Community Health Needs Assessment 2016

Ann & Robert H. Lurie Children's Hospital of Chicago™

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Executive Summary

Ann & Robert H. Lurie Children's Hospital of Chicago (Lurie Children's, formerly Children's Memorial Hospital) conducted a community health needs assessment in 2015 and 2016 in order to (1) identify barriers to good health and well-being for Chicago children and adolescents and (2) guide continuing efforts by Lurie Children's to improve child and adolescent health and well-being in Chicago.

The Lurie Children's community health needs assessment (CHNA) process involved several activities, which were overseen by the CHNA Committee. The CHNA Committee was comprised of key Lurie Children's staff, representatives of public health agencies, organizations that serve communities in Chicago that experience health disparities, and Lurie Children's patient population.

The Lurie Children's CHNA makes use of a wide range of data sources, including: US Census, Illinois Vital Statistics, the Illinois Hospital Discharge Data System (or COMPData), and the Chicago Youth Risk Behavior Survey.

Key findings from the community health needs assessment are:

(1) Social determinants of health greatly affect child health outcomes and need to be considered when working towards making progress on many of our health priorities from reducing violence to managing asthma.
(2) Access to care plays a significant role in overall child-wellbeing and must be addressed in order to make improvements.
(3) While data show that mental health is a leading cause of hospitalization for children and adolescents, access to services in the community is limited. This access issue has been further exacerbated recently by the state budget impasse. Particular attention needs to be paid to increasing services over the next several years.
(4) Violence in the City of Chicago remains prevalent and its effects on children are both direct and indirect.
(5) Significant interconnectedness exists between all of the above highlighted key findings. Implementation strategies that address underlying causes of the health outcomes or multiple factors will be prioritized.

Introduction

Ann & Robert H. Lurie Children's Hospital of Chicago (Lurie Children's, formerly Children's Memorial Hospital) conducted a community health needs assessment (CHNA) in 2015 and 2016 in order to (1) identify barriers to good health and well-being for Chicago children and adolescents and (2) guide continuing efforts by Lurie Children's to improve child and adolescent health and well-being in Chicago. This document reviews the process to produce this CHNA, presents the community health needs assessment, and makes broad recommendations that will guide Lurie Children's continuing efforts to improve the health and well-being of Chicago children and adolescents.

The City of Chicago is the primary geographic area that is the focus of this CHNA, the city that has been home to Lurie Children's throughout its 130 year history. However, because Lurie Children's serves children and adolescents across Illinois (especially those with medically complex conditions who cannot receive care at their community hospital) and often works to improve the public health of children across Illinois, the CHNA will consider health needs outside of Chicago, where appropriate.

CHNA Purpose and Goals

Each year, Lurie Children's makes significant investments in community health needs assessment and evaluation. The current CHNA works to build stronger connections to Lurie Children's organizational planning processes, evaluate community health needs, and report on current community health needs and efforts. The goals of the CHNA are to:

1. Identify areas of high need, in order to prevent death and hospitalization for children and adolescents in Chicago and served by Lurie Children's;
2. Set priorities and goals using evidence as a guide for decision-making; and
3. Implement programs, policies, and advocacy efforts, in order to better serve Lurie Children's patients and improve the health and well-being of the community.

The findings of the community health needs assessment are outlined in this report; a subsequent report will detail the implementation plan that is driven by evidence collected from the Chicago community.

The CHNA Process

Lurie Children's CHNA builds on a long history of public health focus on the part of the hospital. Beginning as early as the 1980s, Lurie Children's has embraced significant public health goals under the guidance of its Board of Directors. These goals include efforts to prevent prevalent risks to children and adolescents in Chicago and Illinois, such as: child abuse, firearm injury, community violence, childhood unintentional injury, HIV/AIDS, and childhood obesity. In the 1980's, Lurie Children's also developed the first practice-based research collaborative for pediatrics in the United States. The Pediatric Practice Research Group now includes over 70 pediatric practices in Chicago and its suburbs. In addition to

conducting research, has served as a conduit for both the development of high quality pediatric care across the region and for community-focused interventions (such as improved lead screening, improved asthma management, improved childhood obesity screening and treatment, and public health needs assessment).

In preparing to conduct the CHNA, Lurie Children's followed the recommendations that had been approved by the Lurie Children's Board of Directors in 2012 during the first CHNA process. In addition to developing a plan to conduct the community health needs assessment itself, the recommendations also included refining internal processes at Lurie Children's to assure that the CHNA, and the programs guided by it, are well-integrated into Lurie Children's efforts to meet its mission. These recommendations are as follows:

(1) Build stronger connections between Lurie Children's community-focused efforts and our internal organizational planning process;

(2) Systematize and coordinate the many disparate community health needs assessment activities and programs that clinicians and researchers at Lurie Children's undertake; and

(3) Establish a more predictable mechanism for reporting community-focused activities to the Lurie Children's Board of Directors.

Table 1: Draft timeline for completion of the Lurie Children's community health needs assessment

Date	Milestone	Responsible group
September 2015	Convene CHNA Committee; receive updates on 2013 implementation plan	CHNA Committee
November 2015	Review leading causes of death and hospitalization data; receive updates on 2013 implementation plan	CHNA Committee
February 2016	Presentation on Child Opportunity Index; receive updates on 2013 implementation plan	CHNA Committee
April 2016	Review data on health priorities from 2013 CHNA	CHNA Committee
June 2016	Review additional data; select health priorities	CHNA Committee
July 2016	Finalize CHNA; approval from Public Policy Committee	CHNA Committee
November 2016	Draft and review implementation plan with Public Policy Committee for approval	CHNA Committee

Table 2: Lurie Children's CHNA Committee Members

Member	Role	Expertise
Lurie Children's staff		
Monica Heenan, Senior Vice President/Chief Strategy Officer	Senior Management	Oversees Lurie Children's case management program and other programs that focus on linking children with medical complexity to community support services
Susan Hayes Gordon, Senior Vice President/Chief, Marketing and External Affairs	Senior Management	Oversees all external affairs efforts for Lurie Children's
Brian Stahulak, Chief Nurse Officer	Senior Management	Directs Lurie Children's Nursing activities
Karen Sheehan, MD, MPH, Associate Chair for Advocacy, Department of Pediatrics, Feinberg School of Medicine	Public Health Expert	Directs a multi-pronged Lurie Children's-sponsored program to reduce injury to Chicago children and adolescents
Matt Davis, MD, MPH, Director, Smith Child Health Research Program	Public Health Expert	Directs the Smith Child Health Research Program, which has grants and programs that address a variety of issues including prevention of violence, injuries, obesity and underage drinking
Rebecca Levin, MPH, Strategic Director, Injury Prevention and Research Center; Director, Strengthening Chicago's Youth (SCY)	Public Health Expert	Directs a Lurie Children's-sponsored program to reduce violence in Chicago as well as helps to set the strategic direction for Lurie Children's Injury Prevention and Research Center
Adam Becker, PhD, Executive Director, Consortium to Lower Obesity in Chicago Children	Public Health Expert	Directs a Lurie Children's-sponsored program to reduce childhood obesity in Chicago, which has become a national model for other cities
Barbara Bayldon, MD, Primary Care Section Chair, Department of Pediatrics, Feinberg School of Medicine	Primary care provider for the medically underserved	Directs a primary care clinic in a low income and racially and ethnically diverse community in Chicago; specializes in primary care for medically complex children

Member	Role	Expertise
External representatives		
Barbara Fischer, Section Chief, Public Reporting and Transparency, Division of Patient Safety and Quality, Illinois Department of Public Health	Public Health Expert	Provides substantial experience in public health initiatives focused on maternal, infant, and child health
Esther Corpuz, Chief Executive Officer, Alivio Medical Center	Public Health Expert	Directs all aspects of Alivio Medical Center, a Federally Qualified Health Center; community leader
Nikhil Prachand, MPH, Director of Epidemiology, Chicago Department of Public Health (CDPH)	Public Health Data Expert in the City of Chicago	Directs the CDPH analytics and epidemiology program; conversant in all public health data focused on child health
Sheri Cohen, MPH, Senior Health Planning Analyst, Chicago Department of Public Health	Public Health Expert	Decades of experience in health policy and planning at the city level
Teri Merens, MD, Physician at Traismans, Benuck, Merens & Kimball	Community Physician	Extensive experience delivering health care in a community-level primary care setting
Bernice Mills Thomas, RN, MSN, MPH, MBA, Executive Director, Near North Health Services Corporation	Public Health Expert	Directs all aspects of a multi-site Federally Qualified Health Center, Near North Health Services Corporation
Pamela Spadino, Lurie Children’s Family Advisory Board	Parent of Lurie Children’s patient	Former chair of the Lurie Children’s Family Advisory Board and a parent of a child with medical complexity
Eric Schroeder, Lurie Children’s Family Advisory Board	Parent of Lurie Children’s patient	President of the Family Advisory Board
AJ Williams, Lurie Children’s Kids Advisory Board Member	Patient	Member of the Lurie Children’s Kids Advisory Board
Tim Weaver, Lurie Children’s Kids Advisory Board Member	Patient	Member of the Lurie Children’s Kids Advisory Board

Member	Role	Expertise
Staff Support		
Jill Fraggos, MPH, Director, Government Affairs	Community Advocacy Expert	
Jenifer Cartland, PhD, Data Analytics and Reporting	Directs Data Analytics and Reporting	
Tracie Smith, MPH, Director, Population Health Analytics	Public Health Data Expert	
James P. Harisiades, MPH, Director, Child Advocacy	Community Advocacy Expert	
Mary Kate Daly, Senior Director, Communications and External Affairs, Community Relations	Community Affairs Expert	
Reagen Atwood, Associate General Counsel for Lurie Children's	Legal Expert	
Lori Lorgeree, Tax Compliance Consultant for Lurie Children's	Tax Expert	
Emily Levin, MHA, Administrative Fellow	Hospital Operations Expert	

The Lurie Children's Community Health Needs Assessment process involved several activities:

- The convening and facilitation of the Community Health Needs Assessment Committee, which includes representatives of public health agencies, organizations that serve communities in Chicago that experience health disparities, and Lurie Children's patient population (see Table 2 for a list of committee members).
- The analysis and presentation of community health data by the Child Health Data Lab (CHDL), a research unit that is part of Lurie Children's MaryAnn and J. Milburn Smith Child Health Research Program.

