needs are typically addressed by a public health or other organization

- Other organizations have infrastructure and plans already in place to better meet the needs
- The needs will be addressed or significantly impacted through broader initiatives in the Organizational Implementation Plan

Upon review and discussion of the CHNA, it was the consensus of leadership that MRH's primary focus should emphasize a response to the need of disabled individuals.

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 and resulting disabilities. Sedentary behavior and preventable chronic disease are compromising our community's health. More than one-quarter of the population is obese, and diabetes is at epidemic levels.

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, medical costs associated with treating preventable obesity-related diseases are estimated to increase to \$66 billion dollars annually, with a resultant loss in economic productivity of between \$390 and \$580 billion annually.

A 2012 CNN documentary entitled *Escape Fire* drives home the stark reality that we can no longer afford to focus on acute care as the center of health care, but must also focus on prevention, education, chronic disease management, rehabilitation and case coordination to maximize the health of our nation's most valuable asset – our people. As hospitals, we must continue to challenge ourselves to provide the highest-quality, state-of-the-art health care to our community, but as experts and leaders in the healthcare industry, we must also look outside our doors and reach out to the communities we serve, striving to enhance the quality of life by engaging in evidence-based activities that will promote health across the lifespan.

To that end, MRH has identified four priority health needs that will enable us and our community partners to maximize the health benefit generated by our collective resources over the next few years. In selecting these priorities, we considered the significance of the health needs identified in the CHNA, available resources, the capacity of other agencies to meet the need, and the suitability of our own expertise in rehabilitative care and resources to address the need. In particular, we looked for identified health needs that would be addressed through coordinated response from a range of healthcare and community resources. We believe these health needs will be optimally impacted through the integrated efforts of our organization and our community partners.

The 2018 MRH Priority Health Needs were identified as follows:

1. Promoting Independence in Individuals With Disabilities
 2. Chronic Disease Management and Rehabilitation
 3. Access to Care
 4. Injury Prevention
-

Development of Implementation Plan

MRH will continue to work with leadership and key community agencies to develop a comprehensive Implementation Plan that addresses each Priority Health Need. MRH and its community health partners share the vision of a healthy community and are committed to working together to address significant health needs.

Through an affiliation with Northwestern Memorial HealthCare, MRH and the organizations of Northwestern Medicine can support efforts to positively change the health status of our community by taking on any of a number of roles, whether as a direct clinical service provider, through application of our research and education expertise; by sharing our knowledge of health literacy, quality improvement or information technology; by providing indirect support by coalescing organizations that can impact health; or by funding initiatives undertaken by others.

The Implementation Plan will specify resources MRH 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 MRH 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 physician scientists
- Financial assistance programs at MRH
- Policies and procedures that broaden and simplify access to health care for the uninsured or underinsured
- Advocacy resources at MRH and its community partner organizations
- Planning and oversight resources
- Management expertise in quality improvement and information technology

Existing healthcare facilities and resources

MRH recognizes that a large number of healthcare facilities and organizations within DuPage County respond to health needs and support health improvement efforts. A list of those that were found through publicly available information sources as of July 2018 is included in Appendix B in this CHNA report.

Actions taken to address the 2017 CHNA priority health needs

Introduction

An aging population, coupled with a rise in the incidence of chronic disease, challenges all healthcare providers in the U.S. to think out-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 western suburbs – especially when it involves planning and responding to the needs of multiple demographic and economically diverse populations.

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

Through the prioritization process, MRH identified four priority health needs:

1. Access to Healthcare Services
 2. Chronic Disease Management and Rehabilitation
 3. Promoting Independence in Individuals With Disabilities
 4. Injury Prevention
-

MRH identified priority health needs that would be best addressed through a coordinated response from a range of healthcare and community resources. Specific ways in which MRH is addressing the significant needs identified in its most recently conducted CHNA are below.

Priority Need: Access to Healthcare Services

MRH ensures that residents of our community have access to high-quality, medically necessary healthcare services in the most appropriate setting. Dedicated to the delivery of physical medicine and rehabilitation, MRH offers specialty programs for adult and pediatric patients recovering from injury or illness in both the inpatient and outpatient settings. MRH is committed to developing and maintaining programs that address the affordability of and accessibility to healthcare services. Additionally, MRH offers a comprehensive financial assistance program to patients who are unable to afford the cost of necessary medical care. MRH seeks to engage and maintain a multicultural workforce of PCPs, specialists, midlevel practitioners, registered professional nurses and those in other specialties committed to working in an evidence-based practice setting by providing a clinical site for educational experiences.

