Annual Report on the Virginia Plan for Well-Being

Introduction

In 2016, the Virginia Board of Health adopted the *Virginia Plan for Well-Being* ("the Plan") as its annual report to the General Assembly. The Plan outlines a path forward toward improving the health and well-being of all Virginians. It focuses on four aims, and lays out 13 goals and 29 measures to track progress towards making Virginia the healthiest state in the nation. One year into the Plan, the Virginia Board of Health believes that there is still a long way to go to reach this goal.

At the state level, many of the measures being tracked improved this past year (see Attachment A). However, these upward trends are not necessarily statistically significant and, moreover, they mask a concerning underlying reality: there are huge disparities in health status across the Commonwealth depending on where one lives. In rural southwest and southside Virginia (as well as in other rural portions of the state) and in communities of racial and ethnic minorities, people get sick more often, have more severe morbidity in their diseases, become ill at a younger age, and die at a younger age than do other Virginians. If the Commonwealth did nothing other than eliminate the health inequities between urban and rural Virginia and between whites and racial and ethnic minorities, Virginia would be among the top 10 healthiest states in the nation. This fact underscores the importance of viewing population health efforts in the Commonwealth through a "health opportunity" lens.

Unequal Health Opportunity

Today, all Virginians do not have equal opportunity to lead healthy lives. In 2012, the Virginia Department of Health's (VDH) Office of Health Equity developed a measure, the Health Opportunity Index (HOI), that quantifies this opportunity. The Virginia HOI consists of 13 indicators that act as the building blocks of the HOI. These indicators were chosen following an extensive review of the literature on the social determinants of health. Although there are innumerable variables and indicators that could be included, indicators were chosen based on the following criteria:

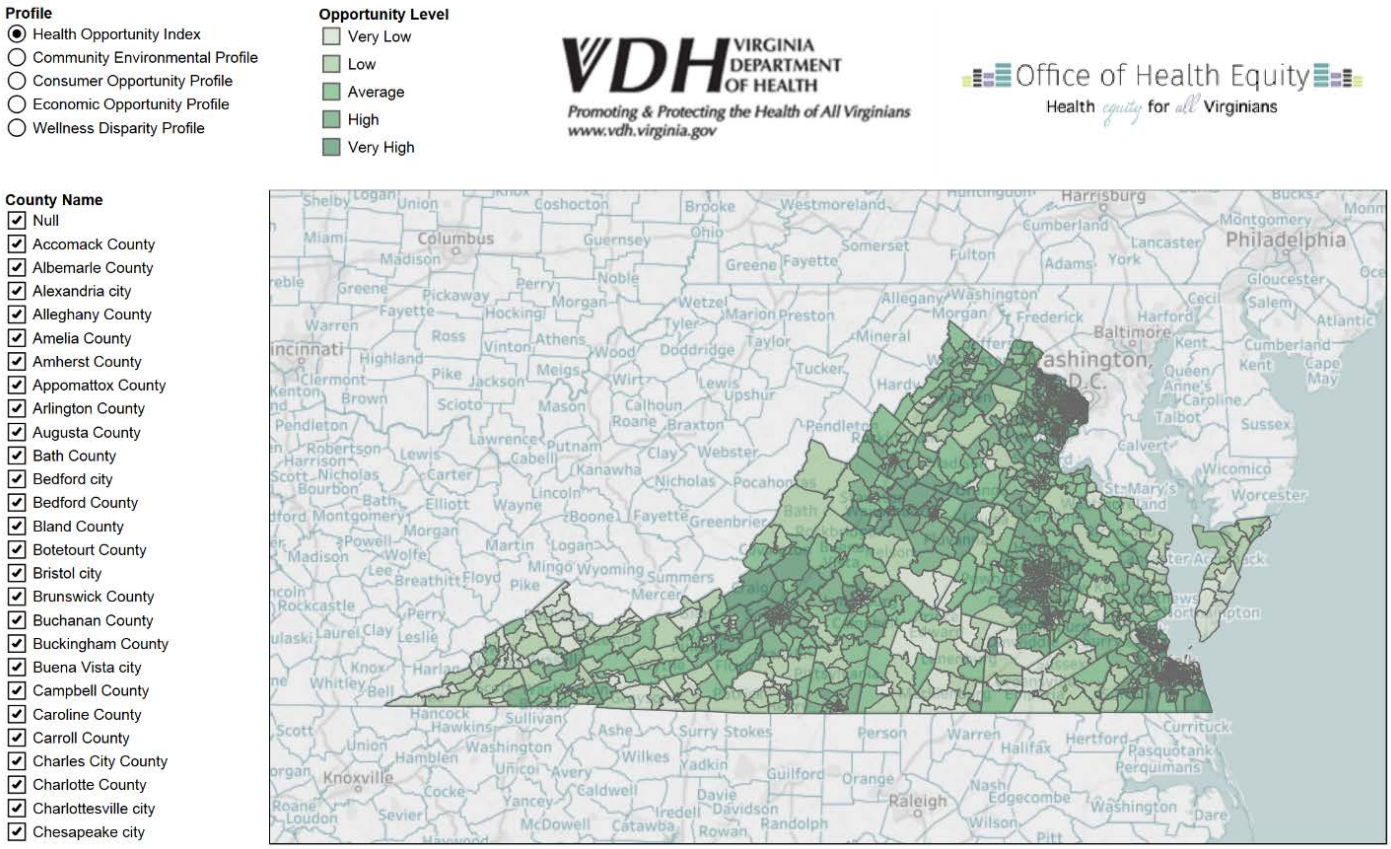
- Their influence on health as expressed in the literature,
- Input from local health districts and other stakeholders, and
- The availability of data of consistent quality at the census-tract level for all census tracts in Virginia.

Those 13 indicators are organized into four profiles:

- Community environment (indicator of natural, built, and social environment),
- Consumer opportunity (measure of consumer resources available),
- Economic opportunity (measure of economic opportunities available, highlighting employment and income), and
- Wellness disparity (measure of disparate access to health services).

Figure 1 contains a map of the Commonwealth, depicting the HOI distribution across the state. It illustrates that counties in southwest Virginia, southside Virginia, and other rural areas of the state have a lower HOI than do the urban areas.

