A Community Health Needs Assessment

Prepared for Children's Hospital of Richmond at Virginia Commonwealth University – Children's Rehabilitative Services

By Community Health Solutions

July 2019

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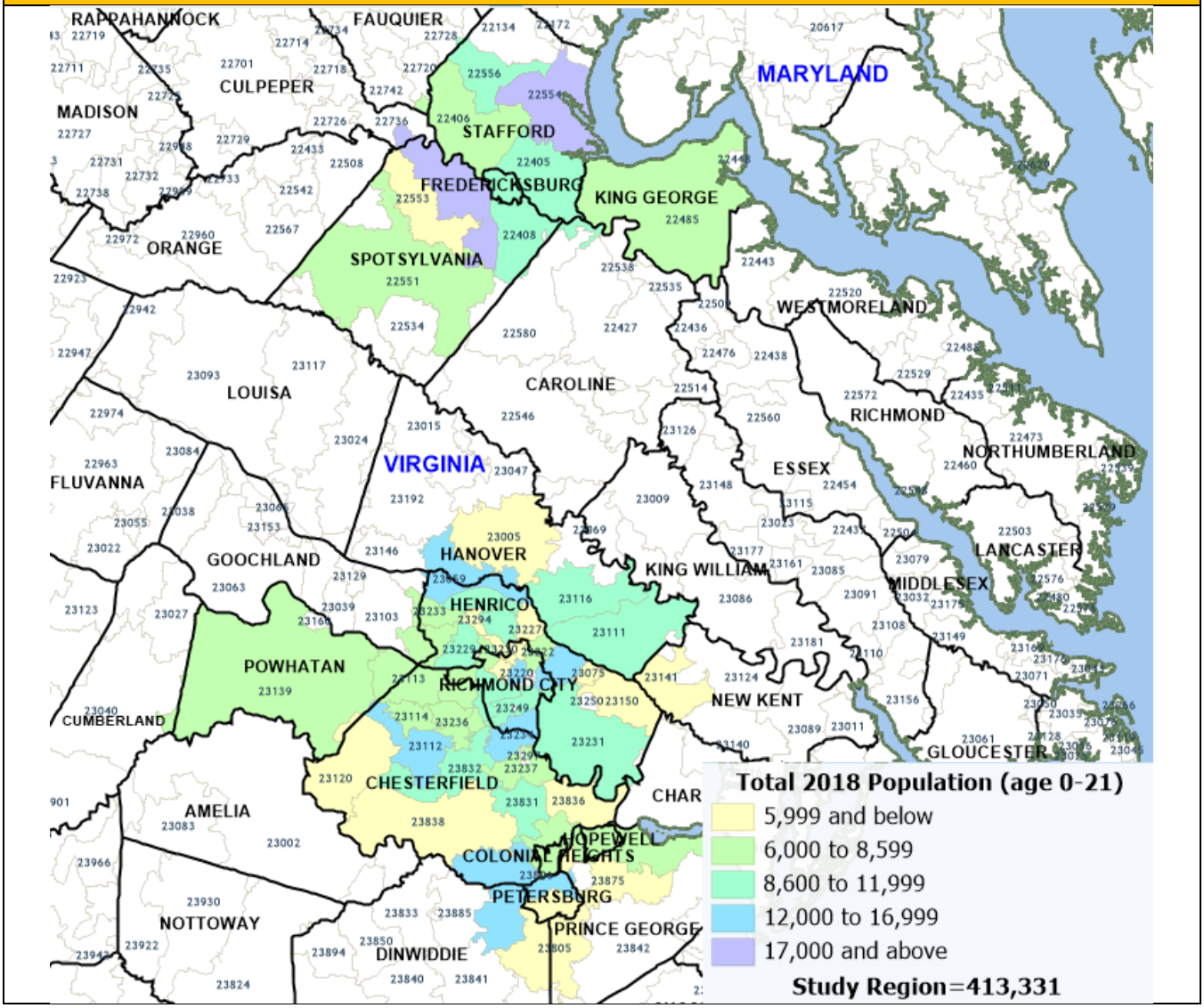
Executive Summary

The vision of Children's Hospital of Richmond at Virginia Commonwealth University – Children's Rehabilitative Services is "to be a complete and supportive resource where children and their families find the medical and therapeutic services they need to thrive." With this vision in mind, Children's Hospital of Richmond at Virginia Commonwealth University – Children's Rehabilitative Services (CHoR) commissioned Community Health Solutions to conduct this community health needs assessment (CHNA).

The study focuses on the CHoR service area of 51 zip codes adjacent to its six locations. Most of these zip codes fall within the counties of Chesterfield, Hanover, Henrico, King George, Powhatan, Spotsylvania and Stafford; and the cities of Colonial Heights, Fredericksburg, Hopewell, Petersburg and Richmond. The study region is shown in the map below. The study population for this CHNA is residents age 0-21 and their families. The results of the study include two primary components: a 'Community Insight Profile' and a 'Community Indicator Profile'. The Community Insight Profile is based on qualitative analyses of two surveys; one for community professionals, and one for parents/caregivers. The Community Indicator Profile is based on quantitative analysis of community health status indicators. This Executive Summary outlines general findings, and details are provided in the body of the report.

The Study Region



Section I. Combined Insights from Parents/Caregivers and Community Professionals

In an effort to generate community input for the study, two *Community Insight Surveys* were conducted, one with a group of community professionals, and one with parents/caregivers. The purpose of the *Community Insight Surveys* was to identify support needs for area families. The survey of community professionals was administered via an online survey tool, and the survey of parents/caregivers was administered online or during check-in/check-out at Children's Hospital of Richmond at Virginia Commonwealth University – Children's Rehabilitative Services (CHoR) facilities during April-June 2019. Among the most commonly identified family needs in both surveys were supports for:

- Getting emotional support when the parents/caregivers start to feel overwhelmed;
- Getting help around the house so they have time and energy to focus on the child's needs;
- Learning about the child's health and developmental needs;
- Learning specific skills to care for the child; and
- Communication with service providers to help them understand what the child really needs.

Section II. Insights from Parents/Caregivers

Section II of the report describes insights about health in the community from the perspectives of parents/caregivers. Insights were collected via surveys administered online and in-person at CHoR facilities during April-June 2019. One hundred and eighty-two parent/caregivers submitted a response (although not every respondent answered every question). The respondents provided rich insights about health needs for children in the study region. To summarize:

- **Demographic Profile.** Of the 182 parents/caregivers, most respondents were white, female, between the ages of 25-44, and living in the Greater Richmond area. Most parents/caregivers cared for children aged 3-5 or 6-11.

- **Sources of Child Health Information.** Ninety-five percent (95%) of parents/caregivers receive health information from their health care provider. Other sources include family members; friends; social media resources; and community organizations.

- **Health Goals for Child/Children.** Parents/caregivers were asked to identify any health goals for their child/children. Commonly identified goals include improving nutrition/diet; enhancing quality of life; increasing physical activity; receiving additional health care services; improving speech/communication abilities and improving physical abilities.

- **Community Support Needs.** Parents/caregivers were asked to review a list of supports they may need to care for their child/children. The most commonly identified needs were getting emotional support when the parents/caregivers start to feel overwhelmed; learning about the child's health and developmental needs; getting help around the house so they have time and energy to focus on the child's needs; learning specific skills to care for the child; and communication with service providers to help them understand what the child really needs.

- **Defining a Healthy Community.** Parents/caregivers were invited to share their definition for "a healthy community". Respondents commonly described a healthy community as one that is safe; has accessible parks and recreation; has engaged families and communities; has accessible support services and resources; and has accessible healthcare.

- **Neighborhood Child and Youth Health Issues.** Parents/caregivers were invited to identify health issues that may be on the horizon in their community. Among the most commonly identified issues were lack of access to active play (too much screen time); access to behavioral healthcare; access to healthy food; access to healthcare; and safety.

- **Community Assets.** Parents/caregivers were asked to identify health assets within the community that promote a culture of health. Commonly mentioned assets included parks and recreation; schools; healthcare providers; people; and the natural environment.

- **Opportunities for Collaboration.** Parents/caregivers were asked to share ideas about how people could work together to promote better health in their neighborhood. Ideas offered by respondents included creating wellness events and support groups; collaboration across organizations and neighborhoods in the region; increased resident engagement in healthy activities; and increased health promotion/communication.

- **Ideas and Suggestions for CHoR and Partners.** Survey respondents offered open-ended responses with additional ideas and suggestions for how CHoR and its partners could help the community achieve better health. Commonly mentioned ideas included providing education; prevention and wellness resources; adding medical services and/or providers; collaborating with other organizations; and expanding access to current services in other areas of the region. Some respondents stated they were satisfied with current CHoR services.

Section III. Insights from Community Professionals

Section III of the report describes insights about health in the community from the perspectives of community professionals. A Community Insight Survey was conducted with a group of community professionals identified by VCU Health Community Memorial Hospital Children's Hospital of Richmond at Virginia Commonwealth University – Children's Rehabilitative Services (CHoR). The survey was sent to 88 community professionals and administered online (via a survey link). A total of 40 respondents (47% response rate) completed the survey (although not every respondent answered every question). To summarize:

- **Professional Perspective.** Most respondents work in the Health Care, Education or Human Service sectors and work and/or live in Richmond City, Chesterfield, Henrico, or Hanover.

- **Community Support Needs for Families.** Community professionals were asked to review a list of supports families they serve may need to care for their child/children. The most commonly identified needs were parents/caregivers learning about the child's health and development needs; learning specific skills to care for the child; understanding health information and directions provided by the child's service providers; getting help with transportation to visits and appointments; communicating with service providers to help them understand what the child really needs; and getting help with coordinating services for the child.

- **Defining a Healthy Community.** Community professionals were invited to share their definition for "a healthy community". Respondents commonly described a healthy community as one that has access to supportive services; has access to healthcare; is safe; engages community members; and has access to school services.

- **Neighborhood Child and Youth Health Issues.** Community professionals were invited to identify health issues that may be on the horizon in their community. Among the most commonly identified issues were childhood trauma; barriers/gaps in healthcare for special populations; opioids/substance use; mental health and lack of prevention.

- **Community Assets.** Community professionals were asked to identify health assets within the community that promote a culture of health. Commonly mentioned assets included wellness events/programs; healthcare providers; parks and recreation; schools; and people.

- **Opportunities for Collaboration.** Community professionals were asked to share ideas about how people could work together to promote better health in their neighborhood. Ideas offered by respondents included collaboration across organizations and neighborhoods in the region; increased communication about services; support for vulnerable populations; more wellness events, activities, and groups; and education programs.

- **Ideas and Suggestions for CHoR and Partners.** Community professionals offered open-ended responses with additional ideas and suggestions for how CHoR and its partners could help the community achieve better health. Commonly mentioned ideas included collaborating with other organizations; adding

services and/or medical providers; providing education, prevention and wellness resources; and expanding access to current services in selected areas of the region.

Section IV. Community Indicator Profile

The community indicator profile in Part IV presents a wide array of quantitative community health indicators for the study region. To produce the profile, Community Health Solutions analyzed data from multiple sources. By design, the analysis does not include every possible indicator of community health. The analysis is focused on a set of indicators that provide broad insight into community health for children and families, and for which there were readily available data sources. To summarize:

- **Health Demographic Trend and Snapshot Profiles.** As of 2018, the study region included an estimated 1,469,684 people, 413,331 of whom were age 0-21. The study region has a larger proportion of Black/African American residents and smaller proportion of White, Asian and Hispanic residents. The population age 0-21 is expected to grow by 3% from 2018 to 2023. Focusing on population trends, all age groups are expected to grow by 2023 with the exception of the 18-21 population; which is expected to remain relatively stable. Most race/ethnic populations are projected to increase with the exception of the White population; which is expected to decline.

- **Mortality Profile**. In 2017, the study region had 236 total deaths for residents age 0-21. The leading causes of death were related to:
    - Disorders related to short gestation and low birth weight, not elsewhere classified;
    - Assault;
    - Fetus and newborn affected by maternal factors and by complications of pregnancy, labor and delivery;
    - Other ill-defined and unspecified causes of mortality; and
    - Motor or non-motor vehicle accidents.

The death rates per 100,000 (unadjusted for age) in the study region were higher than Virginia overall, and for each age group where a rate was calculated.

- **Maternal and Infant Health Profile.** In 2017, the study region had 17,146 total live births. Of these, 1,517 were born with low birth weight, 2,073 were births without early prenatal care, 7,019 were non-marital births, and 690 were births to teens with most (536) involving older teens age 18 or 19. Compared to Virginia as a whole, the study region had a higher birth rate overall, plus higher rates of low weight births, non-marital births and births to teen aged 18 or 19.The infant mortality rates were higher than the statewide rate for six of the 12 localities that overlap the study region (Colonial Heights, Fredericksburg, Henrico, Petersburg, Richmond City and Spotsylvania). Teen pregnancy rates were also higher than the statewide rate in five localities (Colonial Heights, Fredericksburg, Hopewell, Petersburg, and Richmond City).

- **Pediatric Quality Indicator Hospitalization Profile.** The Agency for Healthcare Research and Quality (AHRQ) defines a set of conditions (called Pediatric Quality Indicators, or 'PDIs') for which hospitalization for children age 0-17 should be avoidable with proper outpatient health care. High rates of hospitalization for these conditions indicate potential gaps in access to quality outpatient services for community residents. This study focused on five PDI conditions including Asthma, Gastroenteritis, Diabetes, Urinary Tract Infection, and Perforated Appendix. Study region residents age 0-17 had 669 PDI discharges for these conditions in 2017. The leading diagnoses were Asthma and Gastroenteritis. Hospitalization rates per 100,000 for PDI conditions were higher in the study region than for Virginia overall, and for all age groups.

- **Behavioral Health Hospitalization Discharge Profile.** Behavioral health hospitalizations provide another important indicator of community health status. In 2017, study region residents age 0-21 had 3,575 hospital discharges from Virginia community hospitals for behavioral health conditions. The leading diagnoses for these hospitalizations were major depressive disorder, recurrent; major depressive disorder, single episode; unspecified mood [affective] disorder; bipolar disorder; and persistent mood [affective] disorders. Hospitalization rates per 100,000 for behavioral health conditions were higher in the study region than for Virginia overall, and for all age groups where a rate was calculated.

- **Injury and Rehabilitation Hospitalization Discharge Profile.** Hospitalizations for injury and rehabilitation are of particular interest for studies of children's health. This study analyzed hospitalizations for diagnoses selected in consultation with CHoR staff. In 2017, study region residents age 0-21 had 287 discharges for these diagnoses. The most common diagnoses were Therapy and Rehabilitation; and Brain Injury. The hospitalization rates per 100,000 for these diagnoses combined were higher for the study region than for Virginia overall, and for most age groups.

- **Youth Health Risk Profile.** The study includes a profile of selected health risks for youth age 10-19. The indicators in this profile are estimates based on analysis of data from the Virginia Youth Risk Behavioral Surveillance System from the Virginia Department of Health (2017); Centers for Disease Control (2017) and demographic data from US Census Bureau, American Community Survey (2013-2017) (*see Appendix B for details on methods*). Please note that all indicators in this profile are estimates, and therefore subject to estimation error. The estimates indicate that substantial numbers of youth in the study region have health risks related to nutrition, body weight, physical activity, tobacco, alcohol and mental health.

- **Special Education Enrollment Profile.** Special education programs provide specially designed instruction to meet the unique needs of children with disabilities, including instruction conducted in the school setting, in the home, in hospitals, in institutions, and in other settings. Data from the Virginia Department of Education for 2016 indicate that local school divisions provide special education programs for thousands of children with a wide range of disabilities.

- **Uninsured Profile.** This profile presents estimates of the uninsured population within the 0-18 age group. The indicators in this profile are estimates based on analysis of data from the U.S. Census Bureau (see Appendix B for details on methods). At a given point in time in 2017, an estimated 16,636 children and youth age 0-18 in the study region were uninsured. This represents an estimated 5% of children and youth age 0-18.

- **Medically Underserved Profile.** Medically Underserved Areas (MUAs) and Medically Underserved Populations (MUPs) are designated by the U.S. Health Resources and Services Administration as being at risk for health care access problems. The designations are based on several factors including primary care provider supply, infant mortality, prevalence of poverty, and the prevalence of seniors age 65+. Nine of the 12 localities that include the study region have been fully or partially designated as MUAs/MUPs.

Additional Data and Maps

Appendix A provides a set of thematically colored maps displaying variation in community health indicators by zip code. *Appendix B* provides detail on the methods used to produce the indicators. A separate Microsoft Excel file contains a summary of open-end comments for both surveys, and indicators for each zip code within the study region.

Section I. Combined Insights from Parents/Caregivers and Community Professionals

In an effort to generate community input for the study, two Community Insight Surveys were conducted, one with a group of community professionals, and one with parents/caregivers. The purpose of the *Community Insight Surveys* was to identify support needs for area families. The survey of community professionals was administered via an online survey tool, and the survey of parents/caregivers was administered online or during check-in/check-out at Children's Hospital of Richmond at Virginia Commonwealth University – Children's Rehabilitative Services (CHoR) facilities. Among the most commonly identified family needs in both surveys were supports for:

- Getting emotional support when the parents/caregivers start to feel overwhelmed;
- Getting help around the house so they have time and energy to focus on the child's needs;
- Learning about the child's health and developmental needs;
- Learning specific skills to care for the child; and
- Communication with service providers to help them understand what the child really needs.

Exhibit I-1 presents summary results from the survey of community professionals, and the survey of parents/caregivers. Both surveys asked respondents to identify family support needs from a pre-defined list, and respondents were also invited to identify additional needs at their option. The exhibit shows the number and percent of respondents to the community professional survey who reported serving 'some' or 'many' families needing each support shown. The exhibit also shows the number and percent of parents/caregivers who identified each support as a need for their family. Additional comments from survey respondents are shown in the continuation of the exhibit on the following page. Insights by respondent type are described in more detail in Section II and Section III of the report.

