

2022 Community Health Needs Assessment

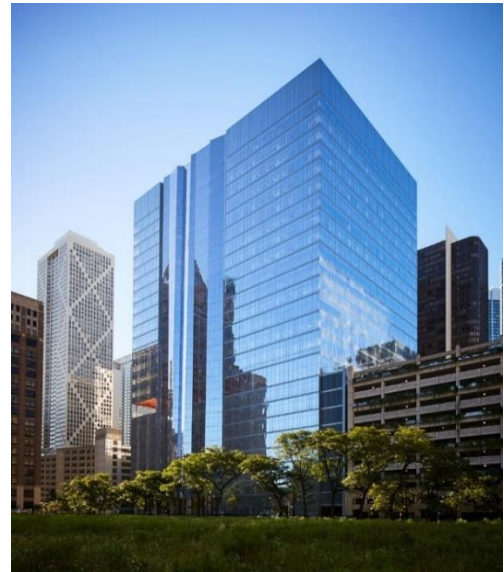


Table of Contents

Executive Summary.....	3
Introduction	4
• About Shirley Ryan AbilityLab	
• The Community Health Needs Assessment Process	
How Shirley Ryan AbilityLab Conducted This Assessment.....	11
• Data & Methods	
1. Review of Patient Conditions	
2. Literature Survey	
3. State, Local, and National Statistics on Disease and Disability	
4. Focus Group	
Prioritized Needs Assessment – FY2022.....	15
1. Access to Rehabilitation Health	
2. Rehabilitation Research	
3. Education Regarding Shirley Ryan AbilityLab’s Resources	
4. Post-Discharge Support Programs	
Evaluating our Actions Based on the FY2019 Community Health Needs Assessment.....	16
1. Rehabilitation Health	
2. Research	
3. Improved Access to Information about Existing Resources	
4. Support Programs	
5. Business Relationships	
Conclusion.....	23
Appendix A – Consulted Organization Descriptions.....	24
Appendix B – Henry B. Betts, M.D., LIFE Center Brochure.....	25
Citations.....	29

Executive Summary

Shirley Ryan AbilityLab, formerly Rehabilitation Institute of Chicago (RIC), is the global leader in physical medicine and rehabilitation for adults and children with the most severe, complex conditions – from traumatic brain and spinal cord injury to stroke, amputation, and cancer-related impairment. Shirley Ryan AbilityLab is a 501(c)(3) corporation, as defined by the Internal Revenue Code. As such, it is a nonprofit organization that expands and accelerates leadership in the field – leadership that began at RIC in 1953. The quality of its care and research have led to its designation as the Number 1 Rehabilitation Hospital in America by U.S. News & World Report every year since 1991. No other hospital, of any kind, has held this distinction for as many consecutive years.



In accordance with the Patient Protection and Affordable Care Act, Shirley Ryan AbilityLab has conducted four (4) Community Health Needs Assessments (“CHNA” or “Assessment”); specifically, in 2013, 2016, 2019, and now in 2022 (jointly referred to as “Assessments”). Each Assessment has taken into account input from a variety of parties representing the broad interest of the community served by the organization. Shirley Ryan AbilityLab reviewed data and articles regarding rehabilitation health needs from a wide variety of sources and hosted a focus group of community representatives.

Based upon the prior Assessments, as well as the current analysis and process, the following conditions continue to be identified as the primary conditions impacting an individual’s need for physical and/or cognitive rehabilitation:

- a) Stroke;
- b) Spinal cord injury;
- c) Brain injury;
- d) Neuromusculoskeletal conditions;
- e) Pediatrics; and
- f) Cancer.

Introduction

About Shirley Ryan AbilityLab

Shirley Ryan AbilityLab serves patients from around the globe. In fiscal year (“FY”) 2021, for example, it treated 3,619 inpatients and 14,732 outpatients and day rehabilitation patients throughout its system of care. Shirley Ryan AbilityLab facilities are staffed by approximately 2,900 clinicians, scientists, researchers, medical professionals, and support personnel — an integrated and dedicated team — and has treated patients from nearly every state in the nation, as well as from multiple countries around the world. Each day, Shirley Ryan AbilityLab focuses its care on its Mission - we are dedicated to providing the best patient care outcomes through the highest-quality patient care, translational research, scientific discovery and education - and its Vision - to be the global source of science-driven breakthroughs in Human Ability™.

In March 2017, the organization opened a 1.2-million-square-foot, first-ever “translational” research hospital — Shirley Ryan AbilityLab — in which clinicians, scientists, innovators and technologists work together in the same space, surrounding patients, and discovering new approaches and applying or “translating” research in real time; an important investment toward realizing the organization’s Vision. This unique model allows research to have an immediate impact on clinical care, providing patients with the best opportunity for recovery.

The translational philosophy drove the building's design: using the integration and flow of space to facilitate cultural, operational, and behavioral change, thereby accelerating the discovery of solutions to urgent patient problems. In this setting, research is fully integrated into the clinical environment, engaging patients in the process. Because scientists’ labs physically surround patients, the innovation feedback loop is shortened, and research is more focused. Shirley Ryan AbilityLab continues to prove that this “no boundaries” approach improves and accelerates discovery and innovation, and ultimately results in better, faster patient outcomes — even cures — for patients. In the five years since opening the new flagship hospital, Shirley Ryan AbilityLab has had breakthrough technology and treatments emerge from this applied-science approach.

The community has recognized this unique, innovative approach to providing rehabilitation to its patients through various awards (e.g., Gold Award, *Modern Healthcare* Design Awards; Chicago Innovation Awards; and the United Kingdom’s S-Lab Award for Excellence in Laboratory Design, amongst numerous others). However, the most important measure of success is the organization’s continued progress in evolving and advancing patient care and research to achieve better outcomes for its patients.

In addition to embedding researchers into the clinical setting, Shirley Ryan AbilityLab restructured its clinical offerings into Innovation Centers and Ability Labs. Innovation Centers are the inpatient care units that provide highly specialized care focused on one of the following conditions: pediatrics, cancer, and dysfunction or injury of the brain, spinal cord, nerves, muscles, or bones. Ability Labs are

integrated, applied-research areas in which physicians, therapists, and scientific researchers work together with patients towards the patient's goal of regaining function or advancing ability.



