2014 Community Health Needs Assessment

Dayton Children's

childrensdayton.org

Funded by the Dayton Children's Foundation Board

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Dayton Children's

Executive summary

Community Health Needs Assessment (CHNA) background

Improving the health status of children is a key component of the Dayton Children's Hospital mission and strategic plan. To help develop meaningful community engagement and outreach strategies, Dayton Children's evaluates the status of our region's pediatric health through a Community Health Needs Assessment (CHNA). Per IRS requirements, Dayton Children's CHNA includes feedback from the community and experts in public health and clinical care and takes into account the health needs of vulnerable populations, including minorities, those with chronic illness, low-income populations and medically underserved populations.

Funded by the Dayton Children's Foundation Board, the CHNA covers many health and safety topics and is intended to provide community health advocates, including Dayton Children's, insights into the health and well-being of our region's children. These insights enable our community to identify top areas of concern and to develop or refine programs to improve the health status of all children through community benefit investments. Future investments are outlined in an implementation strategy adopted by the Dayton Children's Board of Trustees per IRS requirements.

This report documents how the Dayton Children's CHNA was conducted and describes the related findings and implementation strategies.

Community served

Dayton Children's Hospital is the pediatric referral center for a 20-county region in Southwest Central Ohio. About 1.8 million people live in the 12-county service area included in this report with 20 percent of the population, or about 353,000, being children between the ages of 0 to 14. The larger population center in the 12-county area is southern, where Butler, Warren and Montgomery counties (where Dayton is located) comprise 63 percent of the region's population. Just south of Butler County is Hamilton County, the host to the city of Cincinnati. Butler and Warren counties have been two of the fastest growing counties in Ohio, primarily due to outmigration from Dayton and Cincinnati.

The population in this 12-county region of Southwest Ohio is projected to remain stable through the year 2040 as is the youth population, each forecasted to grow about 1 percent. The racial composition of the region is mainly white or caucasian, with African Americans comprising nearly 10 percent and other minorities comprising about 5 percent of the population. In this region, about 11 percent of households are children living with single parents. In 3 percent of households, children are living with grandparents and in half of those cases, the grandparent is responsible for the child(ren).

Process and methods

Dayton Children's approached our CHNA through a four-part data collection process.

1. **Secondary Data Scan:** In partnership with the Greater Dayton Area Hospital Association and the Center for Urban and Public Affairs at Wright State University, a secondary data report was compiled to paint a detailed picture of the Dayton Children's Hospital service area. Aggregate hospital ICD-9 emergency room and hospital inpatient discharge diagnoses data were obtained from the Ohio Hospital Association via the Greater Dayton Area Hospital Association. Cancer data and vital statistics were obtained from the Ohio Department of Health.

2. **Parent Perception Survey:** Dayton Children's contracted with Deft Research, Inc. to conduct an online and phone parent perception survey to better understand top pediatric health and safety needs. Six hundred and forty-two parents of children living in the Dayton Children's Hospital general service area were surveyed between January 27 and February 25, 2014.
3. **Physician Conversations:** Hoover Consulting conducted phone interviews of 12 practicing physicians within the Greater Dayton community. Physicians serving a variety of demographics and counties within the region were represented. These surveys were used to identify and prioritize key pediatric health issues, understand how consumers receive care for these issues today and determine how health professionals believe Dayton Children's Hospital can respond to pediatric health priorities.
4. **Parent Focus Groups:** Focus groups were conducted with parents to dig deeper into some of the challenges and barriers associated with their top health and safety concerns.

The Dayton Children's CHNA team reviewed the data and findings from all four segments and then rated the needs against criteria including prevalence, seriousness (hospitalization and/or death), impacts on other health issues, urgency, prevention, economics/feasibility, acceptability and resources.

Prioritized needs

Dayton Children's CHNA team reviewed the list of health needs and prioritized them via a multiple-criteria scoring system. The top three needs include:

Priority 1: Nutrition Education/Childhood Obesity

In the 2014 parent survey, 41 percent of children were identified as overweight or obese. The majority of parents of overweight and obese children do not perceive their children as having any weight problem. Ten percent of parents of obese children believe that their child is underweight and only 5 percent of those parents correctly identify their child as being "very overweight." Nearly all physicians believe obesity is a significant medical issue within Dayton, and particularly within the underserved/Medicaid population.

Implementation Strategy: Dayton Children's will focus on decreasing the local pediatric obesity rate by working with local pediatricians and health care providers over the next three years.

Priority 2: Mental Health

Mental disorders are the most common inpatient discharge diagnosis for youth ages 5 to 14. Fifteen percent of parents named chronic and congenital conditions that concern them. Of those fifteen percent, 25 percent chose developmental or learning disabilities as a top concern and 24 percent chose autism as a top chronic or congenital concern. Also cited was an inadequate number of resources for the number of pediatric patients needing mental health support.

Implementation Strategy: Over the next three years, Dayton Children's will create a Center for Pediatric Mental Health to increase access and coordinate resources for pediatric mental health in the hospital's primary service area.

Priority 3: Infant Mortality/Safe Sleep Practices

The regional infant mortality rate was substantially lower than the state's rate over most of the study period then climbed up to the state rate in more recent years. Sleep-related deaths are a large contributor to infant mortality. According to the Ohio Child Fatality Review, 2007-2011, 41 percent of

infant deaths from 1 month to 1 year are sleep related. In that same report, the 819 infant sleep-related deaths accounted for 15 percent of the 5,418 total reviews for infant deaths from 2007 to 2011, more than any single cause of death except prematurity. In Montgomery County alone, 16.67 percent of the infant deaths in 2012 were sleep-related incidents.

Implementation Strategy: Dayton Children's will invest in education for parents about safe sleep practices for the infants they treat.

Other needs

The assessment also identified additional needs including asthma/respiratory disorders, injury prevention, infectious disease management/vaccination compliance and access to primary care/health care costs. While not the focus areas of our implementation plan, these issues will be monitored and addressed where possible.

Conclusion

Dayton Children's conducted a thorough community health needs assessment of our service region and took into consideration existing health indicator data, parent feedback, and input from professionals, including public health and clinical health experts focusing on the region's pediatric population.

Primary research with health experts and professionals mirrored the secondary data, but offered further details into the drivers and community resource needs of various health conditions, especially as they pertained to challenges addressing mental health and childhood obesity. Access and delivery issues also surfaced. Parents made the connection between the home environment, cultural norms, messages from the media, and health behaviors that impact the mental and physical health of their children. Their input offers potential strategies to address issues – particularly those preventive in nature.

A synthesis of the quantitative and qualitative data resulted in a list of most pressing pediatric health needs in our community. Dayton Children's CHNA team was then able to rank those needs and select priorities for upcoming community benefit investment. The CHNA team, with additional input from hospital staff, completed an implementation plan to address these needs.

This assessment meets all of the new federal requirements of the Affordable Care Act (ACA). Oversight, input and approval was given by the Board of Trustees Advocacy Committee and was approved by the Board of Trustees in June 2014. In accordance with federal requirements, this report is made widely available to the public on our website at www.childrensdayton.org.

Secondary Data Review

Dayton Children's

Prepared by the Center for Urban and Public Affairs
at Wright State University

Secondary data review

Introduction

In Southwest Central Ohio, the Greater Dayton Hospital Association is partnering with its member hospitals and with Wright State University to prepare Community Health Needs Assessments. Each partner has invested resources and significant time in gathering information to develop this Community Health Needs Assessment.

After describing the service area, this report provides a demographic and socioeconomic status analysis as a backdrop for the analysis of community health needs. It concludes with a presentation of priority health concerns. The report also addresses the methodology uses and data limitations.

A community health assessment engages community members and partners to collect and analyze health-related data from many sources. The findings of the assessment inform community decision-making, the prioritization of health problems and community health improvement planning.

How to read this report and how data were obtained

Data in this report are organized into topical areas, which can be located by referring to the table of contents. The report begins with a description of the Dayton Children's Hospital service area, providing a basic overview of the Hospital's geographic location followed by its socio-economic makeup. The assessment defines the term "health" broadly to include health care access, maternal and infant health, behavioral health, clinical care, diseases, mental and behavioral health, and substance abuse.

This report compiles secondary data from multiple sources to paint a detailed picture of the Dayton Children's Hospital Service Area. Secondary data is reprocessing and reusing information that has already been collected, such as institutional records from sources including hospitals and the Ohio Department of Health. Aggregate hospital ICD-9 emergency room and hospital inpatient discharge diagnoses data were obtained from the Ohio Hospital Association via the Greater Dayton Area Hospital Association. Cancer data and vital statistics were obtained from the Ohio Department of Health. The framework for the report was based on key areas of need. The report, in some cases, compares the service area's status to state and/or national data where possible, drawing out critical areas of concern. Narrative and graphics are used to highlight key findings. The report culminates in the presentation of priority needs for the hospital's service area based on this secondary data.

Consulting persons and organizations

The partners for the data analytics portion of the CHNA are Dayton Children's Hospital, the Greater Dayton Area Hospital Association and Wright State University. Partners in the data review process and in the process for identifying and prioritizing community health needs and services were members of Dayton Children's Hospital clinical team as well as representatives from public health entities.

Definition of the community served by Dayton Children's Hospital

Description

Every major metropolitan area in Ohio has a children's hospital.

- Akron Children's Hospital, Akron
- Cincinnati Children's Hospital Medical Center, Cincinnati
- Dayton Children's Hospital, Dayton
- Mercy Children's Hospital, Toledo
- Nationwide Children's Hospital, Columbus
- Rainbow Babies & Children's Hospital, Cleveland
- Toledo Children's Hospital, Toledo

Dayton Children's Hospital is the pediatric referral center for a 20-county region in Southwest Central Ohio. Its main service area is the 12-county area shaded on the map (left). About 1.8 million people live in that 12-county area with 20 percent of the population, or about 353,000, being children between the ages of 0 to 14. The larger population center in the 12-county area is southern, where Butler, Warren and Montgomery counties (where Dayton is located) comprise 63 percent of the region's population. Just south of Butler County is Hamilton County, the host to the City of Cincinnati. Butler and Warren counties have been two of the fastest growing counties in Ohio, primarily due to outmigration from Dayton and Cincinnati.

Demographics of the community

Characteristics of the population

Figure 1: Population trends, 2010-2040

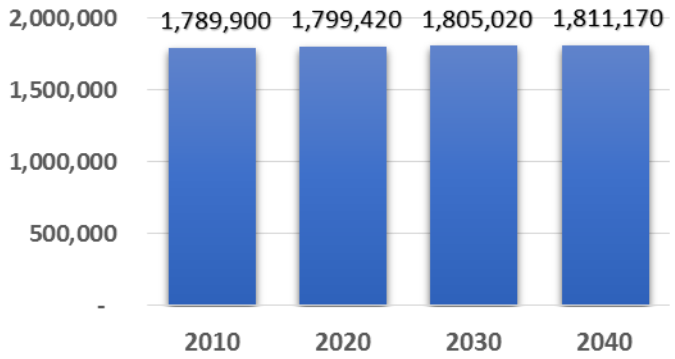


Figure 2: Population trends, ages 0-14, 2010-2040

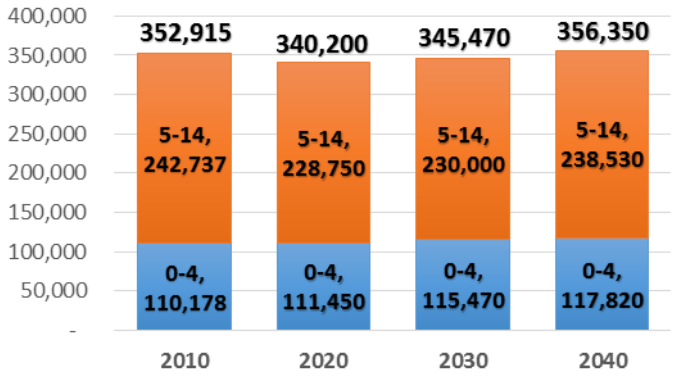
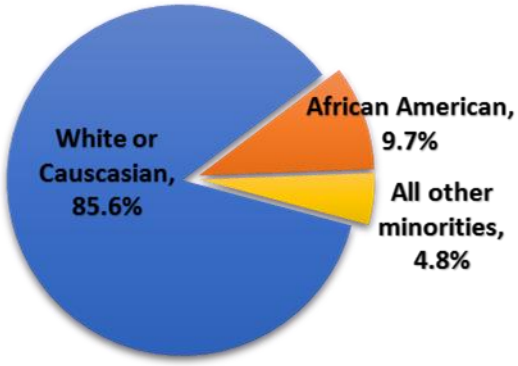


Figure 3: Race, 2011



The population in this 12-county region of Southwest Ohio is projected to remain stable through the year 2040 as is the youth population, each forecasted to grow about 1 percent. The racial composition of the region is mainly White or Caucasian, with African Americans comprising nearly 10 percent and other minorities comprising about 5 percent of the population. In this region, about 11 percent of households are children living with single parents. In 3 percent of households, children are living with grandparents and in half of those cases, the grandparent is responsible for the child(ren).

Figure 4: Household type

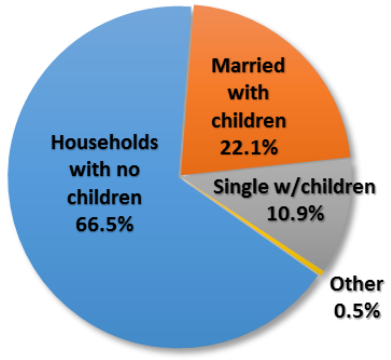


Figure 5: Grandparents and grandchildren, 2011

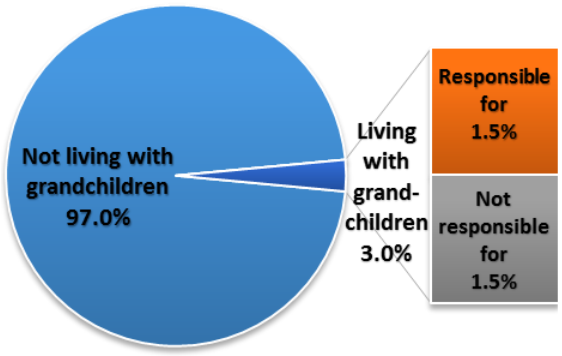


Figure 6: Occupied housing units

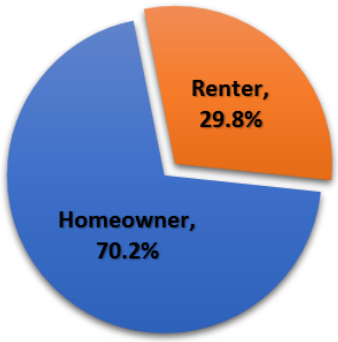


Figure 7: Educational attainment for the population 25 years of age and older, 2011

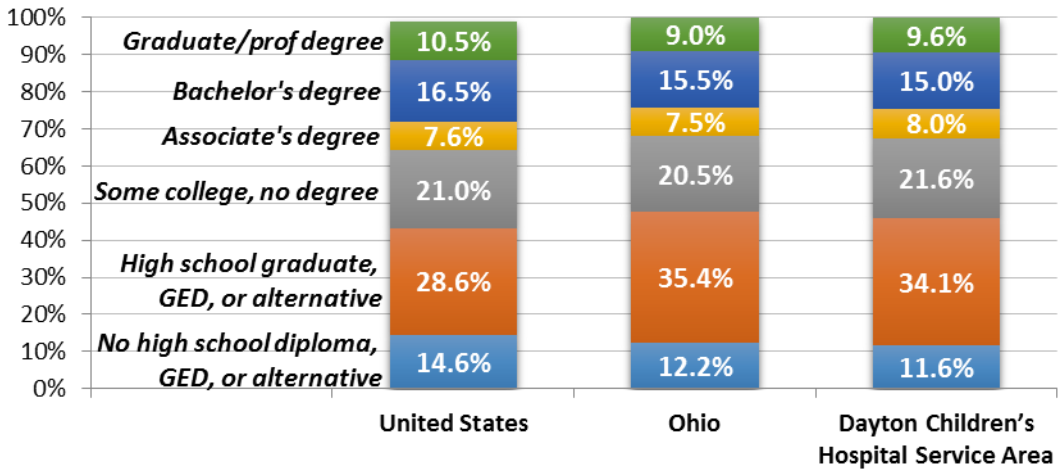
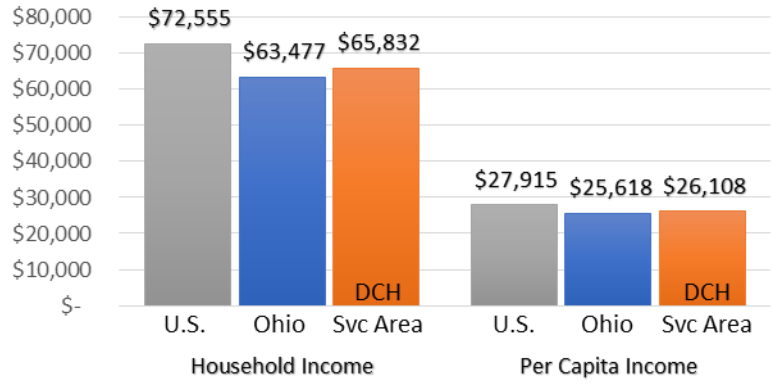
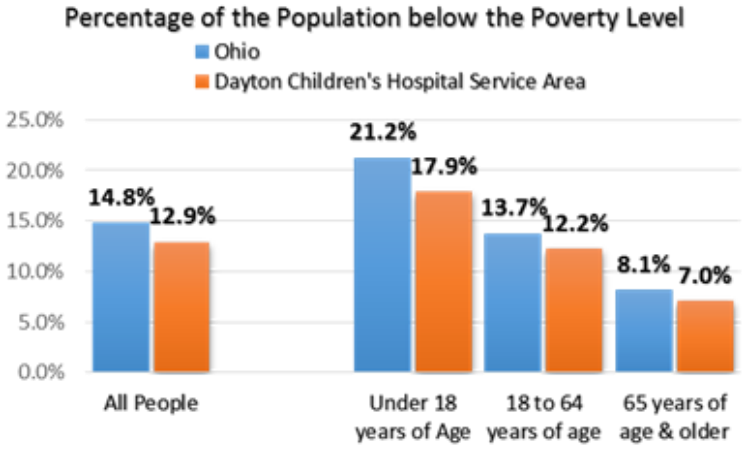


Figure 8: Mean household and per capita income, 2011



Charts on this page focus on socioeconomics. There is good evidence that socioeconomic position is a stronger determinant of health-related outcomes than race or ethnicity. Degree attainment in this Southwest Ohio area is slightly higher than for the State overall, but lower than for the U.S. And income has the same pattern, where the region's income is higher than the State's, but lower than the nation's. Therefore, as might be expected, poverty in Southwest Ohio is less pervasive than at the State level.

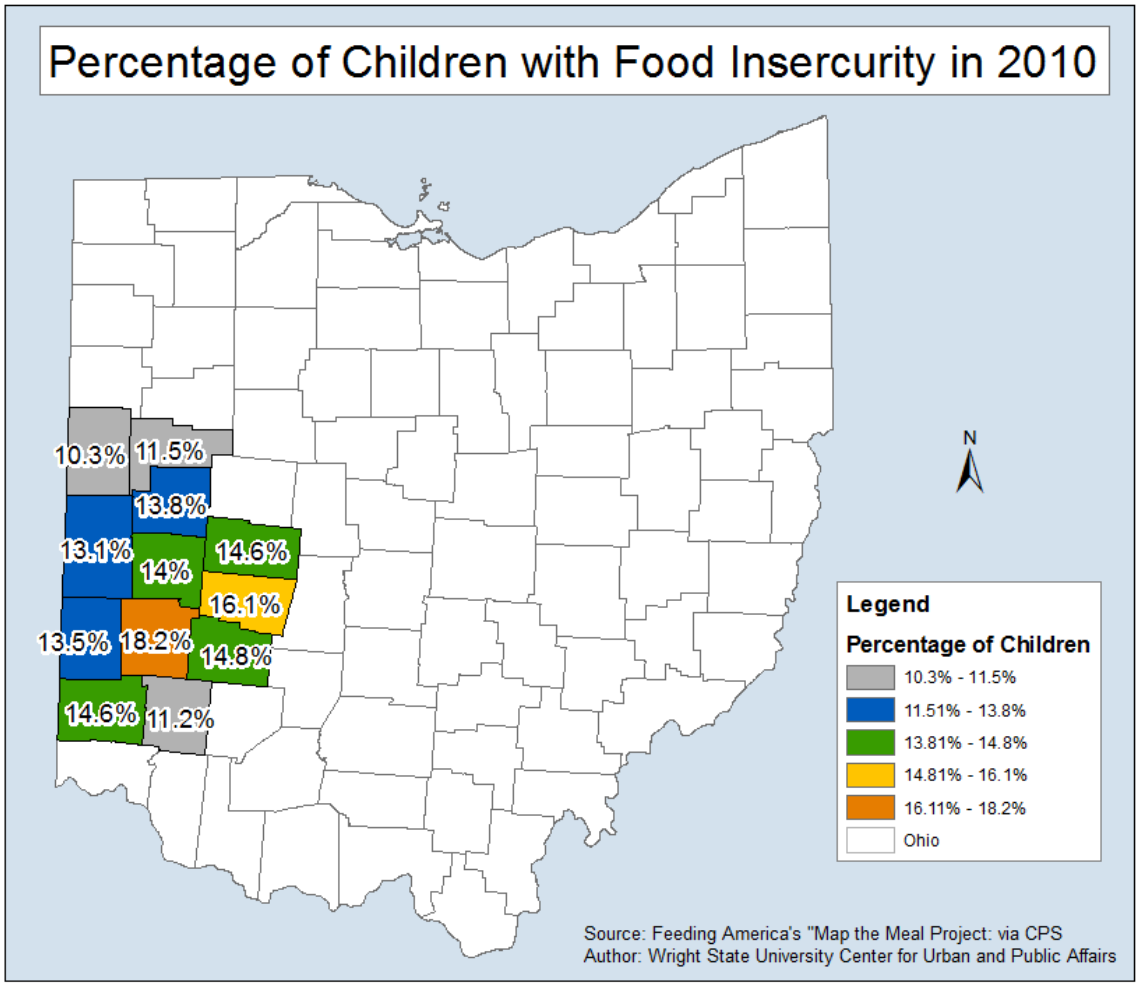
Figure 9: Percentage of the population below the poverty level, 2011



Health-related demographics for children in the service area

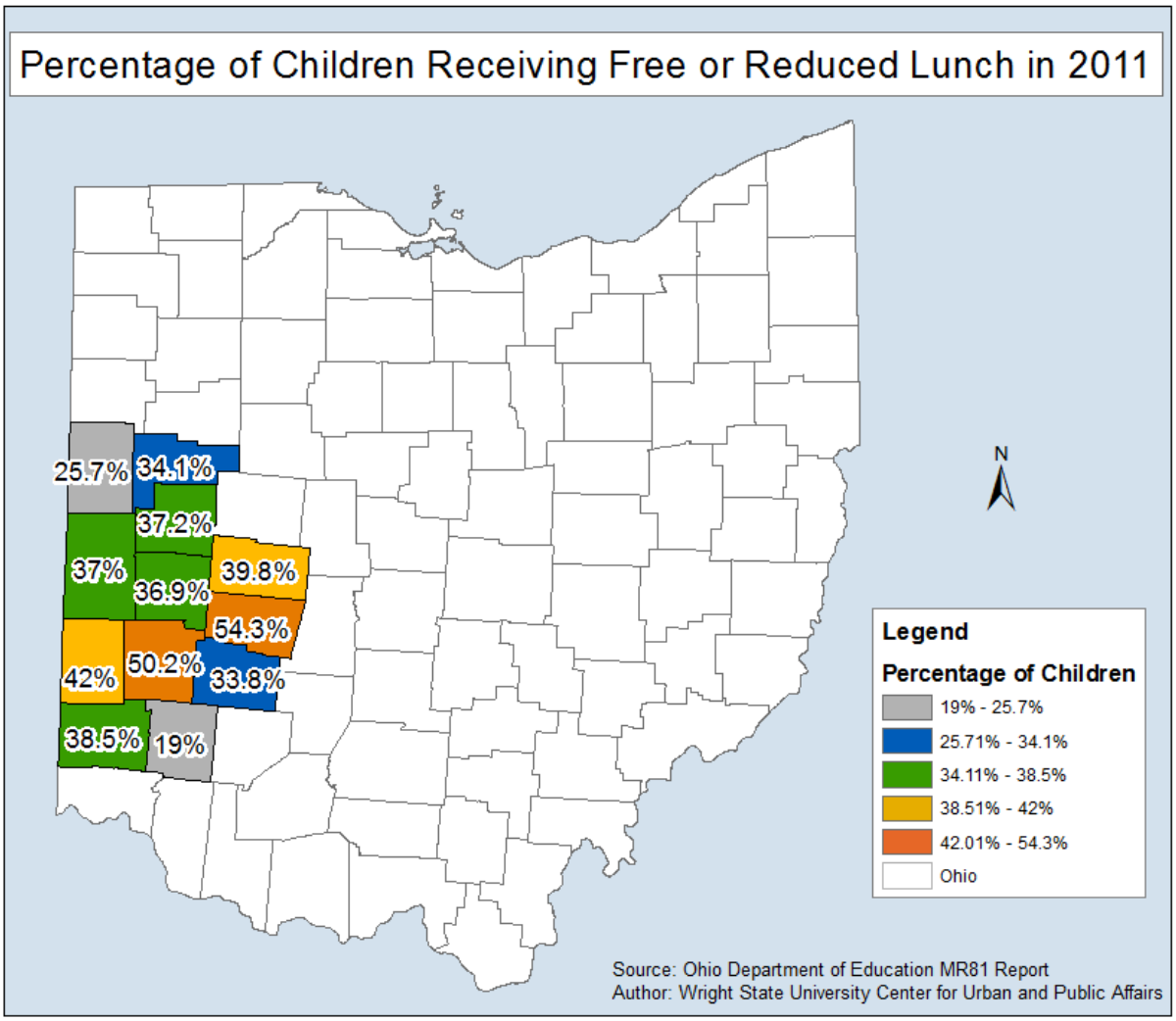
Food insecurity refers to the USDA's measure of lack of access, at times, to enough food for an active, healthy life for all household members and limited or uncertain availability of nutritionally adequate foods. Two urban counties in the Dayton Children's service region have the greatest prevalence including Montgomery County (18.2 percent) and Clark County (16.1 percent).

Figure 10: Percentage of children with food insecurity in 2010



Similarly, the greatest prevalence of children qualifying for free and reduced price lunches is in the two urban counties, with large concentrations in Dayton (Montgomery County) and Springfield (Clark County). In Montgomery County, 50.2 percent of children received free or reduced lunch in 2011 and in Clark County 54.3 percent of children received free or reduced lunch.

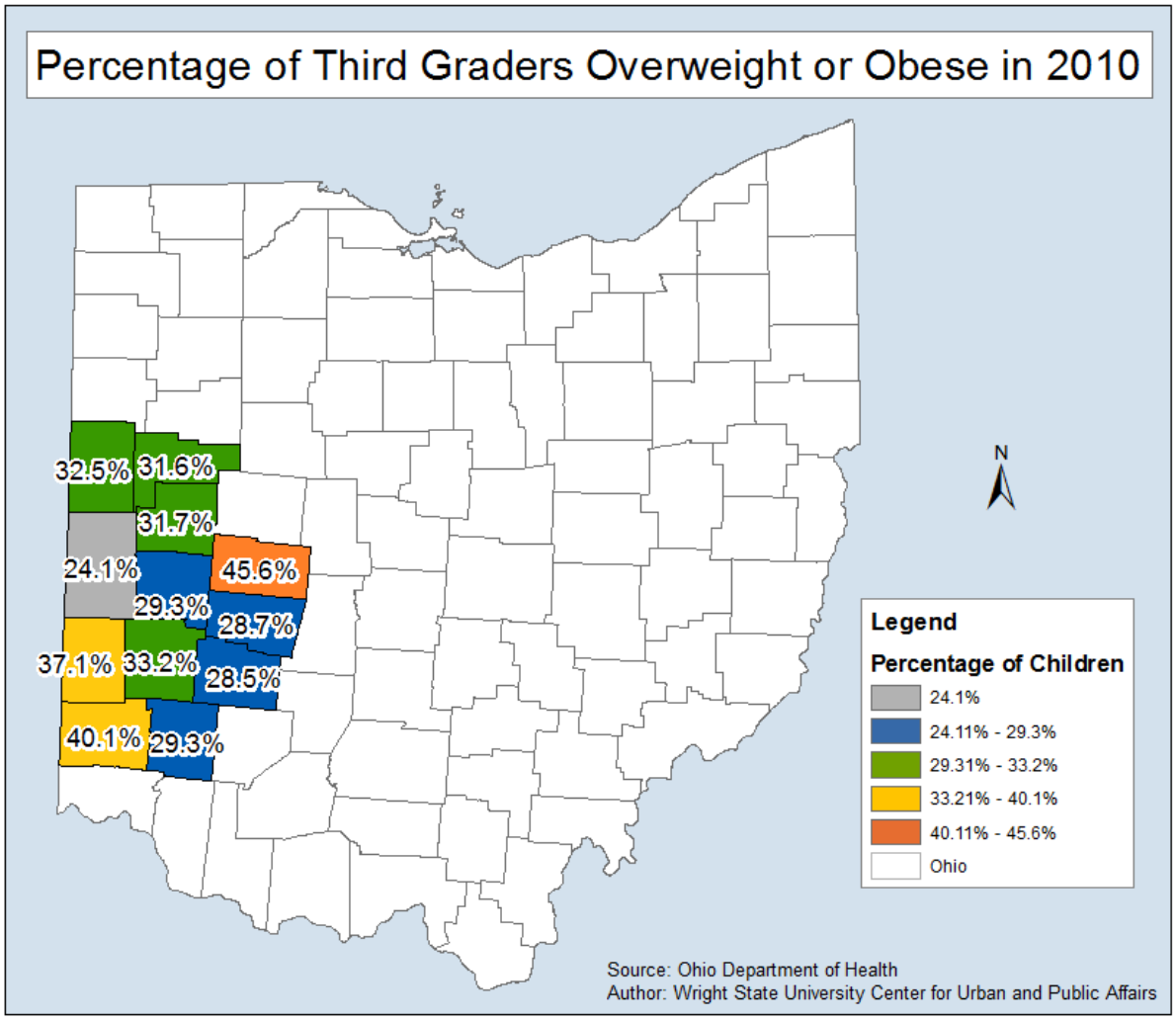
Figure 11: Percentage of children receiving free or reduced lunch in 2011



Third grader's Body Mass Index (BMI) was calculated in 2010. BMI is a calculation that uses height and weight to estimate how much body fat someone has. BMI is one way determine how appropriate a child's weight is for a certain height and age.

