COMMUNITY HEALTH NEEDS ASSESSMENT

For Children's Hospital of The King's Daughters
Prepared by Toxcel, LLC

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Children's Hospital of The King's Daughters would like to thank all of the families, community members, and partners who participated and contributed to this Community Health Needs Assessment.

Thanks to the many individuals who participated in the Community Survey for taking the time to thoughtfully contribute their experiences and knowledge to the process.

Thanks to the following organizations for sharing their expertise, experience, time, thoughts, and vast knowledge of community needs: Accomack County Public Schools, Accomack Social Services, Albemarle Smart Start, CHKD Care Connection for Children, Catholic Charities, Chesapeake Department of Human Services and their Division of Community Programs, Children & Youth Partnership for Dare County, Chowan County Cooperative Extension Service, Chowan Perquimans Smart Start, Crater Health District, Currituck County Department of Social Services, Dare County Department of Public Health, Eastern Shore Rural Health Systems, Inc., Gates County Schools, Gloucester County Public Schools, Hampton Healthy Families of the Department of Health & Human Services, Hampton Center for Child & Family Services, Isle of Wight County Social Services, James City Community Services Department, Kids First Inc. of Northeast North Carolina, Lutheran Family Services of Virginia, Nueva Vida Iglesia, The Planning Council, Portsmouth Public Schools, Southampton Department of Social Services, Suffolk Department of Health, Valverde & Rowell, Virginia League for Planned Parenthood, Virginia Premier Health Plan Inc., WIC of Three Rivers Health District, Williamsburg Health Foundation, and York-Poquoson Social Services.

CHILDREN'S HOSPITAL OF THE KING'S DAUGHTERS COMMUNITY HEALTH NEEDS ASSESSMENT

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BACKGROUND

Overview of Children's Hospital of The King's Daughters (CHKD)

CHKD is Virginia's only freestanding children's hospital and it is the heart of a comprehensive pediatric healthcare system. CHKD Health System services are unique to the region in that they are exclusively dedicated to children and thus often meet pressing public health needs that would otherwise go unmet. The hospital is home to the region's only pediatric emergency room, the area's largest and most sophisticated neonatal and pediatric intensive care units, a transitional care unit and Virginia's only acute inpatient rehabilitation unit.

In addition to its inpatient services, CHKD is home to more than 25 pediatric sub-specialty programs that care for children with chronic illnesses like asthma and diabetes. The Health System's Surgery Group includes more than 20 pediatric surgeons in six specialties, including cardiac surgery, neurosurgery, orthopedic surgery, pediatric general surgery, plastic and reconstructive surgery and urology. With approximately 3000 employees, CHKD offers a full range of pediatric-trained clinical and support staff who are exclusively dedicated to the care and well-being of children.

CHKD improves access to care through locations as far north as the Middle Peninsula, as far west as Williamsburg and as far south as Elizabeth City, North Carolina. It has 18 pediatric practices, some with multiple office locations. In total, there are pediatric practices in 28 different locations and 10 additional locations see patients for therapy and clinical visits. CHKD also has two health and surgery centers in addition to its home base at the main hospital. In 2015, CHKD added Urgent Care with multiple locations planned in order to provide after-hours care.

Purpose and Scope of Assessment

The Patient Protection and Affordable Care Act (also called the Affordable Care Act) requires non-profit hospitals to conduct a community health needs assessment, prioritize health needs, and adopt an implementation plan designed to address priorities identified every three years. From November 2015 to April 2016, CHKD conducted a community health needs assessment (CHNA) with support from Toxcel, LLC, a Gainesville, Virginia-based science, engineering and health research and consulting firm. This joint CHNA covers all three licensed facilities associated within the CHKD Health System: Children's Hospital of The King's Daughters (CHKD) located in Norfolk and CHKD's two Health and Surgery Centers, one at Oyster Point in Newport News and one at Princess Anne in Virginia Beach.

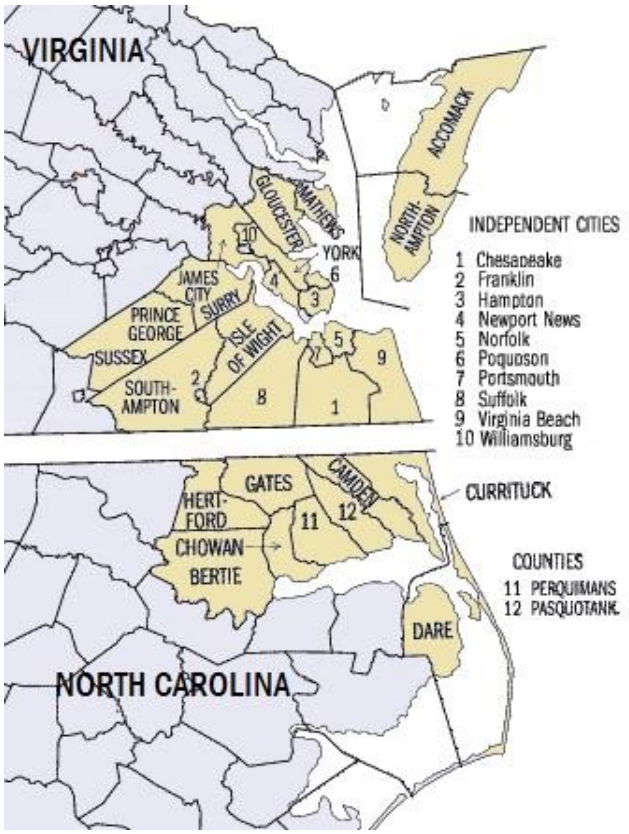


Figure 1: Study Region: Community Served by CHKD

CHKD's CHNA provides an overview of the primary and secondary data used to identify key health issues within the CHKD community. It combines and compares results from three sources: a Community Health Survey, key stakeholder interviews, and health indicator analyses. Based on the key health issues identified through these sources, CHKD identified one main priority – children's mental/behavioral health -- to develop an implementation plan around in order to target resources and programs to improve health outcomes over the next three years. This document describes the CHNA process, summarizes the key health issues identified, details the prioritization process, and highlights CHKD's priorities.

Definition of Community Served

The CHNA encompasses 29 localities in Virginia and North Carolina that are identified as CHKD's primary service region (Figure 1). The total population of the study region is nearly 1.98 million people, of whom 565,171 were children ages 0-21**.** The CHKD community is defined through analysis of patient records, geography of the region, and the location of their facilities.

PROCESS AND METHODS

CHKD's Community Health Needs Assessment process included collecting information, feedback, data, and priorities from three different sources: a Community Health Survey, key stakeholder interviews and health indicator analyses. The following sections include a summary of the data and information gathered from each source, a description of how the data was obtained, and the manner in which community and public health feedback was incorporated.

Key Stakeholder Interviews

In order to gain a deeper appreciation for issues that affect children's health and key health priorities, Toxcel conducted key stakeholder interviews with service providers across the CHKD community from January 2016 to March 2016. The Toxcel Team worked with CHKD to develop an engagement plan that identified key stakeholders, partners and organizations who represent the broad interests of the CHKD community, including: a) Local health and social service department representatives; b) Individuals or organizations serving members of medically underserved, low-income and minority populations in the community; c) School counselors and nurses from local school systems; and d) Health providers who offer services for children and families.

Thirty-seven stakeholders participated in interviews to share their experiences and insight into local health needs for children and youth (see Appendix A for a full analysis of the stakeholder interviews including a list of organizations who participated and interview protocol). Stakeholders were identified for all the localities within the CHKD community; those with a regional perspective were specifically targeted. Respondents included social workers, school nurses, a truant officer, an immigration lawyer, health departments, WIC, people who work with children across the age span, Medicaid representatives, CHKD's Care Connection, a county extension 4-H agent, a therapist who specializes in trauma, a private foundation that coordinates grants to local agencies, Family Services supervisors, a Catholic Charities Family Life Education coordinator, free- and low-cost medical care providers and kindergarten-readiness professionals.

Each stakeholder spent approximately 20-30 minutes during a phone interview describing local health needs. They provided information, experiences, ideas and context for CHKD to consider in its health improvement planning. Every stakeholder interviewed was asked to identify health priorities for their community based on their experience. The interviewer transcribed participants' words verbatim, reading back quotes and phrases as needed to clarify phrasing and intent. A qualitative analysis was then conducted to identify themes, key issues and priorities raised by the key stakeholders.

Community Health Survey

In order to provide a broad opportunity for CHKD partners, fellow service providers and the CHKD community to share their opinions about health priorities and needs, a Community Health Survey was conducted across the region. CHKD conducted the survey in partnership with Bon Secours, another regional health care provider who was conducting their CHNA at the same time. It included questions about social determinants (including the social and physical environment that influences health and residents' ability to seek services), service provision, the needs of specific population groups and health priorities. There were 1,703 total survey participants with 1,496 participants completing all of the required questions.

The survey was conducted from November 2015 to February 2016. It was available online and could be completed on paper in both English and Spanish. It was distributed widely via Bon Secours and CHKD networks as well as their partners' networks. Surveys were disseminated at meetings, clinics and programs, as well as through physician and provider networks. It was also distributed at conferences, including CHKD's Annual Chronic Illness Conference where more than 200 surveys were completed by health and service providers across the region. This group was especially important, providing a strong understanding of the needs of the medically underserved, low-income and minority communities.

In March 2016, Toxcel analyzed the survey results using Excel. Overall, the participants represented a nice blend of perspectives across race and income. Sixty-three percent of the respondents were white, twenty-five percent were black, and five percent identified as Latino or Hispanic. This is reflective of the racial demographics of the study region. There is an even representation of survey participants across income brackets; 17% of the participants are in the lowest income bracket and report earning between $0 and $24,999. The majority of the participants (85%) were female. Nearly half of the survey participants (48%) have a four year degree or higher in comparison to only 24% of residents within the study area.

Since the Community Health Survey was a regional survey conducted in partnership with another health system, the majority of the responses reflect the adult and pediatric services and needs of the region. There were a couple pediatric specific questions added to the survey CHKD circulated to its stakeholders. Toxcel looked at the differences between overall responses and the CHKD only responses and found that overall the results were very similar. The top three priorities – mental health, jobs with fair wages, and homelessness – were the same. In the CHKD responses, childhood obesity and child abuse/neglect were both ranked higher. In addition, places to play and the environment were prioritized instead of drugs and alcohol and housing.

Additional information characterizing survey participants and a full analysis of each question included in the Community Health Survey can be found in Appendix B.

Key Health Indicators: Local and Regional Data Analysis
Toxcel conducted an analysis of key health indicators in order to understand the community health status of residents. When possible, health indicators were investigated by locality in order to understand where greater health disparities existed within the CHKD community. Statewide averages were included in graph analyses in order to provide a means for comparison.

Toxcel utilized national, state and private data sources. Health indicator data sources included the United States Census Bureau, United States Department of Agriculture, the Centers for Disease Control and Prevention, County Health Rankings, as well as state departments of Health, Education, and Social Services in Virginia and North Carolina. In addition, CHKD provided hospital discharge rates through a private firm, Truven Market Expert.

A full analysis of the health indicators is included in Appendix C. Key health issues were identified based on areas where localities within the CHKD community had worse rates or percentages in comparison to Virginia or North Carolina.

Identifying Significant Health Needs

After compiling all of the results from the key stakeholder interviews, Community Health Survey and health indicator analyses, Toxcel identified areas of significant health needs that were consistent across data sources. Significant health needs were identified based on whether: 1) a number of localities in the CHKD region had worse rates or percentages in comparison to Virginia or North Carolina; and 2) key stakeholders, partners and community residents prioritized or expressed major concern about the issue. Any issue (e.g., childhood obesity) that was identified by at least two or more of the data sources was considered a "significant health need." The significant health needs included:

- Mental/behavioral health
- Childhood obesity, including nutrition and physical activity
- Child abuse and neglect, including parent education
- Access to primary and specialty care
- Sexual health, including STIs and teen pregnancy
- Barriers to accessing services and programs, including child care, silos, and transportation
- Dental health
- Social determinants, including unemployment, crime, and education

After reviewing the data and findings, CHKD decided to include **Infant Health and Mortality** as a significant health need as well, given the severity of the health issue highlighted through health indicator analyses. Infant health and mortality was an issue that CHKD prioritized in its previous CHNA and Implementation Plan and thus felt it would be important to provide sustainability and continuity to its efforts already underway.

Social Determinants of Health

Social determinants of health – including poverty, unemployment, crime and education – were all identified as having a large impact on the health of individuals, their families and the community.

> *"Knowledge and information play a role, but so does economics. We had a baby in our center who…had orange soda in a bottle. Mom said it was 99 cents for a 2-liter bottle of soda, and $3.50 for milk. Based on her income, she bought the soda. These kinds of things…set people up for failure: the healthy choices cost more, but unhealthy choices cost our society more in the long run."*
>
> -- Director of a kindergarten readiness program

Poverty and Unemployment

Poverty and unemployment are contributing factors to local health needs. Figure 2 (on the following page) illustrates the top fifteen priorities selected by Community Health Survey participants when they were asked to prioritize health issues; Jobs with Fair Wages is among the top three. Analyses of health indicators show high poverty rates in a number of localities, including several locations with poverty rates over 35% (see Figure 3). Localities in rural Virginia and North Carolina, in particular, experience high rates of poverty. During the Stakeholder Interviews, poverty played a part in many of the listed health concerns because it creates increased stress and reduces a family's ability to engage in healthy behaviors. In addition, stakeholders mentioned unemployment (in families who formerly had adequate wages) as a source of stress among families who had no experience with accessing social services.

Figure 2: Top Fifteen Priorities Identified by Community Health Survey Participants

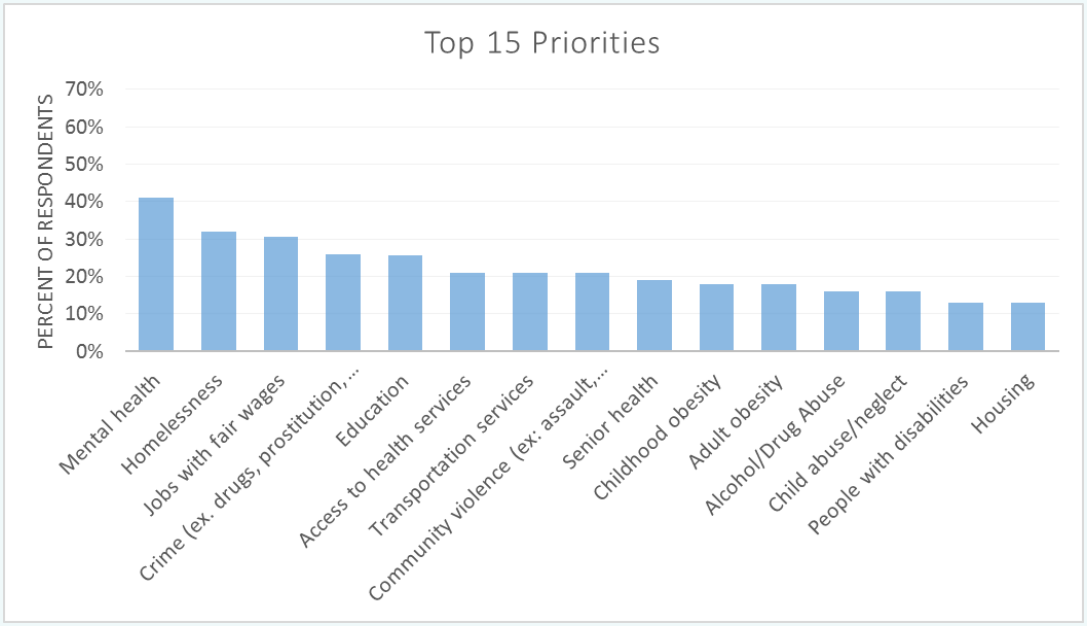
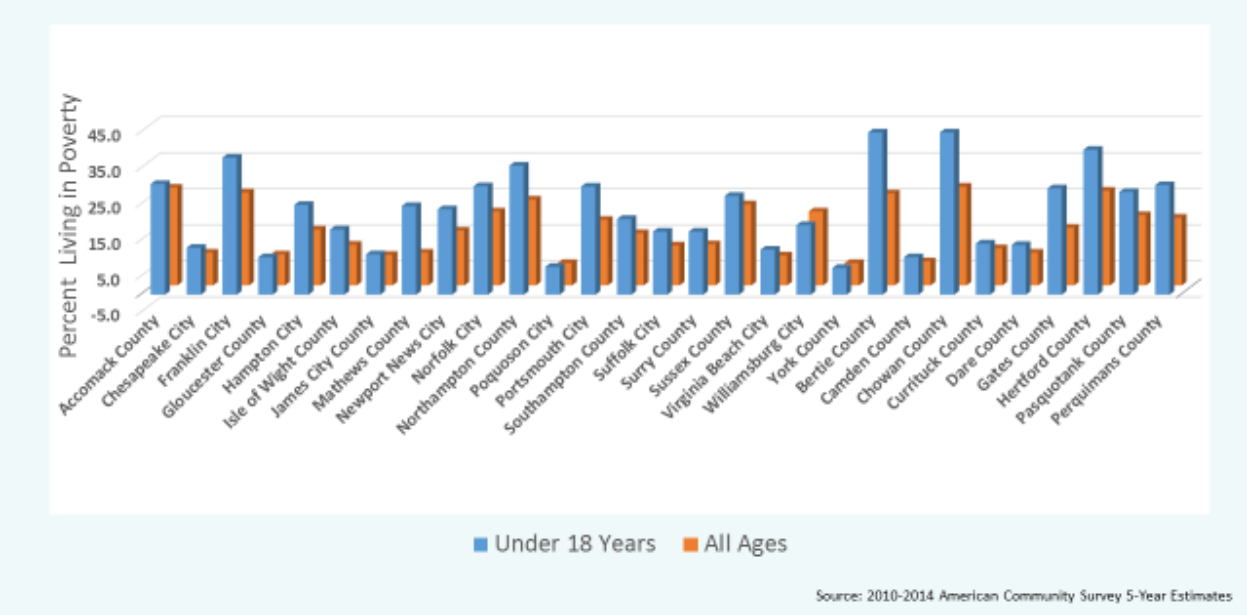
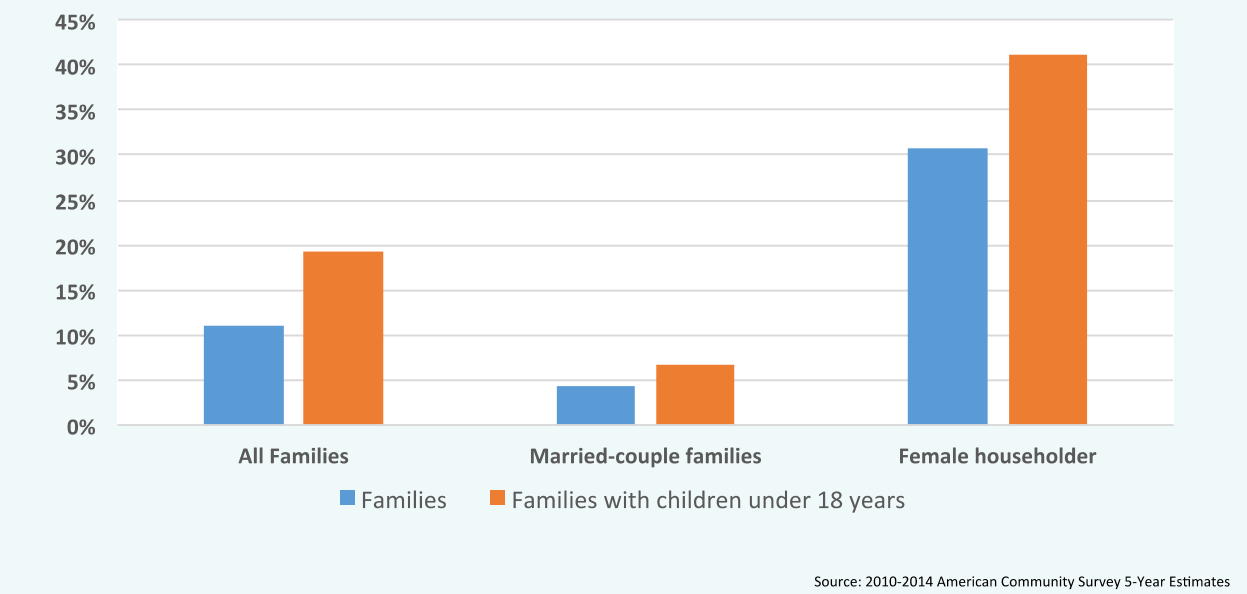


Figure 3: Percent of Population Living in Poverty by Location, 2014



Poverty and unemployment have the strongest impact on families with children, particularly in single-parent households. As shown in the health indicator analyses in Figure 4, in the survey region, families below poverty level are disproportionately headed by single women. Over 40% of families below the poverty level are female headed households with children. A lack of financial resources makes families and children more vulnerable, exacerbating all other issues and impacting families' ability to access care, utilize care effectively and follow up appropriately.

Figure 4: *Percent Families in the Survey Region below Poverty Level by Family Type, 2014*



Crime

Crime was a major concern for participants in the Community Health Survey and stakeholder interviews. Crime is a complicated problem with myriad causes and effects. Children who are victims of or witnesses to crime are particularly vulnerable and have a high need for services. "We've served kids who have directly witnessed murders [and other violence]," said a director of a child advocacy organization.

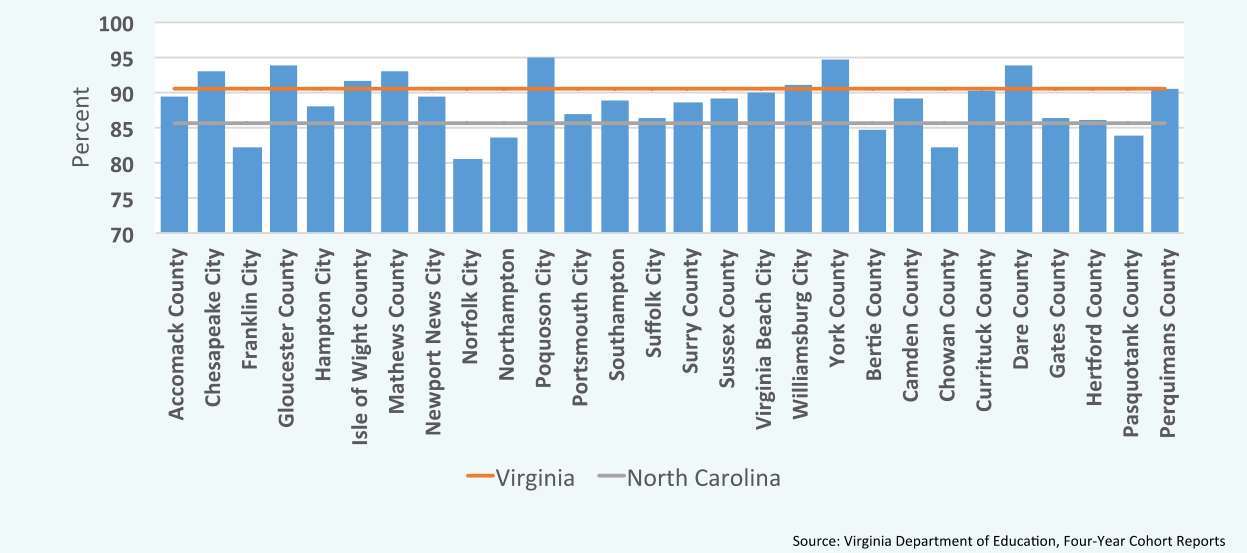
Crime also affects children indirectly in many ways. For example, "Crime reduces access to parks, and stops kids from being able to play outside [safely]," said a community health supervisor, "and the neighborhood affects their image of themselves and their choices."

> *"We serve children who have been removed from their homes, who have been in foster care, who have seen substance abuse, whose parents are incarcerated."*
>
> --Professional in a faith-based organization

Education

Education emerged among the top 15 priorities in the Community Health Survey. As shown by the health indicators in Figure 5, some localities posted low 4-year graduation rates and many locations show low proportions of students with Individualized Education Plans (IEPs)[1] who graduate with a regular diploma (see Figure 6). In the stakeholder interviews, education was mentioned as a need, with teacher turnover and school programs mentioned in particular. **Education also surfaced in the stakeholder interviews as a need for parent education in a number of topic areas, including child development, nutrition, obesity prevention, physical activity and child behavior management.**

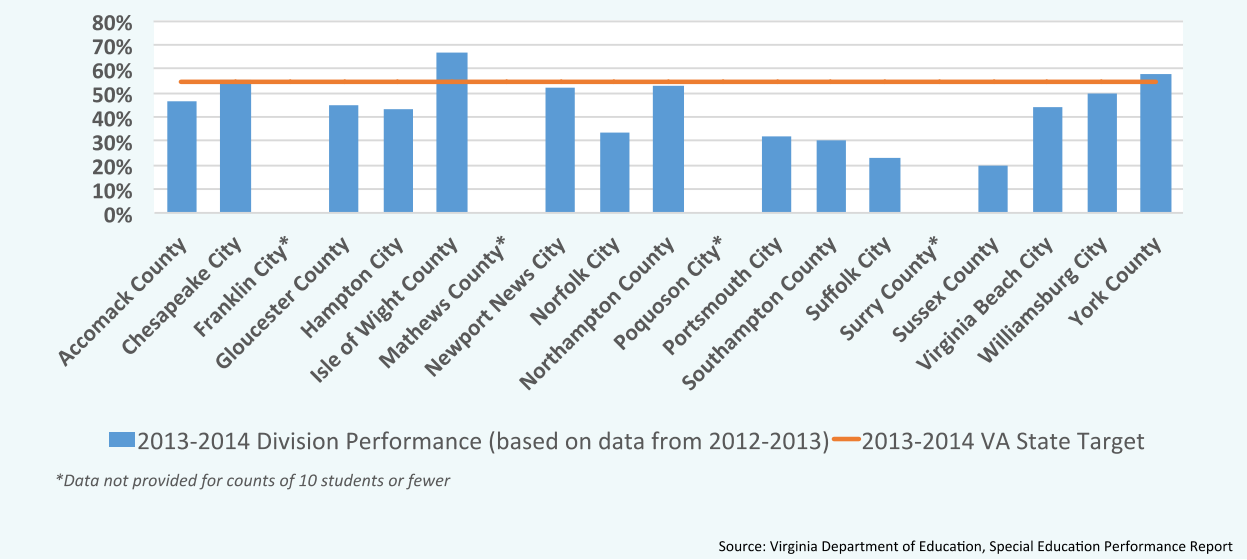
Figure 5: Percent of Students who Graduated on Time (4 years) by Location, 2015



Source: Virginia Department of Education, Four-Year Cohort Reports

[1] All students who receive special education services are required to have an IEP

Figure 6: Percent of Youth with IEPs graduating from High School with a Regular Diploma, 2013-2014 Division Performance



**Data not provided for counts of 10 students or fewer*

Source: Virginia Department of Education, Special Education Performance Report

Mental Health and Behavioral Health

Mental health and behavioral health were overwhelmingly reported as a local health need and emerged as a top priority in all three data sources. Stakeholders tended to use "Behavioral Health" as an umbrella term to describe services including psychiatry, psychology, therapy and medication geared toward the treatment of a range of conditions including autism, ADHD, depression, anxiety, anger management, reactions to trauma and abuse, and more.

> *"Child psychiatry waiting lists are months long."*
>
> --Director of a child health organization

In the Community Health Survey, mental health was prioritized first among the top 15 health issues (Figure 2). Participants provided the most negative responses to the statement, "My community is a healthy place for children because there are good mental health services for children" (Figure 7).

In the health indicator analyses, the most common DRG Product Lines for Inpatient Discharges involved psychiatry for all age groups age five and older (see Figure 8), while Mental Health Provider ratios remain very low across the area as a whole (see Figure 9). While a number of the localities in the study region have lower ratios than their state average, Gates, Isle of Wight, Mathews and Sussex Counties are most affected by a shortage of mental health providers.

This evidence shows that although the need is strong, providers are rare. In the interviews, stakeholders overwhelmingly reported a lack of behavioral health services for children and young people. Services are needed for all ages, including school age children and adolescents.

Figure 7: Community Health Survey Question -
My Community is a Healthy Place for Children Because:

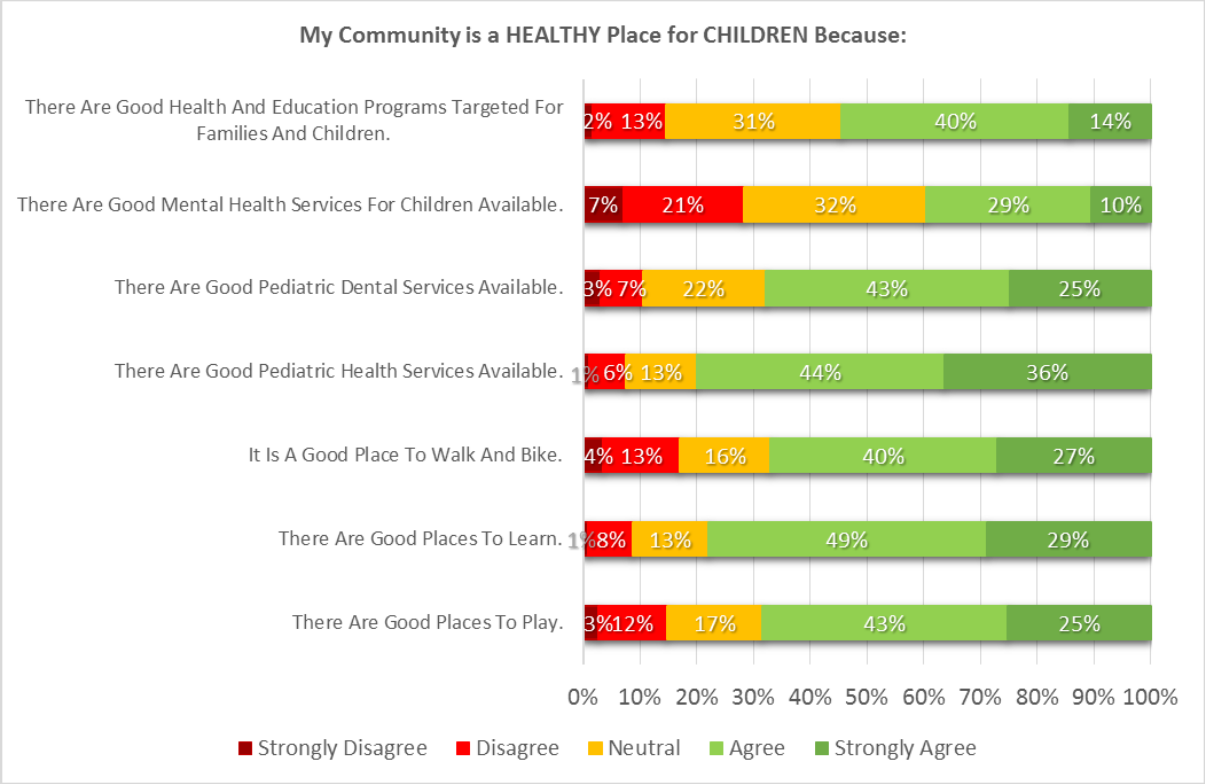
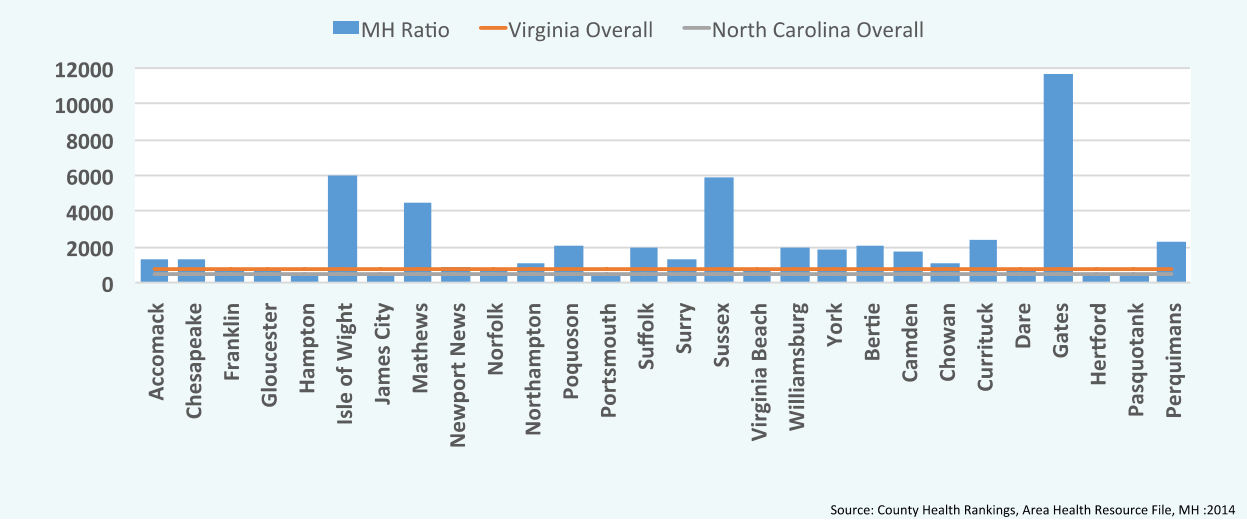


Figure 8: Four Most Common DRG Product Lines for Inpatient Discharges within each Age Group

	0-4 years	5-9 years	10-14 years	15-17 years
1	**Pulmonary Medical**	**General Medicine**	**Psychiatry**	**Psychiatry**
Percentage of Age Group	**49.08%**	**26.26%**	**33.59%**	**31.36%**
Count	40164	938	1677	1862
2	**Rehabilitation**	**Pulmonary Medical**	**General medicine**	**Obstetrics Del**
Percentage of Age Group	**17.02%**	**19.71%**	**19.75%**	**18.83%**
Count	13931	704	986	1118
3	**Normal Newborns**	**Psychiatry**	**Orthopedics**	**General Medicine**
Percentage of Age Group	**13.65%**	**12.01%**	**10.15%**	**16.27%**
Count	11167	429	507	966
4	**Neonatology**	**General Surgery**	**General Surgery**	**General Surgery**
Percentage of Age Group	**9.51%**	**9.35%**	**9.41%**	**6.85%**
Count	7783	334	470	407

Source: Truven Market Expert, Dates: January 2012 – June 2015

Figure 9: Mental Health Provider Ratios (ratio of population to number of providers)



Childhood Obesity

Childhood obesity, nutrition and physical activity represent a constellation of social, financial, educational, and cultural factors that negatively impact children's health. **The entangled set of issues surrounding childhood obesity was identified as a priority in the Community Health Survey and the stakeholder interviews.** In the survey, the issue was prioritized among the top 15 issues of concern (Figure 2). In the stakeholder interviews, respondents described an ever-increasing rate of obesity among local children, and expressed concern over the associated health risks.