The CHNA Committee met six times from September 2015 through June 2016. Each meeting focused on a set of key decisions for the CHNA process:

Meeting 1:- September 30, 2015

1. Introduction of the CHNA process and brief to the committee on Lurie Children's work to date
2. Presentation on the Healthy Chicago Hospital Collaborative from Erica Salem, Director of Health Policy at Health and Disability Advocates
3. Update on Violence Prevention priority from 2013 CHNA from Rebecca Levin, MPH, Director of Strengthening Chicago's Youth
4. Update on Sports and Outdoor Activities priority from 2013 CHNA from Cynthia LaBella, MD, Medical Director of the Institute for Sports Medicine at Lurie Children's

Meeting 2: November 24, 2015

1. Review of mortality, hospitalization, and emergency department use data for Chicago and Illinois
2. Presentation from Jaime Dirksen, Managing Deputy Director of Chicago Department of Public Health, on the Healthy Chicago 2.0 (City of Chicago Community Health Needs Assessment) process
3. Update on Unintentional Injury Prevention priority from 2013 CHNA from Karen Sheehan, MD, MPH, Emergency Department physician and Medical Director of the Injury Prevention and Research Center
4. Review of timeline for CHNA completion

Meeting 3: February 24, 2016

1. Update on Obesity Prevention priority from 2013 CHNA from Adam Becker, PhD, Executive Director of the Consortium to Lower Obesity in Chicago Children (CLOCC)
2. Update on Care Coordination for Medically Complex Children priority from 2013 CHNA from Chris Haen, Executive Director, Lurie Children's Health Partners Care Coordination
3. Presentation on Illinois' Child Health Policy Campaign by Susan Hayes Gordon, Chief/Senior Vice President of Marketing and External Affairs

4. Presentation on the Child Opportunity Index by Tracie Smith, MPH, Director of Population Health Analytics at Lurie Children's

Meeting 4: April 20, 2016

1. Presentation on Children's Health Alliance of Wisconsin and Democracy Collaborative by Jill Fraggos, MPH, Senior Director of Government Affairs
2. Review of Emergency Department and Hospitalization data for priorities from 2013 data over time, by gender, by age group, by race/ethnicity and by Child Opportunity Index level
3. Update on Lurie Children's participation in Chicago Community Trust's On the Table Listening Sessions and Child Health Steering Committee

Meeting 5: June 7, 2016

1. Review of revised and additional data
2. Discussion of prioritization of needs based on review of data
3. Discussion on how best to include Social Determinants of Health and Access to Care

Meeting 6: July 13, 2016

1. Review and feedback for Community Health Needs Assessment draft
2. Discussion and consensus on key findings
3. Discussion and consensus on recommendations

About Lurie Children's

Lurie Children's is an Illinois not-for-profit corporation and a charitable organization within the meaning of Section 501(c)(3) of the Internal Revenue Code. Lurie Children's is a pediatric hospital with 288 licensed inpatient beds. It provides superior pediatric care in a setting that offers the latest benefits and innovations in medical technology, research and family-friendly design. It is the largest pediatric provider in the region with 1,353 medical staff in 70 pediatric specialties serving over 174,000 patients annually.

Lurie Children's commitment to serve children in Chicago and Illinois is at the core of its Mission, which highlights four priorities that drive all of Lurie Children's efforts in the hospital and in the community:

1. Pediatric health care delivery;
2. Research into the prevention, causes, and treatment of diseases that affect children;
3. Education for physicians, nurses, and allied health professionals; and
4. Advocacy for the general well-being of all children.

Lurie Children's has long used community-based needs assessment processes to guide its efforts to improve the overall health and wellness of Chicago children and adolescents. In 1998, Lurie Children's established the Child Health Data Lab (CHDL) to bring together needs assessment for Lurie Children's

community-based efforts and to evaluate the hospital's community-based interventions. Today, CHDL continues to produce reports that focus on injury, but has expanded these to also address youth risk behaviors, access to medical care, causes of infant mortality, and other topics that identify health needs of children and adolescents in Chicago and Illinois. Areas of focus have evolved out of conversations with governmental and non-governmental partners, as well as feedback from parents of Lurie Children's patients.

Data and Methods

The CHNA draws data from a wide range of sources, taking advantage of data collected by public health agencies wherever possible. The CHNA makes heavy use of Illinois mortality data, the Illinois Hospital Discharge Data System (or COMPData), and the Chicago Youth Risk Behavior Survey. Each data source is described in detail below.

In conducting this analysis, it was determined that nearly 44% of the patients cared for at Lurie Children's are residents of the City of Chicago. Given this and the fact that the City of Chicago is the home of Lurie Children's, it was decided to define the community for the purposes of the assessment as the City of Chicago. For issues related to medically complex children, the community is defined as the State of Illinois, given that this population of children served at Lurie Children's travel from every corner of the State.

In line with good public health practice, the CHNA analysis began with a review of the leading causes of death and hospitalization for Chicago and Illinois children and adolescents to assure that the full range of serious health risks was considered. Once major health risks were identified, a deeper analysis was conducted. The analysis resulted in the identification of two population level priorities and six major health risks to children and adolescents in Chicago.

The population level priorities and major health risks became the focus of the eight "Prioritized Needs Assessments." Other data sources were used to identify opportunities for preventability and/or targeted identification of the populations at highest risk (for example, certain age groups, certain racial or ethnic groups, and children living in certain neighborhoods) for each of the six major health risks. The CHNA Committee reviewed the data and provided input based upon each individual's expertise, knowledge and experience, concerning the scope and severity, urgency, feasibility and potential effectiveness of possible interventions. The CHNA Committee also reviewed available resources to provide pediatric health care resources to the general community and to address the specific areas of major health risk for children. These resources are outlined in Appendix A.

Mortality Data

Data describing causes of death were received from the vital statistic files from the Chicago Department of Public Health for year 2014. Rates were calculated using 2010 US Census data.

Hospitalization and Emergency Department Visits

Hospitalization data, including emergency department visits and inpatient admissions, were obtained from the Illinois hospital discharge database, COMPData, which is maintained by the Illinois Hospital Association. Hospitalization cases include children and adolescents of ages 0 to 19 years who were discharged in calendar year 2009-2014. Excluded cases were those who were deceased and those not living in Illinois. Rates were calculated using 2010 US Census data.

Chicago Youth Risk Behavior Survey

The Chicago Youth Risk Behavior Survey (YRBS) was completed in randomly selected public high schools in Chicago during the spring of 2013. The survey focuses on priority health-risk behaviors that result in the most significant mortality, disability, and social problems during both adolescence and adulthood. Questions cover nutrition, tobacco use, alcohol and other drug use, physical activity, injuries, and sexual behavior resulting in sexually transmitted diseases and pregnancy. YRBS is one component of the Youth Risk Behavior Surveillance System developed by the Centers for Disease Control and Prevention, in collaboration with representatives from state and local departments of education and health, other federal agencies, and national education and health organizations.

Chicago Homicide Data

Homicide data in this report were obtained from the Red Eye, a subsidiary of the Chicago Tribune, which tracks homicides and has information dating back to 2006. The Red Eye compiles information from the Cook County Medical Examiner's Office, the Chicago Police Department and the Chicago Breaking News Center. Data elements include address, neighborhood, date and time of the homicide, as well as name, age, gender and race (black or white) and cause of death (e.g., gunshot, stabbing) of the victim.

Child Opportunity Index

The Child Opportunity Index (COI) is a measure of relative opportunity across neighborhoods, and it provides a means of exploring socio-economic status for children. The COI was developed through collaboration between diversitydatakids.org and the Kirwan Institute for the Study of Race and Ethnicity. The index includes three sub-indices: Educational Opportunity Index, Health and Environmental Opportunity Index and the Social and Economic Opportunity Index. See Table 3 for the metrics that comprise the index. More detailed information about the Child Opportunity Index can be found at http://www.diversitydatakids.org/files/CHILDOI/DOCS/DDK_KIRWAN_CHILDOI_OVERVIEW.pdf.

The Chicago Department of Public Health provided Lurie Children's with COI scores. Higher COI scores correspond to more opportunities that are available for children and youth who live in that zip code. When analyzing health outcomes data, Lurie Children's calculated rates of a given outcome for each COI level and compared those rates to determine which health outcomes had the most distinct health inequities.

Table 3. Components of the Child Opportunity Index Score	
Educational Opportunity Index	Adult educational attainment
	Student (school) poverty rate
	Reading proficiency rate
	Math proficiency rate
	Early childhood education neighborhood participation patterns
	High school graduation rate
	Proximity to high-quality[1] early childhood education centers
	Proximity to early childhood education centers of any type
Health and Environmental Opportunity Index	Retail health food index
	Proximity to toxic waste release sites
	Volume of nearby toxic release
	Proximity to parks and open spaces
	Housing vacancy rates
	Proximity to health care facilities
Economic Opportunity Index	Neighborhood foreclosure rate
	Poverty rate
	Unemployment rate
	Public assistance rate
	Proximity to employment

[1] Accredited by the National Association for the Education of Young Children (NAEYC).

Prioritized Needs Assessment

The Prioritized Needs Assessments include two overarching population level topics affecting children's health and six specific causes of poor health outcomes for children.

Population Level Priorities

I. Social Determinants of Health

According to the World Health Organization, social determinants of health are "the conditions in which people are born, grow, live, work and age." The World Health Organization argues that social determinants of health "are mostly responsible for health inequities." The Lurie Children's Community Health Needs Assessment Committee has identified social determinants of health as a priority area of focus and utilized a tool called the Child Opportunity Index (COI, see 'Data and Methods') in order to better understand the health inequities among children and adolescents in the City of Chicago.

Zip codes in the City of Chicago were grouped into one of five categories of opportunity level. Those classified as having low or very low childhood opportunity are represented in yellow and red, respectively, in Figure 1. The areas in the City of Chicago with the lowest COI level are in the far south and far west regions, though almost all of the south and west sides also have at least a low level of childhood opportunity. In addition, a strong relationship exists between the childhood opportunity index and race/ethnicity, as shown in Figure 2. About one-third of Lurie Children's patients live in an area with low or very low COI.