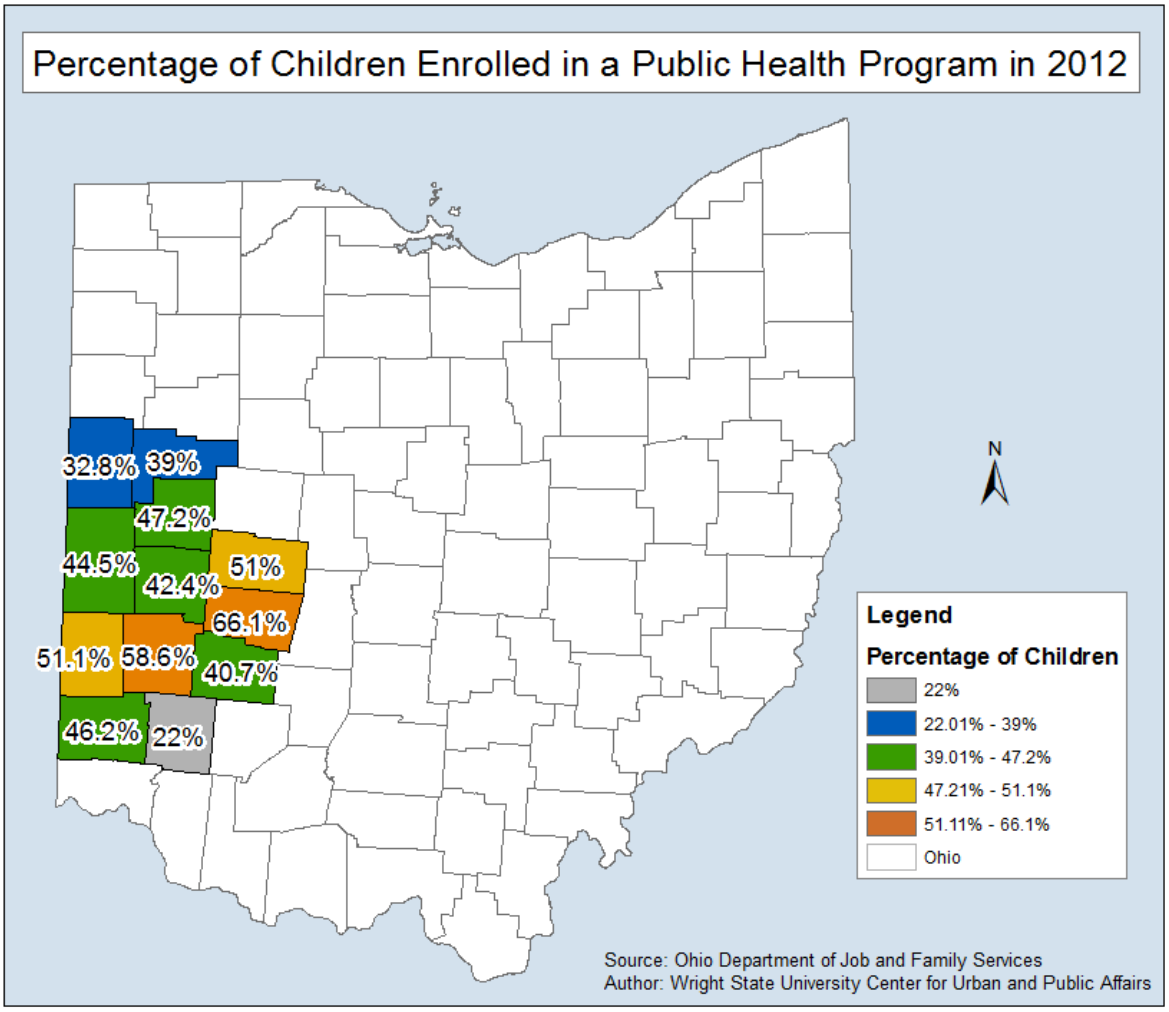
The highest percentage of overweight and obese children is in Champaign County (45.6 percent), with the Southwest portion of the service area including Butler County (40.1 percent) and Preble County (37.1 percent) indicating prevalence.

Figure 12: Percentage of third graders overweight or obese in 2010



The map in Figure 13 presents the percentage of children receiving health insurance at some point during the year through Medicaid or the State Children's Health Insurance Program (SCHIP). Counties with a higher urban population have a higher rate of children receiving public health insurance. The rate in Montgomery County is 58.6 percent and the rate in Clark County is 66.1 percent.

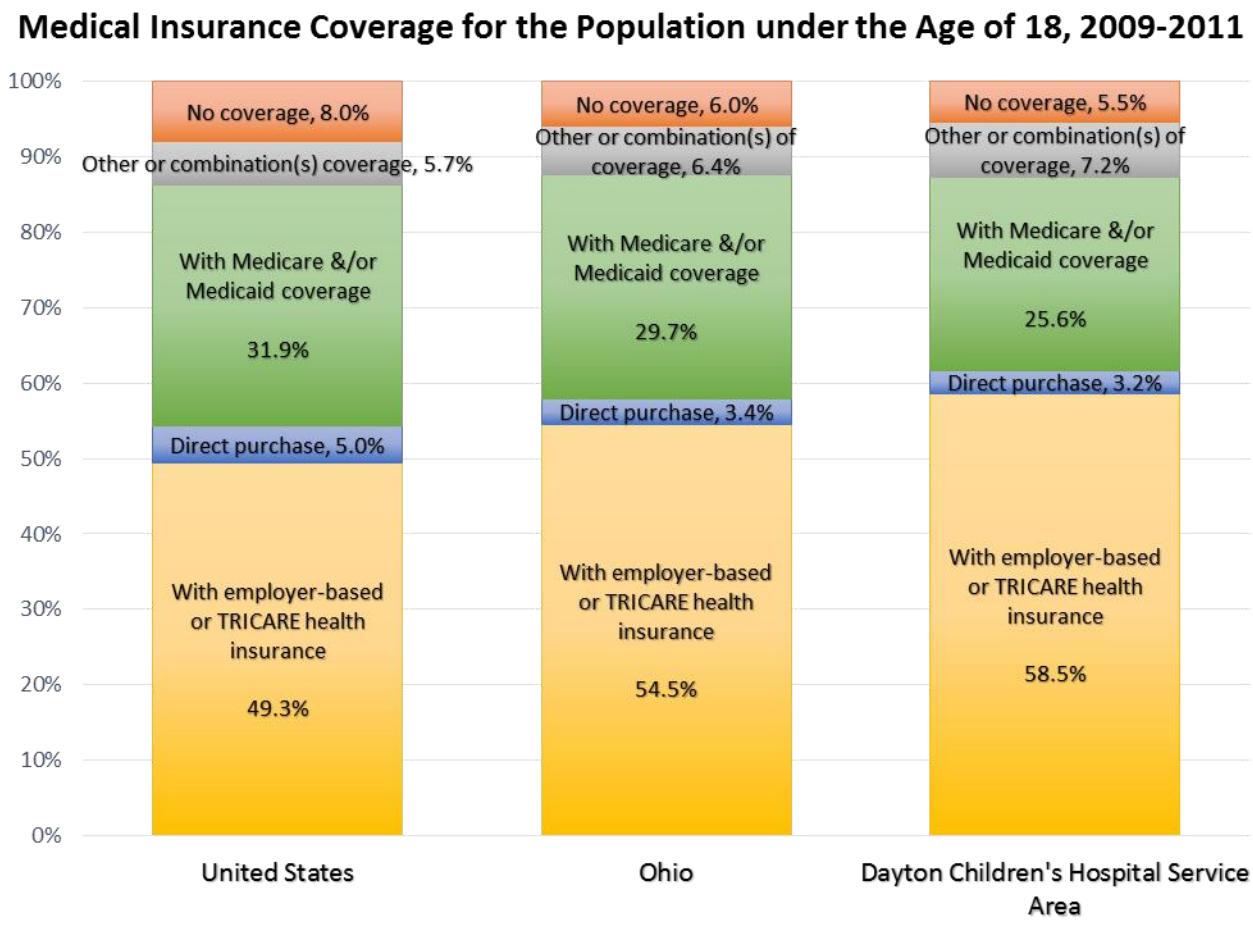
Figure 13: Percentage of children enrolled in a public health program in 2012



Access to health care

The distribution of health insurance coverage in Southwest Ohio differs from the state's or nation's distribution. A substantially higher percentage of children in Southwest Ohio are covered by employer-based or TRICARE health insurance. Wright-Patterson Air Force Base, located in Southwest Ohio, is one of the largest bases in the Air Force; TRICARE® is the health care program serving uniformed service members, retirees and their families. Southwest Ohio also has a smaller percentage of children having no health care coverage as compared to the state and the nation (5.5 percent versus 6.0 percent and 8.0 percent, respectively).

Figure 14: Medical insurance coverage for the population under the age of 18, 2009-2011



Source: U.S. Census Bureau, 2009-2011 American Community Survey

Health care facilities and resources within the community

Acute care

Dayton Children's Hospital offers a full range of primary and specialty health care services for infants, children and teens. Pediatric experts in more than 35 specialty areas have the special training and experience needed to care for children of all ages.

Dayton Children's Hospital Featured Services

Lipid Clinic
The lipid clinic at Dayton Children's provides treatment plans for children with lipid disorders including: high cholesterol, high triglycerides, insulin resistance syndrome, and diseases or disorders of obesity.

Surgery
The pediatric experts within our advanced surgery complex have set the standard for pediatric surgical care in the region. As the region's only surgical center devoted to pediatrics, our team performs more than 12,500 surgeries every year.

Cancer Care
We provide extensive, state-of-the-art services for cancer and blood disorders. Accredited by the American College of Surgeons, the cancer care center for kids at Dayton Children's is just one of a few approved programs in the country.

NICU
Our level III newborn intensive care unit (NICU) is the region's referral center for premature and sick newborns, caring for infants from all areas of our 20-county region. This high-level care unit features an award-winning design and quick access to all pediatric subspecialists.

Emergency and Trauma
Our pediatric trauma center is prepared to manage any trauma, 24 hours a day. We have the only verified pediatric trauma center in the region staffed entirely by pediatric specialists. Last year, the emergency department treated over 75,000 patients.

Medical Imaging
Through our department of medical imaging, we offer a full spectrum of diagnostic imaging for pediatric patients. State-of-the-art equipment, including an accredited onsite MRI program, offers the highest quality images with child-friendly features.

Support Services
Dayton Children's offers a range of services that support the clinical care we provide including home care, car seat checks, child life, dietetics, pharmacy, pain management, family resource center and a variety of support groups.

http://www.childrensdayton.org/cms/our_services/index.html

Preventive care

Besides acute care, the region offers preventive care through primary care physicians, pediatricians, health clinics and dentists. The table below presents the health care resources in the Southwest Ohio region by county. Rates per 100,000 in population allow comparisons that reveal wide disparities. For example, the number of pediatricians per 100,000 ranges from 0 in Preble County to 73 in Warren County.

Table 1: Preventive care

	Auglaize	Butler	Cham-paign	Clark	Darke	Greene	Mercer	Miami	Montgo-mery	Preble	Shelby	Warren
Primary Care Physicians	23	188	10	65	25	137	19	48	490	11	21	184
PCP Physicians/100K Pop	50.2	50.8	25.1	47.2	47.3	84.1	46.5	46.7	91.1	26.1	42.6	85.6
General/Family Practice	17	87	7	30	20	74	13	33	223	10	13	72
General/Family/100K Pop	37.1	23.5	17.6	21.8	37.9	45.4	31.8	32.1	41.5	23.8	26.4	33.5
Internal Medicine	4	55	3	27	4	43	4	10	194	1	6	66
Internal Medicine/100K Pop	8.7	14.9	7.5	19.6	7.6	26.4	9.8	9.7	36.1	2.4	12.2	30.7
Pediatricians	2	46	0	8	1	20	2	5	73	0	2	46
Pediatricians/100K Pop	15.9	43.9	0	22.3	7	46.9	17.1	18.6	53.6	0	13.8	73.2
Obstetricians/Gynecologists	2	23	0	10	2	10	2	10	83	0	2	20
OB/GYN /100K Pop	8.7	12.2	0	14.1	7.4	12	9.8	19.1	29.7	0	8.1	18.7
Dentists	19	154	8	46	10	103	14	36	263	5	12	105
Dentist/100K Pop	41.4	41.8	20	33.3	18.9	63.7	34.3	35.1	49.1	11.8	24.3	49.4
Community Health Centers	0	7	0	4	3	0	0	0	6	0	0	0
Federally Qualified Health Centers	0	2	0	4	3	0	0	0	5	0	0	0

Source: HRSA Health Resources County Comparison Tool

Health professional shortage areas

The wide disparity in health care providers across the counties in Southwest Ohio results in Health Professional Shortage Areas (HPSAs) designated by HRSA. The table below indicates with an "X" the HPSAs by county for primary medical care, dentists, and mental health professionals.

Table 2: Health professional shortage areas

Health Professional Shortage Area (HPSA)	Primary Medical Care	Dentists	Mental Health Care
Auglaize County			X (County)
Butler County	X (Community Health Center)	X (Low income areas & Community Health Center)	X (Community Health Center)
Champaign County			X (County)
Clark County	X (Low income areas & Children's Health Center)	X (Low income areas & Children's Health Center)	X (Children's Health Center)
Darke County	X (Low income areas & Community Health Center)	X (Community Health Center)	X (The County & Community Health Center)
Greene County			
Mercer County			X (County)
Miami County			X (County)
Montgomery County	X (for Homeless Clinic & 2 Community Health Centers)	X (Low income areas, Homeless Clinic, & 2 health clinics)	X (for Homeless Clinic & 2 community health clinics)
Preble County			X (County)
Shelby County			X (County)
Warren County	X (For both correctional facilities)	X (For one correctional facility)	X (For one correctional facility)

Source: Health Resources Services Administration (HRSA)

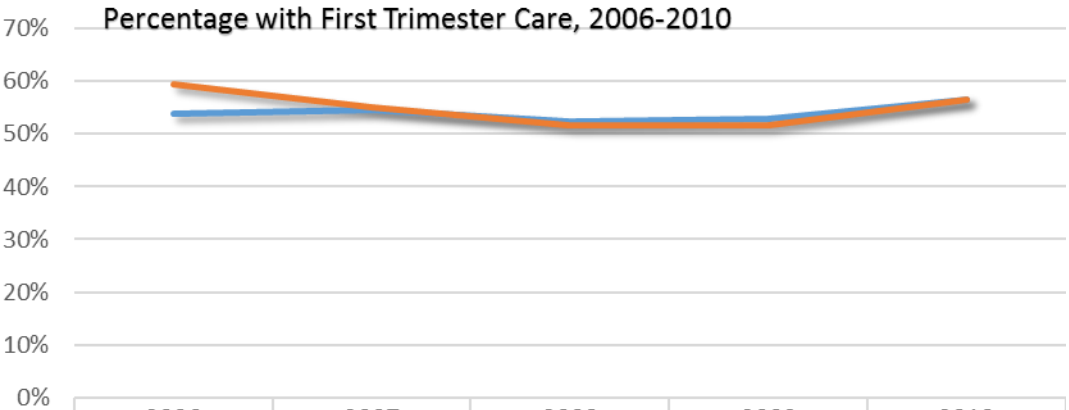
Health needs of the community

Maternal and infant health

First trimester prenatal care

The percent of mothers receiving first trimester prenatal care is generally the same for Ohio and for the region, with both geographies trending up in 2010. Yet, only slightly more than half of mothers receive first trimester care. (Beginning in 2006 Ohio adopted the revised birth certificate, so previous years are not directly comparable.)

Figure 15: Percent of mothers receiving first trimester prenatal care



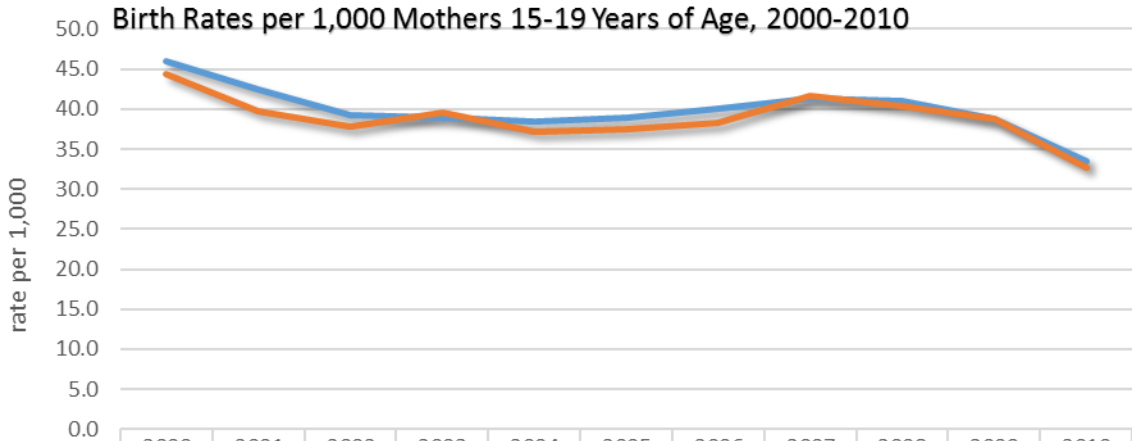
	2006	2007	2008	2009	2010
Ohio	53.8%	54.7%	52.3%	52.9%	56.4%
DCH Svc Area	59.4%	54.9%	51.7%	51.7%	56.6%

Source: 2006-2010, Ohio Department of Health, Vital statistics annual birth summaries. Last updated 05/24/2013.

Teen birth rates

Consistent with the State's trend, the region's teen birth rate is on the decline. Researchers ascribe the change to more prevalent use of contraceptives and an increase in abstinence.

Figure 16: Teen birth rate



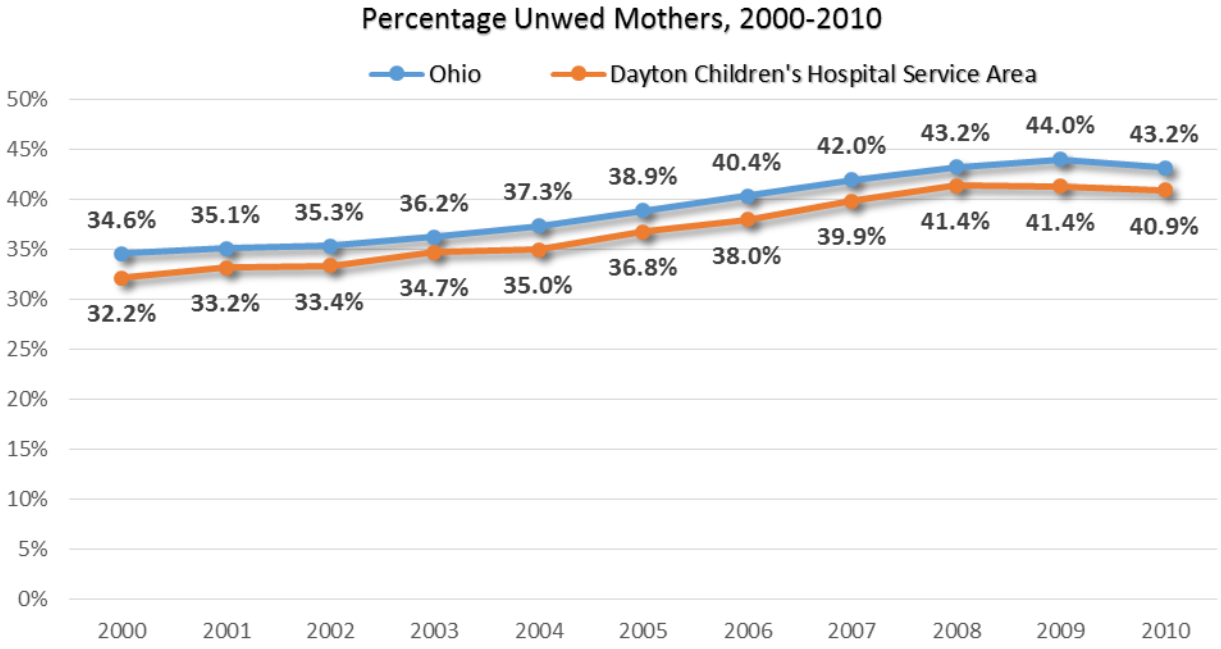
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
OHIO	46.0	42.5	39.3	39.0	38.5	38.9	40.0	41.3	41.0	38.8	33.5
DCH Svc Area	44.3	39.7	37.7	39.5	37.1	37.5	38.3	41.7	40.4	38.7	32.7

Source: 2000-2010, Ohio Department of Health, Vital statistics annual birth summaries. Last updated 05/24/2013.

Births to unwed mothers

The Dayton Children's Hospital service area's percentage of births to unwed mothers also follows the state trend and has risen over the past ten years. However, the service area's percentage still remains lower than that of the state.

Figure 17: Births to unwed mothers, 2000-2013

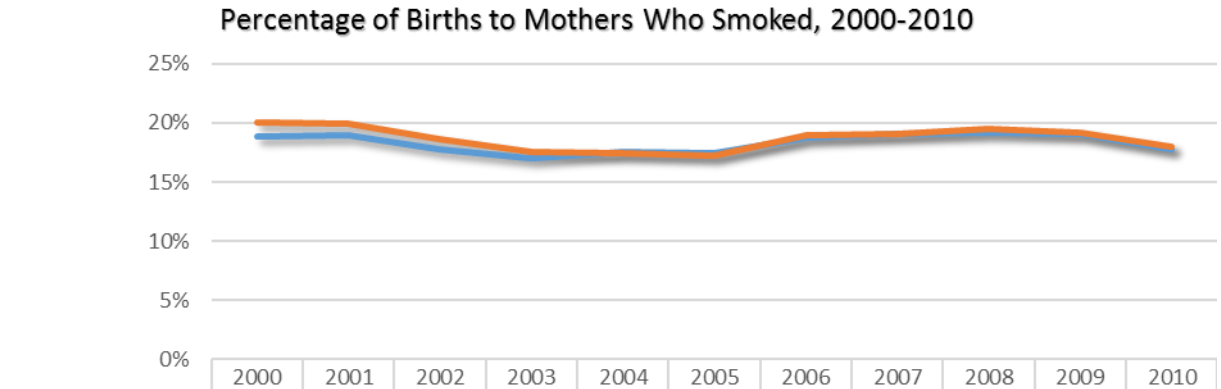


Source: 2000-2010, Ohio Department of Health, Vital statistics annual birth summaries. Last updated 05/24/2013.

Births to mothers who smoke

The percentage of mothers who smoked while pregnant is relatively consistent with that of the state (17.8 percent) but substantially higher than the nation (10.4 percent). The Healthy People 2020 goal is to reduce the percentage to 1.4 percent.

Figure 18: Births to mothers who smoke



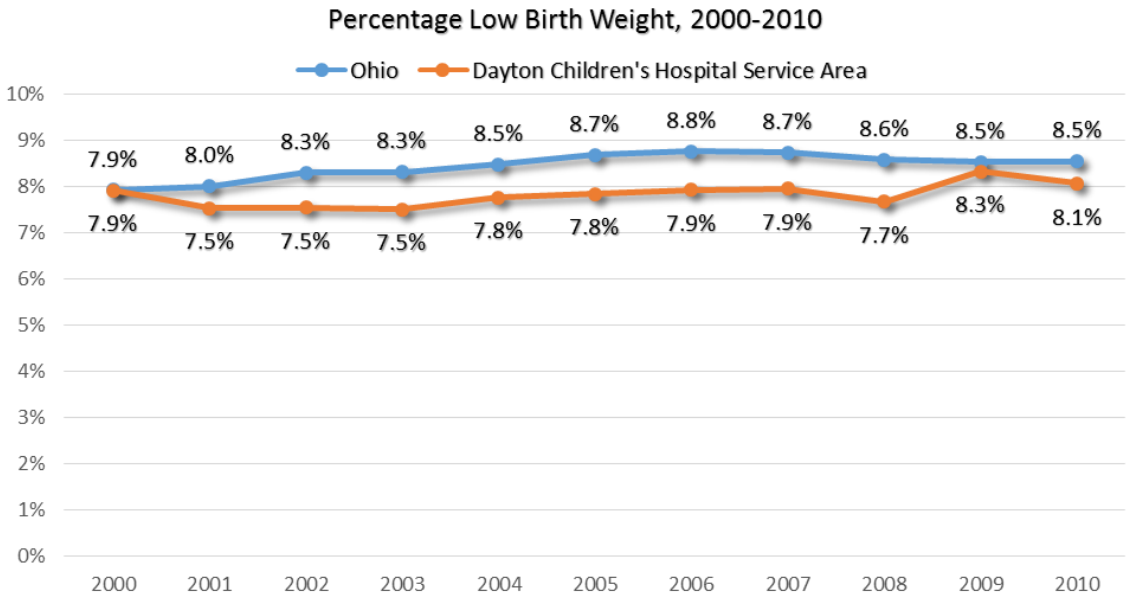
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Ohio	18.9%	19.0%	17.8%	17.0%	17.5%	17.4%	18.7%	19.1%	19.1%	19.1%	17.8%
DCH Svc Area	20.0%	19.9%	18.6%	17.6%	17.5%	17.2%	19.0%	19.1%	19.5%	19.2%	18.0%

Source: 2000-2010, Ohio Department of Health, Vital statistics annual birth summaries. Last updated 05/24/2013.

Low birth weight rate

Smoking during pregnancy causes low birth-weight in at least 1 in 5 infants, and in recent years the service area's low birth weight rate (8.1 percent) shows a marked increase, with the rate approaching that of the State (8.5 percent). The national rate is 8.2 percent with a national target for reduction to 7.8 percent.

Figure 19: Percentage of low birth weight babies



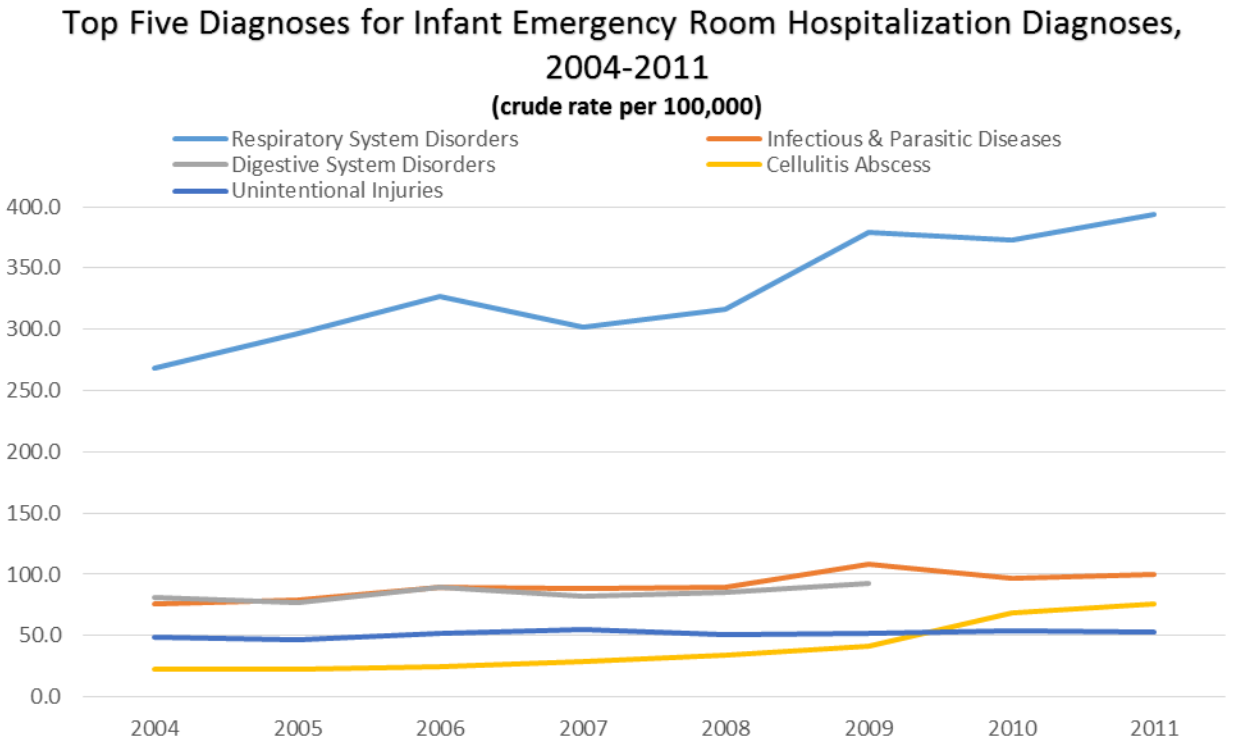
Source: 2000-2010, Ohio Department of Health, Vital statistics annual birth summaries. Last updated 05/24/2013.