Exhibit I-1
Summary of Combined Community Insight Survey Results

Support for…	Identified as a Need for Many or Some Families in Community Professional Survey (n=40)	Identified as a Need in Parent/Caregiver Survey (n=182)
Getting emotional support when they start to feel overwhelmed	33 (85%)	61 (50%)
Getting help around the house so they have time and energy to focus on the child's needs	26 (67%)	57 (46%)
Learning about the child's health and developmental needs	36 (92%)	56 (46%)
Learning specific skills to care for the child	35 (90%)	54 (44%)
Communicating with service providers to help them understand what the child really needs	34 (87%)	52 (42%)
Finding a good counselor or mental health professional for the child	33 (85%)	35 (28%)
Finding good medical specialists for the child	32 (82%)	29 (24%)
Getting help with coordinating services for the child	34 (87%)	26 (21%)
Understanding health information and directions provided by the child's service providers	35 (90%)	23 (19%)
Finding a good dentist for the child	28 (72%)	22 (18%)
Getting help with transportation to visits and appointments	35 (90%)	20 (16%)
Getting help with making appointments for the child	30 (77%)	18 (14%)
Finding a good primary care provider for the child	28 (72%)	16 (13%)
Getting the prescriptions and health supplies the child needs	27 (69%)	14 (11%)
Getting good outpatient hospital care for the child	23 (59%)	14 (11%)
Getting good inpatient hospital care for the child	22 (56%)	11 (9%)

Shaded cells represent the leading support needs per survey respondent group.

Note: When interpreting the survey results, please note that although the relative number of responses received for each item is instructive, it is not a definitive measure of the relative importance of one issue compared to another.

Exhibit I-1
Summary of Combined Community Insight Survey Results

Additional Comments from Parents/Caregivers

- All needed support is being met
- [VCU HS has the] Best ER
- Finding a good counselor for me
- Getting collaborative, holistic healthcare for my child from multiple providers and specialists
- Getting my primary care and specialty providers to collaborate efficiently and routinely on my child's complex care needs
- Help for filing for disability. Always gets denied
- Help providing more homeschooling tools through the county for kids that don't fit in the public school setting
- Help with food resources
- Private duty nursing-impossible to get staffed because agencies can't recruit-need help with Medicaid reimbursement rates with lag other states considerably. Has devastating impact on families already struggling.
- Safe, experienced childcare for my energetic wandering child.
- The big problem is getting an aid to come in and help with my child. There are very few people that want to work with special needs children.
- To get all the doctors to agree
- VCU Glen Allen Therapy meets all the needs above
- Ways to help with speech and OT
- We are fortunate to not have chronic or acute needs right now and have access to a range of services if we need them. I'm mostly concerned about the inequity and the lack of access and resources for families who may not be insured or who may have multiple stressors.
- While I do not have additional needs, I am considered a privileged. I am not affected as others in the community are by lack of needs. This is a horrendous oversight.

Additional Comments from Community Professionals

- Childcare is the number one issue facing our clients who are typically single mothers. Supportive employment is second.
- A large number of children in our community live in poverty. Also, many of them live in single-parent households.
- All families with children with complex medical needs experience issues with all of the above. Finding home nursing and other home support care givers is very difficult in our current community. Many families need a lot of time to adjust to caring for a child with complex medical needs. This includes many days of reinforced education and teaching, ability to room in with their child to practice while having nursing support. Additionally, the psychological support needed to make a transition from hospital to home is not present nor easily accessible in our community. Coordination of care is difficult, time consuming, and loaded with challenges and barriers from insurance companies. Many parents cannot work because of the complexity of their child's care.
- Closing the gap around behavioral health services available for Medicaid recipients (like intensive in-home, therapeutic day treatment, residential treatment) and private insurance families.
- Finding Caregiver Education resources/classes
- Our program is a case management service. We are faced with many challenges at different levels. We meet the needs of the client/family "where they are" and together we initiate a plan.
- The summer is challenging for parents who work. Summer programs are expensive.
- We have parents who have after school care covered, but need help before school, due to early work schedules.

Section II. Insights from Parents/Caregivers

In an effort to generate community input for the community health needs assessment, a *Community Insight Survey* was conducted with parents/caregivers. Insights were collected via surveys administered online or during check-in/check-out at CHoR facilities during April-June 2019. One hundred and eighty-two (182) parents/caregivers submitted a response (although not every respondent answered every question). The respondents provided rich insights about community health in the study region. Parents/caregivers were asked to share their viewpoints on:

- Source of health information;
- Health goals for their child/children;
- Community support needs for their family;
- The definition of a healthy community;
- Neighborhood child and youth health issues;
- Community assets;
- Opportunities for collaboration; and
- Additional ideas or suggestions for CHoR and its partners to improve community health.

1. Demographic Profile

A demographic profile of the parent/caregiver survey respondents is presented in *Exhibit II-1A and Exhibit II-1B*. As shown:

- Most respondents (76%) were age 25-44.
- Most respondents had a child/children age 3-5 (54%) or 6-11 (47%).
- Ten percent (10%) of respondents were Hispanic.
- Most respondents were White (66%) or Black or African American (28%).
- Most respondents were female (86%)
- As shown in *Exhibit II-1B* on the following page, survey respondents resided in one of 69 zip codes, most of which are in the Greater Richmond area.

Exhibit II-1A. Community Resident Survey – Demographic Profile

Parent/Caregiver Age Group	
Total Responses	179
Age 18-24	4%
Age 25-34	31%
Age 35-44	45%
Age 45-54	10%
Age 55-64	7%
Age 65+	3%

Child's/Children Age Group*	
Total Responses	179
Age 0-2	28%
Age 3-5	54%
Age 6-11	47%
Age 12-14	16%
Age 15-17	7%
Age 18-21	8%

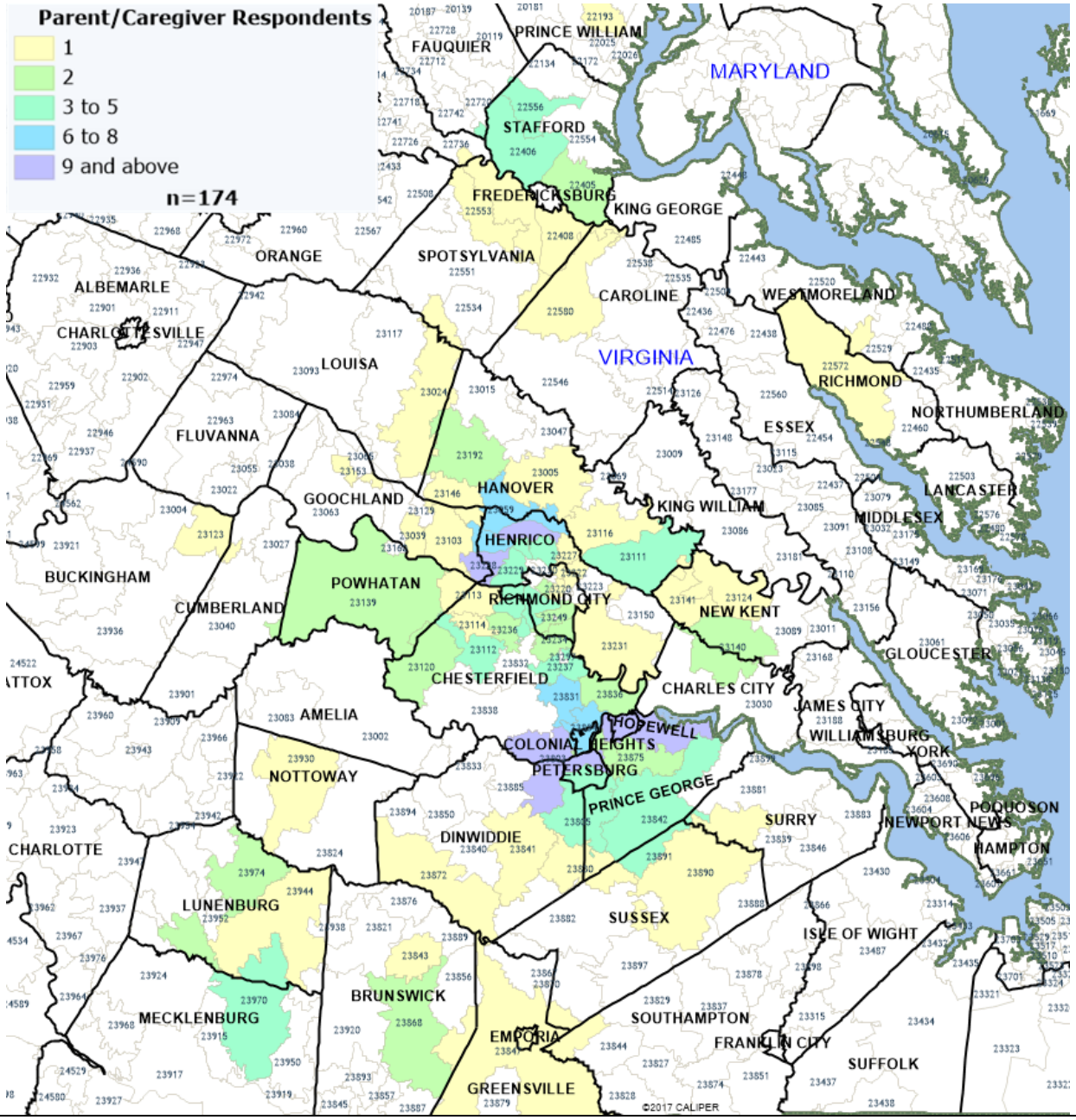
Gender	
Total Responses	129
Female	86%
Male	14%

Race	
Total Responses	170
American Indian or Alaska Native	2%
Asian	4%
Black or African American	28%
Multiple Race	2%
Pacific Islander	0%
White	66%
Other	6%

Hispanic Ethnicity	
Total Responses	175
Yes	10%
No	90%

**The sum does not equal 100% because some parent/caregivers have multiple children in multiple age groups.*

Exhibit II-1B. Parent/Caregiver Survey – Zip Code of Residence



Zip Code of Residence – Top 10 Zip Codes

23860 Hopewell	11 (6.3%)
23060 Glen Allen	10 (5.7%)
23238 Henrico	10 (5.7%)
23803 Petersburg	9 (5.2%)
23831 Chester	8 (4.6%)
23834 Colonial Heights	8 (4.6%)
23059 Glen Allen	7 (4.0%)
23233 Richmond	6 (3.4%)
23229 Henrico	5 (2.9%)
23294 Henrico	4 (2.3%)

2. Sources of Health Information

Parents/caregivers were asked to identify their sources of health information. As shown in *Exhibit II-2*, 95% of parents/caregivers receive health information from their health care provider. Other sources include family members; friends; social media resources; and community organizations.

Exhibit II-2. Parent/Caregiver Survey – Sources of Health Information (n=171)

Source	Response Percent	Response Count
Health care provider (nurse practitioner, physician)	95%	163
Family Member	43%	73
Friends	32%	55
Social Media Resources	19%	33
Local Health Department	12%	21
Faith Based Organization	11%	18
Other	20%	34

3. Health Goals for Your Child/Children

Parent/Caregivers were asked to identify any health goals for their child/children. As shown in *Exhibit II-3*, Commonly identified goals include improving nutrition/diet; enhancing quality of life; increasing physical activity; receiving additional health care services; improving speech/communication abilities and improving physical abilities.

Exhibit II-3. Parent/Caregiver Survey –Health Goals for Child/Children (n=168)

Goals	Response Percent	Response Count
Improve Nutrition/Diet	19%	32
Enhance Quality of Life	13%	22
Increase Physical Activity	12%	20
Receive Additional Health Care Services	12%	20
Improve Speech/Communication Abilities	12%	20
Improve Physical Abilities	11%	18
Other	11%	18

4. Community Support Needs

As shown in *Exhibit II-4* below, respondents were asked to identify family support needs from a pre-defined list, and respondents were also invited to identify additional needs at their option. Parents/caregivers were asked to review a list of supports they may need to care for their child/children. The most commonly identified needs were getting emotional support when the parents/caregivers start to feel overwhelmed; learning about the child's health and developmental needs; getting help around the house so they have time and energy to focus on the child's needs; learning specific skills to care for the child; and communication with service providers to help them understand what the child really needs. Additional comments from parents/caregivers are shown in the lower part of the exhibit.

Exhibit II-4. Parent/Caregiver Survey-Community Support Needs (n=123)

Support is Needed for….	Response Percent	Response Count
Getting emotional support when they start to feel overwhelmed	50%	61
Learning about the child's health and developmental needs	46%	56
Getting help around the house so they have time and energy to focus on the child's needs	46%	57
Learning specific skills to care for the child	44%	54
Communicating with service providers to help them understand what the child really needs	42%	52
Finding a good counselor or mental health professional for the child	28%	35
Finding good medical specialists for the child	24%	29
Getting help with coordinating services for the child	21%	26
Understanding health information and directions provided by the child's service providers	19%	23
Finding a good dentist for the child	18%	22
Getting help with transportation to visits and appointments	16%	20
Getting help with making appointments for the child	15%	18
Finding a good primary care provider for the child	13%	16
Getting the prescriptions and health supplies the child needs	11%	14
Getting good outpatient hospital care for the child	11%	14
Getting good inpatient hospital care for the child	9%	11

Note: When interpreting the survey results, please note that although the relative number of responses received for each item is instructive, it is not a definitive measure of the relative importance of one issue compared to another.

Additional Comments:

- All needed support is being met
- [VCU HS has the] Best ER
- Finding a good counselor for me
- Getting collaborative, holistic healthcare for my child from multiple providers and specialists
- Getting my primary care and specialty providers to collaborate efficiently and routinely on my child's complex care needs
- Help for filing for disability. Always gets denied
- Help providing more homeschooling tools through the county for kids that don't fit in the public school setting
- Help with food resources
- Private duty nursing-impossible to get staffed because agencies can't recruit-need help with Medicaid reimbursement rates with lag other states considerably. Has devastating impact on families already struggling.
- Safe, experienced childcare for my energetic wandering child.
- The big problem is getting an aid to come in and help with my child. There are very few people that want to work with special needs children.
- To get all the doctors to agree
- VCU Glen Allen Therapy meets all the needs above.
- Ways to help with speech and OT

-Continued-

Exhibit II-4. Parent/Caregiver Survey-Community Support Needs (n=123)

- We are fortunate to not have chronic or acute needs right now, and have access to a range of services if we need them. I'm mostly concerned about the inequity and the lack of access and resources for families who may not be insured or who may have multiple stressors.
- While I do not have additional needs, I am considered a privileged. I am not affected as others in the community are by lack of needs. This is a horrendous oversight

5. Additional Insights

Parents/caregivers were invited to provide additional insight in response to six open-ended questions about health issues, vulnerable populations, community health assets, opportunities for collaboration, their vision of a healthy community and ideas and suggestions for community health improvement. *Exhibit II-5* illustrates the spectrum of insights and issues identified by parent/caregivers.

- **Defining a Healthy Community.** Parents/caregivers were invited to share their definition for "a healthy community". Respondents commonly described a healthy community as one that is safe; has accessible parks and recreation; has engaged families and communities; has accessible support services and resources; and has accessible healthcare.

- **Neighborhood Child and Youth Health Issues.** Parents/caregivers were invited to identify health issues that may be on the horizon in their community. Among the most commonly identified issues were lack of access to active play (too much screen time); access to behavioral healthcare; access to healthy food; access to healthcare and safety.

- **Community Assets.** Parents/caregivers were asked to identify health assets within the community that promote a culture of health. Commonly mentioned assets included parks and recreation; schools; healthcare providers; people; and the natural environment.

- **Opportunities for Collaboration.** Parents/caregivers were asked to share ideas about how people could work together to promote better health in their neighborhood. Ideas offered by respondents included creating wellness events and support groups; collaboration across organizations and neighborhoods in the region; increased resident engagement in healthy activities; and increased health promotion/communication.

- **Ideas and Suggestions for CHoR and Partners.** Survey respondents offered open-ended responses with additional ideas and suggestions for how CHoR and its partners could help the community achieve better health. Commonly mentioned ideas included providing education, prevention and wellness resources; adding medical services and/or providers; collaborating with other organizations; and expanding access to current services in other areas of the region. Some respondents stated they were satisfied with current CHoR services.

Exhibit II-5. Parent/Caregiver Survey – Additional Insights[1]

Defining a Healthy Community

Safe 44	Accessible/Inclusive Parks and Recreation 41	Engaged Families and Communities 35	Accessible Support Services and Resources 31	Accessible Healthcare 31	Other*

*Access to Healthy Foods (26), Wellness Promotion (19), Inclusive Services and Resources (14), Clean (9), Other (20)

Neighborhood Child and Youth Health Issues

Access to active play/ too much screen time 10	Access to Behavioral Healthcare 8	Access to Healthy Food 7	Access to Healthcare 6	Safety 6	Other*

*Access to Caregiver Support (5), Obesity (4), Allergies (3), Asthma (2), Opioid/Substance Use (2), Other (6)

Community Assets

Accessible/Inclusive Parks and Recreation 64	Schools 19	Healthcare Providers 18	People 15	Natural Environment 12	Other*

*Biking and Walking Trails (9), Local Government (7), Healthy Food (6), Faith Communities (5), Libraries (3)

Opportunities for Collaboration

Wellness Events and Support Groups 36	Collaboration Across Organizations/Neighborhoods 35	Increased Resident Engagement in Healthy Activities 24	Increased Health Promotion/ Communication 21	Other 4

Ideas and Suggestions

Provide Education, Prevention, and Wellness Resources 31	Adding Services/Medical Providers 19	Collaborate with Other Organizations 9	Expand Access to Other Areas in the Region 7	Satisfied with Current Services 7	Other 1

[1] A count is provided where respondents provided similar comments. Additionally, some respondents provided multiple comments.