Key Points

At Highest Risk:

- Children living in low or very low opportunity zip codes
- African-American and Hispanic children

Preventability Considerations:

- Interventions should be targeted at social determinants specifically, or take into account the interplay between social determinants and outcomes

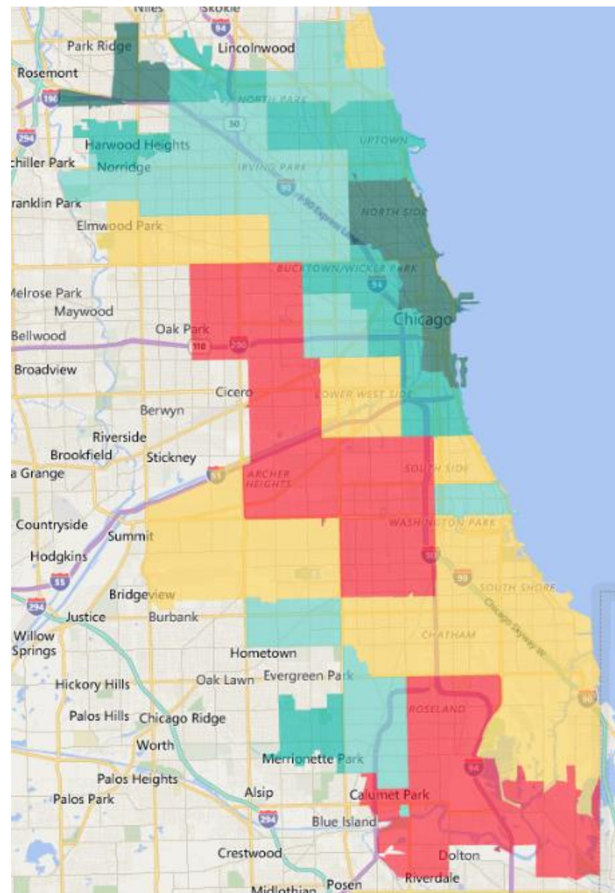


Figure 1: COI by zip code

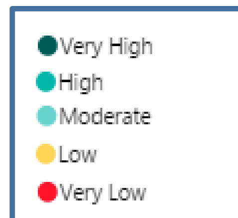
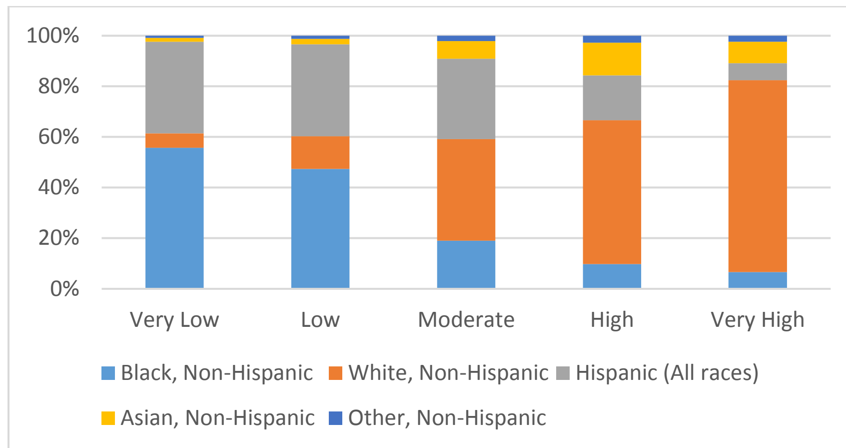


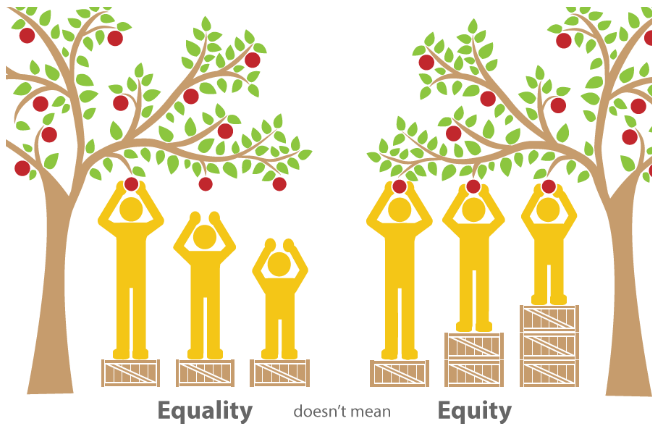
Figure 2. Proportion of Racial and Ethnic Groups by Child Opportunity Index Level



*Data source: American Community Survey, 2010-2014

The COI is used throughout this report to explore differences in health outcomes for children and adolescents. Among the health priorities that were selected for inclusion in the CHNA, several showed strong differentiation based on the neighborhood COI, pointing to significant health inequalities that Lurie Children's believes are driven by socioeconomic inequality (the definition of 'social determinants of health'). Social determinants of health appear to drive inequities (Figure 3) in violence (which includes homicides and intentional injuries), visiting the ED or being hospitalized for an ambulatory sensitive care condition, child abuse related injuries, and asthma related ED visits or hospitalizations.

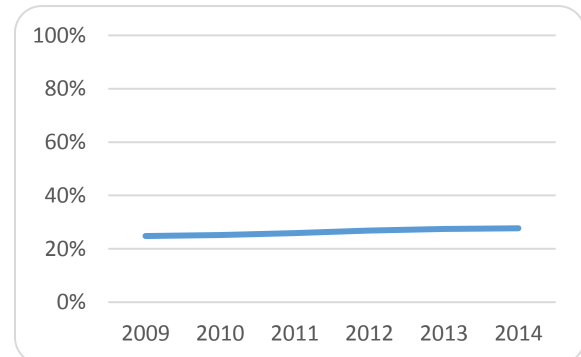
Figure 3. Illustration of the difference between Equality and Equity



Source: Saskatoon Health Region- Advancing Health

Additionally, we examined the rate of poverty among Chicago families between 2009 and 2014 and found a slight increase in the percent of families in poverty in Chicago (Figure 4). This underscores the need to focus on social determinants of health in order to improve child wellbeing, which will lead to improved health outcomes.

Figure 4. Percent of Chicago families below the poverty level, 2009-2014



Data source: American Community Survey, 5-Year estimates

II. Access to Care

Another overarching priority area that was identified by the Lurie Children's Community Health Needs Assessment Committee was access to care. For the purposes of this report, "access to care" is more than just access to health insurance. It also encompasses availability of primary and specialty care for physical and behavioral health, as well as logistical accessibility to healthcare facilities and providers. For instance, in addition to access to health insurance, barriers may include availability of affordable transportation, child care and paid time off. Language differences and cultural effectiveness on the part of providers could also limit the quality and accessibility to care.

Key Points

At Highest Risk:

- Children living in low or very low opportunity zip codes

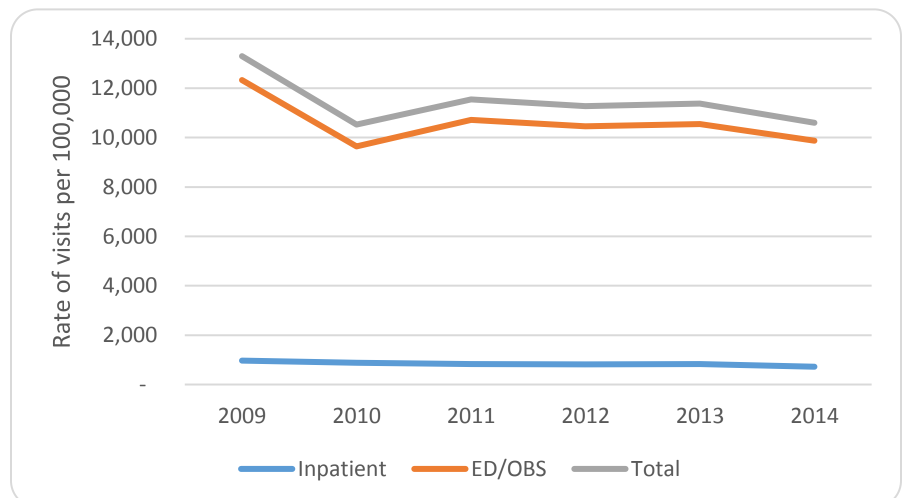
Preventability Considerations:

- Policy interventions should be considered to address systematic barriers
- Other interventions should be targeted at low and very low opportunity areas

Additionally, the recent fiscal crisis and budget impasse in the State of Illinois has greatly affected access to care. Many provider organizations have had to cut back services, or have no longer been able to continue operations. Mental health serving agencies have especially been affected. Adding to the fiscal crisis, the move to Medicaid managed care may have further undermined access to services. Effects are not immediately quantifiable, but have been noted anecdotally (for example, the wait list for access to see a mental health provider at Lurie Children's doubled during this period, from about 400 children to over 800).

One measure of access to care is the number of ED visits or hospitalizations for 'ambulatory care sensitive conditions' (ACSCs). When children and adolescents receive competent and consistent primary care, ED visits and hospitalizations for ACSCs should be low. Figure 5 shows the rate (per 100,000) of ED visits and inpatient admissions for Chicago children aged 0-19 who had a principal diagnosis of an ambulatory sensitive care condition. The rate of visits showed a decline between 2009 and 2010, but has remained steady for the past five years.

Figure 5. Rate of ED visits and inpatient hospitalizations for Chicago children aged 0-19 with a principal diagnosis of an ambulatory sensitive care condition, 2009-2014

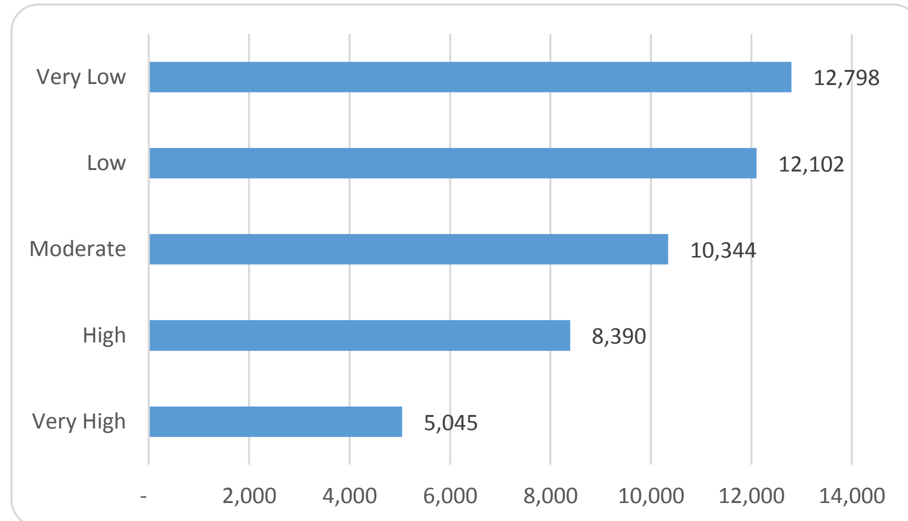


Data source: COMPdata, 2009-2014

The overall rates, however, do not tell the whole story. The rates of ED visits and hospitalizations for ACSCs vary greatly by COI level (Figure 6). This highlights the interconnectedness between social determinants of health and

access to care. Children living in a very low opportunity area are 2.5 times more likely to come to the Emergency Department or be admitted to the hospital with an ambulatory sensitive care condition than those children living in an area with very high opportunity.