Primary and chronic diseases

Infant ER diagnoses

The rate per 100,000 infants diagnosed in the ER with respiratory system disorders and digestive system disorders is increasing over time. A striking trend is the increasing rate per 100,000 for infectious and parasitic diseases.

Figure 20: Top five diagnoses for emergency room hospitalization diagnoses – infants, 2004-2011



Diagnosis	2004	2005	2006	2007	2008	2009	2010	2011
Respiratory System Disorders	268.3	296.2	326.6	301.3	316.4	379.6	373.4	393.7
Infectious & Parasitic Diseases	75.6	79.4	89.4	88.9	89.8	108.5	96.9	99.7
Digestive System Disorders	81.0	77.0	89.4	81.9	85.5	92.4	^	^
Cellulitis Abscess	23.0	22.4	24.6	28.6	33.7	41.4	68.5	75.7
Unintentional Injuries	49.0	46.7	51.5	54.8	50.8	51.9	54.4	53.0
Pneumonia	16.9	18.8	16.1	16.8	13.0	16.7	14.7	13.7
Genitourinary System Disorders	6.9	9.5	9.8	11.2	12.0	11.2	12.7	11.4
Endocrine, Nutritional & Metabolic Disorders	13.1	12.9	12.9	9.2	9.1	8.1	6.1	6.5
Musculoskeletal System & Connective Tissues Disorders	2.0	1.6	2.2	2.9	2.2	2.2	2.9	3.9
Fracture	4.8	4.1	4.8	4.6	3.4	2.8	3.2	3.5

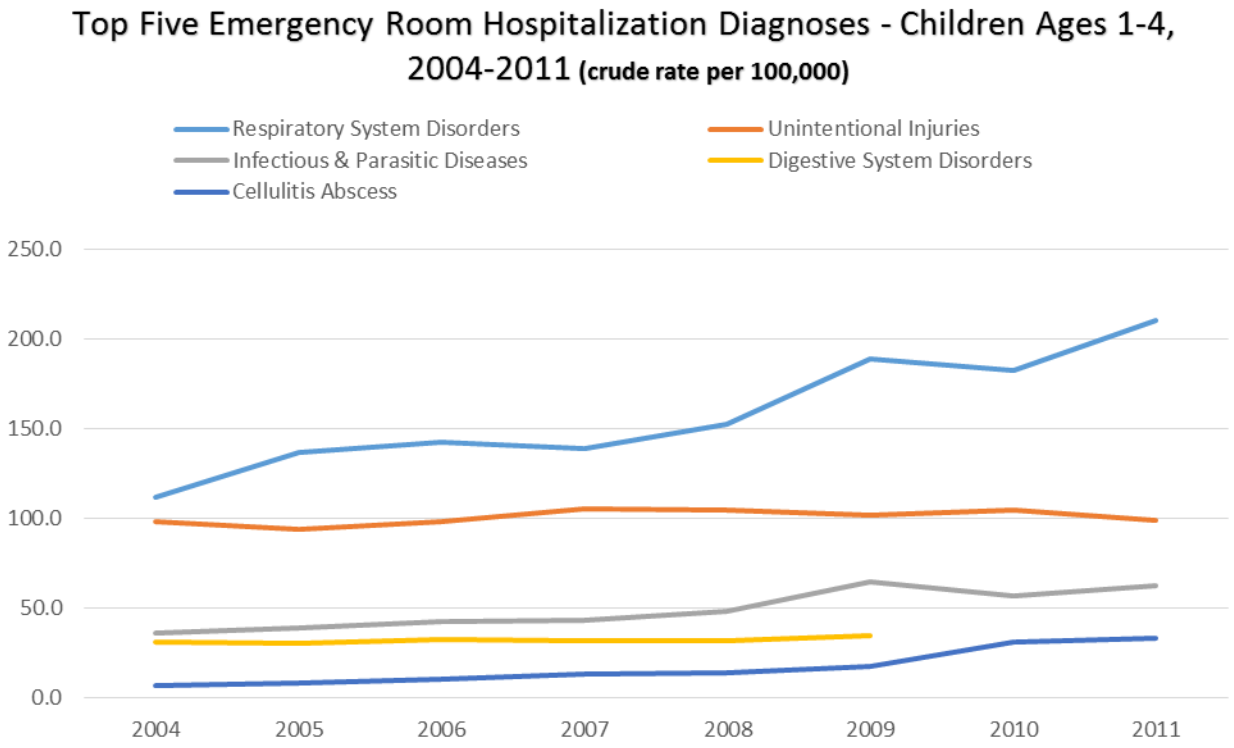
^Data suppressed for verification

Source: Ohio Hospital Association via the Greater Dayton Area Hospital Association

Young child (ages 1 to 4) ER diagnoses

The figure below presents the top five ER discharge diagnoses for children ages 1 to 4, illustrating the steep increase in respiratory system disorder diagnoses.

Figure 21: Top five emergency room hospitalization diagnoses - children ages 1 to 4, 2004-2011



Diagnosis	2004	2005	2006	2007	2008	2009	2010	2011
Respiratory System Disorders	111.8	136.8	142.3	139.0	152.4	188.7	182.1	210.1
Unintentional Injuries	98.4	94.1	98.0	105.7	104.7	101.8	104.5	99.2
Infectious & Parasitic Diseases	35.7	39.3	42.8	43.3	47.9	64.8	56.5	62.8
Digestive System Disorders	31.3	30.6	32.8	32.1	31.9	34.5	^	^
Cellulitis Abscess	6.5	8.0	10.3	13.3	14.0	17.7	31.1	33.2
Genitourinary System Disorders	7.7	7.0	8.7	8.9	10.0	10.7	11.1	11.2
Musculoskeletal System & Connective Tissues Disorders	6.5	6.0	5.8	6.2	6.4	7.2	8.3	9.7
Endocrine, Nutritional & Metabolic Disorders	10.8	11.7	9.8	8.4	7.6	7.8	6.2	6.7
Fracture	5.6	5.3	5.3	5.1	4.9	5.2	4.7	4.5
Mental Disorders	0.9	1.2	1.2	1.3	1.7	2.0	3.0	4.0

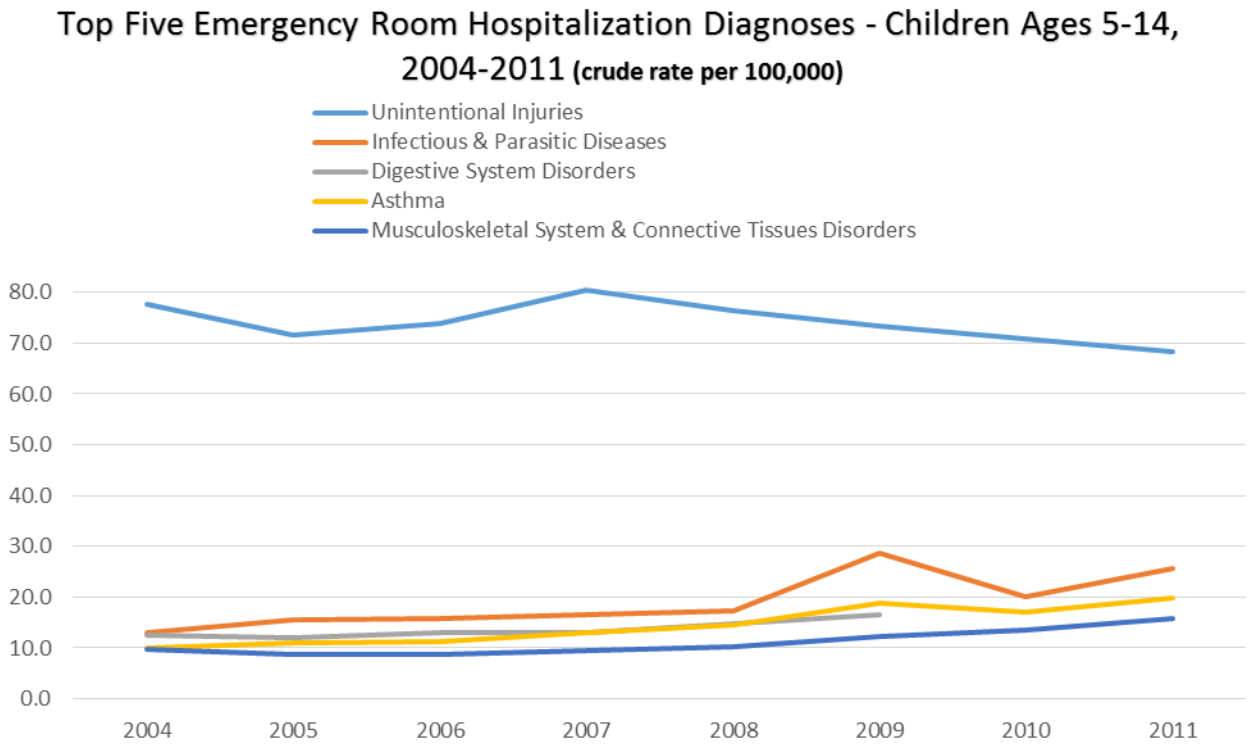
^Data suppressed for verification

Source: Ohio Hospital Association via the Greater Dayton Area Hospital Association

Youth ER diagnoses

The unintentional injuries category tops the list of ER discharge diagnoses for children ages 5 to 14; yet, due to its scale, it may mask other concerning trends. The data table below the line chart shows increasing rates of discharge diagnoses for infectious and parasitic diseases, asthma, musculoskeletal system and connective tissue disorders, mental disorders and cellulitis abscess.

Figure 22: Top five emergency room hospitalization diagnoses - children ages 5 to 14, 2004-2011



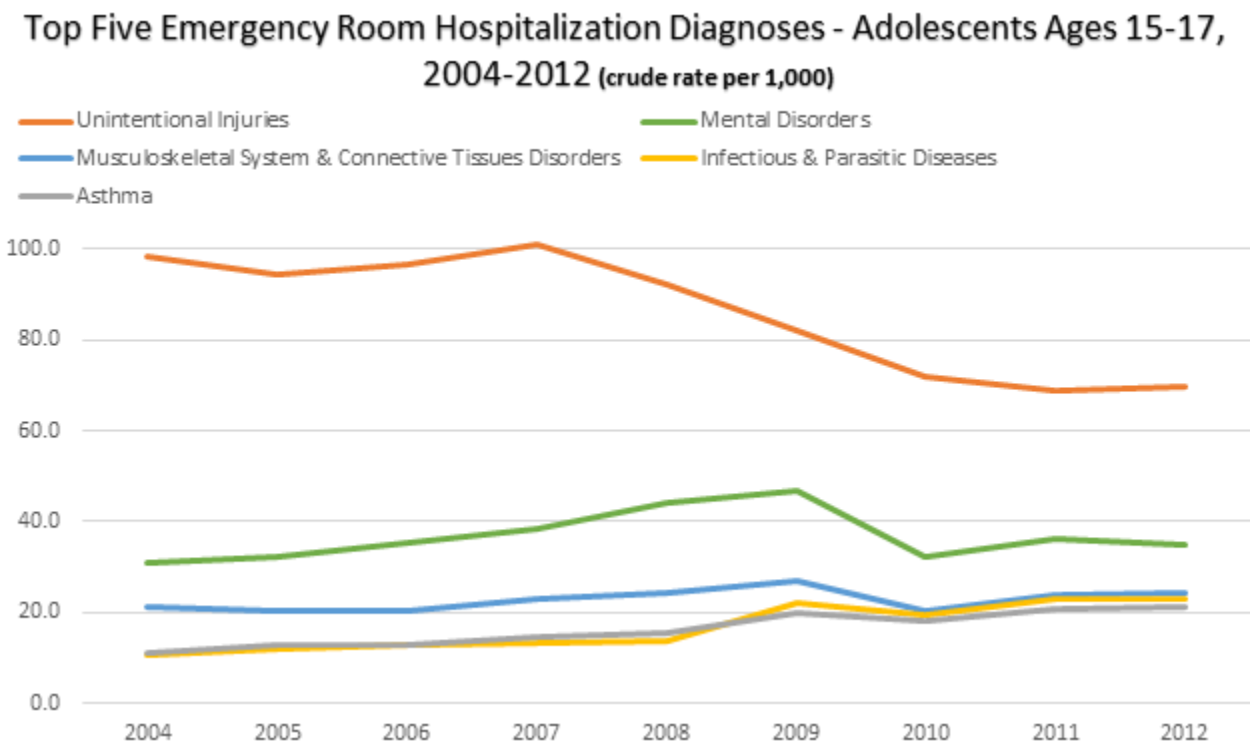
Diagnosis	2004	2005	2006	2007	2008	2009	2010	2011
Unintentional Injuries	77.8	71.6	73.9	80.5	76.5	73.2	70.8	68.4
Infectious & Parasitic Diseases	13.1	15.5	15.7	16.5	17.3	28.8	20.1	25.6
Digestive System Disorders	12.4	12.1	13.1	13.0	14.9	16.5	^	^
Asthma	10.0	11.0	11.1	13.0	14.6	18.9	17.1	19.9
Musculoskeletal System & Connective Tissues Disorders	9.8	8.7	8.7	9.4	10.3	12.2	13.5	15.7
Mental Disorders	8.5	7.4	7.4	9.4	10.4	12.1	12.5	16.0
Cellulitis Abscess	4.0	4.7	5.4	6.0	6.3	8.0	10.6	12.5
Genitourinary System Disorders	5.6	5.6	6.3	6.4	7.3	7.9	7.8	8.6
Fracture	11.3	9.6	9.0	9.4	9.0	8.4	7.9	7.4
Endocrine, Nutritional & Metabolic Disorders	3.9	3.9	3.6	3.6	4.0	5.0	4.9	5.6

^Data suppressed for verification
Source: Ohio Hospital Association via the Greater Dayton Area Hospital Association

Adolescent ER diagnoses

The unintentional injuries category also tops the list of ER discharge diagnoses for adolescents (ages 15 to 17); yet, due to its scale, it may mask other concerning trends.

Figure 23: Top five emergency room hospitalization diagnoses - adolescents ages 15 to 17



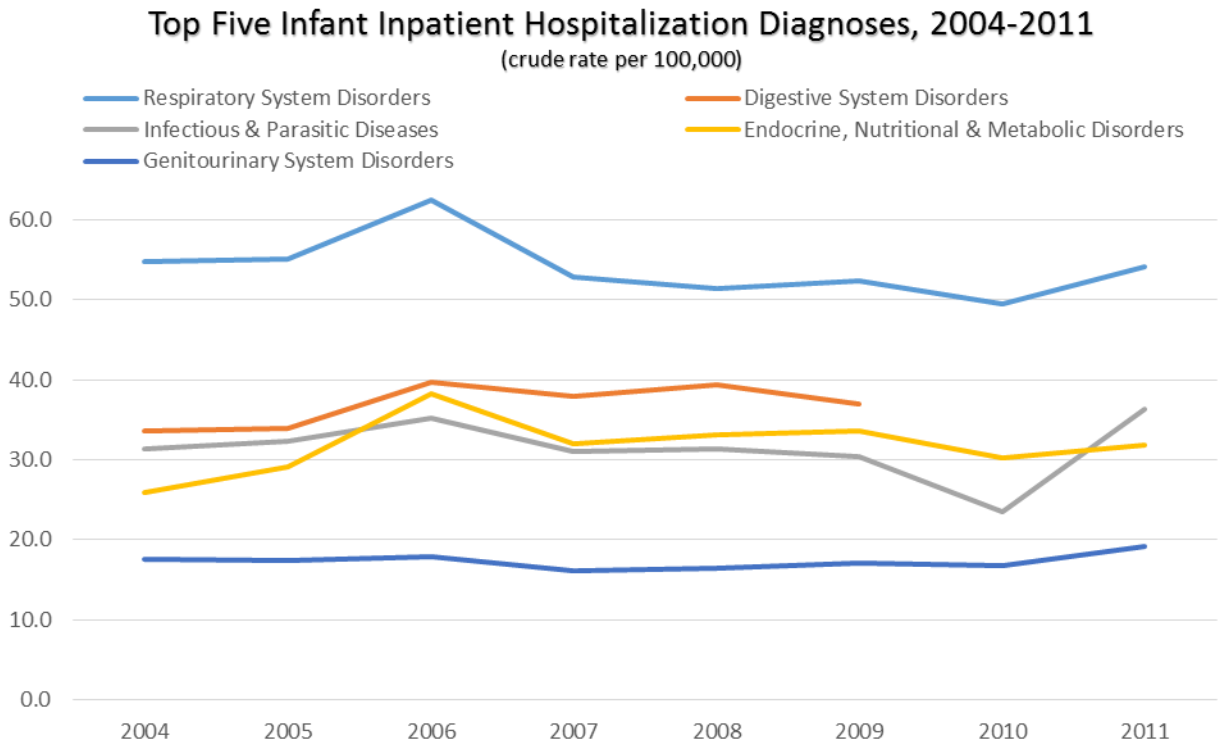
Diagnosis	2004	2005	2006	2007	2008	2009	2010	2011	2012
Unintentional Injuries	98.5	94.4	96.4	100.8	92.1	81.8	72.0	68.9	69.7
Mental Disorders	31.1	32.1	35.3	38.6	43.9	46.9	32.2	36.0	34.9
Musculoskeletal System & Connective Tissues Disorders	21.0	20.4	20.3	22.8	24.5	27.0	20.3	23.7	24.3
Infectious & Parasitic Diseases	10.5	11.9	12.6	13.3	13.8	21.9	19.3	22.8	23.2
Asthma	11.2	13.0	12.9	14.5	15.6	19.9	18.2	20.8	21.4
Digestive System Disorders	14.9	14.9	17.0	17.4	20.0	19.6	18.7	20.6	21.0
Genitourinary System Disorders	21.2	20.9	23.4	24.6	25.5	27.8	21.3	20.8	18.6
Cellulitis Abscess	4.3	6.1	6.8	8.1	9.1	9.7	11.6	12.6	12.4
Fracture	22.6	19.7	20.1	18.2	16.1	12.8	10.0	10.3	8.3
Endocrine, Nutritional & Metabolic Disorders	5.9	6.1	6.9	8.0	8.2	8.9	7.8	9.0	8.1

Source: Ohio Hospital Association via the Greater Dayton Area Hospital Association

Infant Inpatient Diagnoses

All diagnoses for inpatient treatment of infants rose in 2011.

Figure 24: Top five infant inpatient hospitalization diagnoses, 2004-2011



Diagnosis	2004	2005	2006	2007	2008	2009	2010	2011
Respiratory System Disorders	54.7	55.0	62.5	52.9	51.4	52.4	49.5	54.2
Digestive System Disorders	33.7	33.9	39.7	38.0	39.3	37.0	^	^
Infectious & Parasitic Diseases	31.4	32.4	35.2	31.1	31.3	30.5	23.5	36.3
Endocrine, Nutritional & Metabolic Disorders	25.9	29.2	38.3	32.1	33.1	33.5	30.3	31.9
Genitourinary System Disorders	17.6	17.5	17.9	16.1	16.4	17.0	16.8	19.2
Heart Disease	8.8	9.1	10.3	8.1	9.0	8.9	11.2	10.3
Musculoskeletal System & Connective Tissues Disorders	5.0	4.4	6.7	6.5	7.4	8.7	6.9	5.9
Cellulitis Abscess	4.2	4.6	7.1	6.8	7.6	7.1	6.8	8.2
Injuries and Poisoning	5.8	6.7	7.6	5.6	7.1	7.0	6.2	6.6
Anemia	4.2	4.2	5.5	3.7	6.7	6.1	4.9	5.1

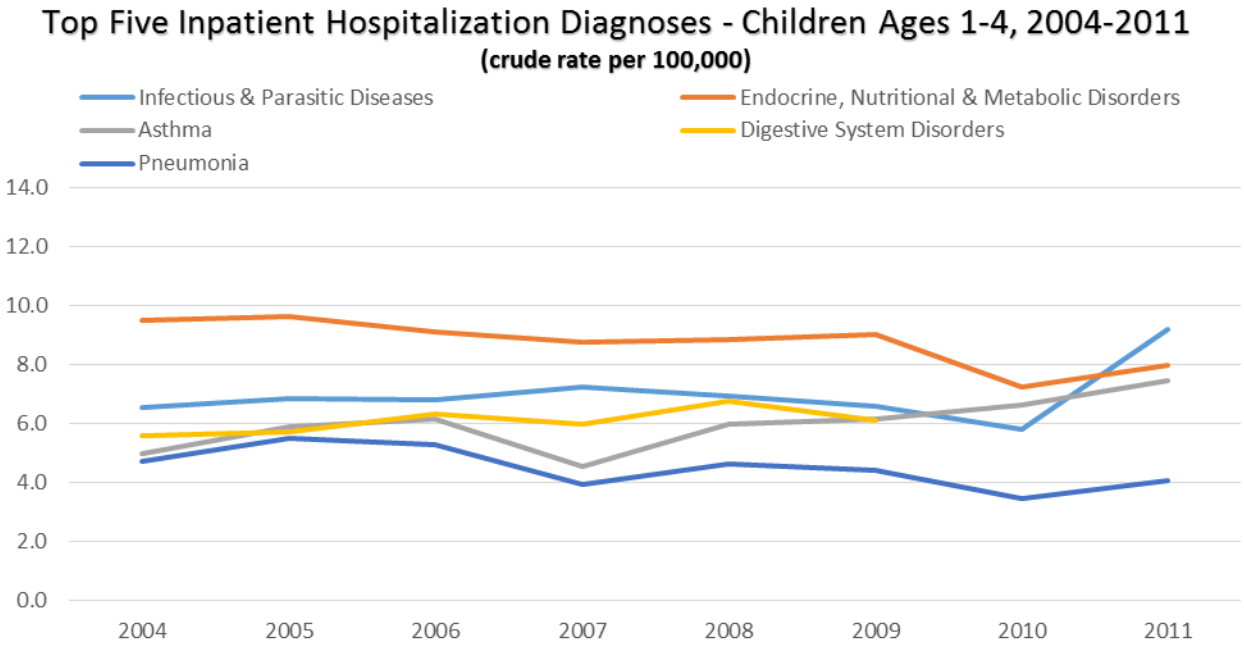
^Data suppressed for verification

Source: Ohio Hospital Association via the Greater Dayton Area Hospital Association

Young child (ages 1 to 4) inpatient diagnoses

Inpatient diagnoses of infectious and parasitic diseases rose in the year 2011 making it the leading diagnoses for children ages 1 to 4. Endocrine, nutritional and metabolic disorders had been trending down from 2004-2010, but reversed that trend in 2011.

Figure 25: Top five inpatient hospitalization diagnoses - children ages 1 to 4, 2004-2011



Diagnosis	2004	2005	2006	2007	2008	2009	2010	2011
Infectious & Parasitic Diseases	6.5	6.9	6.8	7.2	6.9	6.6	5.8	9.2
Endocrine, Nutritional & Metabolic Disorders	9.5	9.6	9.1	8.8	8.9	9.0	7.3	8.0
Asthma	5.0	5.9	6.2	4.6	6.0	6.1	6.6	7.5
Digestive System Disorders	5.6	5.7	6.3	6.0	6.8	6.1	^	^
Pneumonia	4.7	5.5	5.3	3.9	4.6	4.4	3.5	4.1
Cellulitis Abscess	1.1	1.4	1.8	2.1	2.6	2.4	2.8	3.0
Circulatory System Disorders	1.6	2.0	1.9	1.9	2.1	1.8	1.7	2.2
Anemia	1.4	1.2	1.6	1.7	2.1	2.1	1.8	2.1
Unintentional Injuries	3.1	3.3	3.1	3.7	3.8	3.5	2.4	2.6
Genitourinary System Disorders	1.7	1.8	1.9	1.9	2.3	2.3	2.0	2.3

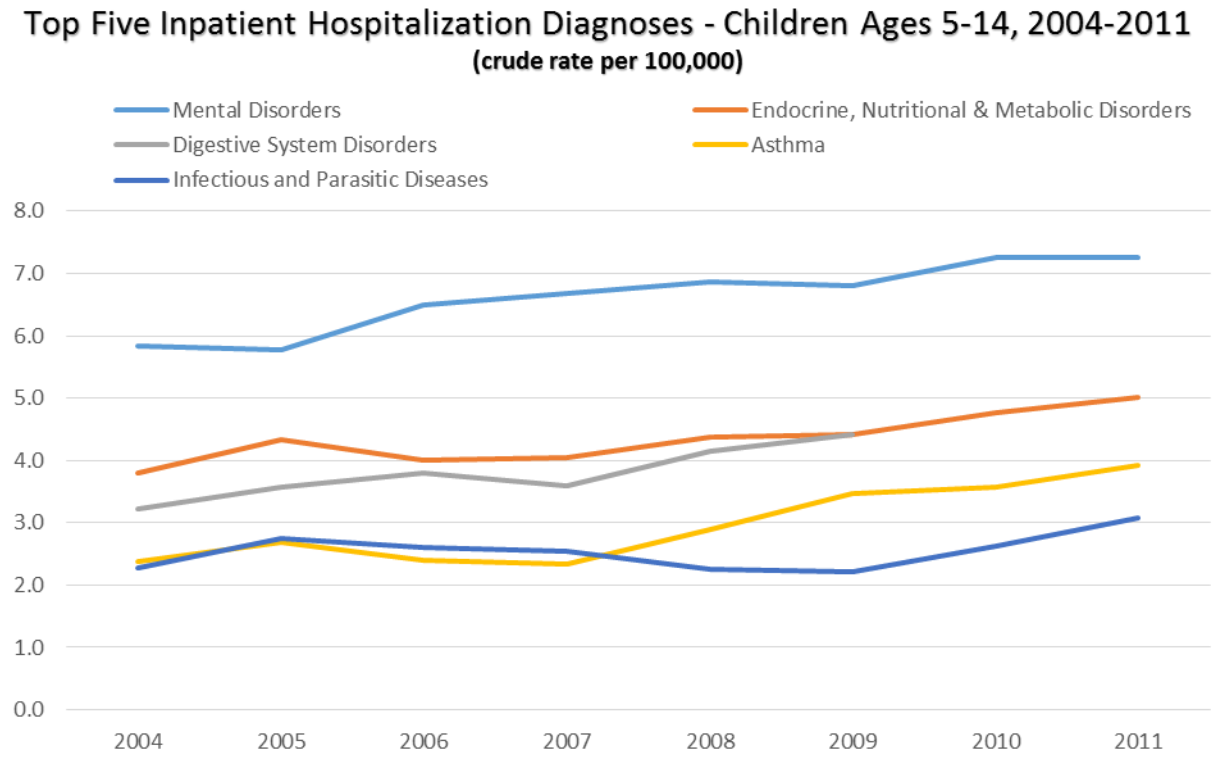
^Data suppressed for verification

Source: Ohio Hospital Association via the Greater Dayton Area Hospital Association

Youth inpatient diagnoses

Mental disorders are the most common inpatient discharge diagnosis for youth ages 5 to 14. But the rate of prevalence for each of the top five discharge diagnoses is trending up.