Section III. Insights from Community Professionals

This section of the report describes insights about health in the community from the perspectives of community professionals. A *Community Insight Survey* was conducted with a group of community professionals identified by CHoR. The survey was sent to 88 community professionals and administered online (via a survey link) during April-June 2019. A total of 40 respondents (47% response rate) completed the survey (although not every respondent answered every question). Community professionals were asked to share their viewpoints on:

- Community support needs for the families their organization serves;
- The definition of a healthy community;
- Neighborhood child and youth health issues;
- Community assets;
- Opportunities for collaboration; and
- Additional ideas or suggestions for CHoR and its partners to improve community health.

1. Organization Affiliation

Exhibit III-1 below lists the organizational affiliations of the 40 community professional survey respondents.

Exhibit III-1. Community Professional Survey- Reported Organization Affiliation[2]

Capital Area Health Network	Infant and Toddler of Henrico Area
Care Connection for Children	Monument Avenue Pediatrics, P.C.
Chesterfield Community Services Board	Omnicare
Children's Museum of Richmond (2)	Richmond Behavioral Health Authority- REACH
ChildSavers	Richmond City Health District
CHoR – Pediatric Critical Care	Ronald McDonald House Charities- Richmond
CHoR - Neonatal Medicine	Sheltering Arms Hospitals
CHoR – Pediatric Nephrology	Spotsylvania Parent Resource Center
CHoR – Pediatric Physical Medicine and Rehabilitation	Stafford Parent Teacher Resource Center
CHoR – Pediatric Orthopedic Surgery	Van Go, Inc. of Richmond
CHoR - Pediatric Emergency Medicine	VCU - School of Dentistry
Crater Health District	VCU Dental Public Health and Policy
disAbility Law Center of Virginia	Virginia Department of Behavioral Health and Developmental Services (2)
District 19 Community Services Board (2)	Virginia Department of Health
Fredericksburg City Schools	Virginia Poverty Law Center
Greater Richmond Fit4Kids (2)	Virginia Treatment Center for Children/CHoR/VCUHS
Greater Richmond SCAN	Voices for Virginia's Children
Hanover County Community Services Board (2)	YWCA Richmond
Henrico County Health Department (2)	

[2] *A count is provided for organizations with multiple survey respondents. Some respondents represented multiple organizations.*

2. Professional Perspective

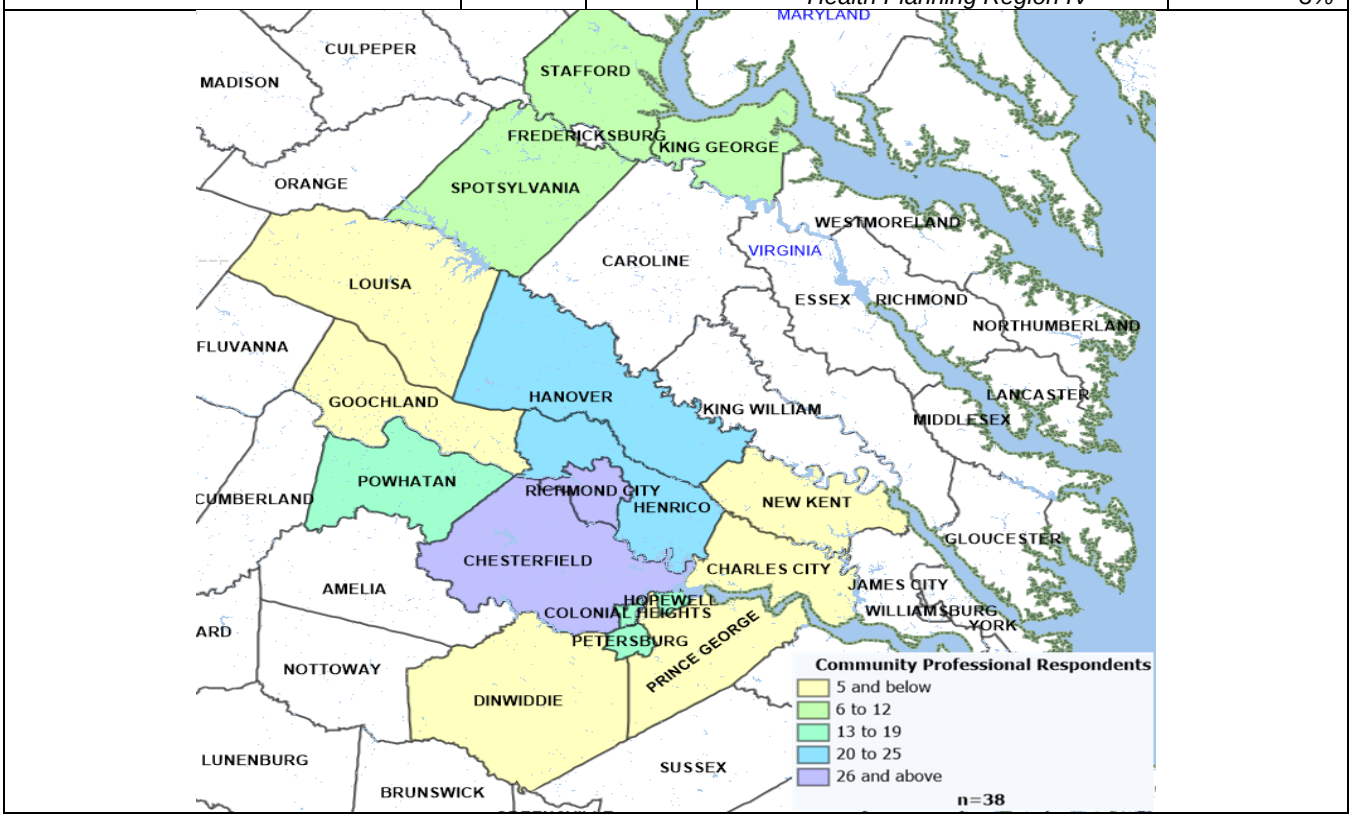
A professional perspective profile of the survey respondents is presented in *Exhibits III-2*. As shown:

- Most respondents work in the Health Care (48%), Education (28%), or Human Service (28%) sectors
- Most respondents work and/or live in Richmond City (74%), Chesterfield (68%), Henrico (61%) or Hanover (55%).

Exhibit III-2. Community Professional Survey – Professional Perspective Profile

Professional Sector(s)*	
Total Responses	40
Health Care	48%
Education	28%
Human Services	28%
Government	18%
Public Health	18%
Community Advocacy	15%
Business	5%
Philanthropy	5%
Other (write-in from respondents)	*15%*
Community Services Board	*5%*
Nonprofit	*5%*
Behavioral Health	*3%*
Transportation	*3%*

Regional Perspective*	
Total Responses	38
Richmond City	74%
Chesterfield	68%
Henrico	61%
Hanover	55%
Petersburg	45%
Hopewell	39%
Powhatan	34%
Colonial Heights	34%
Spotsylvania	29%
Fredericksburg	26%
Stafford	24%
King George	16%
Other (write-in from respondents)	*24%*
Statewide	*11%*
New Kent	*3%*
Charles City	*3%*
Goochland	*3%*
Dinwiddie	*3%*
Prince George	*3%*
Louisa	*3%*
Health Planning Region IV	*3%*



3. Community Support Needs

As shown in *Exhibit III-3* below, community professionals were asked to review a list of supports families they serve may need to care for their child/children. The exhibit shows the number and percent of respondents to the community professional survey who reported serving 'some' or 'many' families needing each support shown. The most commonly identified needs were parents/caregivers learning about the child's health and development needs; learning specific skills to care for the child; understanding health information and directions provided by the child's service providers; getting help with transportation to visits and appointments; communicating with service providers to help them understand what the child really needs; and getting help with coordinating services for the child. Additional comments from community professionals are provided in the lower part of the exhibit.

Exhibit III-3. Community Professional Survey-Community Support Needs (n=40)

Support is Needed for….	Response Percent	Response Count
Learning about the child's health and developmental needs	92%	36
Learning specific skills to care for the child	90%	35
Understanding health information and directions provided by the child's service providers	90%	35
Getting help with transportation to visits and appointments	90%	35
Communicating with service providers to help them understand what the child really needs	87%	34
Getting help with coordinating services for the child	87%	34
Getting emotional support when they start to feel overwhelmed	85%	33
Finding a good counselor or mental health professional for the child	85%	33
Finding a supportive childcare environment for the child	85%	33
Finding a supportive work environment that will allow the parent / caregiver to care for the child	85%	33
Finding good medical specialists for the child	82%	32
Finding a supportive after school environment for the child	79%	31
Finding other services and supports for the child	79%	31
Getting help with making appointments for the child	77%	30
Finding adequate health coverage for the child	77%	30
Finding a good primary care provider for the child	72%	28
Finding a good dentist for the child	72%	28
Getting the prescriptions and health supplies the child needs	69%	27
Getting good home health services for the child	69%	27
Getting help around the house so they have time and energy to focus on the child's needs	67%	26
Getting respite care for me and others who care for the child	64%	25
Getting good outpatient hospital care for the child	59%	23
Getting good inpatient hospital care for the child	56%	22

Note: When interpreting the survey results, please note that although the relative number of responses received for each item is instructive, it is not a definitive measure of the relative importance of one issue compared to another.

Additional Comments:

- Childcare is the number one issue facing our clients who are typically single mothers. Supportive employment is second.
- A large number of children in our community live in poverty. Also, many of them live in single-parent households.
- All families with children with complex medical needs experience issues with all of the above. Finding home nursing and other home support care givers is very difficult in our current community. Many families need a lot of time to adjust to caring for a child with complex medical needs. This includes many days of reinforced education and teaching, ability to room in with their child to practice while having nursing support. Additionally, the psychological support needed to make a transition from hospital to home is not present nor easily accessible in our community. Coordination of care is difficult, time consuming, and loaded with challenges and barriers from insurance companies. Many parents cannot work because of the complexity of their child's care.

-Continued-

Exhibit III-3. Community Professional Survey-Community Support Needs (n=40)
• Closing the gap around behavioral health services available for Medicaid recipients (like intensive in-home, therapeutic day treatment, residential treatment) and private insurance families. • Finding Caregiver Education resources/classes • Our program is a case management service. We are faced with many challenges at different levels. We meet the needs of the client/family "where they are" and together we initiate a plan. • The summer is challenging for parents who work. Summer programs are expensive. • We have parents who have after school care covered, but need help before school, due to early work schedules.

4. Additional Insights

Survey respondents were invited to provide additional insight in response to six open-ended questions about health issues, vulnerable populations, community health assets, opportunities for collaboration, their vision of a healthy community; and ideas and suggestions for community health improvement. *Exhibit III-4* illustrates the spectrum of insights and issues identified by community professionals.

- **Defining a Healthy Community.** Community professionals were invited to share their definition for “a healthy community”. Respondents commonly described a healthy community as one that has access to supportive services; has access to healthcare; is safe; engages community members; and has access to school services.

- **Neighborhood Child and Youth Health Issues.** Community professionals were invited to identify health issues that may be on the horizon in their community. Among the most commonly identified issues were childhood trauma; barriers/gaps in healthcare for special populations; opioids/substance use; mental health and lack of prevention.

- **Community Assets.** Community professionals were asked to identify health assets within the community that promote a culture of health. Commonly mentioned assets included wellness events/programs; healthcare providers; parks and recreation; schools; and people.

- **Opportunities for Collaboration.** Community professionals were asked to share ideas about how people could work together to promote better health in their neighborhood. Ideas offered by respondents included collaboration across organizations and neighborhoods in the region; increased communication about services; support for vulnerable populations; more wellness events, activities, and groups; and education programs.

- **Ideas and Suggestions for CHoR and Partners.** Community professionals offered open-ended responses with additional ideas and suggestions for how CHoR and its partners could help the community achieve better health. Commonly mentioned ideas included collaborating with other organizations; adding medical services and/or providers; providing education, prevention and wellness resources; and expanding access to current services in selected areas of the region.

Exhibit III-4. Community Professional Survey – Additional Insights

Defining a Healthy Community

Access to Supportive Services 17	Access to Healthcare 13	Safe 8	Community Engagement 5	Access to School Services 5	Other*

*Access to Healthy Food (3), Access to Health Education (4), Access to Exercise (2), Other (5)

Neighborhood Child and Youth Health Issues

Trauma Informed Care 10	Barriers/ Gaps in Healthcare for Special Populations 7	Opioids/ Substance Use 6	Mental Health 5	Prevention 4	Other*

*Family Engagement and Education (3), Screen Time (3), Schools (2), Obesity (2), Other (7)

Community Assets

Wellness Events/Programs 14	Healthcare Providers 11	Parks and Recreation 9	Schools 9	People 5	Other 4

Opportunities for Collaboration

Collaboration Across Organizations/ Neighborhoods 14	Increased Communication 4	Support Vulnerable Populations 4	Wellness Events and Support Groups 4	Educational Programs 3	Other 2

Ideas and Suggestions

Collaborate with Other Organizations 7	Add Services/Medical Providers 5	Education, Prevention, and Wellness Resources 5	Expand Access to Other Areas in the Region 2	Other 2

Section IV. Community Indicator Profile

This section of the report provides a quantitative profile of the study region based on a wide array of community health indicators. To produce the profile, Community Health Solutions analyzed data from multiple sources. By design, the analysis does not include every possible indicator of community health. The analysis is focused on a set of indicators that provide broad insight into community health for children and families, and for which there were readily available data sources.

The results can be helpful for determining the number of people within the study region affected by specific health concerns. The results of this profile can also be used to evaluate community health status compared to the Commonwealth of Virginia overall. In addition, the results can be used alongside the *Community Insight Survey* results and the zip code level maps to help inform action plans for community health improvement. This section includes eleven profiles as follows:

1. Health Demographic Trend Profile
2. Health Demographic Snapshot
3. Mortality Profile
4. Maternal and Infant Health Profile
5. Pediatric Quality Indicator Hospitalization Profile
6. Behavioral Health Hospitalization Discharge Profile
7. Rehabilitation Hospitalization Profile
8. Youth Risk Factor Profile
9. Special Education Enrollment Profile
10. Uninsured Profile
11. Medically Underserved Profile

1. Health Demographic Trend Profile

Trends in health-related demographics are instructive for anticipating changes in community health status. Changes in the size of the population, age of the population, and racial/ethnic mix of the population can have a significant impact on overall health status, health needs and demand for local services.

As shown in *Exhibit IV-1*, as of 2018, the study region included an estimated 1,469,684 people, 413,331 of whom were age 0-21. The population age 0-21 is expected to grow by 3% from 2018 to 2023. Focusing on sub-populations, all age groups are expected to grow by 2023 with the exception of the 18-21 population; which is expected to remain relatively stable. Most race/ethnic populations are projected to increase with the exception of the White population; which is expected to decline.

Exhibit IV-1.
Health Demographic Trend Profile (Age 0-21), 2018-2023 Estimates

Indicator	2018 Estimate	2023 Projection	% Change 2018-2023
Total Population	1,469,684	1,555,034	6%
Total Population Age 0-21	413,331	423,905	3%
Population Density (per Sq. Mile)	641.5	678.7	6%
By Age Group (Age 0-21)			
Children Age 0-2 #	50,725	53,733	6%
Children Age 3-5 #	52,793	54,730	4%
Children Age 6-11 #	111,933	113,717	2%
Children Age 12-14 #	57,706	58,955	2%
Children Age 15-17 #	55,198	57,771	5%
Adults Age 18-21 #	84,976	84,999	0%
By Race/Ethnicity (Age 0-19)			
Asian	15,954	19,219	20%
Black/African American	115,079	119,698	4%
White	195,714	190,397	-3%
Other/Multiple Race	44,221	53,605	21%
Hispanic Ethnicity[3]	41,753	51,009	22%

Source: Community Health Solutions analysis of local demographic estimates from Truven Analytics provided by CHoR. See Appendix B: Data Sources for details.

[3] Classification of ethnicity; therefore, Hispanic individuals are also included in the race categories.

2. Health Demographic Snapshot

Community health is driven in part by community demographics. The age, sex, race, ethnicity, and income of a population are strong predictors of community health status and community health needs.

Exhibit IV-2 presents a snapshot of key health-related demographics of the study region. As of 2018, the study region included an estimated 413,331 people age 0-21. As illustrated by the population rates shown in the lower part of the Exhibit, the study region has a larger proportion of Black/African American residents and smaller proportion of White, Asian and Hispanic residents. *Maps 1-7 in Appendix A shown the distribution of select indicators by zip code.*

Exhibit IV-2.
Health Demographic Snapshot Profile (Age 0-21) , 2017-2018 Estimates

Indicator		Study Region	Virginia
Counts-Estimates			
Total Population	Population 0-21	413,331	2,339,402
Age	Children Age 0-2	50,725	291,568
	Children Age 3-5	52,793	302,708
	Children Age 6-11	111,933	634,931
	Children Age 12-14	57,706	319,690
	Children Age 15-17	55,198	300,488
	Adults Age 18-21	84,976	490,017
Sex	Female Population Age 0-21	204,944	1,146,752
	Male Population Age 0-21	208,387	1,192,650
Race	Asian Population Age 0-19	15,954	144,271
	Black/African American Population Age 0-19	115,079	455,097
	White Population Age 0-19	195,714	1,212,561
	Other or Multi-Race Population Age 0-19	44,221	258,216
Ethnicity	Hispanic Ethnicity[4] Population Age 0-19	41,753	288,288
Income	2017 Estimated Families (with Children Under Age 18) with Incomes Below the Federal Poverty Level (FPL)[5]	21,495	121,696
Rates-Percent Estimates			
Total Population	Population Density (pop. per sq. mile)	641.5	213.1
Age	Children Age 0-2 percent of Total Pop.	12%	12%
	Children Age 3-5 percent of Total Pop.	13%	13%
	Children Age 6-11 percent of Total Pop.	27%	27%
	Children Age 12-14 percent of Total Pop.	14%	14%
	Children Age 15-17 percent of Total Pop.	13%	13%
	Adults Age 18-21 percent of Total Pop.	21%	21%
Sex	Female (age 0-21) percent of Total Pop.	50%	49%
	Male (age 0-21) percent of Total Pop.	50%	51%
Race	Asian (age 0-19) percent of Total Pop.	4%	7%
	Black/African American (age 0-19) percent of Total Pop.	31%	22%
	White (age 0-19) percent of Total Pop.	53%	59%
	Other or Multi-Race (age 0-19) percent of Total Pop.	13%	14%
Ethnicity	Hispanic Ethnicity (age 0-19) percent of Total Pop.	11%	14%
Income	2017 Est. Families (with Children Under 18) with Incomes Below FPL pct. of Total Families	13%	12%

Source: Community Health Solutions analysis of local demographic estimates from Truven Analytics and US Census Bureau. See Appendix B: Data Sources for details.