Figure 6. ED Visits and Hospitalization Rates for Ambulatory Sensitive Care Conditions, Chicagoans Aged 0-19 by Child Opportunity Index Level, 2012-2014



Data source: COMPdata, 2009-2014

Along with ACSCs, health outcomes that are affected by access to care include ED visits and inpatient admissions due to a mental health diagnosis and visits for children with asthma.

Health Outcome Specific Priorities

I. Mental Health

Figure 7. ED Visits and Hospitalization Rates for Patients with a Mental Health Diagnosis, Chicagoans Aged 0-19, 2012-2014

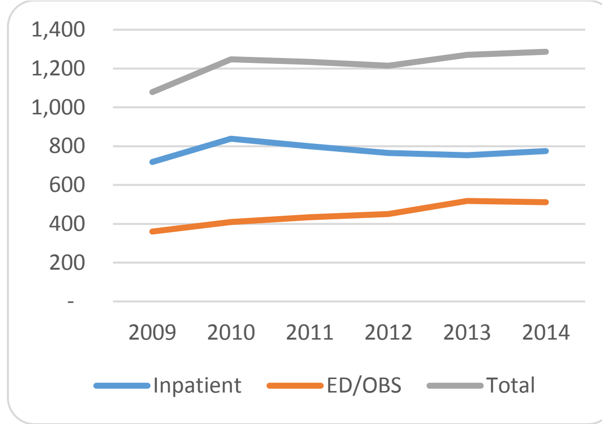


Figure 8. ED Visits and Hospitalization Rates for Patients with a Mental Health Diagnosis by Child Opportunity Index Level, Chicagoans Aged 0-19, 2009-2014

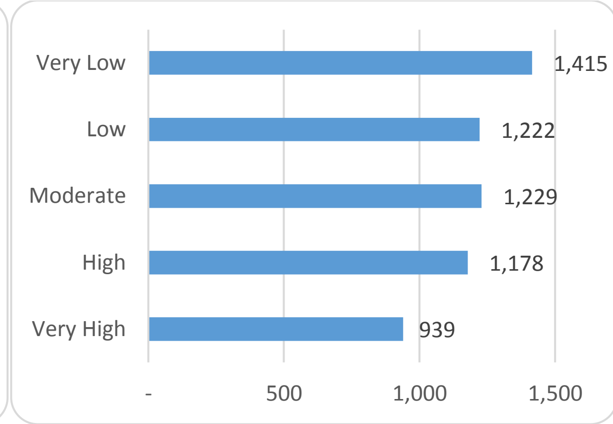


Figure 9. ED Visits and Hospitalization Rates for Patients with a Mental Health Diagnosis, Chicagoans Aged 0-19 by Gender, 2012-2014

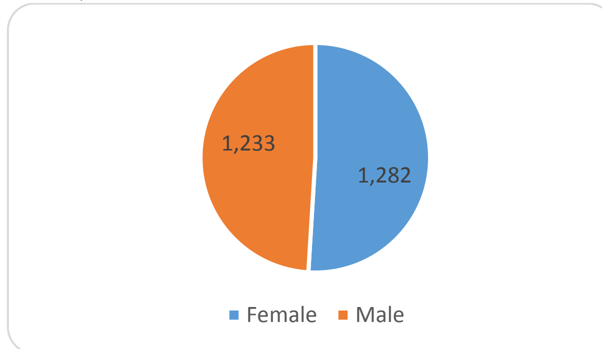


Figure 10. ED Visits and Hospitalization Rates for Patients with a Mental Health Diagnosis, Chicagoans Aged 0-19 by Age Group, 2012-2014

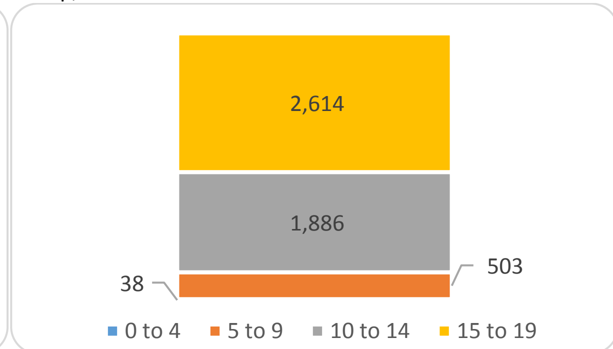


Table 4. ED Visits and Hospitalization Rates for Patients with a Mental Health Diagnosis, Chicagoans Aged 0-19 by Diagnosis, 2012-2014

Diagnosis	Rate
Depressive disorder	348.6
Bipolar disorder	132.6
Disturbance of conduct	119.6
Attention Deficit/Hyperactivity	52.8
Adjustment reaction	45.4
Schizophrenia	38.1
Other diagnosis	520.3

All rates are per 100,000

Key Points

At Highest Risk:

- Adolescents (15-19 year olds)
- Children and youth living in a zip code with a Very Low Child Opportunity Level

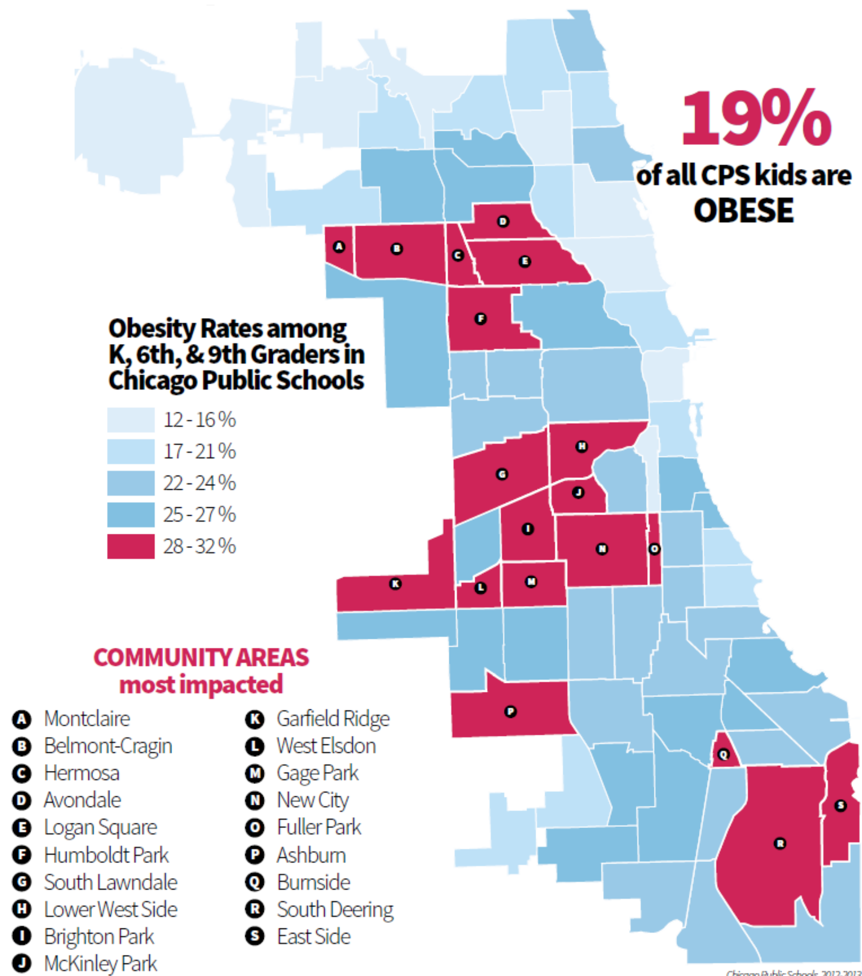
Preventability Considerations:

- Increase access to mental health services to prevent Emergency Department visits and inpatient hospitalizations
- Decrease stigma of mental illness

Data source: COMPdata, 2009-2014

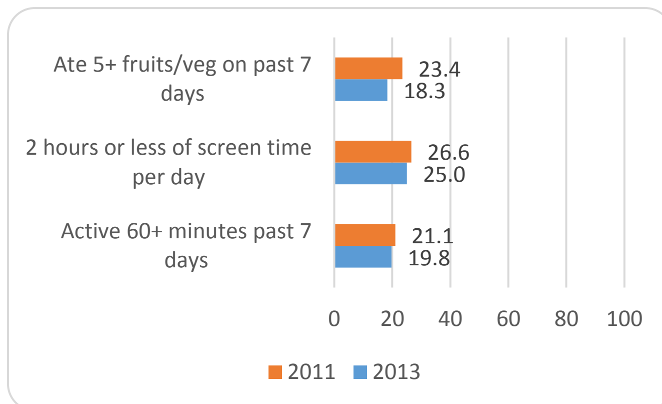
II. Obesity, Physical Activity and Nutrition

Figure 11. Rates of obesity for Chicago Public School Students by community area, 2012-2013



*Map provided by CDPH, Health Chicago 2.0

Figure 12. Percent of Chicago adolescents who meet select 5-4-3-2-1 Go! Goals, 2011 and 2013



*Data source: Chicago Youth Risk Behavior Survey

Key Points

At Highest Risk:

- All Chicago children

Preventability Considerations:

- Proportion of high school students reporting healthy behaviors decreased between 2011 and 2013
- Promote evidence based obesity reduction programs and policies

III. Complex Chronic Conditions (CCC)

Figure 13. ED Visits and Hospitalization Rates for Patients with a CCC Diagnosis, Illinois Residents Aged 0-19, 2009-2014