> *"We're watching them fall off a cliff and trying to catch them at the bottom, instead of catching them before they fall."*
>
> -- School health coordinator

Stakeholders emphasized the need for prevention and early intervention; obesity is easier to prevent than to treat.

Weight is a sensitive issue and obesity can be hard to address for a variety of reasons. Cultural expectations vary, parents may lack knowledge and motivation, and parents may themselves be obese and not know how to encourage their children to maintain a healthy weight.

> *"Write on a prescription pad, 'Exercise 30 minutes a day, three times a week.' And follow up! Checking 'obesity' on a chart and sending kids home does not accomplish anything."*
>
> -- School health coordinator

The co-occurrence of hunger and obesity may seem contradictory, but the two issues can be concurrent. "It's one of the effects of food insecurity," explained a community health supervisor.

Child Abuse and Neglect

Child abuse and neglect were identified in all three data sources. In the Community Health Survey, participants prioritized child abuse and neglect among the top 15 priorities (Figure 2). In the health indicators, child abuse and neglect investigations (see Figures 10 and 11) revealed high rates of investigations in some local areas, particularly in Mathews County and Norfolk in Virginia and in Chowan and Currituck Counties in North Carolina.

Figure 10: Rates of Child Abuse and Neglect in Completed Founded Investigations – Virginia, 2013[2]

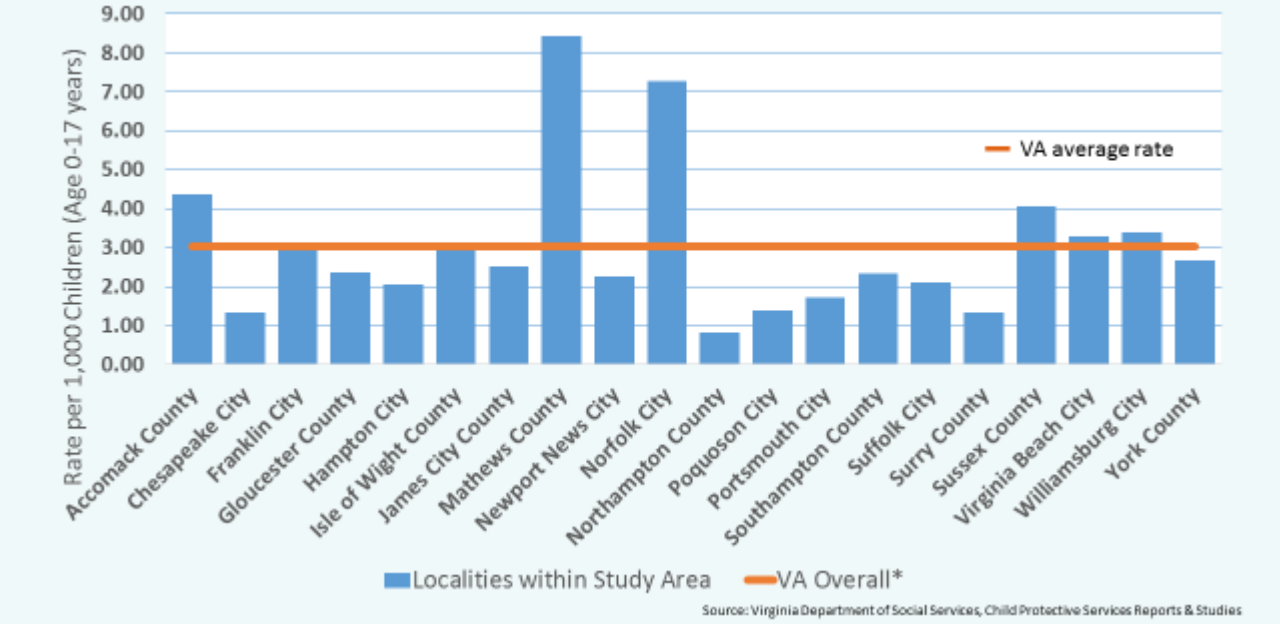
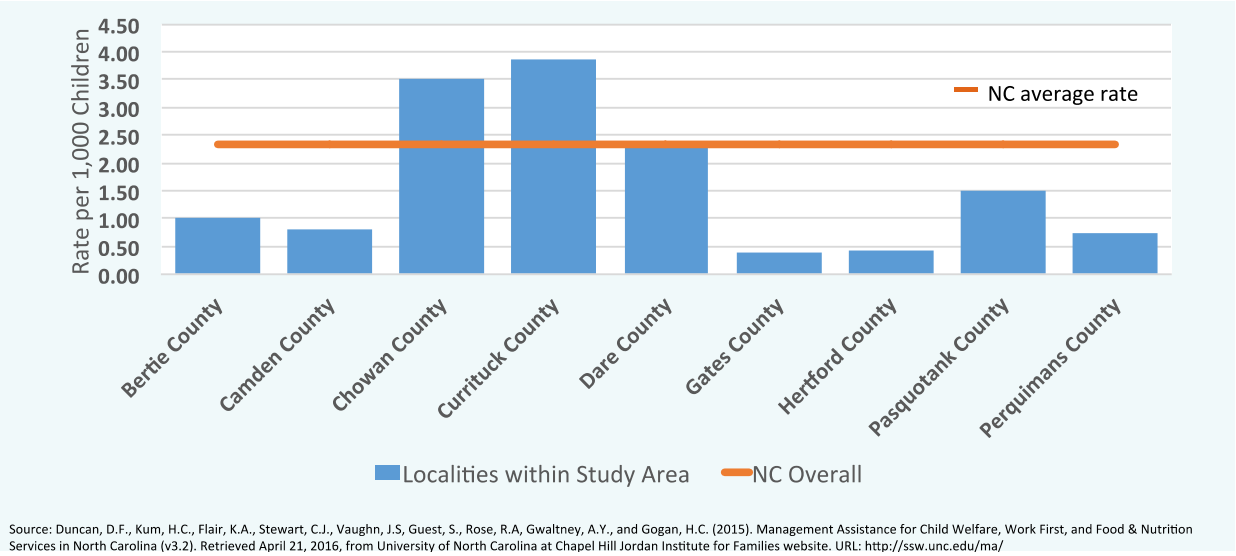


Figure 11: Number of Children with Investigated Reports of Abuse and Neglect, North Carolina 2013



Source: Duncan, D.F., Kum, H.C., Flair, K.A., Stewart, C.J., Vaughn, J.S, Guest, S., Rose, R.A, Gwaltney, A.Y., and Gogan, H.C. (2015). Management Assistance for Child Welfare, Work First, and Food & Nutrition Services in North Carolina (v3.2). Retrieved April 21, 2016, from University of North Carolina at Chapel Hill Jordan Institute for Families website. URL: http://ssw.unc.edu/ma/

[2] The "VA Overall*" rate was not directly provided in the data. This rate was calculated by using the "Abuse & Neglect - Completed Founded Investigations (by locality).xls" spreadsheet for 2013. – found by taking the sum of Abuse/Neglect Victims in Founded Investigations for every locality, and dividing by the sum of Population Aged 0-17 years for every locality.

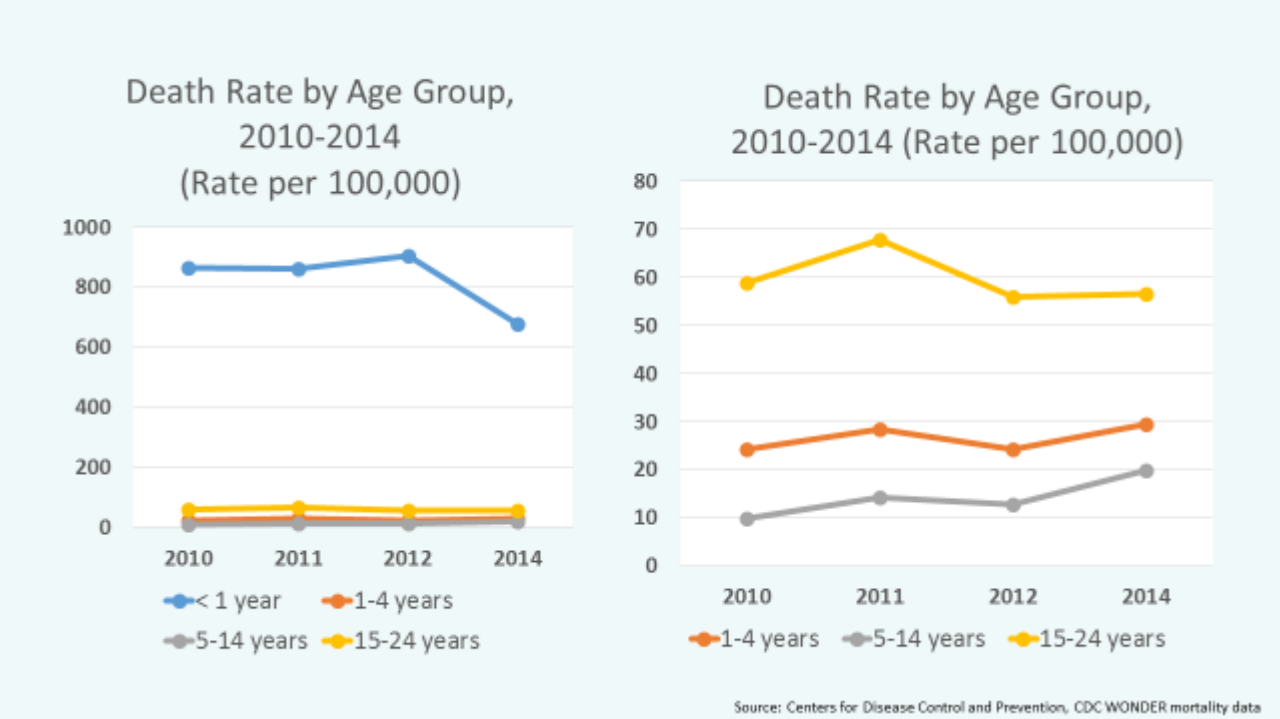
In key stakeholder interviews, the issue turned up in a variety of contexts. Stakeholders noted the use of physical violence as a disciplinary method across multiple cultural groups and requested parent education in more appropriate child behavior management techniques. Stakeholders also described children witnessing and experiencing physical abuse.

Stakeholders viewed child abuse and neglect as a complex issue, involving financial factors (i.e., the need for affordable, available child care), educational factors (i.e., the need for knowledge of child development and the ability to call upon methods other than corporal punishment) and cultural factors (i.e., some cultural subgroups do not question physical violence against children).

Infant Health and Mortality

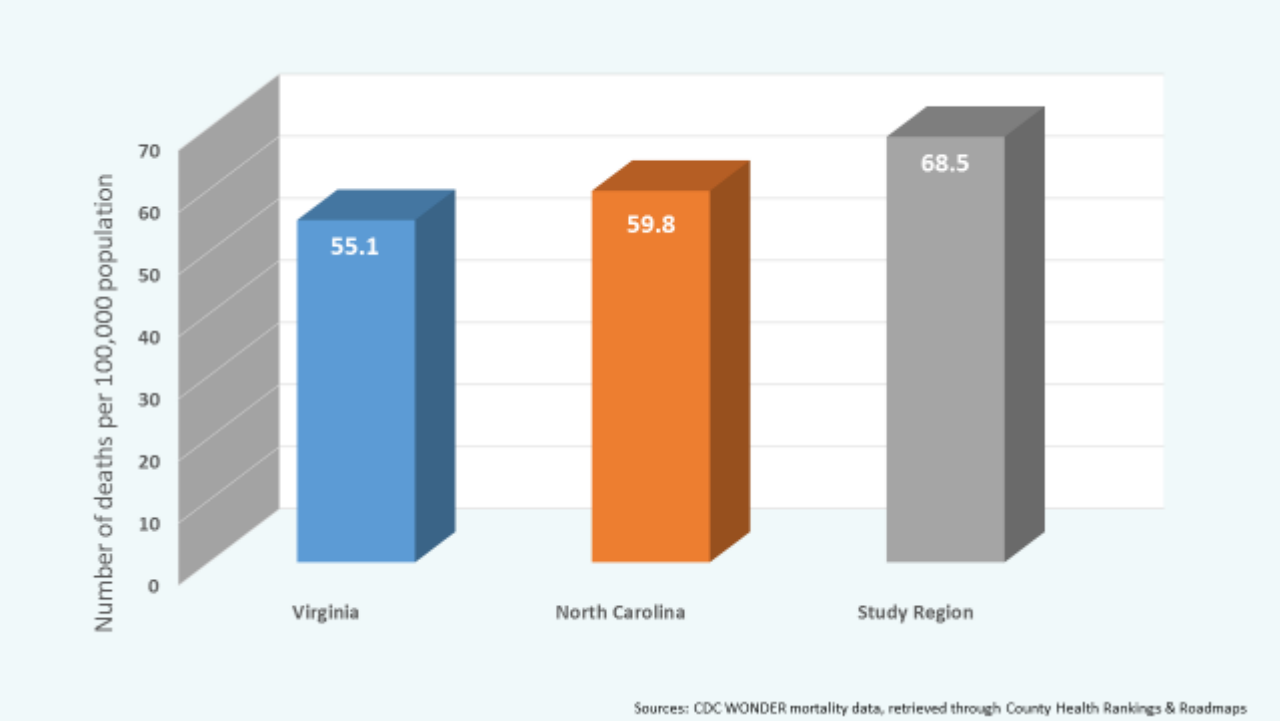
The health indicators revealed a need for continued attention to infant health and mortality. The study region has seen substantial improvement in infant mortality (See Figure 12). Since 2012, the infant mortality rate (per 100,000) fell from 904.4 to 677.2. However, mortality of infants is still far higher than that of older children when compared to the statewide rates in Virginia or North Carolina. The study region overall posts higher child mortality rates (per 100,000) for all children, not just infants (see Figure 13). The average child mortality rate for the study region is 68.5 compared to Virginia's child mortality rate of 55.1 and North Carolina's mortality rate of 59.8.

Figure 12: Death Rate by Age Group, 2010-2014 (Rate per 100,000)[3]



[3] Note: Rates for 2013 are not provided because some were listed as "unreliable" by data providers.

Figure 13: Child Mortality Rate (under age 18), 2009 – 2012 (Rate per 100,000)



Sexual Health

Key stakeholders that were interviewed identified sexual health as a regional health need. They included high rates of teen pregnancy and STI/HIV infection as areas of concern. While teen pregnancy rates in the study region are decreasing, following national trends, they are decreasing at nearly half the rate of North Carolina and Virginia overall (see Figure 14).

> *"We know…factors [leading to high HIV rates] are poverty, lack of services, lack of education and opportunities, lack of access to prevention programs….."*
>
> -- Educator in a healthcare organization

Health indicator analyses confirmed rising HIV and other STI rates in Virginia and North Carolina (see Figures 15 and 16). Data for STIs include adolescents and adults as data for age groups is available in overall statewide counts, but not by locality. Given the high rates of STIs in the study area, this data was included even though it reflects numbers of youth and adults. Norfolk and Portsmouth consistently have the highest STI rates of the region. Additional rates of STI infections by locality are found in the health indicator analysis in Appendix C. The majority are higher than the state average.

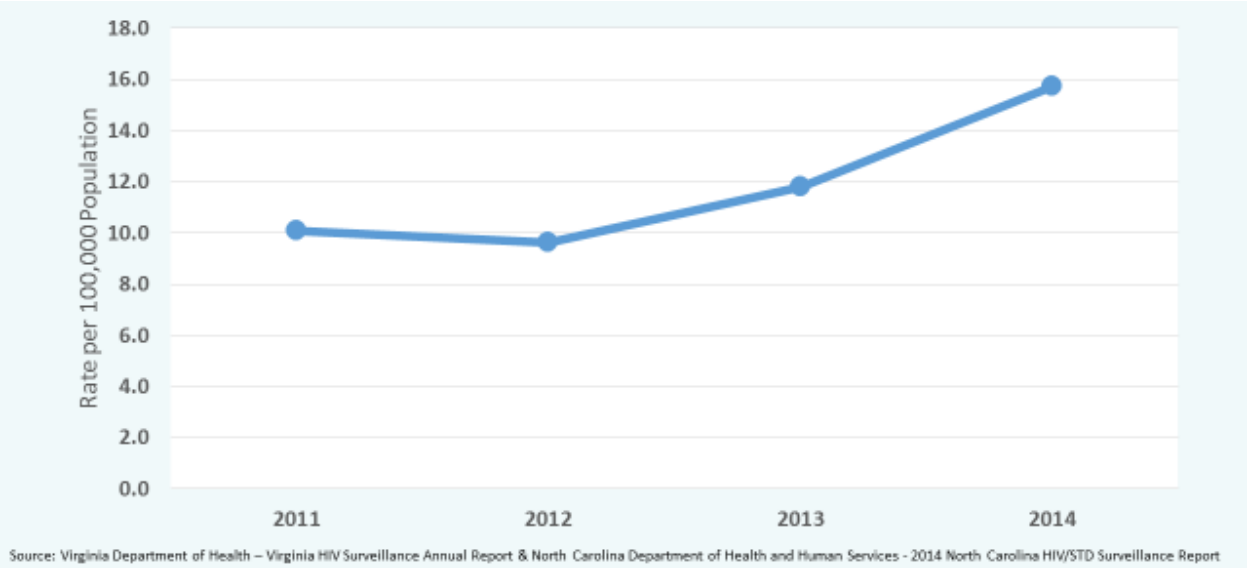
Teen pregnancy, untreated STIs, and HIV are all associated with poor health outcomes. The issues are difficult to address, and racial and cultural barriers complicate efforts further. Prevention, education, testing and treatment are viewed as important needs, and stakeholders advise that these efforts must be culturally sensitive and treat people with dignity.

Figure 14: Counts of Teen Pregnancy by Year, 20 11 & 2013

	Study Region			Virginia			North Carolina		
	2011	2013	% Change	2011	2013	% Change	2011	2013	% Change
Total Teen Pregnancies (ages 10-19)	3016	2657	-11.9%	9630	7447	-22.7%	14164	11360	-19.8%
Total Live Births to Teens (ages 10-19)	1962	1520	-22.5%	6572	5316	-19.1%	11207	9145	-18.4%
15-19	1941	1512	-22.1%	6515	5281	-18.9%	11061	9017	-18.5%
10-15	21	8	-61.9%	57	35	-38.6%	146	128	-12.3%

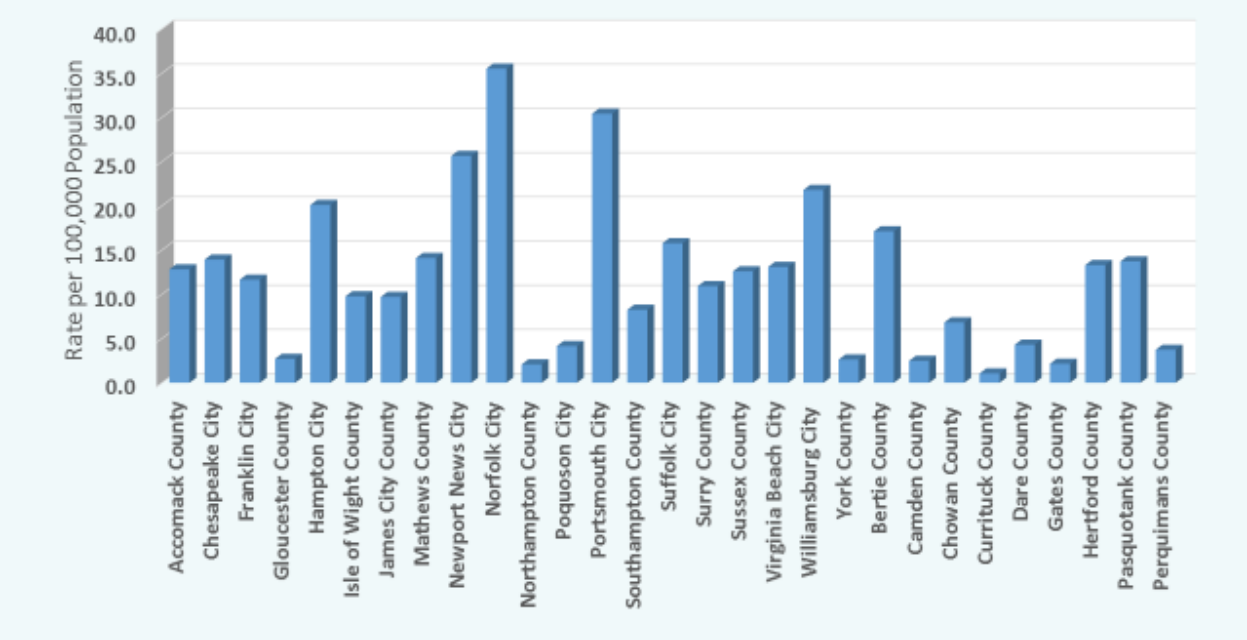
Sources: Virginia Department of Health & North Carolina State Center for Health Statistics

Figure 15: Average Rate of HIV Diagnoses by Year in the Study Region (Rate per 100,000), 2011-2014



Source: Virginia Department of Health – Virginia HIV Surveillance Annual Report & North Carolina Department of Health and Human Services - 2014 North Carolina HIV/STD Surveillance Report

Figure 16: Average Rate of HIV Diagnoses by Locality (Rate per 100,000), 2011-2014

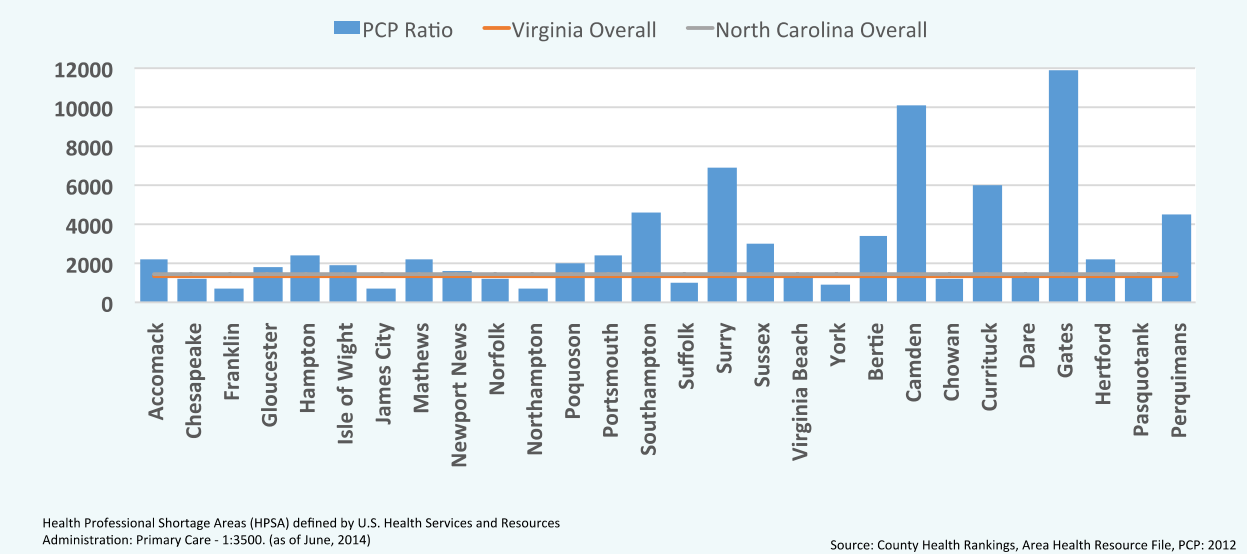


Access to Primary and Specialty Care

All three data sources highlight the need for primary and specialty care, especially in rural areas. In the Community Health Survey, participants prioritized access to health services among the top 15 priorities (see Figure 2). The ratio of the population to the number of primary care physicians is low in many of the outlying areas, particularly in rural North Carolina. The counties of Southampton, Surry, Camden, Currituck, Gates and Perquimans are health professional shortage areas. While the Community Health Survey responses could reflect the needs for adult and pediatric care, stakeholders interviewed underscored the need for access to pediatric services particularly in rural areas.

> *"No pediatricians [practice] in this area."*
>
> -- School nurse in rural county

Figure 17: Primary Care Physician Ratios (ratio of population to number of providers)



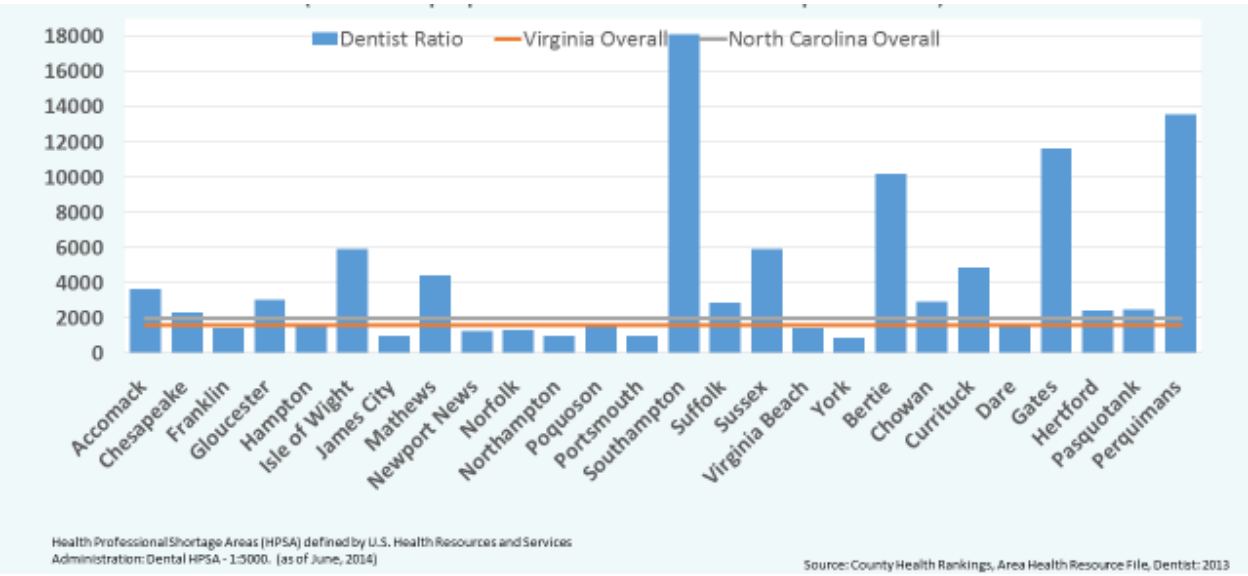
> *"Access to medical care is an issue…In an area of 1400 square miles, we have only three urgent care centers."*
>
> -- Rural health department

Key stakeholders also identified primary and specialty care as a need in rural areas. Combined with transportation issues, the lack of primary and specialty care can prevent families from receiving appropriate care and from following up on care received at a distant hospital such as CHKD.

Dental Care

There is also a need for dental care in rural areas, especially in Southampton County in Virginia, and Bertie, Gates, and Perquimans Counties in North Carolina (see Figure 18 for dentist ratios). In interviews, stakeholders explained that adequate dental care requires available, affordable care coupled with parental awareness and motivation to seek care.

Figure 18: Dentist Ratios (ratio of population to number of providers)



Barriers to Accessing Services and Programs: Child Care, Silos, and Transportation

In interviews, key stakeholders highlighted a number of barriers to care. The lack of child care presents an obstacle for many families, interfering with their ability to access health care and services and to participate in programs such as parenting classes. Organizations tend to operate in silos, requiring vulnerable families to locate and coordinate resources from a variety of locations, agencies and systems. Navigating these resources can be complex and confusing. Programs such as CHKD's Care Connection for Children address this issue with a coordinated approach. Some other organizations (e.g., St. Gregory, the Christian Outreach Program) offer families local assistance in identifying and accessing resources. These types of services are viewed as extremely helpful, though not widely available.

"Transportation is a prerequisite for [all health care]."

"If the drive is impossible, those services are not accessible."

"If the kids can't get around, it shuts everything else down. Transportation that is accessible, available, financially reasonable, would open a lot of doors."

Transportation emerged as a consistent theme, even in urban areas. Transportation is viewed as critical and is frequently cited as the single most important issue for all aspects of health care. Transportation directly affects families' ability to apply for assistance, access care, attend programs and follow up effectively.

Prioritizing Significant Health Needs

Participants from the Community Health Survey and key stakeholder interviews were asked to identify what they felt were the top health priorities. Their priorities are outlined in Table 1.

Table 1: Priorities identified by Key Stakeholders, including Public Health Providers and Community

Community Health Survey Priorities	Key Stakeholder Interview Priorities
• Mental/behavioral health • Homelessness • Jobs with fair wages • Crime (e.g., drugs, prostitution) • Education • Access to health services • Transportation Services • Community violence (e.g., assault, homicide) • Senior health • Childhood obesity • Adult obesity • Alcohol/drug abuse • Child abuse/neglect • People with disabilities • Housing	• Mental/Behavioral health • Childhood obesity (including focus on nutrition and physical activity) • Access to care • Educational programs for parents (specifically parent education and nutrition) • Transportation • Programs and activities for youth

In the next step of the prioritization process, CHKD leaders reviewed results from all three data sources, as well as the priorities identified in Table 1, to determine the best focus for its implementation plan to improve the health of children throughout its service region.

Individuals and groups involved in this process included the following:

- The hospital's senior leadership team, which includes its CEO president and vice presidents, who provided knowledge of the organization's mission and vision, its scope of services and its ability to assign resources to meet emerging as well as established needs.
- CHKD physician leaders, who offered insight into the immediate and long-term health implications of the identified needs for our children, our families and our community as a whole.
- CHKD's Parent and Family Advisory Council, which includes parents of current and former patients and patients themselves who have experienced CHKD services firsthand. This volunteer council assured community input and feedback during the prioritization process.

The groups above were asked to prioritize the identified needs according to the following criteria:

- Fit within CHKD's mission, goals and scope of service
- Community ranking of importance
- Degree to which CHKD has the resources needed to address the issue

The results of CHKD's internal prioritization process mirrored those of the Community Health Survey and key stakeholder interviews. **There was strong consensus that CHKD should focus its implementation plan on pediatric mental/behavioral health.** The groups noted that addressing pediatric mental/behavioral health would have a positive effect on pediatric health and well-being overall,

affecting multiple other identified health needs, such as violence, crime, substance abuse and, as our pediatric population grows older, child abuse and neglect.

The Stakeholders tasked with priority setting also recognized the organization's commitment to other top issues, including access to care, childhood obesity, neonatal care and child abuse, and thus CHKD will continue to dedicate resources toward those community health needs. Since these were all part of CHKD's 2013 Implementation Plan, programs and services are already in place to address those needs.

Resources to Address Priorities

CHKD will address the significant health needs identified through its three licensed health care facilities located in Norfolk, Virginia Beach and Newport News. Specific programs that will offer services to meet identified needs include the hospital's programs in mental/behavioral health, child abuse, pediatric weight management and community outreach and parenting education.

The hospital is an eager collaborator with other community organizations and institutions that share its concern for the well-being of young people and offers a variety of education, research and health initiatives to improve the health and well-being of children in its community and beyond. Community collaboration with local private and public schools, Community Services Boards, social services, Hampton Roads Parenting Education Network and health departments will also be coordinated and leveraged to address significant needs.

CHKD will outline a detailed strategy to address these priorities in its implementation plan.

Impact from CHKD's 2013-2015 Implementation Plan

CHKD has already demonstrated its ability to create positive change through intentional planning and creative, action-oriented solutions.

In its 2013 Implementation Plan, CHKD identified four priorities and outlined action steps for the following three years. The priorities included:

- Child abuse
- Childhood obesity
- Infant mortality/morbidity
- Health promotion and prevention

Key achievements and successes over the last three years for each of these issues are outlined in the following sections.

Child Abuse

CHKD's Child Abuse Program coordinates the region's efforts to accurately identify, treat and protect children who have been suspected of abuse or neglect. The program provides comprehensive assessment, evaluation and treatment services, including an array of evidence-based mental health services, forensic interviewing, medical examinations and consultations,

which include 24/7 coverage of acute sexual assaults of children. The program also helps coordinate the efforts of investigative agencies involved in the investigation and prosecution of abuse. In FY14, children made 3,645 visits to the Child Abuse Program. In FY15, children made 4,371 visits to the program, at an almost 20 percent increase. In addition to the main Center in Norfolk, services are also available at CHKD's outpatient centers in Virginia Beach and Newport News.

Childhood Obesity

To address childhood obesity, CHKD provides a multi-disciplinary pediatric weight management program for children between 3 and 16 years of age. Called "Healthy You for Life," the program offers clinical and psychosocial evaluation and planning, ongoing classes to help overweight youth and their parents make lifestyle changes and follow up clinics for up to a year. The exercise component of the program is strengthened by an exercise specialist who conducts personal training sessions as well as group fitness classes for the whole family. Exercise opportunities listed on our fitness calendar are available weekdays and weekends around the Hampton Roads region to enhance patient's ability to embrace a healthier lifestyle. We also have a regional partnership with the YMCA which offers families a six-week trial membership once they have completed the eight-week lifestyle class. The Healthy You for Life program offers individual counseling sessions, use of multi-media communication such as e-mails and text messages and, in FY15, CHKD included a Facebook page as a way to keep connected with our patients and encourage positive lifestyle changes. In FY14, 260 patients generated 584 clinic visits. In FY15, 341 patients generated 925 clinic visits. This represents a 31% increase in patients, and a 58% increase in clinic visits.