Figure 1 – Health Opportunity Index

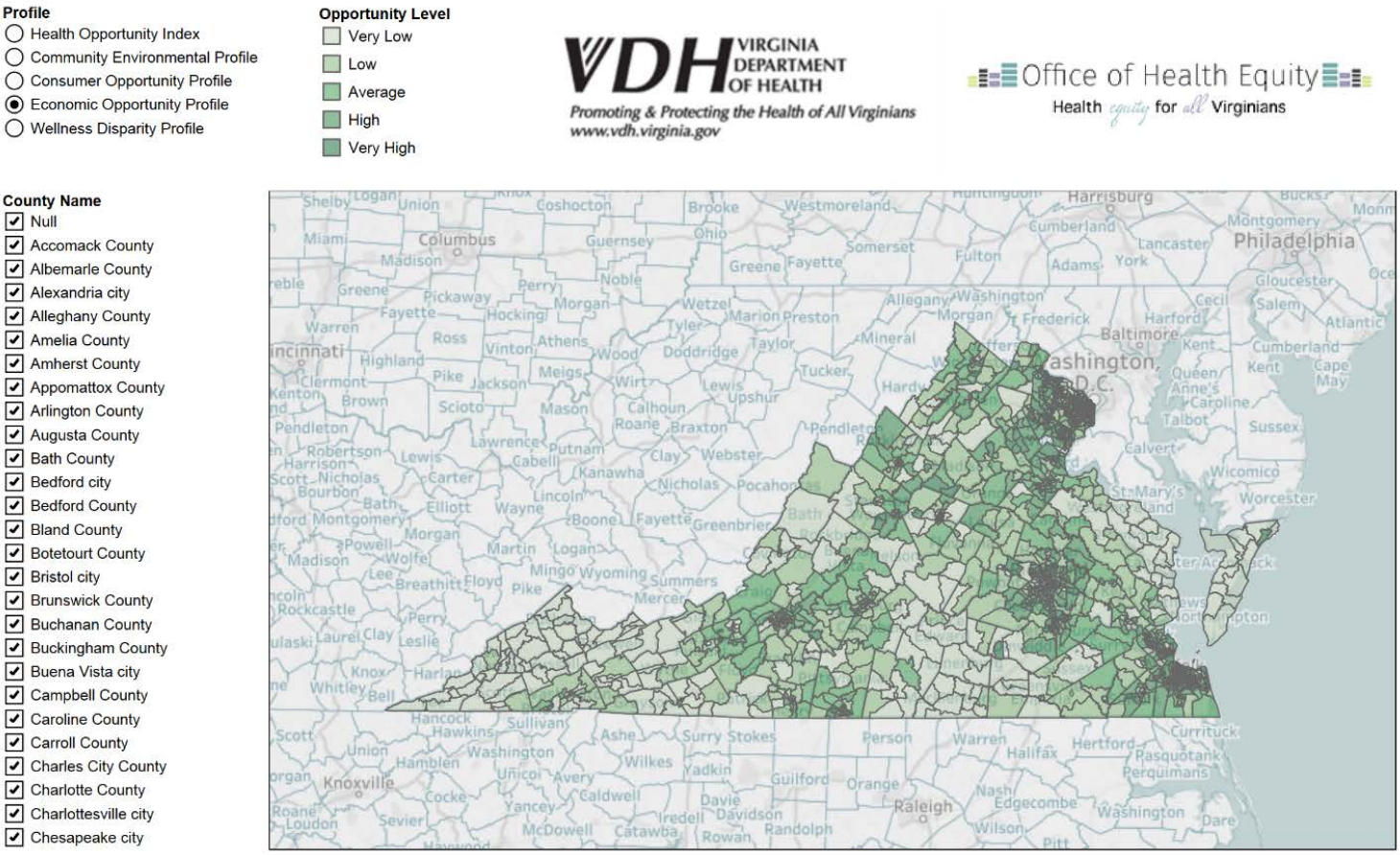


Source: VDH Office of Health Equity Staff Analysis.

As noted, one of the components of the HOI is the "Economic Opportunity Profile." This profile examines the impact place has on each individual's ability to participate in the economic life of a community. Factors influencing economic opportunity include access to jobs, labor participation rates, and the distribution of income within a community. These factors allow working-age residents to remain in the community, providing support for other residents and tax revenue for local governments. They also provide the means to overcome many of the barriers to health opportunity included in the other profiles.

Figure 2 shows the distribution of the Economic Opportunity Profile across the state, which marks an even starker rural/urban divide. As illustrated by Figure 2, access to jobs, workforce participation, and income inequality is not evenly distributed. People living in rural areas of the state have far less economic opportunity than those in the urban areas of the Commonwealth. This analysis suggests that there are two Virginias: the rural, poor Virginia; and the urban, more affluent Virginia.