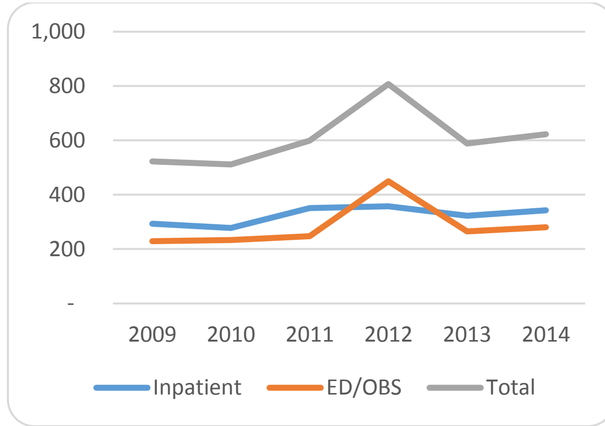


Figure 14. ED Visits and Hospitalization Rates for Patients with a CCC Diagnosis, Chicagoans Aged 0-19 by Child Opportunity Index Level, 2012-2014

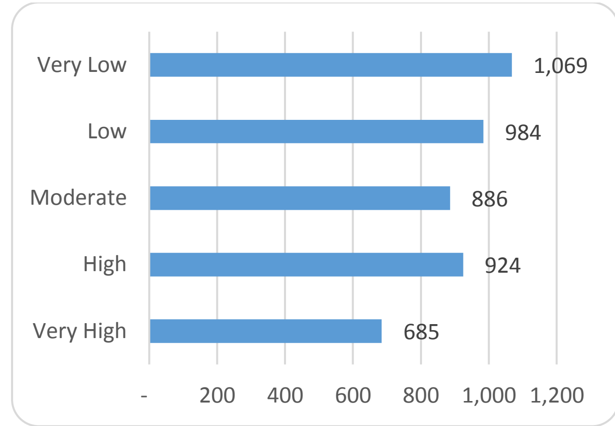


Figure 15. ED Visits and Hospitalization Rates for Patients with a CCC Diagnosis, Illinois Residents Aged 0-19 by Gender, 2012-2014

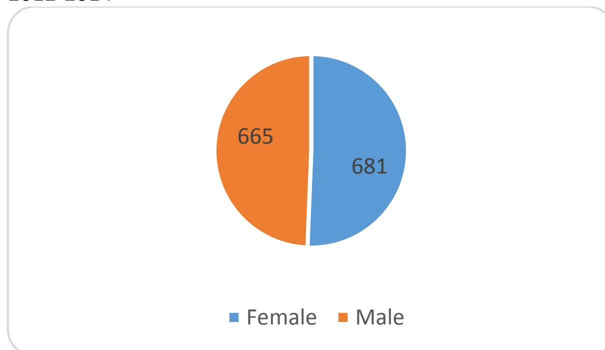


Figure 16. ED Visits and Hospitalization Rates for Patients with a CCC Diagnosis, Illinois Residents Aged 0-19 by Age Group, 2012-2014

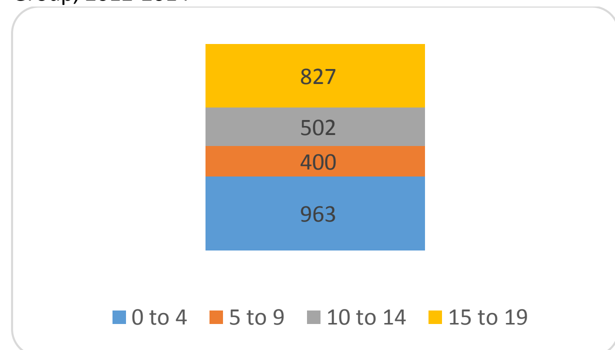


Table 5. ED Visits and Hospitalization Rates for Patients with a CCC Diagnosis, Illinois Residents Aged 0-19 by Type, 2012-2014

Diagnosis	Rate
Once CCC Diagnosis	642
More than once CCC Diagnosis	31

All rates are per 100,000

Key Points

At Highest Risk:

- Young children (0-4 year olds)
- Children and youth living in a zip code with a Very Low Child Opportunity Level

Preventability Considerations:

- Increase access
- Improve care coordination

Data source: COMPdata, 2009-2014

IV. Violence Related Injury and Mortality

Homicide

Figure 17. Homicide Rates, Chicagoans Aged 0-19, 2009-2014

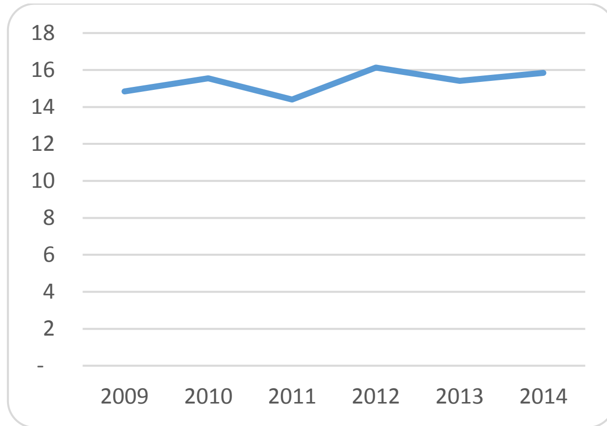


Figure 18. Homicide Rates, Chicagoans Aged 0-19 by Child Opportunity Index Level, 2012-2014

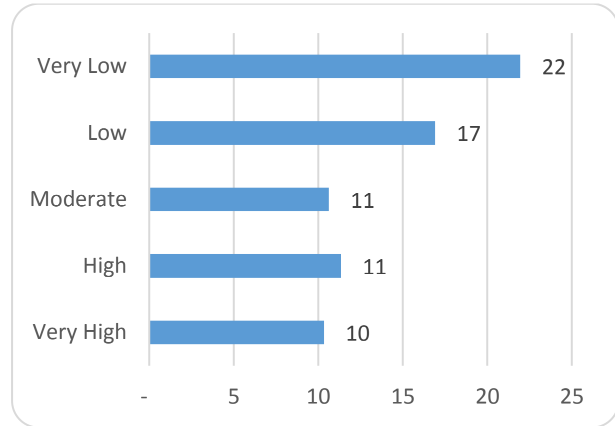


Figure 19. Homicide Rates, Chicagoans Aged 0-19 by Gender, 2012-2014

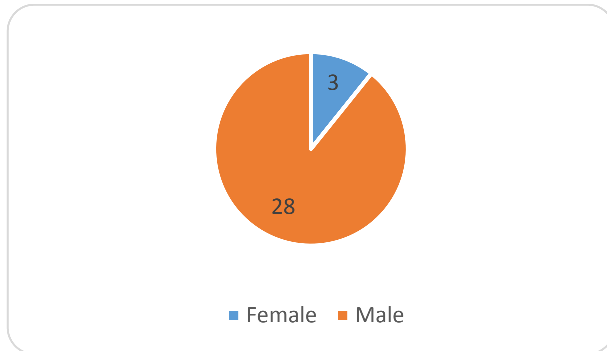


Figure 20. Homicide Rates, Chicagoans Aged 0-19 by Age Group, 2012-2014

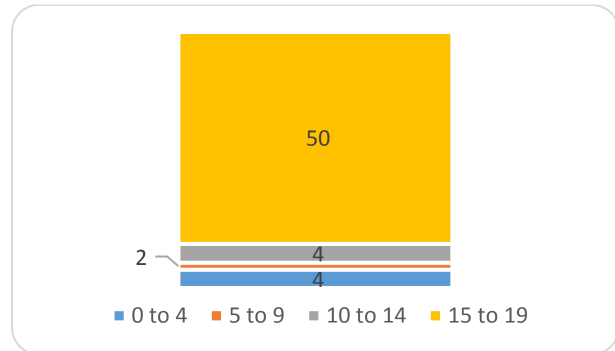


Table 6. ED Visits and Hospitalization Rates for Homicides, Chicagoans Aged 0-19 by Type, 2012-2014

Type	Rate
Gunshot	14.0
Stabbing	0.4
Child Abuse	0.8
Assault, other	0.3
Other	0.3

All rates are per 100,000

Data source: COMPdata, 2009-2014

Intentional Firearm Injuries

Figure 21. ED Visits and Hospitalization Rates for Patients with an Intentional Firearm Injury, Chicagoans Aged 0-19, 2009-2014

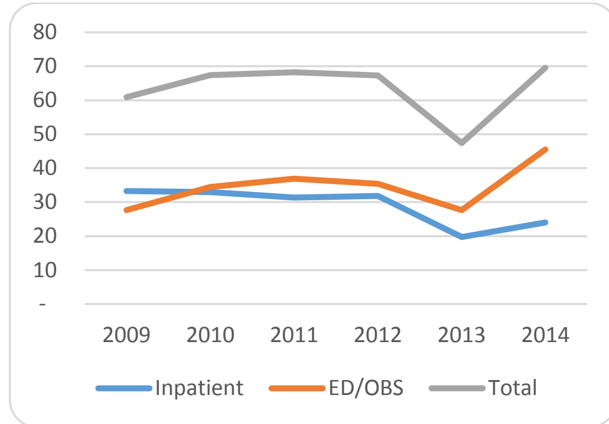


Figure 22. ED Visits and Hospitalization Rates for Patients an Intentional Firearm Injury, Chicagoans Aged 0-19 by Child Opportunity Index Level, 2012-2014

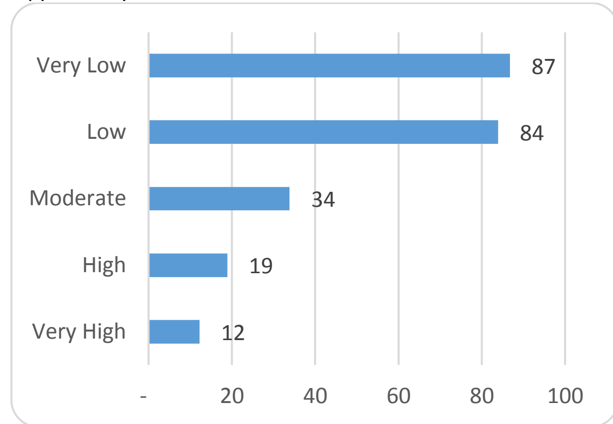


Figure 23. ED Visits and Hospitalization Rates for Patients with an Intentional Firearm Injury, Chicagoans Aged 0-19 by Gender, 2012-2014

