



Community Health Assessment

UNITED STATES VIRGIN ISLANDS | DEPARTMENT OF HEALTH

MAY 2020

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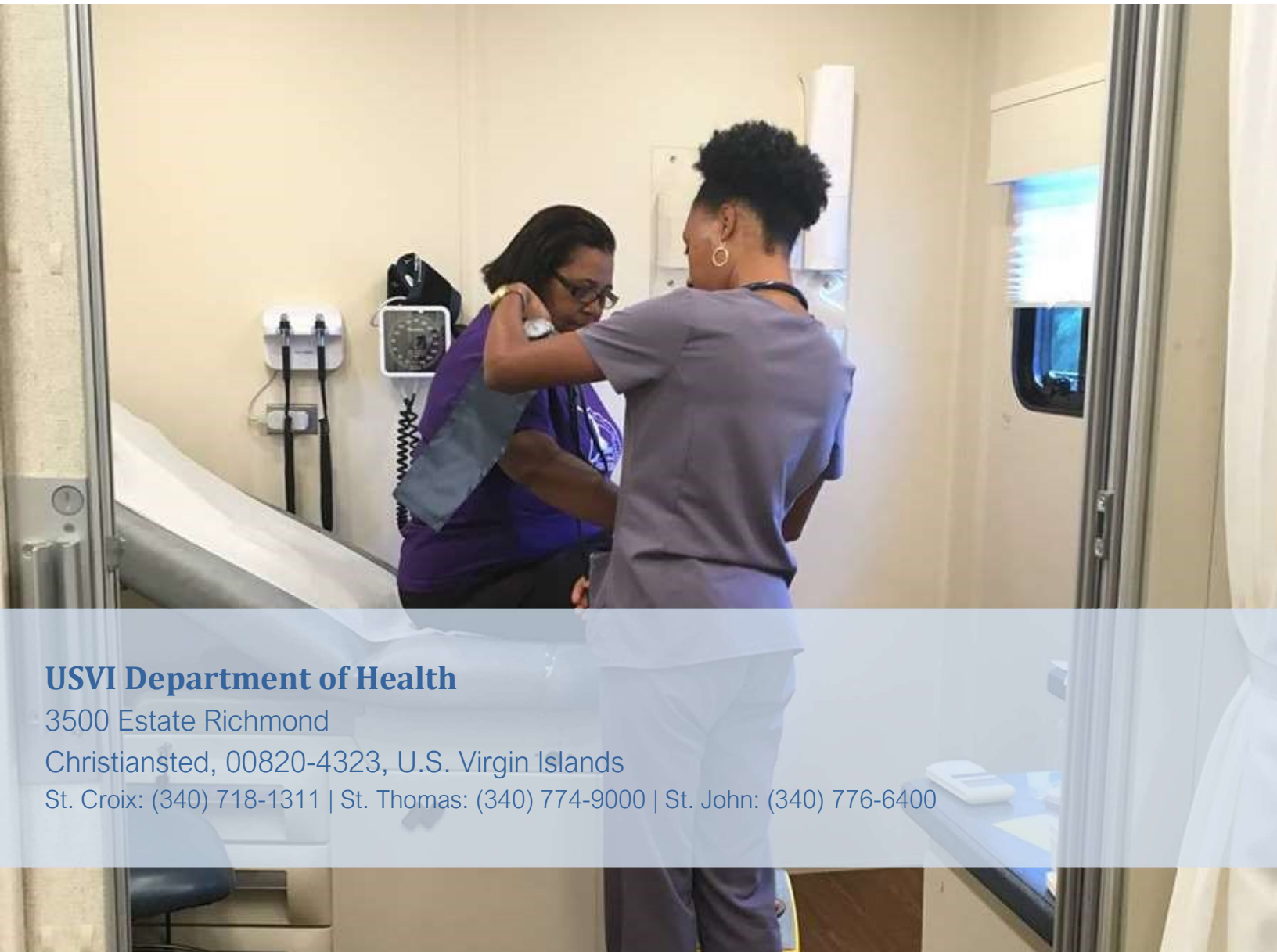
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Preface

May 2020

We are proud to share with our community members, partners, and the public at large the results of our United States Virgin Islands 2020 Community Health Assessment. This report is the result of the labors of many hands, several conversations, and countless hours of deliberate preparation.