Figure 26: Top five inpatient hospitalization diagnoses - children ages 5 to 14, 2004-2011



Diagnosis	2004	2005	2006	2007	2008	2009	2010	2011
Mental Disorders	5.8	5.8	6.5	6.7	6.9	6.8	7.3	7.3
Endocrine, Nutritional & Metabolic Disorders	3.8	4.3	4.0	4.0	4.4	4.4	4.8	5.0
Digestive System Disorders	3.2	3.6	3.8	3.6	4.1	4.4	^	^
Asthma	2.4	2.7	2.4	2.3	2.9	3.5	3.6	3.9
Infectious and Parasitic Diseases	2.3	2.8	2.6	2.5	2.3	2.2	2.6	3.1
Musculoskeletal System & Connective Tissues Disorders	1.1	1.2	1.3	1.4	1.5	1.6	1.8	1.9
Unintentional Injuries	2.1	2.2	2.0	2.6	2.3	1.8	1.7	1.6
Genitourinary System Disorders	1.1	1.3	1.4	1.4	1.4	1.4	1.5	1.4
Circulatory System Disorders	0.8	1.1	1.0	1.0	1.2	1.3	1.1	1.4
Anemia	0.7	0.8	0.9	0.8	1.0	1.2	1.0	1.1

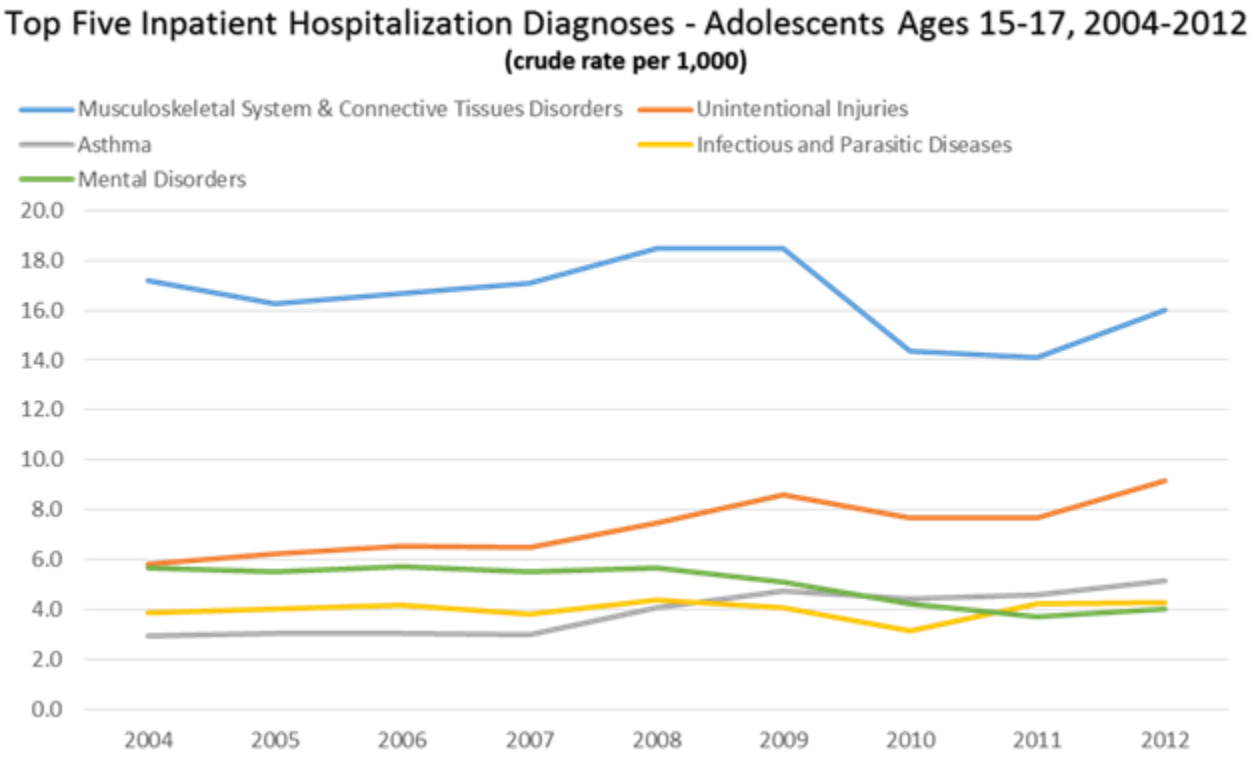
^Data suppressed for verification

Source: Ohio Hospital Association via the Greater Dayton Area Hospital Association

Adolescent inpatient diagnoses

Musculoskeletal system and connective tissues disorders are the most common discharge diagnosis for adolescents. Although, musculoskeletal system and connective tissues disorders declined in 2010, these diagnoses are currently trending upward.

Figure 27: Top five inpatient hospitalization diagnoses - adolescent ages 15 to 17, 2004-2012



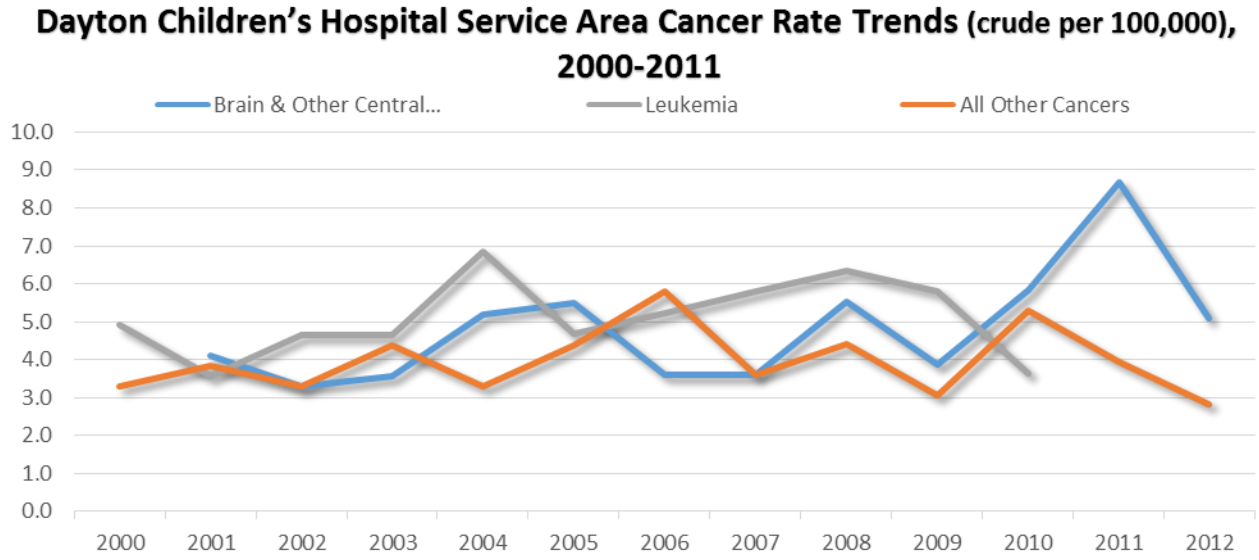
Diagnosis	2004	2005	2006	2007	2008	2009	2010	2011	2012
Musculoskeletal System & Connective Tissues Disorders	17.2	16.3	16.6	17.1	18.5	18.5	14.4	14.1	16.0
Unintentional Injuries	5.8	6.2	6.6	6.5	7.5	8.6	7.7	7.7	9.2
Asthma	2.9	3.0	3.1	3.0	4.1	4.7	4.4	4.6	5.2
Infectious and Parasitic Diseases	3.9	4.0	4.2	3.8	4.4	4.1	3.1	4.2	4.3
Mental Disorders	5.7	5.5	5.7	5.5	5.6	5.1	4.2	3.7	4.0
Genitourinary System Disorders	3.4	3.4	4.3	4.4	4.9	4.8	2.8	3.0	3.3
Pneumonia	2.6	3.2	3.1	3.6	3.9	4.5	2.8	3.2	3.3
Alcohol Drug	4.3	4.0	4.3	4.5	4.3	4.2	3.1	2.3	2.6
Anemia	2.5	3.2	3.2	4.0	4.3	4.3	2.8	2.7	2.5
Circulatory System Disorders	2.5	2.3	2.5	3.1	3.3	3.4	2.4	2.1	2.5

Source: Ohio Hospital Association via the Greater Dayton Area Hospital Association

Cancer rates for children

Cancer rates per 100,000 children have remained relatively stable over the study period with many peaks and valleys due to small sample sizes. Brain and central nervous system cancer rates spiked in 2010 and 2011, but returned to an average rate in 2012.

Figure 28: Cancer rates



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Brain & Other Central Nervous System	*	4.1	3.3	3.6	5.2	5.5	3.6	3.6	5.5	3.9	5.8	8.7	5.1
Leukemia	4.9	3.6	4.7	4.7	6.8	4.7	5.2	5.8	6.4	5.8	3.6	*	*
All Other Cancers	3.3	3.8	3.3	4.4	3.3	4.4	5.8	3.6	4.4	3.0	5.3	3.9	2.8

*Data suppressed due to small sample size

Source: Ohio Department of Health Ohio Cancer Incidence Surveillance System

Medicaid and commercial coverage comparisons

Emergency department diagnosis

Infants ages 0 to 1

For the hospital's service area, the total number of emergency department (ED) cases for infants 0 to 1 year old in 2011 was 30,853, with commercial insurance cases accounting for 2,905 cases or 9.4 percent and Medicaid/Medicaid Managed Care cases representing 27,948 cases and 90.3 percent of the total. The top ten ED primary diagnoses for Medicaid and commercial cases have some commonality. The table below presents the order of the top ten diagnoses for Medicaid and commercial insurance cases; the right-hand column presents the proportion of cases that are commercial. Any percentage above (or below) 9.4 percent indicates a higher (or lower) proportion than average.

Table 3: Emergency room visits by payer mix infants 0 to 1 (2011)

Medicaid/Medicaid Managed Care	Commercial Insurance	
Medicaid Primary Diagnosis	**Commercial Primary Diagnosis**	**Proportion Commercial Cases (Total = 19.8%)**
Upper respiratory infection/cold	Upper respiratory infection/cold	6.3%
Ear infection	Ear infection	6.7%
Fever	Fever	10.0%
Vomiting	Croup	17.7%
Acute bronchiolitis	Vomiting	9.3%
Stomach bug	Head injury	15.9%
Croup	Acute bronchiolitis	9.2%
Pink eye	Bronchiolitis due to RSV	17.4%
Head injury	Bruise	15.1%
Viral infection	Stomach bug	10.3%

Youth ages 1 to 14

For the hospital's service area, the total number of ED cases for 1 to 14 year olds in 2011 was 46,078, with commercial insurance cases accounting for 17,085 cases or 25.6 percent and Medicaid/Medicaid Managed Care cases representing 34,275 cases and 74.4 percent of the total. The top four ER primary diagnoses for Medicaid and commercial cases are the same four diagnoses, but not in the same order. The table below presents the order of the top four diagnoses for Medicaid and commercial insurance cases; the right-hand column presents the proportion of cases that are commercial. Any percentage above (or below) 25.6 percent indicates a higher (or lower) proportion than average.

Table 4: Emergency room visits by payer mix youth ages 1 to 14 (2011)

Medicaid/Medicaid Managed Care	Commercial Insurance	
Medicaid Primary Diagnosis	**Commercial Primary Diagnosis**	**Proportion Commercial Cases (Total = 25.6%)**
Ear infection	Infection of back of throat	33.9%
Upper respiratory infection/cold	Fever	25.7%
Fever	Ear infection	15.5%
Infection of back of throat	Upper respiratory infection/cold	15.4%

Inpatient diagnosis

Infants ages 0 to 1

For the hospital's service area, the total number of inpatient cases for 0 to 1 year olds in 2011 was 14,666, with commercial insurance cases accounting for 1,959 cases or 23.6 percent and Medicaid/Medicaid Managed Care cases representing 11,061 cases or 75.4 percent of the total. The top seven inpatient primary diagnoses for Medicaid and commercial cases are quite similar. The table below presents the order of the top ten diagnoses for Medicaid and commercial insurance cases; the right-hand column presents the proportion of cases that are commercial. Any percentage above (or below) 23.6 percent indicates a higher (or lower) proportion than average.

Table 5: Inpatient diagnosis by payer mix infants 0 to 1 (2011)

Medicaid/Medicaid Managed Care	Commercial Insurance	
Medicaid Primary Diagnosis	**Commercial Primary Diagnosis**	**Proportion Commercial Cases (Total = 23.6%)**
Single live birth –without cesarean	Single live birth –without cesarean	24.5%
Single live birth - with cesarean	Single live birth – with cesarean	25.3%
Bronchiolitis due to RSV	Twin birth Live birth – with cesarean	33.6%
Acute bronchiolitis	Bronchiolitis due to RSV	18.4%
Twin birth Live birth – with cesarean	Twin birth Live birth – without cesarean	44.2%
Pneumonia	Pneumonia	24.3%
Asthma with acute exacerbation	Jaundice	32.4%
Jaundice	Acute bronchiolitis	9.9%
Infection of buttock	Respiratory distress	32.1%
Failure to thrive	Fever	24.6%

Youth ages 1 to 14

For the hospital's service area, the total number of inpatient cases for 1 to 14 year olds in 2011 was 1,926, with commercial insurance cases accounting for 358 cases or 18.6 percent and Medicaid/Medicaid Managed Care cases representing 1,568 cases or 81.0 percent of the total. The top six inpatient primary diagnoses for Medicaid and commercial cases has some commonality. The table below presents the order of the top seven diagnoses for Medicaid and commercial insurance cases; the right-hand column presents the proportion of cases that are commercial. Any percentage above (or below) 18.6 percent indicates a higher (or lower) proportion than average.

Table 6: Inpatient diagnosis by payer mix youth ages 1 to 14 (2011)

Medicaid/Medicaid Managed Care	Commercial Insurance	
Medicaid Primary Diagnosis	**Commercial Primary Diagnosis**	**Proportion Commercial Cases (Total = 18.6%)**
Asthma with acute exacerbation	Pneumonia	36%
Pneumonia	Asthma with acute exacerbation	14%
Episodic mood disorder	Uncontrolled Diabetic Ketoacidosis	34%
Bipolar disorder	Chemo for neoplastic growths	20%
Chemo for neoplastic growths	Dehydration	26%
Asthma	Bronchiolitis due to RSV	22%

Outpatient diagnosis

Infants ages 0 to 1

For the hospital's service area, the total number of outpatient cases for 0 to 1 year olds in 2011 was 29,078, with commercial insurance cases accounting for 4,926 cases or 16.9 percent and Medicaid/Medicaid Managed Care cases representing 24,090 cases and 82.8 percent of the total. The top ten outpatient primary diagnoses for Medicaid and commercial cases have much in common. The table below presents the order of the top eight diagnoses for Medicaid and commercial insurance cases; the right-hand column presents the proportion of cases that are commercial. Any percentage above (or below) 16.9 percent indicates a higher (or lower) proportion than average.

Table 7: Outpatient diagnosis by payer mix infants ages 0 to 1 (2011)

Medicaid/Medicaid Managed Care	Commercial Insurance	
Medicaid Primary Diagnosis	**Commercial Primary Diagnosis**	**Proportion Commercial Cases (Total = 16.9%)**
Routine child health exam	Jaundice	39.2%
Jaundice	Routine child health exam	5.6%
Upper respiratory infection/cold	Screening for chemical poisoning and other contamination	31.7%
Screening for chemical poisoning and other contamination	Cough	25.4%
Cough	Fever	28.7%
Flu vaccine	Jaundice	39.0%
Ear infection	Ear infection	19.9%
Fever	Upper respiratory infection/cold	11.0%
Health supervision for newborn 8-28 days old	Diarrhea	33.9%
Health supervision for newborn less than 8 days old	Cardiac murmurs	26.2%

Youth ages 1 to 14

For the hospital's service area, the total number of outpatient cases for 1 to 14 year olds in 2011 was 29,332, with commercial insurance cases accounting for 8,094 cases or 27.6 percent and Medicaid/Medicaid Managed Care cases representing 21,238 cases and 72.4 percent of the total. The top ten outpatient primary diagnoses for Medicaid and commercial cases are pretty similar. The table below presents the order of the top ten diagnoses for Medicaid and commercial insurance cases; the right-hand column presents the proportion of cases that are commercial. Any percentage above (or below) 27.6 percent indicates a higher (or lower) proportion than average. (No percentage is presented where cases were listed only in the commercial cases top 20.)

Table 8: Outpatient diagnosis by payer mix youth ages 1 to 14 (2011)

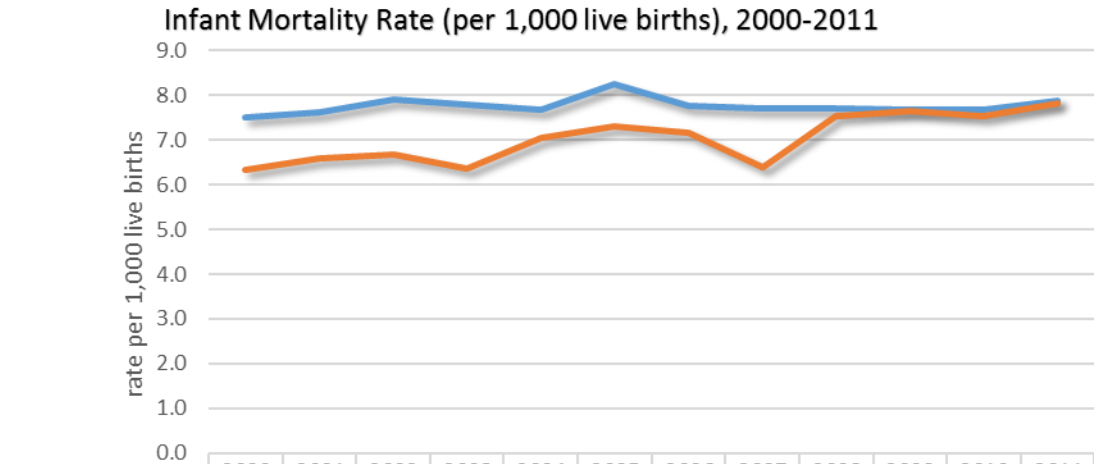
Medicaid/Medicaid Managed Care	Commercial Insurance	
Medicaid Primary Diagnosis	**Commercial Primary Diagnosis**	**Proportion Commercial Cases (Total = 27.6%)**
Routine child health exam	Infection of back of throat	34.1%
Speech therapy	Cough	43.1%
Infection of back of throat-	Fever	43.2%
Attention deficit with hyperactivity (ADHD)	Routine child health exam	13.2%
Screening for other and unspecified Genitourinary conditions	Screening for chemical poisoning and other contamination	100.0%
Cough	Abdominal pain	38.9%
Upper respiratory infection/cold	Pain in limb	39.5%
Flu vaccine	Upper respiratory infection/cold	30.8%
Fever	Ear infection	39.9%
Asthma	Joint pain – leg	100.0%

Mortality

Infant mortality rate

The chart below presents the general trend of infant mortality in the Dayton Children's Hospital service area and the state using a three-year rolling average. The regional rate was substantially lower than the state's rate over most of the study period then climbed up to the state rate in more recent years.

Figure 29: Infant mortality rate



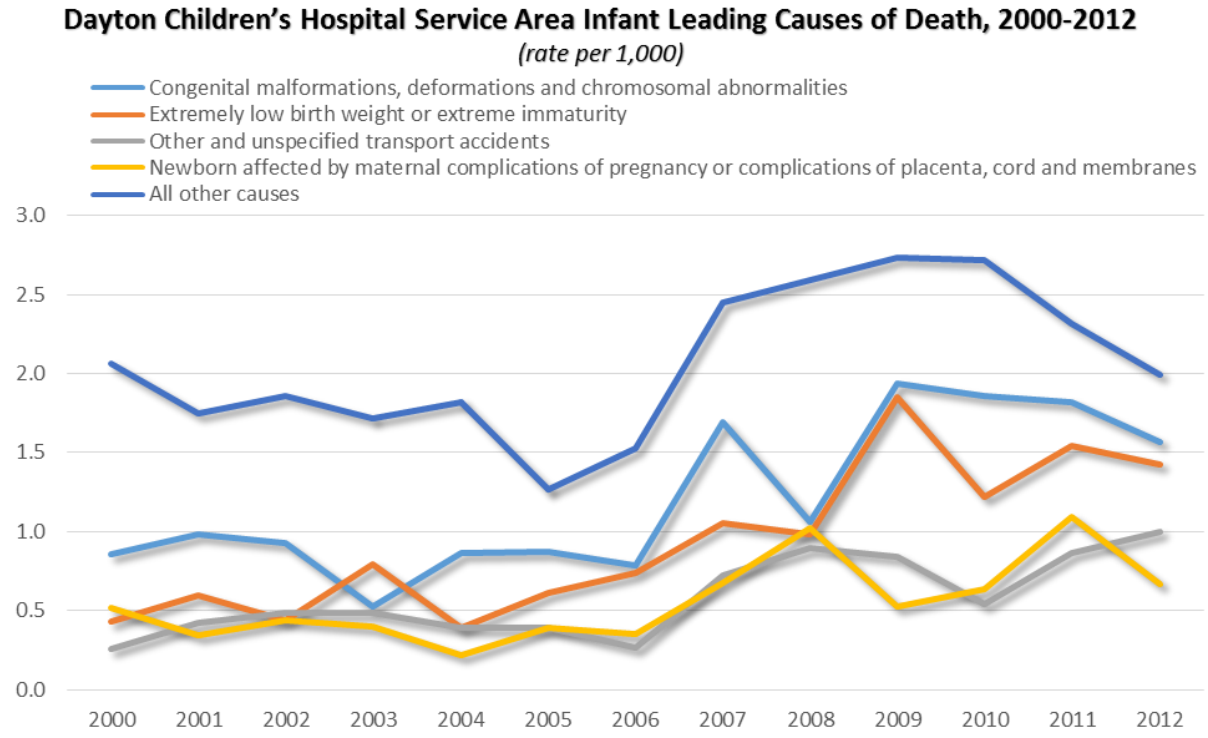
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Ohio	7.5	7.6	7.9	7.8	7.7	8.3	7.8	7.7	7.7	7.7	7.7	7.9
DCH Svc Area	6.3	6.6	6.7	6.3	7.1	7.3	7.2	6.4	7.5	7.6	7.5	7.8

Source: 2000-2011, Ohio Department of Health Vital Statistics.

Leading causes of death for infants

As the infant mortality chart (Figure 29) indicated infant mortality began a slight increase in 2008. The chart below, presenting the leading causes of death, shows an uptick in 2008 as well. Going one year further than the infant mortality trend, it appears that most causes of deaths for infants declined in 2012 with the exception of "other and unspecified transport accidents." However, rates have increased when comparing the year 2002 to 2012.

Figure 30: Leading causes of death for infants



Infant Leading Causes of Death	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Congenital malformations, deformations and chromosomal abnormalities	0.9	1.0	0.9	0.5	0.9	0.9	0.8	1.7	1.1	1.9	1.9	1.8	1.6
Extremely low birth weight or extreme immaturity	0.4	0.6	0.4	0.8	*	0.6	0.7	1.1	1.0	1.8	1.2	1.5	1.4
Other and unspecified transport accidents	0.3	0.4	0.5	0.5	*	*	*	0.7	0.9	0.8	0.5	0.9	1.0
Newborn affected by maternal complications of pregnancy or complications of placenta, cord and membranes	0.5	0.3	0.4	*	*	*	*	0.7	1.0	0.5	0.6	1.1	0.7
All other causes	2.1	1.7	1.9	1.7	1.8	1.3	1.5	2.5	2.6	2.7	2.7	2.3	2.0

*Data suppressed due to small sample size

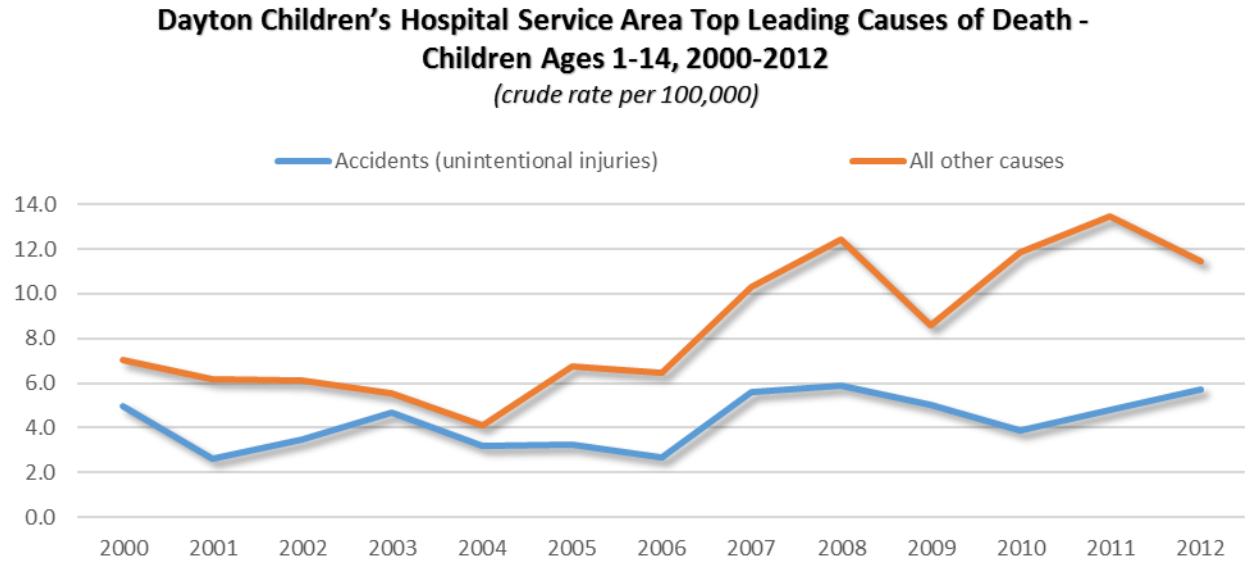
Source: 2000-2012, Ohio Department of Health Vital Statistics.

According to the Ohio Child Fatality Review, 2007-2011, forty-one percent of infant deaths from 1 month to 1 year are sleep related. In that same report, the 819 infant sleep-related deaths accounted for 15 percent of the 5,418 total reviews for infant deaths from 2007 to 2011, more than any single cause of death except prematurity. In Montgomery County alone, 16.67 percent of the infant deaths in 2012 were related to unsafe sleep practices.

Leading causes of death for children ages 1 to 14

Vital statistics data for the region indicate an increasing rate of death for children ages 1 to 14 for "all other causes." The rate of death due to accidents is higher since 2007 than before that time (with the exception of the year 2010).

Figure 31: Leading causes of death for children 1 to 14



Leading Cause of Death	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Accident (unintentional injuries)	5.0	*	3.5	4.7	3.2	3.2	*	5.6	5.9	5.0	3.9	4.8	5.7
All other causes	7.0	6.1	6.1	5.5	4.1	6.7	6.5	10.3	12.4	8.6	11.9	13.4	11.5

*Data suppressed due to small sample size

Source: 2000-2012, Ohio Department of Health Vital Statistics.

Process for identifying and prioritizing community health needs and services

The identification of priority health needs began with a comprehensive review of all secondary data. Next, criteria were applied to aid in the selection of cross-cutting issues that are not trending in a favorable way. The criteria used were:

• Prevalence

• Seriousness (hospitalization and/or death)

• Impacts on other health issues

• Urgency—What are the consequences of not addressing this issue?

• Prevention—Is the strategy preventive in nature?

• Economics — Is the strategy financially feasible? Does it make economic sense to apply this strategy?

• Acceptability – Will the stakeholders and the community accept the strategy?

• Resources — Is funding likely to be available to apply this strategy? Are organizations able to offer personnel time and expertise or space needed to implement this strategy?

By applying these criteria, researchers identified the following priority areas for consideration by the hospital and its community group. These priority areas are not presented in a ranked order.

1. Low birth weight—While the region's rate is lower than the state's rate, the trend indicates an increasing rate. Very LBW is a leading cause of death for infants and the rate has increased from 0.4 per 1,000 in 2002 to 1.4 in 2012.
2. First Trimester Care—A little over half of mothers in the region obtain first trimester care (56.6 percent) while the national rate is 70.8 percent. The national Healthy People 2020 target is 77.9 percent.
3. Infectious and parasitic diseases are a leading ER discharge diagnosis for infants and youth ages 5-14, and a leading inpatient diagnosis for children ages 1 to 4. Among children ages 1-14, rates increased from the base year to the present two times. For infants in the ER, the rate has increased three times.
4. Asthma—For youth ages 5 to 14, asthma is a leading ER diagnosis and inpatient diagnosis. In each case, the rate increased by two times over the study period.
5. Respiratory system disorders as an ER diagnosis for 1 to 4 year olds have increased from 111.8 in 2004 to 260.8 in 2012 per 100,000.
6. Overweight and obesity is a concern across all counties in the service area. At the same time, there is wide variation from 24.1 percent in one county to 45.6 percent of third graders in another county. There is a pattern of less prevalence in suburban counties with two of the highest prevalence counties being very rural counties, each of which has a low rate of pediatricians per 100,000.
7. Mental health—Children ages 5 to 14 are generally healthy. However, the inpatient hospitalization rate for mental health disorders among this cohort has increased consistently over the study period, and the rate is 7.2 per 100,000 up from 5.8. The ER diagnosis rate has doubled. At the same time, in 10 of the region's 12 counties there is a mental health professional shortage. Finding child and adolescent mental health providers is typically even more challenging.

Methodology and information gaps

The spine of this analysis is hospital and public health data. Hospital data is provided in the form of ICD-9 codes. The International Classification of Diseases (also known by the abbreviation ICD) is the United Nations-sponsored World Health Organization's "standard diagnostic tool for epidemiology, health management and clinical purposes."[1] The ICD is designed as a health care classification system, providing a system of diagnostic codes for classifying diseases, including nuanced classifications of a wide variety of signs, symptoms, abnormal findings, complaints, social circumstances and external causes of injury or disease.[2]

For this Community Health Needs Assessment, primary and secondary diagnoses were provided for selected ICD-9 codes. Researchers listed 26 codes for adults, five of which had subcategories. An example of a category is "injury" which is subcategorized into unintentional injury (with another subcategory of *fractures*), homicides and suicides. For this analysis of infants, children and youth (31, 24, and 23) ICD-9 codes were analyzed with some of those having subcategories. For this analysis, the top codes were selected for presentation based on natural breaks in the data.