[4] Classification of ethnicity; therefore, Hispanic individuals are also included in the race categories.
[5] Based on the estimated study region family (with children age 0-18) population of 169,477.

3. Mortality Profile

Mortality is one of the most commonly cited community health indicators. As shown in *Exhibit IV-3*, the study region had 236 total deaths for residents age 0-21 in 2017. The leading causes of death were related to:

- Disorders related to short gestation and low birth weight, not elsewhere classified (32);
- Assault (26);
- Fetus and newborn affected by maternal factors and by complications of pregnancy, labor and delivery (19);
- Other ill-defined and unspecified causes of mortality (12); and
- Motor or non-motor vehicle accidents (10).

The death rates per 100,000 (unadjusted for age) in the study region were higher than Virginia overall, and for each age group where a rate was calculated. *Map 8 in Appendix A show the geographic distribution of key death indicators by zip code.*

Exhibit IV-3.
Mortality Profile (Age 0-21), 2017

Indicator	Study Region	Virginia
Counts- Age Group		
Total Deaths by Age 0-21	236	1,166
Age 0-2	134	635
Age 3-5	12	57
Age 6-11	11	65
Age 12-14	7	40
Age 15-17	22	101
Age 18-21	50	268
Counts-Leading Causes		
Disorders related to short gestation and low birth weight, not elsewhere classified	32	94
Assault	26	70
Fetus and newborn affected by maternal factors and by complications of pregnancy, labor and delivery	19	67
Other ill-defined and unspecified causes of mortality	12	40
Motor-or non-motor-vehicle accident, type of vehicle unspecified	10	51
Sudden Infant Death Syndrome	9	54
Suicide	8	78
Respiratory and cardiovascular disorders specific to the perinatal period	7	42
Unintentional Injury	6	34
Edward syndrome and Patau syndrome	3	18
Rates-Per 100,000 by Age Group		
Total Population Age 0-21	61.5	52.5
Age 0-2	284.7	229.6
Age 3-5	--	19.9
Age 6-11	--	10.8
Age 12-14	--	13.2
Age 15-17	--	35.4
Age 18-21	63.4	57.7

Note: -- Rates are not calculated where n<30. Motor vehicle traffic accident deaths for residents of the study region, not motor vehicle accident deaths occurring in the study region. Age adjusted death rates were not calculated for this study because the study region is defined by zip codes, and available data are not structured to support calculation of age adjusted death rates at the zip code level. Age group death rates are used as an alternative.

Source: Community Health Solutions analysis of mortality data from the Virginia Department of Health. See Appendix B. Data Sources for details.

4. Maternal and Infant Health Profile

As shown in *Exhibit IV-4A,* the study region had 17,146 total live births in 2017. Of these, 1,517 (9%) were born with low birth weight, 2,073 (12%) were births without early prenatal care, 7,019 (41%) were non-marital births, and 690 were births to teens with most (536) involving older teens age 18 or 19. Compared to Virginia as a whole, the study region had a higher birth rate overall, plus higher rates of low weight births, non-marital births and births to teen aged 18 or 19. *Maps 9-11 in Appendix A show the geographic distribution of key birth indicators by zip code.*

Exhibit IV-4A.
Maternal and Infant Health Profile, 2017

Indicators	Study Region	Virginia
Counts		
Total Live Births	17,146	99,655
Low Weight Births (under 2,500 grams / 5 lb. 8 oz.)	1,517	8,351
Births Without Early Prenatal Care (No Prenatal Care in First 13 Weeks)	2,073	15,330
Non-Marital Births	7,019	34,498
Live Births to Teens Age 10-19	690	3,916
Live Births to Teens Age 18-19	536	2,988
Live Births to Teens Age 15-17	145	889
Live Births to Teens Age <15	9	39
Rates[6]-Percent and Rate per 1,000 Population		
Live Birth Rate per 1,000 Population	12.1	11.8
Low Weight Births pct. of Total Live Births	9%	8%
Births Without Early Prenatal Care (No Prenatal Care in First 13 Weeks) pct. of Total Live Births	12%	15%
Non-Marital Births pct. of Total Live Births	41%	35%
Live Births to Teens Age 10-19 Rate per 1,000 females age 10-19	7.4	7.5
Live Births to Teens Age 18-19 Rate per 1,000 females age 18-19	28.6	26.1
Live Births to Teens Age 15-17 Rate per 1,000 females age 15-17	5.1	5.8
Live Births to Teens Age <15 Rate per 1,000 females age <15	0.2	0.2

Source: Community Health Solutions analysis of birth data from the Virginia Department of Health and local demographic estimates from US Census Bureau. See Appendix B. Data Sources for details.

For technical reasons, it was not possible to calculate teen pregnancy rates and infant mortality rates at the zip code level.[7] As an approximation, *Exhibit IV-4B* on the following page shows counts and rates of infant mortality and teen pregnancy for the localities that overlap the study region. The infant mortality rates were higher than the statewide rate for six of the 12 localities (Colonial Heights, Fredericksburg, Henrico, Petersburg, Richmond City and Spotsylvania). Teen pregnancy rates were also higher than the statewide rate in five localities (Colonial Heights, Fredericksburg, Hopewell, Petersburg, and Richmond City).

[6] -- Rates are not calculated where the count is less than 30.
[7] Infant mortality and teen pregnancy rates were not calculated for this study region because the study region is defined by zip codes, and available data are not structured to support calculation of rates at the zip code level. City/county level rates are provided as an alternative.

Exhibit IV-4B.
Infant Mortality and Teen Pregnancy, 2017

Indicators	Virginia	Chesterfield County	Colonial Heights City	Fredericksburg City	Hanover County	Henrico County	Hopewell City	King George County	Petersburg City	Powhatan County	Richmond City	Spotsylvania County	Stafford County
Counts													
Total Infant Deaths (2017)	524	7	3	14	7	56	1	1	6	1	58	2	1
Total Teenage (age 10-19) Pregnancies (2017)	5,306	156	16	38	35	139	38	18	55	4	279	74	70
Rates													
Infant Mortality Rate per 1,000 Live Births (2017)	5.3	4.7	10.8	9.5	2.1	8.5	2.8	3.5	15.5	4.1	10.6	8.0	4.0
Teenage (age 10-19) Pregnancy Rate per 1,000 Teenage Female Population Age 10-19 (2017)	10.2	6.6	14.7	16.9	4.9	6.8	26.1	9.9	36.2	2.7	22.8	7.9	6.4

Source: Community Health Solutions analysis of birth data from the Virginia Department of Health. See Appendix B. Data Sources for details.

5. Pediatric Quality Indicator Hospitalization Profile

The Agency for Healthcare Research and Quality (AHRQ) defines a set of conditions (called Pediatric Quality Indicators, or 'PDIs') for which hospitalization for children age 0-17 should be avoidable with proper outpatient health care. High rates of hospitalization for these conditions indicate potential gaps in access to quality outpatient services for community residents.

This study focused on five PDI conditions including Pediatric Asthma, Gastroenteritis, Diabetes, Urinary Tract Infection, and Perforated Appendix. As shown in *Exhibit IV-5*, study region residents age 0-17 had 669 PDI discharges for these conditions in 2017. The leading diagnoses were Asthma (360) and Gastroenteritis (118). Hospitalization rates per 100,000 for PDI conditions were higher in the study region than for Virginia overall, and for all age groups. *Map 12 in Appendix A shows the geographic distribution of total PDI discharges by zip code.*

Exhibit IV-5.
Selected Pediatric Quality Indicator Hospitalizations (Age 0-17), 2017

Indicator	Study Region	Virginia
Counts- Age Group		
Total Population Age 0-17	669	1,925
Age 0-2	131	404
Age 3-5	151	379
Age 6-11	243	654
Age 12-14	80	252
Age 15-17	64	236
Counts-Diagnosis		
Asthma	360	744
Gastroenteritis	118	413
Diabetes	79	238
Urinary Tract Infection	62	225
Perforated Appendix	50	305
Rates-Per 100,000 by Age Group		
Total Population Age 0-17	219.6	109.7
Age 0-2	278.4	146.1
Age 3-5	308.3	132.0
Age 6-11	234.0	108.6
Age 12-14	149.4	83.1
Age 15-17	125.0	82.8

Source: Community Health Solutions analysis of hospital discharge data from Virginia Health Information, Inc. and local demographic estimates from US Census Bureau. See Appendix B. Data Sources for details.

6. Behavioral Health Hospitalization Discharge Profile

As shown in *Exhibit IV-6*, in 2017 study region residents age 0-21 had 3,575 hospital discharges for behavioral health conditions. The leading diagnoses for these hospitalizations were major depressive disorder, recurrent (922); major depressive disorder, single episode (737); unspecified mood [affective] disorder (476); bipolar disorder (369); and persistent mood [affective] disorders (251). Hospitalization rates per 100,000 for behavioral health conditions were higher in the study region than for Virginia overall, and for all age groups where a rate was calculated. *Map 13 in Appendix A shows the geographic distribution of Total BH discharges by zip code.*

Exhibit IV-6.
Behavioral Health Hospitalizations (Age 0-21), 2017

Indicator	Study Region	Virginia
Counts- Age Group		
Total Population Age 0-21	3,575	15,697
Age 0-2	4	20
Age 3-5	12	51
Age 6-11	292	1,602
Age 12-14	838	3,516
Age 15-17	1,147	5,057
Age 18-21	1,282	5,451
Counts-Leading Diagnosis		
Major depressive disorder, recurrent	922	4,323
Major depressive disorder, single episode	737	3,159
Unspecified mood [affective] disorder	476	1,151
Bipolar disorder	369	2,079
Persistent mood [affective] disorders	251	1,513
Reaction to severe stress, and adjustment disorders	238	1,023
Schizoaffective disorders	101	368
Unspecified psychosis not due to a substance or known physiological condition	86	308
Other anxiety disorders	69	203
Schizophrenia	56	266
Rates-Per 100,000 by Age Group		
Total Population Age 0-21	932.2	707.4
Age 0-2	--	--
Age 3-5	--	17.8
Age 6-11	281.2	266.0
Age 12-14	1,565.2	1,159.6
Age 15-17	2,239.7	1,774.3
Age 18-21	1,626.1	1,172.8

Note: -- Rates are not calculated where n<30.

Source: Community Health Solutions analysis of hospital discharge data from Virginia Health Information, Inc. and local demographic estimates from US Census Bureau. See Appendix B. Data Sources for details.

7. Injury and Rehabilitation Hospitalization Discharge Profile

Hospitalizations for injury and rehabilitation are of particular interest for studies of children's health. This study analyzed hospitalizations for diagnoses selected in consultation with Children's Hospital of Richmond at Virginia Commonwealth University – Children's Rehabilitative Services staff. As shown in *Exhibit IV-7*, in 2017 study region residents age 0-21 had 287 discharges for these diagnoses The most common diagnoses were Therapy and Rehabilitation (179); and Brain Injury (85). The hospitalization rates per 100,000 for these diagnoses combined were higher for the study region than for Virginia overall, and for most age groups. *Map 14 in Appendix A shows the geographic distribution of Total BH discharges by zip code.*

Exhibit IV-7.
Injury and Rehabilitation Hospitalizations (Age 0-21), 2017

Indicator	Study Region	Virginia
Counts- Age Group		
Total Population Age 0-21	287	1,327
Age 0-2	41	189
Age 3-5	25	147
Age 6-11	77	278
Age 12-14	46	199
Age 15-17	38	215
Age 18-21	60	299
Counts-Leading Diagnosis		
Therapy and Rehabilitation	179	782
Brain Injury	85	411
Stroke	7	63
Multiple Sclerosis	6	21
Fractures	3	16
Spinal Cord Injury	3	11
Acute Myocardial Infarction	2	5
Amputations	2	18
Rates-Per 100,000 by Age Group		
Total Population Age 0-21	74.8	59.8
Age 0-2	87.1	68.3
Age 3-5	--	51.2
Age 6-11	74.1	46.2
Age 12-14	85.9	65.6
Age 15-17	74.2	75.4
Age 18-21	76.1	64.3

Note: -- Rates are not calculated where n<30. Children's Hospital of Richmond at Virginia Commonwealth University – Children's Rehabilitative Services selected this set of injury and rehabilitation discharges for analysis.

Source: Community Health Solutions analysis of hospital discharge data from Virginia Health Information, Inc. and local demographic estimates from US Census Bureau. See Appendix B. Data Sources for details.

8. Youth Health Risk Factor Profile

This profile presents estimates of selected health risks for youth age 10-14 and 15-19. The indicators in this profile are estimates based on analysis of data from the Virginia Youth Risk Behavioral Surveillance System from the Virginia Department of Health (2017); Centers for Disease Control (2017) and demographic data from US Census Bureau, American Community Survey (2013-2017) (see Appendix B for details on methods). Please note that all indicators in this profile are estimates, and therefore subject to estimation error.

As shown in *Exhibit IV-8*, substantial numbers of youth have lifestyle health risks related to nutrition, weight, alcohol, mental health, physical inactivity, and tobacco. Please note that these estimates reflect general patterns based on statistical analysis of survey data. Because of data limitations, it is not possible to assign specific margins of error or levels of significance to these statistical estimates.

Exhibit IV-8.
Youth Health Risk Factor Profile (Age 10-19), 2017 Estimates

Indicator	Study Region
Counts-Estimates	
High School Youth Age 15-19	
Total Estimated High School Youth Age 15-19	94,374
Did Not Meet Guidelines for Fruit and Vegetable Intake	77,387
Overweight or Obese	26,613
Not Meeting Recommendations for Physical Activity in the Past Week	73,234
Used Tobacco in the Past 30 Days	15,383
Had at least One Drink of Alcohol At least One Day in the Past 30 Days	23,122
Felt Sad or Hopeless (almost every day for two or more weeks in a row so that they stopped doing some usual activities)	27,840
Middle School Youth Age 10-14	
Total Estimated Middle School Youth Age 10-14	93,646
Not Meeting Recommendations for Physical Activity in the Past Week	63,679
Used Tobacco in the Past 30 Days	3,933
Rates-Percent Estimates	
High School Youth Age 15-19	
Did Not Meet Guidelines for Fruit and Vegetable Intake	82%
Overweight or Obese	28%
Not Meeting Recommendations for Physical Activity in the Past Week	78%
Used Tobacco in the Past 30 Days	16%
Had at least One Drink of Alcohol At least One Day in the Past 30 Days	25%
Felt Sad or Hopeless (almost every day for two or more weeks in a row so that they stopped doing some usual activities)	30%
Middle School Youth Age 10-14	
Not Meeting Recommendations for Physical Activity in the Past Week	68%
Used Tobacco in the Past 30 Days	3%

Source: Community Health Solutions analysis data from the Virginia Youth Risk Behavioral Surveillance Survey, Centers for Disease Control and local demographic estimates from US Census Bureau. See Appendix B: Data Sources for details.

9. Special Education Enrollment Profile

According to the Virginia Department of Education, "special education means specially designed instruction, at no cost to the parent(s), to meet the unique needs of a child with a disability, including instruction conducted in a classroom, in the home, in hospitals, in institutions, and in other settings and instruction in physical education." As shown in *Exhibit IV-9*, data from the Virginia Department of Education for 2016 indicate that local school divisions provide special education programs for thousands of children with a wide range of disabilities.

Exhibit IV-9.
Special Education Enrollment (Age 0-22), 2016

Indicators	VA	Chesterfield County	Colonial Heights City of	Fredericksburg City of	Hanover County	Henrico County	Hopewell City of	King George County	Petersburg City of	Powhatan County	Richmond City of	Spotsylvania County	Stafford County
Counts-Total Children in Special Education, by Disability													
Autism	19,566	977	35	35	316	753	45	46	50	65	346	372	414
Deaf Blindness	21	0	0	0	0	--	0	--	0	0	0	--	0
Developmental Delay	11,910	321	33	45	100	398	31	59	13	24	278	189	180
Emotional Disturbance	1,468	408	30	23	151	432	30	26	29	34	250	175	170
Hearing Impairments	1,468	38	--	--	12	49	--	--	--	--	28	30	48
Intellectual Disabilities	9,083	459	33	19	60	339	87	41	64	13	342	151	162
Multiple Disabilities	3,247	43	--	--	29	101	12	--	14	--	119	35	46
Other Health Impairments	33,275	1,757	113	75	674	1,658	127	105	131	154	953	568	640
Orthopedic Impairments	693	19	0	--	--	11	0	--	--	--	--	18	18
Specific Learning Disability	54,716	2,152	152	100	748	1,866	143	161	137	145	1,406	786	820
Speech or Language Impairments	24,262	1,228	51	47	326	931	145	93	31	121	472	539	443
Traumatic Brain Injury	438	28	--	--	--	--	--	--	0	--	22	--	--
Visual Impairments	649	10	--	--	11	13	--	--	--	--	--	10	14

Note: -- Counts are not provided where the number of students<10. Autism can include certain areas under Autism Spectrum Disorder.