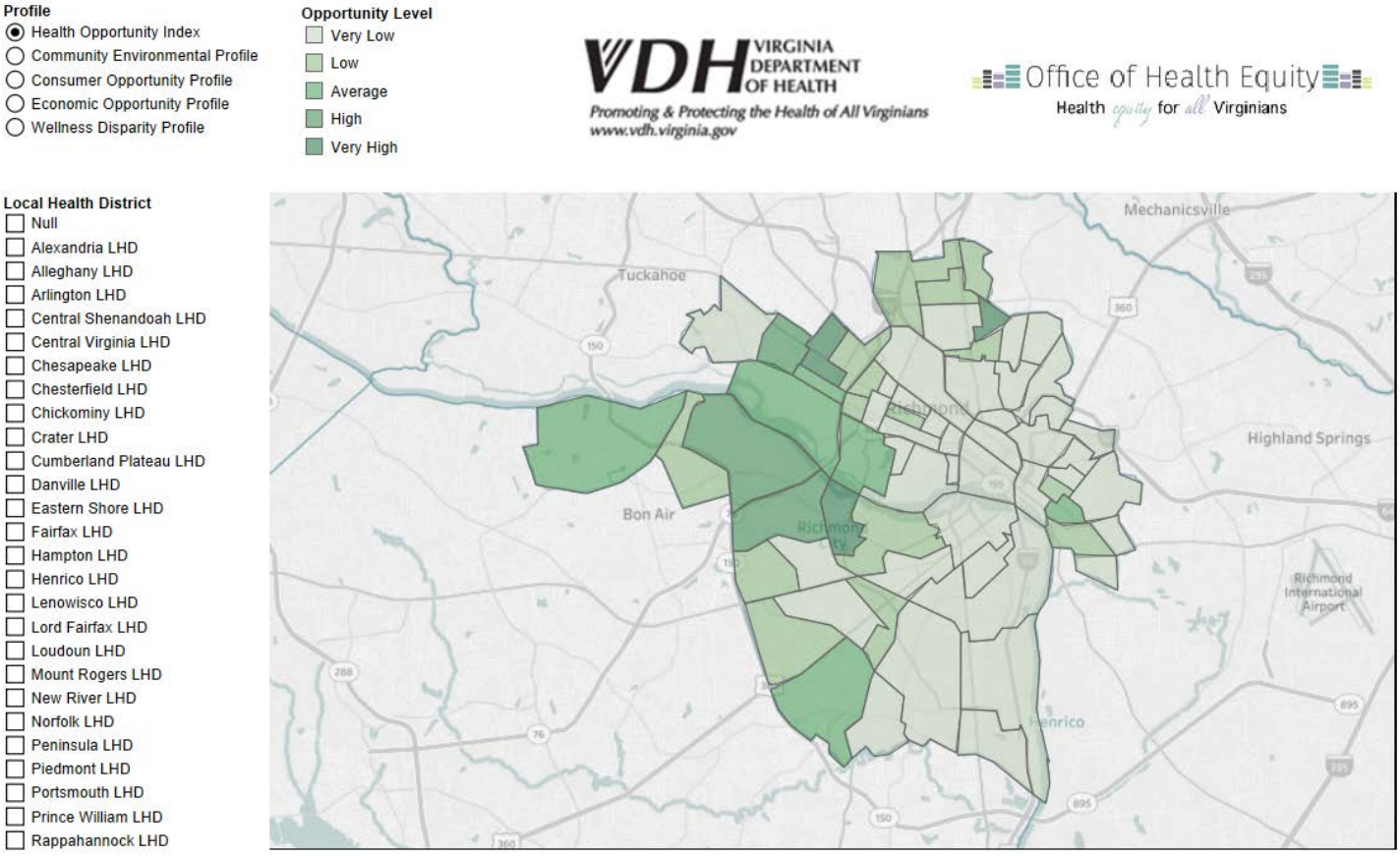
Figure 2 – Economic Opportunity Profile



Source: VDH Office of Health Equity Staff Analysis.

However, as mentioned earlier, such high-level statistics mask underlying disparities. Even the most affluent counties in the Commonwealth have areas of very low HOI. Fortunately, the HOI can be calculated down to the census-tract level. When an urban area is examined at the census-tract level, such as Richmond in the map contained in Figure 3, vast inequities in HOI are evident across neighborhoods. West Richmond and east Richmond are two different worlds, with the eastern parts of the city marked by low HOI. Higher poverty rates, lower employment rates, less affordable housing, and poorer access to healthy food plague the eastern portion of the city.

Figure 3 – Health Opportunity Index, City of Richmond

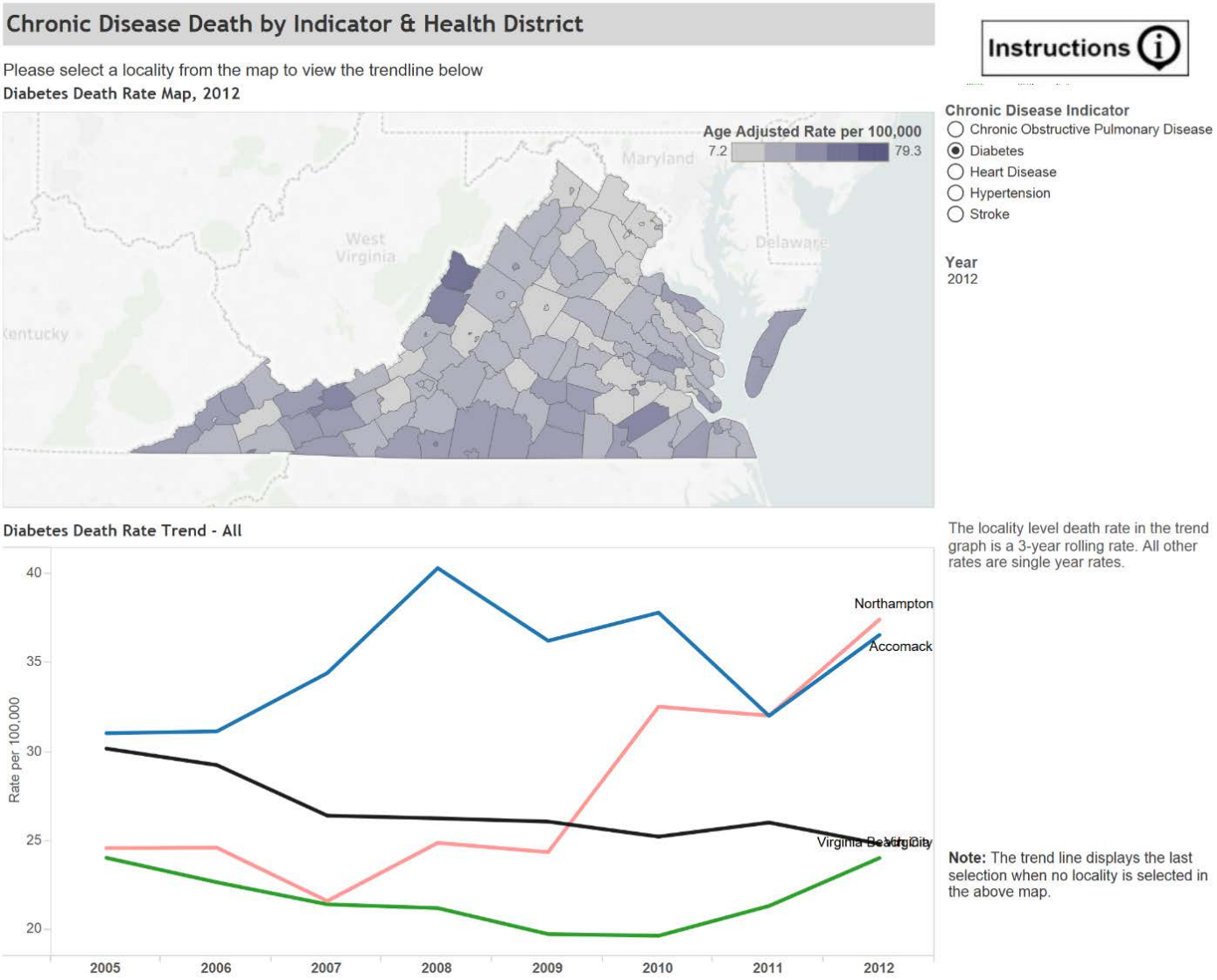


Source: VDH Office of Health Equity Staff Analysis.