A community health assessment presents a comprehensive view of the health of a single community, defined by geography. These pages are full of numbers that describe our people—our Virgin Islander community. Numbers that describe who we are demographically, the health conditions we have, and our context for seeking a healthier life. But we know we are much more than a number on a page. We are a diverse, vibrant people. We care for one another and the people who come to visit our home.



The data presented in this report is both cause for celebration and a signal for initiating improvement. Our residents are generally healthy, but we are also a population that is aging. This brings new health challenges to our shores. While we have among the lowest smoking rates in the United States, we also have high rates of obesity among some of our residents. While we have few incidents of violence overall, we have some of the highest rates of homicide and violence, particularly among young men. While our mothers and their infants experience healthy pregnancies and outcomes, disparities by race still persist for black mothers.

This report is a starting point to build a better future for every Virgin Islander. By looking back at our experiences and outcomes, we can build a healthier community supported by a robust health care system. Building that future begins now.

Sincerely,

Justa E. Encarnacion
United States Virgin Islands
Health Commissioner and Chief Public Health Officer

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Health Profile

GEOGRAPHY

A United States territory since 1917, the **U.S. Virgin Islands (USVI)** are a group of islands in the Caribbean Sea: St. Croix, St. Thomas, St. John, and Water Island.



The USVI is about **twice** the size of Washington, D.C., totaling **133 square miles**.



Tourism, trade, and **service industries** account for **three-fifths** of the USVI's gross domestic product.



The USVI receives between **2.5 – 3 million visitors** each year.



Category 5 Hurricanes Irma and Maria, devastated the USVI in 2017 causing extensive damage.

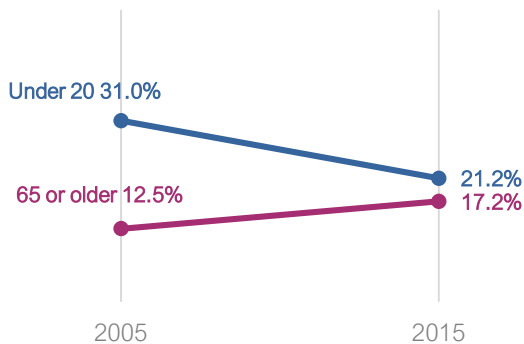
POPULATION CHARACTERISTICS

The residents of the USVI are a demographically and socioeconomically diverse people. The number of residents, our demographic identities, and our socioeconomic position all influence our health—now and in the future.

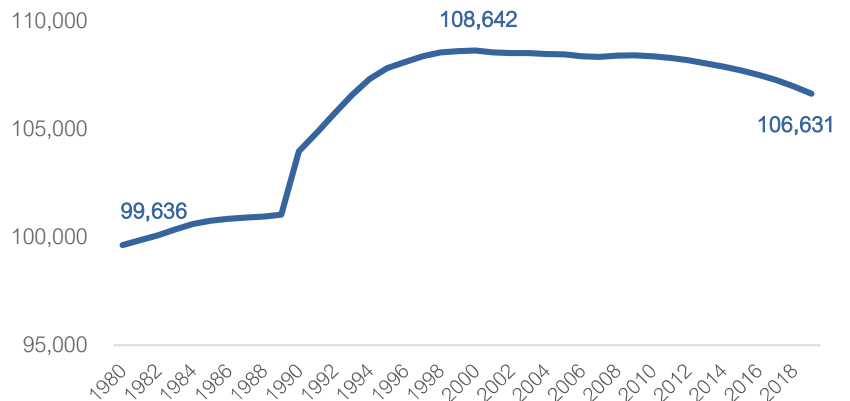
Population Change

The USVI population increased between 1980 – 2000, peaking at **108,642**, before declining to an estimated **106,631** in 2019. The percent of residents age 65 and older increased by **37.6%** while residents under 20 decreased by **31.6%** between 2005 – 2015.