CHKD's diabetes education program helps approximately 1,300 local children who live with the chronic disease. Two certified diabetes educators, a social worker, nurse and department coordinator help patients and families at the onset of the disease and until adulthood. The Diabetes Center provides inpatient and outpatient clinical management, diabetes education, support groups, and professional and community education programs. A transition program helps the older teens and young adults begin transferring care to adult providers in the community. In FY14, children made 756 visits to the Diabetes Center. In FY15, children made 675 visits to the Diabetes Center.

Infant Mortality and Morbidity

CHKD is home to the region's highest level Neonatal Intensive Care Unit, where each year critically ill newborns, some as young as 23 weeks gestation, benefit from a unique combination of advanced medical technology, developmental care and family support. From 2012 to 2014, the death rate (per 100,000) for children less than one year old in CHKD's study region decreased from 904.4 to 677.2.

Our hospital has 206 inpatient beds, of which 62 are for neonatal intensive care. There were approximately 500 admissions to the NICU in FY14 and FY15. The hospital also operates a Neonatal Step-Down Unit for babies from our NICU who require a transitional period before being discharged home.

In FY14, CHKD's transport team brought 1,180 patients to CHKD and 1,392 patients were transported in FY15. Two hundred and seventy-eight newborns were transported to our Neonatal Intensive Care Unit in FY14 and 366 came in FY15, representing a 32% increase. CHKD's transport service is also under contract to the Naval Medical Center, Portsmouth, to provide all neonatal and pediatric military

transports in the region. Besides ground transports in our Mobile ICUs, the team responds via fixed-wing aircraft or helicopter transport when medically necessary.

Families of NICU patients meet weekly to share information; and our recreation-based group for brothers and sisters of children with special needs -- called SibShops -- meets regularly to support siblings.

Health Promotion and Prevention

CHKD reaches families in their homes, doctors' offices, neighborhoods and community centers with a wide variety of programs and publications that promote wellness, prevent injuries, and strengthen families.

Our Division of Community Health and Research has focused on conditions and issues impacting children's health with an emphasis on health disparities in the cities of the Hampton Roads region, western Tidewater, and the rural Eastern Shore. Current areas of emphasis include childhood obesity, asthma, immunization, infant and child passenger safety, teen alcohol abuse, electronic cigarettes and autism.

In FY14, our community outreach experts coordinated a total of 390 parent, professional, and student programs or media appearances that brought important health, safety and wellness information to more than 42,091 participants. In FY15, a total of 426 parent, professional, and student programs or media appearances brought important health, safety and wellness information to more than 45,542 participants. This represents a 9% increase in programs and media appearances provided as well as an 8% increase in participants reached.

Through the Kohl's Cares funding, the Kohl's FitKids program and educational materials reached more than 20, 944 families in FY14. Through the same funding in FY15, the Kohl's Kind Kids program and educational materials reached 27,969 of the 45,542 families in the community.

2013 Implementation Plan Feedback

CHKD sought feedback and comments from the public on its 2013 Implementation Plan by posting the plan on its website and sending out notices via social media. No comments were received.

Appendix A: Key Stakeholder Interview Analysis
Joint Community Health Needs Assessment

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The King's Daughters

April 2016

Participating Organizations

Thanks to the Following Organizations
For sharing their expertise, experience, time, thoughts, and vast knowledge of the subject area.

Accomack County Public Schools
Accomack Social Services
Albemarle Smart Start: Works with families and child care providers to assist children 0-8 to be healthy and prepared for school.
Care Connection for Children, a Program of CHKD
Catholic Charities: Works to strengthen families and promote healthy living
Center for Child & Family Services: Provides behavioral health services, including trauma services
Chesapeake Department of Human Services, Division of Community Programs: Connects citizens with resources
Children & Youth Partnership for Dare County : Works to ensure the well-being of children, birth through adolescence
Chowan County Cooperative Extension Service: Teaches necessary life skills to youth
Chowan Perquimans Smart Start: Works with families to maximize early childhood development and school readiness
Crater Health District, Virginia Department of Health
Currituck County Department of Social Services
Dare County Department of Public Health
Eastern Shore Rural Health Systems, Inc.: Community health center
Gates County Schools
Gloucester County Public Schools
Hampton Healthy Families, Department of Health & Human Services: Focuses on prevention efforts to ensure children are born healthy and are able to enter kindergarten, ready to learn and be successful
Isle of Wight County Social Services
James City County Community Services Department: Provides temporary assistance for needy families
Kids First Inc., Northeast North Carolina: Child advocacy center
Lutheran Family Services of Virginia: Empowers families to lead healthy lives; works with foster care programs
Nueva Vida Iglesia: Spanish-language faith-based organization. Works with documented and undocumented immigrant families.
The Planning Council : Works within the community to improve quality of life
Portsmouth Public Schools
Southampton Department of Social Services
Suffolk Department of Health
Valverde & Rowell: Attorneys whose work includes immigration, workers compensation, personal injury, criminal law and business law
Virginia League for Planned Parenthood
Virginia Premier Health Plan, Inc.: Works to improve the health of lower-income families
WIC, Three Rivers Health District
Williamsburg Health Foundation: Private foundation that works with service providers to improve health
York-Poquoson Social Services
The Planning Council : Works within the community to improve quality of life

KEY STAKEHOLDER INTERVIEW ANALYSIS

In order to gain a deeper appreciation for issues that affected children's health and key health priorities, Toxcel conducted key stakeholder interviews with service providers across the community served by the Children's Hospital of The King's Daughters (CHKD). The Toxcel Team worked with CHKD to develop a plan that identified key stakeholders, partners, and organizations who represented the broad interests of the CHKD community, including: a) Local health and social service department representatives; b) Individuals or organizations serving members of medically underserved, low-income, and minority populations in the community; c) School counselors and nurses from local school systems; and d) Service providers who offered services for children and families.

Overwhelmingly, stakeholders express respect and appreciation for the Children's Hospital of The King's Daughters. Stakeholders state their willingness and desire to partner with CHKD on local efforts, and CHKD programs are described in glowing terms. Outlying areas wish for CHKD satellite clinics and greater access to CHKD's respected staff and specialists. Stakeholders discuss CHKD efforts in laudatory terms.

The qualitative data spans nearly a hundred pages. The central themes are summarized here, and encompass the following:

- Opportunities to Improve the Health of Children and Youth
- Barriers to Accessing Children's Health Services
- Characteristics of Especially Effective Efforts

Process

Thirty-seven stakeholders participated in interviews to share their experiences and insight into local health needs for children and youth. Stakeholders were identified for all the localities within the CHKD community; those with a regional perspective were specifically targeted. Stakeholders represented counties that are high socioeconomic status, and counties with high rates of students qualifying for free or reduced cost school lunches. Respondents included social workers, school nurses, a truant officer, an immigration lawyer, health departments, WIC, people who work with children across the age span, Medicaid representatives, CHKD's Care Connection, a county extension 4-H agent, a therapist who specializes in trauma, a private foundation that coordinates grants to local agencies, Family Services supervisors, a Catholic Charities Family Life Education coordinator, free- and low-cost medical care providers, and kindergarten-readiness professionals. Through these interviews, Toxcel was able to gain a strong understanding of the opportunities and challenges for children's health within the CHKD community.

Participating organizations included those who work in medically underserved areas (e.g., Eastern Shore Rural Health Systems,) low-income populations (e.g., public resources such as WIC; private organizations like Lutheran Family Services of Virginia and Catholic Charities) and minority populations (e.g., Iglesia Nueva Vida and Valverde & Rowell, which serve documented and undocumented immigrants; and organizations which operate in majority-minority neighborhoods.)

Stakeholders each spent approximately 20-30 minutes describing local health needs. They provided information, experiences, ideas and context for CHKD to consider as the institution plans for the future. Interviews were structured with the following protocol:

- How many children and families does your organization serve annually? What is your organization's primary mission? What is your role within the organization?
- How would you describe the overall quality of life in your community? How would you rate the overall quality of life in your community?
  (Very Good/Good/Somewhat Good/Bad/Very Bad)
- How would you describe the overall health of your community? How would you rate the overall health of your community?
  (Very Healthy/Healthy/Neutral/Unhealthy/Very Unhealthy)
- Tell me more about the health of children and youth in your community.
- What is keeping the children and youth in your community from being healthy?
- What are the greatest needs that you see among the children and youth you serve? Of these, which would you say is the highest priority?
- How are these needs being addressed in your community? Out of these efforts, what would you say is the most successful effort? How would you rate the health of children and youth in your community?
  (Very Healthy/Healthy/Neutral/Unhealthy/VeryUnhealthy)
- What additional community support and services are needed? How else could we improve the health of children in your community?

Stakeholders' varying perspectives offer a rich source of data regarding opportunities to improve the health of children and youth, current and past efforts to address local needs, and examples of especially successful local efforts.

Opportunities to Improve the Health of Children and Youth

Stakeholders discuss a number of opportunities to improve the health of children and youth. Central themes are highlighted here, and include the following:

- Parent Knowledge and Decision-Making
- Need for Health Care in Rural Areas
- Management of Chronic Conditions
- Family Planning and STI's
- Dental Care
- Nutrition
- Lack of Physical Activity
- Obesity
- Substance Abuse, Tobacco Use, Vaping
- Behavioral Health
- Crime

Parent Knowledge and Decision-Making

The need for parent education cuts across cultural and socio-economic lines. Health care providers, social service professionals, school nurses, and health department officials all note that parent education is a critical need in all areas. They discuss the need for parents to understand children's capacities and abilities at different developmental stages and ages, and point out that this need exists at all education and income levels. As one social services professional notes drily, "We have highly educated engineers who don't understand why you can't leave your five-year-old alone in the house, no matter how bright he is."

Stakeholders suggested parent education as a countermeasure for a number of challenging areas, including the following: child development, nutrition, obesity prevention, need for physical activity, and child behavior management (especially non-corporal discipline methods).

Stakeholders consistently note the complexity of delivering parent education, and the resistance to parenting classes.

> *"People don't like to hear that they're doing things wrong. We need an approach to go around the back door and somehow get people to embrace the message about what is healthy for you and your child, including what is healthy in your parenting… We cannot be accusatory; we must educate in a way that does not make people feel humiliated or blamed. We want to lift people up, not put them down."*
>
> --Director of a child advocacy organization

Need for Primary Care, Specialists and Follow-up Care in Rural Areas

In rural areas, the lack of local primary care physicians and specialists can impede care. For example, "No pediatricians [practice] in this area," said a school nurse in rural county, citing the need for local specialists and follow-up care. Coupled with transportation issues, the distance required to access specialty care can prevent families from receiving the appropriate care, and from following up on care received at a distant hospital such as CHKD.

> *"Access to medical care is an issue…In an area of 1400 square miles, we have only three urgent care centers."*
>
> --Rural health department

> *"[We need] more satellite clinics from CHKD where you offer assessment and follow-up services. If there's a problem with people keeping appointments and coming back, it's because [distance] is an issue."*
>
> --WIC supervisor

Family Planning and STI's

Stakeholders report that teen pregnancy rates are high. Teen pregnancy is associated with a number of negative health outcomes for both the mother and child

> *"Teen pregnancy makes it much harder for a teen to achieve their goals. It can impact someone's ability to finish school, gain good employment, [and] slows down their progress toward financial stability. Children of teen parents don't always get access to the services they need, unless teen has a strong support system in the family or community."*
>
> --Educator in a healthcare organization

HIV and STI rates are high as well among teens, and untreated HIV and STIs can have extremely serious outcomes. The issues are difficult to address, and racism and cultural barriers complicated efforts further. Prevention, education, testing, and treatment are viewed as important needs, and stakeholders point out that these efforts must be culturally sensitive and treat people with dignity.

> *"People may blame the shipyard for high HIV rates; but we know other factors are poverty, lack of services, lack of education and opportunities, lack of access to prevention programs.... All the factors that contribute to racism have an effect as well. HIV disproportionately affects communities of color. Large populations of people of color in [this] region…do not have access to services."*
>
> --Educator in a healthcare organization

Management of Chronic Conditions

Stakeholders report that chronic conditions are increasing.

> *"I've been doing this for 20 years, and chronic illnesses are tripled. Diabetes – [we] used to have one in the entire county. Now we have 13 in one school. [We also see more] severe food allergies and asthma."*
>
> - School health coordinator

The management of chronic conditions among children is perceived to be a complex issue with high stakes. Stakeholders discuss the interrelated nature of these conditions with other physical conditions and with the social determinants of health. The management of chronic conditions is viewed as a challenge for families, schools, healthcare providers, and communities.

Dental Care

Dental care is a frequently unserved need. The problem is complex, requiring available, affordable care coupled with parental awareness and motivation to seek care. In remote areas, the closest dentist may require a significant drive. Though some locations have mobile dental vans that circulate the area, many do not. "Dental care is almost nonexistent here," said a school nurse in a rural location.

Nutrition

Hunger is still an issue. "Head Start has to gear their menus & snacks to be heavier on Fridays & Mondays because kids don't get what they need on the weekends," mentioned a WIC supervisor. "What's the most urgent issue? Hunger. These kids can't learn and process information when they're hungry," stated an Education Director.

Nutrition is identified as a key concern by stakeholders in all areas. A multi-faceted, complex issue, nutrition is affected by families' awareness of the need for nutritious food, its availability and affordability, the motivation to seek it out and serve it, and the time and resources to do so.

> *"Most [undocumented workers and first-generation immigrants] come from very low-income, rural backgrounds. [As farmers in their home countries, their] food was fresh and healthy. They are not familiar with processed food and they don't realize it's so much less healthy."*
>
> -- Leader of a volunteer organization

> *"Knowledge and information play a role, but so does economics. We had a baby in our center who…had orange soda in a bottle. Mom said it was 99 cents for a 2-liter bottle of soda, and $3.50 for milk. Based on her income, she bought the soda. These kinds of things … set people up for failure: the healthy choices cost more, but unhealthy choices cost our society more in the long run."*

--Director of a kindergarten readiness program

"Convenience foods are popular. Parents are busy and exhausted…."
--Nurse manager of a public health department

"Families are stressed from making ends meet and from nontraditional work hours. And stressed families use convenience foods."
--Director of social services

For many reasons, families may be unaware of the need for nutritious food. Local norms, education, and cultural practices all play a role. Even when parents are aware and motivated to seek out nutritious food, food deserts can make that extremely difficult – and food deserts were noted in a number of locations in the area. Nutritious food is often perceived to be more expensive than convenience foods or fast food, requiring more investment not just in money, but also in preparation and cleanup time. Families, especially those struggling with poverty, find it difficult to maintain good nutrition.

Lack of Physical Activity

One major challenge for children's health is the lack of opportunities for physical activity. School nurses, in particular, cited a laundry list of reasons there is not enough physical activity, including the following:

- Reduced recess time
- Reduced physical education time
- Lack of green spaces for walking, running, playing
- Lack of sidewalks
- Lack of trails for hiking and biking
- Lack of safe places to play because of traffic and crime
- Use of TV and computer games for entertainment and child care

Finances are a challenge as well. "Fees for sports and activities are high, and poor kids just can't afford them, " said a Social Services Director. "There are lots of water-related activities here, but many people can't afford those," noted a WIC supervisor. In many locales, physical activities may require more financial resources than families can provide.

Obesity

Childhood obesity is a companion theme with nutrition and physical activity, and is overwhelmingly seen as a critical health issue. Stakeholders cited widely varying rates; but across the board they noted that child obesity rates are high, and continue to rise.

"In Northeast North Carolina, morbid obesity and diabetes are epidemic," said a Director of Social Services.

Stakeholders emphasize the need for prevention and early intervention. They point out that obesity is easier to prevent than to treat.

> *"We're watching them fall off a cliff and trying to catch them at the bottom, instead of catching them before they fall. "*
>
> -- School health coordinator

Obesity is hard to address for a variety of reasons. Weight is a sensitive issue. Cultural expectations vary, parent knowledge and motivation may be lacking, and the parents may be obese themselves and not really know what to do.

> *"Write on a prescription pad, 'Exercise 30 minutes a day, three times a week.' And follow up! Checking 'obesity' on a chart and sending kids home does not accomplish anything."*
>
> --School health coordinator

The co-occurrence of hunger and obesity may seem contradictory, but the two issues often go together. "It's one of the effects of food insecurity," explains a community health supervisor.

Substance Abuse, Tobacco Use, Vaping

Substance abuse is common among the parents and youth in many localities. Poorer areas see use of alcohol and illegal drugs; wealthier areas report abuse of prescription drugs as well.

Substance abuse is seen as an issue for parents and for youth. Services to address these needs are greatly lacking, particularly for the youth. "[Our area doesn't] have affordable, available, adolescent substance abuse programs," said a director of a behavioral health service.

Tobacco use is still common. For the youth, especially, a surge in the popularity of electronic vapor cigarettes is associated with increased use.

Behavioral Health

Stakeholders tended to use "Behavioral Health" as an umbrella term to describe services including psychiatry, psychology, therapy, and medication geared toward the treatment of a range of conditions including autism, ADHD, depression, anxiety, anger management, reactions to trauma and abuse, and more.

Stakeholders overwhelmingly report a lack of behavioral health services for children and young people. “Child psychiatry waiting lists are months long,” notes a director of a child health organization. Services are needed for all ages, including school age children and adolescents.

Respondents cited a particular need for professional behavioral health treatment at young ages. “We’re seeing a higher percentage of [preschool] children with special needs - more autism, ADHD, behavioral diagnoses,” said the president of a school readiness program. “We need more early intervention.”

Other professionals agreed with the need for early and preventive treatment.

> *“[We need] services for children with behavioral problems, specifically up to age 12 or 14 years old. [We see] children who have violent behavioral issues, [who are] sexually acting out, sexually reactive, [and] need treatment instead of sending them to group homes. There is no treatment early enough for these children.”*
>
> --Child advocate

Another specific need was for trauma services. Many localities have a shortage of therapists trained to deal with trauma, particularly in young children. “[Our whole area] desperately needs therapists who are trained to work with children under age 5, that are trained in best practices in working with children who have been traumatized,” stated a director of behavioral health service. More care providers are needed and more specialized training needs to be provided for those dealing with trauma in children.

Stigma remains an issue in accessing behavioral health care. Even among educated, affluent families, parents can be resistant to the need for behavioral health care for their children. Stigma remains an issue among the children, themselves, as well.

> *“A lot of kids don’t want to take medications because ‘they’re not crazy.’ Children don’t have a clear understanding of why they take the meds that they do. There’s such a stigma. If we can just break down those walls of stigma that go with being on medication and educate kids, that will help a lot.”*
>
> -- Professional in an organization serving foster children

Crime

Crime is a complicated problem with a myriad of causes and effects. Children who are victims of or witnesses to crime are particularly vulnerable and have a high need for services. “There are lots of murders that affect life expectancy,” stated a director of behavioral health services. “We’ve served kids who have directly witnessed murders [and other violence],” said a director of a child advocacy organization. “[We serve] children who have been removed from their homes, who have been in foster care, who

have seen substance abuse, whose parents are incarcerated," lists a professional in a faith-based organization.

Crime also affects children indirectly in many ways. For example, "Crime reduces access to parks, and stops kids from being able to play outside [safely]," said a community health supervisor, "and the neighborhood affects their image of themselves and their choices."

Top Priorities Identified by Stakeholders

During the course of each interview, stakeholders were asked to identify the single highest priority need among the children and youth that they serve. The most frequently named Top Priorities were the following:

- Behavioral health
- Childhood obesity (including focus on nutrition and physical activity)
- Access to care
- Educational programs for parents (specifically parent education and nutrition)
- Transportation
- Programs and activities for youth (context was frequently physical activity).

Barriers to Accessing Children's Health Services

Stakeholders pinpointed a number of barriers to accessing children's health services. These barriers can prevent families from seeking health care, from using that care effectively, and from following up effectively. Highlighted barriers include the following:

- Communication
- Silos and the Challenge of Accessing Resources from Disparate Sources
- Transportation
- Childcare
- Funding Limitations

Communication

Communication difficulties can present a barrier to seeking healthcare, quality service provision, and disease management. Though great strides have been made in the availability of translators during appointments, a language barrier can present difficulties when parents have follow-up questions afterward, particularly with complex situations and treatment plans.

Literacy remains a challenge as well, among parents and youth.

"[We see] varying literacy levels among youth. Some cannot complete activities that require reading. That's a barrier to education and comprehension."
- Education director in an organization serving adolescents

Silos and the Challenge of Accessing Resources from Disparate Sources
Many organizations within a jurisdiction or region supply resources for families. Navigating these resources can be complex and confusing. "All these programs and services operate in silos – there's not a one-stop shop. People whose heads are on fire, in extreme distress, can't navigate all these different systems," says a director of case management. "[They] need help to coordinate, get stronger, and learn to navigate themselves."

Programs such as CHKD's Care Connection for Children address this issue with a coordinated approach. Some other organizations (e.g., St. Gregory, the Christian Outreach Program) offer families local assistance in locating and accessing resources. These types of services are viewed as extremely helpful, and need to be more widely available.

Transportation
Transportation is a consistent theme, even in urban areas. Transportation is viewed as critical and is frequently cited as the single most important issue for all aspects of health care. Transportation directly affects families' ability to apply for assistance, access care, attend programs, and follow up effectively.

"Transportation is a prerequisite for [all health care]."
"…a huge barrier."
*"…an issue even for **applying** for services."*
"…an obstacle."
"If the drive is impossible, those services are not accessible."
"…the number one challenge."
"If the kids can't get around, it shuts everything else down. Transportation that is accessible, available, financially reasonable, would open a lot of doors."

Childcare
Childcare is viewed as a critical issue. The lack of childcare can directly impede a family's ability to access care and services. For example, "How do people go to a parenting class with no child care?" asked a child advocate.

Access to full-time childcare is important. "[We see a] lack of supervision….child care is an issue," points out a social services professional.

The quality of existing childcare options is also a persistent issue. “[There is] a lot of unlicensed [and unregulated] care,” noted a social services professional. “We’ve seen a huge number of kids in a garage that was just empty [except for the TV].”

Funding

Not surprisingly, funding is a frequently mentioned challenge. In fact, grant deadlines affected the availability of some professionals to participate in interviews for this effort. “I would love to help, but this grant application has to go in, and it has made me behind on everything else,” apologized one service provider. “I spend so much of my time trying to get funding,” noted another, who did not want to be identified in any way.

Funding affects every aspect of healthcare and service provision. It was mentioned in almost every theme. Budget cuts were frequently cited as a challenge, particularly in locations in North Carolina. “Funding controls everything – if you don’t encourage legislators to fund programs, then there are problems,” stated a social services director.

Characteristics of Especially Successful Efforts

When asked to give examples of especially successful local efforts, stakeholders described a variety of resources and programs. Many of these efforts had features in common. Stakeholders were especially enthusiastic and optimistic about programs which included the following features:

- Prevention and Early Intervention
- Mobile and Remote Services
- Holistic Approaches
- Cooperative Coordination of Resources
- Long-Term Commitments

Prevention and Early Intervention

Across the board, prevention and early intervention are viewed as more effective and efficient than later efforts. From childhood obesity and substance abuse to behavioral health and chronic conditions, stakeholders feel that prevention and early intervention are effective and should be prioritized.

Mobile and Remote Services

Mobile services, where care is brought to the clients, are often described as successful efforts. Certain services (e.g., dental care) are viewed as being especially amenable to mobile approaches. Some locations have mobile dental care vans that were viewed as

very successful efforts, while others mourn the loss of mobile services due to budget cuts.

Some suggest that telehealth efforts should be revisited, particularly in light of technological advances that improve communication. Behavioral health services and therapy are viewed as having potential for remote care.

Holistic Approaches

Stakeholders repeatedly describe the need to treat the whole child, not just a set of symptoms; to treat the family, not just the child; and to address the community, not just the individual family. Many feel that successful efforts need to be part of an approach that acknowledges the complex, interconnected nature of the factors that impact health.

When stakeholders describe this approach, they often suggest programs that would interconnect generations, bring community members together, and benefit the locale as a whole. One concrete, specific example is the desire for community gardens.

> *"[We need] community gardens. [That] would bring the community together, teach children so much about cycle of life & delayed gratification, grow families, grow community, grow healthy people, demonstrate seasonal changes, cooperative work, and would decrease bullying behavior, [and increase] appreciation for the elderly."*
>
> --Child advocate

Cooperative Coordination

Some locales have a mechanism for resource providers to coordinate their efforts and pool their expertise and resources. Stakeholders repeatedly cite these cooperative efforts as effective and helpful. Whether the mechanism is a formal, scheduled periodic meeting, a consortium of faith-based organizations who pool their resources, or a less formal network, participants consider cooperation to be a significant asset. In locales without such a mechanism, participants often express the need for coordinated efforts.

Long-Term Commitments

Long-running programs are often described as especially effective. Though the conclusion might be drawn that successful programs are likely to be continued, the cause-and-effect relationship can run the other direction as well. Longevity, itself, is an asset that increases awareness, usage, and effective resource allocation. Uncertain or unreliable funding, on the other hand, can significantly hamper a program's effectiveness.

Conclusion

Stakeholders offered a wide menu of opportunities to improve the health of local children and youth. From general needs for medical care in rural areas, to the need for specific interventions targeting obesity and substance abuse, stakeholders gave a variety of areas where improvements can be made.

In describing challenges to improving children's health, stakeholders pinpointed a number of barriers. From transportation to childcare, contributors identified issues which can present challenges to families accessing services, participating in programs or even applying for assistance.

Stakeholders also discussed local efforts that they felt were especially effective. During the course of these conversations, some features emerged which are associated with successful efforts. Those features can be used to improve the effectiveness of existing and future efforts.

Overall, stakeholders contributed a wealth of information for CHKD to consider in strategizing for the future. Their experiences, knowledge, and ideas have been offered to CHKD in the hopes of better health for the children and youth that CHKD serves.

Appendix B: Community Health Survey Analysis
Joint Community Health Needs Assessment

April 2016

Prepared by:
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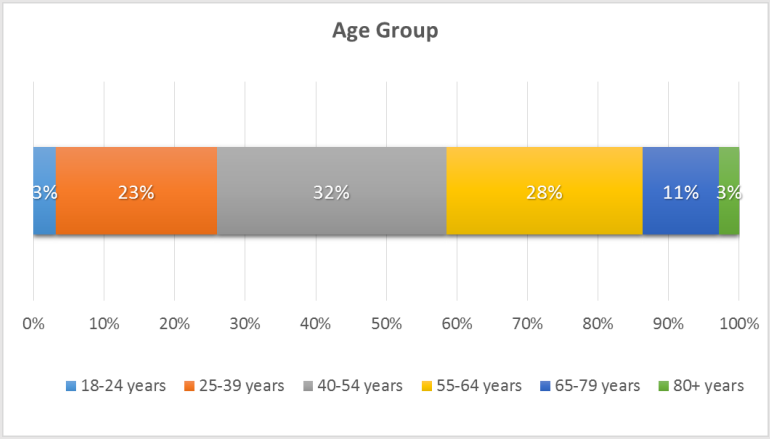
toXcel

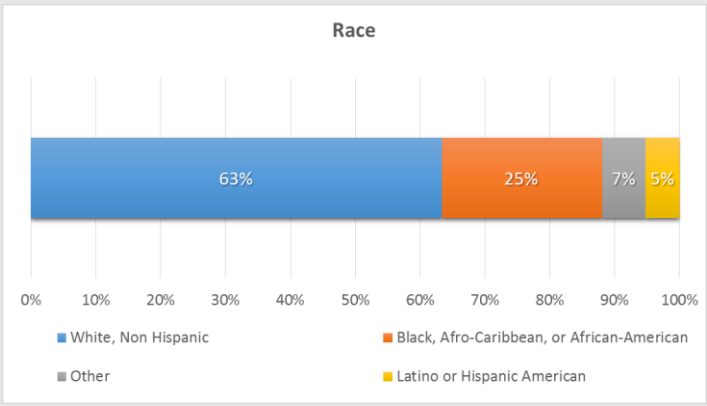
Participants

- Survey was completed in collaboration with Bon Secours, another regional healthcare provider
- Representation from participants across the CHKD community
- 1,496 completed surveys from 1,703 total participants
- Survey open from November 2015 to February 2016
- Responses collected through online and paper surveys in English and Spanish
- Surveys were circulated at meetings and provider conferences, handed out in clinics, and shared through email listservs and social networks.

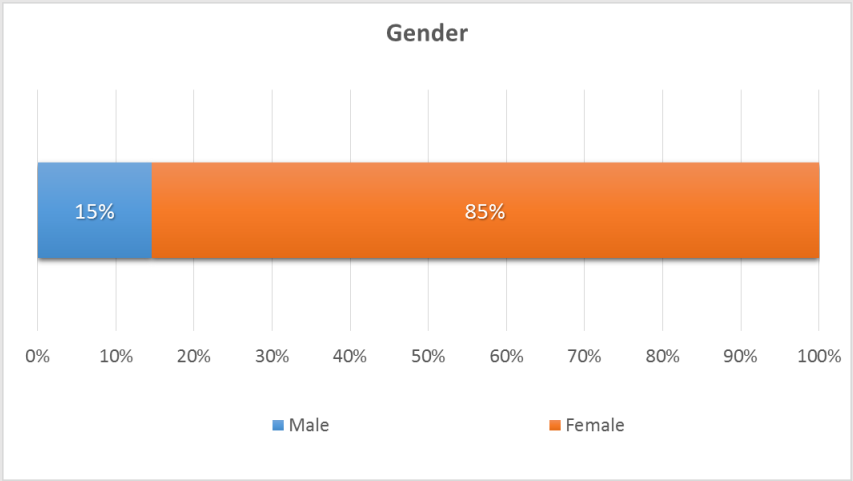
Demographics



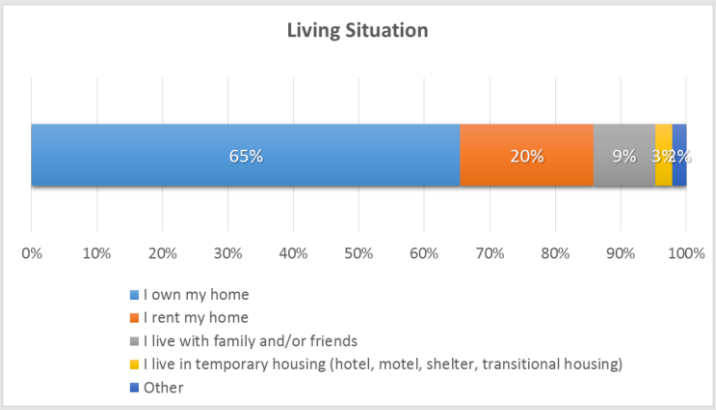
Please choose your age group.		
Response	Percentage	N
18-24 years	3%	47
25-39 years	23%	340
40-54 years	32%	482
55-64 years	28%	414
65-79 years	11%	161
80+ years	3%	42
	Total	1486
	Skipped	217



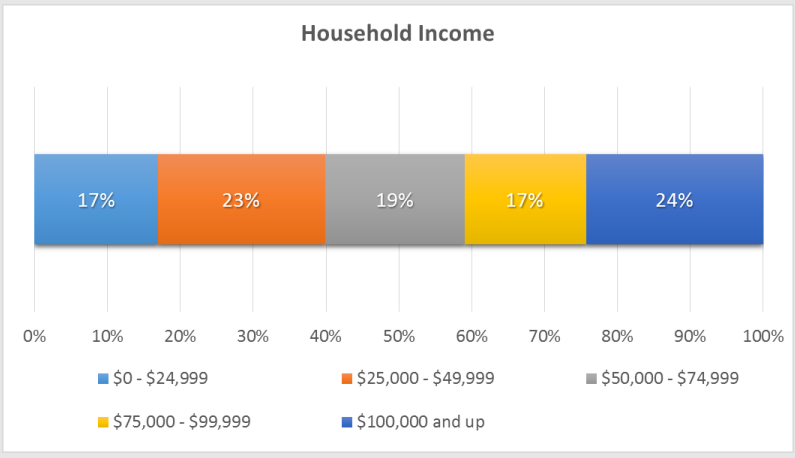
Please choose the group(s) below that best represents you.		
Response	**Percentage**	**N**
White, Non Hispanic	63%	941
Black, Afro-Caribbean, or Afric	25%	367
Latino or Hispanic American	5%	78
From multiple races	3%	49
Native American or Alaskan N	1%	10
Middle Eastern or Arab Americ	0%	7
South Asian or Indian America	1%	8
South Asian or Indian America	1%	8
East Asian or Asian American	1%	19
	Total	1487
	Skipped	216



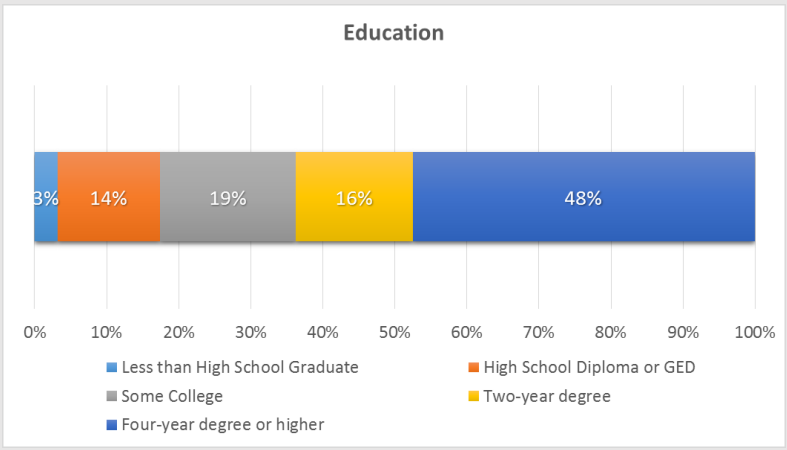
Please choose your gender.		
Response	**Percentage**	**N**
Male	15%	216
Female	85%	1270
	Total	1486
	Skipped	217