Public health data are provided by the Ohio Department of Health (ODH) for Southwest Ohio. Maternal and infant health data as well as mortality data (including infant mortality) were directly downloaded from the ODH website. Cancer registry data were provided to Wright State University for rate calculations. Data are suppressed whenever there are fewer than 10 cases in a cell.

Besides hospital and public health data, other critical secondary data sources included:

- U.S. Bureau of the Census American Community Survey
- The Ohio Development Services Agency population forecasts and county descriptions
- Economic Modeling Specialists, Intl. industry and occupational data
- Hoover's (a subsidiary of Dun & Bradstreet) company records
- Robert Wood Johnson Foundation County Health Rankings
- Health Resources and Services Administration (HRSA) HPSA and health resources data

Limitations and Gaps in the Data

Information gaps that limit the ability to assess the community's health needs include:

- No service/usage data are included from hospital clinics and private clinics.
- Secondary aggregate data on mental health users, services and costs is difficult to obtain for Medicaid patients and basically impossible to obtain from private sector providers.
- The most recent data from the Ohio Department of Health for some data is 2010.
- Some ICD-9 data had to be suppressed due to anomalies.
- The health data presented in this report are not exhaustive.
- A longitude for first trimester prenatal care has a baseline of 2006, because the method for data presentation changed in that year.

[1] http://www.who.int/classifications/icd/en/

[2] http://www.rtmedibus.com/educationclinicalcontent/conditions-and-diseases

Parent Perception Survey

Dayton Children's

Prepared by Deft Research, Inc.

Parent perception survey

Introduction

Improving the health status of children is a key component of Dayton Children's Hospital mission and strategic plan. To help develop meaningful and actionable strategies, Dayton Children's evaluates the status of our region's pediatric health through a parent perception assessment conducted every three years.

Funded by the Dayton Children's Foundation Board, our parent perception survey covers many health and safety topics and is intended to provide community health advocates, including Dayton Children's, insights into the health and well-being of our region's children. These insights enable us and other organizations to identify top areas of concern and to develop or refine programs to improve the health status of all children. Coupled with the data obtained in our secondary data review, this information gives a more complete picture of the pediatric health needs in our region.

Methods

Six hundred and forty-two parents of children living in the Dayton Children's Hospital general service area were surveyed either online or via telephone interview between January 27 and February 25, 2014. Respondents to the online surveys were incented by having their names entered into a drawing for one of three $100 Kohl's gift cards.

Four hundred and eight-six respondents came who received an open invitation to complete the survey via the Dayton Children's Hospital email newsletter or announcements in the local media and completed via an open source web survey.

One hundred and fifty-six surveys were completed via telephone interviews with parents who were selected from published telephone lists. Telephone respondents were selected at random proportionately to the populations of the nine counties primarily served by Dayton Children's Hospital.

Results were combined and weighted by key demographic factors in order to more closely match U.S. census figures for the region. Census demographic estimates were based on 2013 Census results available for Allen, Butler, Clark, Greene, Miami, Montgomery and Warren Counties.

Survey results were adjusted to match census methods for some tables.

Demographics

Demographics were representative of the 2013 Census for the Miami Valley. Census values are mutually exclusive for ethnicity. Survey respondents were allowed to select more than one ethnic descriptor. Survey results were adjusted to match census methods for this table. In all five waves of the study, the vast majority of respondents came from the Dayton Children's Hospital's main service area.

Table 9: Survey demographics

		Weighted 2011 Results	Unweighted 2014 Results	Weighted 2014 Results	2013 Census for Miami Valley
Age	5 and Under	34%	39%	39%	32%
	Ages 6-10	34%	32%	33%	34%
	Ages 11-14	32%	29%	28%	35%
Gender	Boys	51%	55%	51%	51%
	Girls	49%	45%	49%	49%
Income	Above 200% Poverty	34%	76%	58%	60%
	Below 200% Poverty	66%	24%	42%	40%
Ethnicity*	White	84%	84%	81%	79%
	African American	10%	8%	12%	12%
Total Sample		648	642	654	351,595

Figure 32: Survey respondents by region

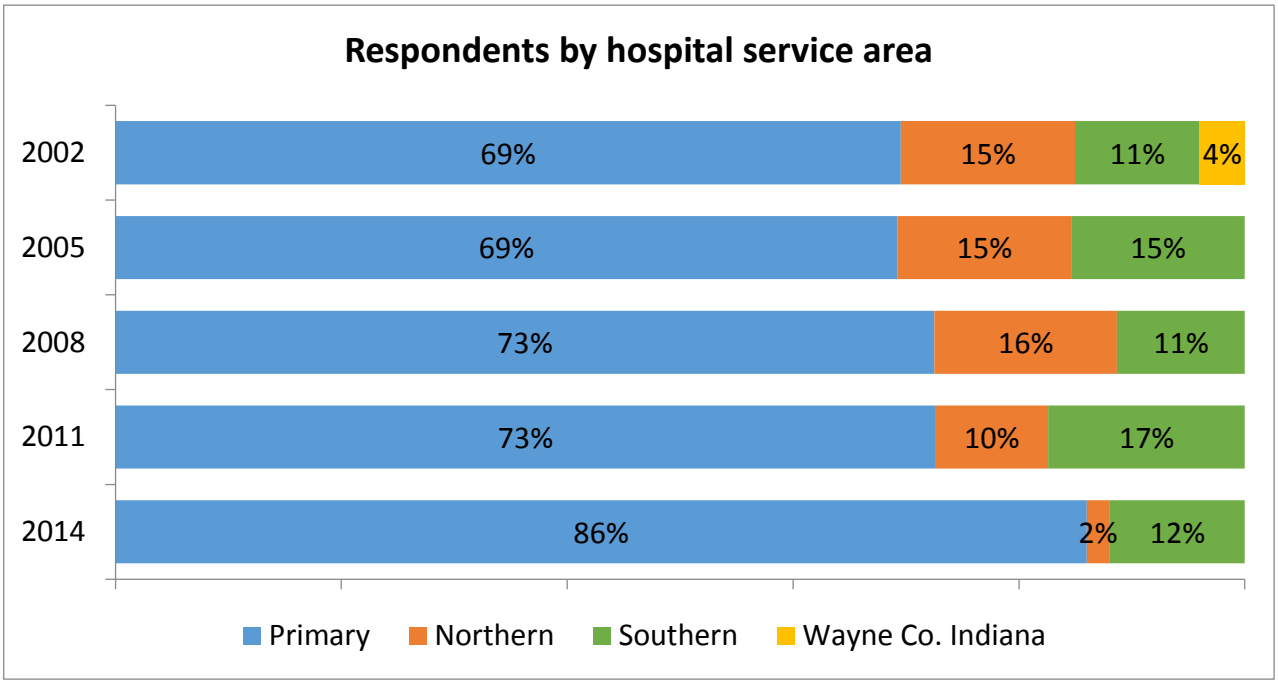


Figure 33: Children's ages

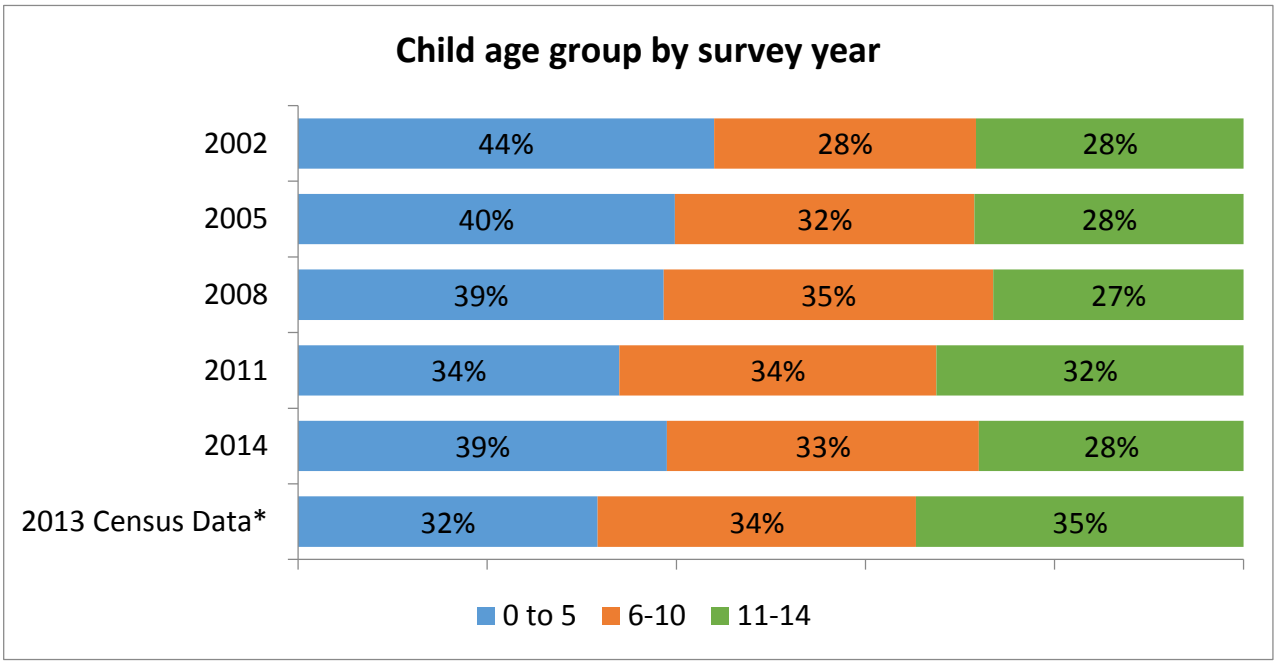


Figure 34: Children's ethnicity

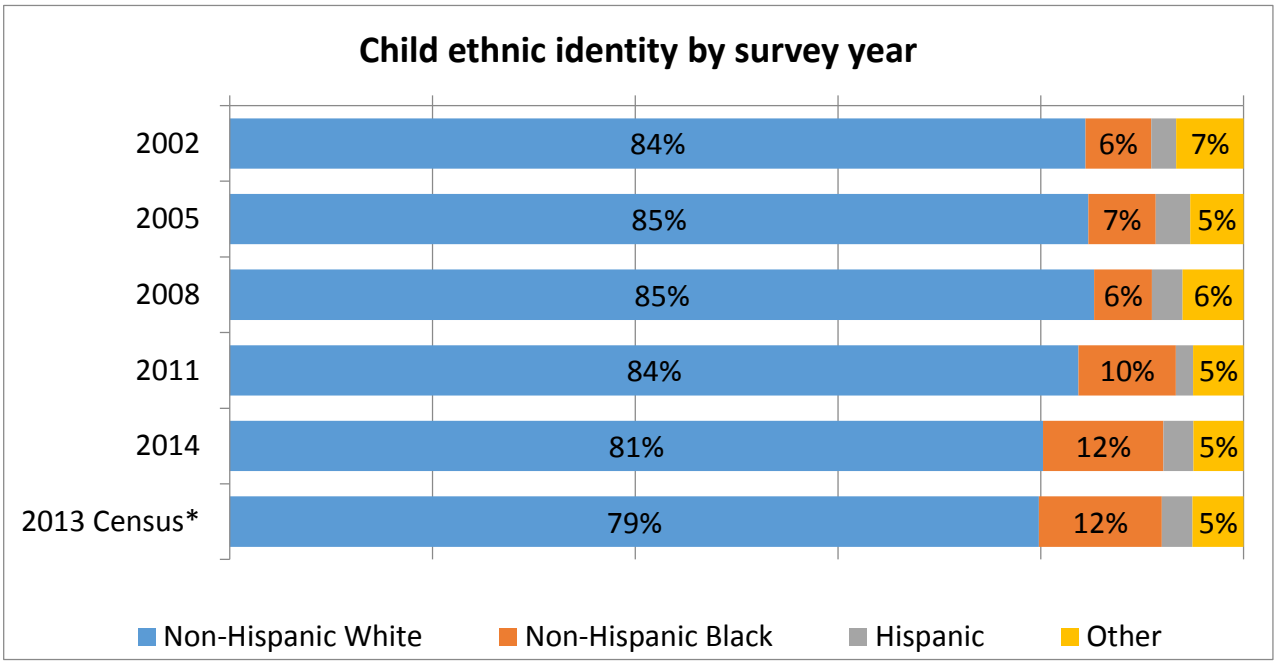
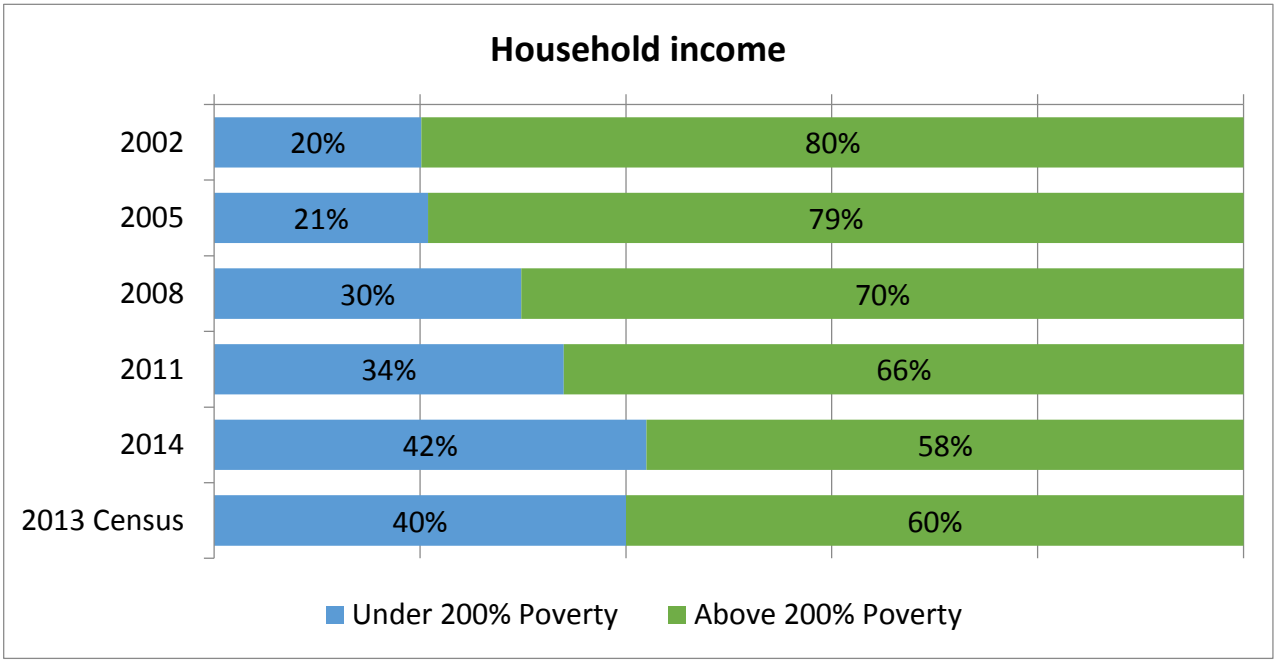


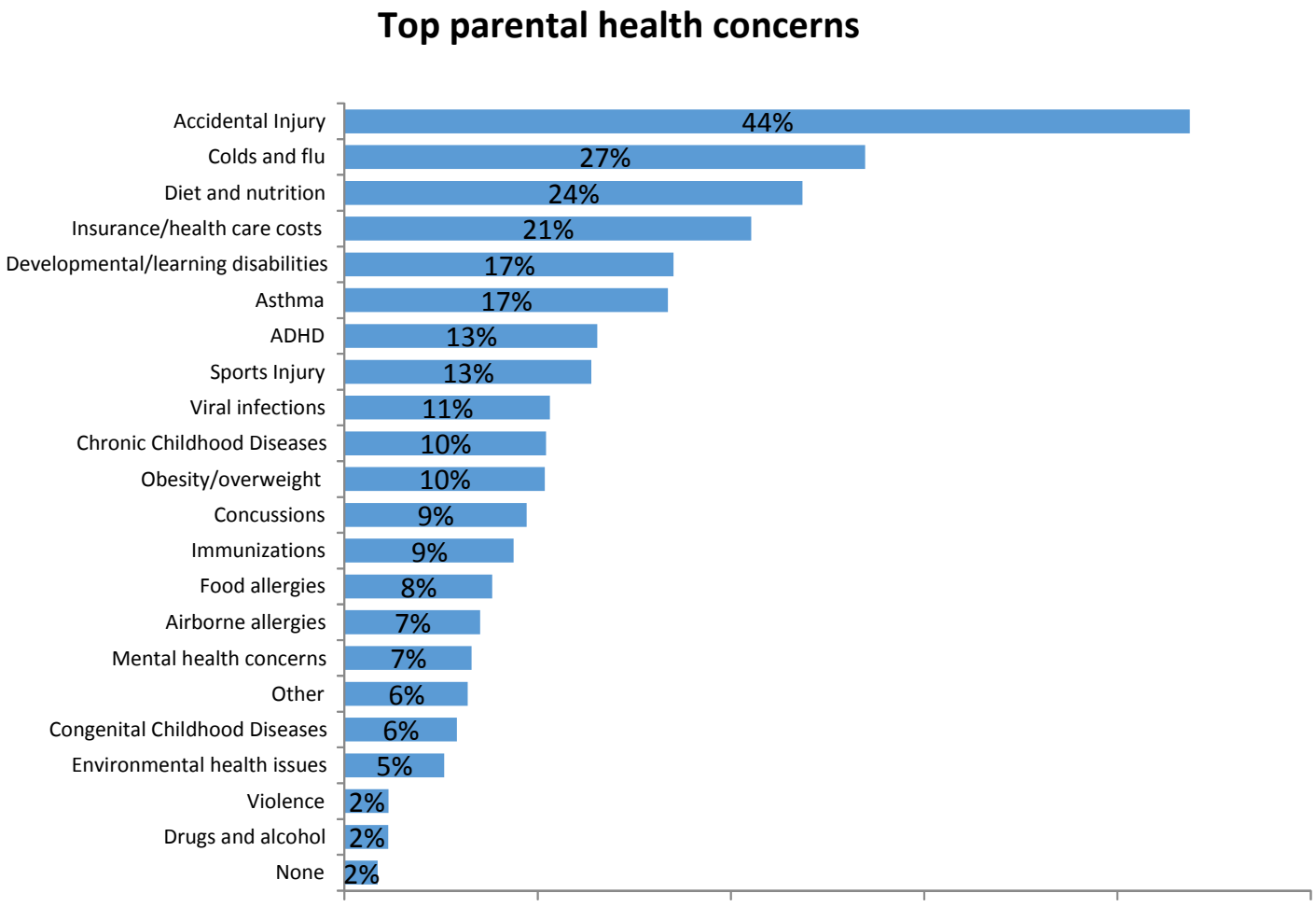
Figure 35: Household income as determined by percent of federal poverty level



Parental health and safety concerns

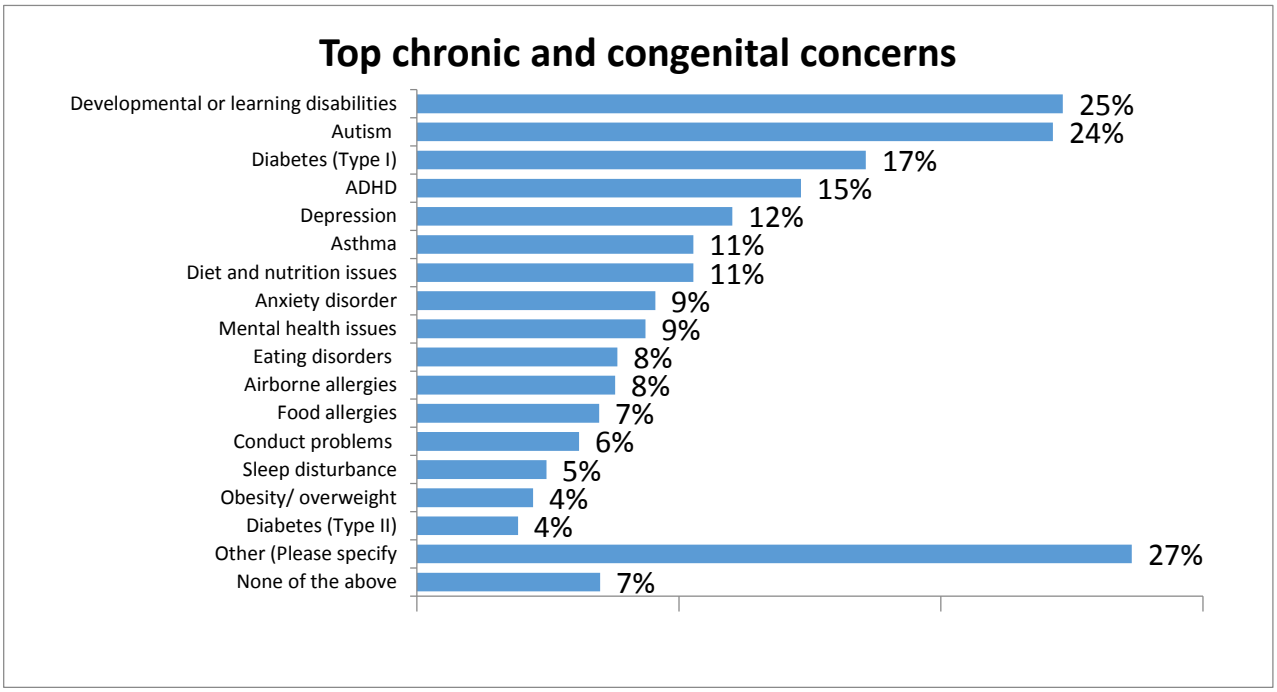
Parents were asked to indicate up to three health issues that are of concern to them. Parents of children who are younger than 6 years of age are more likely to be concerned about cold and flu (37 percent) compared to parents of 6-10 year olds (25 percent) and parents of 11-14 year olds (15 percent).

Figure 36: Top parental health and safety concerns



Fifteen percent of parents named chronic and congenital conditions that concern them. Of those 15 percent, 25 percent chose developmental or learning disabilities as a top concern and 24 percent chose autism as a top chronic or congenital concern.

Figure 37: Top chronic and congenital concerns

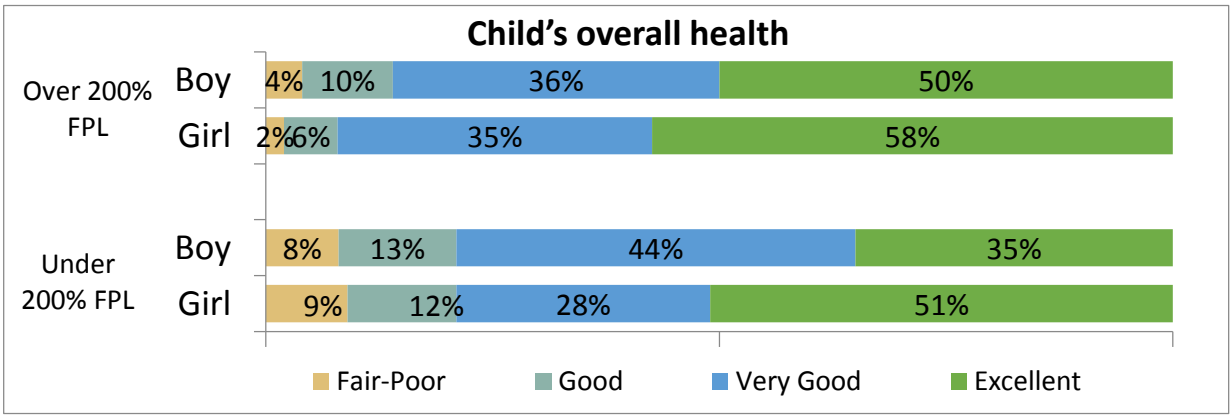


Other specified diseases included heart disease/defect (5 cases), celiac disease (2), hydrocephalus (2), kidney (2), cystic fibrosis (2), chronic lung disease (2), hypothyroidism (2), cancer, seizures, pulmonary stenosis and arterial septal defect, Ehlers-Danlos Syndrome, dental caries, Crohns, Budd-Chiari syndrome, cataracts, hemangioma, birth defects, unspecified connective tissue disorder, spinal muscular atrophy, short gut syndrome, neurogenic bladder, mitochondrial disease and childhood disease.

Child health

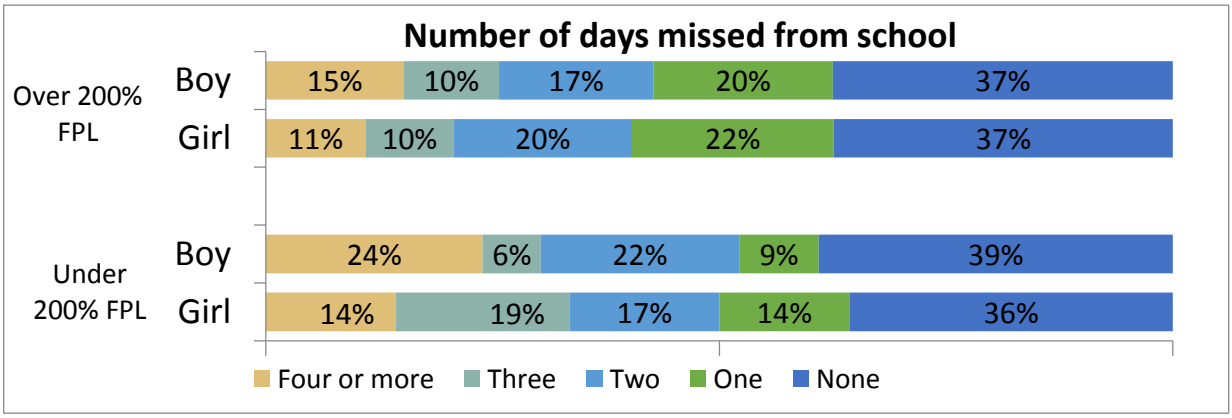
Parents were asked to indicate the general health of their children. Boys from lower income households are significantly less likely to be considered by their parents to be in excellent health than are either boys from higher income households or girls at any income level.

Figure 38: General health by income and gender



The average number of days missed from school for boys over 200 percent of poverty was 1.7 days and for girls over 200 percent of poverty it was 1.5 days. For children under 200 percent of poverty, boys were reported to miss on average 1.6 days of school and girls 1.3 days.

Figure 39: Number of days missed from school by gender and income level



Medication use

Parents were asked whether or not their child currently takes prescription medications. A statistically significant number of boys (15 percent) were on asthma medication compared to girls (8 percent). In addition, 8 percent of boys were prescribed ADHD medication compared to only 3 percent of girls. Boys are 50 percent more likely than girls to take prescription medications (30 percent vs. 20 percent).

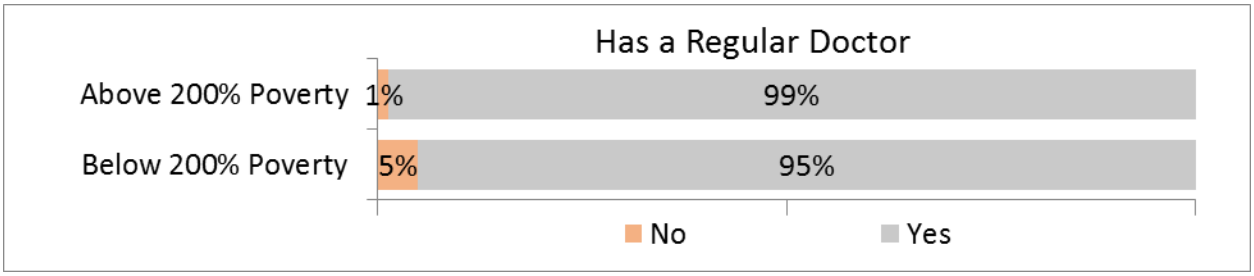
Table 10: Use of medications by age, gender and income

	Gender			Age Group			Income	
	Total	*Boys*	*Girls*	*0 to 5 Years*	*6 to 10 Years*	*11 to 14 Years*	*Under 200% Poverty*	*Above 200% Poverty*
None	75%	70%	80%	80%	71%	71%	71%	77%
Asthma medication	11%	15%	8%	12%	13%	8%	14%	9%
ADHD medication	5%	8%	3%	1%	8%	10%	7%	4%
Sleep aids	2%	3%	1%	1%	1%	2%	2%	1%
Insulin	1%	0%	2%	0%	1%	3%	1%	1%
Antipsychotics	1%	1%	0%	0%	1%	1%	1%	0%
Antidepressants	1%	1%	1%	0%	1%	2%	1%	1%
Other	12%	13%	11%	11%	12%	12%	14%	10%
		Shading indicates statistically significantly higher rate for the group.						