AGE



TOTAL POPULATION



792.2

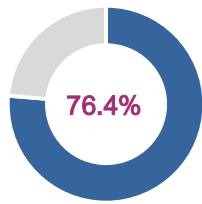
Number of people per square mile in 2010

37.8

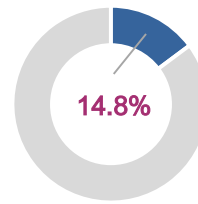
Median age in 2015

Sociodemographics

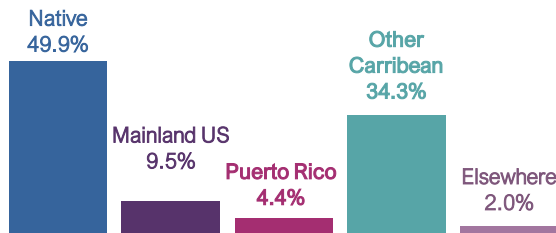
One in five (16.0%) residents identify as Hispanic, and three in four Hispanics (76.4%) report they are of Black race. The number of Black residents decreased from 90,758 in 2005 to 80,559 in 2015, an 11.2% decrease. Unemployment almost **doubled** from 5.8% in 2008 to 9.9% in 2018 and varied by island.



Hispanic residents who also identify as Black 2015



Residents whose primary household language is Spanish 2015

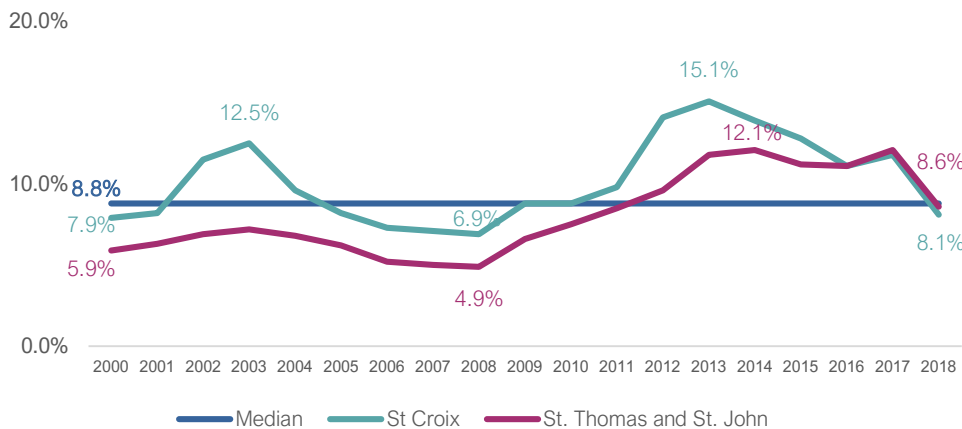


Place of birth | 2015

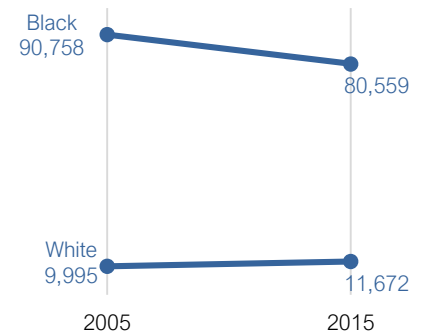


Completed high school education or more | 2015

UNEMPLOYMENT

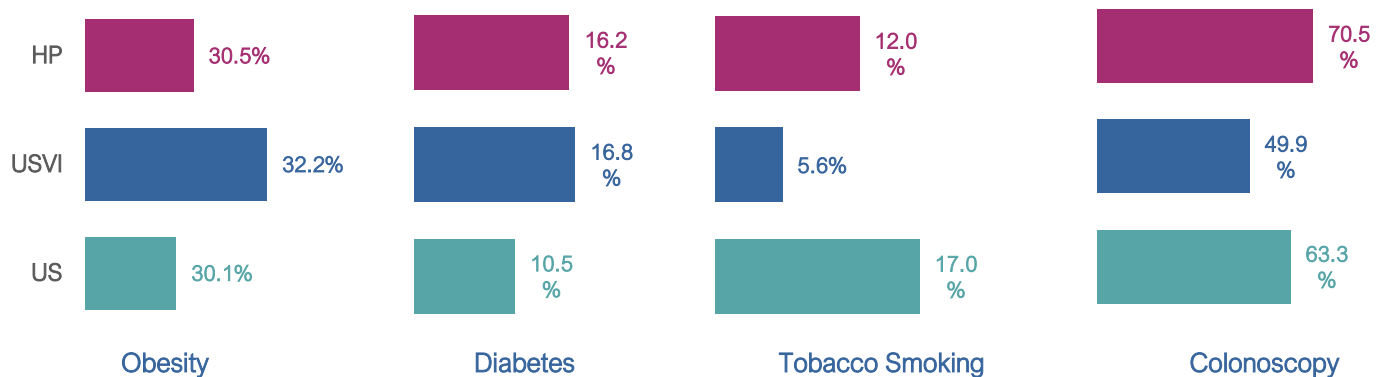


RACE



HEALTHY PEOPLE 2020 LEADING HEALTH INDICATORS

The United States tracks progress toward high-priority health indicators. The USVI has made progress toward achieving a healthier community.*



*U.S. and USVI data are 2016 data from the Behavioral Risk Factor Surveillance System