Source: Community Health Solutions analysis of 2016 Virginia Department of Education Special Education Child Count data. See Appendix B: Data Sources for details.

10. Uninsured Profile

This profile presents estimates of the uninsured population within the 0-18 age group. The indicators in this profile are estimates based on analysis of data from the U.S. Census Bureau (see *Appendix B* for details on methods). These are 'snapshot' indicators that estimate the number of uninsured at a specific point in time. Please note that all indicators in this profile are subject to estimation error. *Note: Maps in Appendix A show the geographic distribution of key adult and child uninsured estimates by zip code.*

Decades of research show that health coverage matters when it comes to overall health status, access to health care, quality of life, school and work productivity, and even mortality. As shown in *Exhibit IV-10*, at a given point in time in 2017, an estimated 16,636 children and youth age 0-18 in the study region were uninsured. This represents an estimated 5% of children and youth age 0-18. *Map 15 in Appendix A shows the geographic distribution of estimated uninsured children by zip code.*

Exhibit IV-10.
Uninsured Profile (Age 0-18), 2017 Estimates

Indicator	Study Region
Counts	
Total Civilian, Noninstitutionalized Population Age 0-18	347,266
Civilian, Noninstitutionalized Population Age 0-5	104,460
Civilian, Noninstitutionalized Population Age 6-18	242,806
Total Uninsured Population Age 0-18	16,636
Uninsured Population Age 0-5	4,180
Uninsured Population Age 6-18	12,456
Rates (uninsured as a percent of the total age group population)	
Total Uninsured Population Age 0-18	5%
Uninsured Population Age 0-5	2%
Uninsured Population Age 6-18	5%

Source: Community Health Solutions analysis of local demographic estimates from US Census Bureau. See Appendix B: Data Sources for details.

11. Medically Underserved Profile

Medically Underserved Areas (MUAs) and Medically Underserved Populations (MUPs) are designated by the U.S. Health Resources and Services Administration as being at-risk for health care access problems. The designations are based on several factors including primary care provider supply, infant mortality, prevalence of poverty and the prevalence of seniors age 65+.

As shown in *Exhibit IV-11*, nine of the 12 localities that encompass the study region have been fully or partially designated as MUAs/MUPs. For a more detailed description, visit the U.S. Health Resources and Service Administration designation webpage at http://muafind.hrsa.gov/.

Exhibit IV-11.
Medically Underserved Areas and Populations

Locality	MUA/MUP designation	Census Tracts
Chesterfield County	Partial	2 of 71 Census Tracts
Colonial Heights City	None	----
Fredericksburg City	Partial	1 of 6 Census Tracts
Hanover County	None	----
Henrico County	Partial	2 of 64 Census Tracts
Hopewell City	None	----
King George County	Full	5 of 5 Census Tracts
Petersburg City	Full	11 of 11 Census Tracts
Powhatan County	Full	5 of 5 Census Tracts
Richmond City of	Partial	14 of 66 Census Tracts
Spotsylvania County	Partial	1 of 30 Census Tracts
Stafford County	Full	27 or 27 Census Tracts

Source: Community Health Solutions analysis of U.S. Health Resources and Services Administration data. See Appendix B. Data Sources for details.

APPENDIX A: Zip Code-Level Maps

The zip code level maps in this section illustrate the geographic distribution of the study region population on key demographic and health indicators. The results can also be used alongside the Community Insight Surveys and the Community Indicator Profile to help inform plans for community health initiatives. The underlying data for these maps are provided in a separate Microsoft Excel file. The maps in this section include the following for 2017/2018:

APPENDIX A: Zip Code-Level Maps	
1. Total Population (Age 0-21), 2018	9. Total Live Births, 2017
2. Asian Population (Age 0-19), 2018	10. Low Weight Births, 2017
3. Black/African American Population (Age 0-19), 2018	11. Births Without Early Prenatal Care (No Prenatal Care in the First 13 Weeks), 2017
4. White Population Age (Age 0-19), 2018	12. Pediatric Quality Indicator (PDI) Hospitalizations (Ages 0-17), 2017
5. Other/Multiple Race Population (Age 0-19), 2018	13. Behavioral Health (BH) Hospitalizations (Ages 0-21), 2017
6. Hispanic Ethnicity Population Age (Age 0-19), 2018	14. Injury and Rehabilitation Hospitalizations (Ages 0-21), 2017
7. Families with Incomes Below the Federal Poverty Level, 2017	15. Estimated Uninsured Children (Age 0-18), 2017
8. Total Deaths (Age 0-21), 2017	

Technical Notes

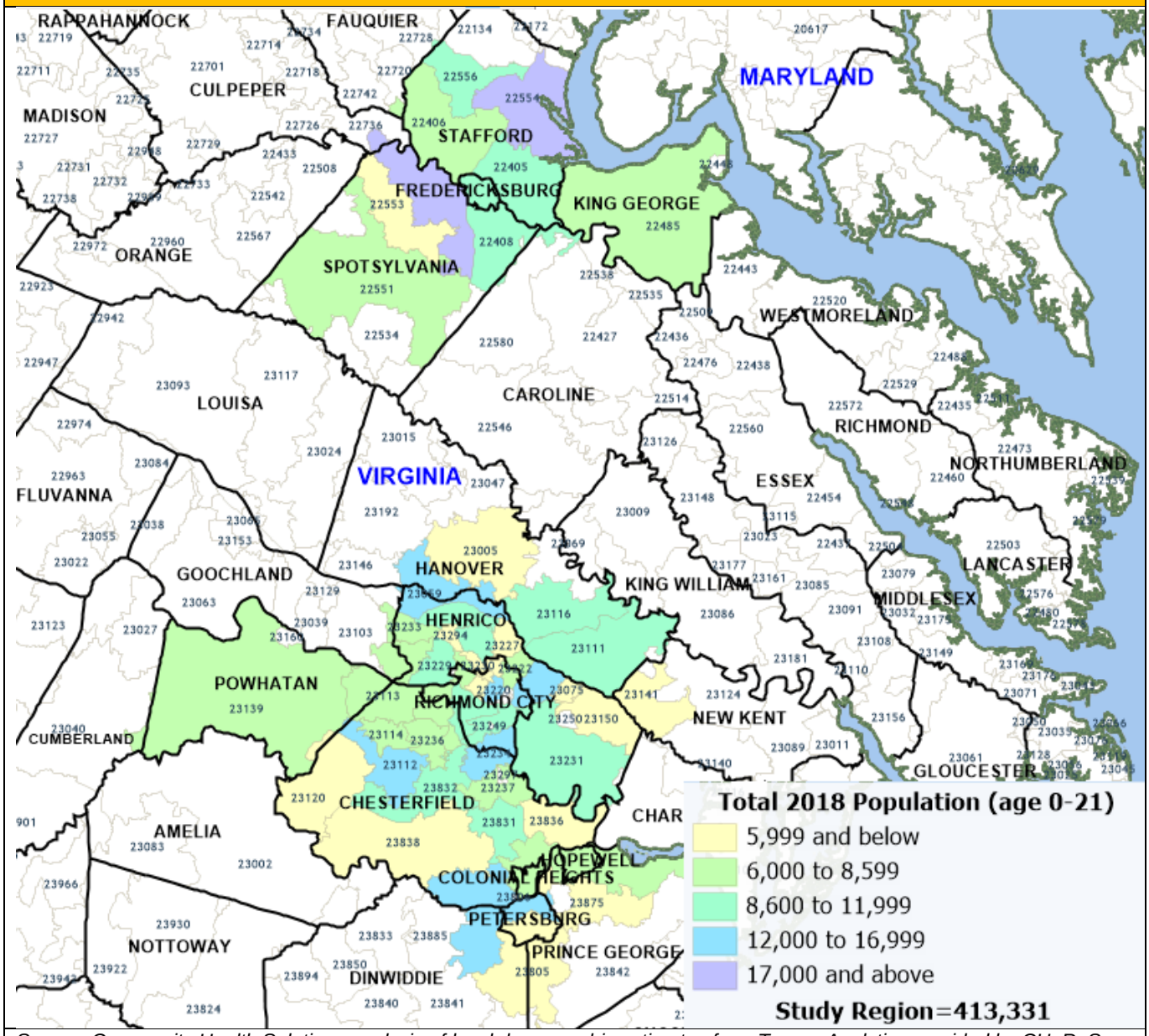
1. The maps and data focus on the Children's Hospital of Richmond at Virginia Commonwealth University – Children's Rehabilitative Services service area of 51 zip codes most of which fall within the counties of Chesterfield, Hanover, Henrico, King George, Powhatan, Spotsylvania and Stafford; and the cities of Colonial Heights, Fredericksburg, Hopewell, Petersburg and Richmond. Because zip code boundaries do not automatically align with city/county boundaries, there are some zip codes that extend beyond the county boundaries.

2. The maps show counts rather than rates. Rates are not mapped at the zip code-level because in some zip codes the population is too small to support rate-based comparisons.

3. Data are presented in natural breaks.

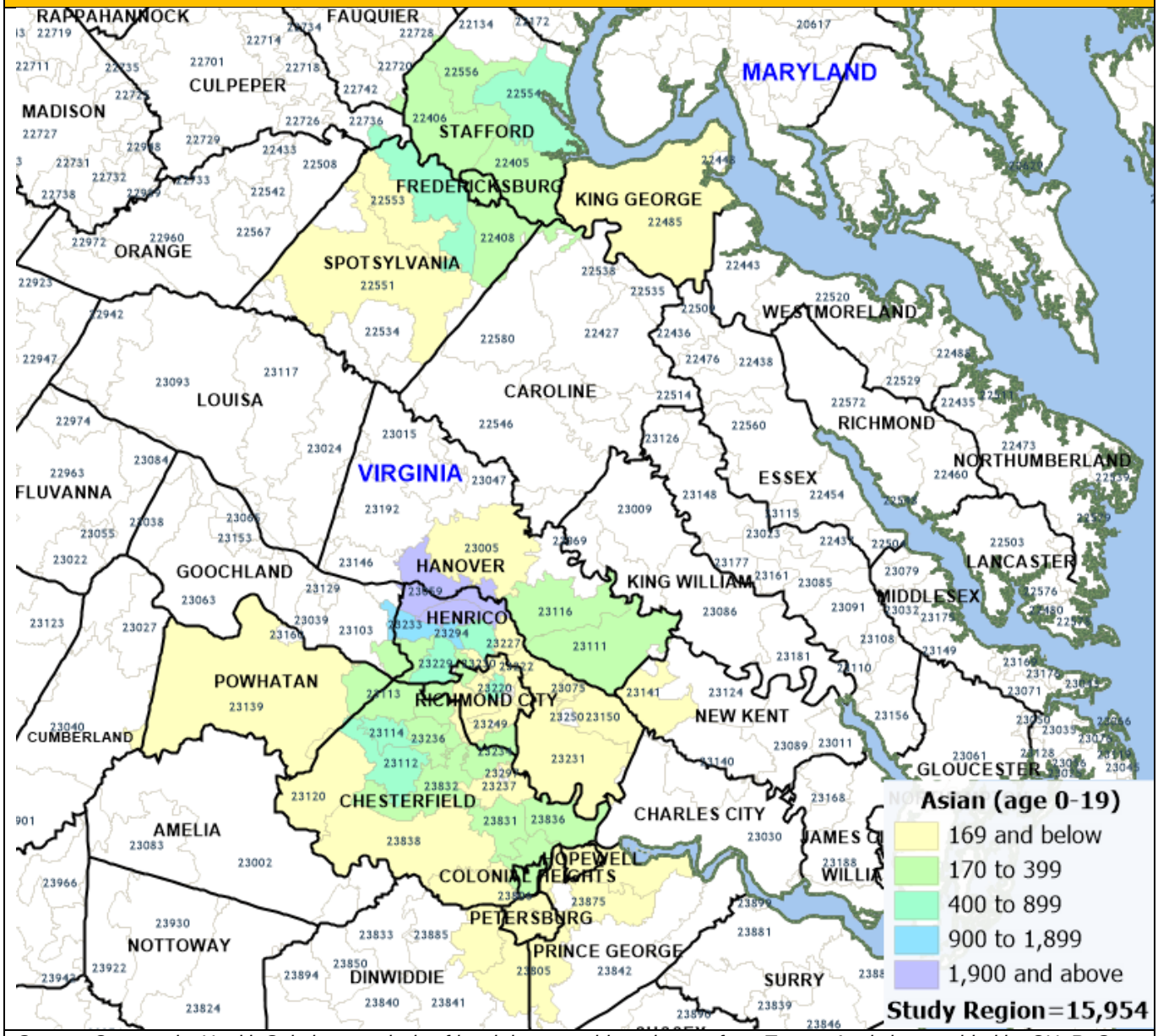
4. Zip Code-Level Study Region zip codes with zero values are noted.

Map 1: Total Population (Age 0-21), 2018



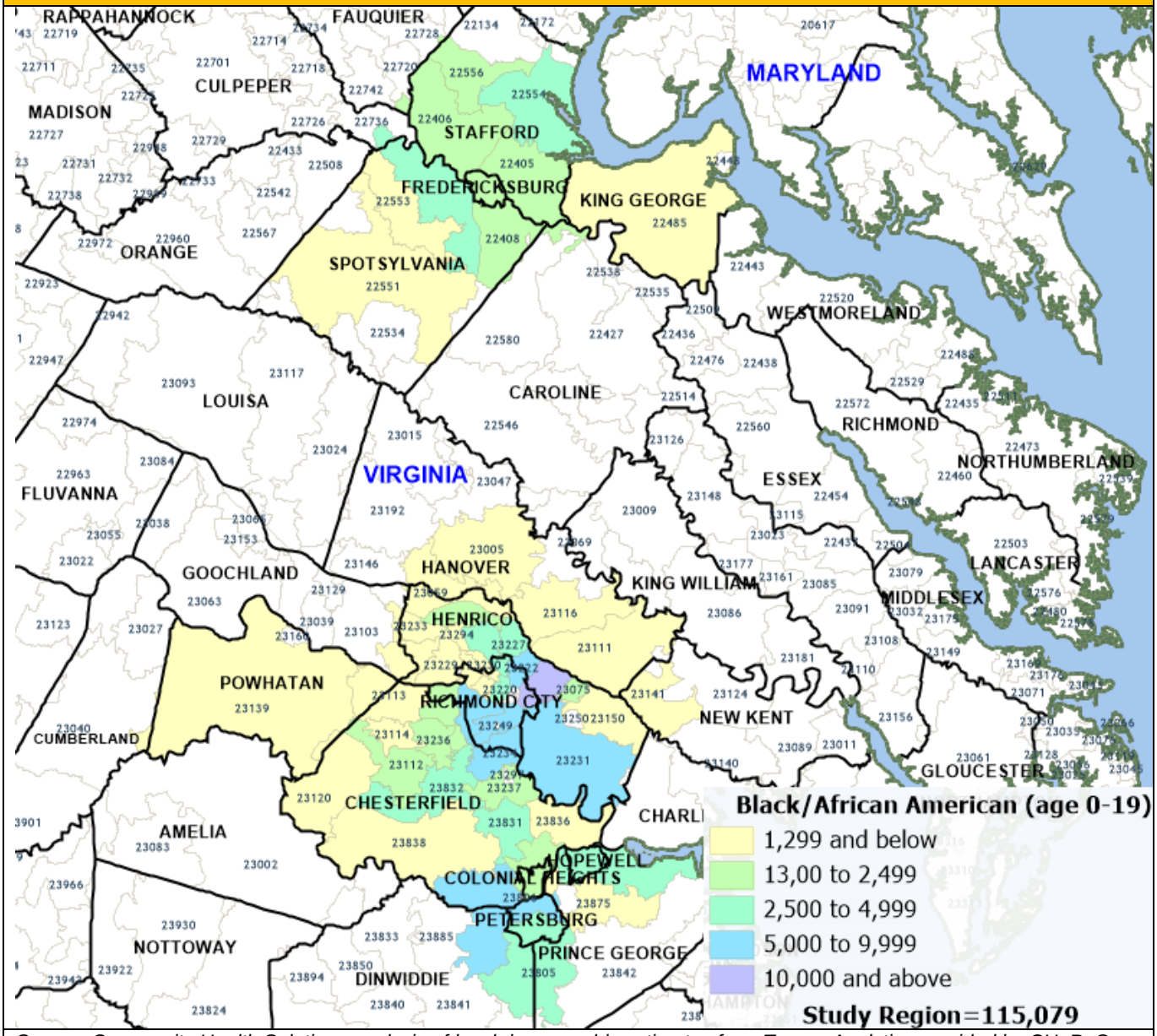
Source: Community Health Solutions analysis of local demographic estimates from Truven Analytics provided by CHoR. See Appendix B for details.