Shirley Ryan AbilityLab has four separate Ability Labs, each with a different focus reflecting the different key functions under treatment and study:

Arms + Hands Lab

The focus is on advancing hand function and movement, body and upper-limb coordination, strength, reaching, and hand control (including individual finger manipulation). State-of-the-art research methods and approaches in this Lab include experimental electromyography, movement analysis, kinetic analysis, biomechanics, sensor technologies, brain and/or other imaging, brain physiology, musculoskeletal physiology, experimental biologics, experimental pharmacotherapeutics, emerging technologies, and use of smart devices.

Legs + Walking Lab

The focus is on advancing trunk, pelvic, and leg function, movement, and balance. Therapeutic intervention makes use of anti-gravity support and weight-bearing assistive devices, which are used to support patients as they work on climbing and descending the Lab's staircase. The staircase itself is a unique system designed specifically for Shirley Ryan AbilityLab to foster better patient outcomes in a challenging yet safe environment.

Think + Speak Lab

Dedicated to recovery of patients with the most severe conditions affecting the fundamental functions of the human brain — arousal,



lucidity, awareness, sensory perception, motivation, information processing and thinking, perception, speech, memory, and learning. Brain injury or disease also affects the muscles and structures used in breathing, speaking and articulation, eating, and swallowing. Patients are immersed in cutting-edge therapeutic interventions in neurophysiology and neurological functioning, which includes utilizing proprietary software and other unique smart thinking-speaking technology and equipment.

Strength + Endurance Lab

Designed for patients and research participants working on building stamina and resilience. Therapy is targeted to improve complex motor and endurance activities, coordination, and higher-level activities of daily living. Clinical trials and human-subject research focus on the facilitation of patients' neurologic, muscle, bone, and joint repair and recovery. State-of-the-art research methods and approaches in the Strength + Endurance Lab include experimental electromyography, movement analysis, kinetic analysis, biomechanics, sensor technologies, brain and/or other imaging, brain physiology, musculoskeletal physiology, experimental biologics, experimental pharmacotherapeutics, and emerging technologies and use of smart devices.

In addition to the translational hospital, Shirley Ryan AbilityLab continues to offer robust physician clinics, outpatient care, and day rehabilitation for patients who no longer require hospitalization but still need intensive, coordinated rehabilitation care, as well as additional specialized services for all patients, such as ethics consultation, therapeutic recreation, an assistive technology program, and a wheelchair seating and positioning center.

Finally, Shirley Ryan AbilityLab achieved the American Nurses Credentialing Center (ANCC) Magnet designation for nursing excellence and is the first free-standing acute inpatient rehabilitation hospital to hold this distinction. Shirley Ryan AbilityLab has achieved Magnet status now for a fourth consecutive time. Fewer than 8.5 percent of U.S. hospitals earn Magnet recognition, and **fewer than 1 percent** have received this certification four or more times.

Each year, Shirley Ryan AbilityLab advances its continuing, robust commitment to the needs of the community by implementing the actions identified by the Assessment and evolving future care and services. This report outlines the findings of the 2022 Assessment and provides guidelines for implantation of services to address those needs.

The following is an overview of Shirley Ryan AbilityLab locations:



Figure 1. Shirley Ryan AbilityLab sites of care, including its wholly owned sites

The Community Health Needs Assessment Process

The Commitment of Shirley Ryan AbilityLab and Its Leaders

Shirley Ryan AbilityLab’s FY2022 CHNA took into account input from a number of individuals and organizations who represent the broad interests of the community served. Shirley Ryan AbilityLab reviewed data and articles regarding rehabilitation health needs from a wide variety of sources and hosted a focus group of community representatives, including former patients. Shirley Ryan AbilityLab found continued rehabilitation health needs in the areas of stroke, spinal cord injury, brain injury, neuromusculoskeletal conditions, pediatric care, and cancer. In response to the CHNA, Shirley Ryan AbilityLab will prepare an Implementation Strategy to identify the programs and resources the organization will employ over the next three years to address the significant health needs identified in the CHNA.

The Community that Shirley Ryan AbilityLab Serves

Critical to any Assessment is identification of the community being served. To ensure proper identification of the community, a provider may take into account the relevant facts and circumstances defining that community, including the geographic area served by the hospital facility, target populations served (for example, race, gender, or individuals of a certain age), and principal functions (for example, focus on a particular specialty area or targeted disease)¹. As noted above, Shirley Ryan AbilityLab serves a global patient population; however, for the purposes of the Assessment, Shirley Ryan AbilityLab identified the community as Chicagoland and the surrounding area with a need for inpatient, outpatient, or day rehabilitation physical medicine and rehabilitation. Furthermore, Shirley Ryan AbilityLab’s Assessment included a broad and all-encompassing evaluation of all individuals in its community with a need for physical medicine and rehabilitation services, including those services for which a rehabilitation hospital is required. Adult and pediatric patients requiring physical medicine and rehabilitation services include those with neuromusculoskeletal injuries, brain injuries, spinal cord injuries, pediatric rehabilitation, stroke rehabilitation, and cancer rehabilitation, along with patients who have had amputations or who have other limb deficiencies.

Most patients who receive care at Shirley Ryan AbilityLab are from the Chicagoland area. In CY 2021, 81 percent of inpatients, 95 percent of outpatients, and 91 percent of DayRehab® patients receiving care at Shirley Ryan AbilityLab were from the Chicagoland area. However, the community includes all of Cook County as well as the surrounding counties of DeKalb, DuPage, Kane, Kankakee, Lake, McHenry, and Will which, in 2021, were home to approximately 9.1 million people. The area has a diverse population, as shown by the data in Table 2. In FY2021, 17,293 patients were discharged from inpatient rehabilitation facilities (“IRF”) in the Chicagoland area.