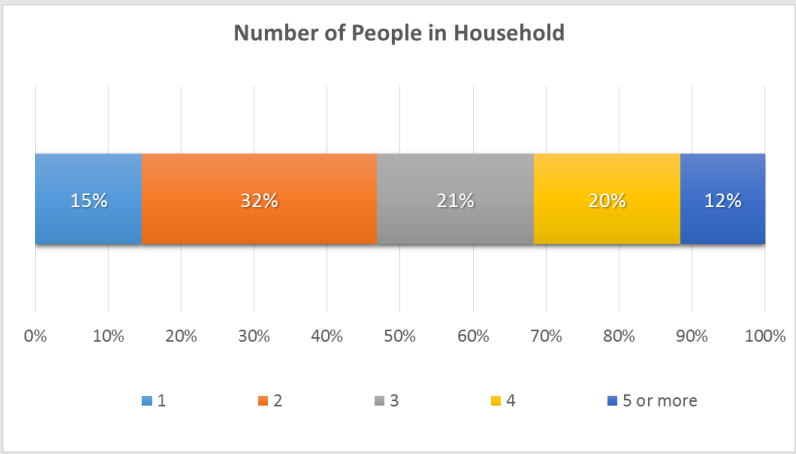
What is your living situation?		
Response	**Percentage**	**N**
I own my home	65%	972
I rent my home	20%	302
I live with family and/or friends	9%	140
I live in temporary housing (hotel, motel, shelter, transitional housing)	3%	39
Other	2%	31
	Total	1484
	Skipped	219



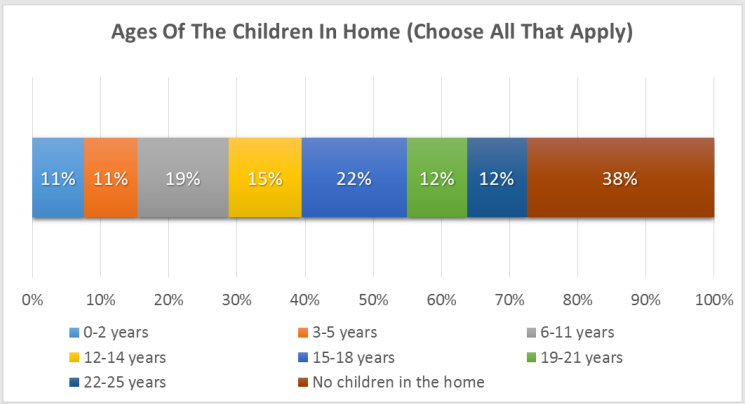
What is your average household income?		
Response	**Percentage**	**N**
$0 - $24,999	17%	243
$25,000 - $49,999	23%	329
$50,000 - $74,999	19%	274
$75,000 - $99,999	17%	239
$100,000 and up	24%	349
	Total	1434
	Skipped	269



What is the highest grade or year of school you completed?		
Response	Percentage	N
Less than High School Gradua	3%	47
High School Diploma or GED	14%	212
Some College	19%	280
Two-year degree	16%	241
Four-year degree or higher	48%	706
	Total	1486
	Skipped	217

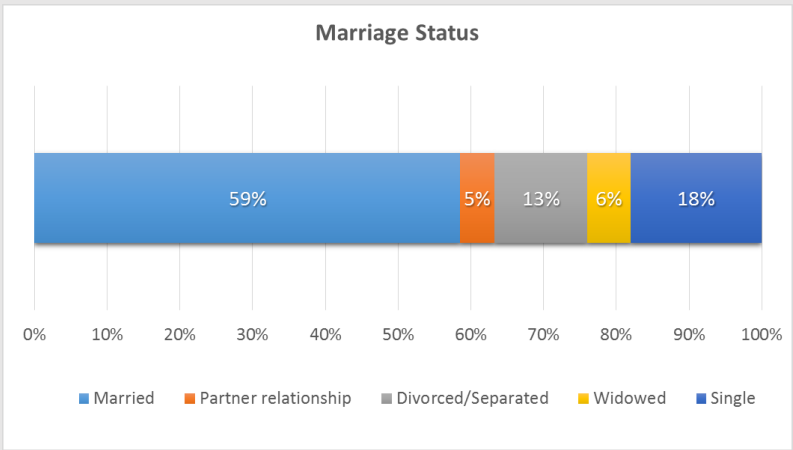


Including you, how many people live in your home?		
Response	Percentage	N
1	15%	217
2	32%	479
3	21%	319
4	20%	299
5 or more	12%	172
	Total	1486
	Skipped	217

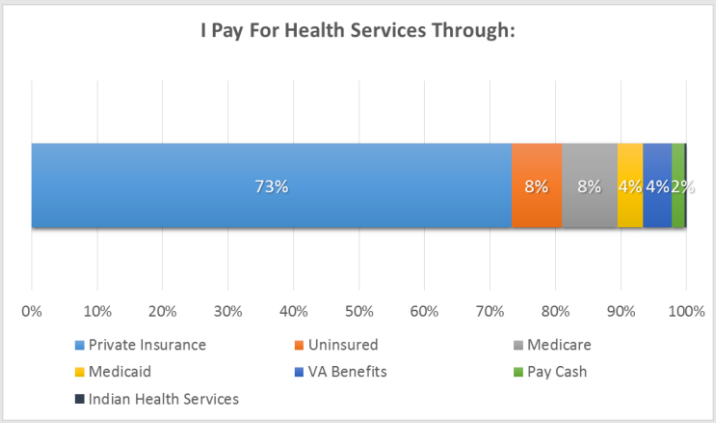


What are the ages of the children in your home? (Choose all that apply): 0-		
Response	**Percentage**	**N**
0-2 years	11%	58
3-5 years	11%	60
6-11 years	19%	103
12-14 years	15%	82
15-18 years	22%	119
19-21 years	12%	68
22-25 years	12%	67
There are no children within th	38%	211
	Total	550
	Skipped	1153

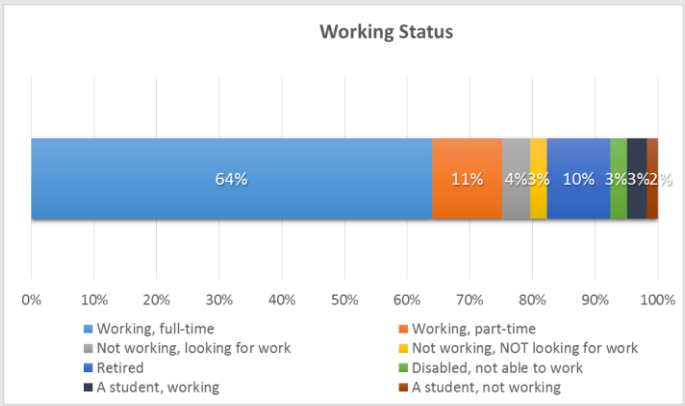
Note: This question was only included on the survey circulated by CHKD. The high number of skipped responses indicates that none of the previous participants who completed the survey from November – December 2015 answered this question.



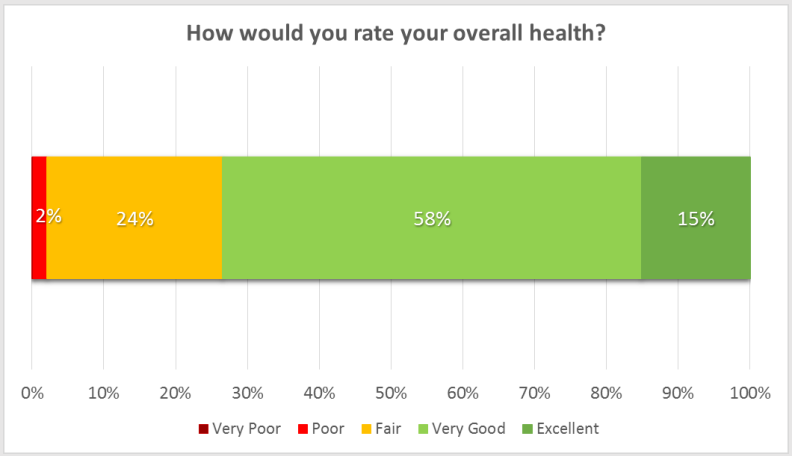
I am:		
Response	**Percentage**	**N**
Married	59%	870
Partner relationship	5%	70
Divorced/Separated	13%	189
Widowed	6%	89
Single	18%	268
	Total	1486
	Skipped	217



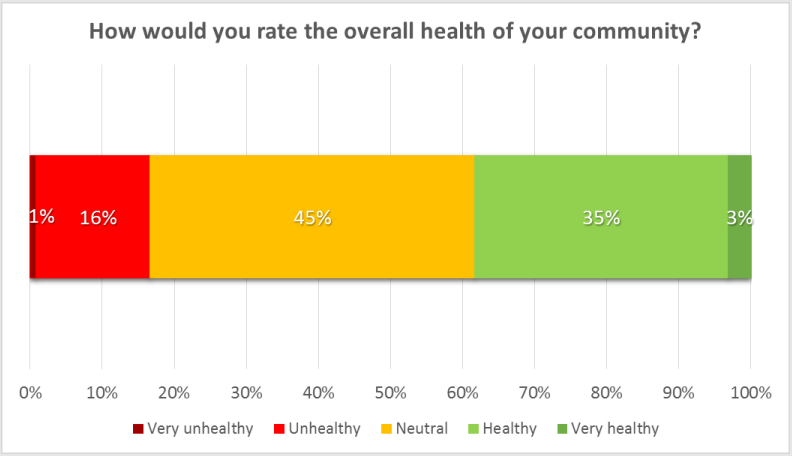
I pay for health services through:		
Response	**Percentage**	**N**
Private Insurance	73%	1089
Uninsured	8%	114
Medicare	8%	126
Medicaid	4%	59
VA Benefits	4%	65
Pay Cash	2%	28
Indian Health Services	0%	5
	Total	1486
	Skipped	217



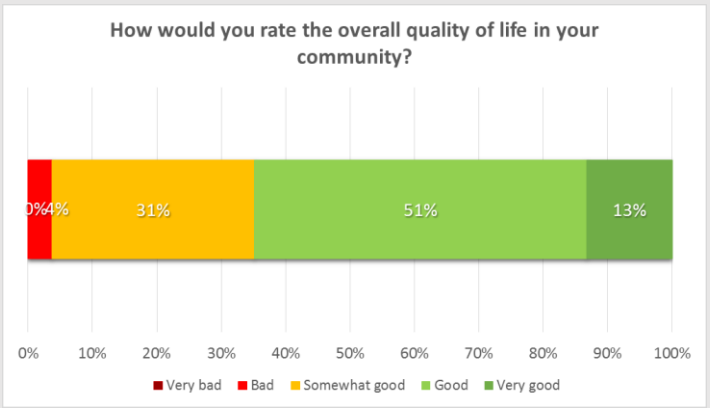
I am:		
Response	**Percentage**	**N**
Working, full-time	64%	985
Working, part-time	11%	172
Not working, looking for work	4%	68
Not working, NOT looking for v	3%	41
Retired	10%	157
Disabled, not able to work	3%	40
A student, working	3%	50
A student, not working	2%	26
	Total	1539
	Skipped	164



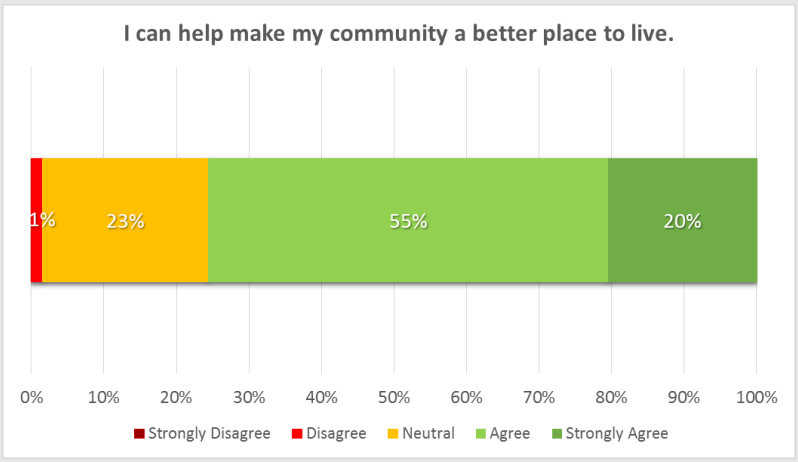
How would you rate your overall health?		
Response	**Percentage**	**N**
Very Poor	0%	4
Poor	2%	31
Fair	24%	411
Very Good	58%	983
Excellent	15%	253
	Total	1682
	Skipped	21



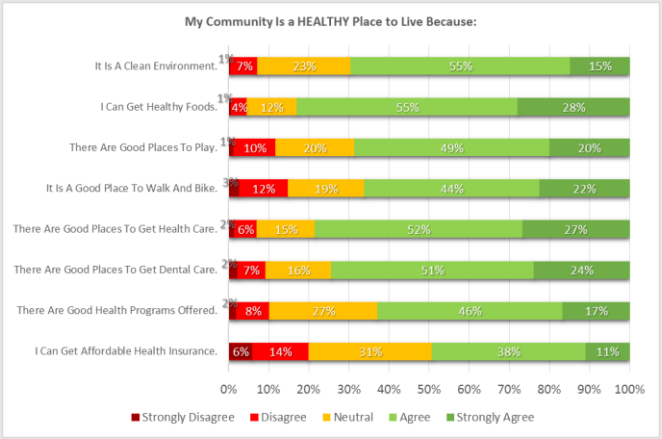
How would you rate the overall health of your community?		
Response	**Percentage**	**N**
Very unhealthy	1%	15
Unhealthy	16%	265
Neutral	45%	758
Healthy	35%	591
Very healthy	3%	53
	Total	1682
	Skipped	21



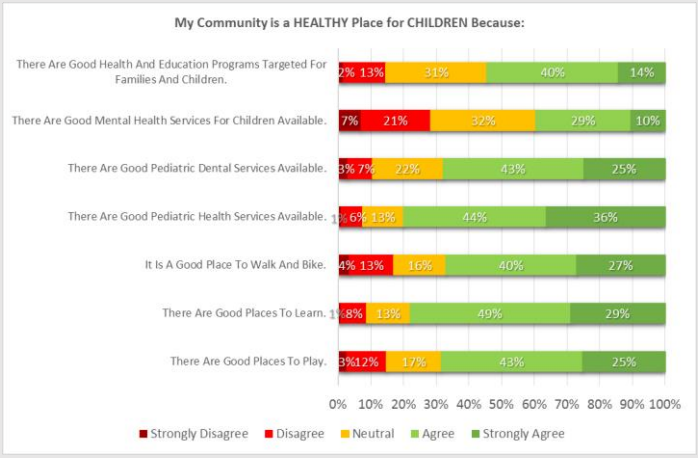
How would you rate the overall quality of life in your community?		
Response	**Percentage**	**N**
Very bad	0%	4
Bad	4%	63
Somewhat good	31%	528
Good	51%	865
Very good	13%	222
	Total	1682
	Skipped	21



I can help make my community a better place to live.		
Response	**Percentage**	**N**
Strongly Disagree	0%	2
Disagree	1%	24
Neutral	23%	385
Agree	55%	929
Strongly Agree	20%	342
	Total	1682
	Skipped	21

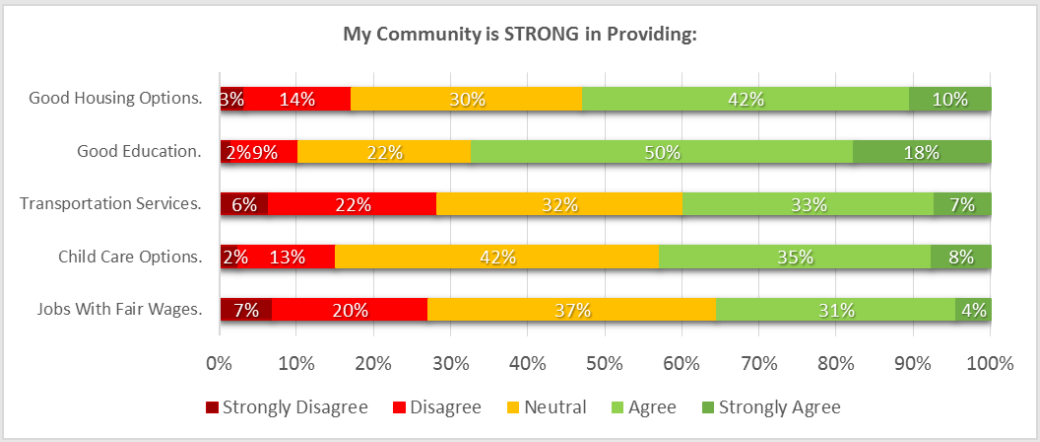


My community is a HEALTHY place to live because:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total	Skipped
it is a clean environment.	1%	7%	23%	55%	15%	1594	109
I can get healthy foods.	1%	4%	12%	55%	28%	1575	128
there are good places to play.	1%	10%	20%	49%	20%	1585	118
it is a good place to walk and bike.	3%	12%	19%	44%	22%	1595	108
there are good places to get health care.	2%	6%	15%	52%	27%	1595	108
there are good places to get dental care.	2%	7%	16%	51%	24%	1594	109
there are good health programs offered.	2%	8%	27%	46%	17%	1592	111
I can get affordable health insurance.	6%	14%	31%	38%	11%	1582	121

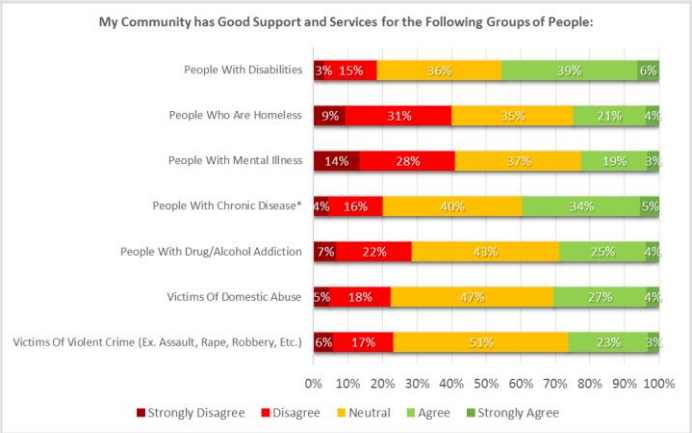


My community is a HEALTHY place for CHILDREN because:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total	Skipped
there are good places to play.	3%	12%	17%	43%	25%	610	81
there are good places to learn.	1%	8%	13%	49%	29%	609	82
it is a good place to walk and bike.	4%	13%	16%	40%	27%	608	83
there are good pediatric health services available.	1%	6%	13%	44%	36%	608	83
there are good pediatric dental services available.	3%	7%	22%	43%	25%	607	84
there are good mental health services for children availat	7%	21%	32%	29%	10%	605	86
there are good health and education programs targeted f	2%	13%	31%	40%	14%	607	84

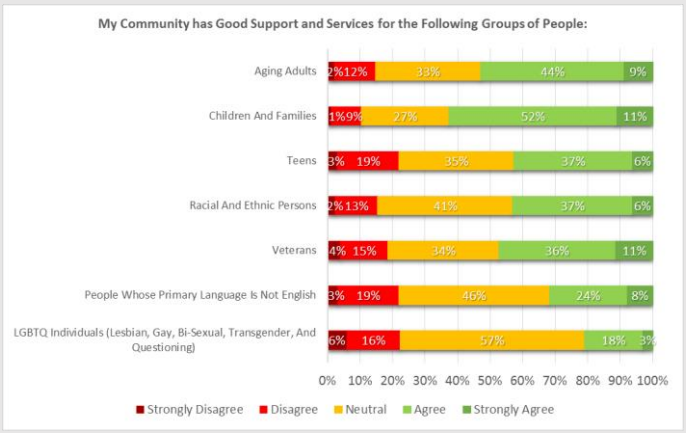
Note: This question was only included on the survey circulated by CHKD. The high number of skipped responses indicates that none of the previous participants who completed the survey from November – December 2015 answered this question.



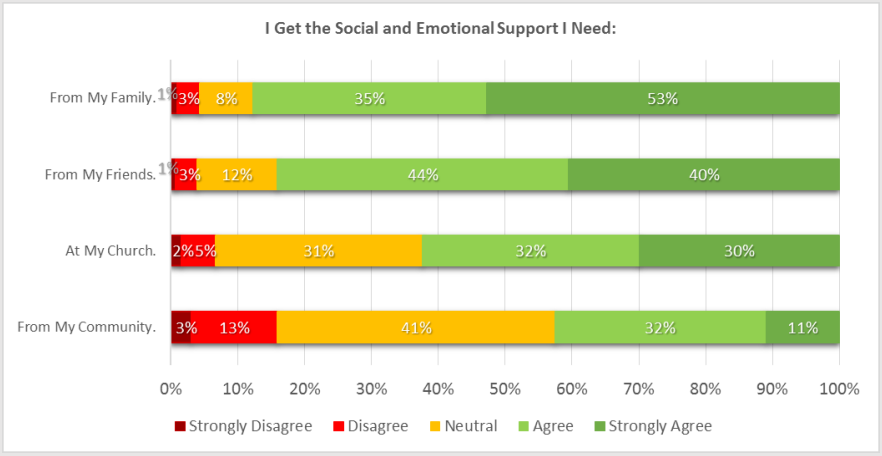
My community is STRONG in providing:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total	Skipped
good housing options.	3%	14%	30%	42%	10%	1595	108
good education.	2%	9%	22%	50%	18%	1589	114
transportation services.	6%	22%	32%	33%	7%	1587	116
child care options.	2%	13%	42%	35%	8%	1582	121
jobs with fair wages.	7%	20%	37%	31%	4%	1589	114



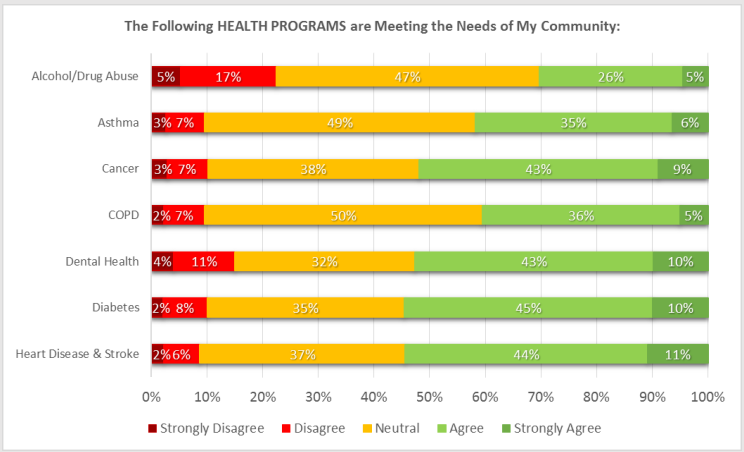
My community has good support and services for the following groups of people:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total	Skipped
People with disabilities	3%	15%	36%	39%	6%	1523	180
People who are homeless	9%	31%	35%	21%	4%	1521	182
People with mental illness	14%	28%	37%	19%	3%	1515	188
People with chronic disease*	4%	16%	40%	34%	5%	1518	185
People with drug/alcohol addiction	7%	22%	43%	25%	4%	1519	184
Victims of domestic abuse	5%	18%	47%	27%	4%	1516	187
Victims of violent crime (ex. assault, rape, robbery, etc.)	6%	17%	51%	23%	3%	1509	194



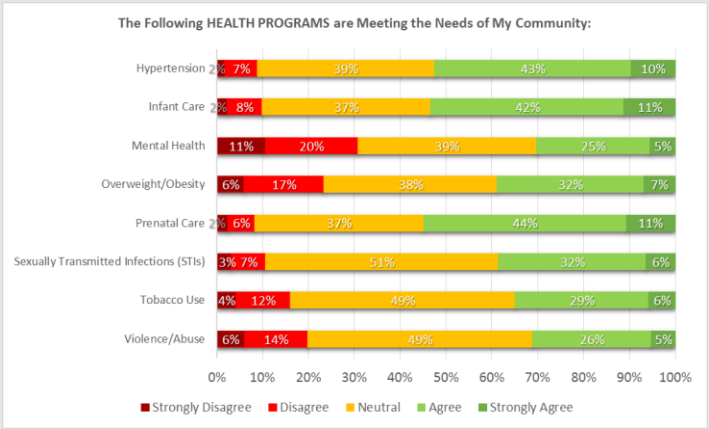
My community has good support and services for the following groups of people:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total	Skipped
Aging adults	2%	12%	33%	44%	9%	1538	165
Children and families	1%	9%	27%	52%	11%	1515	188
Teens	3%	19%	35%	37%	6%	1517	186
Racial and ethnic persons	2%	13%	41%	37%	6%	1519	184
Veterans	4%	15%	34%	36%	11%	1511	192
People whose primary language is not English	3%	19%	46%	24%	8%	1518	185
LGBTQ individuals (Lesbian, Gay, Bi-sexual, Transgender, and Questioning)	6%	16%	57%	18%	3%	1502	201



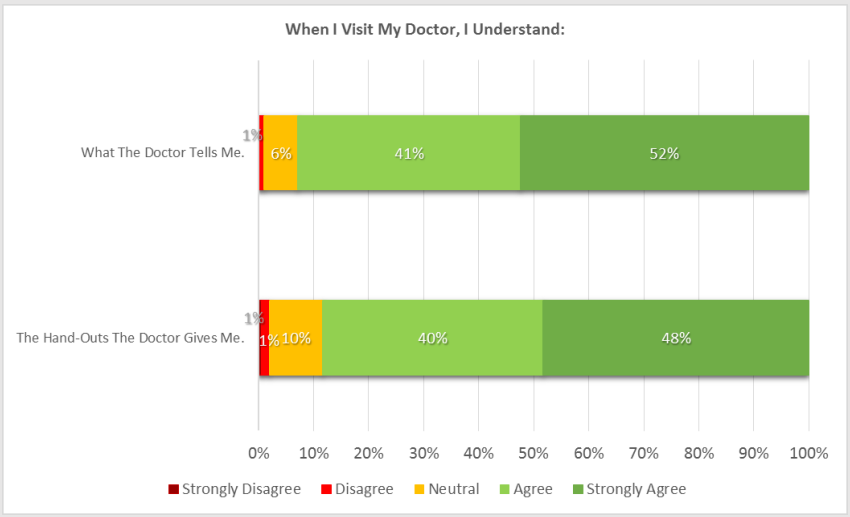
I get the social and emotional support I need:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total	Skipped
from my family.	1%	3%	8%	35%	53%	1509	194
from my friends.	1%	3%	12%	44%	40%	1498	205
at my church.	2%	5%	31%	32%	30%	1486	217
from my community.	3%	13%	41%	32%	11%	1487	216



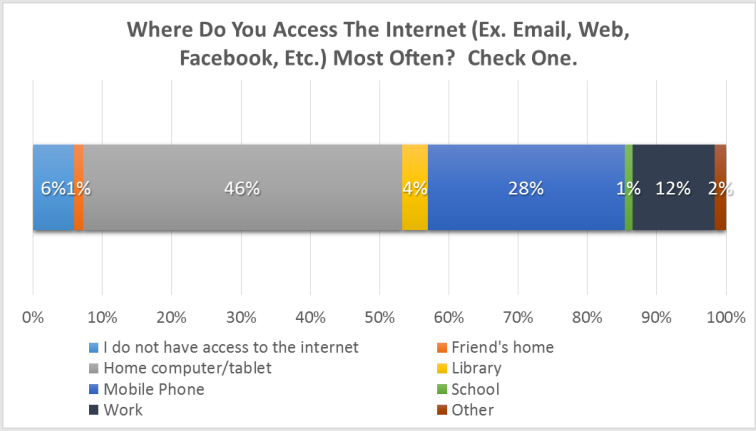
The following HEALTH PROGRAMS are meeting the needs of my community:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total	Skipped
Alcohol/Drug Abuse	5%	17%	47%	26%	5%	1497	206
Asthma	3%	7%	49%	35%	6%	1482	221
Cancer	3%	7%	38%	43%	9%	1495	208
COPD	2%	7%	50%	36%	5%	1479	224
Dental Health	4%	11%	32%	43%	10%	1494	209
Diabetes	2%	8%	35%	45%	10%	1490	213
Heart Disease & Stroke	2%	6%	37%	44%	11%	1494	209



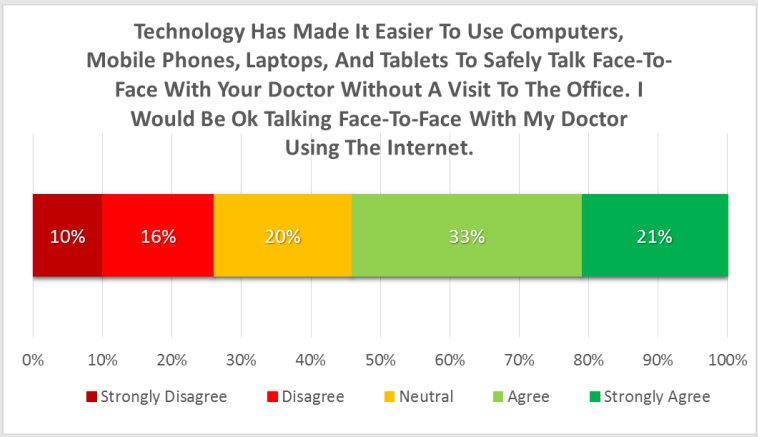
The following HEALTH PROGRAMS are meeting the needs of my community:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total	Skipped
Hypertension	2%	7%	39%	43%	10%	1491	212
Infant Care	2%	8%	37%	42%	11%	1477	226
Mental Health	11%	20%	39%	25%	5%	1483	220
Overweight/Obesity	6%	17%	38%	32%	7%	1478	225
Prenatal Care	2%	6%	37%	44%	11%	1481	222
Sexually Transmitted Infections (STIs)	3%	7%	51%	32%	6%	1482	221
Tobacco Use	4%	12%	49%	29%	6%	1482	221
Violence/Abuse	6%	14%	49%	26%	5%	1477	226



When I visit my doctor, I understand:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total	Skipped
what the doctor tells me.	0%	1%	6%	41%	52%	1501	202
the hand-outs the doctor gives me.	1%	1%	10%	40%	48%	1476	227

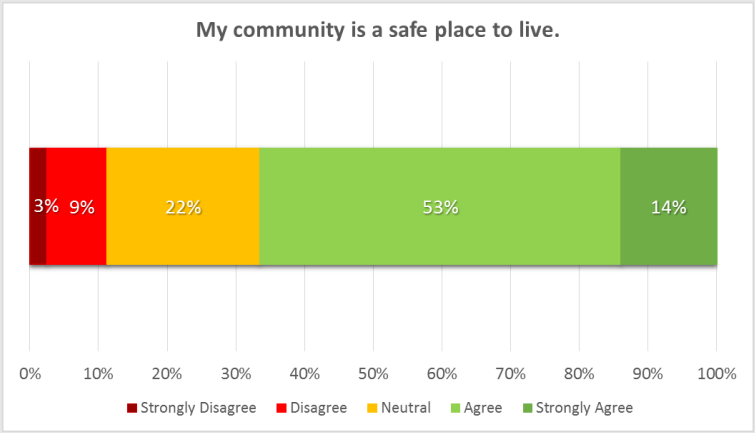


Where do you access the internet (ex. email, web, Facebook, etc.) most often? Check one.		
Response	Percentage	N
I do not have access to the inte	6%	87
Friend's home	1%	20
Home computer/tablet	46%	682
Library	4%	54
Mobile Phone	28%	421
School	1%	17
Work	12%	176
Other	2%	24
	Total	1481
	Skipped	222



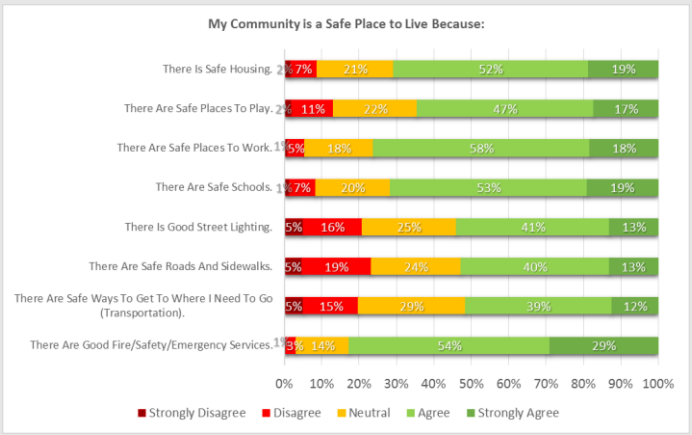
Technology has made it easier to use computers, mobile phones, laptops, and tablets to safely talk face-to-face with your doctor without a visit to the office. I would be OK talking face-to-face with my doctor using the internet.

Response	Percentage	N
Strongly Disagree	10%	144
Disagree	16%	230
Neutral	20%	285
Agree	33%	475
Strongly Agree	21%	300
	Total	1434
	Skipped	269

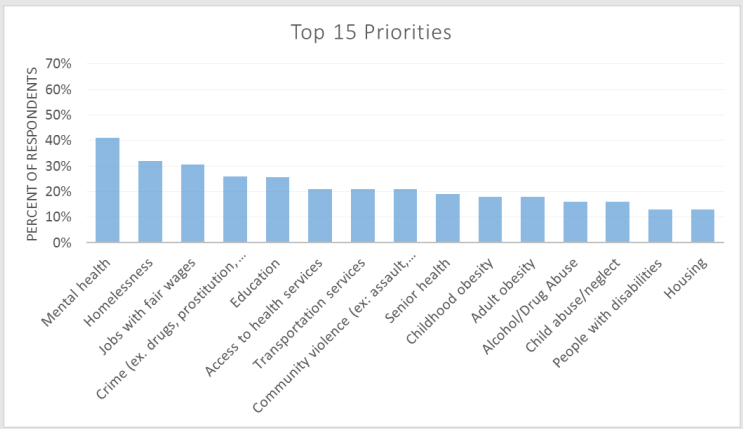


My community is a safe place to live.