PUBLIC HEALTH & HEALTH CARE SYSTEMS

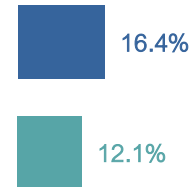
The health and wellness of a population is tied to the capacity and quality of its public health system and its partner: the health care system.

Most residents (81.5%) have a source of health insurance, whether public or private, and some (16.4%) delay medical care due to lack of insurance. The USVI is a **Geographic High Needs Health Professional Shortage Area**.

HEALTH INSURANCE



DELAYED MEDICAL CARE



Number of federally qualified health centers

72 

Primary care providers



Number of HRSA National Health Service Corps certified sites

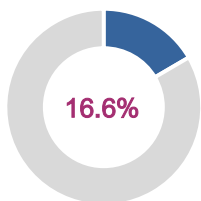
78 

Dentists

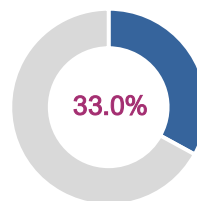
BIRTHS & REPRODUCTIVE HEALTH

Healthy communities promote healthy pregnancies supported by timely prenatal care and access to appropriate care to minimize pregnancy and delivery complications.

USVI birth rates are decreasing in every age group, and teen births dropped by 48.8% in the USVI from 2006 to 2016. Preterm births are trending downward from 15.2% in 2006 to 10.2% in 2016.