Our Role in Providing Care to Medically Complex Patients

Shirley Ryan AbilityLab patients are some of the most medically complex patients requiring rehabilitative care, as shown by the data in Figure 2. The Case Mix Index (CMI) provides one measure to objectively determine a patient’s medical complexity. Namely, a higher number indicates greater complexity. “The case mix index (“cmi”) is the sum of the weight per discharge across all discharges at the hospital divided by the number of equivalent cases.”²

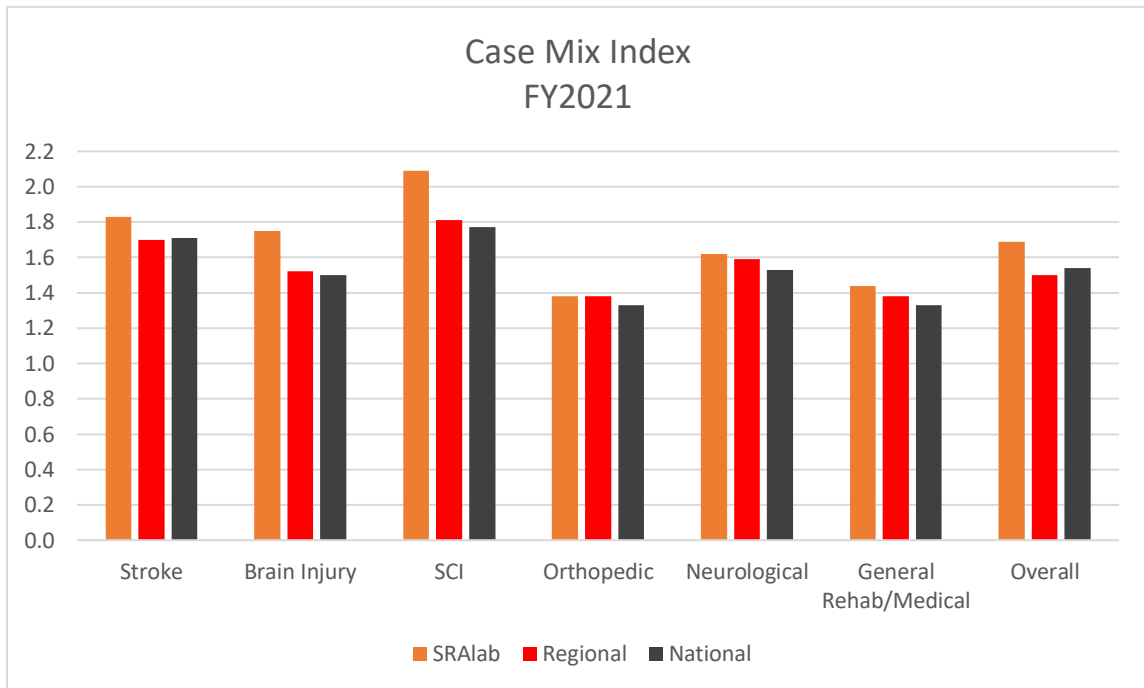


Figure 2. CMI Values for Shirley Ryan AbilityLab, the region and the nation for FY2021.

Age and Race of Patients

In preparing the Assessment, Shirley Ryan AbilityLab reviewed age and race information for Chicagoland area IRF patients for FY2021. Nationally, adults aged 65 and older make up the largest percentage of users of rehabilitation services and, as shown in Table 1, is the only age group in the Shirley Ryan AbilityLab service area that is expected to increase in population.

Age Cohort	Chicagoland Area		
	2021 Population	Projected 2026 Population	% Growth
0-19	2,254,300	2,172,661	-3.6%
20-34	1,888,681	1,784,865	-5.5%
35-54	2,390,149	2,359,589	-1.3%
55-64	1,169,522	1,096,450	-6.2%
65+	1,423,431	1,611,629	13.2%

Table 1. Population by Age in Aggregate Service Area (source: Advisory Board)

Table 2 shows the overall diversity of the population of the Chicagoland area and is reflected in IRF patient discharges for FY2021.

Population Category	White	African American	Other
Percent of Population in Chicagoland Area	63%	18%	19%
Percent of Patients Discharged from Shirley Ryan AbilityLab (FY2021)	49%	28%	23%
Percent of Patients Discharged from Chicagoland Area IRFs (FY2021)	57%	25%	18%

Table 2. Percent of patients by Race discharged from Shirley Ryan AbilityLab and Chicagoland IRFs for fiscal year 2021.

Overall, Shirley Ryan AbilityLab’s determination of its community of care for this Assessment considered these geographical and demographic considerations.

How Shirley Ryan AbilityLab Conducted This Assessment

Data & Methods

1. Review of Patient Conditions

Shirley Ryan AbilityLab reviewed its patient mix by diagnostic group to determine the substantial health needs of its community. Table 3 shows Patient Mix by Diagnostic Group for patients admitted on an inpatient basis.

Diagnostic Group	Inpatient Total FY2021	Total as % FY2021
Stroke	801	22%
Brain Injury	537	15%
Spinal Cord Injury	531	14%
Pediatrics	238	7%
Orthopedics	206	6%
Amputee	97	3%
General/Other	1,209	33%
Total	3,619	100%

Table 3. Shirley Ryan AbilityLab patient mix by diagnostic group for FY2021.

2. Literature Survey

Shirley Ryan AbilityLab conducted a survey of literature in the field of physical medicine and rehabilitation to help determine the significant health needs of the community, with a focus on the types of conditions most often seen in Shirley Ryan AbilityLab patients. Millions of individuals, including those in Shirley Ryan AbilityLab’s geographic community, have conditions such as stroke, spinal cord injuries, traumatic brain injuries and cancer that require physical medicine and rehabilitation services. Nationally, survival rates for many of these conditions including stroke,³ spinal cord injury,⁴ and traumatic brain injury⁵ are increasing. Consequently, the total burden of illness and need for rehabilitation care is growing. In addition, cancer survival rates are increasing, and individuals diagnosed with cancer are living longer with cancer, making it a chronic condition. Increased cancer survival rates bring new challenges and opportunities in the field of rehabilitation. For many cancer survivors, the aggressive, life-saving interventions often take a harsh physical toll.⁶ Patients may experience debilitating fatigue, pain, anemia, memory or concentration problems, edema, and nerve problems

resulting in a loss of mobility or an inability to perform self-care tasks.⁷ For stroke patients, the effects differ based on which area of the brain was affected and can include vision problems, memory loss, speech impairments, mobility limitations, and changes in behavior.¹⁰ Based on data provided by the Illinois Health and Hospital Association’s COMPdata Informatics, Table 4 identifies the number of patients discharged from acute-care hospitals, by condition, in the eight-county Chicagoland area:

Condition	Occurrences		
	FY2019	FY2020	FY2021
Traumatic Brain Injury	6,572	6,411	6,859
Neurological Conditions	19,593	18,009	17,357
Stroke	33,303	30,817	30,747
Spinal Cord Injury	3,034	2,553	2,695

Table 4. Patient data by fiscal year and condition.