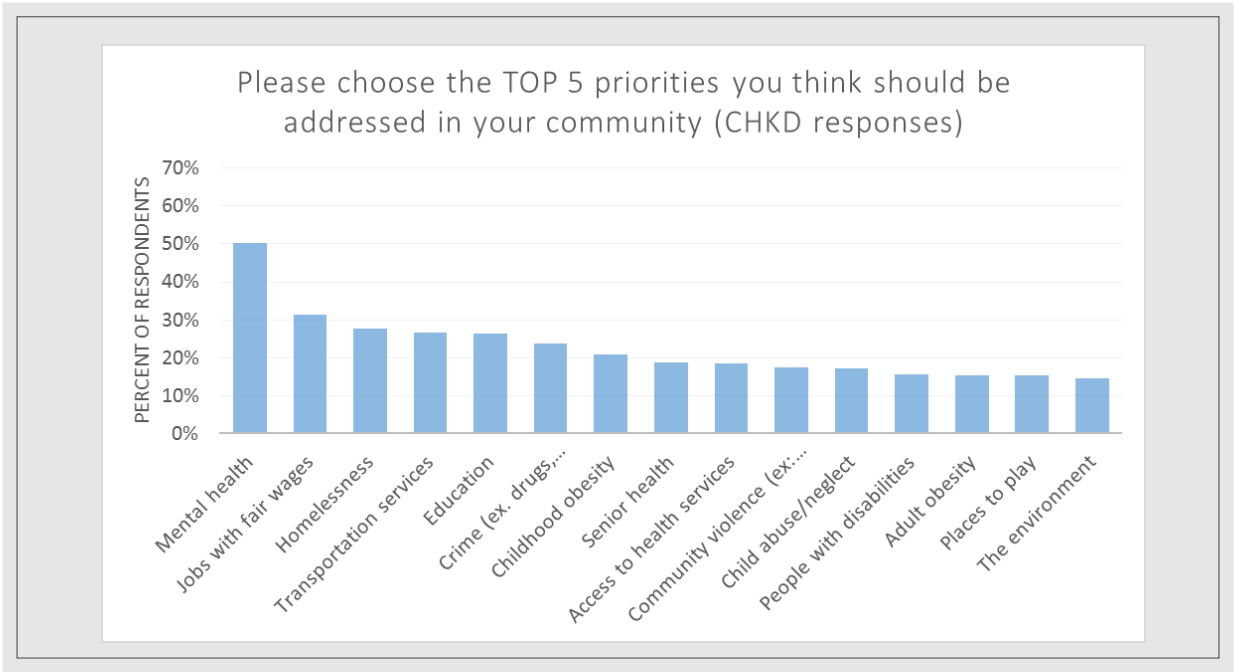
Response	Percentage	N
Strongly Disagree	3%	38
Disagree	9%	132
Neutral	22%	334
Agree	53%	792
Strongly Agree	14%	209
	Total	1505
	Skipped	198



My community is a safe place to live because:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total	Skipped
there is safe housing.	2%	7%	21%	52%	19%	1498	205
there are safe places to play.	2%	11%	22%	47%	17%	1488	215
there are safe places to work.	1%	5%	18%	58%	18%	1489	214
there are safe schools.	1%	7%	20%	53%	19%	1488	215
there is good street lighting.	5%	16%	25%	41%	13%	1491	212
there are safe roads and sidewalks.	5%	19%	24%	40%	13%	1490	213
there are safe ways to get to where I need to go (transpo	5%	15%	29%	39%	12%	1495	208
there are good fire/safety/emergency services.	1%	3%	14%	54%	29%	1488	215



Please choose the TOP 5 priorities you think should be addressed in your community:	Percentage	N
Mental health	41%	613
Homelessness	32%	480
Jobs with fair wages	31%	457
Crime (ex. drugs, prostitution, theft, etc.)	26%	388
Education	26%	384
Access to health services	21%	317
Community violence (ex: assault, rape, robbery, etc)	21%	315
Transportation services	21%	315
Senior health	19%	288
Adult obesity	18%	266
Childhood obesity	18%	266
Alcohol/Drug Abuse	16%	244
Child abuse/neglect	16%	232
People with disabilities	13%	199
Housing	13%	187
Health programs/screenings	12%	185
Safety	12%	182
Places to play	12%	175
Access to social services (i.e. SNAP, WIC, etc.)	11%	171
Dental Health	11%	171
The environment	11%	165
Domestic abuse	9%	132
Diabetes	8%	127
Cancer	8%	120
People whose primary language is not English	8%	116
Teen pregnancy	8%	115
Race/ethnic relations	7%	112
Other (please specify)	7%	99
Asthma	5%	68
Infant Health	5%	68
Tobacco use	4%	67
LGBTQ individuals (Lesbian, Gay, Bi-sexual, Transgender & Questioning)	4%	66
Heart Disease & Stroke	4%	65
Sexually transmitted infections including HIV/AIDS	4%	56
	Total	1496
	Skipped	207


Please choose the TOP 5 priorities you think should be addressed in your community (CHKD responses)
PERCENT OF RESPONDENTS
70%
60%
50%
40%
30%
20%
10%
0%
Mental health
Jobs with fair wages
Homelessness
Transportation services
Education
Crime (ex. drugs,...
Childhood obesity
Senior health
Access to health services
Community violence (ex:...
Child abuse/neglect
People with disabilities
Adult obesity
Places to play
The environment

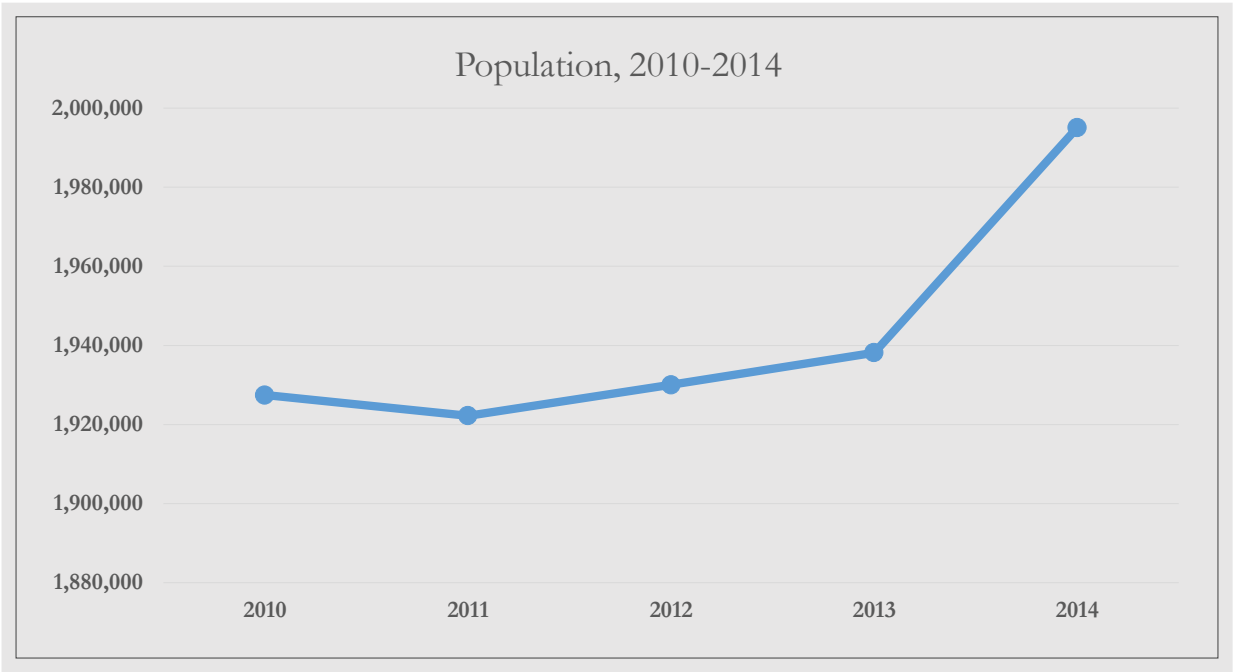
Appendix C: Health Indicator Analysis
Joint Community Health Needs Assessment

April 2016

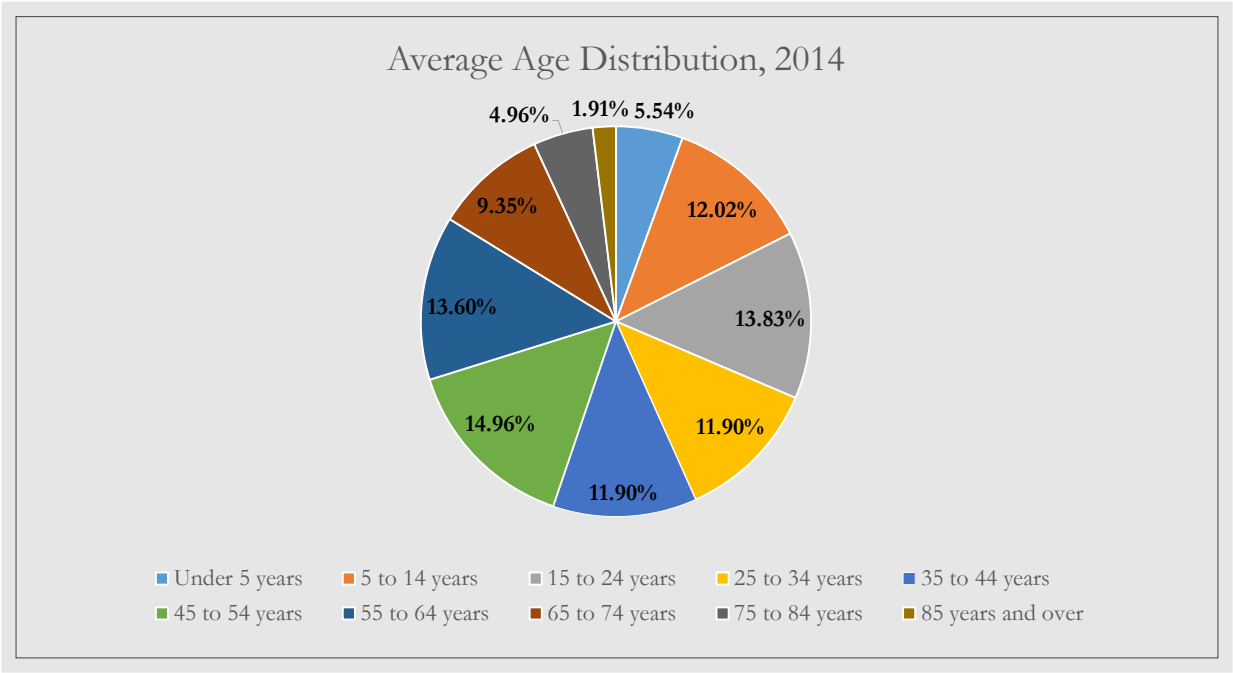
Prepared by:
Erin Kissner, MA
Carrie Redden, MPH MCRP
Toxcel, LLC

toXcel

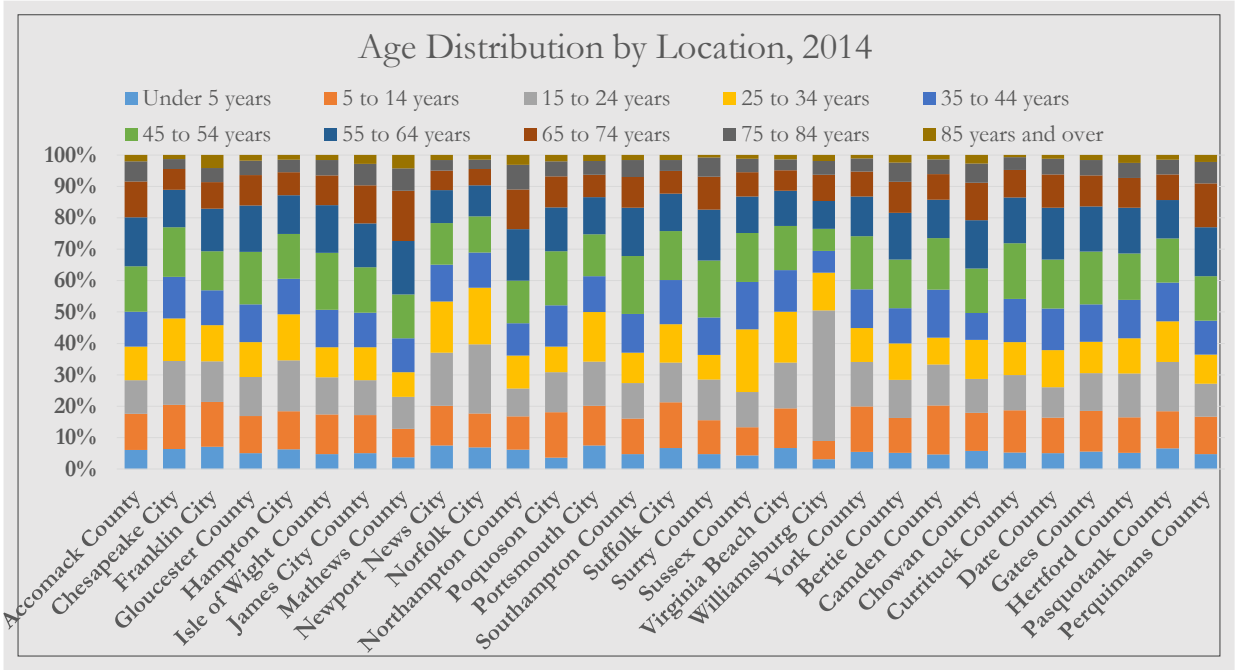
Demographics



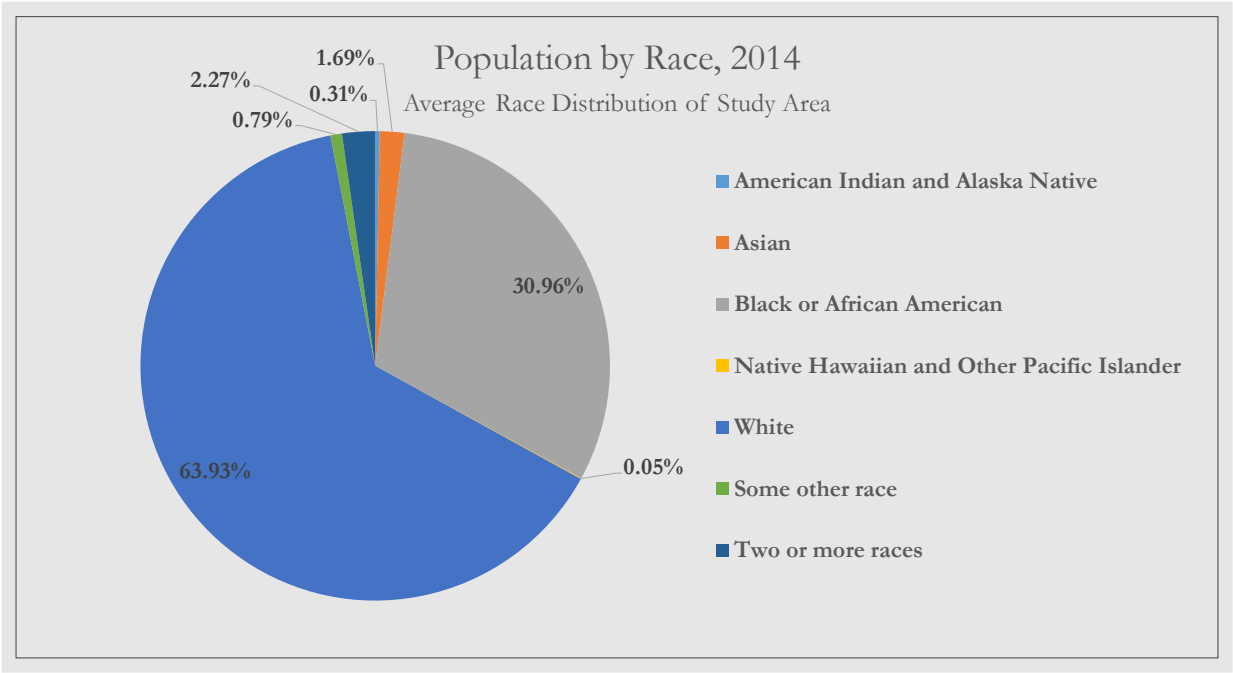
Source: 2010 Demographic Profile & 2010-2014 American Community Survey 5-Year Estimates



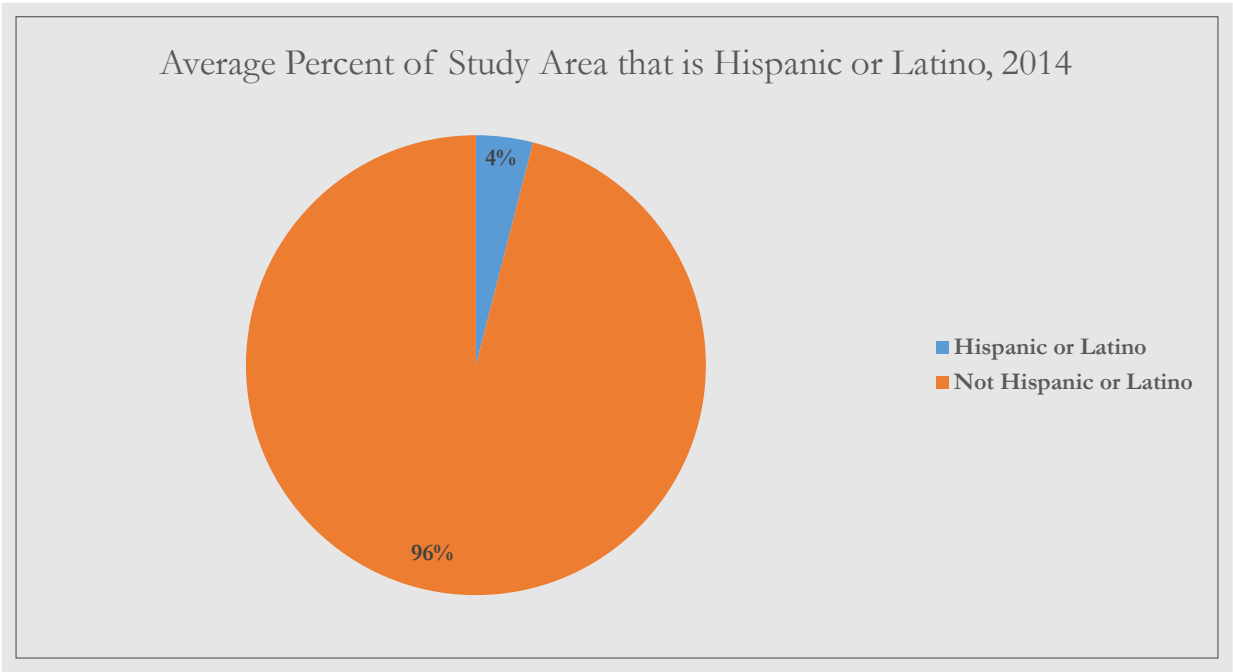
Source: 2010-2014 American Community Survey 5-Year Estimates



Source: 2010-2014 American Community Survey 5-Year Estimates

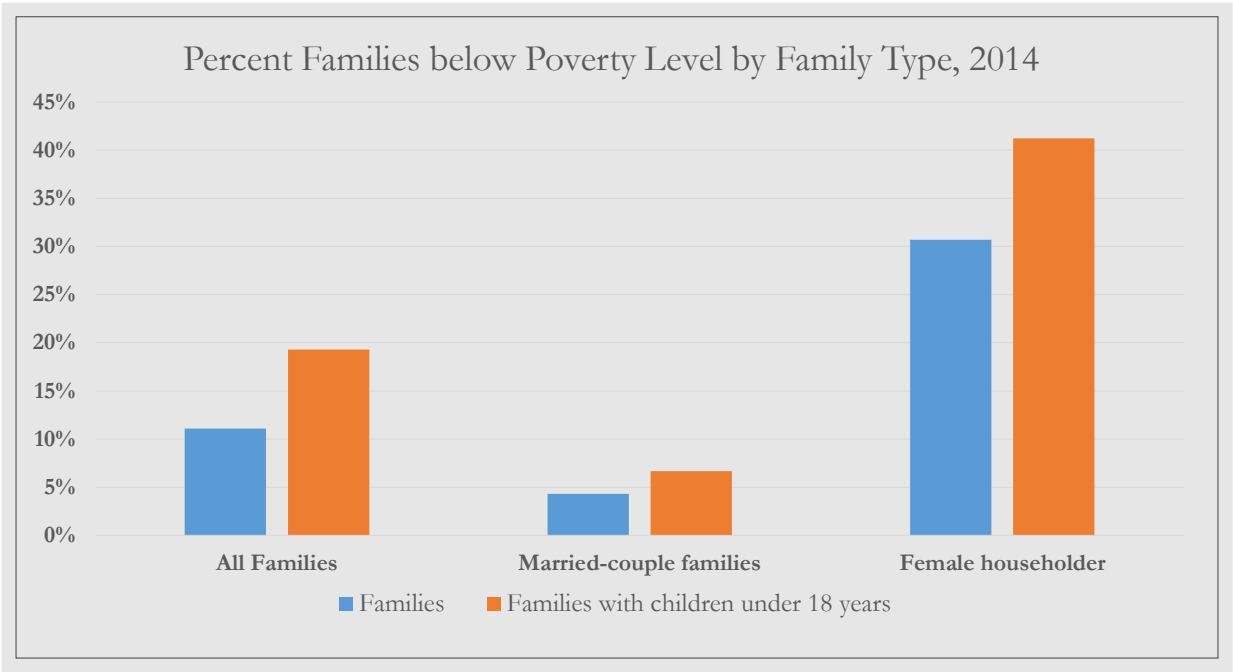


Source: 2010-2014 American Community Survey 5-Year Estimates

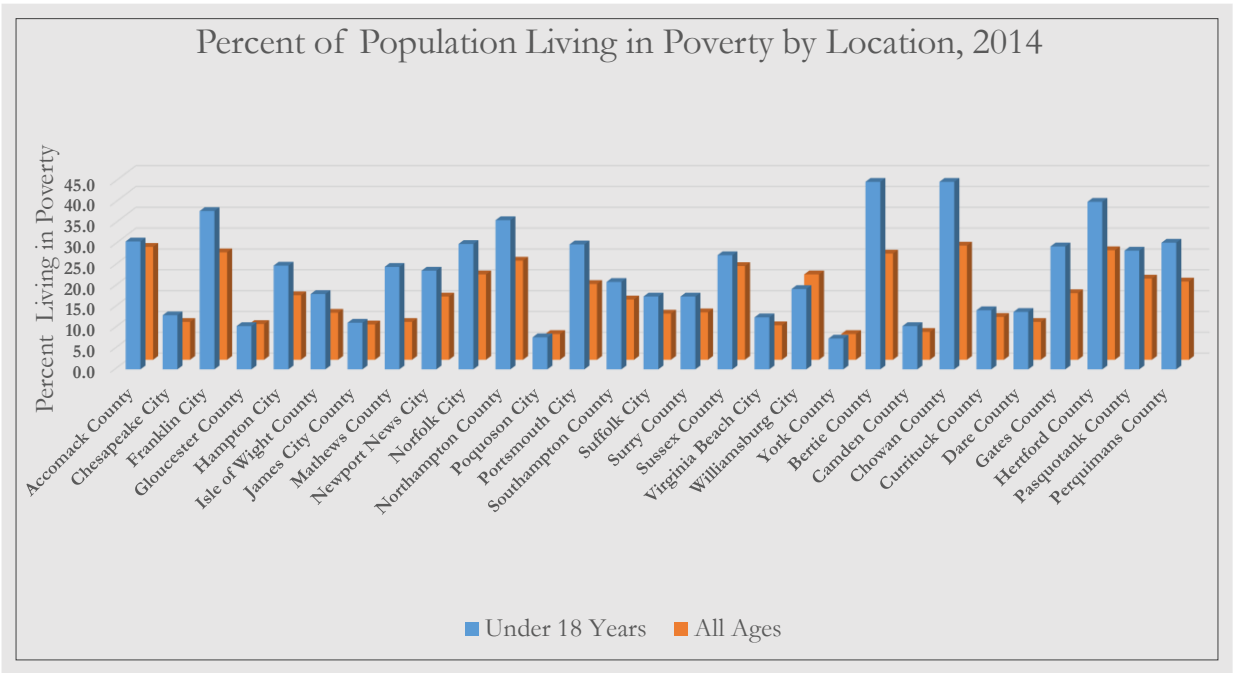


Source: 2010-2014 American Community Survey 5-Year Estimates

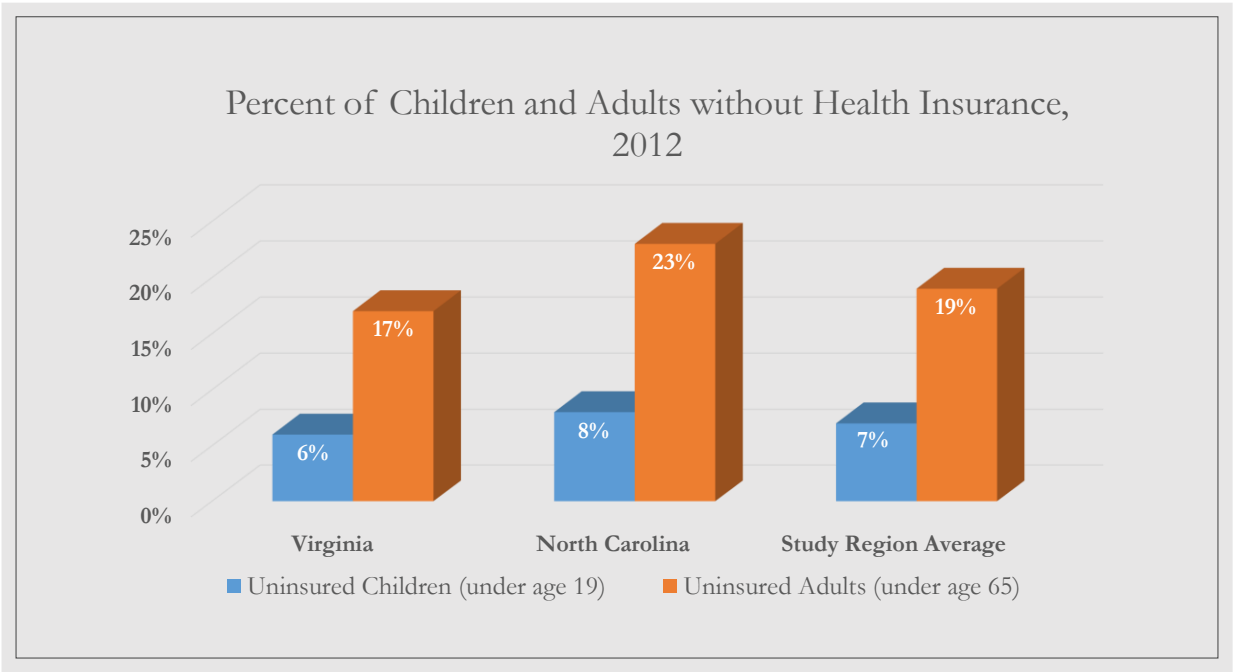
Poverty, Income, Employment



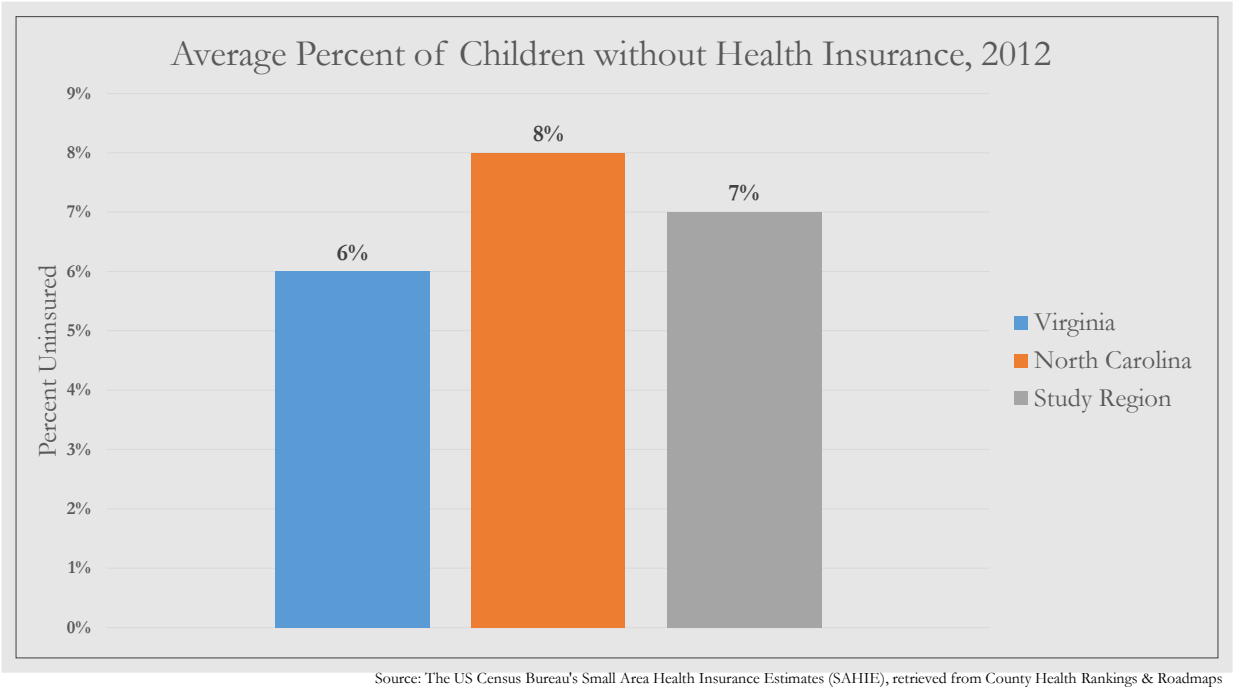
Source: 2010-2014 American Community Survey 5-Year Estimates



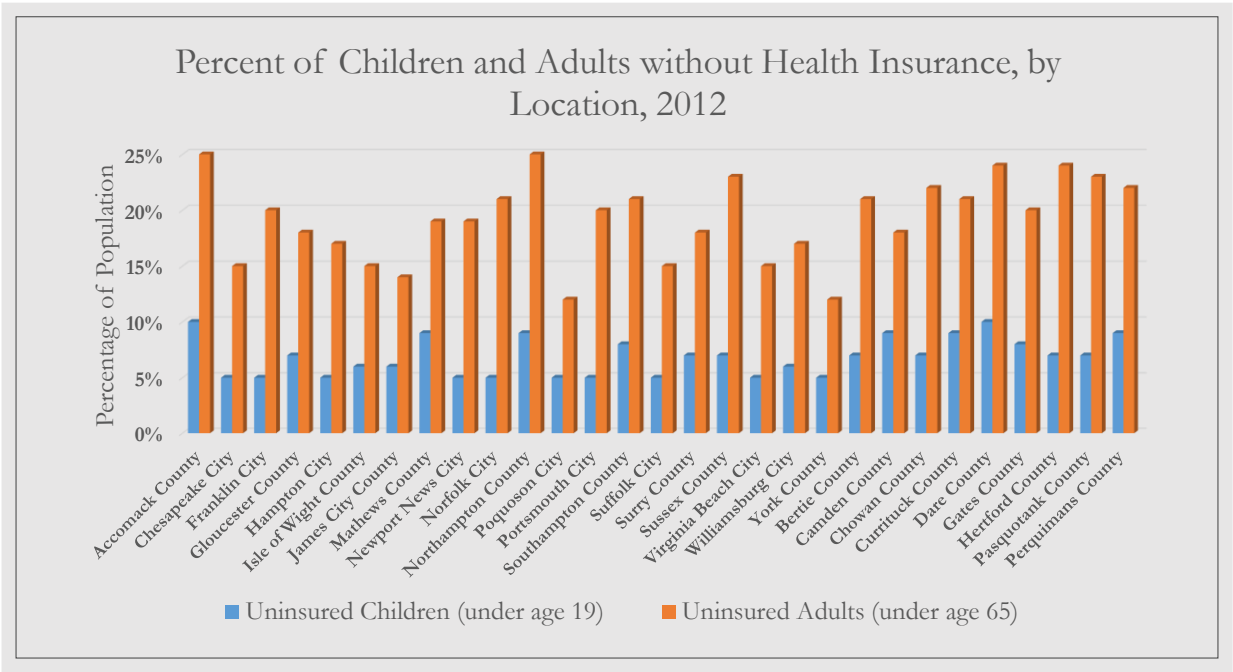
Source: 2010-2014 American Community Survey 5-Year Estimates