Map 2: Asian Population (Age 0-19), 2018



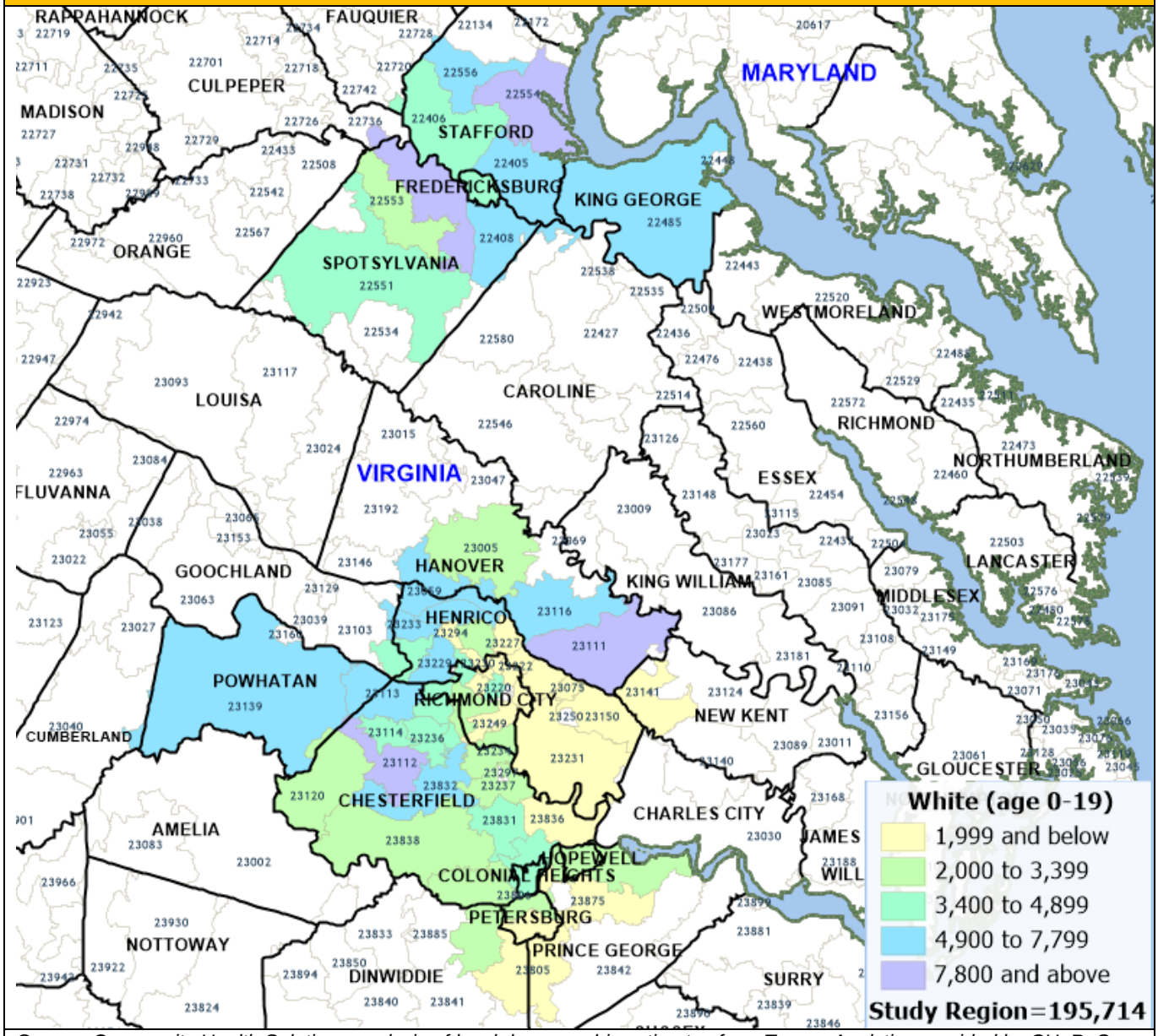
Source: Community Health Solutions analysis of local demographic estimates from Truven Analytics provided by CHoR. See Appendix B for details.

Map 3: Black/African American Population (Age 0-19), 2018



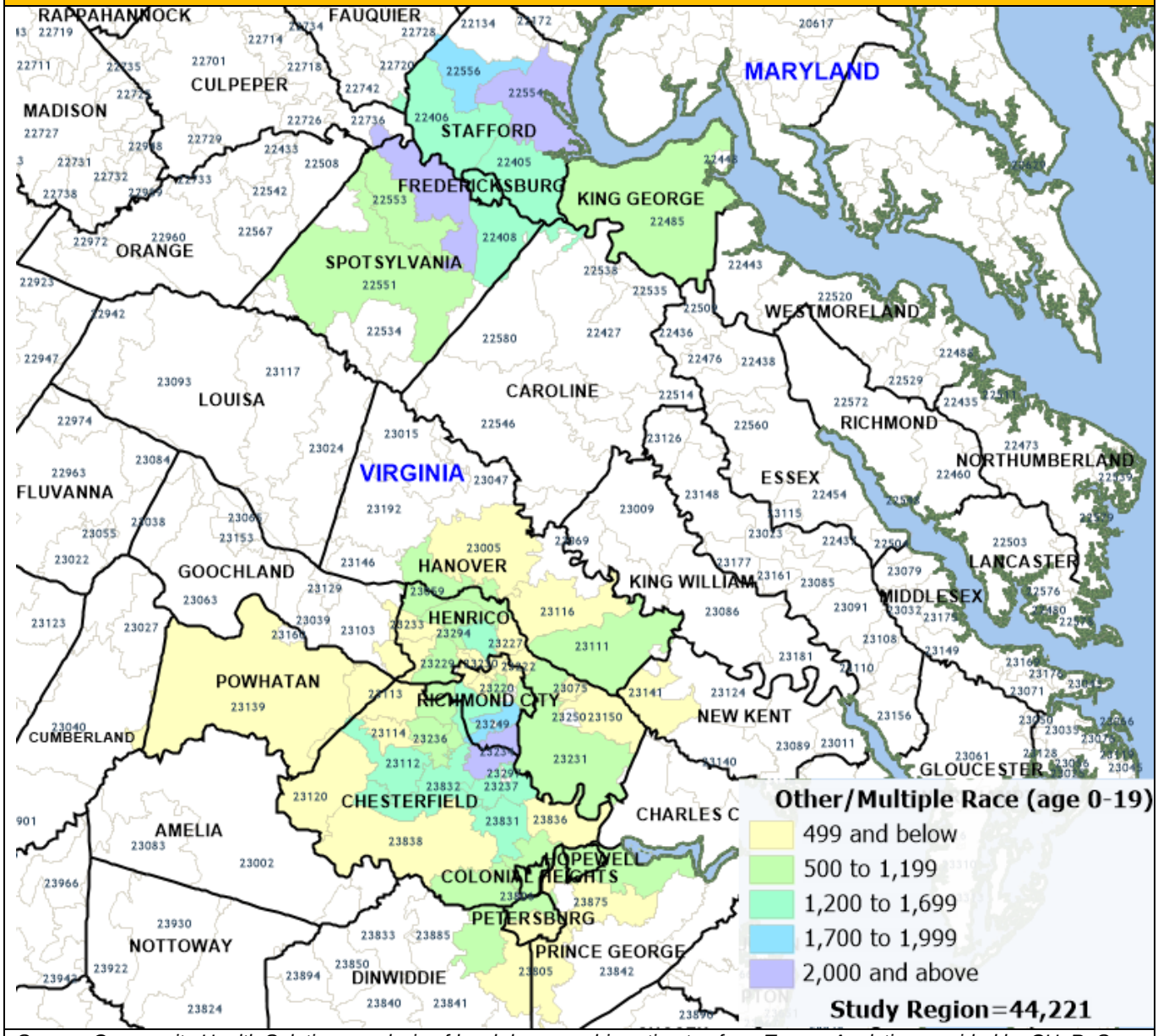
Source: Community Health Solutions analysis of local demographic estimates from Truven Analytics provided by CHoR. See Appendix B for details.

Map 4: White Population (Age 0-19), 2018



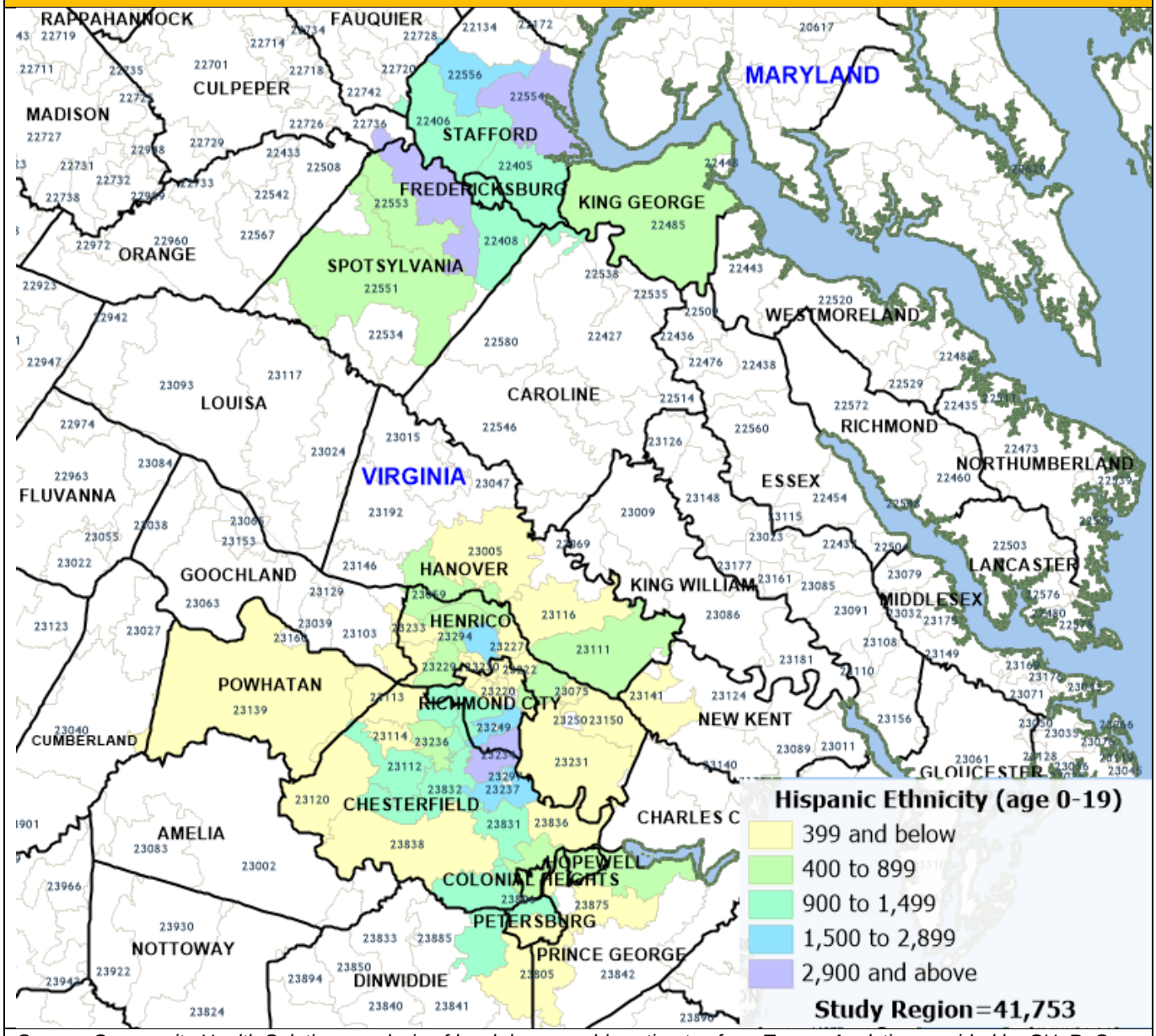
Source: Community Health Solutions analysis of local demographic estimates from Truven Analytics provided by CHoR. See Appendix B for details.

Map 5: Other/Multiple Race Population (Age 0-19), 2018



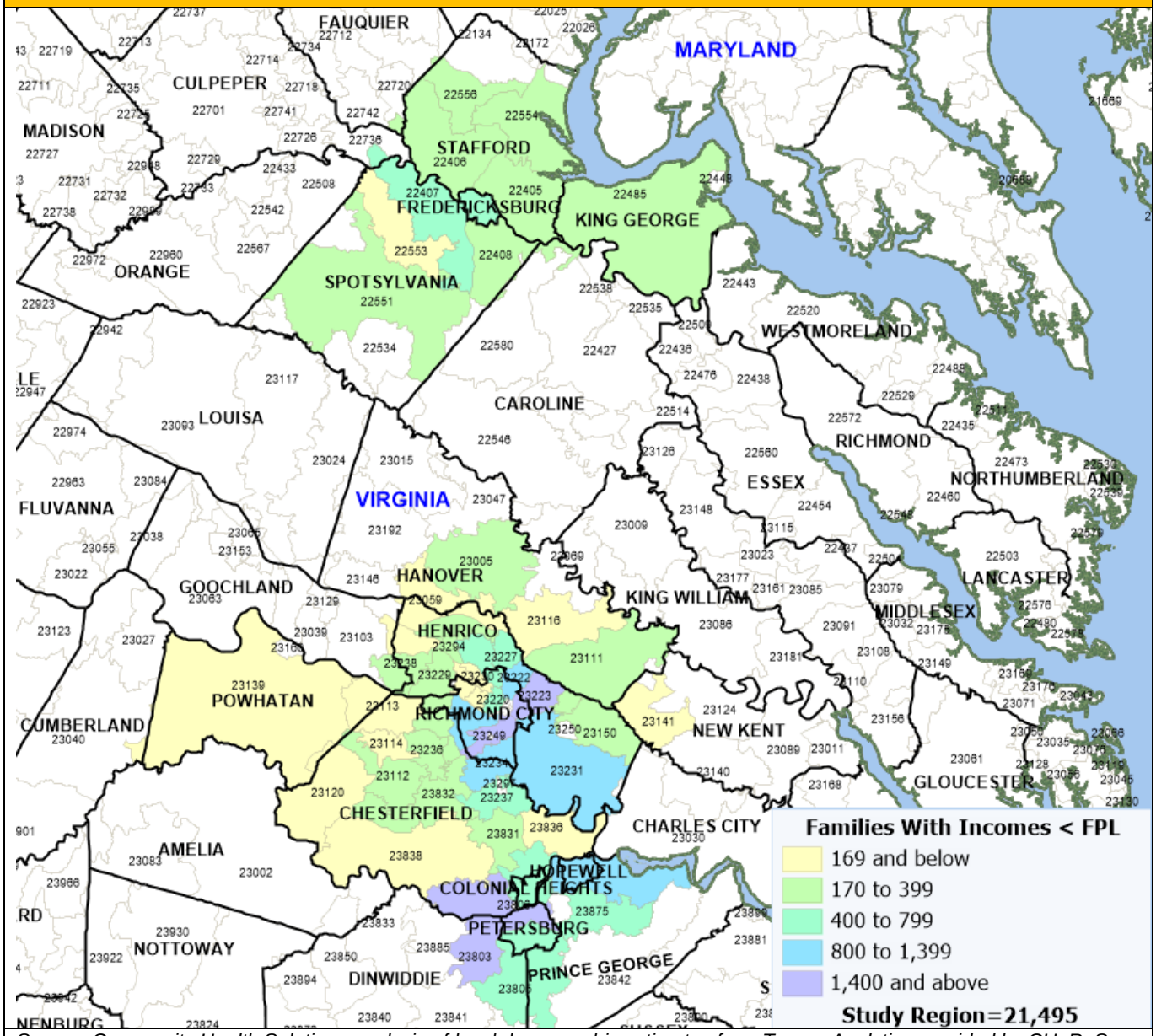
Source: Community Health Solutions analysis of local demographic estimates from Truven Analytics provided by CHoR. See Appendix B for details.

Map 6: Hispanic Ethnicity Population (Age 0-19), 2018



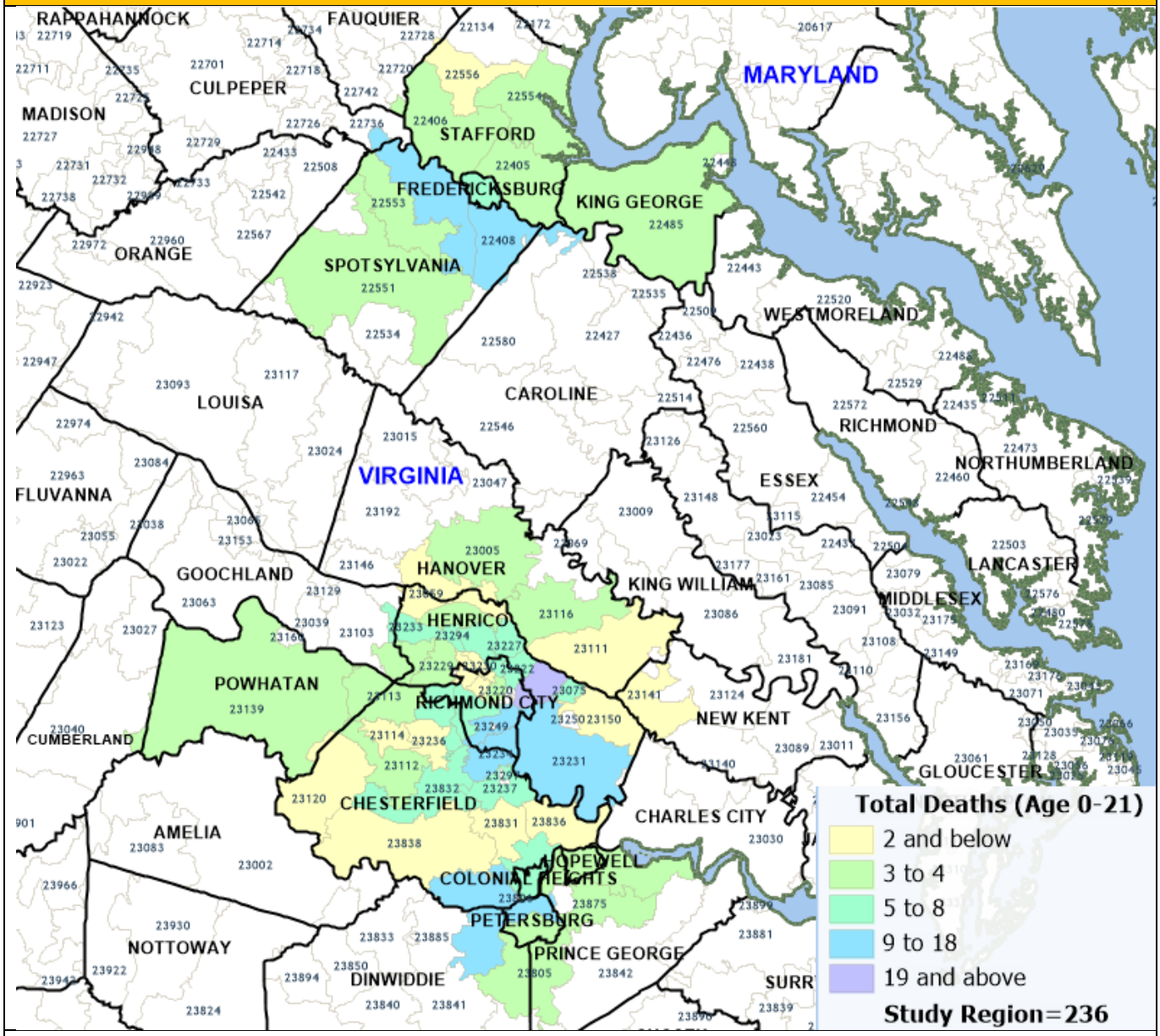
Source: Community Health Solutions analysis of local demographic estimates from Truven Analytics provided by CHoR. See Appendix B for details.