3. State, Local, and National Statistics on Disease and Disability

Shirley Ryan AbilityLab utilized the definition of “adults with disabilities” set forth in the Illinois Department of Public Health’s (“IDPH”) 2016 Illinois Disability and Health Data Report (“Report”). The IDPH Report addressed the health status of adults with disabilities in Illinois. In preparing the report, IDPH used a questionnaire with a pair of screening questions. One question inquired whether a respondent had an activity limitation due to physical, mental, and/or emotional conditions. The other question asked if the respondent used a mobility-device (e.g., cane, wheelchair) and/or other assistive devices (e.g., special bed or telephone). Survey participants who responded positively to either or both questions were categorized as “adults with disabilities.”

IDPH has not published a report since 2016; therefore, Shirley Ryan AbilityLab looked to local statistics for its Assessment. In 2018, Cook County reported approximately 10.1% of the population had a disability. Table 5 below identifies the population by age group:

2018 Age of Population	Reported Disability
< 5 years	1%
5 to 17 years	4%
18 to 34 years	5%
35 to 64 years	10%
65 to 74 years	23%
≥ 75 years	43%

Table 5. 2018 Mayor’s Office for People with Disabilities⁸

According to the CDC, Illinois adults with disabilities are more likely to face chronic disease than Illinois adults without disabilities. Table 6 compares disease rates for select chronic diseases.

CY2020	Adults with Disability	Adults without Disability
Arthritis	37.8%	16.0%
Asthma	14.3%	7.3%
Diabetes	13.7%	7.4%
Stroke	5.2%	1.4%
Chronic Obstructive Pulmonary Disease	12.1%	3.7%
Cancer	7.1%	4.8%

Table 6. Chronic Disease Prevalence⁹

Additionally, Illinois adults with disabilities are more likely to face risk factors for chronic diseases. Table 7 compares rates for select risk factors.

CY2020	Adults with Disability	Adults without Disability
Obesity	45.6%	28.7%
Aerobic Exercise (≥225 minutes/week) *	37.9%	52.5%
Sleep (7-9 hours/day)	49.4%	70.1%
Cigarette Smoking (Current)	22.0%	10.6%
Cigarette Smoking (Former)	23.7%	20.1%
High Blood Pressure	40.9%	26.4%
High Blood Cholesterol	32.4%	26.4%

Table 7. Prevalence of Risk Factors and Behaviors.¹⁰ *Most recent data available from 2019, all other data from 2020

Illinois data from the CDC highlights the critical need to address social determinants of health (“SDOH”) and target risk factors that can lead to chronic disease development in people with disabilities. SDOH include economic stability, education access, healthcare access and quality, neighborhood environment, and social support.¹¹ These factors have been shown to impact life expectancy and the risk of health conditions such as heart disease, diabetes, and obesity.¹² Differences in SDOH among social groups is a major factor in health disparities.

Disability worsens SDOH, resulting in a corresponding increase in morbidity and mortality.¹³ The greatest impact on SDOH from disability comes from a decrease in income and, thus, a decrease in economic stability.¹⁴ Additionally, disability can have negative effects on social life, impede transportation, thereby affecting healthcare access, and limit living environment options, all of which can worsen SDOH.¹⁵

CDC data demonstrates some of the negative life-style and health effects associated with

disability and its impact on SDOH. Effective rehabilitation can reduce functional disability and in turn reduce disability's negative impact on SDOH.

4. **Focus Group — Consulting with Persons Who Represent the Broad Interests of the Community**

Shirley Ryan AbilityLab hosted a Focus Group in which leaders from the health community were invited to share their thoughts about how Shirley Ryan AbilityLab can assist in addressing the current, significant health needs of the community. These leaders included: persons with special knowledge or expertise in public health; representatives from federal, state or local health departments; representatives of agencies with current data or other information relevant to the health needs of the community; representatives or members of medically underserved, low-income, and minority populations; and representatives of populations with chronic disease needs. Shirley Ryan AbilityLab is grateful for the discussion and input provided by the following Focus Group participants:

- Brain Injury Association of Illinois
- Illinois Department of Human Services (“DHS”) — Division of Rehabilitation Services
- Participant / Patient Parkinson’s Disease & Movement Disorder
- Spinal Cord Injury Association of Illinois
- Shirley Ryan AbilityLab Peer Mentor Program

Due to health and safety concerns related to COVID, the Focus Group meeting was held by videoconference on June 8, 2022. Group discussion focused on rehabilitation health needs of people with physical disabilities, access to information and care, research and clinical trials, education and training, and support programs. A detailed description of the participating organizations can be found in Appendix A. Focus Group participants were asked to consider the significant rehabilitation health needs of their respective communities, and Shirley Ryan AbilityLab took their feedback into account when completing the Assessment.

Prioritized Needs Assessment – FY2022

Shirley Ryan AbilityLab reviewed and analyzed data obtained through methods described in the “data and methods” section of this report and has identified the community health needs listed below. An implementation strategy, describing the steps Shirley Ryan AbilityLab will take to address these needs, will be created and published on Shirley Ryan AbilityLab’s website.

1. Access to Rehabilitation Health

Given the increasing prevalence of conditions resulting in cognitive and physical disability, there is a continued need to expand access for patients in various rehabilitation settings in the areas of stroke, spinal cord injury, brain injury, neuromusculoskeletal conditions, pediatric care, and cancer.

2. Rehabilitation Research

There is a continued need for rehabilitation research into new and more promising treatments to improve and eliminate the effects of injury, disease, and debilitating health conditions, as well as the impact of COVID-19/Long COVID. In addition, there is a need to address social determinants of health, as well as social-science issues such as depression and quality of life for patients who will permanently depend on a wheelchair for mobility.

3. Education Regarding Shirley Ryan AbilityLab’s Resources

There is a continued need to increase awareness among patients, visitors, and the community at large, regarding Shirley Ryan AbilityLab’s LIFE Center – a virtual and multimedia education center with a mission of providing opportunities for Learning, Innovation, Family, and Empowerment for patients, families, staff, and the community at large – as well as all other available programs and resources, including the many and varied opportunities to participate in clinical research trials.