Physician care and access by income

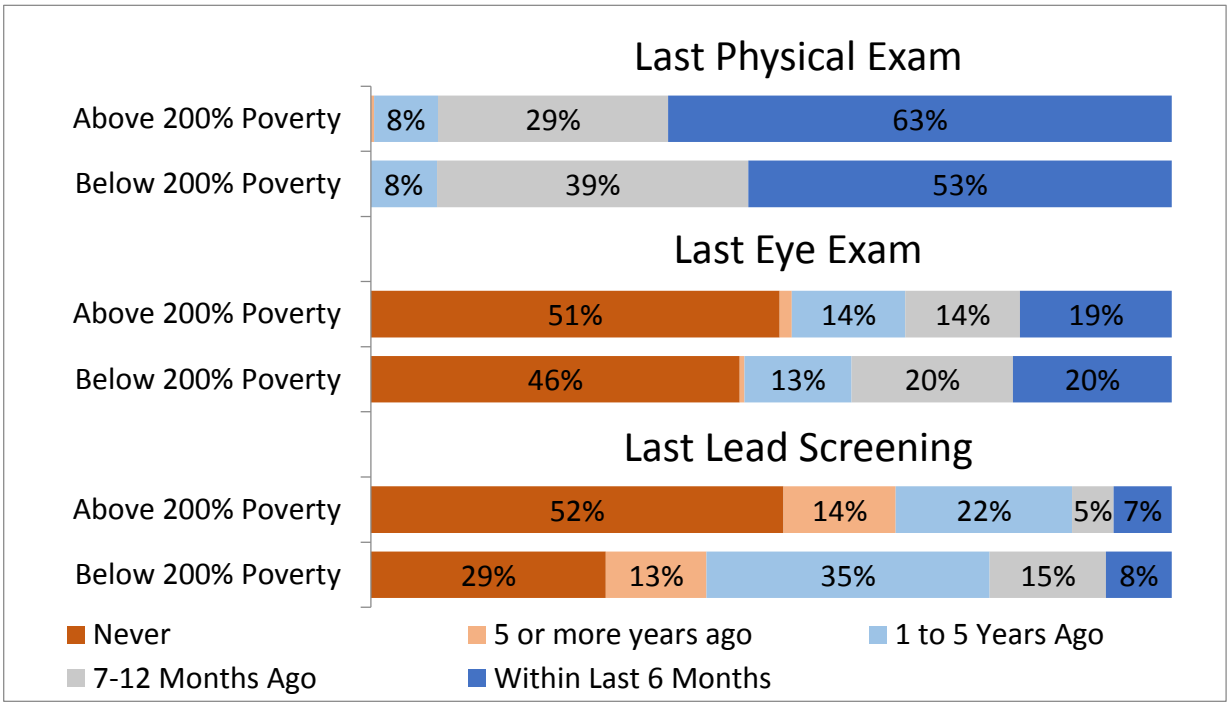
Children from households below 200 percent of poverty are significantly less likely to have a regular doctor or to have visited a doctor within the last 6 months.

Figure 40: Percent of children who have a regular doctor



Children from households below 200 percent of poverty are significantly more likely to have had a screening for lead poisoning in the last 5 years.

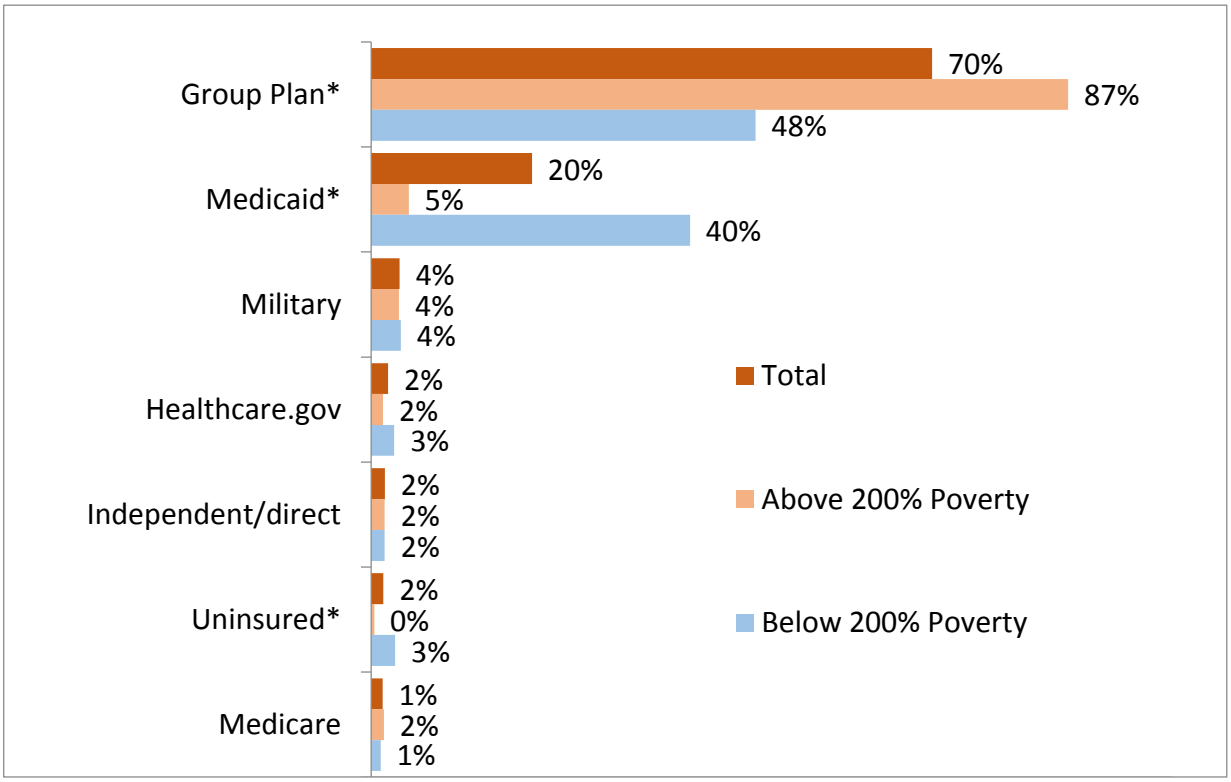
Figure 41: Recent screenings and exams



Insurance

Parents were asked the type of insurance they carry. There were statistically significant differences between income levels.

Figure 42: Type of insurance by income



Dental access and issues

Children from households below 200 percent of poverty are significantly more likely to have not seen a dentist within the past six months. There are no differences by income level for brushing activity.

Figure 43: Last visit to dentist

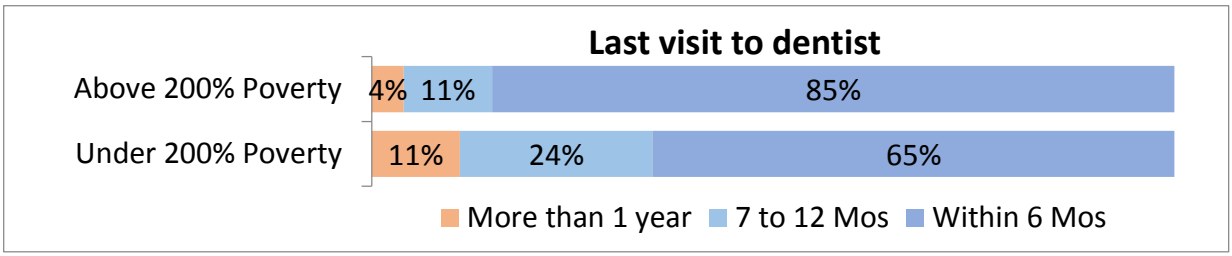
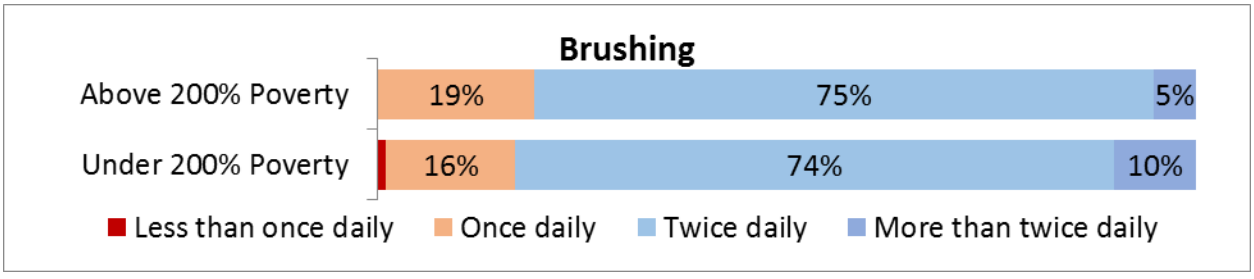


Figure 44: Daily brushing habits



Vaccinations

Influenza and vaccinations by income

Children from wealthier families were more likely to have had a flu shot in the last 6 months, while children from less wealthy families were more likely to have been vaccinated within the last 6 months.

Figure 45: Last flu shot (ages 6 to 14 only)

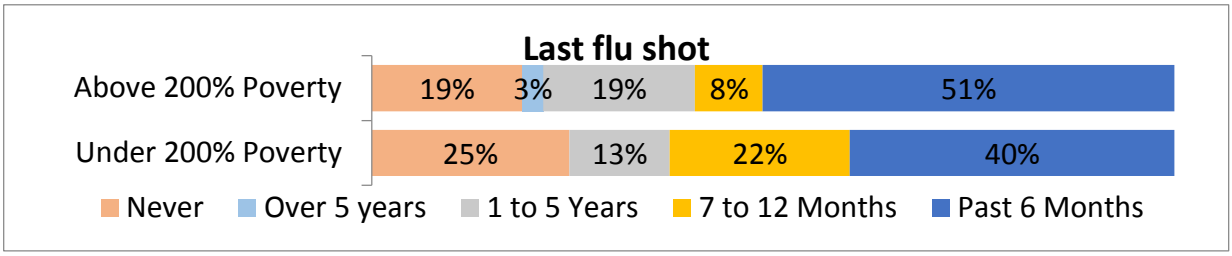
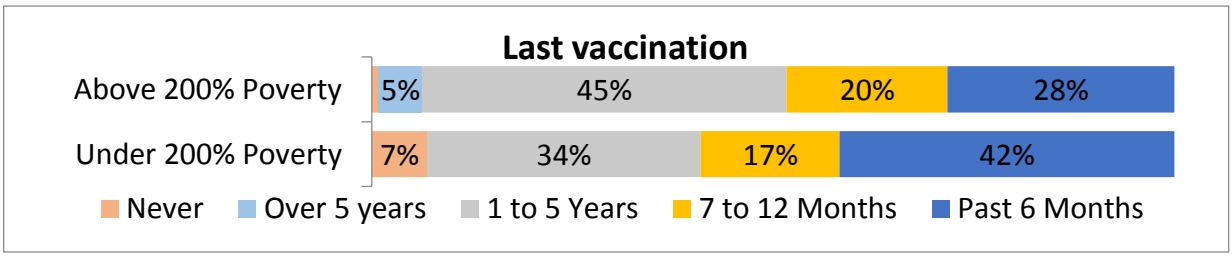


Figure 46: Last vaccination



Vaccination attitudes by income

Parents in households with incomes under 200 percent of the federal poverty level were slightly less likely to agree that vaccinations are important and necessary and slightly more likely to distrust their safety.

Figure 47: Vaccination attitudes (children ages 6 to 14 only)

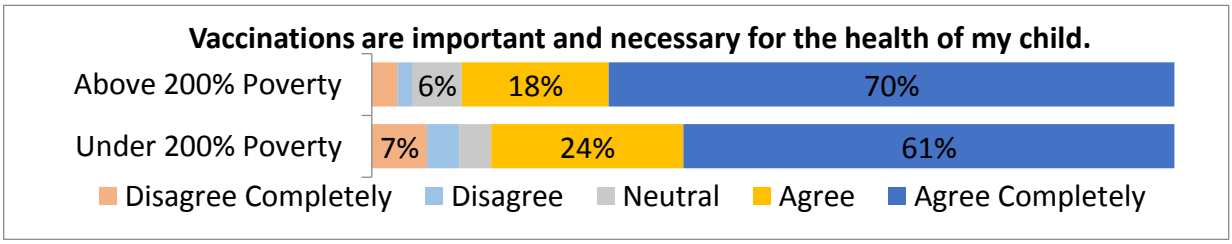
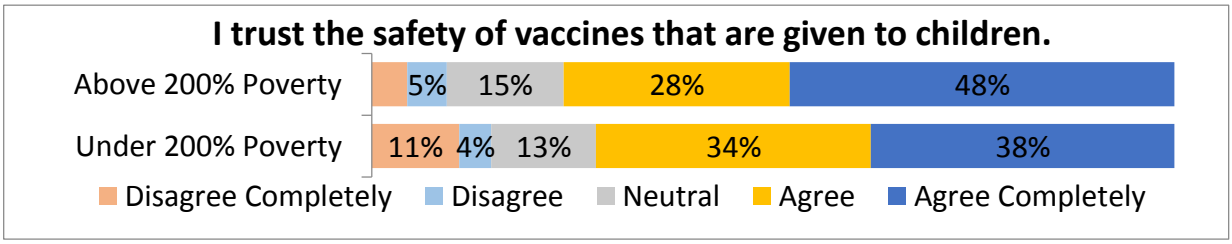


Figure 48: Trust in safety of vaccines

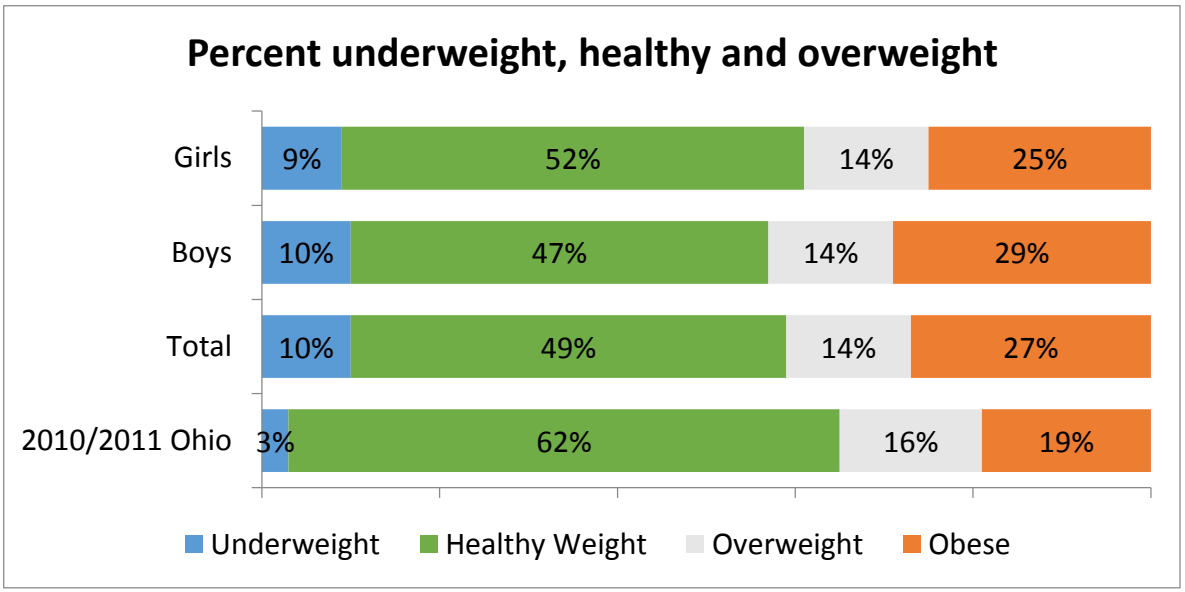


Children's weight and diet

Children's weight

Body Mass Index was calculated based on child's age, height and weight as defined by their parents. Fifth percentile and under qualify as underweight. Eight-fifth percentile to 95th percentile count as overweight. Ninety-fifth percentile and over counts as obese. 2010/2011 Ohio figures are from "Healthy Choices for Healthy Children Act , Body Mass Index and Weight Status Category Screening Program 2010-2011" Ohio Department of Education, July 2012. In the 2014 survey, 41 percent of children are overweight or obese.

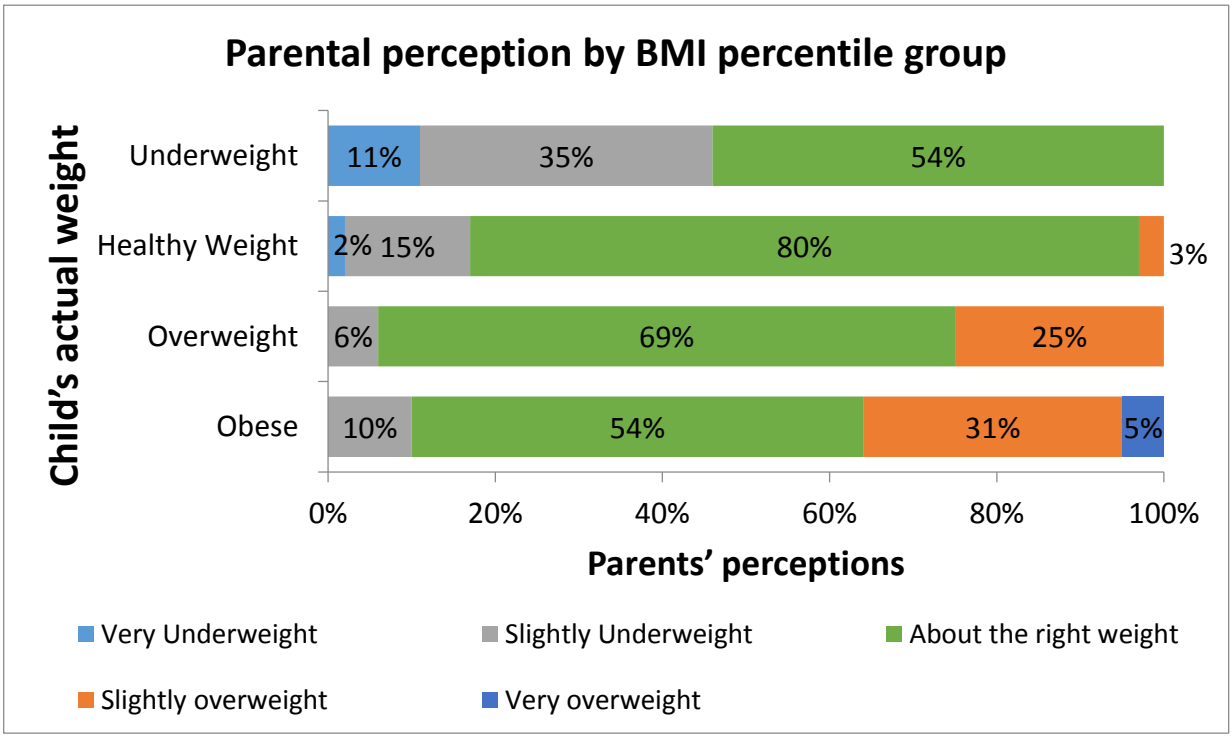
Figure 49: Percent of children underweight, healthy and overweight



Parent perceptions of child's weight

Parents were asked to indicate whether they think their child is underweight, about the right weight, slightly overweight or very overweight. The majority of parents of overweight and obese children do not perceive their children as having any weight problem. Ten percent of parents of obese children believe that their child is underweight and only 5 percent of those parents correctly identify their child as being "very overweight."

Figure 50: Parent's perception vs. BMI percentile group



Child's dietary habits

Parents were asked to choose all descriptions that applied to their child's dietary habits.

Figure 51: Child's dietary habits

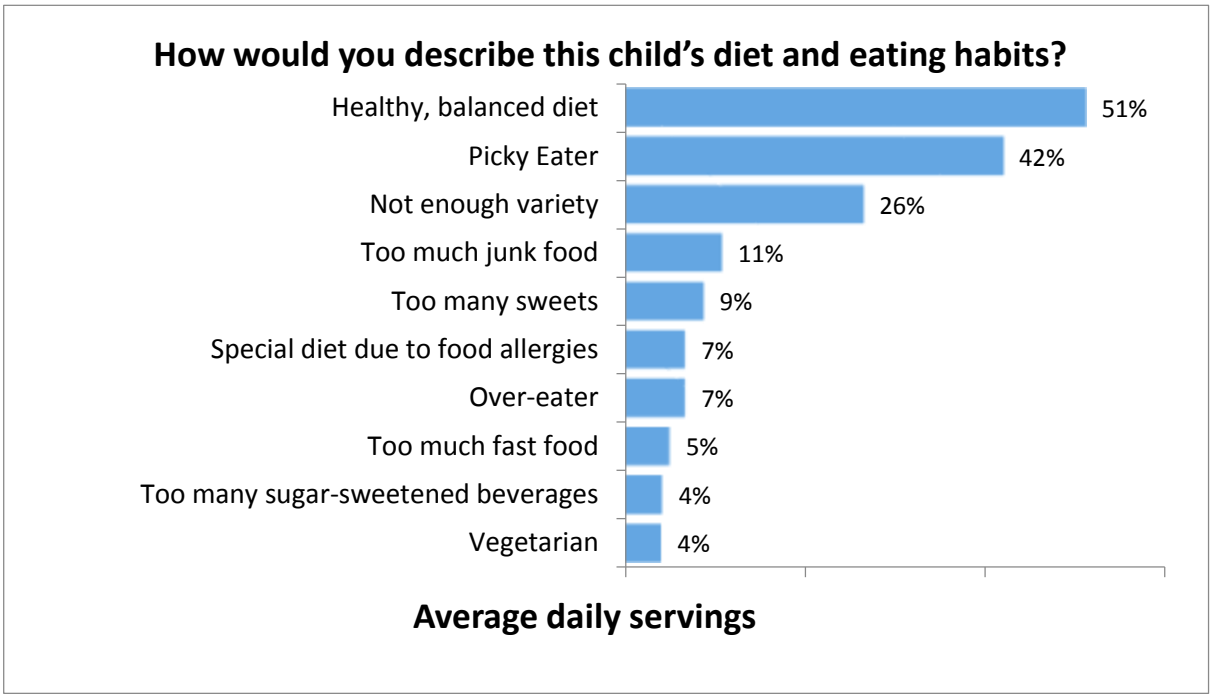
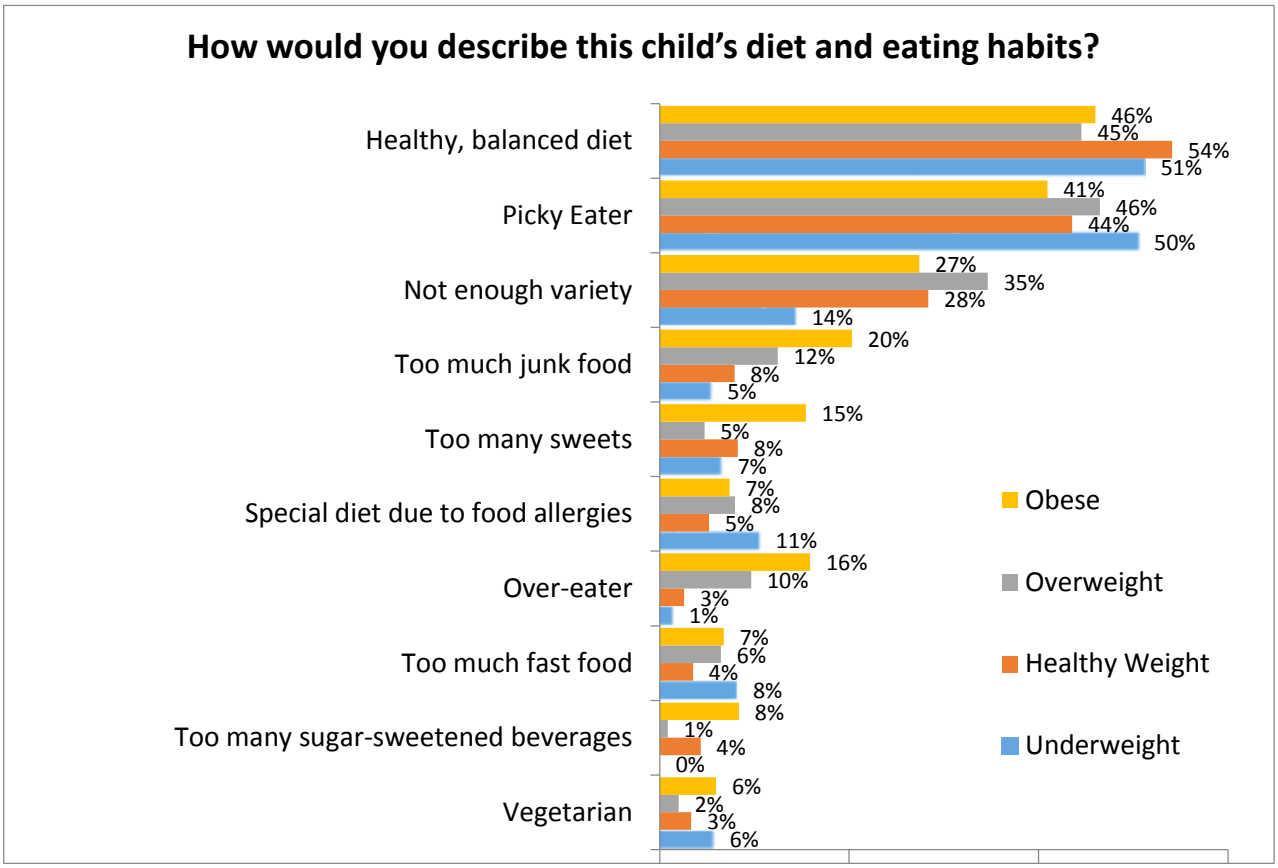


Figure 52: Child's dietary habits by weight



Child's diet and weight

Obese children eat significantly more servings of fried foods and drink more sugary drinks daily than healthy weight children do.