Map 7: Families (with Children Under Age 18) with Incomes Below the Federal Poverty Level (FPL), 2017



Source: Community Health Solutions analysis of local demographic estimates from Truven Analytics provided by CHoR. See Appendix B for details.

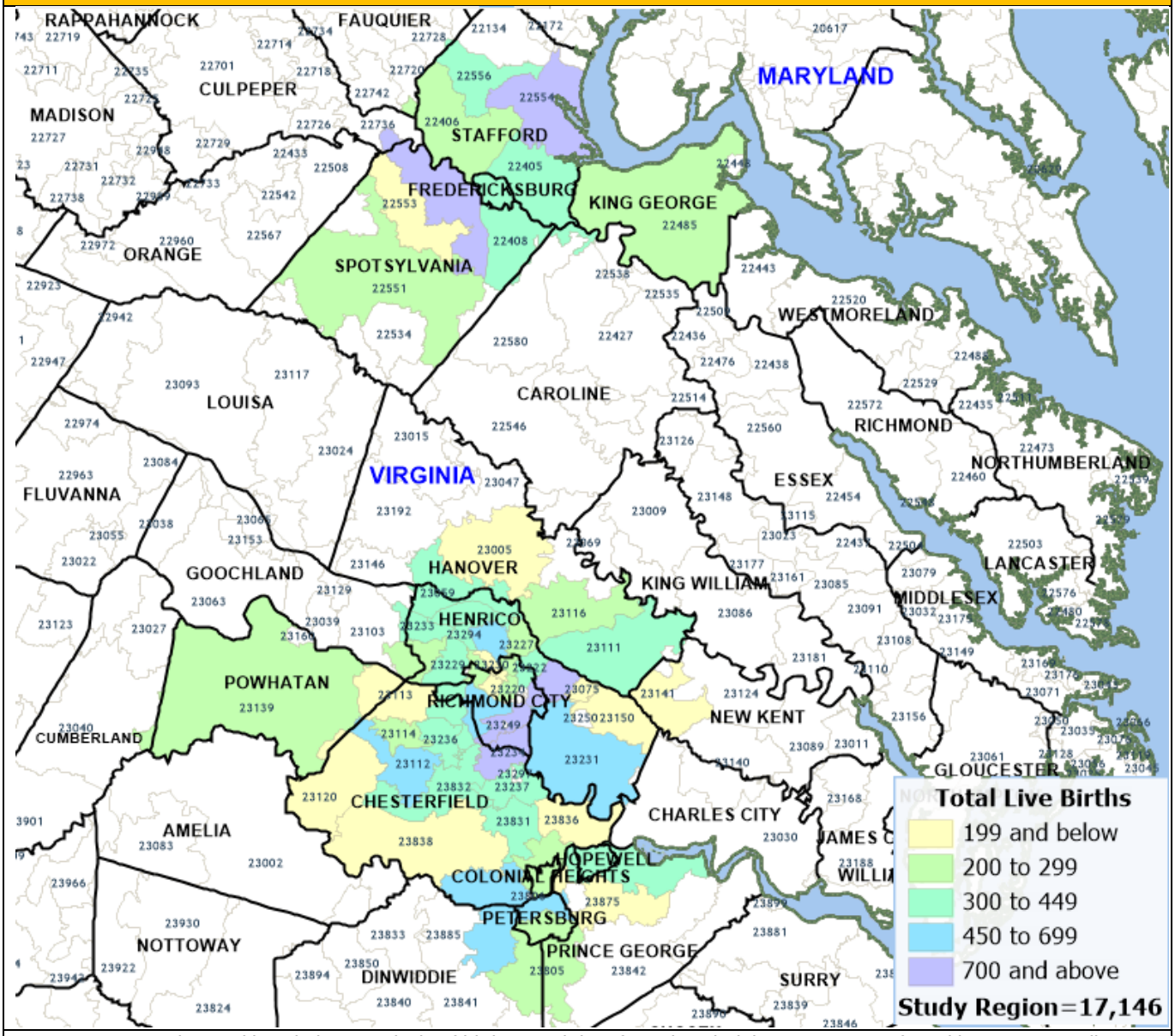
Map 8: Total Deaths (Age 0-21), 2017



Note: There were no deaths for residents age 0-21 in zip codes 22556 Stafford, 23230 Richmond, 23236 Richmond and 23838 Chesterfield n 2017.

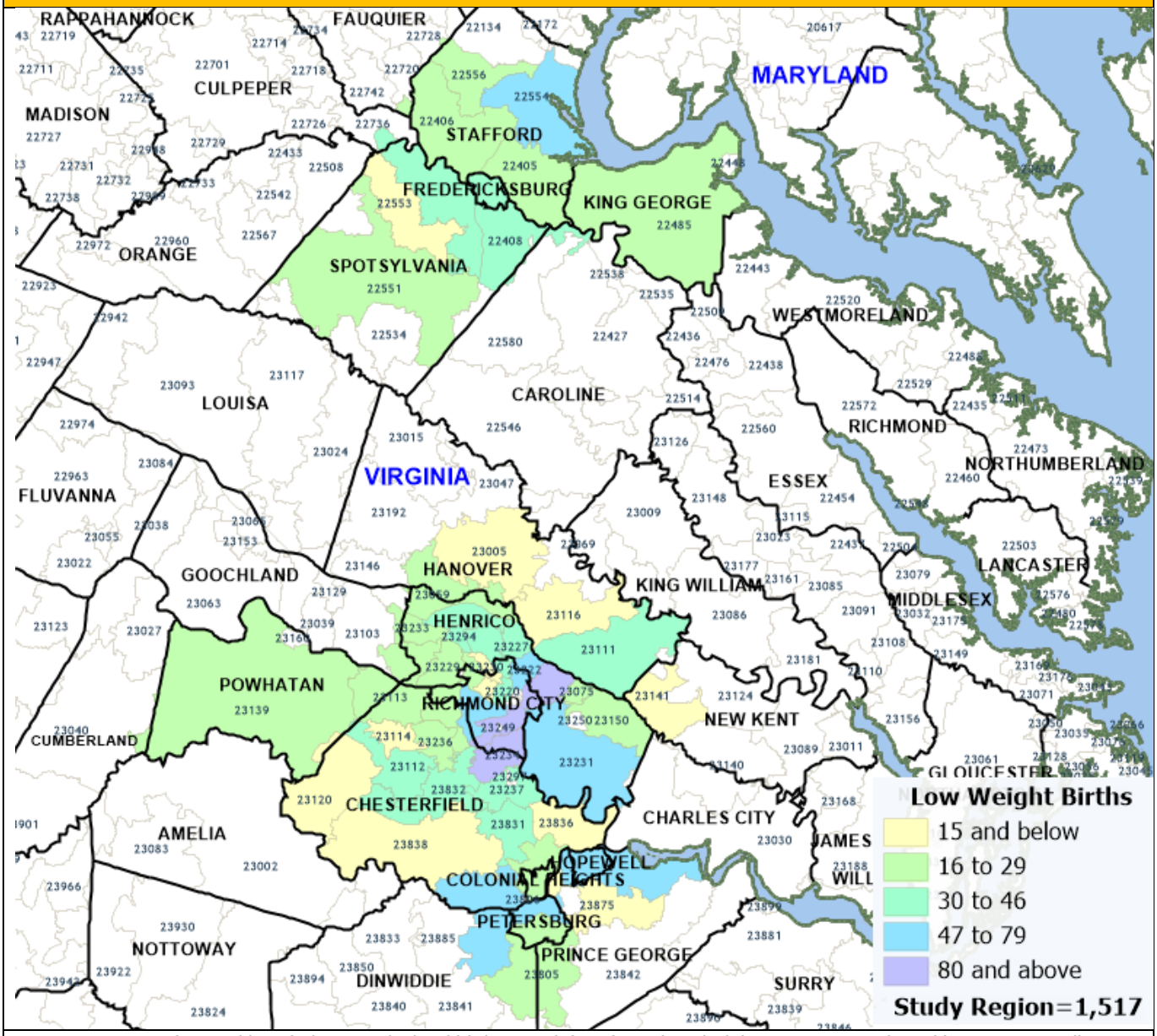
Source: Community Health Solutions analysis of death record data from the Virginia Department of Health. See Appendix B: Data Sources for details.

Map 9: Total Live Births, 2017



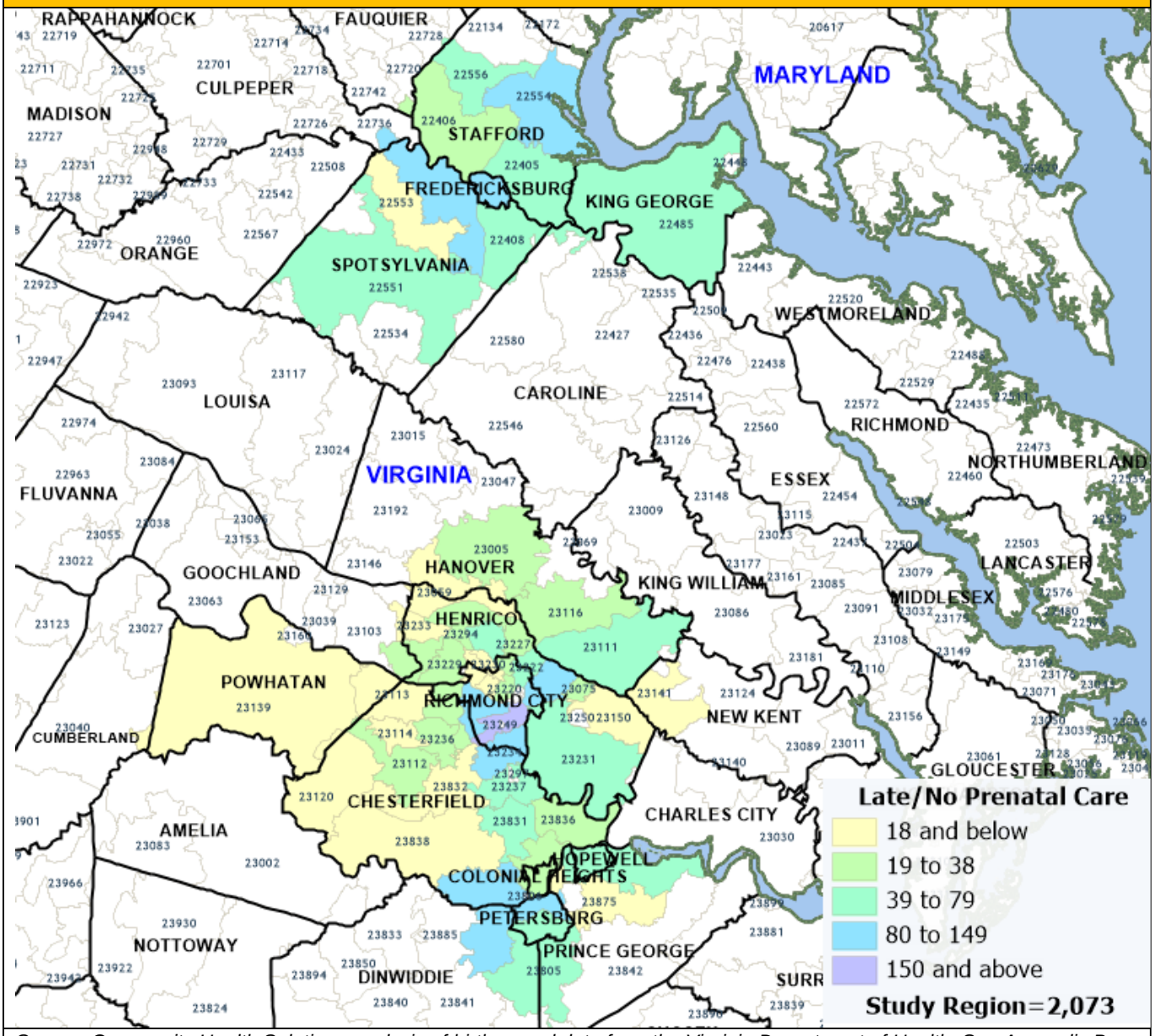
Source: Community Health Solutions analysis of birth record data from the Virginia Department of Health. See Appendix B: Data Sources for details.

Map 10: Low Weight Births, 2017



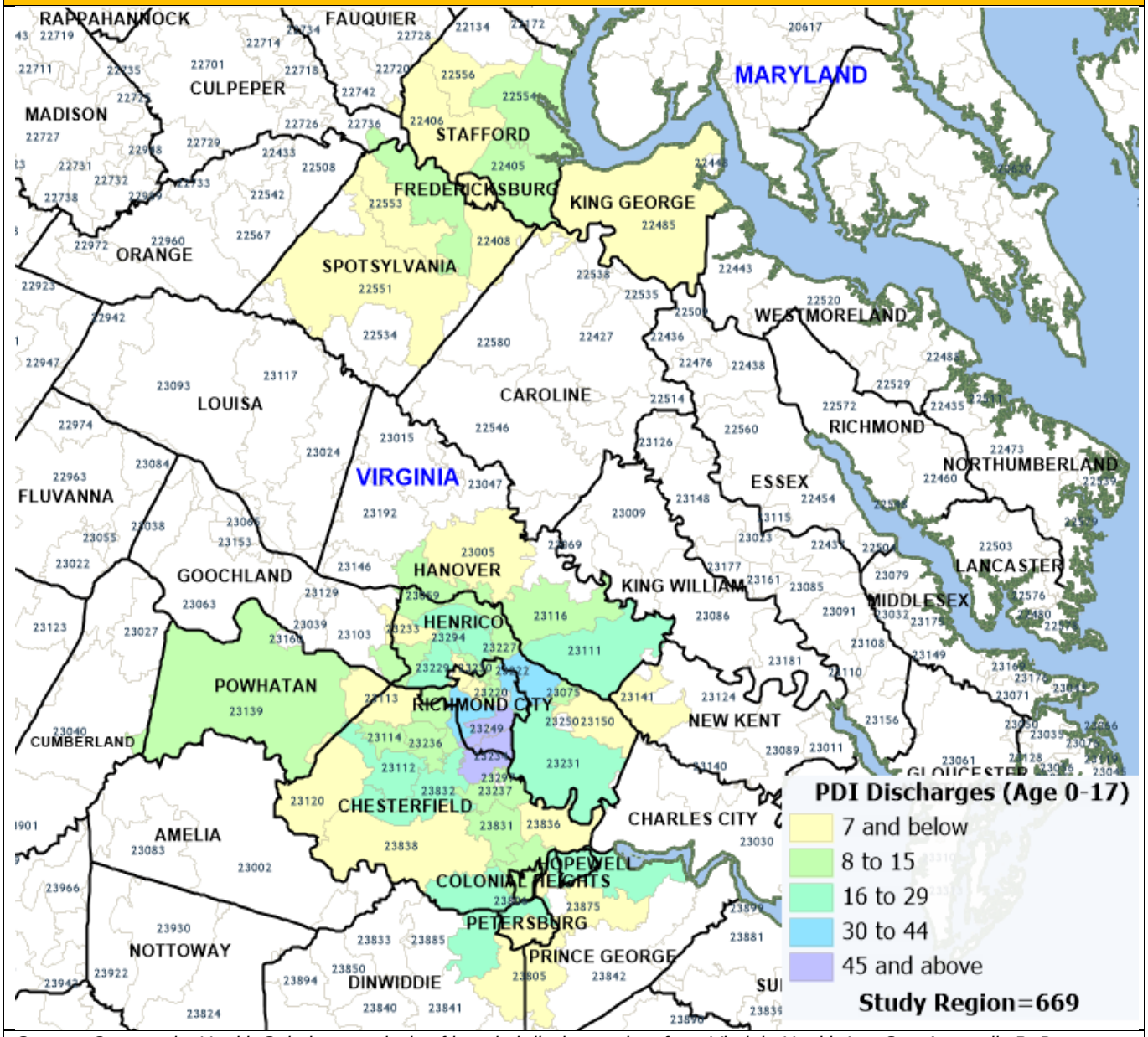
Source: Community Health Solutions analysis of birth record data from the Virginia Department of Health. See Appendix B: Data Sources for details.