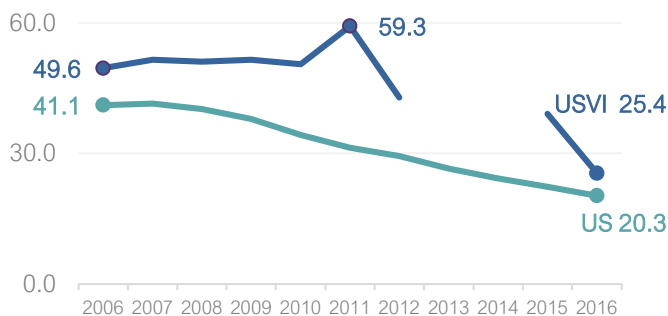


Births with no prenatal care
2017

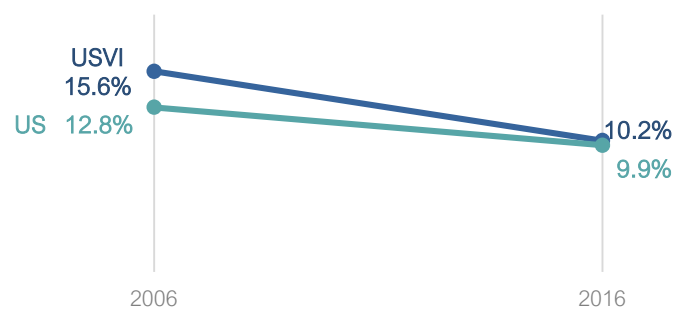


Deliveries by caesarean section
2018

TEEN BIRTH RATE



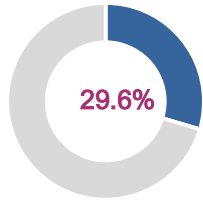
PRE-TERM BIRTHS



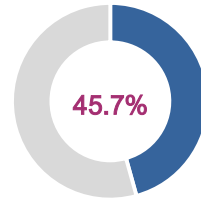
CHILD & ADOLESCENT HEALTH

Children need support to become healthy adults. Children who grow up in poverty or do not finish high school are more likely to have poor health as adults.

Children in the USVI have the lowest rate of measles, mumps, and rubella vaccination in the United States, at 70.5%. The percent of high school students who dropped out of school increased from 5.9% in the 2007-2008 school year to 9.2% in the 2017-2018 school year.

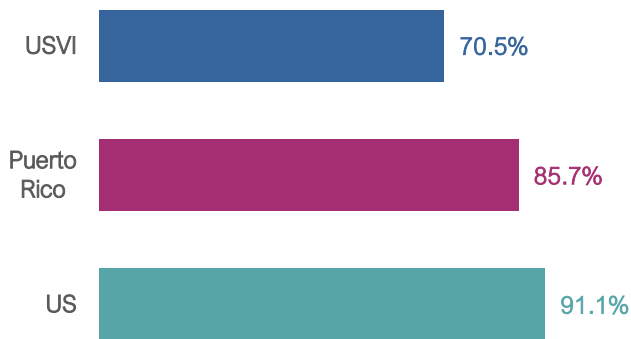


Children living in poverty
2015

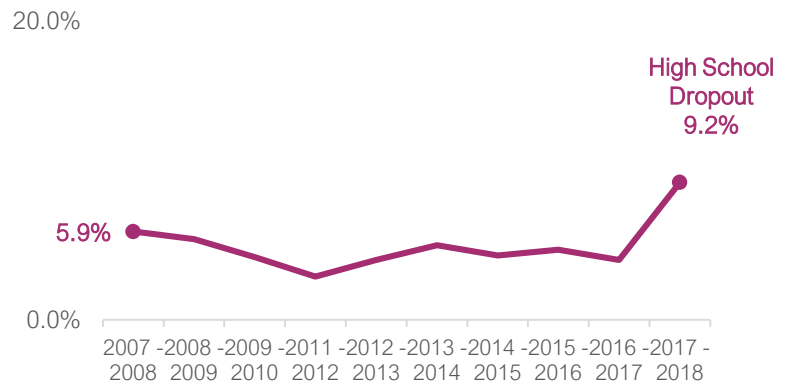


Children 19 to 35 months with recommended vaccines
2016

MUMPS, MEASLES, RUBELLA IMMUNIZATION



HIGH SCHOOL DROPOUT RATE



HEALTH STATUS & CHRONIC DISEASE

Resident health varies across a number of socioeconomic characteristics, reflecting our diversity and disparities in how healthy we are as a community.