Figure 53: Child's diet in overweight and obese children

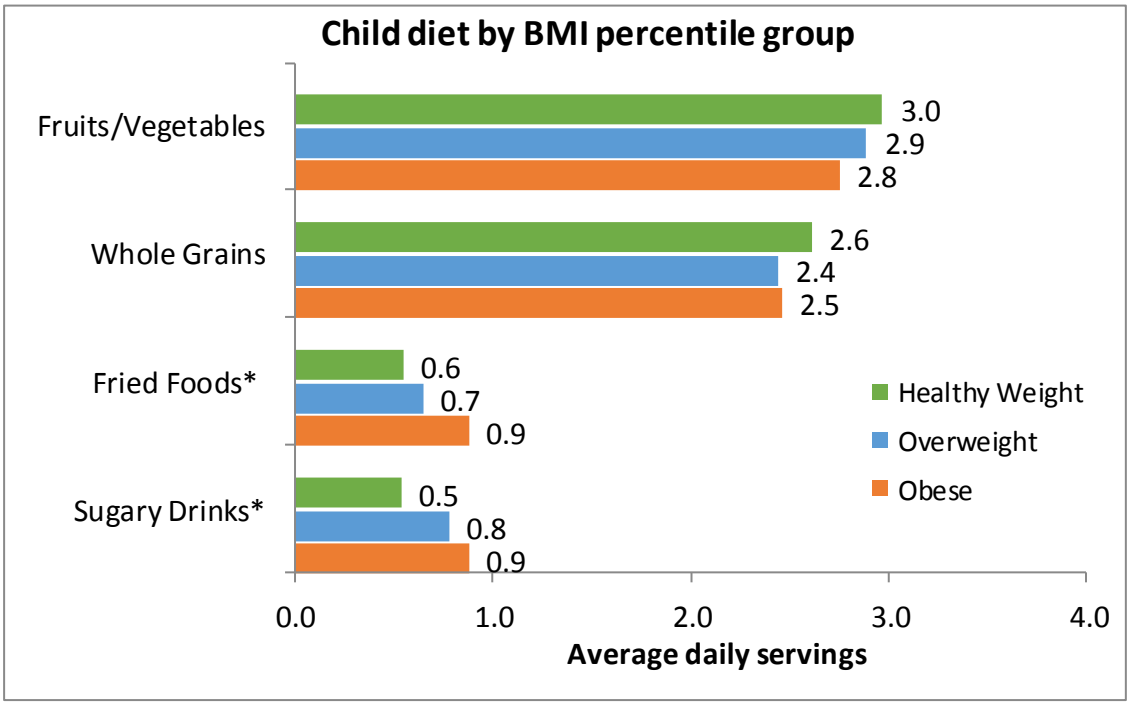
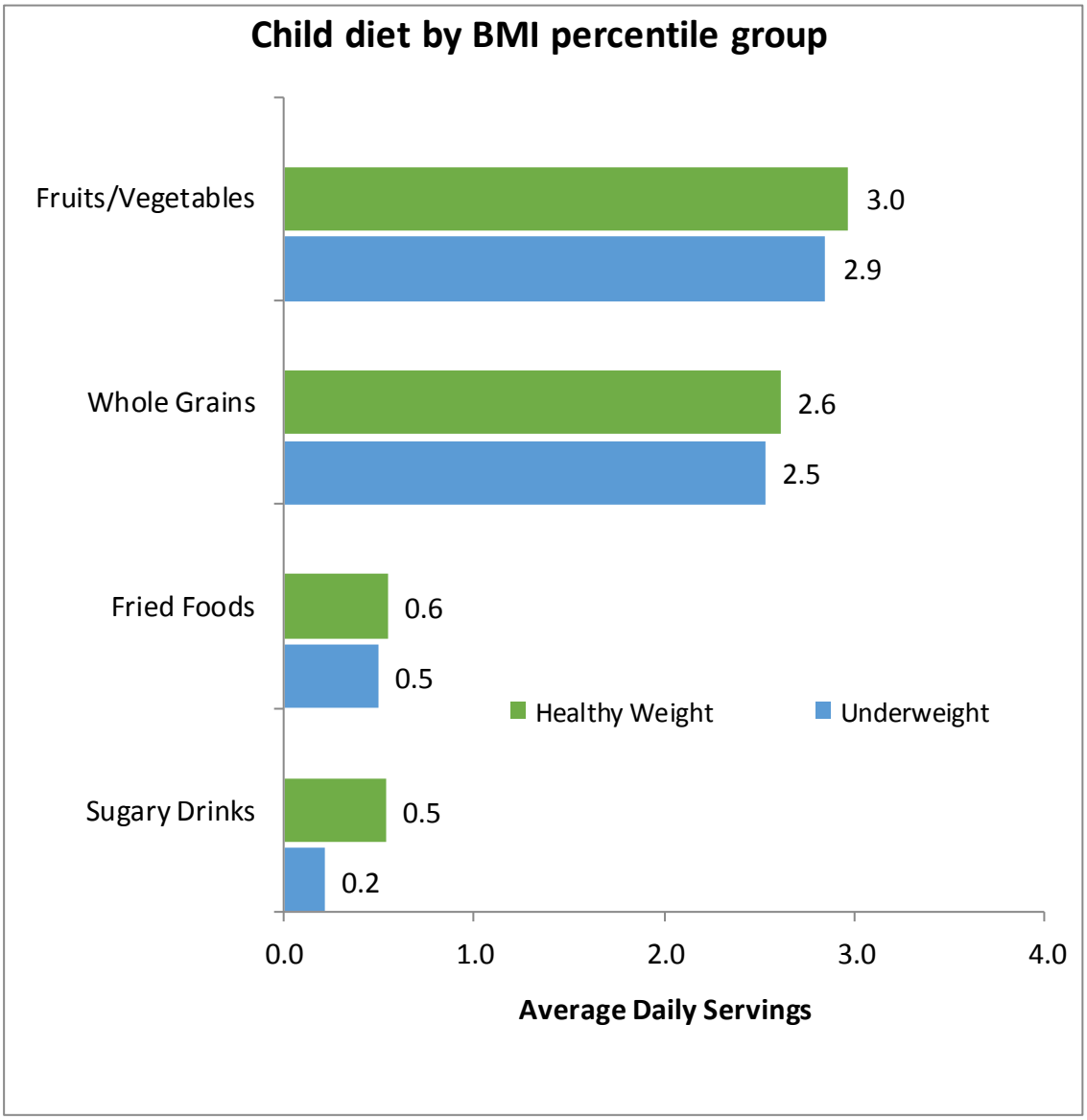


Figure 54: Child diet in underweight children

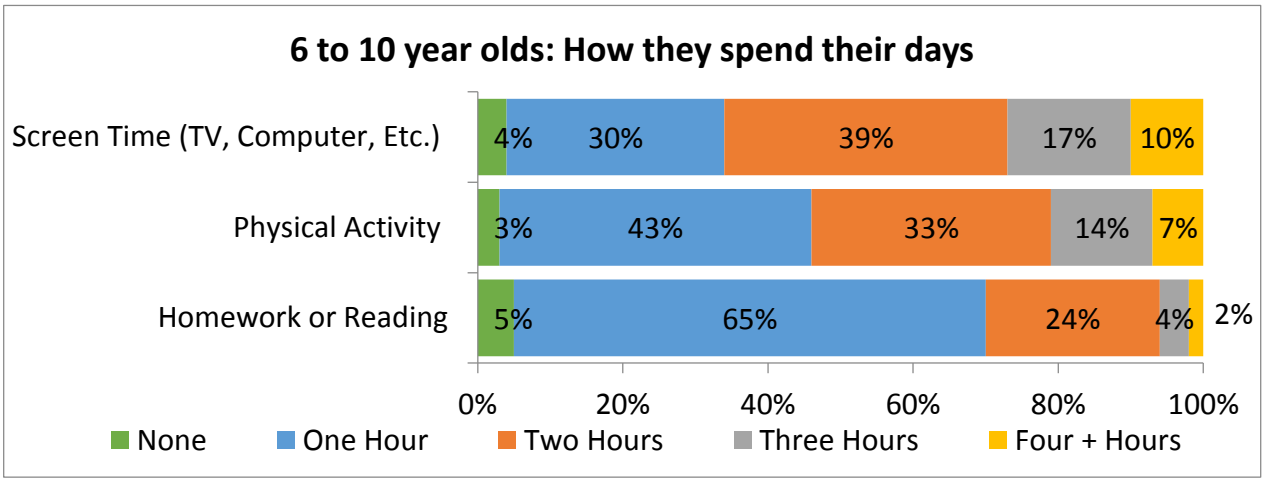


Children's habits and activities

How children spend their time

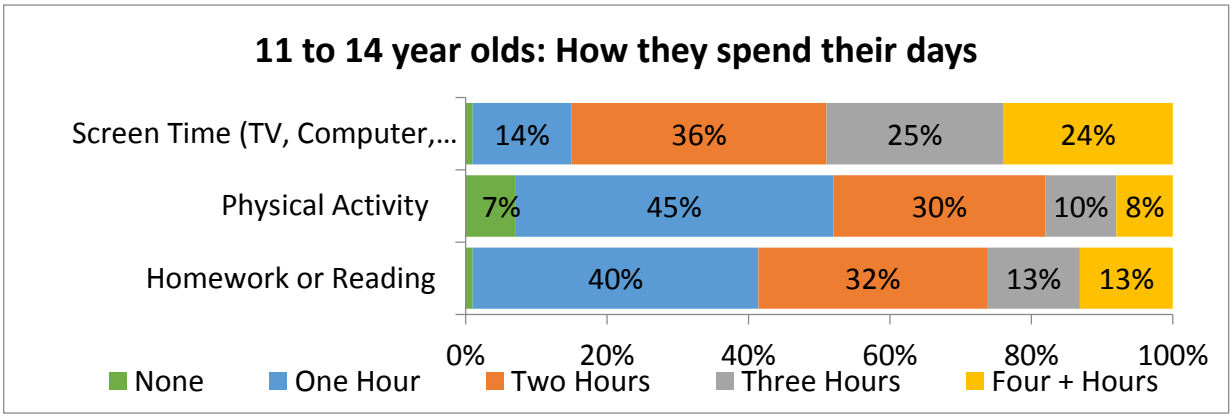
Ninety-six percent of 6 to 10 year olds spend an hour or more each day in front of a screen (TV, computer, Smart Phone, video games, or tablet). Over half of them spend at least two hours day doing physical activities. Thirty percent of children in this age group spend at least two hours doing homework or reading every day.

Figure 55: How children ages 6 to 10 spend their days



Children aged 11-14 are spend more time in front of screens than doing physical activity or homework. For instance, 24 percent of children spend four or more hours in front of a screen, while only 8 percent are doing 4+ hours of physical activity and 13 percent are reading or doing homework for four or more hours.

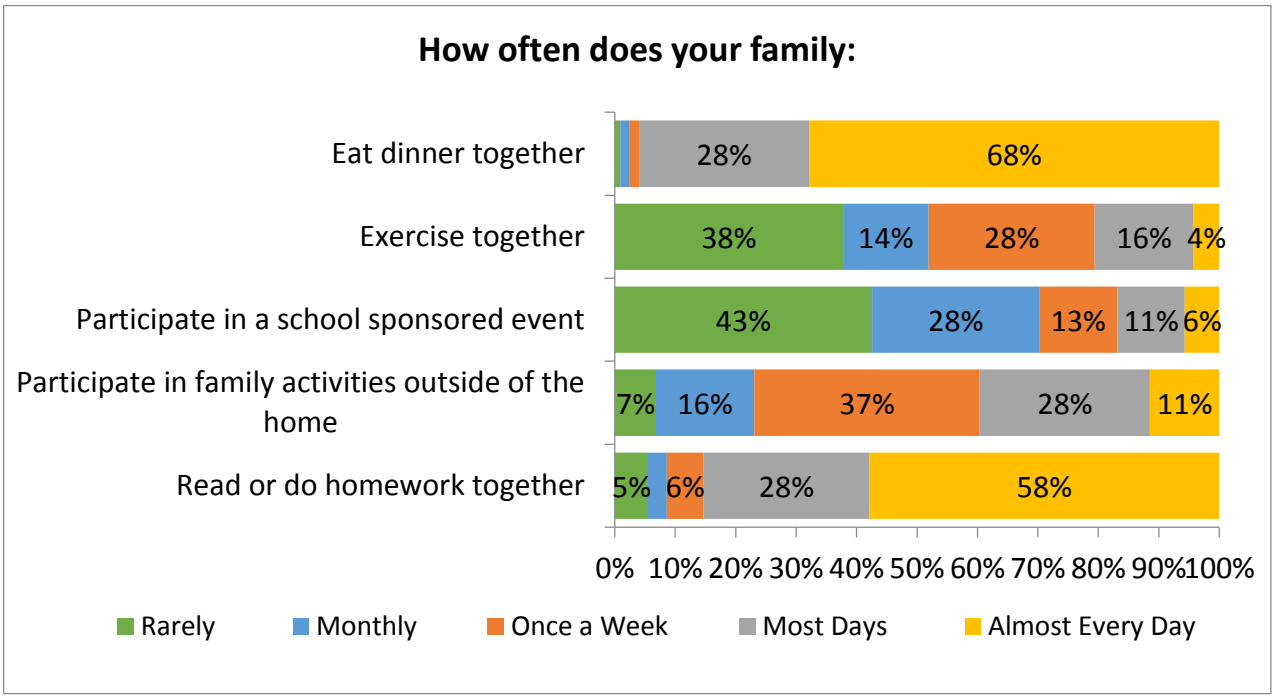
Figure 56: How children ages 11 to 14 spend their days



Family activities

The majority of families eat dinner together almost every day or most days. The majority of families also read or do homework together almost every day or most days.

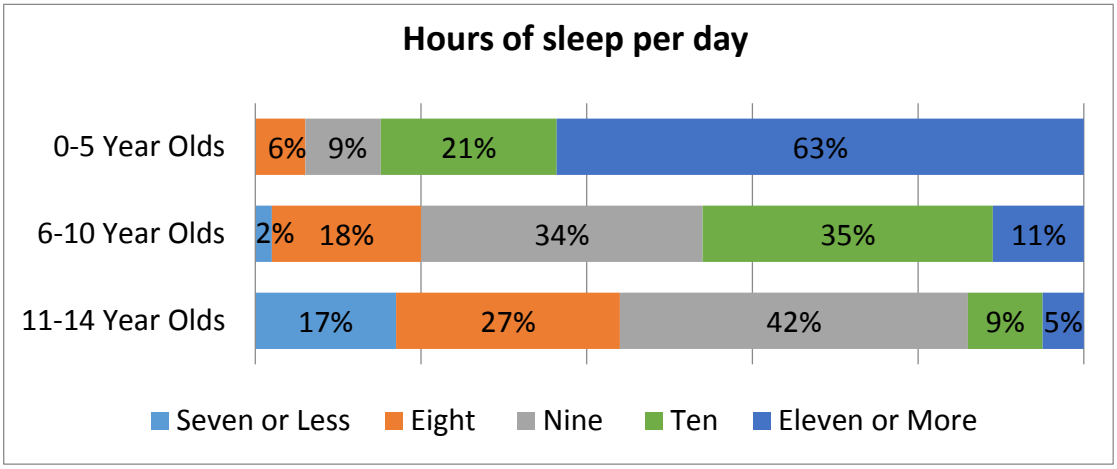
Figure 57: Frequency of family activities



Child sleep habits

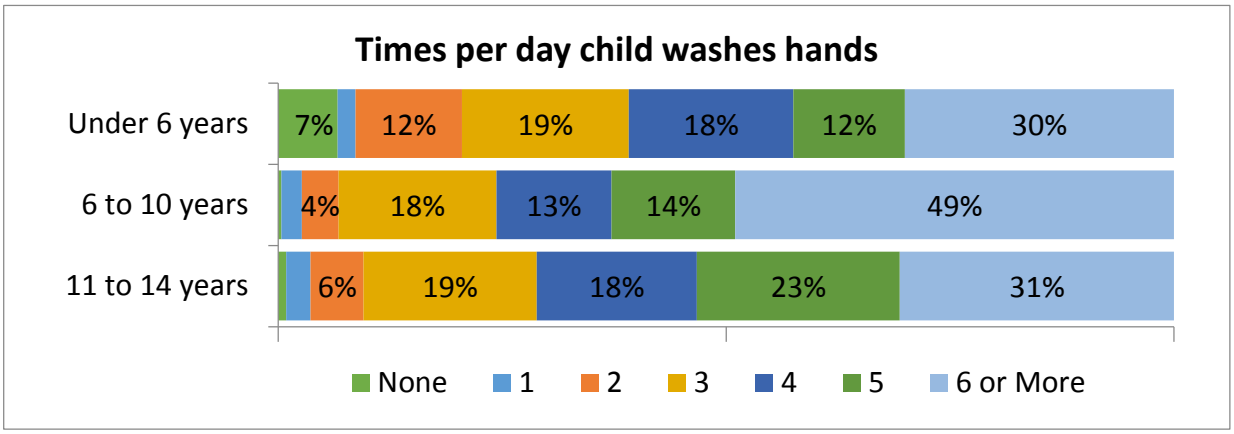
Children ages 0 to 5 get an average of 11 hours of sleep per day. Children ages 6 to 10 average 9.3 hours of sleep and children ages 11 to 14 average 8.6 hours of sleep.

Figure 58: Hours of sleep per day



Hand washing habits

Figure 59: Hand washing by age



Smoking in the home

Overall, 12 percent of children live in a household in which someone smokes cigarettes. Households with smokers are twice as likely to fall below 200 percent of the federal poverty level. Non-smoking households are significantly more likely to have children who are of healthy weight for their age, gender and height than are households with smokers.

Figure 60: Federal poverty level by smoking in the home

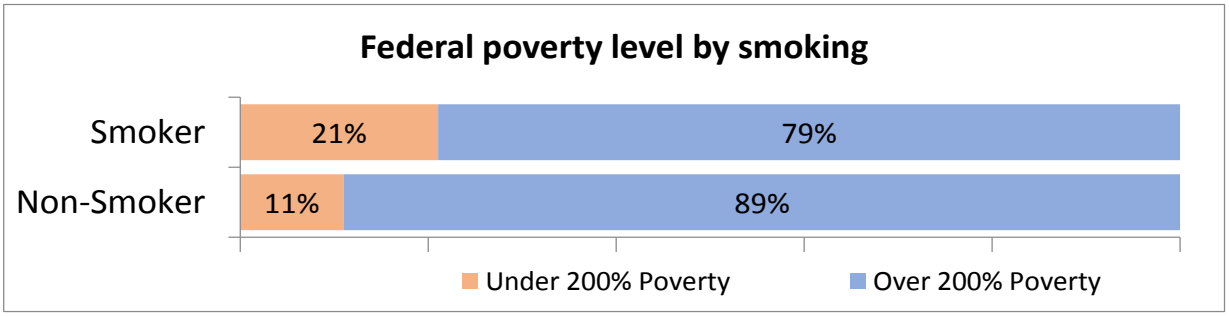
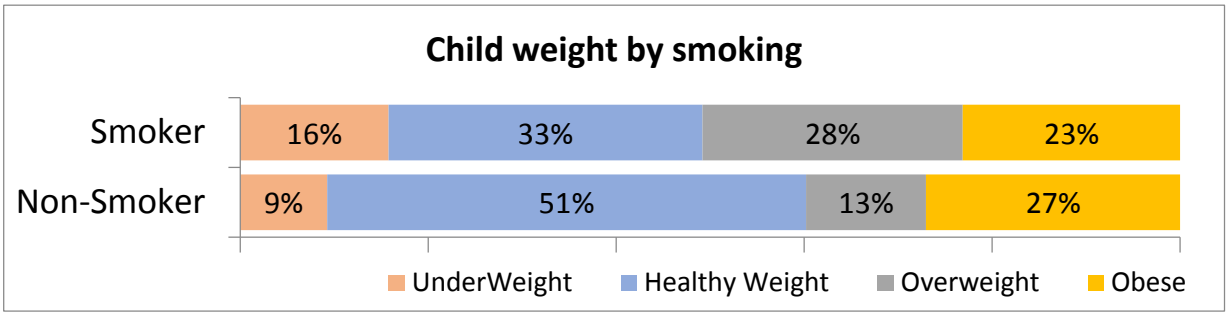


Figure 61: Child weight by smoking in the home



Injury prevention and safety strategies

Car seat, booster seat and seat belt use

Excluding those children for whom the restraint is not age appropriate.

Figure 62: Percent of children regularly using car safety restraints (2005-2011)

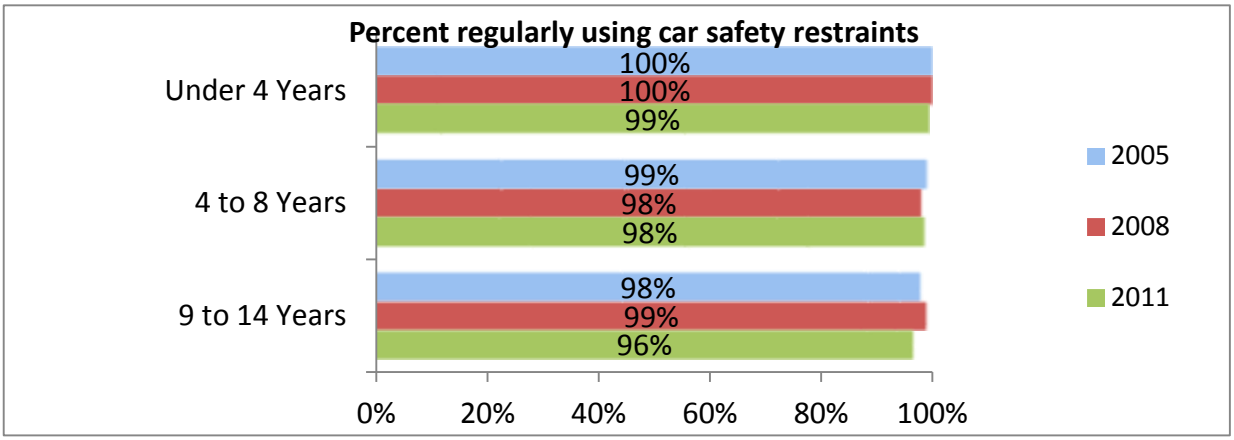
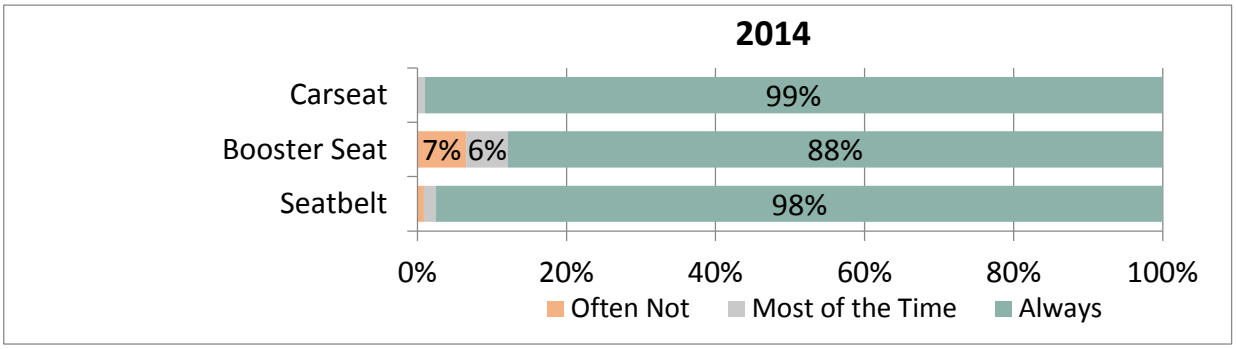


Figure 63: Safety restraint use (2014)



Bicycle helmet use

Although the method of asking the question changed, the percent of parents saying their children regularly (most of the time or all of the time) use helmets when using a scooter, skateboard or rollerblades did not change from 2011 to 2014.

Figure 64: Bicycle helmet use (2002-2011)

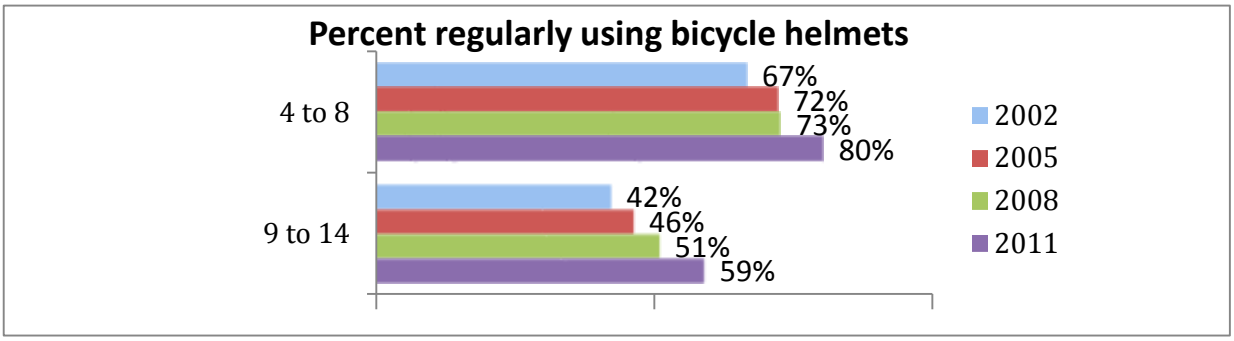
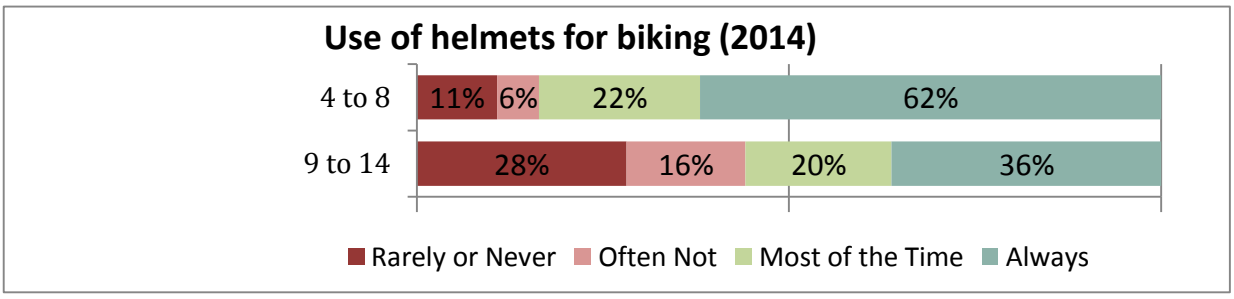
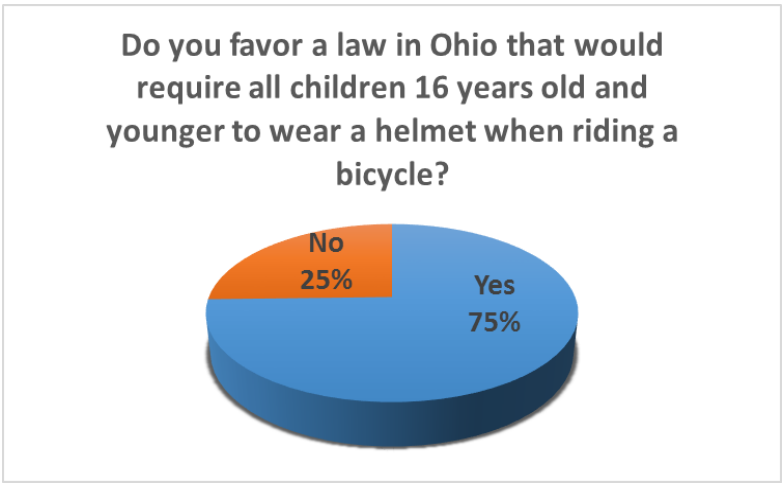


Figure 65: Bicycle helmet use (2014)



Seventy-five percent of all parents in 2014 favor a law in Ohio that would require all children 16 years old and younger to wear a helmet when riding a bicycle.

Figure 66: Favorability of a bicycle helmet law



Helmet use with scooters, skateboards or rollerblades

Although the method of asking the question changed, the percent of parents saying their children regularly (most of the time or all of the time) use helmets when using a scooter, skateboard or rollerblades did not change from 2011 to 2014.

Figure 67: Helmet use with scooters, skateboards or rollerblades (2002-2011)

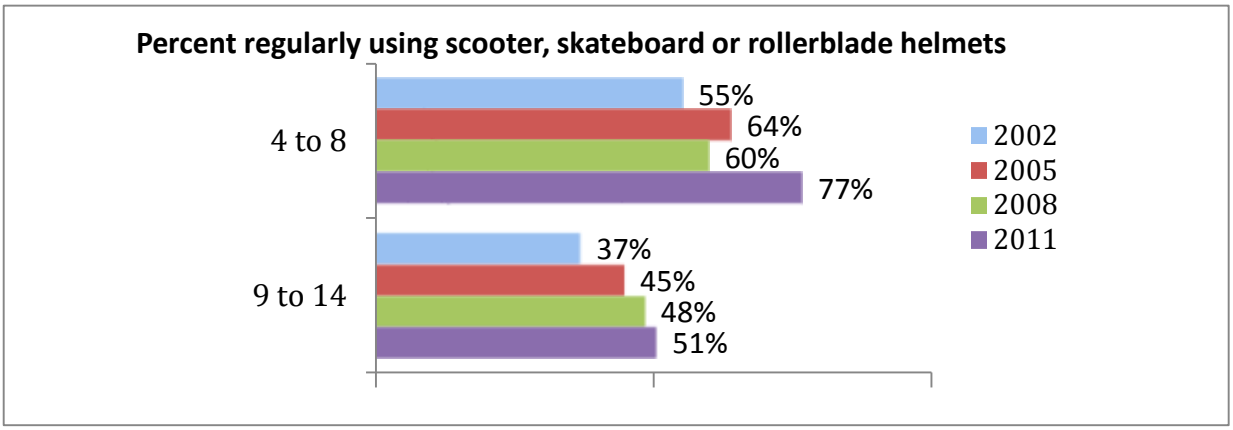
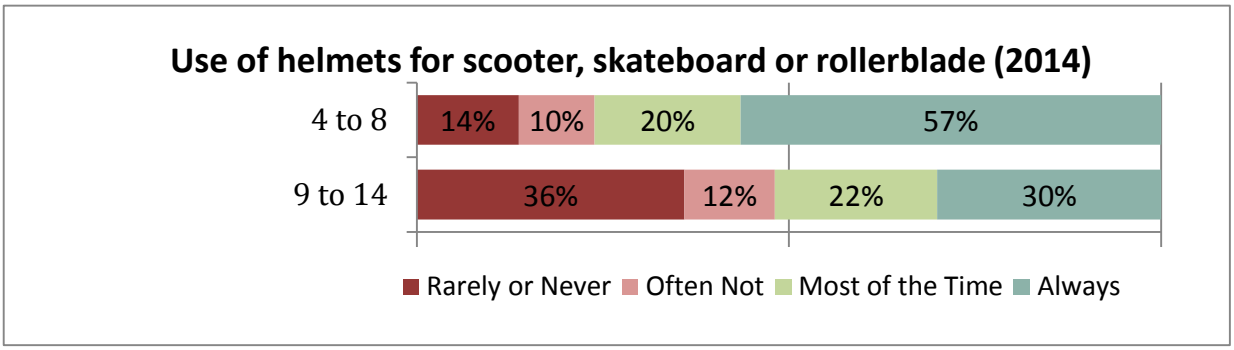


Figure 68: Use of helmets with scooters, skateboards and rollerblades (2014)



Parents preferred sources of information

Parents were asked to share their preferred sources of health information. Eighty-one percent of parents prefer to receive health information from their child's doctor. Other specific preferred sources mentioned include social media (Twitter, Facebook, blogs), schools, scholarly research papers, government resources, magazines , support groups, books, mobile apps, and specific websites like www.healthychildren.org (a website of the *American Academy of Pediatrics*).