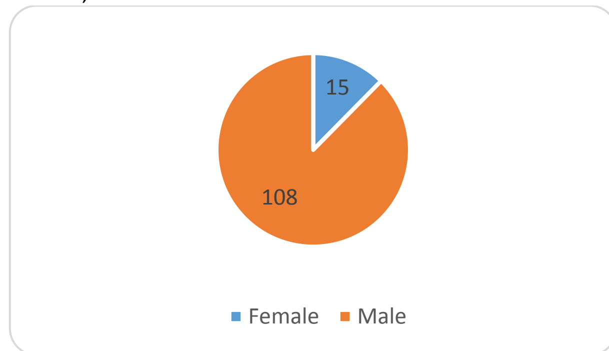
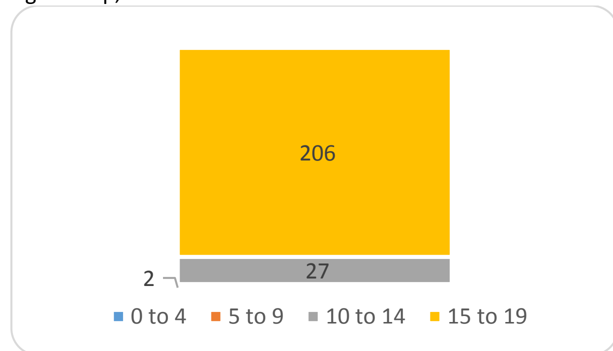


Figure 24. ED Visits and Hospitalization Rates for Patients with an Intentional Firearm Injury, Chicagoans Aged 0-19 by Age Group, 2012-2014



Data source: Chicago Tribune, Red Eye Homicide Database

Other intentional injuries

Figure 25. ED Visits and Hospitalization Rates for Patients with an Intentional Injury, Chicagoans Aged 0-19, 2009-2014

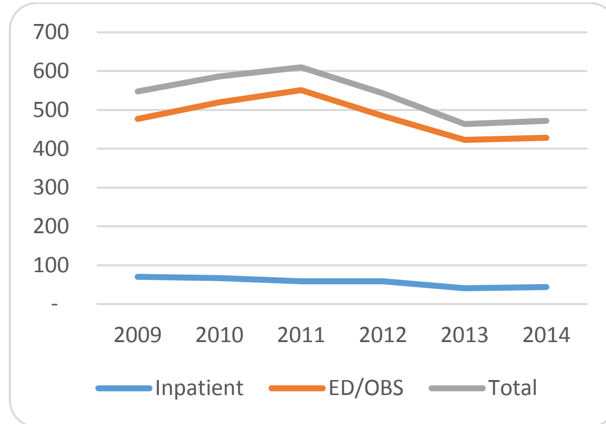


Figure 26. ED Visits and Hospitalization Rates for Patients with an Intentional Injury, Chicagoans Aged 0-19 by Child Opportunity Index Level, 2012-2014

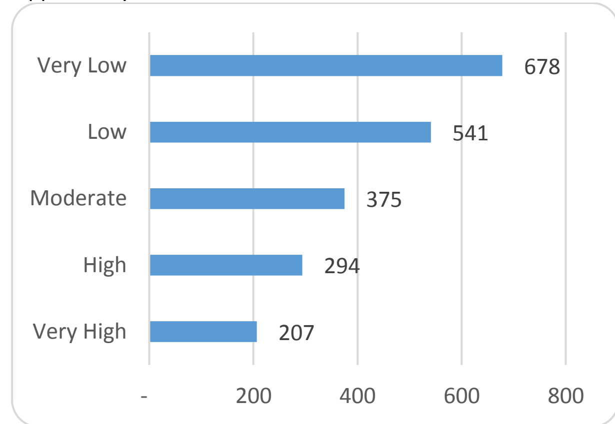


Figure 27. ED Visits and Hospitalization Rates for Patients with an Intentional Injury, Chicagoans Aged 0-19 by Gender, 2012-2014

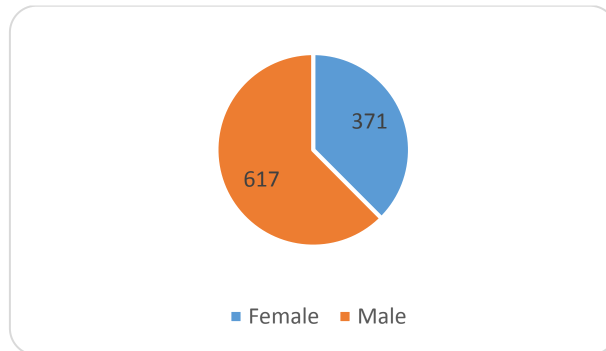


Figure 28. ED Visits and Hospitalization Rates for Patients with an Intentional Injury, Chicagoans Aged 0-19 by Age Group, 2012-2014

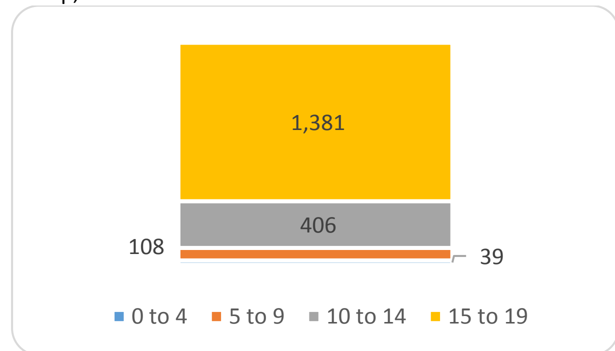


Table 7. ED Visits and Hospitalization Rates for Patients with an Intentional Injury, Chicagoans Aged 0-19 by Type, 2012-2014

Type	Rate
Firearm	61
Unarmed fight	194
Strike with blunt/thrown object	53
Cutting/piercing	29
Sexual assault	13
Other/unspecified assault	142

All rates are per 100,000

Key Points

At Highest Risk:

- Adolescent males (15-19 year olds)
- Children and youth Living in a zip code with a Low or Very Low Child Opportunity Level

Preventability Considerations:

- Common sense gun violence prevention policies
- Promotion of evidence based violence prevention programs

Data source: COMPdata, 2009-2014

V. Asthma

Figure 29. ED Visits and Hospitalization Rates for Patients with an Asthma Diagnosis, Chicagoans Aged 0-19, 2009-2014

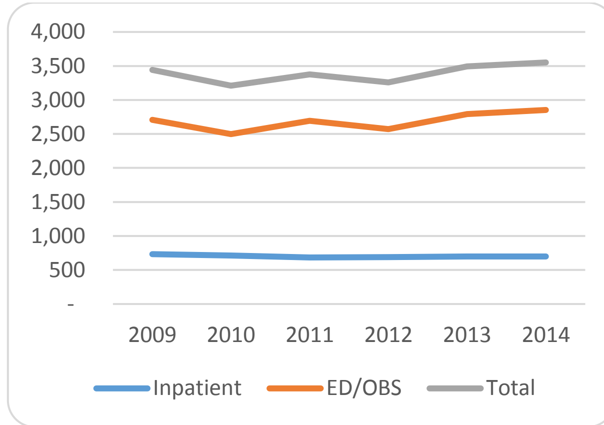


Figure 30. ED Visits and Hospitalization Rates for Patients with an Asthma Diagnosis, Chicagoans Aged 0-19 by Child Opportunity Index Level, 2012-2014

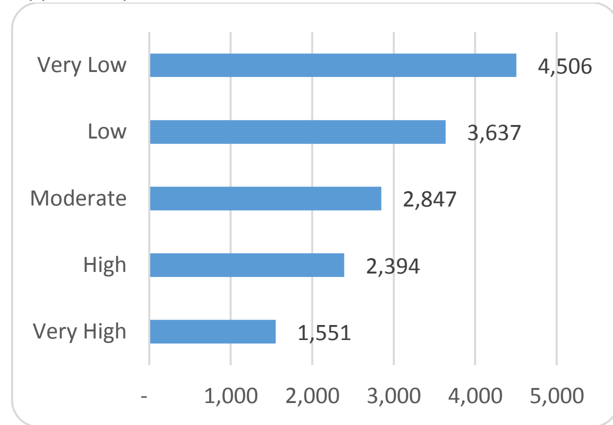


Figure 31. ED Visits and Hospitalization Rates for Patients with an Asthma Diagnosis, Chicagoans Aged 0-19 by Gender, 2012-2014

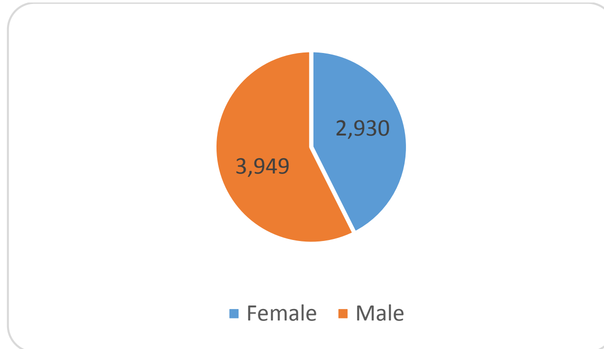


Figure 32. ED Visits and Hospitalization Rates for Patients with an Asthma Diagnosis, Chicagoans Aged 0-19 by Age Group, 2012-2014

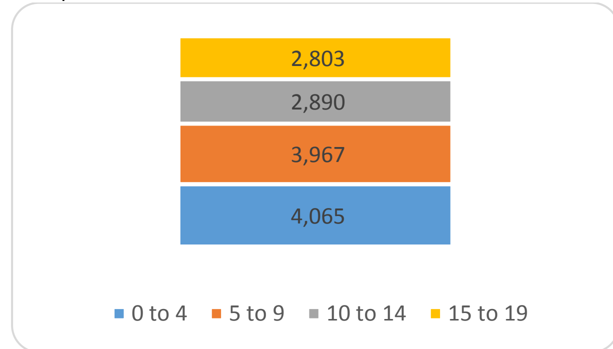


Table 8. ED Visits and Hospitalization Rates for Patients with an Asthma Diagnosis, Chicagoans Aged 0-19 by Type, 2012-2014

Diagnosis	Rate
Primary Diagnosis	1,621
Secondary Diagnosis	1,814

All rates are per 100,000

Key Points

At Highest Risk:

- Risk increases among children living in zip codes with lowered Child Opportunity Level

Preventability Considerations:

- Increase care coordination services
- Promote influenza vaccination
- Promote obesity reduction

Data source: COMPdata, 2009-2014

VI. Child Abuse

Figure 33. ED Visits and Hospitalization Rates for Child Abuse Related Injuries, Chicagoans Aged 0-19, 2009-2014