Most USVI residents report being in good or better health (79.4%), and a majority (75.7%) engage in health promoting behaviors such as physical activity. Not all adults receive recommended cancer preventive screening.



Women aged 50-74 with a mammogram
2016



Adults with good or better health status
2016



Adults with arthritis
2016

476
75.7%

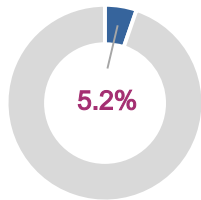
Number of new cancer cases in 2016

Adults with physical activity in the past 30 days (2016)

TRAUMA, VIOLENCE & MENTAL HEALTH

Maintaining positive psychological health and wellness is an important determinant of our physical health. People who experience trauma are at risk for poor health.

The rate of death by suicide among adult USVI men has increased by **351.3%** over 2005. More than half (**59%**) of all teen deaths and two-thirds (**67%**) of male teen deaths are caused by firearms.



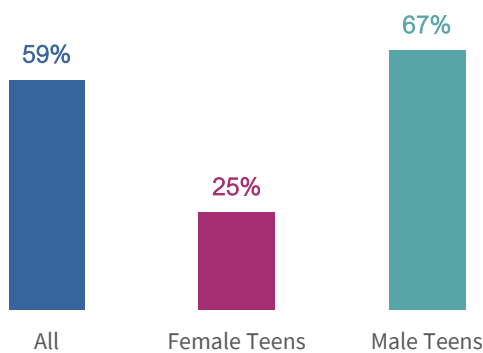
Adults with self-reported depression
2016



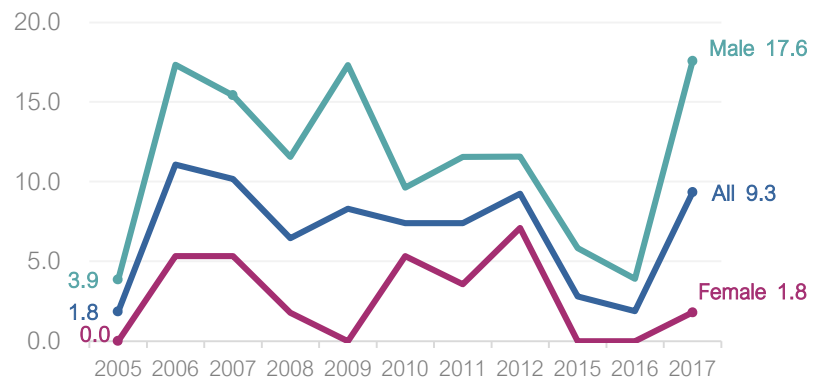
36.0 years

Average age at death from motor vehicle accident
2017

PERCENT OF TEEN DEATHS CAUSED BY GUNS



SUICIDE RATE PER 100,000



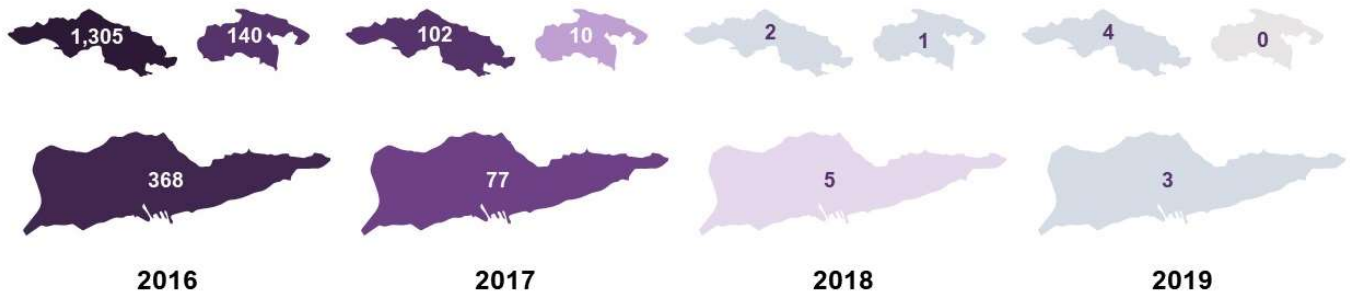
INFECTIOUS DISEASES

Remaining free from infectious disease is a major determinant of how healthy we are as a community. Keeping pathogens out of the USVI is a challenge due to our tropical climate and tourism.