Figure 69: Preferred sources of information

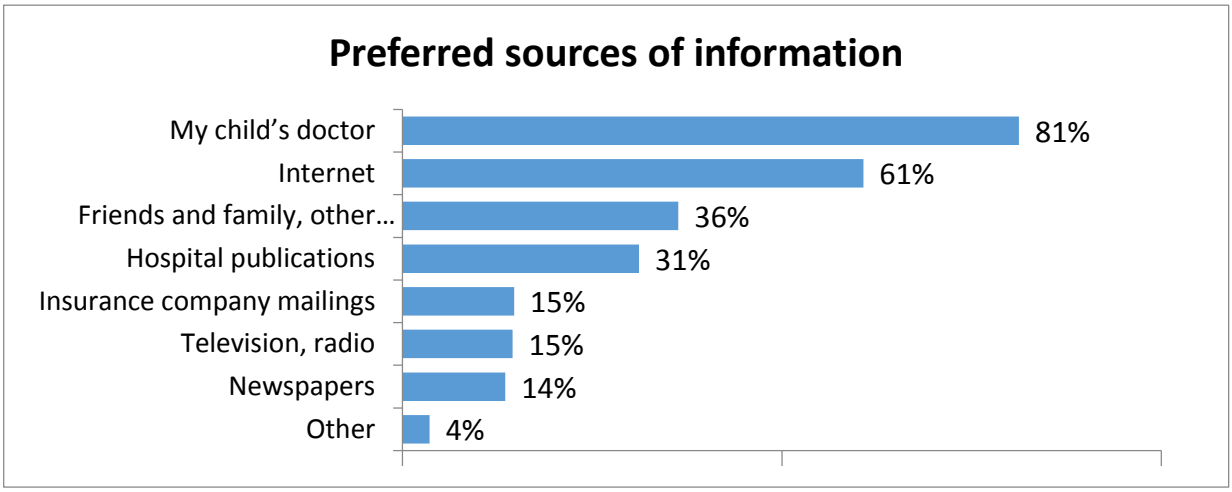
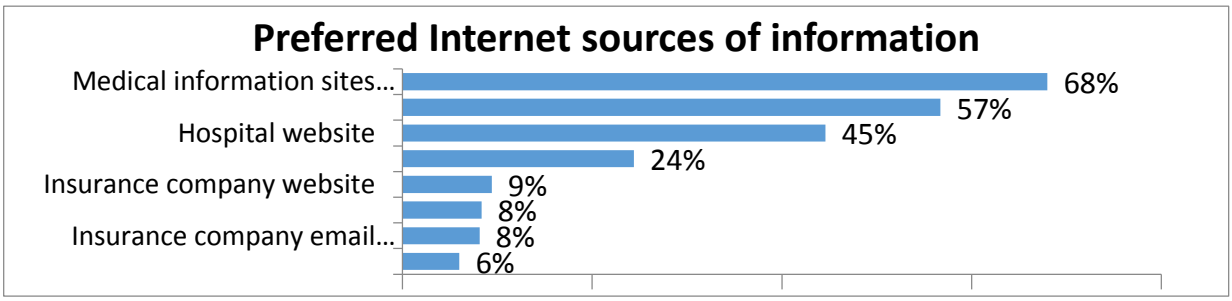


Figure 70: Preferred Internet sources of information



Community Physician Conversations

Dayton Children's

Prepared by Hoover Consulting, Inc.

Community physician conversations

Below summarizes key learnings, conclusions and recommendations based on research conducted with physicians in the main service area of Dayton Children's Hospital between January 29 and February 11, 2014. The objectives of this research were as follows:

- Identify and prioritize key pediatric health issues in the main service area of Dayton Children's Hospital.
- Understand how consumers receive care for these issues today.
- Determine how health professionals believe Dayton Children's Hospital can respond to pediatric health priorities.

The learnings from this research will be used to inform decision making via Children's implementation strategy as required by the Affordable Care Act.

Research methodology

Twelve respondents were recruited by L2MR based on a list of physicians provided by Dayton Children's Hospital. All respondents are practicing physicians within the Greater Dayton community. Physicians serving a variety of demographics and counties within the region are represented in this survey. Nearly all physicians see patients from birth to adulthood (and through college in some cases). Both clinic and private physicians were included in the survey. Half of the physicians interviewed have a payer mix of 75 percent or more on Medicaid, either within their own practice or through side work at a clinic/center. Approximately one-third to one-half of the physicians interviewed are employed by a community health center or clinic (including one physician from Dayton Children's Health Clinic) or volunteer at health clinics in addition to practicing privately.

Liese Hoover facilitated as a third party researcher during each pre-scheduled 20-30 minute telephone interview. Respondents are aware that the sponsor of the study is Dayton Children's Hospital and that the purpose of the interview is to assess pediatric needs in the Dayton as part of the hospital's Community Health Needs Assessment.

Summary

Based on feedback from physicians included in this study, the Dayton area has three issues requiring significant attention from the health care community:

- Mental Health: Physicians unanimously and without prompting cite a significant lack of mental health resources in the Dayton region, which many physician address by referring out of market or treating themselves (without the desired training/background).
- Obesity: Nearly all physicians also believe obesity is a significant medical issue within Dayton, and particularly within the underserved/Medicaid population. However, unlike the mental health need, physicians do not believe obesity can be addressed comprehensively through the medical community as so many lifestyle and societal factors play a role.
- Access to Care: Physicians who serve the Medicaid/underserved community within Dayton consistently express concern that changes in health care delivery (Affordable Care Act, community center management) will increase existing challenges for this population to receive timely and geographically accessible care and health care coverage in general.

Physicians believe that other significant health issues such as asthma, infectious disease management, and sports/home injuries are generally being treated adequately with existing community resources.

Specific results of the research are summarized below.

Key learnings

1. *Mental health evaluation and management* is considered the primary concern/unmet need in Dayton among physicians interviewed. Every physician interviewed acknowledged that Dayton Children's has some support in this area, but is not able to address the significant community need.
   - Physicians say their patients with Medicaid coverage have the greatest difficulty being seen for mental health issues.
   - The need is being managed through referrals out of market, or in private offices with counsel from Cincinnati/Columbus resources.
   - Medication management and general mental health treatment is occurring in pediatric physician offices until patients can be seen, sometimes months later, by a specialist.
2. *Obesity* is the second most frequently mentioned issue among physicians. Most physicians interviewed mentioned the Lipid Clinic at Dayton Children's as positive support for the medical community. However, physicians say that compliance and continued management is difficult because home lifestyle and family/generational habits cannot be changed easily, or without the patients wanting to make a change.
   - Some physicians believe increased local education to families about obesity and weight management is an important first step to managing regional obesity trends. Specifically, physicians of urban and/or Medicaid populations believe parents are uneducated about what defines healthy weight and therefore, are not aware that their family is obese.
   - Some physicians believe the Medicaid population has greater challenges in addressing obesity due to environmental issues, such as the cost of healthy food and limited exercise options.
   - Physicians believe while some resources are accessible in the Dayton region for obesity treatment, the scope of care could be expanded to increase accessibility, address the total family and include exercise programs.
   - Many physicians consider obesity to be a symptom of greater societal issues that the health care system cannot resolve on its own.
3. *Accessibility* was also mentioned as a significant concern among physicians interviewed.
   - Physicians expect an increase in demand at health care centers and practices that accept Medicaid due to the expansion of Medicare and the Affordable Care Act in general. However, they do not anticipate an increase in providers to meet this increased demand within the Dayton region.
   - Physicians believe access to specialists is a general concern for the region.
   - Access to primary care is a continuing challenge for the underserved and Medicaid populations.

Additional learnings

In addition to the above three community health needs consistently discussed (mental health, obesity, access to care), physicians responded to specific questions related to infectious disease management, asthma and injuries. In addition to feedback on these three areas of care, some physicians also discussed the Medical Home concept as a growing need within the community. Physician feedback was consistent; no other health issues were mentioned by more than one or two respondents within the survey.

1. Infectious Disease Management/Vaccination Compliance: When asked about infectious disease management, all physicians interviewed say the needs of the Dayton community are being addressed adequately within their offices. All physicians interviewed say they have high compliance rates within their practices. HPV and flu vaccinations are occasionally questioned or waived by patients, and physicians are working during regular visits to educate families about the benefits of these two vaccines specifically.
2. Asthma management and treatment: When asked about asthma management for their patients, most physicians interviewed believe their practices are sufficiently meeting the needs of the Dayton community. Educating parents about the appropriate use of medications is cited by many physicians as a challenge in working with asthma patients.
3. Injuries: When asked about potential community needs for injuries, physicians interviewed say their patients are receiving appropriate care and education for this health topic. More parents come to the office educated on concussion concerns due to recent educational efforts across the state of Ohio.
4. Medical home concept: Some physicians discussed the importance of the Medical Home in order to improve general community health.

Conclusions/recommendations

Based on the input of physicians interviewed for this research, mental health care needs can be enhanced in the Dayton region by offering mental health medication management training to physicians to address short term mental health demands, while developing a plan to increase psychiatrist availability and access long-term.

In addition to addressing the gaps in Dayton's mental health care, Dayton Children's may have an opportunity to address obesity beyond its already robust programming in this area by developing exercise programs or partnering with others who can offer this service, such as YMCAs.

Overall access to care among underserved/Medicaid populations continues to be a challenge within the Dayton community. Dayton Children's can consider joint efforts with area community centers and Medicaid partners to identify opportunities to enhance access to care collaboratively.

Parent Focus Groups

Dayton Children's

Prepared by Hoover Consulting, Inc.

Parent focus groups

Below summarizes key learnings, conclusions and recommendations based on focus group research conducted with Greater Dayton area parents on April 17, 2014. The objectives of this research were as follows:

- Understand barriers to receiving pediatric health care and identify potential opportunities to improve access.
- Understand and prioritize barriers to engaging in general health practices, including vaccinations, healthy eating behaviors, mental health management and accidental injury prevention measures.

The learnings from this research will be used to inform decision making via Children's implementation strategy as required by the Affordable Care Act.

Research methodology

Thirty respondents were recruited by L2MR based on a list of prescreened parents who participated in a region-wide internet/phone based quantitative study and who agreed to be contacted about participation in a subsequent focus group study. Parents participated in three groups of 5-8 respondents each, based on children's age: younger than 6 years, 6-10 years, 11-14 years. All participants are decision makers for their children's health care needs. Parents from across the region were included in this survey, with varied household incomes (above and below FPL), number of children, zip codes and gender represented. However, parents from suburban areas were primarily represented in these groups.

Liese Hoover facilitated as a third party researcher during each pre-scheduled 90 minute focus group discussion. Respondents are aware that the sponsor of the study is Dayton Children's Hospital and that the purpose of the interview is to assess pediatric needs in the Dayton area as required by the Affordable Care Act. All respondents received a $50 Speedway gift card for participation.

Summary

Based on feedback from parents of children across the three age groups, the Dayton area has five opportunities to enhance health care in the region:

1. Age-specific messaging/education: Parents of children younger than 11 may be more receptive to nutrition, exercise and accident prevention messaging than parents of older children because they are focused on child-raising concerns that center around these issues. Parents of preadolescent children may be more receptive to messaging about social and self-esteem development.
2. Encouraging exercise through outdoor activity: Parents across all age groups strongly correlate active lifestyles and exercise with outdoor activities. Messages that educate and promote opportunities around the region to spend time outdoors (parks, etc.) may resonate with parents more specifically than statements generally promoting exercise.
3. Vaccination education: Some parents across all age groups are undecided about the necessity of elective vaccinations including flu and HPV. Although parents say that their pediatricians recommend these vaccines, additional education may be instrumental in encouraging greater acceptance.
4. Alternative methods for scheduling appointments with physician offices: Several parents across age groups are frustrated with the scheduling process. Providing an online or text messaging

option for scheduling appointments may increase the efficiency and usability of the scheduling system.

5. Enhance parental understanding of how ADHD and obesity are diagnosed: For both ADHD and obesity, several parents shared personal stories of physician advice they did not accept. In these cases, parents are skeptical that the physician truly understands their children's situations, and are concerned for their child being "labeled." Increased education to parents may increase acceptance of physician input and greater partnership with physicians for treatment.

In general, parents of preadolescent children tend to seek a pediatrician's advice less often than parents of children younger than 11 years of age. Parents of older children (11 to 14) tend to seek counsel from other parents or influencers in their children's lives (youth group leaders, teachers), whereas parents of younger children consult with pediatricians more frequently.

Specific results of the research are summarized within this report.

Key learnings

A. General health care behaviors:

Staying healthy is defined differently based on age of the child. As the child ages, parents move from concerns about physical needs, such as nutrition and accident prevention to concerns about mental and social health.

- Parents of younger children (younger than 6 years) are most concerned about providing a balanced diet for their children.
- Parents of younger children (younger 6 years) are also concerned with cleanliness and protection against germs more than other age groups.
- Parents of preadolescent children (6 to 10 years) define being healthy with instruction for their children on appropriate behaviors and making wise choices.
- Parents of adolescent children (11 to 14 years) define healthy and safe behavior in their children based on hygiene, mental health, and self-awareness.
- Parents of younger children (0 to 10 years) mention outside activities when discussing the importance of exercise. Parents of 11 to 14 year old children mention organized sports more than general outdoor activity/play.
- Some parents wish more unstructured play time and more frequent physical education in the schools were available to increase access to exercise for children.
- Managing 'screen time' is a concern for parents of children at all ages.

Respondents with children in all age groups say they take steps to prevent accidental injuries.

- Bike helmets are the most often cited safety equipment used by parents interviewed. Transitioning car seats appropriately is also a concern for parents of preadolescent children.
- Parents of preadolescent children counsel their children proactively about potential safety concerns to avoid injuries, then allow their children discretion/freedom to make choices.

All parents interviewed visit pediatricians, dentists and other health professionals regularly.

- Parents say regular check-ups keep them informed about developmental milestones while instilling healthy habits in their children.
- Preadolescent children are required to see a physician for annual physicals in order to participate in sports or youth organizations. This age group also can be seen more frequently for dental care because they have orthotics.

Nearly all parents vaccinate their children or will consider vaccinations (required, flu, HPV). However, vaccine safety and necessity are a concern for some parents across all ages, based on the specific vaccines available/required at each age.

- Parents interviewed are less likely to vaccinate their children annually for the flu, or as adolescents for HPV.
- Several parents are unsure these vaccines are necessary. Personal experience and recommendations from pediatricians/trusted friends influence parents' decisions about optional vaccinations for their children.

B. Barriers to health care access:

Most respondents believe they have adequate access to health care, but experience irritations with wait times and scheduling.

- Some parents are frustrated with the process of scheduling appointments over the phone.
- Many parents interviewed believe the urgent care clinic location change is inconvenient and has changed their urgent care visit habits.
- Some parents wish urgent care hours were more flexible.
- Some parents say access to specialists is limited and often requires long wait times for the appointment and in the waiting rooms.

C. Specific health concerns:

Most respondents are concerned about providing nutritional food to their children across all age groups.

- Parents prepare meals at home, pack lunches and limit snack items to "healthy options" as ways to manage nutrition for their children.
- Parents of older children say they emphasize nutrition and making wise choices at home in hopes that their children will make positive food choices when they with peers away from home.
- Parents across all age groups consider health foods to include fruits, vegetables, variety, and meals made at home and unprocessed.

Most respondents believe obesity and weight management is a widespread societal issue, but not one that applies directly to their family.

- Parents generally equate obesity with overeating, poor nutrition, and insufficient exercise and believe it is a growing concern and a preventable condition.
- Pediatricians have discussed potential weight issues with some parents interviewed. Most of these parents are monitoring rather than taking immediate action.
- Many parents believe body mass index (BMI) is an unfair or incomplete health measure.

Many parents across age groups have concerns about developmental and learning disabilities. The parents interviewed consistently seek advice from medical professionals on this subject and follow advice when provided.

Several parents interviewed have sought advice from medical professionals about social or behavioral issues for their children, but do not consistently agree with diagnoses or follow physician recommendations for treatment.

- Many parents believe ADHD is over-diagnosed in children and are therefore less likely to believe it applies for their own children.
- Parents of preadolescent children are primarily concerned with social and relational development among peers and focus on building self-esteem to support their children. Parents of children ages 11 to 14 seek advice from other parents rather than from pediatricians for social and behavioral concerns.
- Some parents say that finding help for mental health concerns is difficult.

Parents believe asthma can be a scary medical concern for which many adults, including educators, are unprepared to assist children.

D. Messaging to parents:

Some parents of 6 to 10 year old children have heard of the 5-2-1-0 Montgomery County campaign. However the majority of parents across all age groups are unaware of the program.

- Most parents guessed the 5-2-1-0 reference is part of a zip code, phone number or vaccination order.

Most parents seek health care advice from trusted personal sources including pediatricians, their own mothers or other family members, or friends with older children/more experience.
Parents also research information online, either by looking at multiple sites via search engines or looking at specific sites such as WedMD and NIH.

- Most parents feel it is difficult to navigate the Internet for credible health-related information.
- Most parents check the information they have learned with their pediatricians before taking action.

Conclusions/recommendations

Based on the input of parents interviewed for this research, Dayton Children's has an opportunity to enhance education and communication with parents on a number of health concerns, including topics such as obesity, behavioral health, vaccinations and exercise through outdoor activity. These specific areas of concern are important to parents across age groups.

Additionally, Dayton Children's can enhance accessibility of health care by developing new options for scheduling appointments that reduce parents' dependence on speaking with physician offices only via the telephone.

While many opportunities exist to enhance health care for specific patients, this research revealed the areas of concern above as universal to parents across all children's age groups (ages 0 to 14). Additionally, research findings show that parents of specific age groups will be receptive to targeted messaging about age-specific health issues. For example, food choices, accident prevention/safety, and exercise opportunities may be most relevant for parents of children younger than 11 years. However, parents of children ages 11 to 14 may be most interested in health messages regarding social, self-awareness and making responsible choices for their children.

Implementation Plan

Dayton Children's

Implementation Plan

The Community Health Needs Assessment (CHNA) covers many health and safety topics and is intended to provide community health advocates, including Dayton Children's, insights into the health and well-being of our region's children. These insights enable our community to identify top areas of concern and to develop or refine programs to improve the health status of all children through community benefit investments.

The Dayton Children's CHNA team reviewed the data from all four data collection segments and then rated the needs against criteria including prevalence, seriousness (hospitalization and/or death), impacts on other health issues, urgency, prevention, economics/feasibility, acceptability and resources.

The needs and subsequent priority listing that surfaced are as follows:

Priority 1: Nutrition education/childhood obesity

- In the 2014 survey, 41 percent of children were identified as overweight or obese.
- The majority of parents of overweight and obese children do not perceive their children as having any weight problem. Ten percent of parents of obese children believe that their child is underweight and only 5 percent of those parents correctly identify their child as being "very overweight."
- Nearly all physicians believe obesity is a significant medical issue within Dayton, and particularly within the underserved/Medicaid population.

Priority 2: Mental health

- Mental disorders are the most common inpatient discharge diagnosis for youth ages 5 to 14.
- Fifteen percent of parents named chronic and congenital conditions that concern them. Of those fifteen percent, 25 percent chose developmental or learning disabilities and a top choice and 24 percent chose autism as a top chronic or congenital concern.
- Inadequate number of resources for the number of pediatric patients needing mental health support.

Priority 3: Infant mortality/unsafe sleep practices

- The regional infant mortality rate was substantially lower than the State's rate over most of the study period then climbed up to the State rate in more recent years.
- Sleep-related deaths are a large contributor to infant mortality. According to the Ohio Child Fatality Review, 2007-2011, forty-one percent of infant deaths from 1 month to 1 year are sleep related.
- In that same report, the 819 infant sleep-related deaths accounted for 15 percent of the 5,418 total reviews for infant deaths from 2007 to 2011, more than any single cause of death except prematurity.
- In Montgomery County alone, 16.67 percent of the infant deaths in 2012 were related to sleep-related incidents.

Priority 4: Asthma/respiratory disorders

- The rate per 100,000 infants diagnosed in the ER with respiratory system disorders is increasing over time.
- There are increasing rates of discharge diagnoses for asthma in children ages 5 to 14.

- There are statistically significantly higher rates for children living under 200 percent of poverty to be prescribed asthma medications (14 percent) versus those above 200 percent of poverty.
- Overall, 12 percent of children live in a household in which someone smokes cigarettes. Households with smokers are twice as likely to fall below 200 percent of the federal poverty level. Non-smoking households are significantly more likely to have children who are of healthy weight for their age, gender and height than are households with smokers.
- Educating parents about the appropriate use of medications is cited by many physicians as a challenge in working with asthma patients.

Priority 5: Injury prevention

- Accidental injury was the top health and safety concern identified by parents (41 percent)
- The unintentional injuries category tops the list of ER discharge diagnoses for children ages 5 to 14.
- Seventy-five percent of all parents in 2014 favor a law in Ohio that would require all children 16 years old and younger to wear a helmet when riding a bicycle.

Priority 6: Infectious disease management/vaccination compliance

- Greater compliance needed with vaccination recommendations.
- Parents in households with incomes under 200 percent of the federal poverty level were slightly less likely to agree that vaccinations are important and necessary and slightly more likely to distrust their safety.
- For children ages 5-14, there are increasing rates of discharge diagnoses for infectious and parasitic diseases.

Priority 7: Access to care/health costs

- Children from households below 200 percent of poverty are significantly less likely to have a regular doctor or to have visited a doctor within the last 6 months.
- Changes in health care delivery (Affordable Care Act, community center management) will increase existing challenges for the Medicaid population to receive timely and geographically accessible care and health care coverage in general.

The CHNA team, with the help of additional subject matter experts and project owners, created an implementation plan for each of the top three priority areas. Each implementation plan outlines goals and strategies for the next three years.

Three-Year Plan: Priority 1 - Childhood Obesity and Nutrition Education

2014-2015 Goals

- Reach 80,000 children and parents with healthy lifestyle messages through the Kohl's a Minute for Kids media program.
- Increase the number of health care professionals receiving education to address childhood obesity from 12 per month to 16 per month.
- Increase the number of children/families receiving education to manage obesity and nutrition concerns from 60 patients per month to 80 patients per month through dietetic liaison program.

Strategies

- Complete Healthy Way Initiative Strategic Plan.
- Evaluate pilot dietetic liaison program for key referring practices.
- Develop and pilot inpatient intervention techniques based on researched methods including scripting and tools for nurses, dietitians and providers to communicate healthy practices to families.
- Focus *Kohl's A Minute for Kids* media campaign on healthy habits messaging.
- Collaborate with the WPAFB Body Shop program to take steps toward research and grant solicitation.
- Publically support and participate in community-wide efforts to increase access to community gardens and farmer's markets.

2015-2016 Goals

- Increase the number of health care professionals receiving education to address childhood obesity from 16 per month to 18 per month.
- Increase the number of children/families receiving education to manage obesity and nutrition concerns from 80 patients per month to 100 patients per month through dietetic liaison program.

Strategies

- Continue execution of the Healthy Way Initiative Strategic Plan.
- Develop intervention program for outpatient services.
- Develop educational opportunities and resources for referring physicians and health care providers around the issues of healthy portions, weight management sleep, stress management and physical activity.
- Adjust dietetic liaison program for key referring practices based on any lessons learned.
- Publically support and participate in community-wide efforts to increase access to community gardens and farmer's markets.

2016-2017 Goals

- Increase the number of health care professionals receiving education to address childhood obesity from 18 per month to 20 per month.
- Increase the number of children/families receiving education to manage obesity and nutrition concerns from 100 patients per month to 120 patients per month through dietetic liaison program.

Strategies

- Continue execution of the Healthy Way Initiative Strategic Plan.
- Develop intervention program for outpatient services.
- Develop educational opportunities and resources for referring physicians and health care providers around the issues of healthy portions, weight management sleep, stress management and physical activity.
- Publically support and participate in community-wide efforts to increase access to community gardens and farmer's markets.

Three-Year Plan: Priority 1 - Childhood Obesity and Nutrition Education

Current and potential partners

- Boy and Girl Scouts
- Boys and Girls Club
- Churches
- Community Transformation Grant (Montgomery County)
- County health department/district initiatives
- Creating Healthy Communities (Montgomery County)
- Culinary arts programs
- Day cares
- Department of Agriculture
- GetUp Montgomery County (Montgomery County)
- Grocery stores
- Libraries
- Media
- Parks and recreation facilities
- Primary care physicians/pediatricians
- Schools and colleges/universities
- WPAFB
- YMCA

Three-Year Plan: Priority 2 - Mental Health

2014-2015 Goals

- Increase the number of visits for pediatric psychiatry services from 400 to 3,000 per year by the end of FY 2014-2015.
- In conjunction with community partners, complete and implement a three-year strategic plan to meet the high priority mental health needs of our community.

Priority areas part of the strategic plan to include:

- Establishing a regional Pediatric Mental Health Advisory Alliance to improve collaboration among care providers to reduce gaps in service.
- Providing a centralized center for stabilizing children suffering a mental health crisis.
- Improving access to psychiatric consultation and care for children with complex medical and mental health conditions.
- Empowering the primary care physicians to assume more care for children with mental health issues, in particular those patients with lower acuity.
- Developing an autism diagnostic and resource center.

2015-2016 Goals

- Increase the number of visits for pediatric psychiatry services based upon need and resources.

Priority areas part of the strategic plan to include:

- Establishing a regional Pediatric Mental Health Advisory Alliance to improve collaboration among care providers to reduce gaps in service.
- Providing a centralized center for stabilizing children suffering a mental health crisis.
- Improving access to psychiatric consultation and care for children with complex medical and mental health conditions.
- Empowering the primary care physicians to assume more care for children with mental health issues, in particular those patients with lower acuity.
- Developing an autism diagnostic and resource center.
- Ensure community, especially referring physicians, are aware of new and coordinated resources.

2016-2017 Goals

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- Developing an autism diagnostic and resource center.
- Ensure community, especially referring physicians, are aware of new and coordinated resources.

Three-Year Plan: Priority 2 - Mental Health

Current and potential partners

- ADAMHS Board (Montgomery County)
- Board of Mental Health
- CareHouse and other local child advocacy centers
- Children's services boards
- Churches
- Community Mental Health Centers
- Day cares
- County health departments
- Fetal Alcohol Syndrome Disorders Task Force
- Job and Family Services
- Juvenile Court
- Kettering Behavioral Medicine Center
- Media
- Mental Health and Recovery Board of Clark, Greene and Madison Counties
- Montgomery County Board of Developmental Disabilities Services
- Ohio Minds Matter
- Other mental health providers for children
- Primary care physicians
- Regional Center for Handicapped Children
- Schools
- United Rehabilitation Services
- University of Dayton Urban Child Development Resource Center
- Wright State University – Department of Psychiatry, School of Professional Psychology

Three-Year Plan: Priority 3 – Infant Mortality/Unsafe Sleep Practices

2014-2015 Goals

- Increase parents of patients younger than 6 months receiving education from 84 percent to 90 percent.
- Decrease infant deaths related to unsafe sleep practices from 16.67 percent (2012) to 10 percent.

Strategies

- Provide parent education for all parents with children younger than 6 months old regarding the ABCs of safe sleep.
- Educate community through health fairs and community events about safe sleep practices.
- Complete a hospital positioning policy to model safe sleep.
- Develop Cribs for Kids pack n play distribution program.
- Continue public awareness about Ohio's ranking for infant mortality and possible solutions.
- Explore opportunities to partner with regional and statewide organizations on issues surrounding infant mortality and unsafe sleep prevention to share and learn best practices.

2015-2016 Goals

- Increase parents of patients younger than 6 months receiving education from 90 percent to 95 percent.
- Decrease infant deaths related to unsafe sleep practices from 16.67 percent (2012) to 10 percent.

Strategies

- Provide parent education for all parents with children younger than 6 months old regarding the ABCs of safe sleep.
- Educate community through health fairs and community events about safe sleep practices.
- Launch hospital positioning policy to model safe sleep.
- Market and execute Cribs for Kids pack n play distribution program specifically targeting communities using geocoding to identify where the problem is most prevalent.
- Continue public awareness about Ohio's ranking for infant mortality and possible solutions.
- Explore opportunities to partner with regional and statewide organizations on issues surrounding infant mortality and unsafe sleep prevention to share and learn best practices.

2016-2017 Goals

- Eliminate infant deaths related to unsafe sleep practices by 2017.
- Increase parents of patients younger than 6 months receiving education from 95 percent to 100 percent.

Strategies

- Provide parent education for all parents with children younger than 6 months old regarding the ABCs of safe sleep.
- Educate community through health fairs and community events about safe sleep practices.
- Market and execute Cribs for Kids pack n play distribution program specifically targeting communities using geocoding to identify where the problem is most prevalent.
- Explore opportunities to partner with regional and statewide organizations on issues surrounding infant mortality and unsafe sleep prevention to share and learn best practices.

Three-Year Plan: Priority 3 – Infant Mortality/Unsafe Sleep Practices

Current and potential partners

- Birthing centers
- County Child Fatality Review Boards
- March of Dimes
- Media
- Montgomery County Infant Mortality Coalition
- OB/GYN's
- Ohio American Academy of Pediatrics
- Ohio Collaborative to Prevent Infant Mortality
- Ohio Department of Health
- Organization serving pregnant women and young mothers
- Organizations serving pregnant and parenting teens
- Primary care physicians/pediatricians
- Public Health (prenatal and maternal/child health services)
- State Senators Jones and Tavares

The assessment also identified additional needs including asthma/respiratory disorders, injury prevention, infectious disease management/vaccination compliance and access to primary care/health care costs. While not the focus areas of our implementation plan, these issues will be monitored and addressed where possible.

This assessment meets all of the new federal requirements of the Affordable Care Act (ACA). Oversight, input and approval was given by the Board of Trustees Advocacy Committee and was approved by the Board of Trustees in June 2014. In accordance with federal requirements, this report is made widely available to the public on our website at www.childrensdayton.org.

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