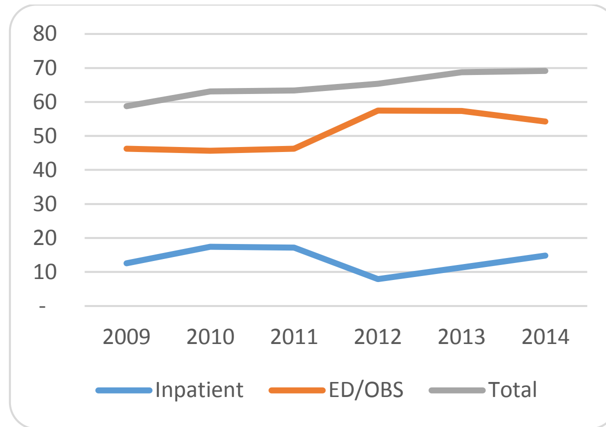


Figure 34. ED Visits and Hospitalization Rates for Child Abuse Related Injuries, Chicagoans Aged 0-19 by Child Opportunity Index Level, 2012-2014

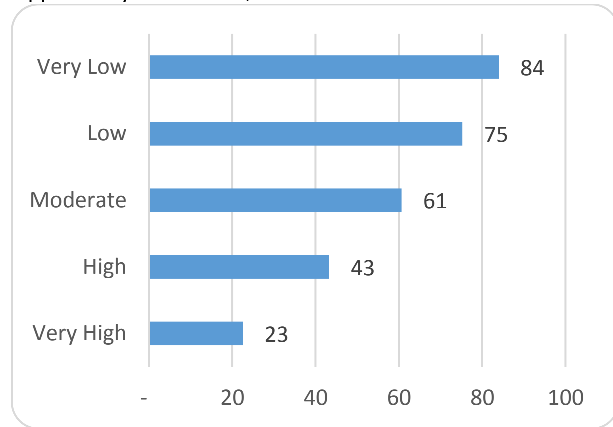


Figure 35. ED Visits and Hospitalization Rates for Child Abuse Related Injuries, Chicagoans Aged 0-19 by Gender, 2012-2014

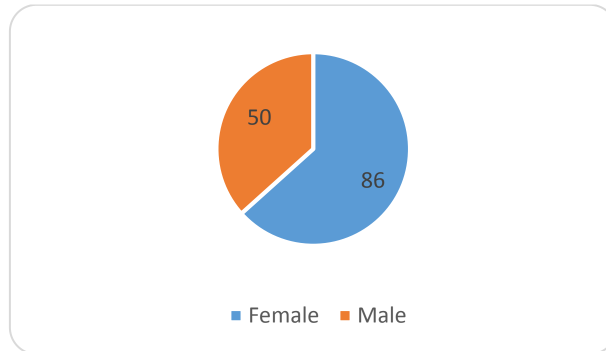


Figure 36. ED Visits and Hospitalization Rates for Child Abuse Related Injuries, Chicagoans Aged 0-19 by Age Group, 2012-2014

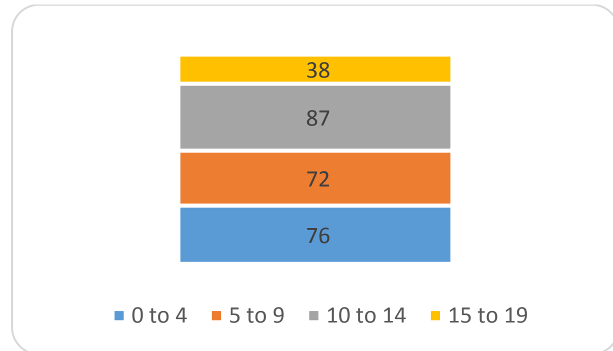


Table 9. ED Visits and Hospitalization Rates for Child Abuse Related Injuries, Chicagoans Aged 0-19 by Type, 2012-2014

Type	Rate
Neglect	7
Sexual	26
Physical (non-head trauma)	20
Abusive head trauma	2
Other/Unspec	12

All rates are per 100,000

Key Points

At Highest Risk:

- Children under the age of 15.
- Risk increases among children living in zip codes with lowered Child Opportunity Level

Preventability Considerations:

- Promote parent education about normal childhood behavior
- Promote home visiting programs

Data source: COMPdata, 2009-2014

Recommendations

The CHNA committee reviewed the findings from the community health needs assessment and made the following broad recommendations:

(1) Lurie Children's should continue to play a leadership role working to improve the health and wellbeing of children and adolescents in Chicago and Illinois by supporting the Governor's Children's Cabinet as well as taking an executive leadership role in the statewide Children's Health Policy Initiative.

(2) Lurie Children's should continue partnering whenever possible with like-minded organizations in Chicago and Illinois to assure coordinated and effective policy and advocacy efforts as well as provide direct service. For example, Lurie Children's should maintain established partnership with Chicago Department of Public Health during the implementation phase of Healthy Chicago 2.0.

(3) Commit to exploring how Lurie Children's can most effectively impact social determinants of health, which are the underlying cause of many health challenges faced by children in our community. Consider partnering with agencies and organizations that address these issues to maximize impact.

(4) Partner with health care servicing agencies in zip codes of low or very low opportunity in order to increase access to Lurie Children's services.

(5) Look at health as a neighborhood issue and consider targeting specific regions or neighborhoods instead of the city as one entity.

(6) During implementation, seek increased involvement from diverse stakeholders including Lurie Children's employees and patients, as well as community members, parents and youth.

(7) Lurie Children's CHNA committee should continue to meet periodically to identify emerging community health needs, to assess Lurie Children's progress on implementation efforts, and to assess effectiveness of those efforts.

Appendix A: Key Child Population Characteristics in Chicago

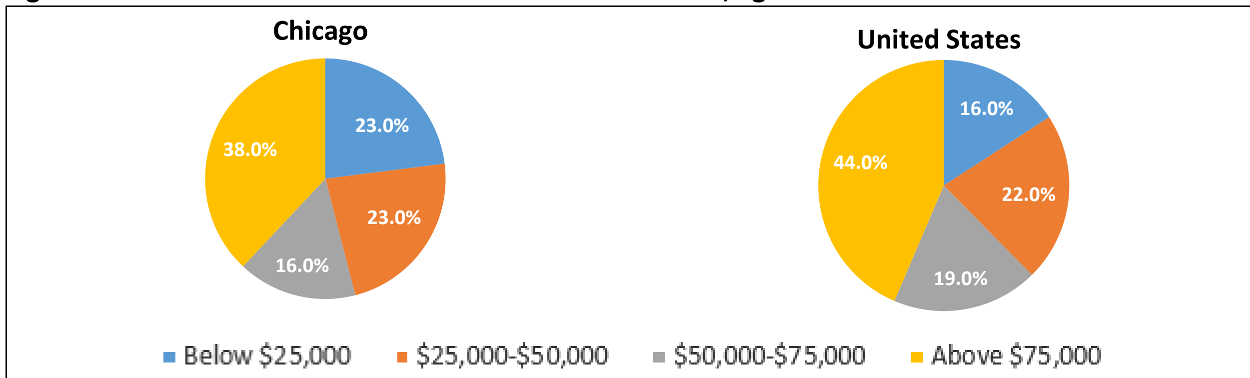
Like many large cities in the United States, Chicago has a disproportionate number of low income and/or minority families. Over 75% of children and adolescents in Chicago are minorities (Table 10) and nearly 50% of children and adolescents in Chicago reside in households that earn less than $50,000 per year (Figure 37). Illinois offers Medicaid coverage through its All Kids program to children in households with incomes under 300% of the federal poverty level, which assures nearly universal health insurance coverage for Chicago children and adolescents, 59.7% of which are covered by Medicaid (Figure 38). In Chicago, 3.3% of children and adolescents have no health insurance, which is substantially lower than the national rate.

Table 10: Racial/ethnic and age distribution of Chicago children and adolescents, 2010

Race/Ethnicity	0-4	5-9	10-14	15-19
White	22.5	18.7	13.7	16.3
Black	32.2	36.5	39.3	40.6
Hispanic	39.0	40.7	42.5	37.6
Other	6.4	4.2	4.5	5.5

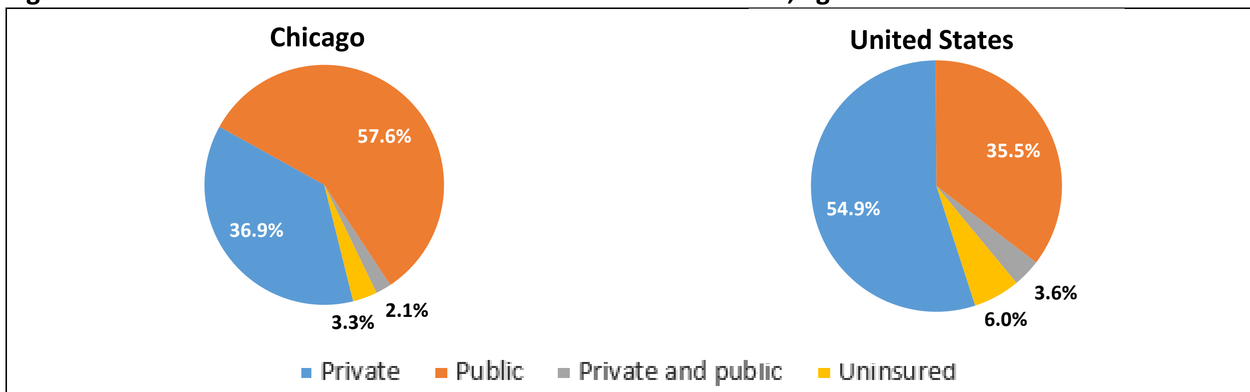
Note: American Community Survey, 2011 (US Census Bureau)

Figure 37: Income distribution of households with children, ages 0-17



Data Source: American Community Survey, 2014 (US Census Bureau)

Figure 38: Health insurance source for households with children, ages 0-17



Data Source: American Community Survey, 2014 (US Census Bureau)

Appendix B: Overview of Child and Adolescent Mortality and Morbidity in Chicago

Specifically, there are two dominant causes of death to children and adolescents in Chicago. When an infant (under 12 months of age) dies, it is most likely caused by conditions arising from short gestation and low birth weight a perinatal or congenital condition, shown in the Table 11 as "exacerbation of complex conditions." Among all infants who died in Chicago in 2014, 75.9% died from these conditions. Such conditions are also the third leading cause of death for older children.

The second dominant cause of death to children and adolescents in Chicago is homicide, which is most prominent in adolescents and young adults, 15-24. Homicide is the cause of 64.4% of all deaths to Chicago adolescents and young adults.