Health Impact of HOI

Communities with a low HOI also are known to have poor access to healthcare services. Fewer physicians and other healthcare providers are located in these areas, and the residents have less ability to pay for clinical care because of lack of insurance. Poverty has long been associated with an increased burden of disease. These communities are also food deserts, lacking sources of fresh, wholesome foods. With higher unemployment rates, and those working having less desirable jobs, people in these communities lack employer-based health insurance. A low HOI, therefore, is associated with poor health outcomes for a community. Death due to diabetes is an example of a poor health outcome. In the map contained in Figure 4, the number of diabetes deaths per 100,000 people across the state is illustrated. The distribution of diabetes mortality is strikingly similar to the distribution of low HOI.

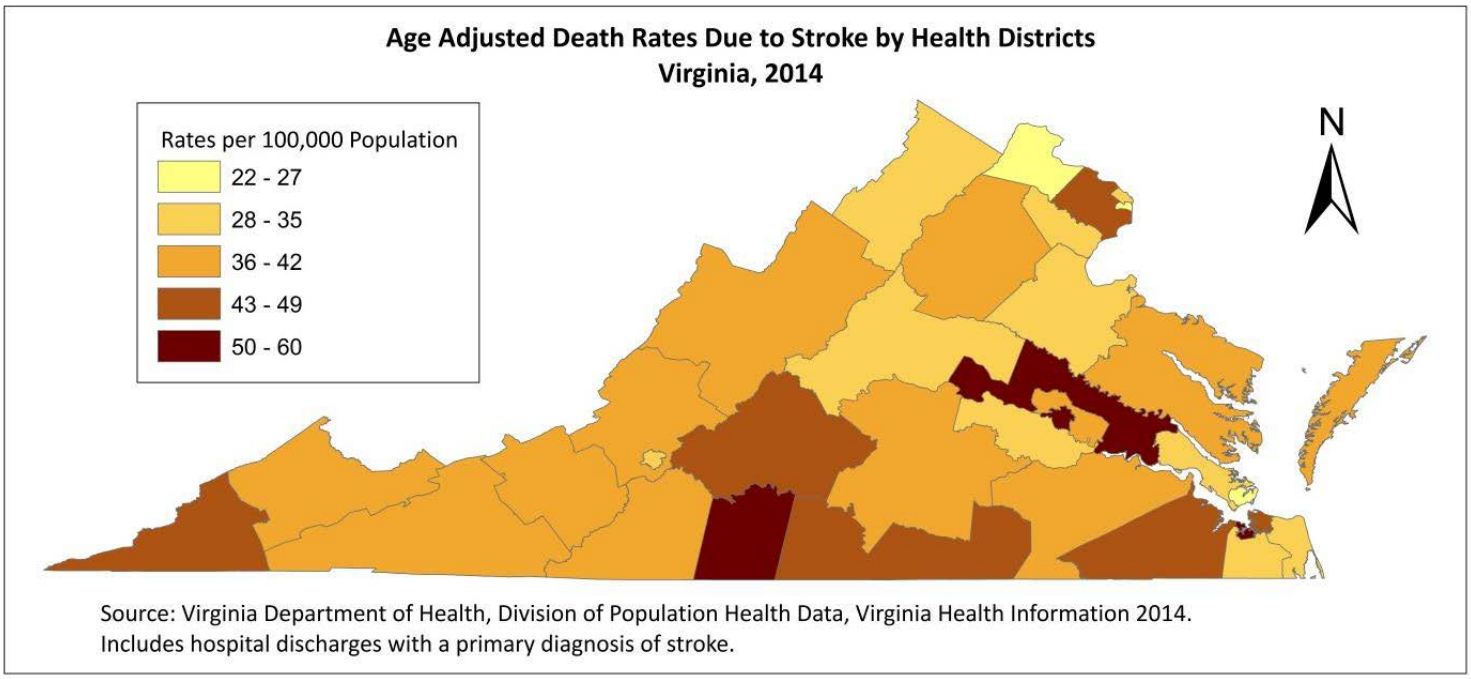
Figure 4



Source: VDH Staff Analysis of Virginia Resident Death Certificate Data.

A similar pattern is evident concerning deaths from stroke:

Figure 5



Source: VDH Staff Analysis of Virginia Resident Death Certificate Data

As is the case with the HOI, county-level data obscure disparities at the census-tract level. Using Richmond, again, as an example, a map of life expectancy rates in the city (Figure 6) shows marked differences from one neighborhood to another. These inequities in life expectancy map onto the HOI, with people living in communities with a low HOI dying at an earlier age than those living in high-HOI communities only a few miles away.

Figure 6

Source: Virginia Commonwealth University Center on Society and Health.

Summary

In order to achieve the goal of making Virginia the healthiest state in the nation, the glaring health inequities that exist across the Commonwealth must be addressed. A broad, multi-sectoral coalition of state agencies, employers, healthcare providers, community organizations, and philanthropic organizations needs to be built that can define the infrastructure required to build affordable housing, increase employment, improve education, provide healthy foods, and address other health-related social needs. Increasing access to healthcare services is a pressing, immediate need of our state's communities with low HOI. Expanding Medicaid would be an important first step forward in helping these communities improve their health.

Many organizations and institutions around the Commonwealth have taken the Plan and adopted it as their strategy for improving population health. In the year ahead, these forces need to align with one another and, with their combined resources, make even bigger strides toward improving the health and well-being of all people in Virginia.

ATTACHMENT A

Virginia's Plan for Well-Being

2016-2020

Annual Report, 2017

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Background

This document serves as an annual report to *Virginia's Plan for Well-Being*, the Commonwealth of Virginia's state health improvement plan for 2016-2020. The plan has four aims:

1. Healthy, Connected Communities
2. Strong Start for Children
3. Preventive Actions
4. System of Health Care

Within this framework, the plan lays out 13 goals and 29 measures of success. This document describes the first year measures and status of indicators for review.

Vision: Well-Being for All Virginians

Well-Being

Measure Percent of adults in Virginia who report positive well-being; Baseline: N/A.

2017 Update 68% (2016)

Data Source Virginia Behavioral Risk Factor Surveillance System. Virginia Department of Health.