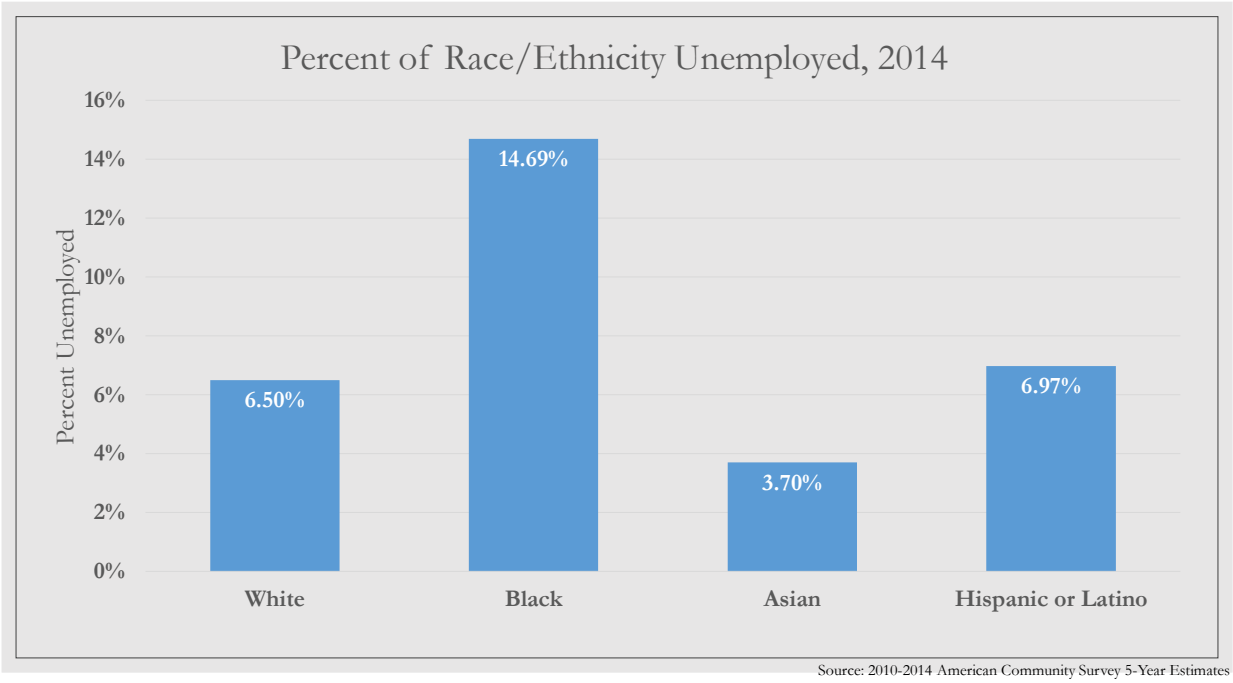
Source: 2010-2014 American Community Survey 5-Year Estimates



Source: The US Census Bureau's Small Area Health Insurance Estimates (SAHIE), retrieved from County Health Rankings & Roadmaps

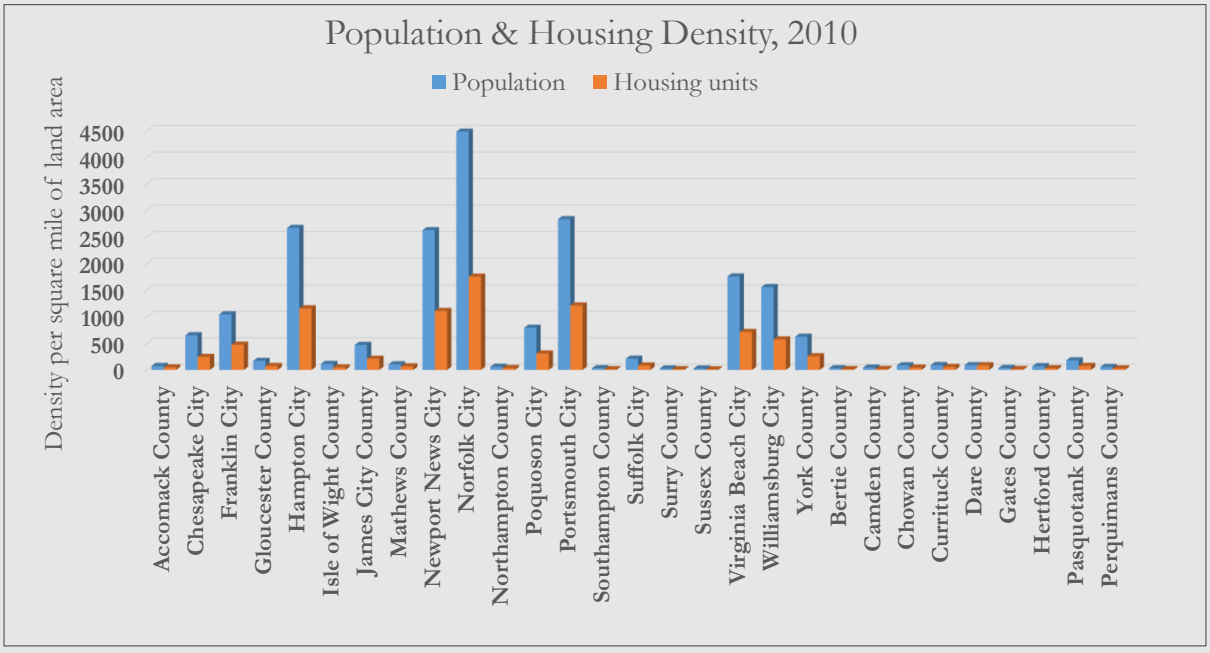


Source: The US Census Bureau's Small Area Health Insurance Estimates (SAHIE), retrieved from County Health Rankings & Roadmaps

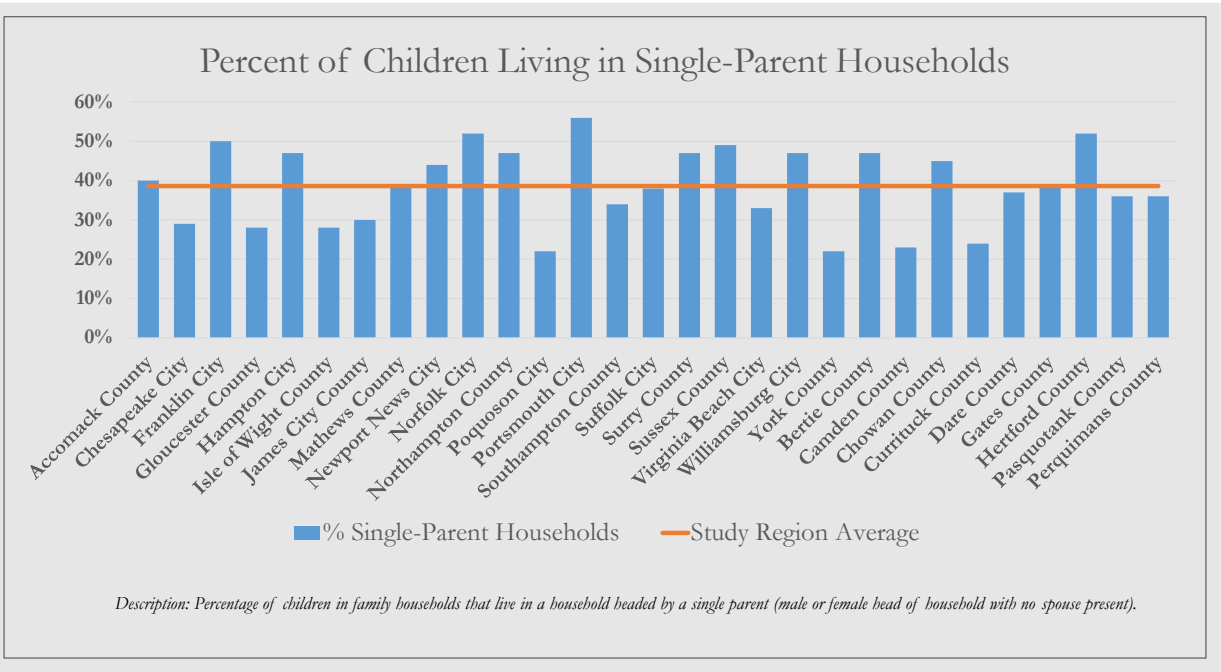


Source: 2010-2014 American Community Survey 5-Year Estimates

Housing

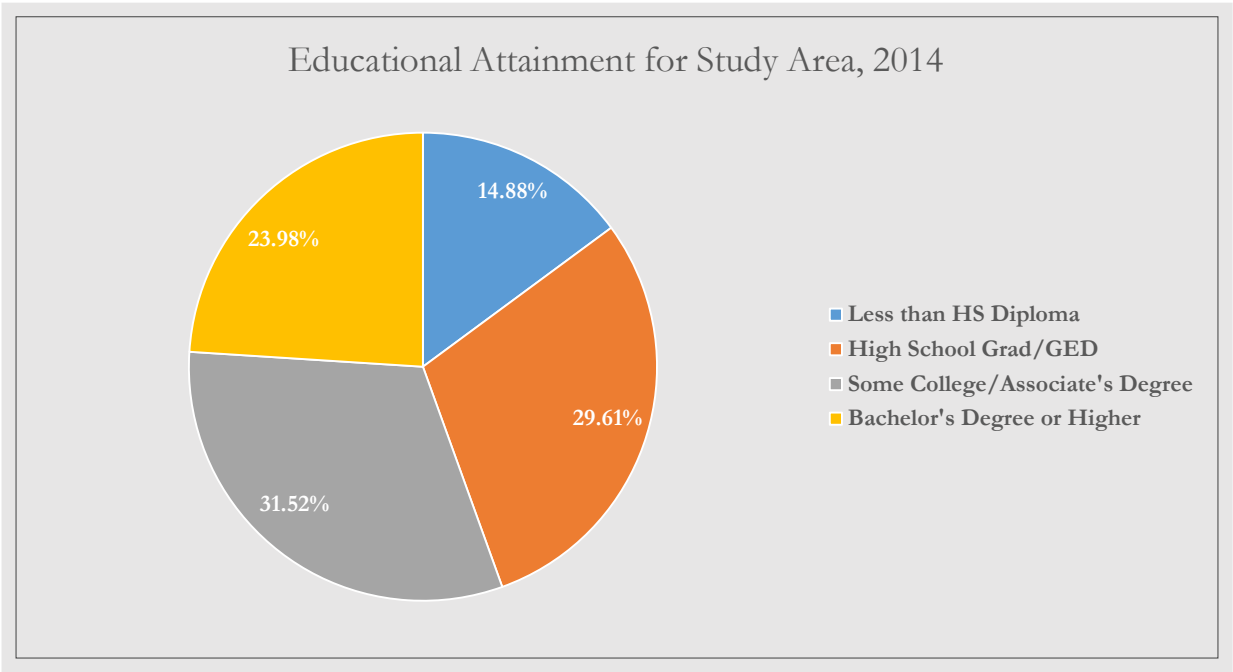


Source: Census Bureau - Population, Housing Units, Area, and Density: 2010 - County -- County Subdivision and Place more information

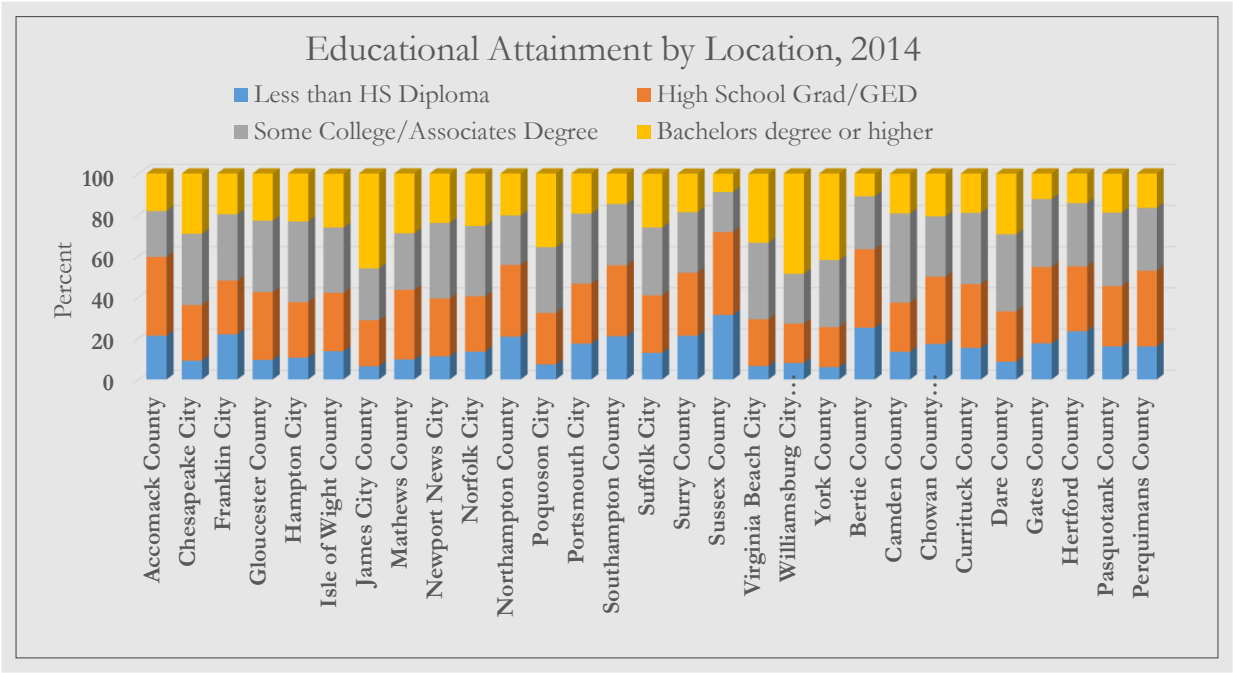


Source: American Community Survey, 5-year Estimates (Years of data used: 2009-2012)

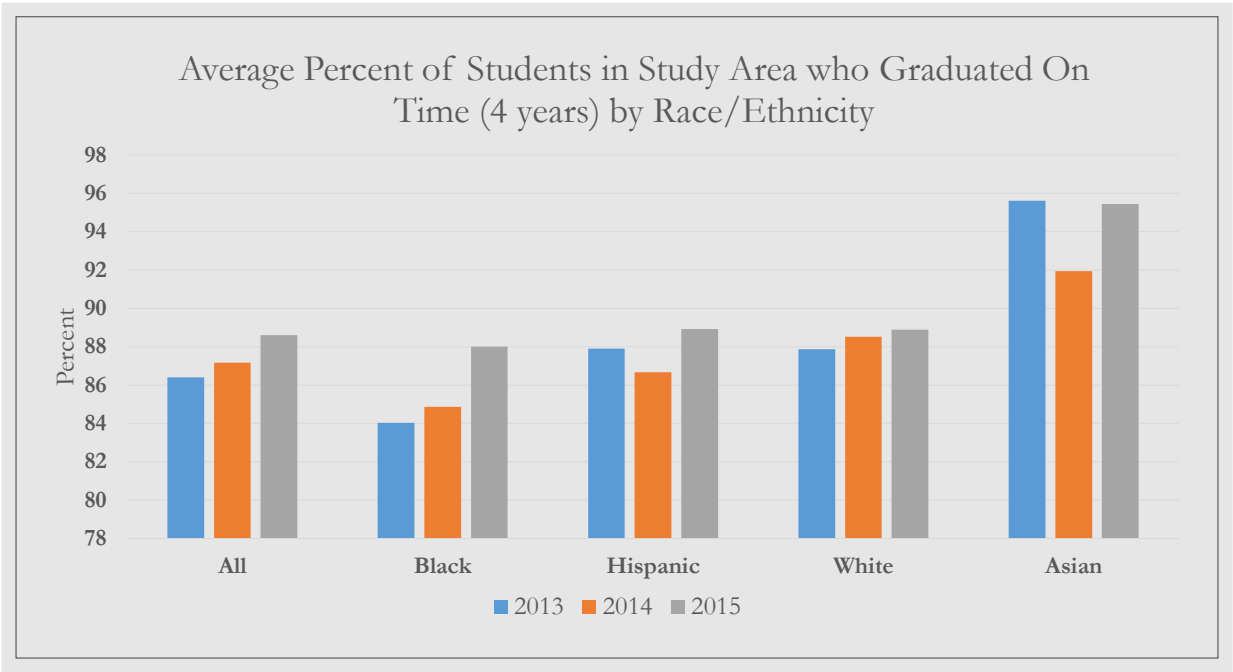
Education



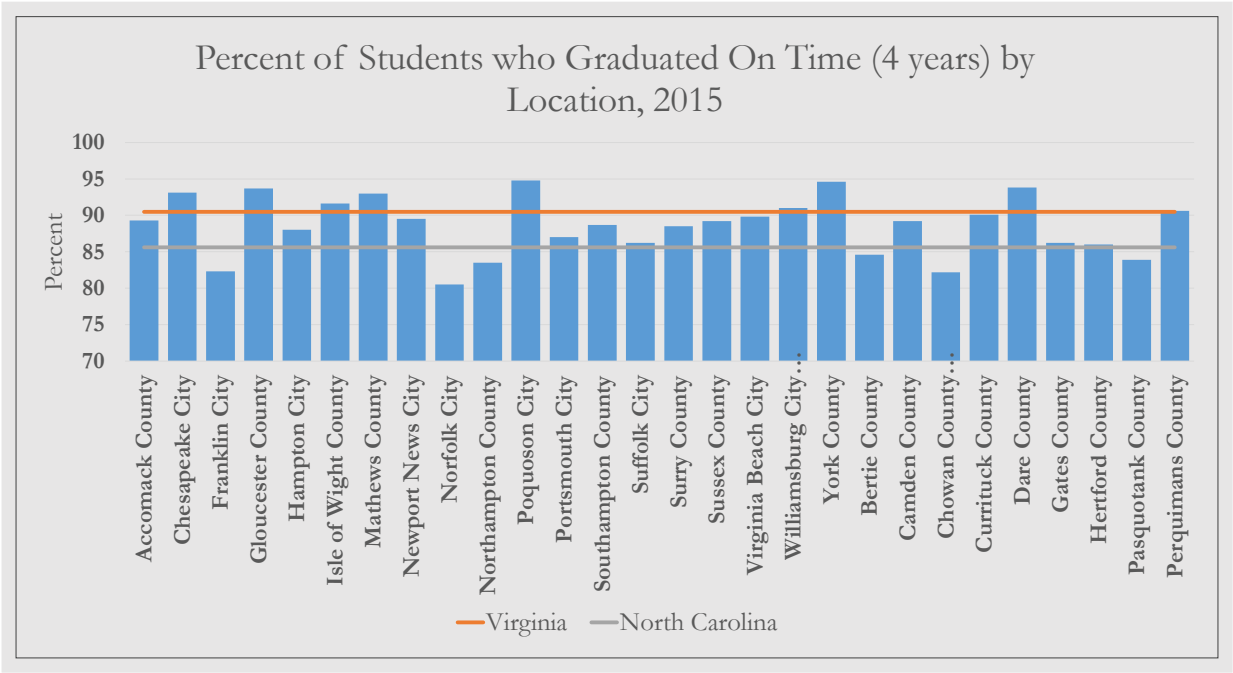
Source: 2010-2014 American Community Survey 5-Year Estimates



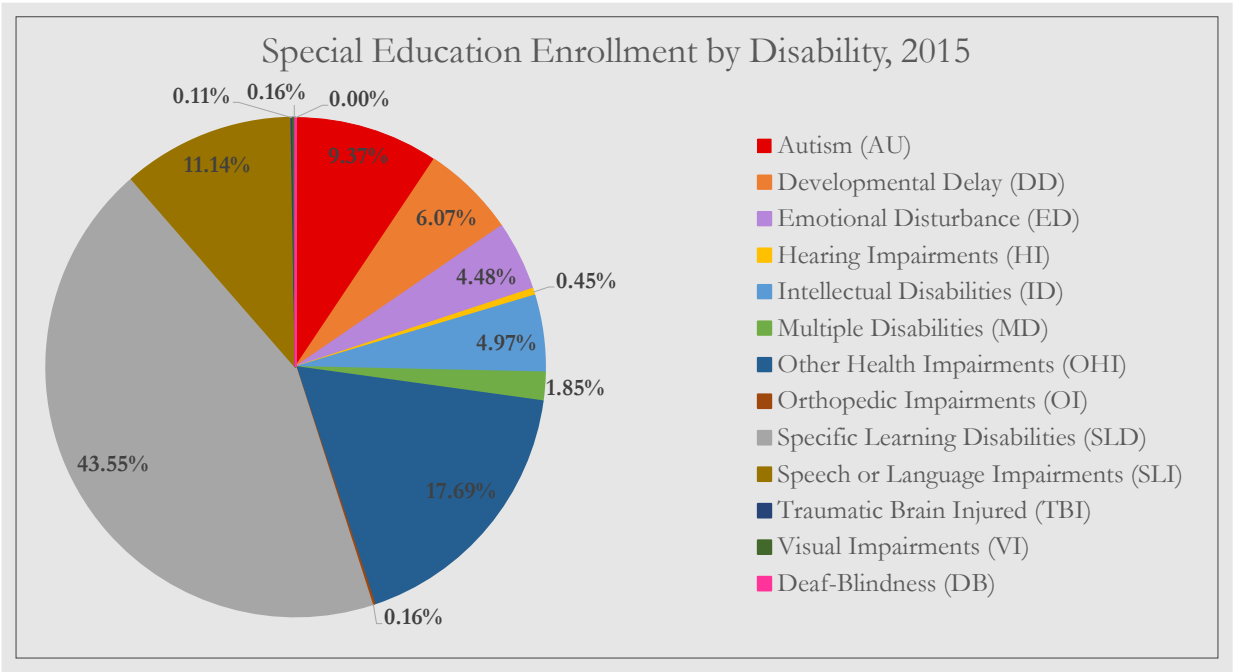
Source: 2010-2014 American Community Survey 5-Year Estimates



Source: Virginia Department of Education, Four-Year Cohort Reports

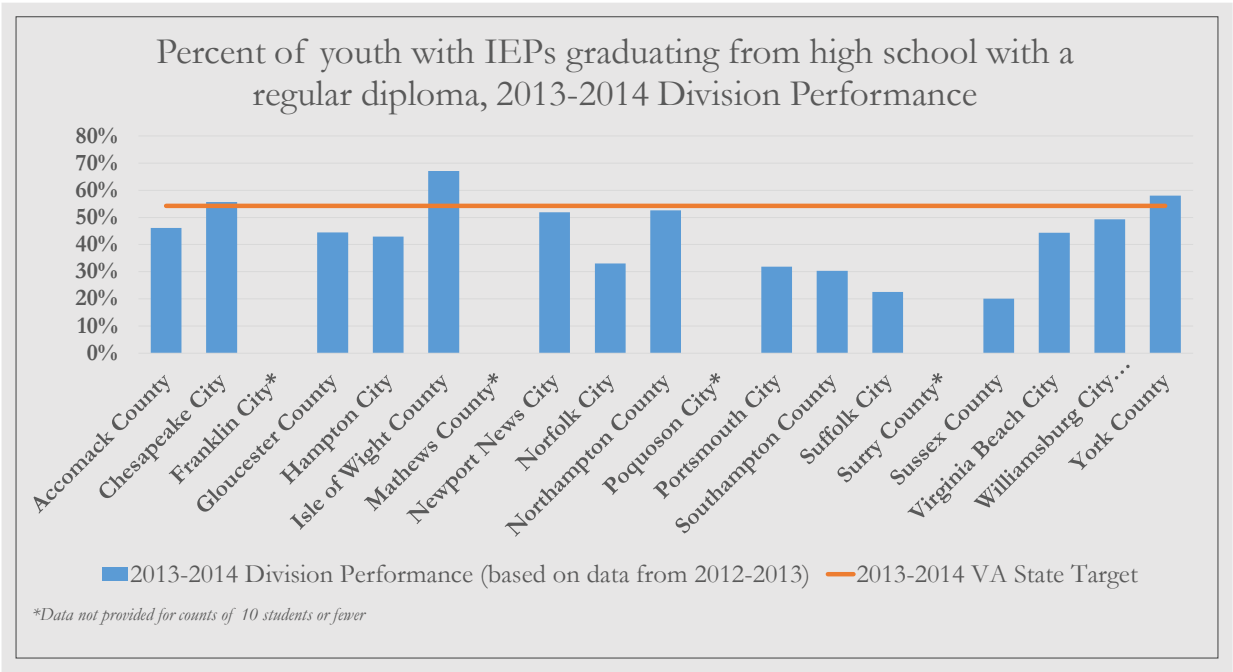


Source: Virginia Department of Education, Four-Year Cohort Reports

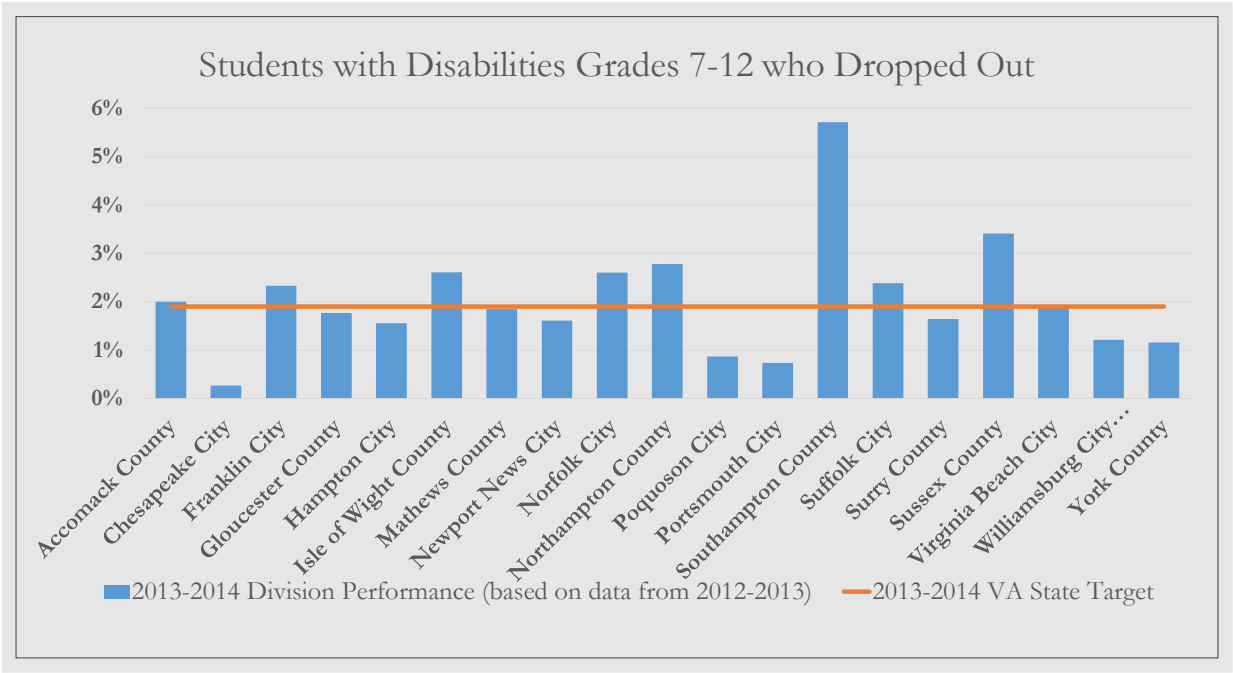


Source: Virginia Department of Education Child Count (2014-2015 School Year) & Public Schools of North Carolina State Board of Education Child Counts (April 1, 2015)

	Accomack	Chesapeake	Franklin	Gloucester	Hampton	Isle of Wight	Mathews	Newport News	Norfolk	Northampton	Poquoson	Portsmouth	Southampton	Suffolk	Surry	Sussex	Virginia Beach	Williamsburg-James City	York	Bertie	Camden	Edenton-Chowan	Currituck	Dare	Gates	Hertford	Pasquotank	Perquimans	TOTAL
AU	43	721	10	55	289	76	11	341	463	19	24	173	34	189	0	0	974	167	166	*	42	20	37	45	19	20	94	16	4048
DD	74	236	0	58	156	35	18	325	361	19	10	90	0	78	0	0	611	139	86	51	16	30	57	28	28	34	50	32	2622
ED	20	381	12	26	190	31	0	242	165	0	22	88	19	105	0	0	406	65	73	*	*	11	*	22	12	*	44	*	1934
HI	0	33	*	0	15	0	0	33	33	0	0	0	*	16	0	*	47	17	0	*	*	*	*	*	*	*	*	*	194
ID	64	221	16	40	193	25	0	257	257	13	11	132	41	134	17	20	309	61	60	84	*	29	16	20	11	58	44	13	2146
MD	13	145	0	15	49	11	0	48	133	0	0	53	12	50	0	0	159	40	24	*	*	14	*	14	*	*	17	*	797
OHI	121	1692	21	98	489	133	32	541	747	46	62	279	33	377	26	32	1625	365	353	25	34	19	74	118	42	90	129	35	7638
OI	0	20	*	0	0	0	*	0	13	0	0	10	0	0	0	*	26	0	0	*	*	*	*	*	*	*	*	*	69
SLD	222	2194	53	238	930	232	72	1389	1569	86	66	623	112	664	43	5262	2892	431	334	126	79	121	227	144	117	147	285	148	18806
SLI	113	849	13	99	399	130	21	282	514	28	37	224	57	87	19	26	826	269	178	56	58	28	25	167	50	24	170	60	4809
TBI	0	16	0	0	0	0	*	10	0	*	*	0	0	0	0	*	21	0	0	*	*	*	*	*	*	*	*	*	47
VI	0	17	0	0	0	0	*	17	20	*	*	0		0	0	*	17	0	0	*	*	*	*	*	*	*	*	*	71
DB	*	*	*	*	*	*	*	*	*	*	*	*	*	0	*	*	0	*	*	*	*	*	*	*	*	*	*	*	0
Total	670	6525	125	629	2710	673	154	3485	4275	211	232	1672	308	1700	105	5340	7913	1554	1274	342	229	272	436	558	279	373	833	304	43181



Source: Virginia Department of Education, Special Education Performance Report



Source: Virginia Department of Education, Special Education Performance Report

Health Resources

Access to Health Care Providers

Ratio of county/city population to total number of providers, by type of provider

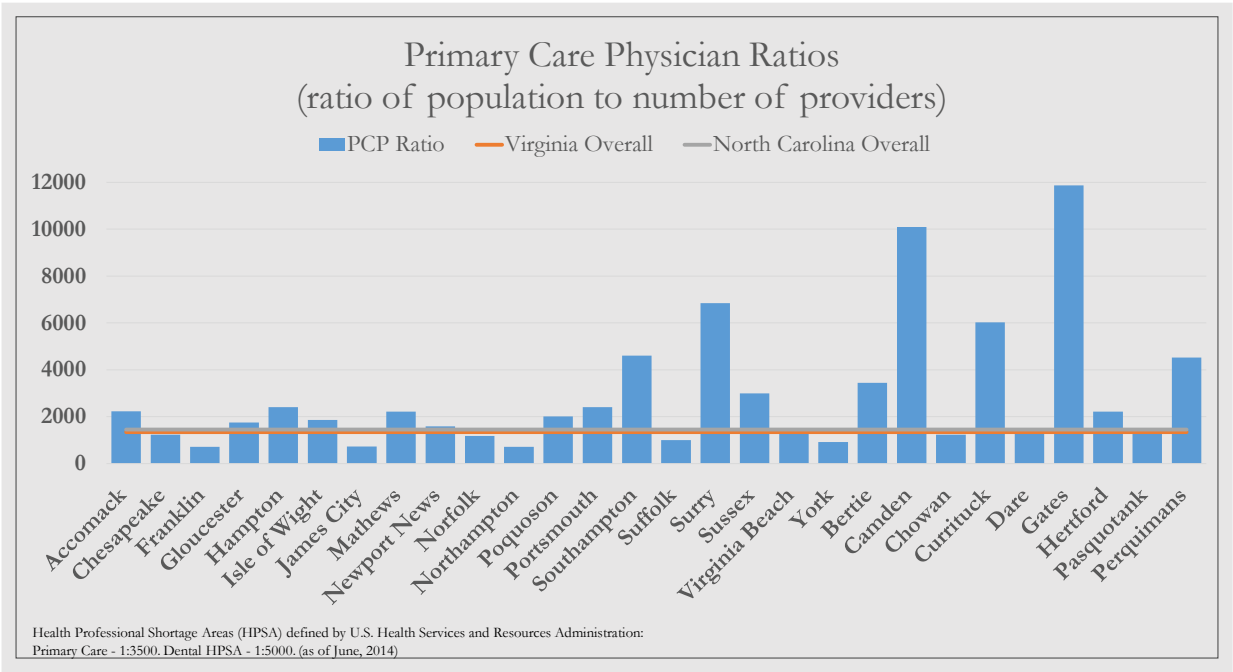
	Accomack	Chesapeake	Franklin	Gloucester	Hampton	Isle of Wight	James City	Mathews	Newport News	Norfolk
Primary Care Physicians	1:2223	1:1235	1:711	1:1756	1:2401	1:1863	1:726	1:2221	1:1585	1:1182
Dentists	1:3683	1:2329	1:1440	1:3070	1:1627	1:5943	1:979	1:4449	1:1264	1:1330
Mental Health Providers	1:1326	1:1246	1:720	1:767	1:499	1:5943	1:420	1:4449	1:871	1:609

	Northampton	Poquoson	Portsmouth	Southampton	Suffolk	Surry	Sussex	Virginia Beach	Williamsburg	York
Primary Care Physicians	1:719	1:2016	1:2412	1:4602	1:1002	1:6844	1:2993	1:1281		1:919
Dentists	1:1010	1:1729	1:992	1:18128	1:2858	***	1:5905	1:1424		1:884
Mental Health Providers	1:1102	1:2017	1:540	***	1:1994	1:1352	1:5905	1:691	1:1901	1:1841

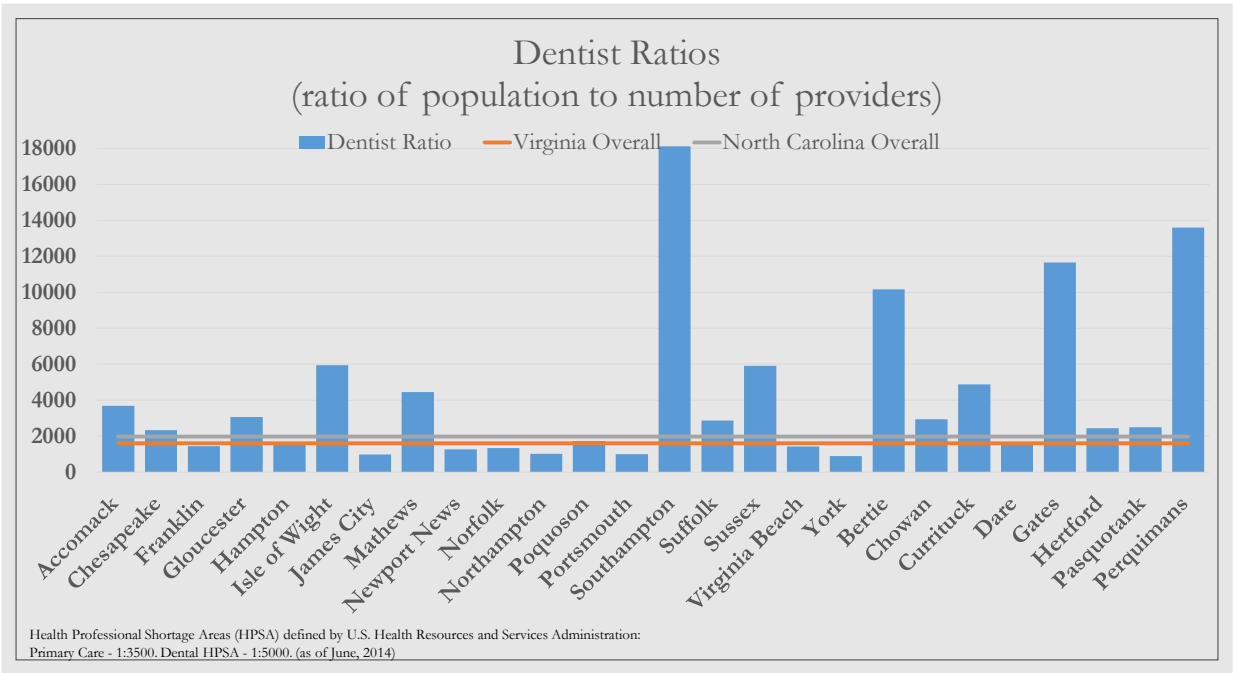
	Bertie	Camden	Chowan	Currituck	Dare	Gates	Hertford	Pasquotank	Perquimans
Primary Care Physicians	1:3442	1:10090	1:1231	1:6019	1:1503	1:11869	1:2222	1:1400	1:4521
Dentists	1:10172	***	1:2945	1:4879	1:1592	1:11650	1:2443	1:2499	1:13601
Mental Health Providers	1:2034	1:1698	1:1052	1:2440	1:614	1:11650	1:520	1:519	1:2267

Health Professional Shortage Areas (HPSA) defined by U.S. Health Services and Resources Administration:
Primary Care - 1:3500. Dental HPSA - 1:5000.