Zika Disease

There was an epidemic of Zika virus beginning in early 2016 that resulted in **2,017** confirmed Zika fever cases, the majority occurring on St. Thomas.

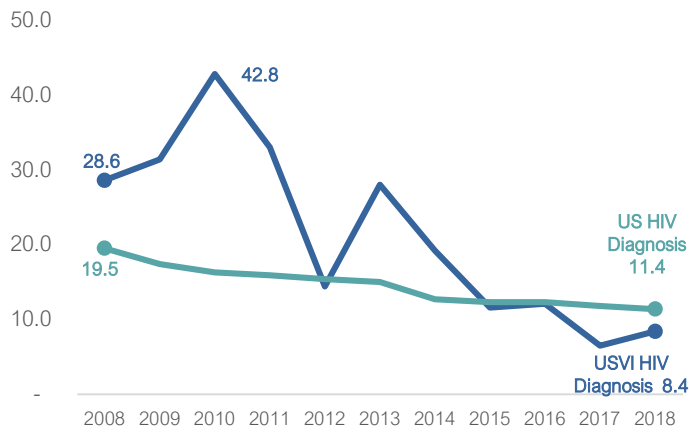
ZIKA CASES



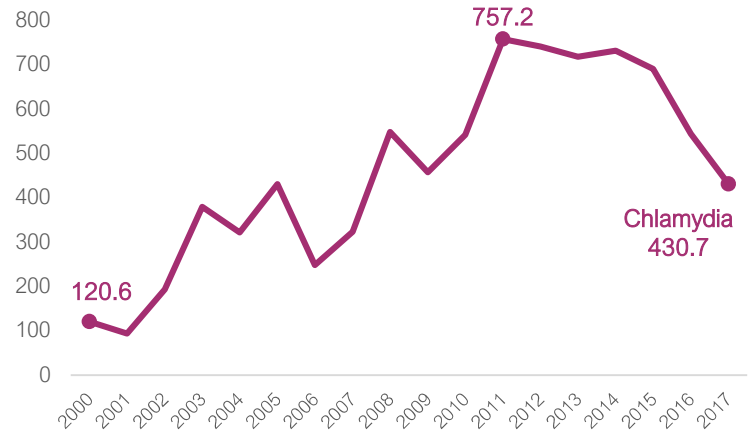
HIV/AIDS & Sexually Transmitted Diseases

The rate of HIV infection diagnosis decreased by **80.4%** from a high of **42.8 per 100,000** people in 2010 to a low of **8.4 per 100,000** people in 2018. The incidence of chlamydia cases in the USVI decreased by **43.7%** from a high of **757.2 per 100,000** people in 2011 to **430.7 per 100,000** people in 2017.

HIV INCIDENCE



CHLAMYDIA INCIDENCE



MORTALITY

Examining how we die provides clues into how healthy we are as a community. Trends in mortality also tell us how well our health care system is working.

The four leading causes of death in the USVI in 2016 were **heart disease, cancer, homicide, and unintentional injuries**. In 2017, the top cause of premature death in the USVI was homicide, with **2,341.3** years of potential life lost before the age of **75 per 100,000 residents**.