4. Post-Discharge Support Programs

There is a continuing need for support programming. In particular, helping patients manage expectations upon returning home, continued educational resources, and facilitating communication with existing community support groups.

Evaluating Our Actions Based on the FY2019 Assessment

A hospital's CHNA must include an "evaluation of the impact of any actions that were taken ... to address the significant health needs identified in the hospital facility's immediately preceding CHNA."¹⁶ In the FY2019 Assessment, which was conducted using similar methods as set forth in the "data and methods" section of this report, Shirley Ryan AbilityLab identified the following significant community health needs:

1. Rehabilitation Health
2. Research
3. Improved Access to Information About Existing Resources
4. Support Programs
5. Business Relationships

Shirley Ryan AbilityLab has addressed each of these five identified health needs, as discussed here:

1. Rehabilitation Health: Expanding Access to the Best Rehabilitation & the Best Patient Outcomes

The FY2019 Assessment identified a need for increased access to rehabilitation services given the increasing incidence of conditions that cause cognitive and physical disabilities. Shirley Ryan AbilityLab opened a new translational research hospital on March 25, 2017. Prior to that time, RIC operated a 182-bed IRF, primarily with semi-private rooms. As a result, Shirley Ryan AbilityLab was effectively capacity constrained due to semi-private rooms, gender mix issues, and the need for infection control. Upon opening the new hospital, capacity increased to 242 private rooms. On April 30, 2019, the Illinois Health Facilities Planning Board authorized an additional twenty (20) beds for a total capacity of 262 private rooms. Currently, the average census is 215, but often reaches a census of 230 or more. As a result of moving into the new facility, the capacity constraints have been resolved.

Data regarding the percentage increases in the number of patients is shown in the table below:

Inpatients by Area of Focus	Number of Inpatients	Percentage Increase	
		2019	2020
Cancer	197	101%	91%
Neuromusculoskeletal conditions	885	108%	117%
Other	215	94%	99%
Pediatric	232	90%	89%
Spinal Cord Injury	399	88%	107%
Stroke	590	105%	117%
Traumatic Brain Injury	256	102%	102%
Brain Injury	130	85%	99%
Grand Total	2,904	100%	108%

Table 8. Inpatient data by fiscal year and type.

In addition, patients who received care at Shirley Ryan AbilityLab since the FY2019 CHNA were more medically fragile than patients at other IRFs, both regionally and nationally. Figure 2 (shown on page 9) compares the Shirley Ryan AbilityLab FY2021 CMI in the areas of stroke, brain injury, spinal cord injury, orthopedic, neurological, and medical rehabilitation with comparative values for the region and the nation. Shirley Ryan AbilityLab’s CMI in each area of care is higher, often substantially, than the equivalent regional or national CMI.

Shirley Ryan AbilityLab has continued to increase access to care in the outpatient and DayRehab® settings as well. Since the FY2019 Assessment, Shirley Ryan AbilityLab has relocated and upgraded its DayRehab® clinics in Homewood and Wheeling, resulting in improved access to care and further supporting patients’ rehabilitation health needs.

In FY2020, having immediately recognized the critical need to ensure ongoing access to care during the COVID-19 pandemic, Shirley Ryan AbilityLab rapidly adopted and implemented telehealth and remote services. By providing these services to outpatients and DayRehab® patients, SRAlab was able to continue supporting the needs of the community by meeting its patients where they were, protecting them from exposure to infection, and ensuring that patients saw no interruption of their rehabilitation care.

In FY2020, SRAlab provided approximately 25,000 telehealth and remote services with physicians, physical therapists, occupational therapists, psychologists, and speech language pathologists across all sites. In FY2021, SRAlab provided approximately 20,000 telehealth and remote services with physicians, physical therapists, occupational therapists, psychologists, and speech language pathologists across all outpatient sites. SRAlab has continued to provide telehealth and remote services and is fully utilizing the waivers and flexibilities put in place by CMS, HHS, and the State of Illinois to provide telehealth and remote services to patients in Illinois.

2. Research

As result of opening the translational research hospital, Shirley Ryan AbilityLab’s Research Program has expanded considerably. It has always been the world’s largest physical rehabilitation research enterprise in pursuit of clinical advancement through scientific discovery; however, as a result of embedding research into clinical care, new innovations and research are expanding rapidly.

Currently, the Research Program has, at any given time, more than 125 research projects underway, funded by approximately \$100 million in grants and donations, from both public and private sources. Shirley Ryan AbilityLab conducts research in areas including aging, amputation, aphasia, arthritis, basic science, biologics, brain injury, cerebral palsy, gait, musculoskeletal conditions, neuro-engineering, long-term outcomes of medical rehabilitation in patients with disabilities, pain, Parkinson’s disease, pediatrics, prosthetics and orthotics, biomarkers, brain imaging, bionics, robotics, spinal cord injury, sports medicine, stroke, and women’s health. Since the FY2016 Assessment, there has been a major focus on, and expansion in, research.

The table below provides a FY2019/2021 comparison of funded research projects, award dollars funded and the number of employee researchers:

Category	FY2019	FY2021
# Funded Research Projects (Grants & Clinal Trials)	142	161
Total Active Award \$\$ funded in FY	\$ 107,090,425	\$ 139,300,499
# Employed Contributing Researchers	308	364

Table 9. Research projects, awards and employed contributors by fiscal year.

Additionally, Shirley Ryan AbilityLab researchers have published hundreds of articles on a wide variety of rehabilitation-related topics from 2019 to 2021.

Shirley Ryan AbilityLab has hired key roles, which will continue to expand the research portfolio and ensure that Shirley Ryan AbilityLab stays at the forefront of clinically relevant research. These roles include but are not limited to:

Scientific Chair, Arms + Hands Lab

The Scientific Chair of the Arms + Hands Lab facilitates clinically meaningful research and applies state-of-the-art scientific principles to improve patient function, specifically in the areas of complex arm/hand and reaching skills. The Scientific Chair establishes research themes and provides guidance and technical expertise in collaboration with the Clinical Chairs of all Innovation Centers. The Scientific Chair is focused on creating synergy among investigators and clinicians in the Arms + Hands Lab that will speed discovery and ensure clinical adoption of discoveries.