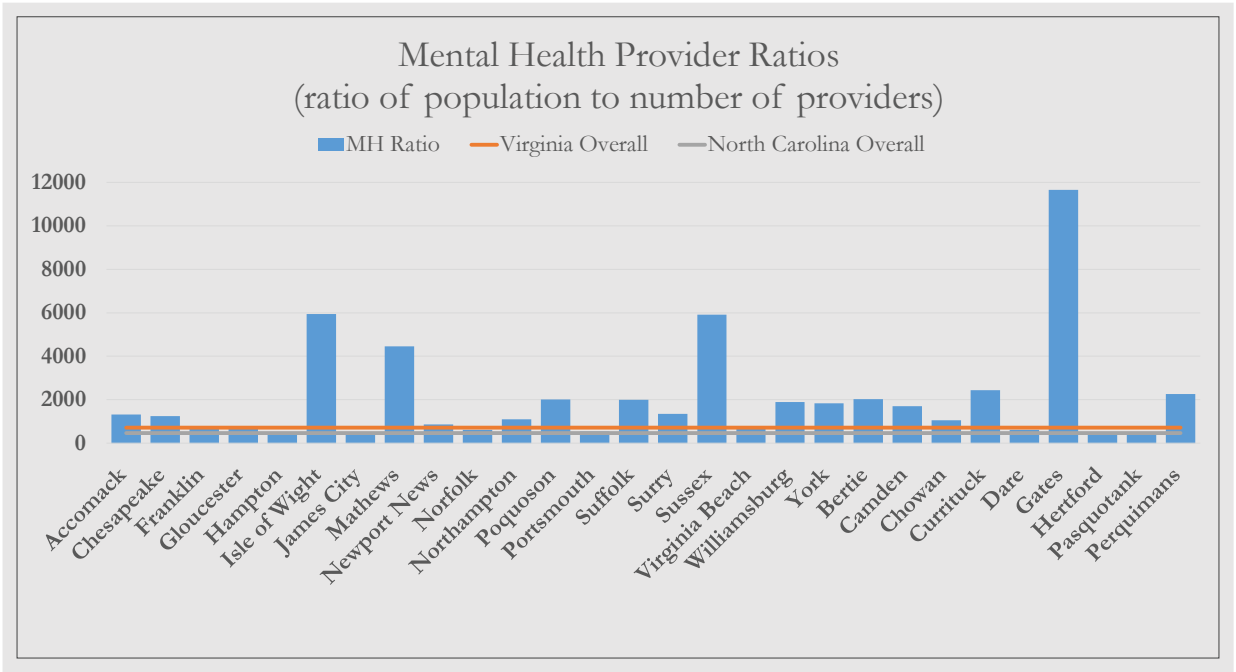
Source: County Health Rankings, Area Health Resource File, PCP: 2012, Dentist: 2013, MH :2014



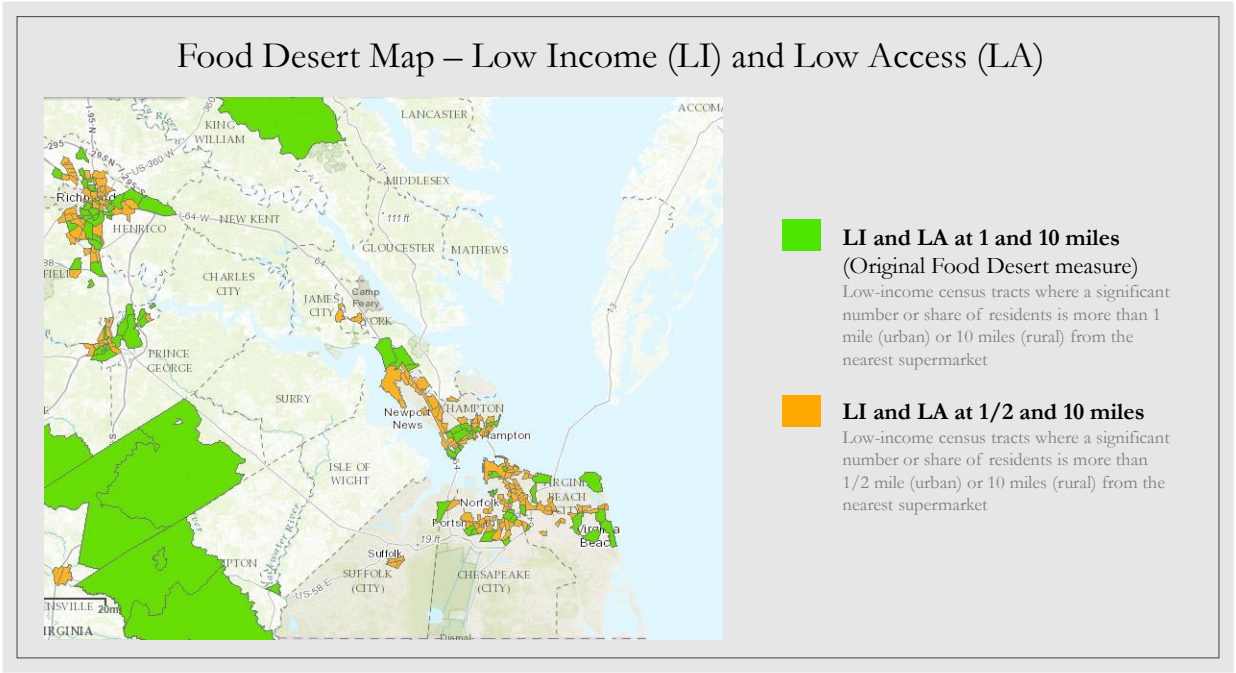
Source: County Health Rankings, Area Health Resource File, PCP: 2012



Source: County Health Rankings, Area Health Resource File, Dentist: 2013

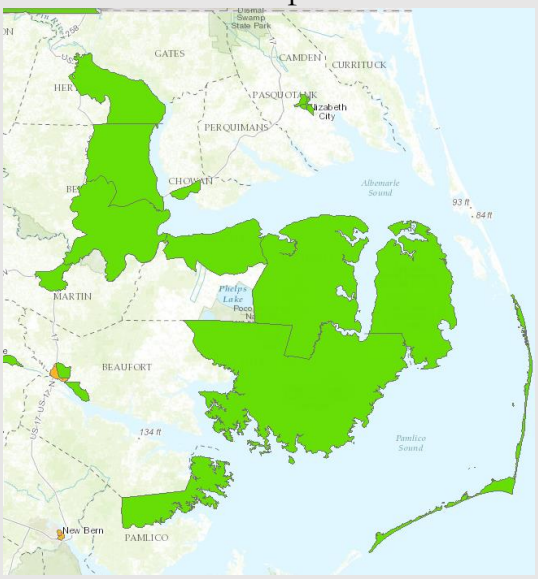


Source: County Health Rankings, Area Health Resource File, MH :2014



Source: U.S. Department of Agriculture

Food Desert Map – Low Income (LI) and Low Access (LA)



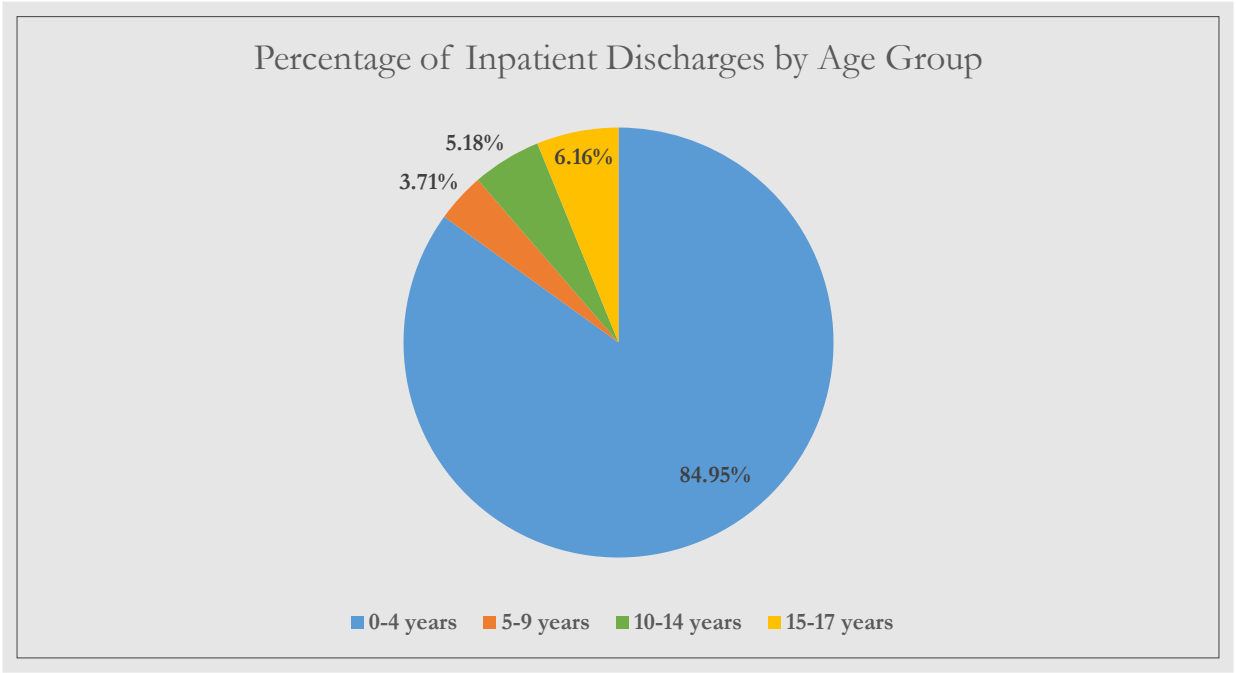
LI and LA at 1 and 10 miles
(Original Food Desert measure)
Low-income census tracts where a significant number or share of residents is more than 1 mile (urban) or 10 miles (rural) from the nearest supermarket

LI and LA at 1/2 and 10 miles
Low-income census tracts where a significant number or share of residents is more than 1/2 mile (urban) or 10 miles (rural) from the nearest supermarket

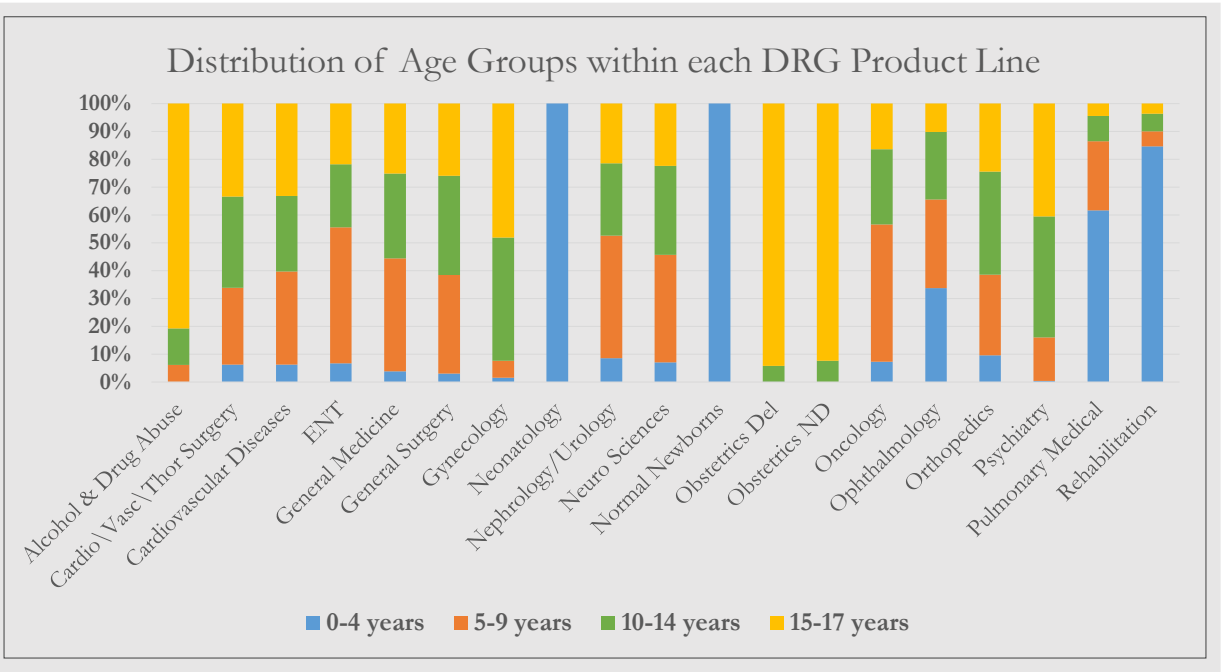
Source: U.S. Department of Agriculture

Key Health Issues

Hospital Discharge Rates



Source: Truven Market Expert, Dates: January 2012 – June 2015

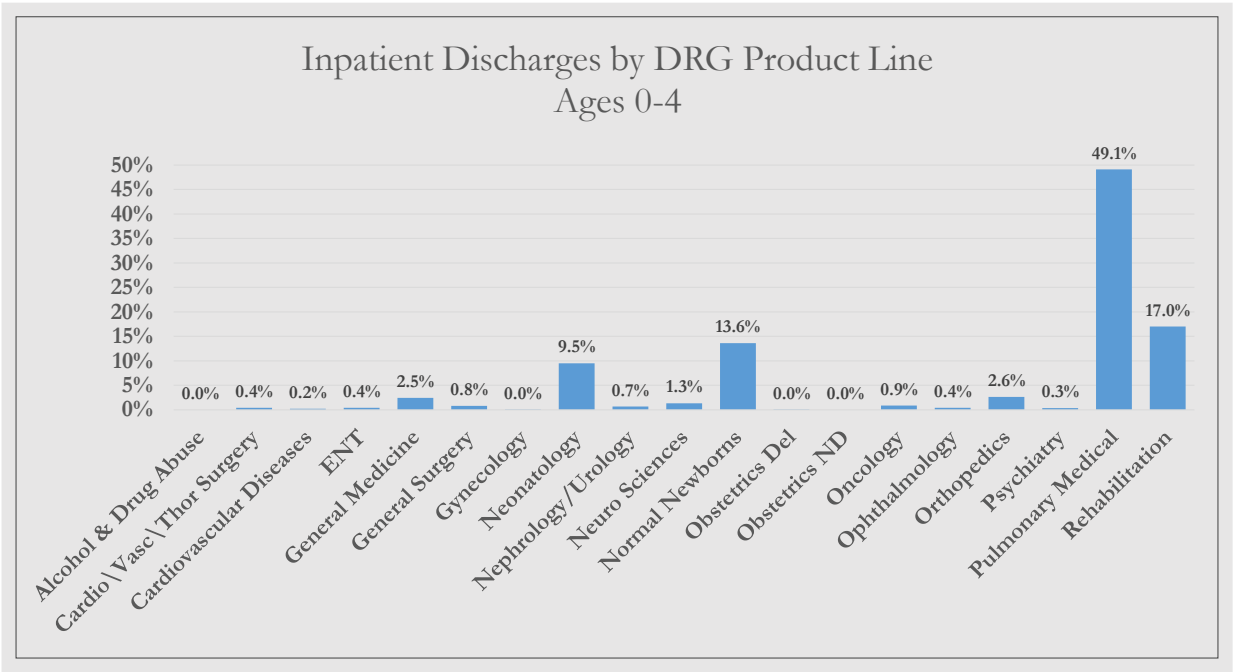


Source: Truven Market Expert, Dates: January 2012 – June 2015

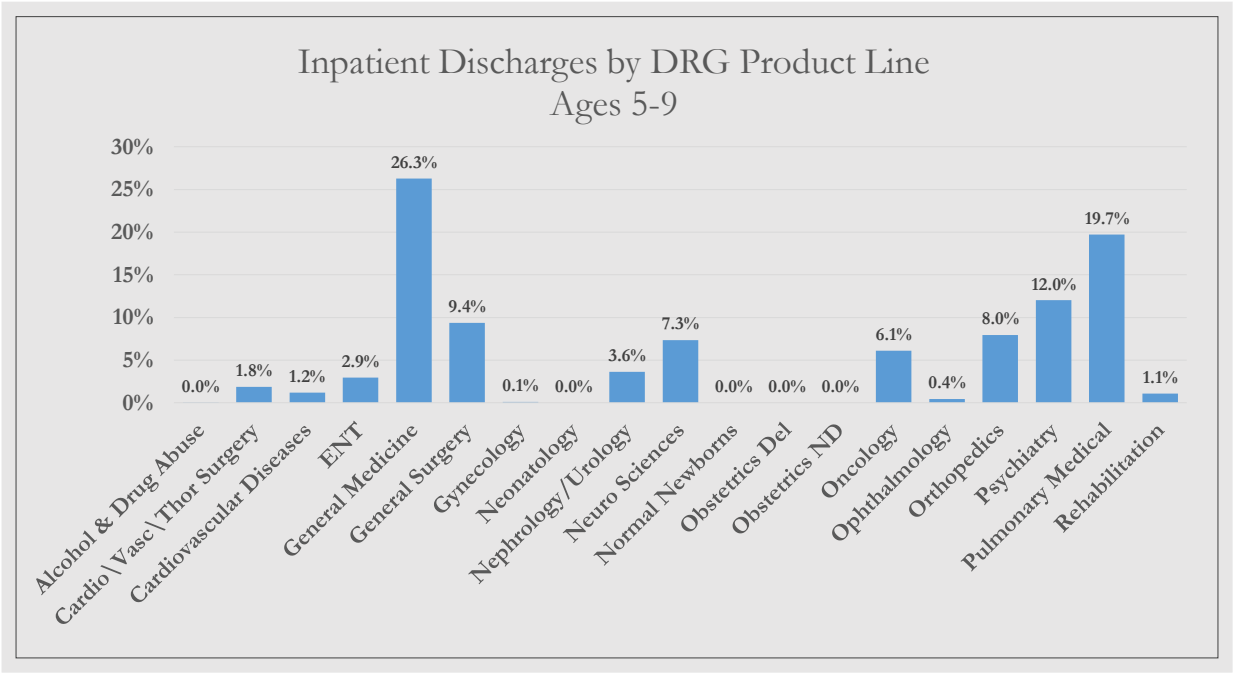
Four Most Common DRG Product Lines for Inpatient Discharges within each Age Group

	0-4 years	5-9 years	10-14 years	15-17 years
1	Pulmonary Medical	General Medicine	Psychiatry	Psychiatry
Percentage of Age Group	49.08%	26.26%	33.59%	31.36%
Count	40164	938	1677	1862
2	Rehabilitation	Pulmonary Medical	General medicine	Obstetrics Del
Percentage of Age Group	17.02%	19.71%	19.75%	18.83%
Count	13931	704	986	1118
3	Normal Newborns	Psychiatry	Orthopedics	General Medicine
Percentage of Age Group	13.65%	12.01%	10.15%	16.27%
Count	11167	429	507	966
4	Neonatology	General Surgery	General Surgery	General Surgery
Percentage of Age Group	9.51%	9.35%	9.41%	6.85%
Count	7783	334	470	407

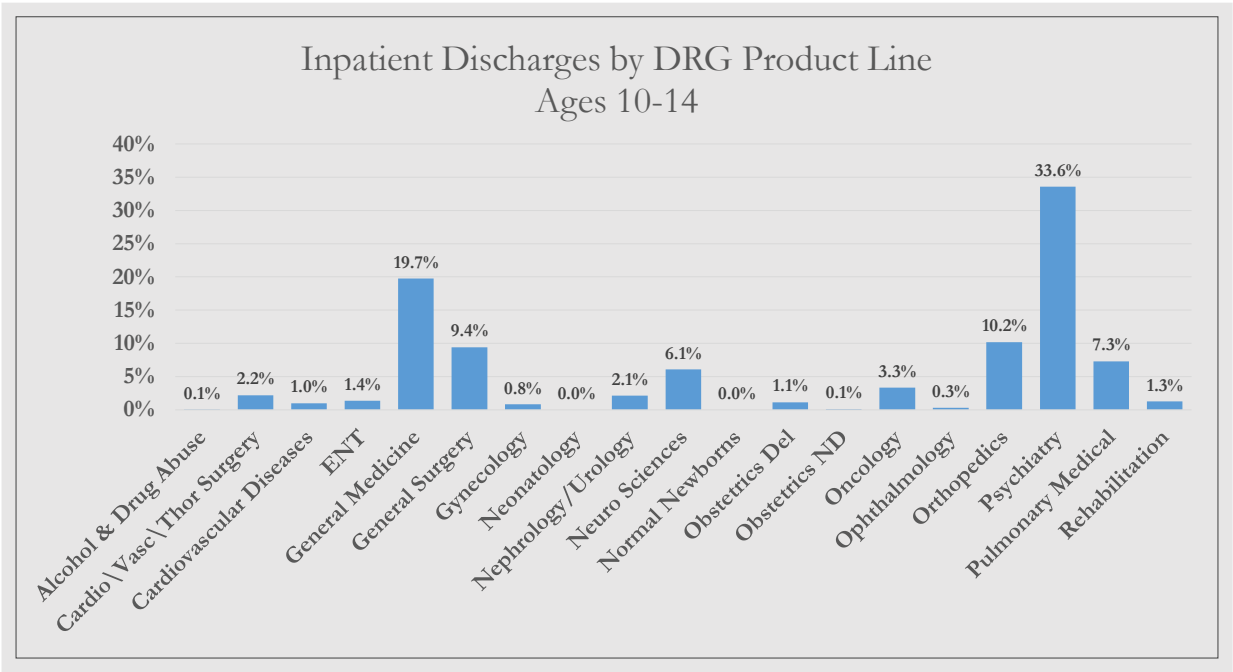
Source: Truven Market Expert, Dates: January 2012 – June 2015



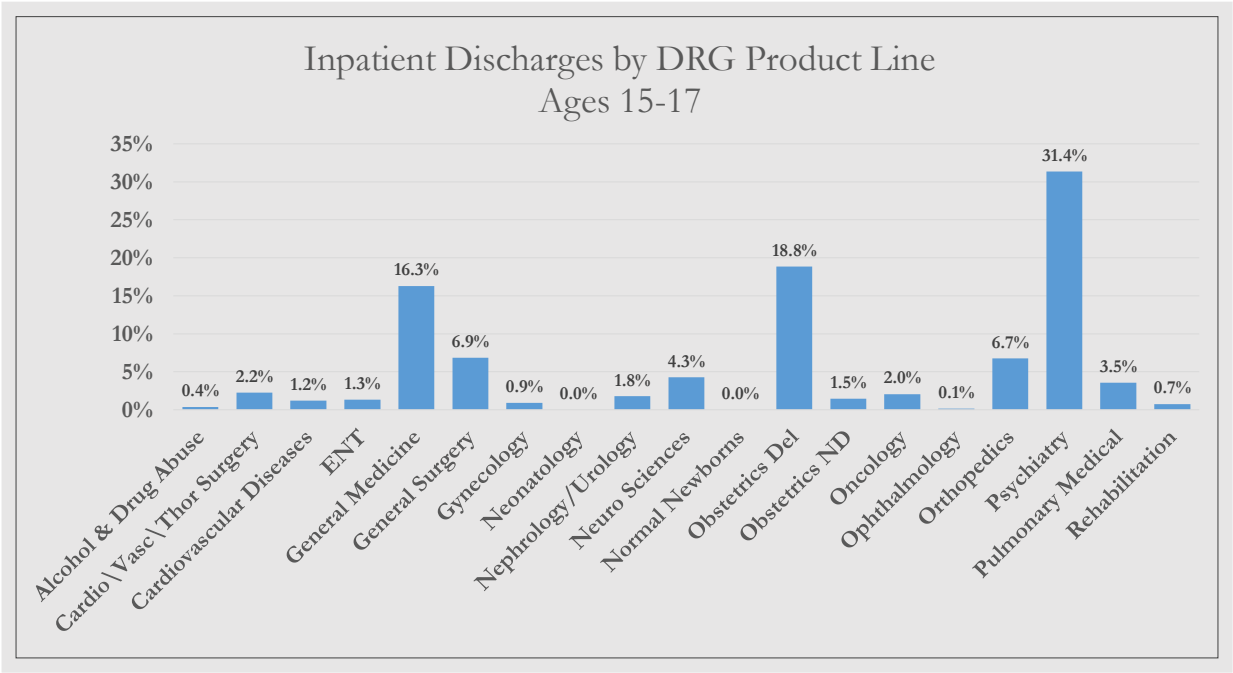
Source: Truven Market Expert, Dates: January 2012 – June 2015



Source: Truven Market Expert, Dates: January 2012 – June 2015



Source: Truven Market Expert, Dates: January 2012 – June 2015



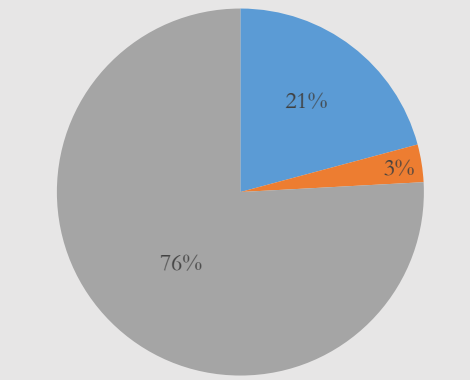
Source: Truven Market Expert, Dates: January 2012 – June 2015

Maternal and Infant Health

Counts of Maternal and Infant Health Indicators by Year

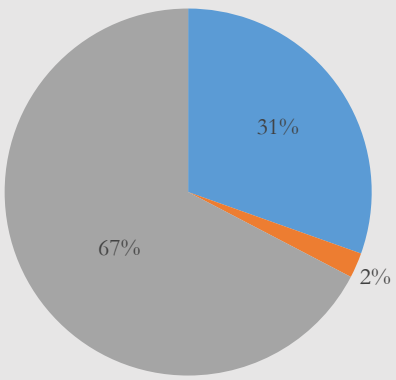
	Study Region			Virginia			North Carolina		
	2011	2013	% Change	2011	2013	% Change	2011	2013	% Change
Total Pregnancies	34704	32957	-5.0%	132429	126655	-4.4%	143526	139582	-2.7%
Induced Termination	7960	6865	-13.8%	23635	19724	-16.5%	22370	19818	-11.4%
Natural Fetal Death	1196	1092	-8.7%	6269	4954	-21.0%	753	781	3.7%
Live Birth	25548	25000	-2.1%	102525	101977	-0.5%	120403	118983	-1.2%
Total Teen Pregnancies (ages 10-19)	3016	2657	-11.9%	9630	7447	-22.7%	14164	11360	-19.8%
Total Live Births to Teens (ages 10-19)	1962	1520	-22.5%	6572	5316	-19.1%	11207	9145	-18.4%
15-19	1941	1512	-22.1%	6515	5281	-18.9%	11061	9017	-18.5%
10-15	21	8	-61.9%	57	35	-38.6%	146	128	-12.3%
Total Infant Deaths	216	211	-2.3%	685	632	-7.7%	866	832	-3.9%

Sources: Virginia Department of Health & North Carolina State Center for Health Statistics



Total Pregnancies in Study Region by Outcome, 2011

Induced Termination
Natural Fetal Death
Live Birth



Teenage Pregnancies in Study Region by Outcome, 2013

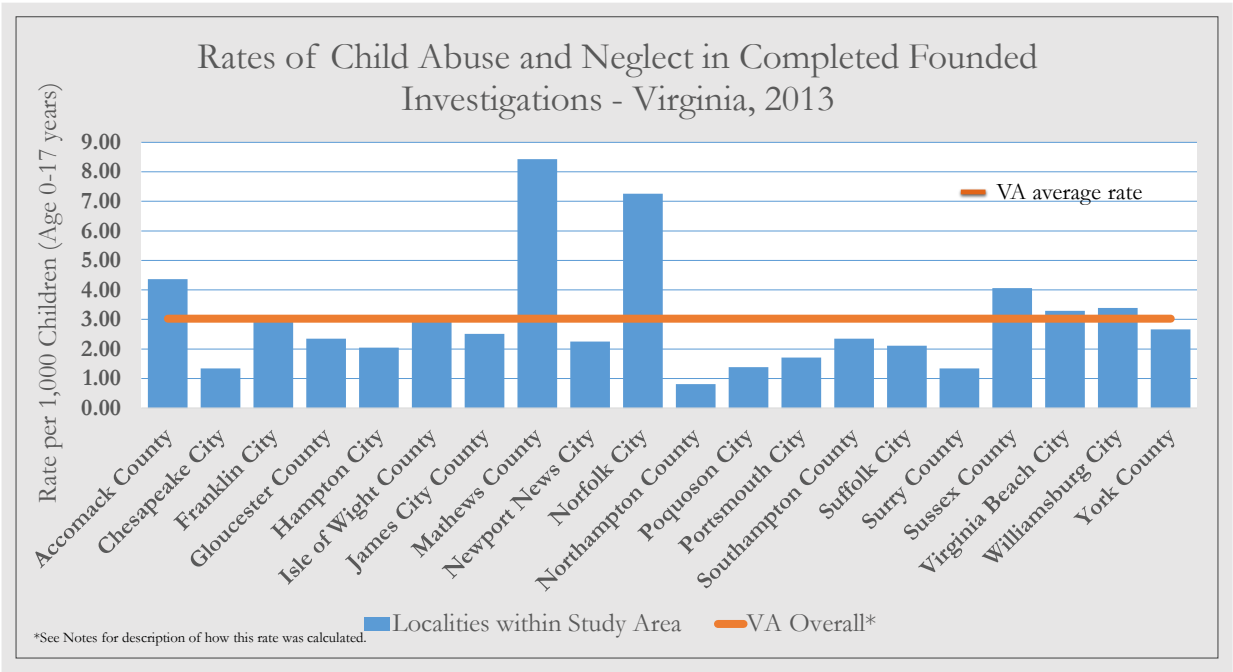
Induced Termination
Natural Fetal Death
Live Birth

Sources: Virginia Department of Health & North Carolina State Center for Health Statistics

Rates of Maternal and Infant Health Indicators, 2011 & 2013

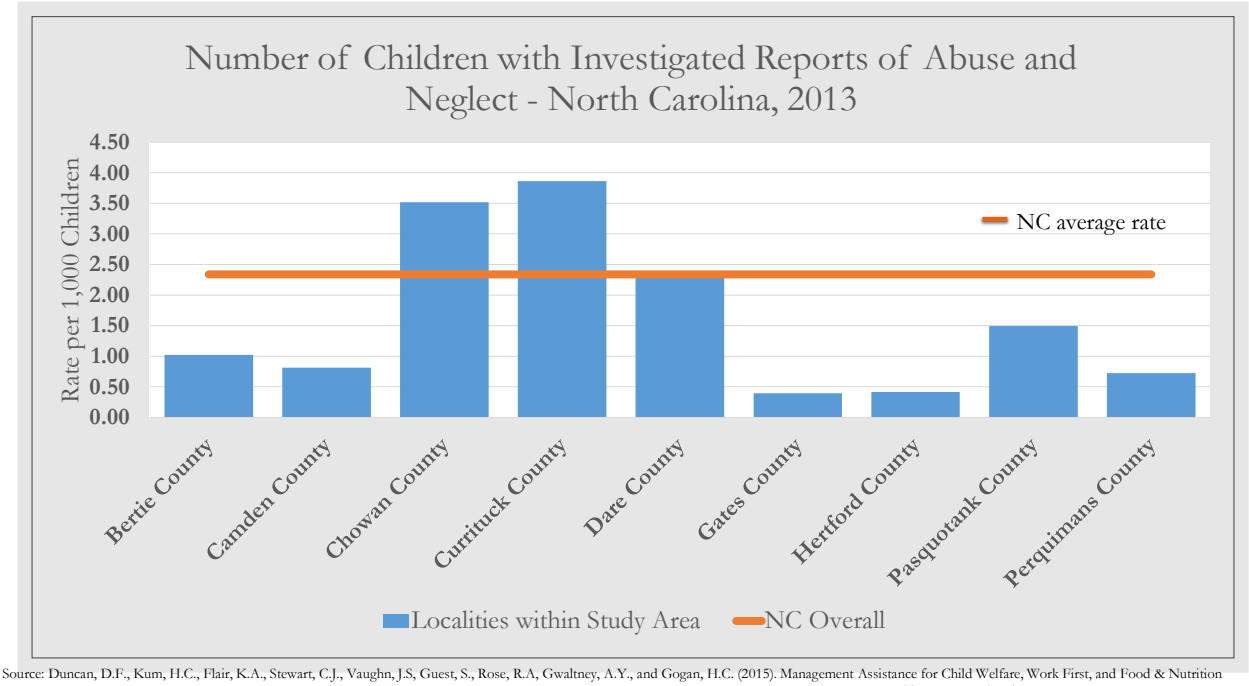
	2011			2013		
	Study Region	Virginia	North Carolina	Study Region	Virginia	North Carolina
Live Birth Rate per 1,000 Population	13.2	12.7	12.5	10.8	12.3	12.1
Low Weight Births % of total Live Births	9.0%	8.0%	9.1	8.9	8	8.8
Non-marital Births % of total live births	43.0%	35.0%	40.8	47.4	34.6	41.1
Infant Mortality Rate per 1,000	8.8	7.0	7.2	7.3	6.2	7

Sources: Virginia Department of Health & North Carolina State Center for Health Statistics



*See Notes for description of how this rate was calculated.