The development and implementation of the DuPage County Access to Health Services Action Plan is led by the DuPage Health Coalition. Formerly known as Access DuPage, the Coalition is a collaborative effort by thousands of individuals and hundreds of organizations in DuPage County to provide access to medical services to the county's low-income, medically uninsured residents. The DuPage Health Coalition also operates the Silver Access Program, which provides financial help to lower-income families purchasing health insurance through the Affordable Care Act's Healthcare Marketplace. In early 2017, the DuPage Health Coalition will open the DuPage Dispensary of Hope, a new free pharmacy program in Wheaton, offered in partnership with DuPage County. MRH leadership and staff work collaboratively with the DuPage Coalition to promote affordable access to care for all residents of DuPage County.

MRH will continue to support national and local efforts to increase access to care by providing leadership, investing resources and working collaboratively with other community organizations throughout the county. In conjunction with DuPage Health Coalition's Access DuPage program and independent medical providers, MRH will support the maintenance of an efficient and effective continuum of care for individuals with disabilities, offering inpatient and outpatient rehabilitation services to those in need.

Strategy 1: MRH will offer financial assistance policies that are easily accessible, user-friendly, respectful, and meet all regulatory requirements.

In FY17, an audit was completed. The MRH website was updated to enhance end user access. Content was also updated to reflect alignment to NM policies and procedures.

Strategy 2: MRH will continue to provide medically necessary inpatient and outpatient hospital services to uninsured and underinsured patients in accordance with the hospital's financial assistance policies.

MRH tracked the number of individuals and the amount of rendered financial assistance annually. In FY17, 568 patients were provided services, and a total of \$1,200,000 of community care was provided.

Strategy 3: MRH will continue to address the needs of individuals identified as potentially eligible for public health insurance by facilitating their application for government-sponsored healthcare coverage via a trained in-person staff who will assist in facilitating enrollment.

In FY17, MRH continued coordination of monetary support of Access DuPage services.

Strategy 4: MRH leadership will continue representation on various task forces and work groups related to the collaborative work occurring on access to care issues.

In FY17, MRH maintained a 99 percent approval rate of applications submitted.

Strategy 5: MRH will provide low-cost transportation to outpatient appointments.

In FY17, MRH provided 10,296 rides through MRH transport services. Zero trips were cancelled due to weather or facility-specific issues.

Strategy 6: MRH will continue to provide free inpatient and outpatient care to all Access DuPage clients in accordance with presumptive eligibility and existing MRH financial assistance policies. Opportunities to promote coordinated care to needed services for Access DuPage will be evaluated.

In FY17, 568 patients/services provided, in the amount of \$1,200,000 of community care provided.

Strategy 7: MRH will serve as a training center for physicians, nursing and other allied health professions.

Quantitative data, such as the number and types of internships and staff time commitment, was tracked throughout FY17 and was summarized in the Northwestern Medicine Community Benefit Report.

Strategy 8: MRH will provide trained professional healthcare interpreters and offer language assistance programs.

In FY17, MRH provided a total of \$372,790 in interpreter services for MRH patients, including \$26,728 on phone interpretation and the remainder on in-person interpretation.

Priority Need: Chronic Disease Management and Rehabilitation

In general, individuals with disabilities tend to experience higher percentages of health disparities than the larger population. These added challenges can result in further impaired mobility, nutritional deficits and an increased susceptibility to chronic medical conditions. Common precursors of chronic diseases, including physical inactivity, obesity, hypertension and high cholesterol, are more prevalent among persons with disabilities than those without. Despite increased health risks, people with disabilities are rarely targeted by specific health-promotion and disease-prevention efforts. Given the increasing prevalence of disability as the population ages, the need for community health services focusing on the rehabilitation needs of those served will likely increase at a proportional rate.

A broad range of intervention exists to address the issue of chronic disease, including health education, health screenings, supporting linkages to medical homes, and chronic disease management programs. MRH utilizes a collaborative, evidence-based approach to prevention, screening and chronic disease management aimed at reducing and eliminating many of the prominent contributors to mortality in the United States. Programs such as Access DuPage and Engage DuPage ensure access to routine health care, screening, PCPs, specialists, medications and medical homes. MRH offers a comprehensive financial assistance program to individuals unable to afford the cost of their acute medical care. In addition, the hospital offers a comprehensive array of community education programming and services to support both primary and tertiary interventions.