Scientific Chair, Legs + Walking Lab

The Scientific Chair of the Legs + Walking Lab facilitates clinically meaningful research and applies state-of-the-art scientific principles to improve patient function in the areas of locomotion, gait, and walking. The Scientific Chair establishes research themes and provides guidance and technical expertise in collaboration with the Clinical Chairs of all Innovation Centers. The Scientific Chair is focused on creating synergy among investigators and clinicians in the Legs + Walking Lab that will speed and ensure clinical adoption of discoveries.

Section Chief, Parkinson's and Movement Disorders

The Section Chief of Parkinson's and Movement Disorders leads the medical practice of attending physicians, as well as the clinical contingent of the interdisciplinary team focused on Parkinson's disease and movement disorders. The Section Chief also shares responsibility with a designated operations leader for planning, developing, and implementing this program, a leadership teaming that will create additional access for patients.

3. Improved Access to Information about Existing Resources

The FY2019 Assessment identified the need for improved community and professional access to evidence-supported educational materials and information. Since 2003, the LIFE Center, an integrated component of the care provided by Shirley Ryan AbilityLab, has served as a resource for patient education and consumer health. The LIFE Center provides virtual access to its resources through Shirley Ryan AbilityLab's website (sralab.org/lifecenter). All content is designed to provide holistic support to people living with a wide range of cognitive and physical impairments. Knowledgeable, expert staff are available on-site to help visitors and professionals find personal connections and trusted resources (such as peer mentors) who are aligned with their needs and can provide guidance throughout their respective healthcare journeys.

In response to the FY2019 Assessment, the LIFE Center continued to enrich community access and visibility of available resources. The LIFE Center provides patient and family-centered education by utilizing a wide range of collaborative tools and engagement methods, which serve to promote inclusion and personalization. At the onset of the COVID-19 pandemic in March 2020, the LIFE Center quickly adapted to safely provide services consistent with the

newly identified health concerns for patients, families, staff, and community. Shirley Ryan AbilityLab expanded the LIFE Center’s hours of operation, placed a staff member onsite seven days a week, and began providing virtual education via email, telephone, and web-conferencing. Inpatients were scheduled to participate in virtual education sessions made accessible via bedside television and were provided with educational materials to follow along with while in class. The LIFE Center web site was overhauled to expand curated listings to include a master list for greater access. The LIFE Center staff continues to be available seven days a week to provide in-person and virtual resource assistance and education. In this way, SRALab provides ongoing support to ensure that community members have access and guidance to vital information and resources throughout their lifetime and regardless of their location.

In 2021, total outreach and service efforts represented 6,490 person contacts. Services provided included individualized patient, family and community education programs –in person or virtual, virtual classes, virtual special events, and a peer-mentor program – in person or virtual. LIFE Center web traffic in FY2020 averaged 21,040 page views per month with 252,475 page views annually from more than 180 countries, and in FY2021 averaged 12,349 page views per month, or 148,198 page views annually, with visits from more than 173 countries.

4. Support Programs

The 2019 Assessment identified a continued need for particular support programs for patients and their families. The following Shirley Ryan AbilityLab programs provide unique resources for the community:

Aphasia Programs

Shirley Ryan AbilityLab aphasia experts are investigating novel ways to treat aphasia through technological innovation, clinical research studies, and unique therapeutic treatments. The following examples illustrate how the aphasia team is addressing patient and community needs:

- (1) More than fifty (50) community members with aphasia take part in the weekly aphasia community group program. During the last two years, the program was offered virtually due to the COVID-19 pandemic. Four book clubs and five conversation groups are offered each week in addition to a movie discussion group. Each group is facilitated by a speech and language pathologist with expertise in the use of strategies to support the communication difficulties of the participants.
- (2) Shirley Ryan AbilityLab’s Annual Aphasia Day was also held virtually in June 2021 to celebrate National Aphasia Awareness Month. In addition, a YouTube playlist featuring past Aphasia Day presentations was created to increase more widespread community awareness of aphasia (see [Aphasia Day Presentations](#)).

- (3) Intensive Aphasia Program (IAP) — This month-long, self-pay program offers six (6) hours of daily therapy that focuses specifically on improving the communication skills (speaking, understanding, reading, and writing) of the person with aphasia. The IAP is offered four (4) times a year. At the start of the pandemic, it was offered via telehealth, but is now being offered in person.

- (4) Aphasia Research — Shirley Ryan AbilityLab has several aphasia-related studies underway to better understand recovery in aphasia and to investigate novel treatment methods to achieve the best outcomes. More than thirty (30) people with aphasia participate in these studies each year.

Transition Programs for Adolescent Patients

Transition from adolescence to adulthood presents unique challenges for rehabilitation patients. Like most peers their age, they are going through changes in puberty, sexual identity, increased abstract thinking, self-determination, and increased responsibility; but with the added responsibility of navigating the world with a disability. This challenge requires additional support and services. In an effort to help adolescent patients through the transition to adulthood, Shirley Ryan AbilityLab operates a Youth Transition Program for adolescents ages 13 to 21 who have the potential for independent living and ability to direct their own care. The program focuses on providing social support and training in cooking, money management, community transportation, medical information and care, and education and employment.

Vocational Rehabilitation Program

Beginning a career or returning to work following an illness or injury is important to a patient's financial security and emotional well-being. Employment can contribute to achieving a productive, independent, and fulfilling life. For more than fifty (50) years, Shirley Ryan AbilityLab has been providing comprehensive vocational rehabilitation services tailored to meet the needs of each client. Services include initial assessment, evaluation, work trial assessments, return-to-work evaluation, job placement, résumé writing, interviewing workshops, an Internet job skills course, and internship coordination. Shirley Ryan AbilityLab covers the cost of initial assessments, which are not covered by most third-party payers. Patients can receive vocational services at any of Shirley Ryan AbilityLab's seven facilities, ensuring that employment assistance is closely tied to community reintegration. During the past five years, the program has served an average of 900 clients annually.