Description The four-item Satisfaction with Life Scale (SWLS) asks respondents to indicate how much they agree with the four following statements on a scale from 1 (strongly agree) to 5 (strongly disagree): (1) "In most ways my life is close to ideal," (2) "The conditions of my life are excellent," (3) "I am satisfied with my life," and (4) "So far I have gotten the important things I want in life." Responses to the four SWLS questions are dichotomized into those indicating positive well-being (e.g., agree/strongly agree) and those indicating negative well-being (e.g., disagree/ strongly disagree). For overall SWLS, adults responding agree or strongly agree to all four questions (score = 4), are considered positive. Data collection for the SWLS scale began in 2016 as part of Virginia's Behavioral Risk Factor Surveillance System.

The Behavioral Risk Factor Surveillance System is an ongoing, annual survey of adults who are randomly called via landline or cell phone. The survey is coordinated by the Centers for Disease Control and Prevention and conducted in all 50 states. The Virginia Department of Health conducts the survey in Virginia. Responses of don't know/not sure, refused, or missing are removed from the numerator and denominator in all estimates.

* *Data collection for this measure began in January 2016. The percentage above serves as the baseline.*

AIM 1 — Healthy, Connected Communities

Goal 1.1 Virginia's Families Maintain Economic Stability

1.1 A High School Graduates Enrolled in Higher Education

Measure Percent of Virginia high school graduates enrolled in an institute of higher education within 16 months after graduation; Baseline: 70.9% (2013).

2017 Update 72.0% (2014)

2020 Goal 75%

Data Source Virginia Postsecondary Enrollment Reports. Virginia Department of Education.

Description The percent of Virginia high school graduates who:

1. Graduated within five years of entering high school,
2. Earned a standard or advanced studies diploma, and
3. Were enrolled in an institute of higher education within 16 months of graduation.

This measure follows a cohort of students who entered ninth grade in the same year.

1.1 B Cost-Burdened Households

Measure **P**ercent of cost-burdened households in Virginia (more than 30% of monthly income spent on housing costs); Baseline: 31.4% (2013).

2017 Update 31.6% (2014)

2020 Goal 29.0%

Data Source American Community Survey. U.S. Census Bureau.

Description This measure is calculated by dividing the number of Virginians that spent more than 30% of their monthly income on rent, mortgage, or housing without a mortgage* by the number of occupied housing units in Virginia. The numerator* is housing cost as a proportion of total income in a given year. The data are from the American Community Survey 1-Year Estimates. This is a point-in-time annual survey.

1.1 C Consumer Opportunity Index Score

Measure Consumer Opportunity Index score in Virginia; Baseline: 81.8 (2009-2013).

2017 Update 86.1* (2011-2015)

2020 Goal 83.7

Data Source The Virginia Department of Health created the Consumer Opportunity Index utilizing the following data sources: Affordability, Education, Townsend Profile from the U.S. Census American Consumer Survey and 5-Year Food Accessibility Index from the U.S. Department of Agriculture.

Description The Consumer Opportunity Index is an indicator of consumer access to resources that support long and healthy lives, with 100% representing perfect access and 0% representing no access. The metric is a multivariate index comprised of four indicators:

1. Affordability (housing and transportation cost as a percent of income),
2. Education (average years of schooling),
3. Food Accessibility (percent of population that is both low income and has low access to food), and
4. Townsend Material Deprivation Profile (unemployment, home ownership, overcrowded homes and homes without an automobile).

The Consumer Opportunity Index is one of four multivariate profiles that make up the Health Opportunity Index (HOI). The Virginia Department of Health convened stakeholders to identify 13 indicators to include in the HOI. From these indicators, four separate profiles were created using principal component analysis. Data for the indicators are taken from different sources using different methodologies, and are updated on differing schedules. Indicators in each profile are combined using the geometric mean. Each indicator is given equal weight in the profile. The Consumer Opportunity Index indicators are established at the census-tract level.

County-level profiles are determined for each indicator using a population-weighted average of each tract in the county. The state score represents the median county score.

** The HOI is a new measure and it is unclear how it will fluctuate with conditions over time. For that reason, our choice of a goal was somewhat arbitrary. The HOI is based in large part on ACS 5-year estimates for the ranges listed above. The new ACS data dropped 2009-2010, two years at the worst of the Great Recession, and added 2014-2015, two years at the end of a long period of economic growth. Our ability to sustain upward trends, or minimize reductions, over economic downturns will be key for these measures.*

1.1 D Economic Opportunity Index Score

Measure Economic Opportunity Index score in Virginia; Baseline: 70.7 (2009-2013).

2017 Update 75.0* (2011-2015)

2020 Goal 73.7

Data Source The Virginia Department of Health created the Economic Opportunity Index utilizing the following data sources**:** U.S. Census, American Economic Survey, and 5-Year Estimates.

Description The Economic Opportunity Index is an indicator of access to the economic resources that support long and healthy lives, with 100% representing perfect access and 0% representing no access. The metric is a multivariate profile comprised of three indicators:

1. Employment (jobs per worker weighted by distance to job),
2. Income Inequality (Gini Coefficient), and
3. Job Participation (percent of working age population in the labor force).

The Economic Opportunity Index is one of four multivariate profiles that make up the Health Opportunity Index (HOI). The Virginia Department of Health convened stakeholders to identify 13 indicators to include in the HOI. From these indicators, four separate profiles were created using principal component analysis. Indicators in each profile are combined using the geometric mean. Data for the indicators are taken from different sources using different methodologies, and are updated on differing schedules. Each indicator is given equal weight in the profile. The Economic Opportunity Index indicators are established at the census-tract level. County-level profiles are determined for each indicator using a population-weighted average of each tract in the county. The state score represents the median county score.

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Goal 1.2 Virginia's Communities Collaborate to Improve the Population's Health

1.2 Districts with Collaborative Community Health Improvement Processes

Measure Percent of Virginia health planning districts that have established an on-going collaborative community health improvement process; Baseline: 43.0% (2015).

2017 Update 82.8% (2016)

2020 Goal 100%

Data Source Virginia Department of Health.

Description The measure is calculated by dividing the number of health districts in Virginia that report that a collaborative community health improvement process is established in their health planning district divided by 35 (total number of health planning districts).

AIM 2 — Strong Start for Children

Goal 2.1 Virginians Plan Their Pregnancies

2.1 Teen Pregnancy Rate

Measure Teen pregnancy rate per 1,000 females, ages 15 to 19 years, in Virginia; Baseline: 27.9 (2013).

2017 Update 24.9 (2014)

2020 Goal 25.1*

Data Source Virginia Vital Records and Health Statistics Electronic Birth Certificates, Fetal Death Certificates, Induced Termination of Pregnancy Certificates. Virginia Department of Health.