Strategy 1: MRH will offer evidence-based community health and wellness programming in the areas of chronic disease management and rehabilitation, overcoming the limitations of chronic disabilities.

In FY17, MRH staff developed curriculum for the five courses listed below. Follow-up based on course content was tracked through the support groups.

1. Understanding pediatric spasticity
2. Relaxation and meditation
3. Overcoming the limitations of spasticity
4. Posture training to increase flexibility and decrease lower back pain
5. Post-stroke exercise program

Strategy 2: MRH will provide access to the Emerging Fitness Center, including specialty group classes for individuals with specific exercise needs.

In FY17, 1,449 sessions were held in the MRH Fitness Center for individuals with disabilities. Many of the participants were previously MRH patients or family members..

Strategy 3: MRH Medical Library will provide educational and supportive resources for the community.

In FY17, MRH experienced 4,291 literature searches, 67 hours of education support and 57 interlibrary load transactions. MRH also conducted 130 hours of website/virtual library site development.

Strategy 4: MRH will offer evidence-based support programs in the areas of chronic disease management programmatic venues including, but not limited to, self-help and support groups.

In FY17, MRH provided the following support groups:

1. Amputee (six sessions; 65 participants)
2. Parkinson's (three sessions; 15 participants)
3. Caregiver Support (seven sessions; 21 participants)
4. Stroke (five sessions; 51 participants)
5. ALS (five sessions; 97 participants)
6. Aphasia (seven sessions; 152 participants)
7. Connections - Pediatrics (seven sessions; 122 participants)
8. High Hopes - Brain Injury (seven sessions; 159 participants)
9. Lives in Motion - Spinal Cord Injury (seven sessions; 71 participants)
10. Multiple Sclerosis (five sessions; 81 participants)

Priority Need: Promoting Independence in Individuals With Disabilities

The physicians and clinicians at MRH are trained in the provision of specialty treatments and rehabilitation for individuals with disabilities resulting from injuries, accidents, illnesses or congenital defects. Fitness and wellness programs tailored to people with disabilities and other health issues help ensure these vulnerable populations are engaged in moderate physical activity designed to improve strength and increase flexibility, to protect against further disability and enhance functional independence. The addition of the Marianjoy Fitness Center has opened new opportunities for individuals who may not have felt physically able or comfortable in other exercise settings.

Throughout the year, MRH offers a variety of free and public classes and lectures (focused on health and wellness) to support and promote the independence of individuals with disabilities. Additionally, MRH sponsors a variety of support

groups at no cost and open to the public including: amputation, aphasia, brain injury, chronic pain and stroke. MRH works closely with its community partners to promote independence of individuals with disabilities. Partners include, but are not limited to, DuPage County Health Department, DuPage Federation on Human Service Reform, local school districts, Office of the Secretary of State, DuPage Workforce Board and AbilityLinks, a national, web-based community where qualified job seekers with disabilities gain access to valuable networking opportunities.

Strategy 1: MRH will provide aquatic programs in a group class setting for adults and children.

In FY17, MRH provided 177 patient sessions. Individual goals were established, and PHI documented towards goal attainment.

Strategy 2: MRH will provide a program that will seek to match qualified individuals to employers who embrace diversity. This program will also provide job-seeking skills through practice interviewing sessions and educational programs on finding employment.

In FY17, MRH experienced 46,875 AbilityLinks website visitors. A total of 500 resumes were submitted, and 57 individuals self-disclosed that they were placed.

Strategy 3: MRH will provide services through the Tellabs Center for Neurorehabilitation and Neuroplasticity (TCNN), an innovative rehab technology designed to support patients with a wide range of conditions that benefit from the creation of lasting neuro-pathway changes derived through repetition.

In FY17, MRH provided 5,253 sessions using the mobility and upper extremity robotic equipment available in the TCNN. In addition, patients were assessed by therapy experts and individual goals were established.

Strategy 4: The Marianjoy Driver Rehabilitation Program will work with clients utilizing specialized equipment to promote the ability to drive for individuals with disabilities. Participants are provided with a comprehensive appraisal of a person's ability to drive safely. The Driver Rehabilitation Program also provides behind-the-wheel training for students who qualify, and will assist in obtaining the requirements for a driver's license.

In FY17, MRH evaluated and/or provided drivers' training to 158 students. In addition, a process was developed so that self-reported tracking can begin in FY18.

Strategy 5: MRH will provide the GoBabyGo program, where therapists and engineers collaborate to retrofit powered toy vehicles to meet the needs of children with disabilities.