Shirley Ryan AbilityLab also offers no-cost, accessible Graduate Equivalency Degree (GED) classes at its downtown Chicago location. These classes have the potential for long-lasting and life-changing impact. This program is offered to any individual with a spinal cord injury (SCI) who is looking to earn their GED. Unlike other GED programs, the Shirley Ryan AbilityLab Vocational Rehabilitation program is offered at an accessible location. The Vocational Rehabilitation staff are experienced in meeting the unique needs of individuals with SCI as they pursue a GED. These considerations help reduce the barriers to continuing education for people with SCI,

increasing their potential for further education, employability, and increased quality of life.

Adaptive Sports and Functional Fitness Program

The Adaptive Sports and Functional Fitness Program provides wellness opportunities for people with physical disabilities through sports and recreation, as well as through Functional Fitness programs. All services offered in the Sports program, which marked its 40th year in 2021, are free of charge or offered at a nominal fee. The Fitness Center offers individualized treatment sessions geared toward improving patients' functional abilities through exercise for a nominal fee. The Adaptive Sports and Fitness Program is funded primarily by grants and generous community donations and is operated by 10.5 full-time equivalent staff. Additionally, program volunteers assist in a wide variety of community sports and fitness events, and volunteer hours in FY2021 alone totaled nearly 4,000. Although certain Sports and Fitness programs were temporarily suspended due to COVID, during FY2021, the sports program recorded 2,854 visits by its 194 registered participants. A separate program for youth, Sports for Kids, recorded 455 visits by 70 children with disabilities from the Chicago area. Shirley Ryan AbilityLab's Sports and Fitness Program is considered a national leader in health promotion for people with disabilities.



Military Sports Camp

Shirley Ryan AbilityLab's Military Sports Camp is designed for injured military personnel, and all individuals who have or are currently serving in the U.S. Armed Forces and have a primary physical disability are welcome to apply. Introductory-level athletes are invited to learn sports skills from elite-level coaches, while enjoying all that Chicago has to offer. Adaptive sports offered include wheelchair basketball, wheelchair rugby, wheelchair softball, biathlon, archery, sled hockey, wheelchair tennis, field sports, judo, rock climbing, SCUBA, swimming, cycling, kayaking, fitness and golf. Transportation to and from Chicago, including all associated costs, is provided for all participants. The camp aims to help participants develop a healthy and active lifestyle through adaptive sports and recreation and includes health education and wellness

opportunities. At the end of the program, each participant receives an at-home workout program, a list of adaptive sports programs near their home, and a grant resource page so that they can continue their adaptive sports journey.

With the exception of calendar years 2020 and 2021 when the camp was suspended due to COVID-19, Shirley Ryan AbilityLab offers the camp each year, usually over multiple days in the summer. The 2022 camp was hosted by a core team of staff, invited coaches, and volunteers. In prior years, each camp exposed participants to several sports for brief periods of time; however, participants offered feedback that they would prefer to focus on a single sport. In response to this feedback, Shirley Ryan AbilityLab offered two separate camps in 2022; one which focused on sled hockey and one which focused on wheelchair softball. This proved successful, and a total of 18 participants attended the camps.

5. Business Relationships

The FY2019 Assessment noted a continued need for increased hiring of persons with disabilities in the community. In response, Shirley Ryan Ability Lab developed a Disability Business Resource Group (“BRG”) to support disability inclusion and hiring programs. As a result, Shirley Ryan AbilityLab has actively recruited and employed qualified candidates who have disabilities through this program, as well as through its Diversity Equity and Inclusion efforts.

In September 2018, the Rehabilitation Research Training Center (“RRTC”) received a five-year, \$4.3 million grant from the National Institute on Disability, Independent Living, and Rehabilitation Research, which is being used to fund research into barriers hindering individuals with disabilities from maintaining employment. Four primary research projects were started with these grant funds: (1) reducing chronic lower back pain’s impact on work; (2) helping people with Parkinson’s stay employed; (3) strategies to successfully seek accommodations from employers; and (4) identification of employers’ best practices. Beyond carrying out these research projects, the RRTC has also (1) continued disseminating its quarterly newsletter, which reaches approximately 4,000 people; (2) provided ongoing education to employers and the community at large on issues relating to the employment of individuals with disabilities; and (3) maintained relevant resources and materials on the RRTC website.¹⁷

Conclusion

Shirley Ryan AbilityLab remains deeply committed to serving the needs of the community and providing the best patient care outcomes through the highest-quality patient care, translational research, scientific discovery, and education.

Appendix A

Consulted Organization Descriptions

The following organizations participated in Shirley Ryan AbilityLab’s focus group. The descriptions below were provided by each organization.

Organization	Organization Descriptions
Brain Injury Association of Illinois	The Brain Injury Association of Illinois (BIA of IL) is a not-for-profit, statewide membership organization comprised of people with brain injuries, family members, friends, and professionals. BIA of IL is part of a network of brain injury associations across the United States and is a subsidiary of the national Brain Injury Association, Inc. (BIA) which was founded in 1980. The BIA of IL is the only organization in Illinois serving individuals with TBI, their families and professionals who treat them and provides information, advocacy, and support.
Illinois Department of Human Services - Division of Rehabilitation Services	The Illinois Department of Human Services’ Division of Rehabilitation Services (“DRS”) is the State’s lead agency serving individuals with disabilities. DRS works in partnership with people with disabilities and their families to assist them in making informed choices to achieve full community participation through employment, education, and independent living opportunities.
Parkinson’s Disease & Movement Disorder Center	Patient, research participants, and Fitness Center participants with Parkinson’s Disease were engaged to offer first-hand, personal experiences, as well as to offer suggestions for improved care.
Spinal Cord Injury Association of Illinois	The Spinal Cord Injury Association of Illinois is a 501(c)(3) non-profit organization providing information and support resources for people paralyzed by physical trauma and medical conditions, their family members, and health care and related professionals that serve the SCI community.
Shirley Ryan AbilityLab Peer Mentor Program	The LIFE Center Peer Mentor Program introduces Shirley Ryan AbilityLab patients and families to the possibilities of post-rehabilitation success and to support continued engagement in life-long learning. The mentors share strategies that support goal achievement and community integration. The mentor this year is a parent of a brain injury patient.