Description This metric is created using live birth data from the electronic birth certificate as reported by birth facilities, Induced Termination of Pregnancy (ITOP) data as reported by ITOP facilities, fetal death data as reported by medical providers and the number of female teens (15-19 years of age) from the National Center for Health Statistics population estimates.

* *The 2020 goal metric has been met.*

Goal 2.2 Virginia's Children Are Prepared to Succeed in Kindergarten

2.2 A Kindergartens Not Meeting Phonological Awareness Literacy (PALS-K) Benchmark

Measure Percent of children in Virginia who do not meet the PALS-K benchmarks in the fall of kindergarten and require literacy intervention; Baseline: 12.7% (2014-2015).

2017 Update 13.8%* (2015-2016)

2020 Goal 12.2%

Data Source Phonological Awareness Literacy Screening – Kindergarten Results. Virginia Department of Education.

Description The Phonological Awareness Literacy Screening – Kindergarten (PALS-K) is conducted in the fall of each school year and identifies kindergarten students who are at risk for reading difficulties. The tool measures children's knowledge of several literacy fundamentals: phonological awareness, alphabet recognition, concept of word, knowledge of letter sounds, and spelling. The PALS-K is an assessment of literacy readiness and is not a comprehensive measure of school readiness. PALS-K is the state-provided screening tool for Virginia's Early Intervention Reading Initiative (EIRI) and is used by 99% of school divisions in the state on a voluntary basis.

* *The PALS-K test was revised between 2014-2015 to 2015-2016, so the increase was due to test differences from needing to know four syllables to five per the Virginia Department of Education.*

2.2 B Third Graders Passing Reading Standards of Learning (SOL) Assessment

Measure Percent of third graders in Virginia who pass the Standards of Learning third grade reading assessment; Baseline: 69.0% (2014-2015).

2017 Update 75.4% (2015-2016)

2020 Goal 80.%

Data Source Virginia Standards of Learning Results. Virginia Department of Education.

Description The Standards of Learning (SOL) for Virginia Public Schools establish minimum expectations for what students should know and be able to do at the end of each grade. All items on SOL tests are reviewed by Virginia classroom teachers for accuracy and fairness, and teachers also assist the state Board of Education in setting proficiency standards for the tests.

Goal 2.3 The Racial Disparity in Virginia's Infant Mortality Rate is Eliminated

2.3 Infant Mortality Rate by Race

Measure Infant mortality rate in Virginia per 1,000 live births by race; Baseline: 12.2 (2013).

2017 Update 11.2 (2014)

2020 Goal 5.2

Data Source Virginia Vital Records and Health Statistics Electronic Birth Certificates and Electronic Death Certificates. Virginia Department of Health.

Description Virginia's infant mortality rate is calculated by dividing the number of deaths of children under one year of age by the number of live births to mothers living in the state. The resulting number is multiplied by 1,000 to compute the rate.

AIM 3 — Preventive Actions

Goal 3.1 Virginians Follow a Healthy Diet and Live Actively

3.1 A Adults Not Participating in Physical Activity

Measure Percent of Virginia adults 18 years and older who do not participate in any physical activity during the past 30 days; Baseline: 23.5% (2014)

2017 Update 25.1% (2015)

2020 Goal 20.0%

Data Source Virginia Behavioral Risk Factor Surveillance System. Virginia Department of Health.

Description The percent of Virginia adults 18 years and older who reported that they did not participate in any physical activity other than their regular job during the past 30 days. The Behavioral Risk Factor Surveillance System (BRFSS) is an ongoing, annual survey of adults who are randomly called via landline or cell phone. The survey is coordinated by the Centers for Disease Control and Prevention (CDC) and conducted in all 50 states. The Virginia Department of Health conducts the survey in Virginia. The information is self-reported and not observed or measured. Responses of don't know/not sure, refused, or missing were removed from the numerator and denominator in all estimates.

3.1 B Adults Who Are Overweight or Obese

Measure Percent of Virginia adults 18 years and older who are overweight or obese; Baseline: 64.7% (2014)

2017 Update 64.1% (2015)

2020 Goal 63.0%

Data Source Virginia Behavioral Risk Factor Surveillance System. Virginia Department of Health.

Description The percent of Virginia adults 18 years and older who reported a body mass index (BMI) greater than 25. The Behavioral Risk Factor Surveillance System (BRFSS) is an ongoing, annual survey of adults who are randomly called via landline or cell phone. The survey asks respondents what their height and weight are. BMI is then calculated based on reported height and weight. The survey is coordinated by the Centers for Disease Control and Prevention (CDC) and conducted in all 50 states. The Virginia Department of Health conducts the survey in Virginia. Responses of don't know/not sure, refused, or missing were removed from the numerator and denominator in all estimates.

3.1 C Households That Are Food Insecure

Measure Percent of Virginia households that are food insecure for some part of the year. Baseline: 11.9% (2013)

2017 Update 11.8% (2014)

2020 Goal 10.0%

Data Source *Map the Meal Gap* utilized the Current Population Survey, and American Community Survey from the U.S. Census Bureau.

Description Feeding America's *Map the Meal Gap* analyzes the relationship between food insecurity and indicators of food insecurity, and child food insecurity (poverty, unemployment, median income, etc.) at the state level.

Goal 3.2 Virginia Prevents Nicotine Dependency

3.2 Adults Using Tobacco

Measure Percent of Virginia adults aged 18 years and older who report using tobacco. Baseline: 21.9% (2014)

2017 Update 19.4% (2015)

2020 Goal 12.0%

Data Source Virginia Behavioral Risk Factor Surveillance System. Virginia Department of Health.

Description The percent of Virginia adults 18 years and older who report that they have smoked at least 100 cigarettes in their lifetime and currently smoke tobacco on at least some days, use chewing tobacco, use snuff and/or use snus. The Behavioral Risk Factor Surveillance System (BRFSS) is an ongoing, annual survey of adults who are randomly called via landline or cell phone. The survey is coordinated by the Centers for Disease Control and Prevention (CDC) and conducted in all 50 states. The Virginia Department of Health conducts the survey in Virginia. The information is self-reported and not observed or measured. Responses of don't know/not sure, refused, or missing were removed from the numerator and denominator in all estimates.

Goal 3.3 Virginians Are Protected Against Vaccine-Preventable Diseases

3.3 A Adults Vaccinated Against Influenza

Measure Percent of Virginia adults 18 years and older who received an annual influenza vaccine. Baseline: 48.2% (2014-2015)

2017 Update 46.0% (2015-2016)

2020 Goal 70%

Data Source Behavioral Risk Factor Surveillance System, and the National Immunization Survey. Centers for Disease Control and Prevention.