In FY17, 39 volunteers from the community participated in MRH's GoBabyGo program, which served 15 children, 11 of whom were new recipients. The program provided four car upgrades from existing participants.

Strategy 6: MRH will offer evidence-based community health and wellness programming in the areas of chronic disease management and rehabilitation, overcoming the limitations of chronic disabilities, including but not limited to the following topic: Life after an amputation.

In FY17, MRH staff developed curriculum for the five courses listed below. Follow-up based on course content was tracked through the support groups:

1. Understanding pediatric spasticity
2. Relaxation and meditation
3. Overcoming the limitations of spasticity
4. Posture training to increase flexibility and decrease lower back pain
5. Post-stroke exercise program

Strategy 7: MRH will offer evidence-based support programs in the areas of promoting independence in programmatic venues including, but not limited to, self-help and support groups. .

In FY17, MRH provided the following support groups:

1. Amputee (six sessions; 65 participants)
2. Parkinson's (three sessions; 15 participants)
3. Caregiver Support (seven sessions; 21 participants)
4. Stroke (five sessions; 51 participants)
5. ALS (five sessions; 97 participants)
6. Aphasia (seven sessions; 152 participants)
7. Connections - Pediatrics (seven sessions; 122 participants)
8. High Hopes - Brain Injury (seven sessions; 159 participants)
9. Lives in Motion - Spinal Cord Injury (seven sessions; 71 participants)
10. Multiple Sclerosis (five sessions; 81 participants)

Priority Need: Injury Prevention

MRH offers a variety of programs, both through inpatient and outpatient services, to address injury prevention. Evidence-based, community health and wellness programming are offered by MRH in the areas of chronic disease management and rehabilitation, and overcoming the limitations of chronic disabilities. Among the topics covered are core yoga to increase strength and balance in individuals with disabilities; understanding, identifying and preventing running injuries; and how aging affects your balance. These programs address the prevention of injury for both persons with or without disabilities.

MRH offers the CarFit program for seniors, which allows older adults the opportunity to check how well their personal vehicles fit them. The CarFit program is aimed at preventing injury for seniors.

MRH works closely with its community partners to address the issue of injury prevention. Partners include, but are not limited to, DuPage County Health Department, Northwestern Medicine Central DuPage Hospital and local school districts

Strategy 1: MMRH will offer evidence-based community health and wellness programming in the areas of chronic disease management and rehabilitation, overcoming the limitations of chronic disabilities.

In FY17, MRH developed and implemented curriculum for four courses:

1. Yoga (10 five-week sessions were held; 146 participants)
2. Running Injuries (one course; 40 participants)
3. Aging and Balance (one course; 52 participants)
4. Therapeutic Golf Program (11 adult sessions; 170 participants)

In addition, six youth events were offered with 12 registered participants. Overall, five courses were adjusted and 22 first-time participants joined a session.

Strategy 2: MRH will offer the CarFit program for seniors, which allows older adults the opportunity to check how well their personal vehicles fit them. Evaluations will be provided by certified inspectors and occupational therapists..

In FY17, MRH staff monitored and tracked program outcomes, as well as the number of programs offered and individuals attending.

Strategy 3: MRH will collaborate with Central DuPage Hospital (NMCDH) to offer evidence-based, community-based injury prevention programming..

In FY17, MRH collaborated with NMCDH and began to market programming in the shared Northwestern Medicine program brochure. In order to increase efficiency, course registration was transitioned to the general Northwestern Medicine registration line, and data will be collected in FY18 to measure the impact of this program.

The CHNA report identified areas of opportunity for health improvement for which MRH and the ESC determined it would not prepare an implementation plan and strategy. These areas of opportunity and the reasons for not addressing them are below.

Mental health and substance abuse

The DuPage behavioral health collaborative was formed in response to the mental health findings and needs noted in the DuPage County IPLAN. The mission of the group is to work collaboratively to identify and implement data-driven strategies that improve access and quality of behavioral health services for all DuPage County residents, advocate for aligning resources and funding, and educate the community about the signs and symptoms of mental health issues. The collaborative is composed of two teams: the treatment leadership team (behavioral health) and the prevention leadership team (substance abuse). NMCDH leadership and staff serve as integral members of both teams working both independently and collaboratively to address mental health and substance abuse issues in DuPage County. Both teams are comprised of members from local hospitals and public health, private and community sectors, and represent a broad cross-section of the community united to respond to both issues.