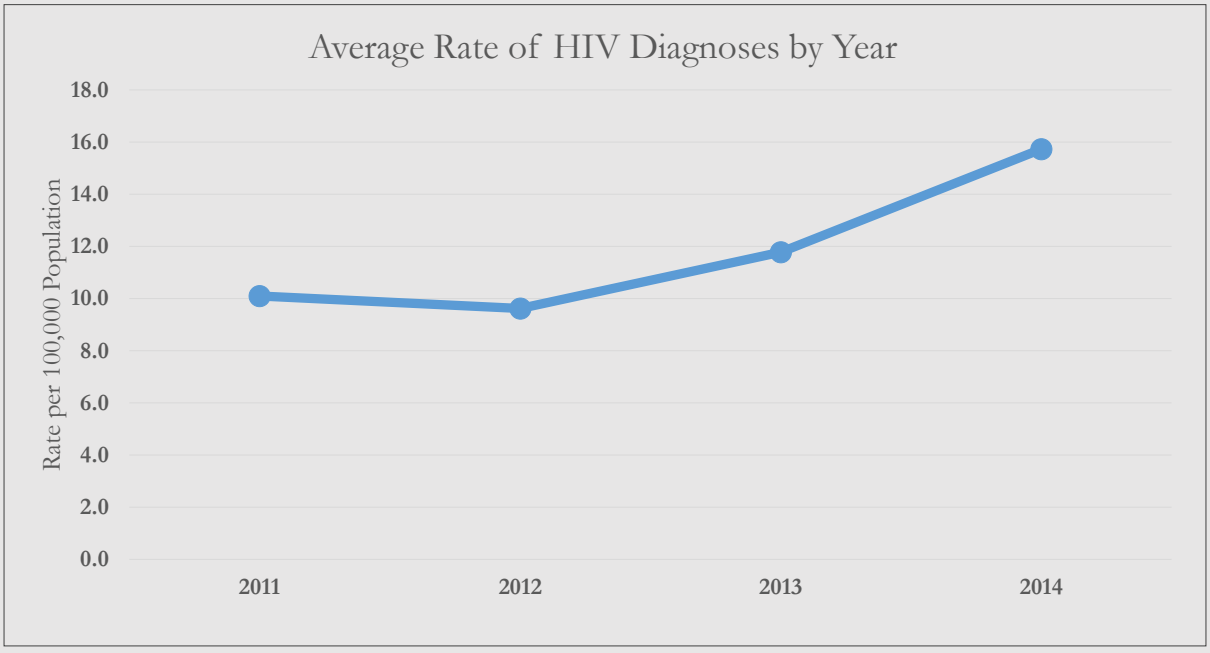
Source: Virginia Department of Social Services, Child Protective Services Reports & Studies



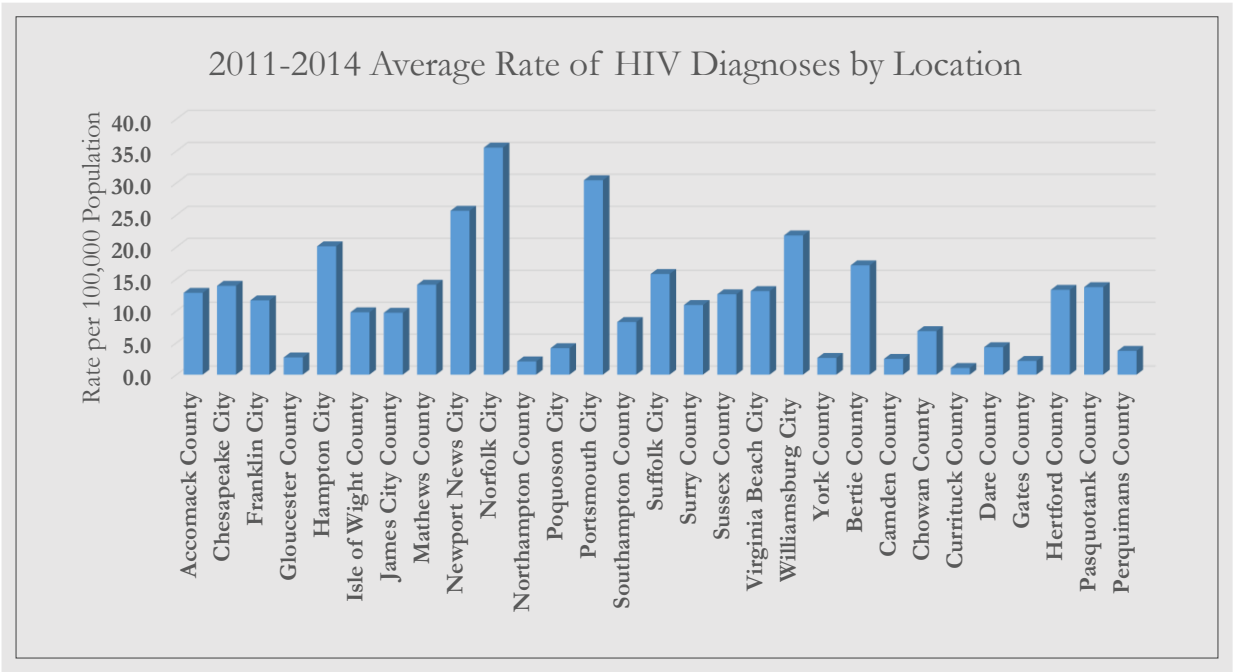
Source: Duncan, D.F., Kum, H.C., Flair, K.A., Stewart, C.J., Vaughn, J.S, Guest, S., Rose, R.A, Gwaltney, A.Y., and Gogan, H.C. (2015). Management Assistance for Child Welfare, Work First, and Food & Nutrition Services in North Carolina (v3.2). Retrieved April 21, 2016, from University of North Carolina at Chapel Hill Jordan Institute for Families website. URL: http://ssw.unc.edu/ma/

Sexual Health

Note: Data for Sexually Transmitted Infections include children and adults. Age groups are included in overall statewide counts, but not locality. Given the high rates of STIs in the study area, we have included the analysis even though it includes adults as well as youth.



Source: Virginia Department of Health – Virginia HIV Surveillance Annual Report & North Carolina Department of Health and Human Services - 2014 North Carolina HIV/STD Surveillance Report



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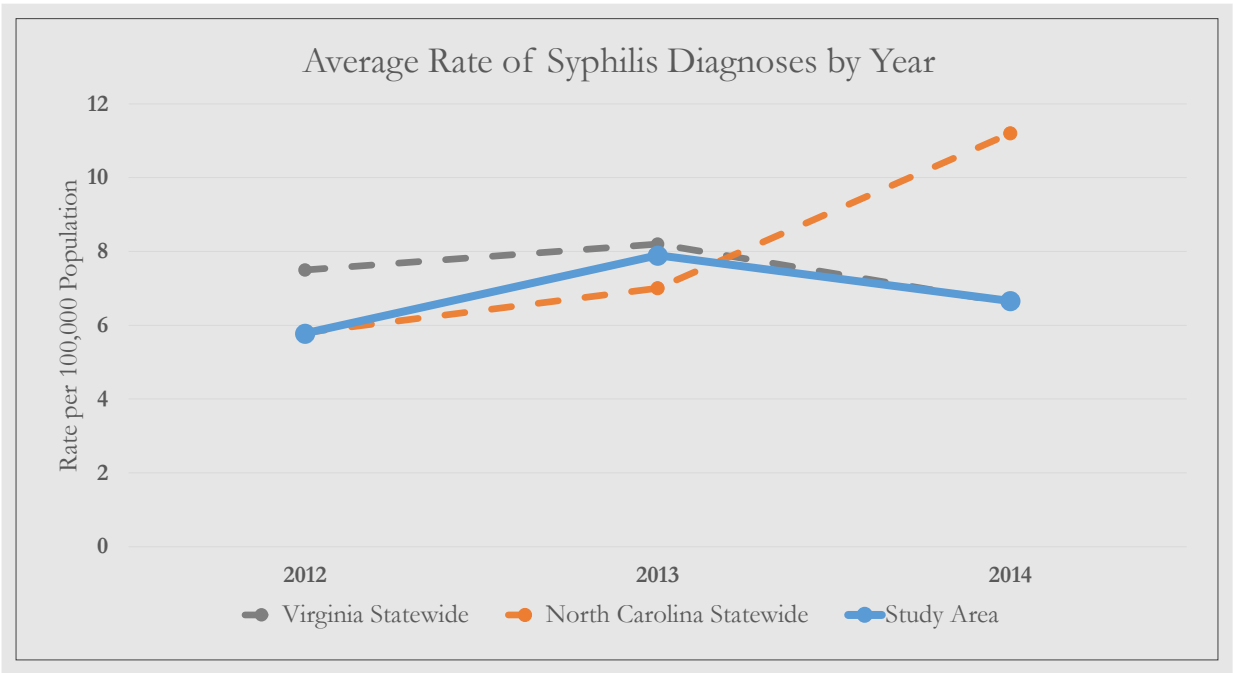
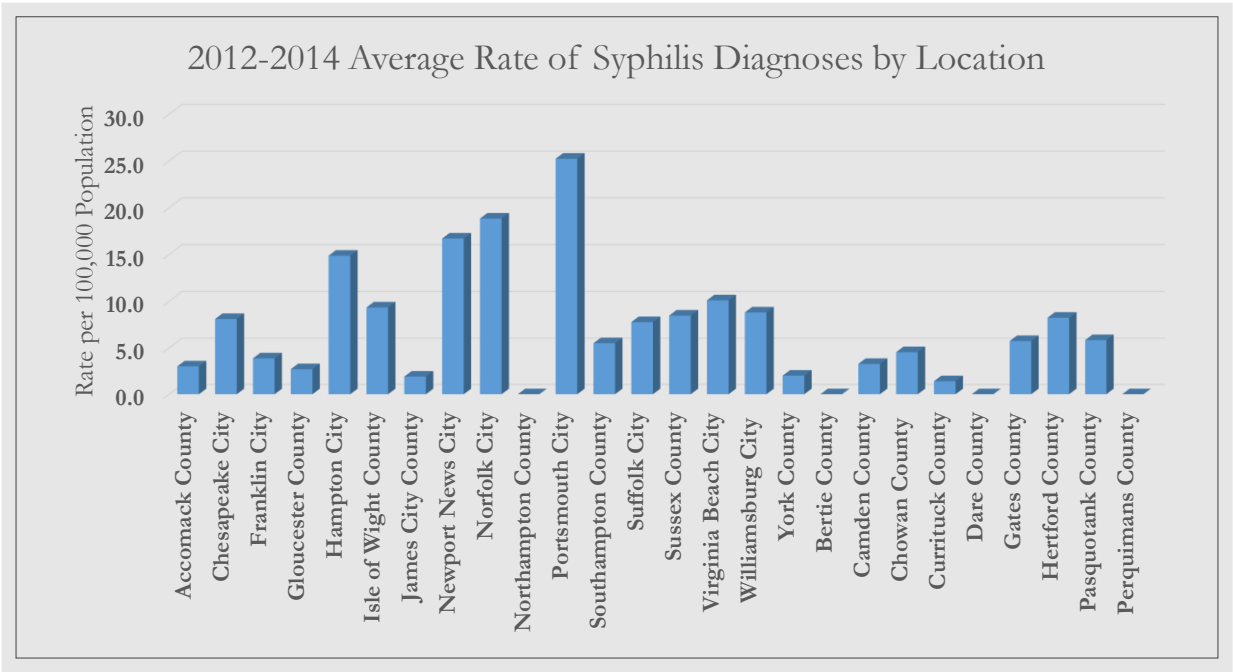
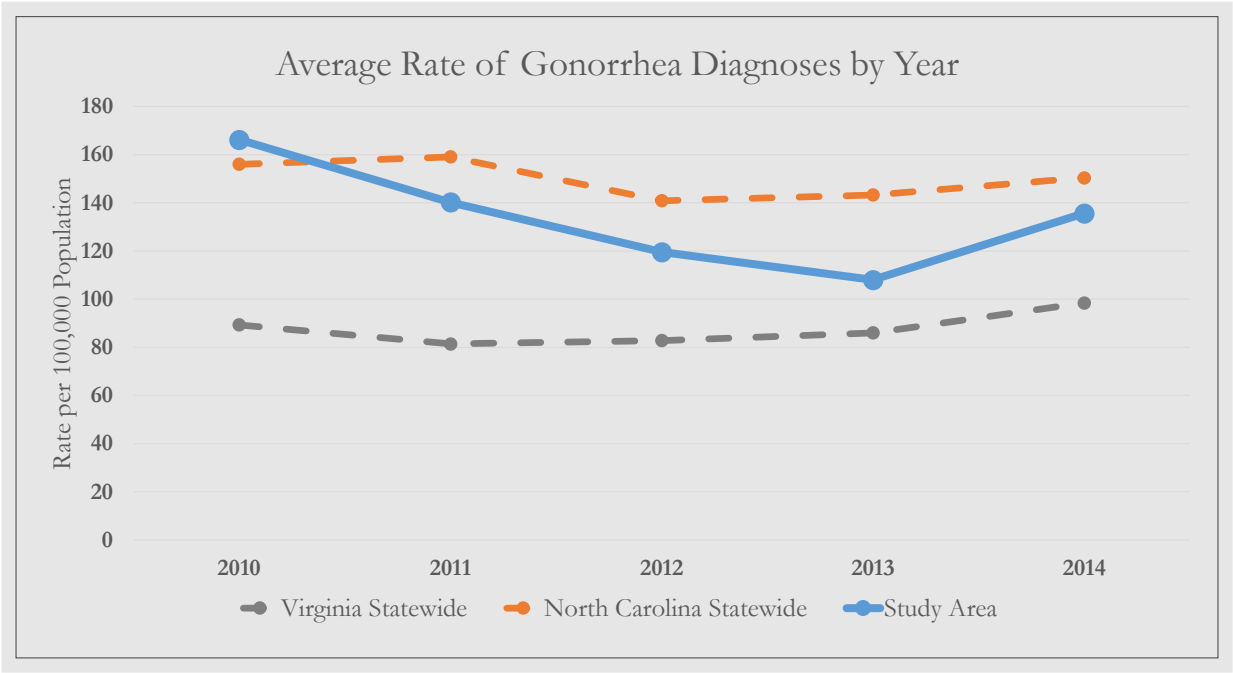


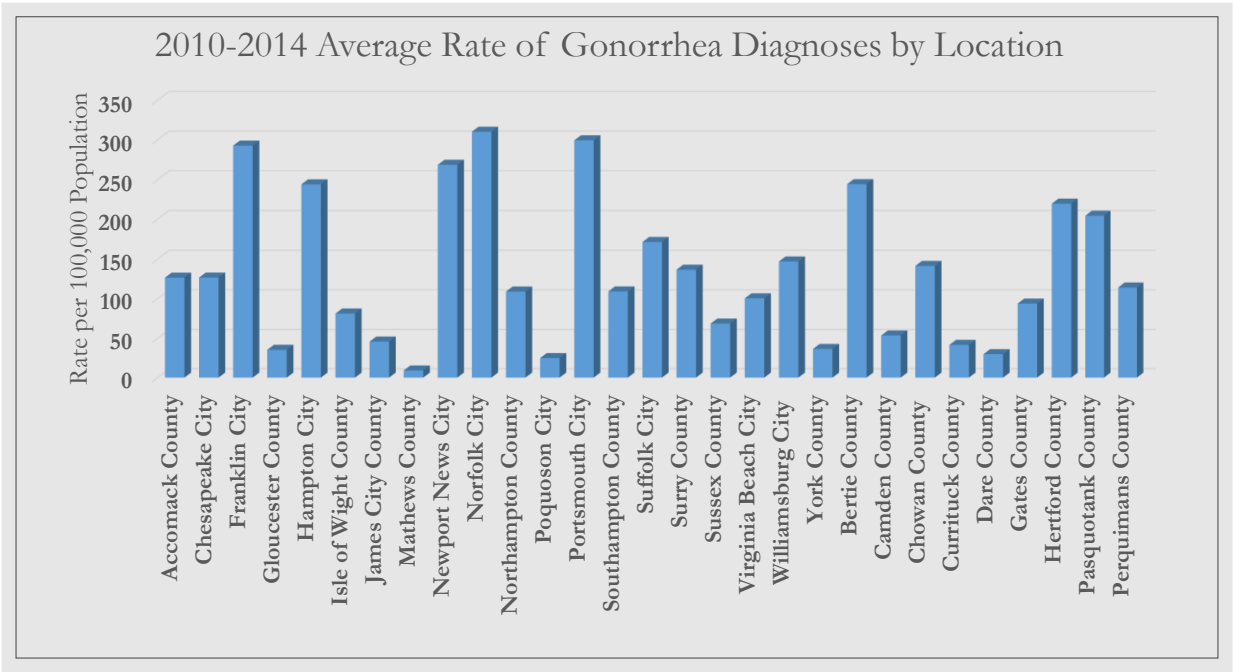
Source: Virginia Department of Health – Virginia STD Surveillance Quarterly Report & North Carolina Department of Health and Human Services - 2014 North Carolina HIV/STD Surveillance



Source: Virginia Department of Health – Virginia STD Surveillance Quarterly Report & North Carolina Department of Health and Human Services - 2014 North Carolina HIV/STD Surveillance

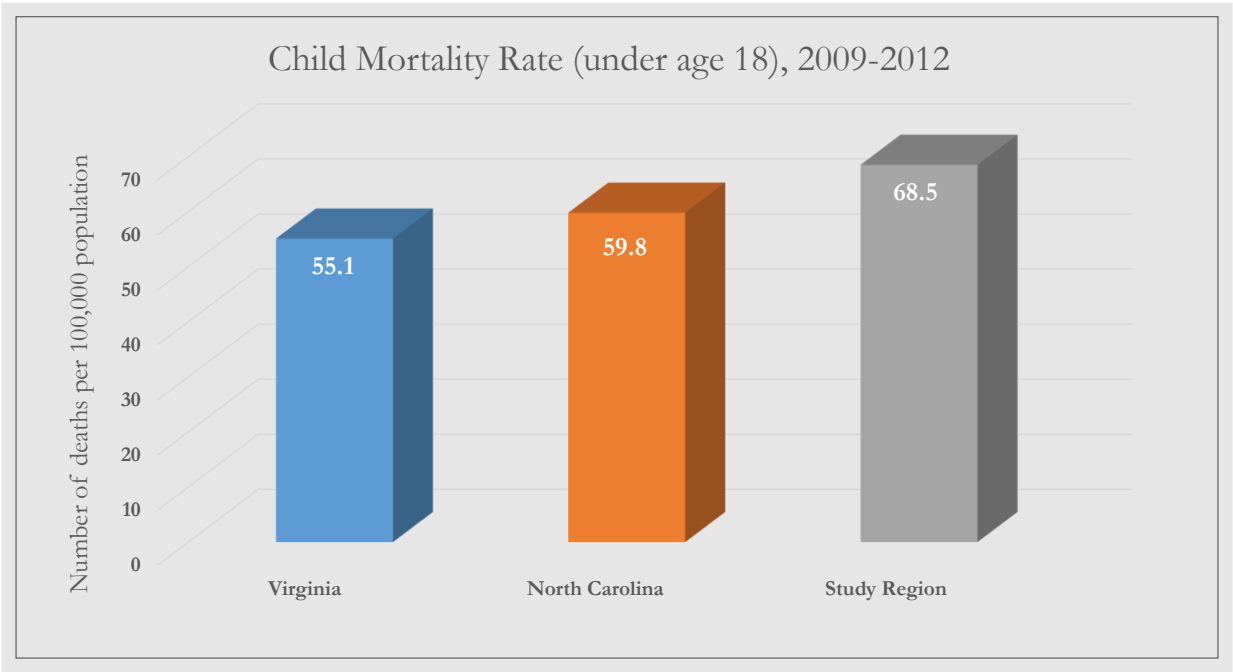


Source: Virginia Department of Health – Virginia STD Surveillance Quarterly Report & North Carolina Department of Health and Human Services - 2014 North Carolina HIV/STD Surveillance

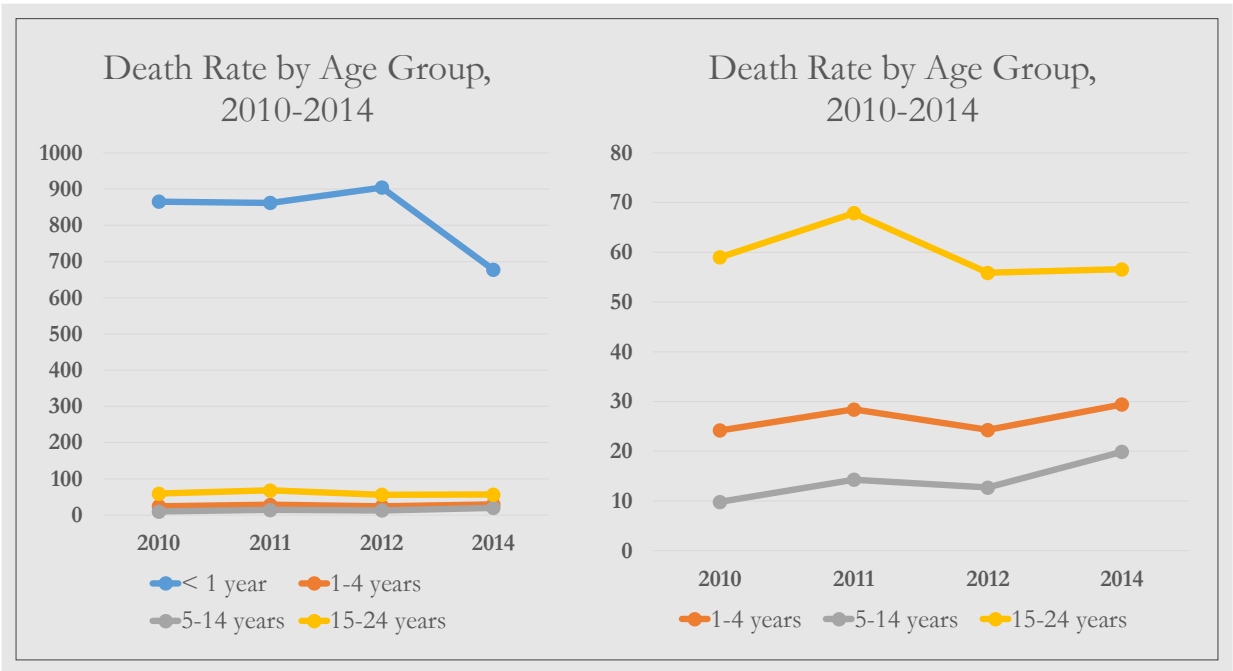


Source: Virginia Department of Health – Virginia STD Surveillance Quarterly Report & North Carolina Department of Health and Human Services - 2014 North Carolina HIV/STD Surveillance

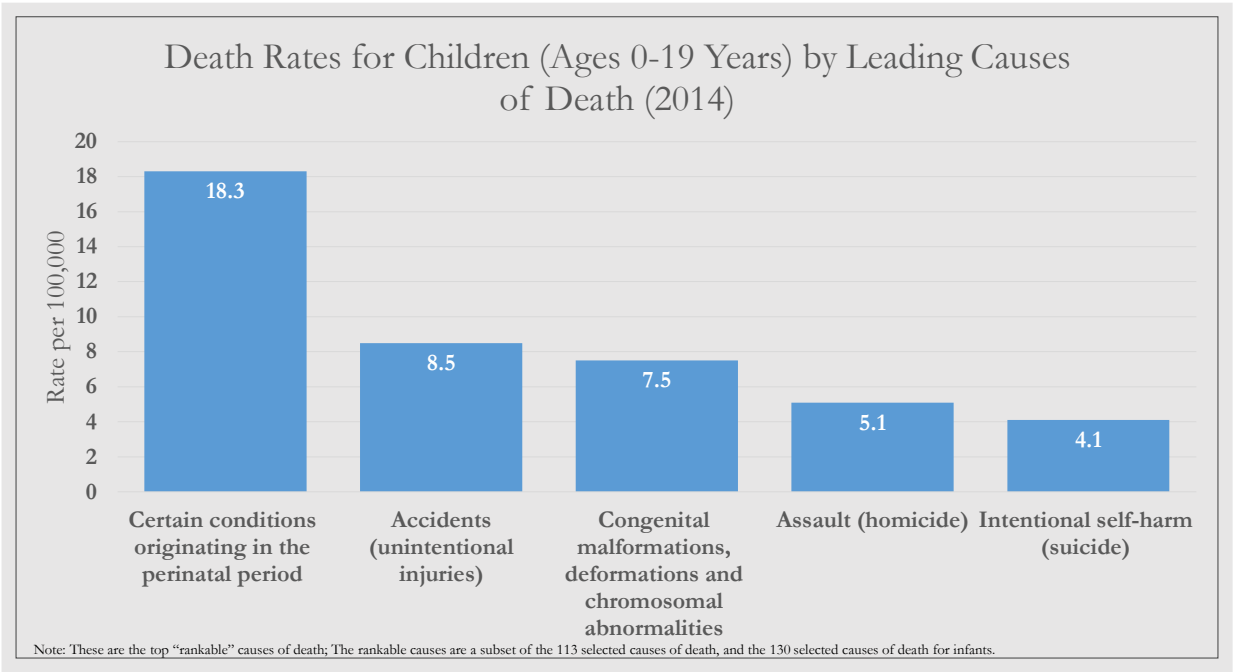
Mortality



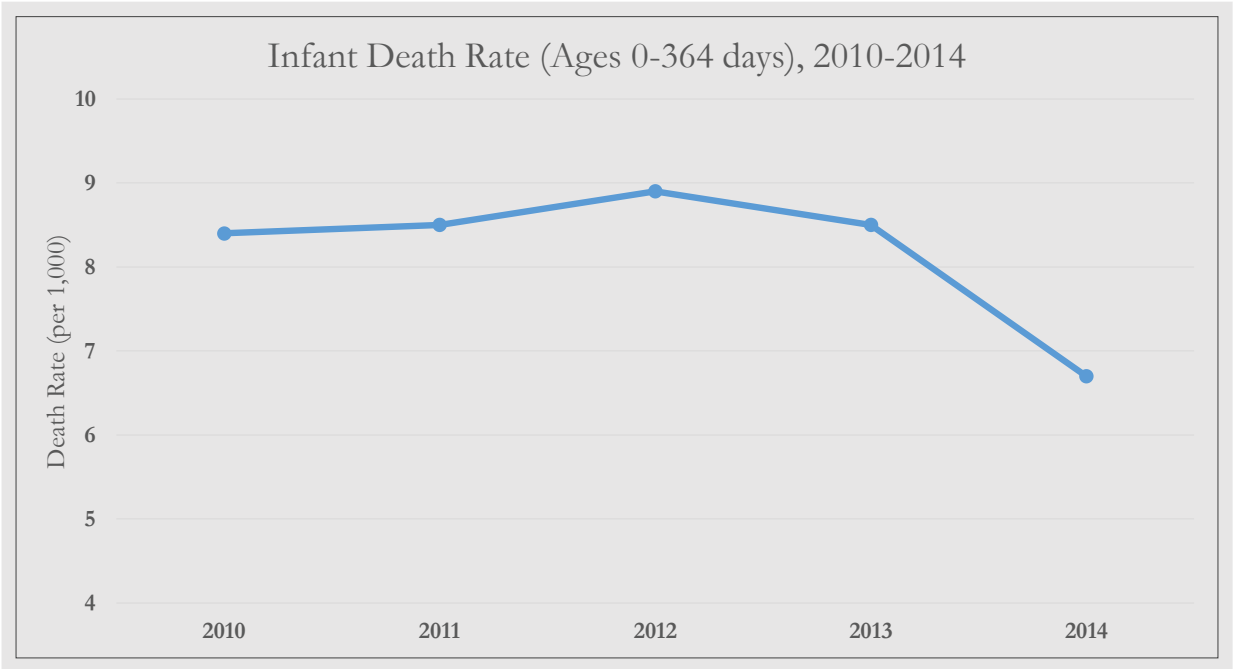
Sources: CDC WONDER mortality data, retrieved through County Health Rankings & Roadmaps



Source: Centers for Disease Control and Prevention, CDC WONDER mortality data



Source: Centers for Disease Control and Prevention, CDC WONDER mortality data



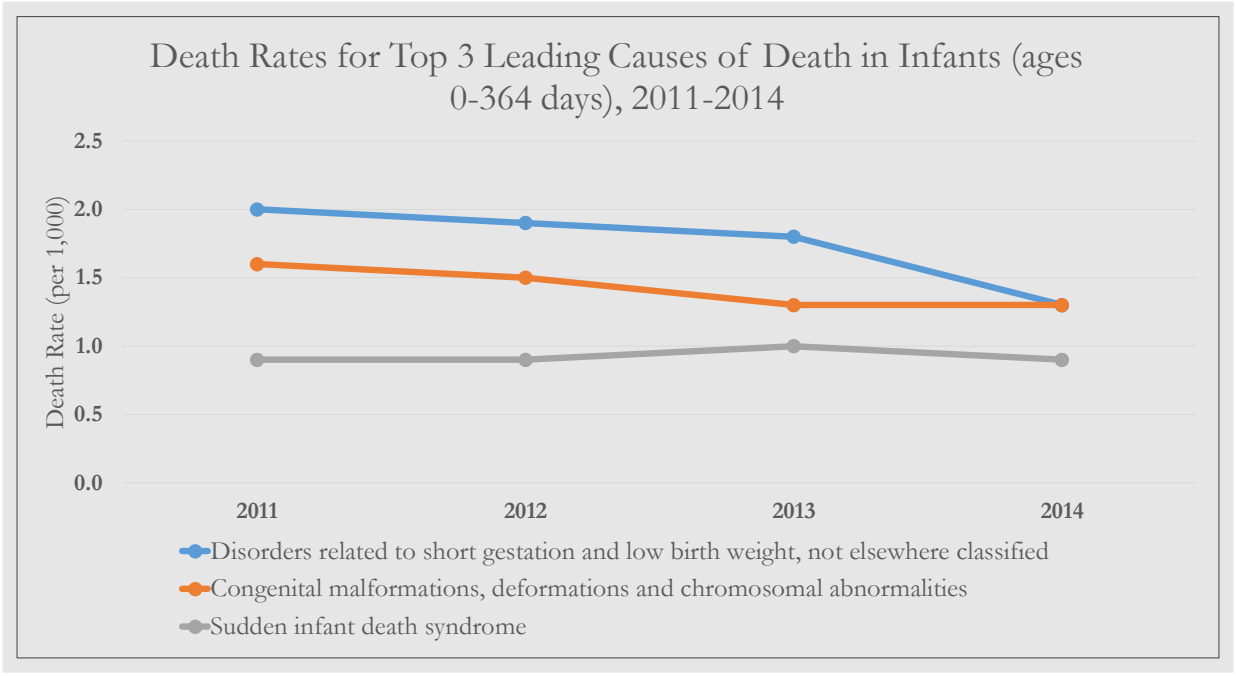
Source: Centers for Disease Control and Prevention, CDC WONDER mortality data

Leading Causes of Infant Deaths (ages 0-364 days), 2010-2014

Leading Cause of Death	2010	2011	2012	2013	2014
Disorders related to short gestation and low birth weight, not elsewhere classified	●	●	●	●	●
Congenital malformations, deformations and chromosomal abnormalities	●	●	●	●	●
Sudden infant death syndrome	●	●	●	●	●
Newborn affected by complications of placenta, cord and membranes	●	●	●	●	●
Newborn affected by maternal complications of pregnancy	●	●	●	●	
Respiratory distress of newborn				●	
Bacterial sepsis of newborn				●	

Description: The first column of this table indicates each 'Leading Cause of Death' that was listed for Infants (ages 0-364 days) between 2010 and 2014. (The 'leading causes of death' published by the National Center for Health Statistics (NCHS) are also called "rankable causes of death." The rankable causes are a subset of the 113 selected causes of death, and the 130 selected causes of death for infants). A "X" symbol marks each year that they were listed as a Leading Cause of Death.

Source: Centers for Disease Control and Prevention, CDC WONDER mortality data



Source: Centers for Disease Control and Prevention, CDC WONDER mortality data