Description The percent of Virginians 18 years of age and older who received an annual influenza vaccine. The Centers for Disease Control and Prevention analyzed the National Immunization Survey-Flu and the Behavioral Risk Factor Surveillance System to estimate national and state level flu vaccination coverage. Influenza vaccination status is based on self-report and not validated with medical records.

3.3 B Adolescents Vaccinated Against HPV

Measure Percent of girls aged 13-17 in Virginia who receives three doses of HPV vaccine and percent of boys aged 13-17 in Virginia who receive three doses of HPV vaccine. Girls Baseline: 35.9% (2014), Boys Baseline: 22.5% (2014)

2017 Update Girls: 38.5% (2015), Boys: 25.7% (2015)

2020 Goal Girls and Boys: 80.0%

Data Source National Immunization Survey-Teen. Centers for Disease Control and Prevention.

Description The percent of Virginia adolescents aged 13-17 (girls and boys reported separately) who received three doses of human papillomavirus (HPV) vaccine. The National Immunization Survey-Teen (NIS-Teen) is an ongoing, annual survey of children, whose parents/guardians are randomly called via landline or cell phone. The survey is coordinated by the Centers for Disease Control and Prevention and conducted in all 50 states. Doses of vaccines administered are verified by providers through a mailed survey to the girls' immunization providers.

Goal 3.4 Cancers Are Prevented or Diagnosed at the Earliest Stage Possible

3.4 Adults Screened for Colorectal Cancer

Measure Percent of Virginia adults aged 50 to 75 years who receive colorectal cancer screening. Baseline: 69.1% (2014)

2017 Update 70.3%* (2016)

2020 Goal 85.0%

Data Source Virginia Behavioral Risk Factor Surveillance System. Virginia Department of Health.

Description The percent of Virginia adults, ages 50 to 75 years, who report receiving a colorectal cancer screening test based on the most recent guidelines (fecal occult blood test, proctoscopy, colonoscopy, or sigmoidoscopy). The Behavioral Risk Factor Surveillance System (BRFSS) is an ongoing, annual survey of adults who are randomly called via landline or cell phone. The survey is coordinated by the Centers for Disease Control and Prevention (CDC) and conducted in all 50 states. The Virginia Department of Health conducts the survey in Virginia. The information is

self-reported and not observed or measured. Responses of don't know/not sure, refused, or missing were removed from the numerator and denominator in all estimates.

***** *Colorectal screening was not collected in 2015, but it was added to the state questions for odd years going forward.*

Goal 3.5 Virginians Have Life-Long Wellness

3.5 A Disability-Free Life Expectancy

Measure Average years of disability-free life expectancy for Virginians; Baseline: 66.1 (2013)

2017 Update 66.0 (2014)

2020 Goal 67.3

Data Source U.S. Census Intercensal Population File Vintage 2014, Virginia Vital Records and Health Statistics Electronic Death Certificates, and the American Community Survey. Virginia Department of Health.

Description Disability-free life expectancy (DFLE) was calculated for Virginia census tracts by adding the estimates of the proportion of individuals with disabilities by tract and age group to the abridged life table estimates of mortality and population used for creating life expectancy (LE) estimates. The life table with the proportion of disabled individuals was the input for the analysis using the Chiang II methodology with Silcock's adjustment for calculation of LE and Sullivan's methods for DFLE. The disabled population proportion was defined for this study as answering yes to any one of the six disability questions (2009-2013 aggregate) in the American Community Survey. Significant consideration was given to disability chosen, small area analysis problems, and how to share the analysis for best impact. At the tract level, data censorship was considered when unusual population distributions were encountered. Minimum population size requirements were met to reduce large standard errors. DFLE estimates were added to a multiple linear regression model with social determinants of health as the explanatory variables.

3.5 B Adults with Adverse Childhood Experiences

Measure Percent of adults in Virginia who report adverse childhood experiences; Baseline: N/A.

2017 Update 60% (2016)

Data Source Virginia Behavioral Risk Factor Surveillance System. Virginia Department of Health.

Description Adverse childhood experiences (ACEs) include verbal, physical, or sexual abuse, as well as family dysfunction (e.g., an incarcerated, mentally ill, or substance-abusing family member; domestic violence; or absence of a parent because of divorce or separation). The ACE score is a measure of cumulative exposure to particular adverse childhood conditions. Exposure to any single ACE condition is counted as one point. If an adult experienced none of the conditions in childhood, the ACE score is zero. Points are totaled for a final ACE score. The Behavioral Risk Factor Surveillance System is an ongoing, annual survey of adults who are randomly called via landline or cell phone. The survey is coordinated by the Centers for Disease Control and Prevention (CDC) and conducted in all 50 states. The Virginia Department of Health conducts the survey in Virginia. Responses of don't know/not sure, refused, or missing were removed from the numerator and denominator in all estimates.

* *Data collection for this measure began in January 2016. The percentage above serves as the baseline.*

AIM 4 — System of Health Care

Goal 4.1 Virginia Has a Strong Primary Care System Linked to Behavioral Health Care, Oral Health Care, and Community Support Systems

4.1 A Adults with a Regular Health Care Provider

Measure Percent of adults 18 years and older who have a regular health care provider; Baseline: 69.3% (2014)

2017 Update 71.1% (2015)

2020 Goal 85.0%

Data Source Virginia Behavioral Risk Factor Surveillance System. Virginia Department of Health.

Description The percent of Virginia adults who report that they have at least one personal healthcare provider for ongoing care. The Behavioral Risk Factor Surveillance System is an ongoing, annual survey of adults who are randomly called via landline or cell phone. The survey is coordinated by the Centers for Disease Control and Prevention and conducted in all 50 states. The Virginia Department of Health conducts the survey in Virginia. The information is self-reported and not observed or measured. Responses of don't know/not sure, refused, or missing were removed from the numerator and denominator in all estimates.

4.1 B Avoidable Hospital Stays

Measure Rate of avoidable hospital stays for ambulatory care sensitive conditions in Virginia per 100,000 persons; Baseline: 1,294 (2013)

2017 Update This measure was previously calculated by Virginia Health Information and is no longer available. Staff in the Division of Population Health are working to validate methodology calculate the measure.

2020 Goal 1,100

Data Source Virginia Inpatient Hospitalization. Virginia Health Information.