Additionally, the DuPage County Health Department Crisis Intervention Unit is available to respond to mental health emergencies 24 hours a day. This unit deals with urgent mental health issues that require immediate attention, such as suicidal thoughts, homicidal threats, and symptoms of serious mental illness including depression, schizophrenia, bipolar disorder, anxiety and other issues that may require hospitalization. Individuals can contact the unit at any time and set up an appointment either by phone or in person. The crisis program also has a 10-bed respite unit available for short-term stabilization. Psychiatric evaluations and short-term crisis counseling intervention are also available on a scheduled basis as needed.

In the area of inpatient care, NMCDH offers immediate help, providing short-term psychiatric care for adults and teens (13 years of age and older) in a hospital setting. Short-term inpatient care is provided in three secure hospital psychiatric units to help people who pose a risk to themselves or others, and those who are unable to care for themselves. Following stabilization, NMCDH offers a full range of treatment including outpatient partial hospitalization, individual and family therapy, group therapy and follow-up services in the community. NMCDH also offers a full range of substance abuse

services including inpatient detoxification, residential treatment and rehabilitation services, and continued counseling to support long-term recovery

Immunization and infectious disease

DuPage County Health Department is responsible for monitoring the incidence of infectious diseases and providing childhood and adult immunizations. Immunization services are offered at the CPHC (Wheaton), SEPHC (Westmont), and EPHC (Lombard) offices. Childhood immunizations are available for all children who do not have insurance, or have insurance that does not cover immunizations, through the state of Illinois Vaccines for Children (VFC) program. Additionally, immunizations and selected testing are offered by the county's FQHCs, thereby ensuring multiple opportunities for residents to receive screening and immunizations.

Access to health promotion activities

MRH works collaboratively to support the provision of health promotion and health education sessions to clients residing in the community. It is widely recognized that the most effective way to address chronic disease is to address the problem across its lifespan in a coordinated effort. Health education programs are offered by NMCDH and MRH in an effort to focus on health promotion and disease prevention. Local PCPs and FQHCs provide medical homes and routine care aimed at screening, early detection and prompt treatment of disease and other health concerns. Local hospitals provide immediate and emergently needed acute care. Programs such as Access DuPage and Engage DuPage ensure access to routine health care, screening, PCPs, specialists, medications and medical homes.

Guided by the ESC, MRH will continue to support and work collaboratively with existing local organizations that are providing affordable primary health care to individuals experiencing the remaining healthcare issues noted above, as we believe they are best positioned to lead the provision of these services.

Appendix A

Organization	Description of medically underserved, low-income or minority populations represented (from publicly available sources, July 2018)
DuPage County Health Department	The mission of the DuPage County Health Department is to promote physical and emotional health; prevent illness, injury and disability; protect health from environmental risk factors; and strive to ensure the provision of accessible, quality service. 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.
DuPage Federation on Human Services Reform	The DuPage Federation on Human Services Reform 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. The federation serves as an organizer and catalyst, bringing together responsible organizations and advocating for development of real solutions. Its work involves expanding resources for cross-cutting issues that are the foundations of self-sufficiency. The federation is a unique convergence of people, place and opportunity, accomplishing its mission through a strong and dedicated board that includes community leaders, state and county public officials, clergy, representatives of community groups, business leaders, consumers and providers of human services.
DuPage Health Coalition (Access DuPage)	Access DuPage provides access to medical services for DuPage County residents lacking health care due to economic reasons. Access DuPage is not an insurance program, nor is it a substitute for good health insurance. For individuals without health care who meet the eligibility criteria, Access DuPage and its participating physicians try to provide a medical home where individuals can receive primary care services at a small cost until they become insured. In addition to primary care services, Access DuPage also works to secure additional medical services for patients as needed.
Elmhurst Community Unit School District 205 (CUSD 205)	Elmhurst CUSD 205 currently serves more than 8,000 students who reside primarily in the city of Elmhurst, Illinois, and small portions of Oak Brook, Bensenville and Addison. Approximately 93 percent of students live in Elmhurst, with the remainder living outside of the city but within district boundaries. Per its vision statement, Elmhurst CUSD 205 will be a national leader in educating children of all backgrounds and ability levels, promoting high individual student achievement. The district will incorporate student-centered decision-making, the highest academic standards, best practices in education, the highest-caliber educational professionals, and leading-edge resources to ensure an equitable education for all and success in a global society.
Illinois Health and Hospital Association (IHA)	For a combined 174 years, the Illinois Hospital Association and Metropolitan Chicago Healthcare Council have worked to improve health care. The two organizations are now one – IHA – combining talent and expertise with a renewed sense of purpose.