Appendix B

Henry B. Betts LIFE Center



Advancing Human Ability®



THE NATION'S BEST

Ranked the #1 Rehabilitation Hospital in America by *U.S. News & World Report* every year since 1991, Shirley Ryan AbilityLab (formerly RIC) continues to set the standard for care with our novel approach to treatment. An expert team of clinicians work together to set individual patient goals, tackle challenges, and innovate solutions that improve patient recovery.

Located in the Sky Lobby (10th Floor), the LIFE Center offers a comfortable place to browse curated resources including books, magazines, and DVDs and to explore health information on the Internet.

The virtual LIFE Center provides access to thousands of resources on the following topics:

- Medical information & care
- Support & wellness
- Providing care & equipment
- Recreation & leisure
- Housing & transportation
- Finance & law
- Education & employment
- Inspiration & hope

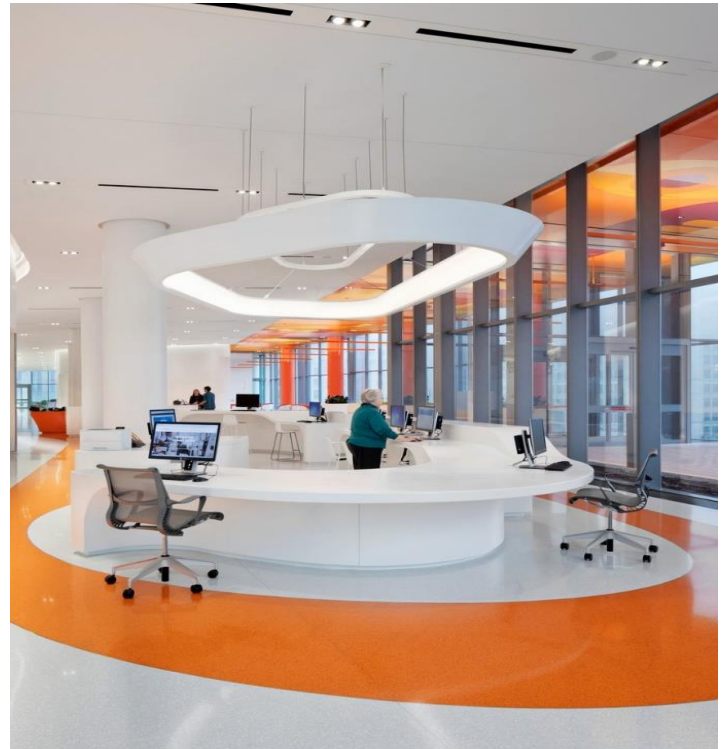
The LIFE Center resources are also available at sralab.org/lifecenter

About the LIFE Center

The Henry B. Betts LIFE Center at Shirley Ryan AbilityLab provides information, resource assistance, and support for people with various levels of physical functioning and conditions across the country and around the globe.

The LIFE Center provides assistance to patients, families, and health professionals across the globe to encourage inquiry, promote productivity, and inspire everyone to achieve their greatest and fullest participation in life.

Our staff are knowledgeable educators who assist people in finding information about community services, support groups, government programs and products especially designed for everyone.



Our multimedia education center and virtual education offerings make information on physical and cognitive impairment and conditions available to patients, families, staff, and the public. The goal in providing these extensive resources is to empower individuals to make the best choices for themselves and their families.

The LIFE Center also offers peer mentoring and hosts several peer panels throughout the year. Mentors share strategies and tips learned during their recovery and transition into the community.

Shirley Ryan AbilityLab
355 East Erie Street
Chicago, IL 60611

844.355.ABLE (2253)
sralab.org

#1 rehabilitation
hospital in America
since 1991



- U.S. News & World Report

“Ken, my spinal cord injury peer mentor, told me that he was the CEO of his body. His words gave me confidence during a time when I felt lost.”

— Patient with a spinal cord injury

Hours of operation
Seven days a week
9:00am- 5:00pm

For more information, please contact us at
312.238.5433 or lifecenter@sralab.org
sralab.org/lifecenter

CITATIONS

¹ 26 CFR §1.501(r)-3(b)(3)

² https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/InpatientRehabFacPPS/Downloads/Facility-Payment-Adjustment_KJS.pdf

³ Daniel T. Lackland et al., Factors Influencing the Decline in Stroke Mortality, AHA/ASA Scientific Statement (2013).

⁴ David Strauss et al., Factors Influencing the Decline in Stroke Mortality, AHA/ASA Scientific Statement (2006).

⁵ National Cancer Institute, Side Effects of Cancer Treatment, available at <https://www.cancer.gov/about-cancer/treatment/side-effects> (last accessed Feb. 4, 2019); American Cancer Society, Anxiety, Fear, and Depression, available at <https://cancer.org/treatment/treatments-and-side-effects/emotional-side-effects/anxiety-fear-depression.html> (last accessed Feb. 4, 2019)

⁶ National Cancer Institute, Side Effects of Cancer Treatment.

⁷ American Heart Association, Effects of Stroke, available at <https://www.heart.org/en/about-stroke/effects-of-stroke> (last accessed Feb. 4, 2019).

⁸ https://www.chicago.gov/city/en/depts/mopd/supp_info/guidelines_for_writingandreportingaboutpeoplewithdisabilities/facts_and_figuresaboutpeoplewithdisabilitiesinchicagoandtheus.html

⁹ Centers for Disease Control and Prevention, National Center on Birth Defects and Developmental Disabilities, Division of Human Development and Disability. Disability and Health Data System (DHDS) Data [online]. [accessed Jun 30, 2022]. URL: <https://dhds.cdc.gov>

¹⁰ Centers for Disease Control and Prevention, National Center on Birth Defects and Developmental Disabilities, Division of Human Development and Disability. Disability and Health Data System (DHDS) Data [online]. [accessed Jun 30, 2022]. URL: <https://dhds.cdc.gov>

¹¹ Social Determinants of Health. *U.S. Department of Health and Human Services*.

<https://health.gov/healthypeople/priority-areas/social-determinants-health>. Accessed July 8, 2022.

¹² *Id.*

¹³ Frier A, et. al. Understanding disability and the 'social determinants of health': how does disability affect peoples' social determinants of health? *Disabil Rehabil.* 40(5), 538-547 (Mar. 2018).

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ 26 CFR §1.501(r)-3(b)(6)(i)(F)

¹⁷ <https://www.sralab.org/research/labs/Disability-Employment>