Description The measure is the Agency for Healthcare Research and Quality's Prevention Quality Overall Composite (PQI #90) in Virginia. It includes hospitalizations that could have been prevented through high quality outpatient care, including uncontrolled diabetes, short-term diabetes complications, long-term diabetes complications (including amputated limbs), chronic obstructive pulmonary disease, high blood pressure, heart failure, chest pain, adult asthma, dehydration, pneumonia, and urinary tract infections. The number of hospital stays is provided for every 100,000 people who reside in that area.

4.1 C Avoidable Cardiovascular Disease Deaths

Measure Rate of avoidable deaths from heart disease, stroke, or hypertensive disease in Virginia per 100,000 persons; Baseline: 49.9 (2013)

2017 Update 49.1 (2014)

2020 Goal 40.0

Data Source Virginia Vital Records and Health Statistics Electronic Death Certificates. Virginia Department of Health.

Description Deaths included were those caused by cardiovascular disease, including chronic rheumatic heart disease (ICD 10 codes I05-I09), hypertension (ICD codes I10, I12, I15), ischemic heart disease (ICD 10 codes I20-I25), and cerebrovascular disease (ICD 10 codes I60-I69). An age-adjusted formula for population was used, truncating the years over 75, and then reformatting to the new million population for those age ranges.

4.1 D Adult Mental Health and Substance Abuse Hospitalizations

Measure Rate of adult mental health and substance abuse hospitalizations in Virginia per 100,000 adults; Baseline: 668.50 (2013).

2017 Update 687.0 (2014)

2020 Goal 635.1

Data Source Virginia Inpatient Hospitalization. Virginia Health Information.

Description Diagnosis codes to include for mental health and substance abuse hospitalizations were selected based on criteria developed by the Healthcare Cost and Utilization Project. The case definition used excluded discharges related to maternity stays and individuals under the age of 18. Population denominators were derived from midyear Census estimates provided by the National Center for Health Statistics.

4.1 E Adults Whose Poor Health Kept Them from Usual Activities

Measure Percent of adults 18 years and older in Virginia who reported having one or more days of poor health that kept them from doing their usual activities; Baseline: 19.5% (2014).

2017 Update 19.0% (2015)

2020 Goal 18.0%

Data Source Virginia Behavioral Risk Factor Surveillance System. Virginia Department of Health.

Description Percent of Virginia adults who reported having one or more days of poor health (physical health or mental health) and reported that poor health kept them from doing usual activities. The Behavioral Risk Factor Surveillance System (BRFSS) is an ongoing, annual survey of adults, who are randomly called via landline or cell phone. The survey is coordinated by the Centers for Disease Control and Prevention (CDC) and conducted in all 50 states. The Virginia Department of Health conducts the survey in Virginia. The information is self-reported and not observed or measured. Responses of don't know/not sure, refused, or missing were removed from the numerator and denominator in all estimates.

Goal 4.2 Virginia's Health IT System Connects People, Services and Information to Support Optimal Health Outcomes

4.2 A Providers with Electronic Health Records

Measure **P**ercent of health care providers in Virginia who have implemented a certified electronic health record; Baseline: 70.6% (2014)

2017 Update 73.4% (2015)

2020 Goal 90.0%

Data Source National Electronic Health Records Survey. Centers for Disease Control and Prevention.

Description Data are from the 2015 National Electronic Health Records Survey (NEHRS). NEHRS, which is conducted by the National Center for Health Statistics and sponsored by the Office of the National Coordinator for Health Information Technology, is a nationally representative mixed mode survey of office-based physicians that collects information on physician and practice characteristics, including the adoption and use of EHR systems. NEHRS sampling design allows for both national and state-based estimates of EHR adoption. NEHRS is conducted annually as a sample survey of nonfederal office-based patient care physicians, excluding anesthesiologists, radiologists, and pathologists. The 2015 NEHRS sample consisted of 10,302 office-based physicians. Non-respondents to the mail survey received follow-up telephone calls. The 2015 NEHRS data collection took place from August through December 2015, and used a sequential mixed mode design to collect data through web, mail, and phone. Using a physician database, email addresses of sampled physicians were identified. Sampled physicians that did not have an email match were asked to complete the survey by mail or phone. Among those with email addresses, respondents were randomly assigned to one of four groups: an invitation to take the web survey through email, US mail, both, or no web survey option. Nonresponse to the web survey resulted in 3 mailings of the questionnaire followed by phone contacts.

4.2 B Entities Connected to Health Information Exchange

Measure Number of entities in Virginia connected through Connect Virginia HIE Inc., the electronic health information exchange, and the national e-Health Exchange; Baseline: 3,800 (2015).

2017 Update 4,832 (2016)

2020 Goal 7,600

Data Source Connect Virginia HIE, Inc.

Description Connect Virginia HIE, Inc. is the statewide health information exchange (HIE) for the Commonwealth of Virginia. The HIE uses secure, electronic, internet-based technology to allow medical information to be exchanged by participating entities. Connect Virginia reports the number of entities in Virginia connected on a quarterly basis.

4.2 C Health Districts with Electronic Health Records

Measure Number of Virginia's local public health districts that have electronic health records and connect to Connect Virginia, Virginia's Health Information Exchange; Baseline: 0 (2015).

2017 Update 0 (2016)

2020 Update 35

Data Source Virginia Department of Health.

Description Count of Virginia's local public health districts (total of 35) that have electronic health records and connect to Connect Virginia, Virginia's Health Information Exchange.

Goal 4.3 Health Care-Associated Infections Are Prevented and Controlled in Virginia

4.3 Hospitals Meeting State Goal for Prevention of *C. difficile* Infections

Measure	Percent of hospitals in Virginia meeting the state goal for prevention of hospital-onset *Clostridium difficile* infections; Baseline: 38.5% (2013).
2017 Update	38.3% (2014)
2020 Goal	100.0%
Data Source	National Healthcare Safety Network. Centers for Disease Control and Prevention.
Description	The percent of Virginia hospitals that meet the state goal for prevention of hospital-onset *C. difficile* laboratory-identified events. The state goal is a standardized infection ratio ≤ 0.7, which aligns with the goal of the Department of Health and Human Services National Healthcare-Associated Infections Action Plan. The standardized infection ratio (SIR) is calculated by dividing the number of observed events by the number of predicted events (based on national data from a historical baseline time period). An SIR of 0.7 means that 30% fewer events were observed than were predicted. This measure is risk-adjusted and takes into account the type of laboratory testing, facility bed size, facility affiliation with a medical school, and the number of patients admitted to the hospital that already have *C. difficile* ("community-onset" cases).