Naperville School District 203	The district educates students to be self-directed learners, collaborative workers, complex thinkers, quality producers and community contributors.
People’s Resource Center (PRC)	PRC provides food, clothing, job skills programs and much more to help neighbors in need in DuPage County. PRC serves more than 9,000 DuPage County families each year. It is a grassroots, community-supported organization, bringing neighbors together to create a future of hope and opportunity for all. Services include a food pantry, emergency rent/ mortgage assistance, clothes closet, social services, job assistance, literacy training and a computer lab.
AbilityLinks	AbilityLinks is the nation’s leading disability employment community. Businesses post jobs and search resumes, and job-seekers who self-identify as having a disability post resumes and apply for jobs. No information about disability type is asked. AbilityLinks counselors, who also have a disability, provide information, referrals and the human touch.
SPR Consulting	SPR Consulting powers businesses with technology by linking IT and line-of-business goals. Today’s competitive business environment demands technologies that collaborate effectively, innovate new market advantage, increase business performance and enhance market share.
Edward Hines VA Hospital	Located near Maywood, Illinois, Hines VA Hospital offers comprehensive health care, rehabilitative services and other important resources to veterans.
Donka, Inc.	This non-profit organization provides computer training to persons with physical and visual disabilities.
DuPage Workforce Board	The DuPage Workforce Board spearheads a workforce development system to meet the needs of employers for qualified workers and to expand employment opportunities for county residents. Through its diverse initiatives, the board is a key player in the economic growth and competitiveness of DuPage County and the Metropolitan Chicago region
Kensington International	Kensington International provides dedicated and experienced professionals to recruit, consult and coach on behalf of organizations.

Appendix B

Healthcare facilities and organizations in DuPage County, Illinois, found through publicly available information sources as of July 2018::

Acute-Care Hospitals/Emergency Rooms

Northwestern Medicine Central DuPage Hospital	Advocate Good Samaritan Hospital
Edward Hospital	Edward-Elmhurst Health Center
Rush-Copley Medical Center	Presence Mercy Medical Center
Alexian Brothers Medical Center	Marianjoy Rehabilitation Hospital, part of Northwestern Medicine
Adventist GlenOaks Hospital	

Emergency medical services (EMS)

Superior Ambulance Service Elmhurst

Federally qualified health centers and other safety net providers

VNA Health Care	DuPage Federation of Health Services
Access DuPage	DuPage Health Coalition
Access Community Health Network	

Home Healthcare

BrightStar Care Central DuPage - Wheaton	Lexington Healthcare Center of Lombard
ALC Home Health Care	Pearl Health Care Services
Addus HomeCare	Elite Care Management
LMR Home Health Care	Always Best Care
Home Instead Senior Care	Advocate Home Health Services
Assisting Hands Naperville	Family Home Health Services
Metro Home Health Care	ManorCare Health Services - Westmont
Amedisys Home Health Care	

Hospice Care

Northwestern Medicine Home Health and Hospice	First Hospice Care
CovenantCare Hospice - St. Charles	Compassionate Care Hospice
Seasons Hospice & Palliative Care	

Mental Health Services/Facilities

Crisis Intervention Unit	Health
DuPage County Health Department	Advanced Behavioral Centers of DuPage
NAMI	Linden Oaks Outpatient Center
DuPage Mental Health Services	Aunt Martha's Aurora Community Health Center
Northwestern Medicine Behavioral Health Services - Northwestern Medicine Central DuPage Hospital	Interfaith Mental Health Coalition
Good Samaritan Hospital Outpatient Behavioral	Meier Clinics

Skilled Nursing Facilities

Wynscape Health and Rehabilitation	Lemont Nursing and Rehabilitation Center
ManorCare Health Services - Naperville	Park Place of Elmhurst
Oak Trace	Brookdale Lisle
Rehab Care Group	Franciscan Village
DuPage County Convalescent	Friendship Village of Schaumburg
Meadowbrook Manor - Naperville	Abbingdon Rehab & Nursing Center
Brighton Gardens of St. Charles	The Holmstad
Cordia Senior Residence	Rosewood Care Center
Lombard Place Assisted Living & Memory Care	
Presence Pine View Care Center	



**Marianjoy Rehabilitation Hospital,
part of Northwestern Medicine**

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