After infancy, unintentional injury accounts for a significant portion of deaths, with young adults being the most likely to die from unintentional injury.

Table 11: Rank, number and rate of five leading causes of death for Chicago children and adolescents, by age group, 2014

	Age Group		
RANK	**0**	**1 to 14**	**15 to 24**
1	Short Gestation and Low Birth Weight	Homicide	Homicide
N	78	15	199
rate	197.7	4.5	49.0
2	Exacerbation of complex conditions	Unintentional Injuries	Unintentional Injuries
N	42	12	58
rate	106.5	3.6	14.3
3	Pregnancy complications	Exacerbation of complex conditions	Suicide
N	12	10	24
rate	30.4	3.0	5.9
4	Respiratory Distress	Malignant Neoplasms	Malignant Neoplasms
N	12	8	16
rate	29.4	2.4	3.9
5	Bacterial Sepsis	Diseases of Heart	Diseases of Heart
N	10	4	12
rate	25.4	1.2	3.0
Total	**158**	**49**	**309**
rate	**400.5**	**14.8**	**76.1**

Notes: Rates per 100,000 residents in age group. "Exacerbation of complex conditions" includes a wide range of diagnoses that, when occurring in children, are likely associated with complex genetic, perinatal or chronic conditions.

Hospitalizations are more evenly distributed across the age groups, with children ages 5-9 being the least likely to experience hospitalization (Table 12). Exacerbation of complex conditions and unintentional injuries are major causes of hospitalization for all age groups. Respiratory diagnoses (including asthma) lead hospitalization causes for children ages 1-9, with mental health diagnoses being prominent in children ages 10 and older.

Table 12: Rank, number and rate of five leading causes of hospitalization for Chicago children and adolescents, by age group, 2014 (all hospitals)

	AGE GROUP				
RANK	**0**	**1 to 4**	**5 to 9**	**10 to 14**	**15 to 19**
1	Perinatal Conditions	Respiratory Dx	Respiratory Dx	Mental Health	Pregnancy & Childbirth
N	1060	1907	937	2106	3093
rate	2687.2	1302.2	564.2	1280.5	3383.8*
2	Respiratory Dx	Unintentional Injuries	Mental Health	Respiratory Dx	Mental Health
N	1041	324	554	443	2714
rate	2639.1	221.2	333.6	269.4	1483.6
3	Congenital Anomalies	Ill-Defined Conditions	Digestive System	Digestive System	Unintentional Injuries
N	430	254	325	378	693
rate	1090.1	173.4	195.7	229.8	378.8
4	Ill-Defined Conditions	Nervous System	Unintentional Injuries	Unintentional Injuries	Digestive System
N	339	246	205	260	529
rate	859.4	168.0	123.4	158.1	289.2
5	Infections & Parasitic Dx	Infections & Parasitic Dx	Nervous System	Endocr, Metabol, Immunity Dx	Blood Dx
N	215	222	201	176	354
rate	545.0	151.6	121.0	107.0	193.5
Total	**3862**	**3848**	**2831**	**4116**	**5442****
rate	**9790.6**	**2627.7**	**1704.6**	**2502.6**	**2974.9****

Notes: *Rate does not include males; **Excludes “Pregnancy & Childbirth”

As the largest provider of pediatric acute hospital services in Illinois, Lurie Children’s hospitalized patients differ somewhat from those across all other hospitals in Chicago (Table 13), and have needs that vary by geography. In general, Lurie Children’s treats more children with exacerbations of complex conditions and somewhat fewer children and adolescents with mental health conditions. When examining hospitalizations for the children and adolescents who are not Chicago residents (Table 14), exacerbation of complex conditions is the top cause of hospitalization for all ages of children and adolescents at Lurie Children’s, pointing to the reality that children with medical complexity often travel significant distances to receive the care provided at Lurie Children’s.

Table 13: Rank and number of five leading causes of hospitalization at Lurie Children's for Chicago children and adolescents, by age group, 2014					
	AGE GROUP				
RANK	0	1 to 4	5 to 9	10 to 14	15 to 19
1	Perinatal Conditions	Respiratory Dx	Respiratory Dx	Mental Health	Mental Health
N	354	644	308	139	127
2	Respiratory Dx	Nervous System	Digestive System	Digestive System	Digestive System
N	315	128	140	135	63
3	Congenital Anomalies	Digestive System	Nervous System	Respiratory Dx	Blood Dx
N	202	99	85	116	63
4	Ill-Defined Conditions	Congenital Anomalies	Unintentional Injuries	Nervous System	Respiratory Dx
N	121	94	52	74	62
5	Digestive System	Ill-Defined Conditions	Blood Dx	Unintentional Injuries	Unintentional Injuries
N	98	89	48	66	60
Total	**1360**	**1403**	**827**	**781**	**584**

Table 14: Rank and number of five leading causes of hospitalization at Lurie Children's for Non-Chicago children and adolescents, by age group, 2014					
	AGE GROUP				
RANK	0	1 to 4	5 to 9	10 to 14	15 to 19
1	Congenital Anomalies	Respiratory Dx	Nervous System	Digestive System	Unintentional Injuries
N	274	280	199	160	118
2	Perinatal Conditions	Nervous System	Respiratory Dx	Nervous System	Factors--Health Stat
N	152	224	158	152	116
3	Respiratory Dx	Congenital Anomalies	Digestive System	Mental Health	Nervous System
N	132	146	155	127	112
4	Nervous System	Ill-Defined Conditions	Factors--Health Stat	Musculoskeletal System	Digestive System
N	81	111	105	107	103
5	Ill-Defined Conditions	Digestive System	Congenital Anomalies	Respiratory Dx	Endocr, Metabol, Immunity Dx
N	81	103	81	98	101
Total	**955**	**1288**	**1016**	**1068**	**937**

Appendix C: Existing Resources

Existing Resources in the Community for Prioritized Health Needs for Children

Health Need	Existing Resources in the Community	Contact for Resource
1. Social Determinants of Health	Safe and Healthy Homes Project, lead poisoning prevention	http://illinoisaap.org/2010/08/how-to-request-a-lead-inspection-from-the-city/
	Youth Guidance: Guiding kids to bright futures -BAM: Becoming a Man -WOW: Working on Womanhood -STRIVE -School-based counseling	https://www.youth-guidance.org/
	Chicago Ready to Learn: Birth to Pre-K Programs	http://www.cps.edu/Schools/EarlyChildhood/Pages/EarlyChildhood.aspx
	Chicago STAR Scholarship, City College of Chicago	http://www.ccc.edu/departments/Pages/chicago-star-scholarship.aspx
	Large Lots Program	https://www.largelots.org/
	Habitat for Humanity - Chicago	https://www.windycityhabitat.org/
	Chicago Complete Streets	http://chicagocompletestreets.org/
2. Access to Care	City of Chicago Services: Adolescent and School Health	http://www.cityofchicago.org/city/en/depts/cdph/provdrs/healthychicago/svcs/the_office_of_adolescentandschoolhealth.html
	No Wrong Door: Illinois	https://www.adrc-tae.acl.gov/tiki-index.php?page=ILProfile&stabrev=IL
	Chicago, IL Free & Income Based Clinics	http://www.freeclinics.com/cit/il-chicago
	City of Chicago Services: Find a Community Health Center	http://www.cityofchicago.org/city/en/depts/cdph/provdrs/clinic/svcs/find_a_communityhealthcenter.html

Health Need	Existing Resources in the Community	Contact for Resource
	HRSA – Find a Health Center	http://findahealthcenter.hrsa.gov/index.html
3. Mental Health	Behavioral Health Treatment Services Locator	findtreatment.samhsa.gov
	SAMHSA's National Helpline	1-800-662-HELP (4357) Website: www.samhsa.gov/find-help/national-helpline
	Suicide Prevention Lifeline	1-800-273-TALK (8255) Website: www.suicidepreventionlifeline.org
	Lurie Children's Center for Childhood Resilience	http:// www.luriechildrens.org/ccr
	Comprehensive Community-Based Youth Services (CCBYS)	http://www.dhs.state.il.us/page.aspx?item=31868
4. Obesity, Nutrition and Physical Activity	Consortium to Lower Obesity in Chicago Children (a program of Lurie Children's)	www.clocc.net
	Chicago Department of Public Health	http://www.cityofchicago.org/city/en/depts/cdph/supp_info/clinical_health/food_and_nutritionalinformation.html
	City of Chicago Service: Free Exercise Classes	http://www.cityofchicago.org/city/en/depts/cdph/provdrs/healthychicago/svcs/find_free_exerciseclass.html
5. Complex Chronic Conditions	The Arc of Illinois	www.thearcofil.org
	Division of Specialized Care for Children	http://www.uic.edu/dscc/index.htm
	Maryville Academy	http://www.maryvilleacademy.org/
	Almost Home Kids	http://almosthomekids.net/
	Illinois Mentor	http://www.il-mentor.com/standard/page.aspx?guid=c1e4b152-9d16-4e35-a948-e8b02ffcbc25
	Aspire	https://www.aspirechicago.com/

Health Need	Existing Resources in the Community	Contact for Resource
6. Violence	Strengthening Chicago Youth, a Program of Lurie Children's	http://www.scy-chicago.org/
	Mayor's Commission for a Safer Chicago	cityofchicago.org/saferchicago
	City of Chicago /Office of Violence Prevention	www.cityofchicago.org/city/en/depts/cdph/provdrs/violence_prev.html
7. Asthma	Stroger Hospital Asthma Clinics	http://www.cookcountyhhs.org/medical-clinicalservices/department-medicine/lung-diseases/clinical-patient-locations/
	Respiratory Health Association of Metropolitan	http://www.lungchicago.org
	Chicago Asthma Consortium	http://www.chicagoasthma.org
	Sinai Urban Asthma Institute	http://www.sinai.org/content/suhi-projectpediatric-asthma-initiatives
	LaRabida Asthma Clinic	http://www.larabida.org/page-asthma
	Chicago Asthma Consortium	http://chicagoasthma.org/researchdata/asthma-research-in-chicago/
8. Ambulatory Conditions (excluding Asthma)	Lurie Children's specialty clinics	https://www.luriechildrens.org/en-us/care-services/specialties-services/Pages/index.aspx
9. Child Abuse	Prevent Child Abuse	www.preventchildabuse.org
	Chicago Children's Advocacy Center	www.chicagocac.org