Map 11: Births Without Early Prenatal Care (No Prenatal Care in the First 13 Weeks), 2017



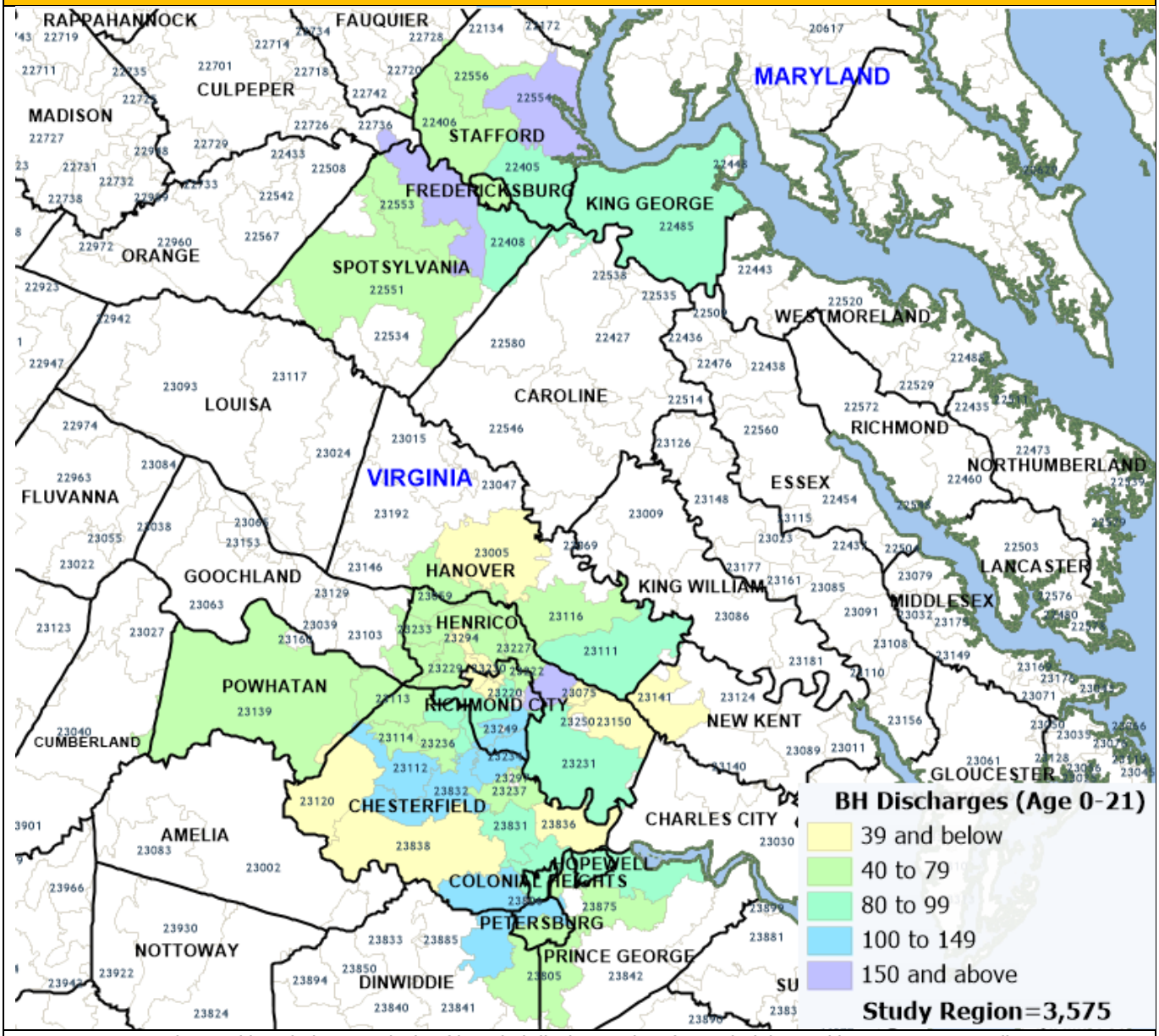
Source: Community Health Solutions analysis of birth record data from the Virginia Department of Health. See Appendix B: Data Sources for details.

Map 12: Pediatric Quality Indicator (PDI) Hospitalizations (Ages 0-17), 2017



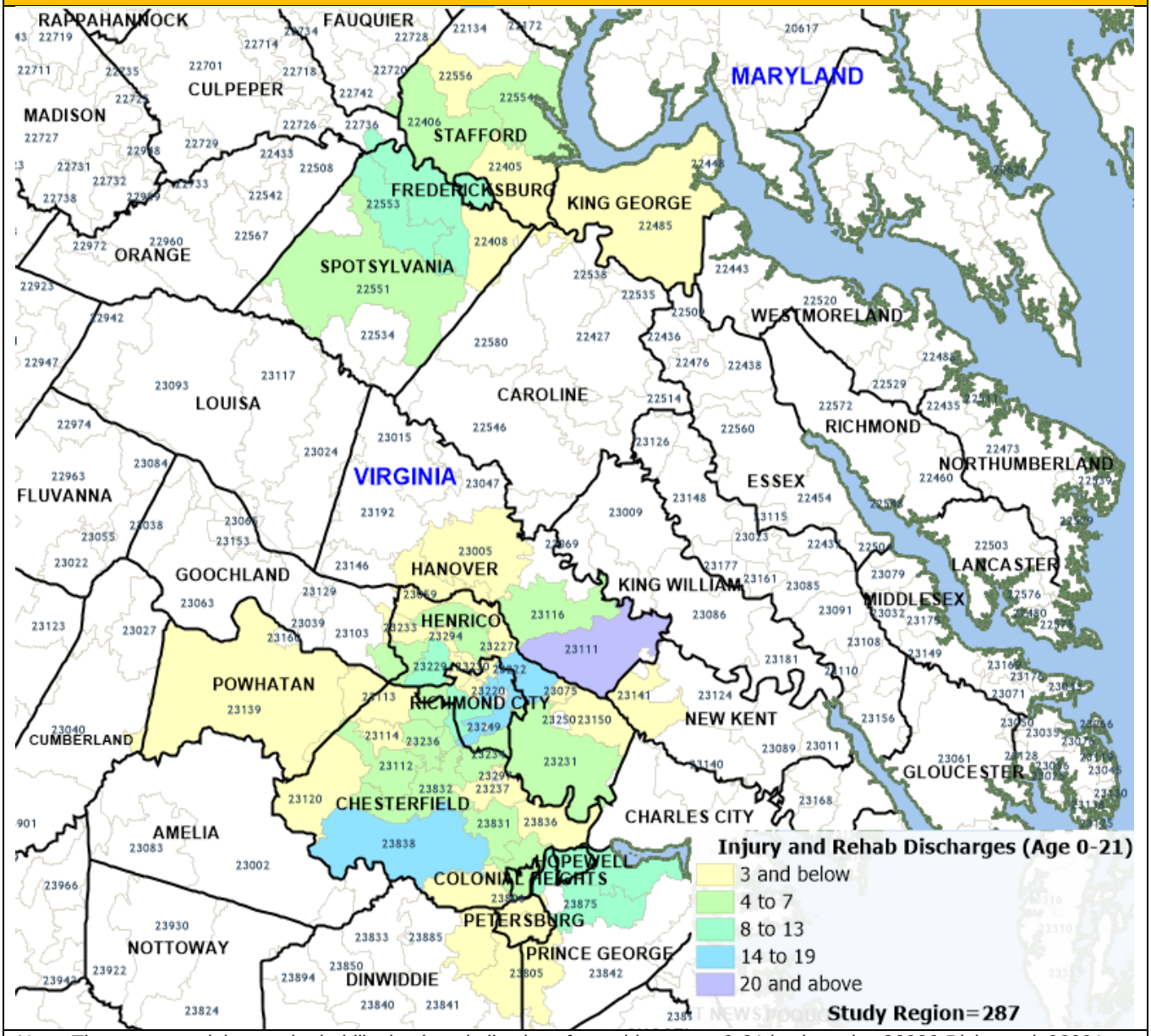
Source: Community Health Solutions analysis of hospital discharge data from Virginia Health Inc. See Appendix B: Data Sources for details.

Map 13: Behavioral Health (BH) Hospitalizations (Ages 0-21), 2017



Source: Community Health Solutions analysis of hospital discharge data from Virginia Health Inc. See Appendix B: Data Sources for details.

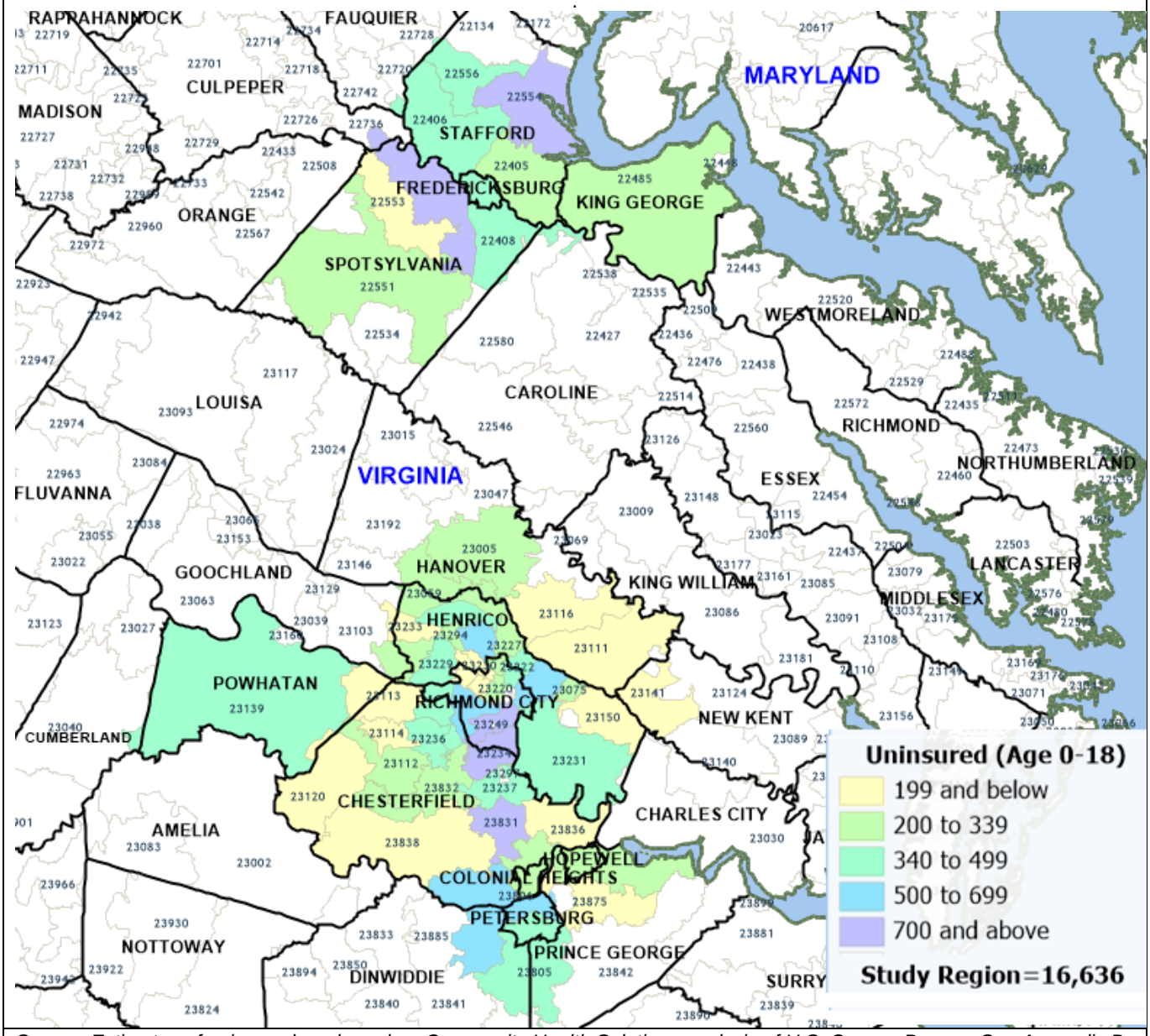
Map 14: Injury and Rehabilitation Hospitalizations (Ages 0-21), 2017



Note: There were no injury and rehabilitation hospitalizations for residents age 0-21 in zip codes 23230 Richmond, 23221 Richmond, 23141 Quinton, 23836 Chester, 23150 Sandston, 23805 Petersburg, 23139 Powhatan, and 22405 Fredericksburg.

Source: Community Health Solutions analysis of hospital discharge data from Virginia Health Inc. See Appendix B: Data Sources for details.

Map 15: Estimated Uninsured Children (Age 0-18), 2017



Source: Estimates of uninsured are based on Community Health Solutions analysis of U.S. Census Bureau. See Appendix B: Data Sources for details.

APPENDIX B: Data Sources

Profile	Source
1) Section I: Combined Insights from Parent/Caregivers and Community Professionals	Community Health Solutions analysis of *Community Insight* survey responses submitted by parent/caregivers and community professionals.
2) Section II: Insights from Parents/Caregivers	Community Health Solutions analysis of *Community Insight* survey responses submitted by parents/caregivers.
3) Section III: Insights from Community Professional	Community Health Solutions analysis of *Community Insight* survey responses submitted by community professionals.
4) Section IV: Health Demographic Trend Profile	Community Health Solutions analysis of demographic estimates from Truven Analytics provided by CHoR (2018 and 2023).
5) Section IV: Health Demographic Snapshot Profile	Community Health Solutions analysis of demographic estimates from Truven Analytics (2018 and 2023) and US Census Bureau, American Community Survey (2013-2017).
6) Section IV: Mortality Profile (also Appendix A)	Community Health Solutions analysis of Virginia Department of Health death record data (2017).
7) Section IV: Maternal and Infant Health Profile (also Appendix A)	Community Health Solutions analysis of Virginia Department of Health birth record data (2017).
8) Section IV: Preventable Hospitalization Profile 9) Section IV: Behavioral Health Hospitalization Profile 10) Section IV: Injury and Rehabilitation Hospitalization Profile (also Appendix A)	Community Health Solutions analysis of hospital discharge data from the Virginia Health Information (VHI) dataset (January 1-December 31, 2017) and demographic data from US Census Bureau, American Community Survey (2013-2017). Data include discharges for Virginia residents from Virginia hospitals reporting to Virginia Health Information, Inc. These data do not include discharges from state behavioral health facilities or federal (military) facilities. Data reported are based on the patient's primary diagnosis. *Pediatric Quality Indicators Hospitalizations*- The Agency for Healthcare Research and Quality (AHRQ) defines a set of conditions (called Pediatric Quality Indicators, or 'PDIs') for which hospitalization should be avoidable with proper outpatient health care for pediatric patients age 0-17. The PDI definitions are detailed in their specification of ICD-9 diagnosis codes and procedure codes. Not every hospital admission for bacterial pneumonia, etc. is included in the PDI definition; only those meeting the detailed specifications. Only PDIs specific to Pediatric Quality Indicators hospitalizations are included in this report. PDIs focused on potentially preventable complications and iatrogenic events for pediatric patients treated in hospitals were excluded. For more information, visit the AHRQ website at http://www.qualityindicators.ahrq.gov/Modules/pdi_overview.aspx *Behavioral Health Hospitalizations*- Behavioral health data reported are based on the patient's primary diagnosis. *Injury and Rehabilitation Hospitalizations*- Injury and rehabilitation data reported are based on the patient's primary diagnosis code. This study analyzed hospitalizations for diagnoses selected in consultation with Children's Hospital of Richmond at Virginia Commonwealth University – Children's Rehabilitative Services staff.

Profile	Source
	NOTE: Virginia Health Information (VHI) requires the following statement to be included in all reports utilizing its data: VHI has provided non-confidential patient level information used in this report which was compiled in accordance with Virginia law. VHI has no authority to independently verify this data. By accepting this report the requester agrees to assume all risks that may be associated with or arise from the use of inaccurately submitted data. VHI edits data received and is responsible for the accuracy of assembling this information, but does not represent that the subsequent use of this data was appropriate or endorse or support any conclusions or inferences that may be drawn from the use of this data.
11) Section IV: Youth Health Risk Factor Profile (also Appendix A)	Estimates of risk behaviors for youth age 14-19 and 10-14 were produced by Community Health Solutions using: • Data from the Virginia Youth Risk Behavioral Surveillance System from the Virginia Department of Health (2017). For more information on Virginia YRBSS visit: http://www.vdh.virginia.gov/virginia-youth-survey/data-tables/ • Data from the Virginia Youth Risk Behavioral Surveillance System from the Centers for Disease Control (2017). For more information on YRBSS visit: http://www.cdc.gov/HealthyYouth/yrbs/index.htm • Local demographic estimates from US Census Bureau, American Community Survey (2013-2017). Estimates are used when there are no primary sources of data available at the local level. The estimates are for planning purposes only and are not guaranteed for accuracy. The statistical model to produce the local estimates was developed by Community Health Solutions. Differences between local rates and state rates may reflect estimation error rather than valid differences. Therefore, state-level estimates are not provided as direct comparisons of local estimates with state estimates are not recommended. Because of data limitations, it is not possible to assign specific margins of error or levels of significance to these statistical estimates.
12) Section IV: Special Education Enrollment Profile	Community Health Solutions analysis of 2016 Virginia Department of Education, Special Education Child Count data. For a more detailed description, visit the Virginia Department of Education webpage at http://www.doe.virginia.gov/special_ed/reports_plans_stats/child_count/2016.pdf.
13) Section IV: Uninsured Profile (also Appendix A)	Community Health Solutions analysis of demographic estimates from US Census Bureau, American Community Survey (2013-2017). Differences between local rates and state rates may reflect estimation error rather than valid differences. Therefore, state-level estimates are not provided as direct comparisons of local estimates with state estimates are not recommended. Because of data limitations, it is not possible to assign specific margins of error or levels of significance to these statistical estimates.
14) Section IV: Medically Underserved Profile	Community Health Solutions analysis of U.S. Health Resources and Services Administration data. For more information, visit: http://muafind.hrsa.gov/.