78.6



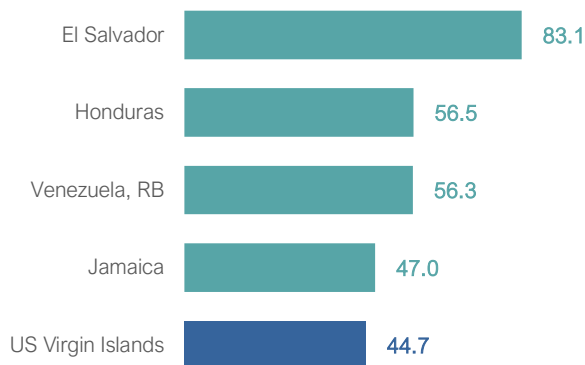
Life expectancy

45

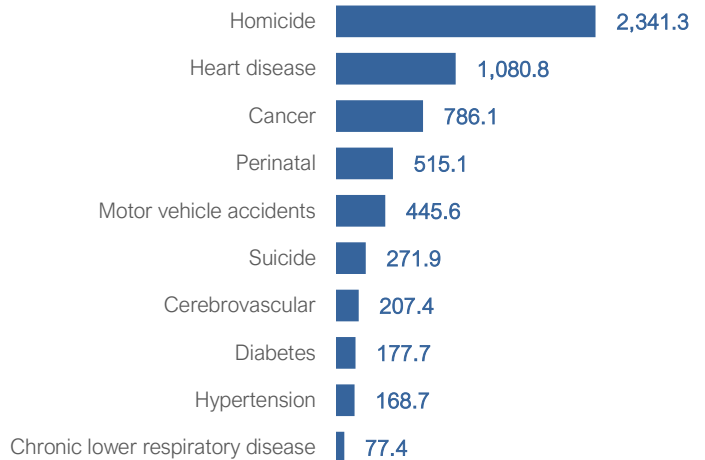


Number of residents who died by homicide in 2016

HOMICIDE RATES OF COUNTRIES WITH HIGHEST RATES



YEARS OF POTENTIAL LIFE LOST



For More Information

Visit doh.vi.gov

USVI 2020 Community Health Assessment

USVI Department of Health

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Christiansted, 00820-4323, U.S. Virgin Islands



CHAPTER 1

Introduction

BACKGROUND | METHODS | CONTRIBUTORS

USVI Community Health Assessment 2020

Introduction

A health assessment is a snapshot in time of the health status and needs of a community. The community could be a geographic place, like the United States Virgin Islands. But a community is also a group of people with a **shared identity**. These identities include characteristics like age, race, ethnicity, cultural values, and lived experiences. This chapter presents the process the USVI Department of Health and its partners developed and use to create this assessment. This report is part of a larger effort to improve the health of USVI residents over the next five years.

Background

What is a Community Health Assessment?

One of the primary responsibilities of a public health department is to assess the health of the people it serves. A community health assessment (CHA) is a tool to help public health departments pull together information from many different sources and paint a picture of the health of its community across the many identities of its people. The result is not a complete picture, but a comprehensive look at what we know right now about the health of the community.

CHAs review the health of a community at a population level. How many babies were born to all mothers last year? How old were first-time mothers on average? What percentage of mothers delivered their babies full-term, and is that a trend we see in the past few years? These are just some of the questions asked and answered in this report. The answers to these questions not only help our whole community understand ourselves and who we are, but they also tell us where challenges in health might be. This information helps public health and health care professionals pinpoint where intervention and resources might be best targeted to improve community health and wellness.

CHAs also examine health and wellness of the population across the lifespan. Assessments of population health almost always include a review of our most basic health indicators: births and deaths. But what happens to us in between? What injuries, diseases, or conditions do we experience? Do we have access to health care services? What kinds of behaviors do we engage in that could help or harm how healthy we are? Because we know health is influenced by so much more than genetic or biological factors, assessments like these also look at health from social, environmental, and economic perspectives. For example, how much education do residents have? Has unemployment changed over the past decade?

CHA reports are not just written for “professionals.” The information presented in reports like this one belongs to the people who are described within its pages. Reports like this one are intended to be a tool for the community and, in particular, organizations and leaders within those communities who work to improve health.

The **United States Virgin Islands 2020 Community Health Assessment** is a starting place for creating change—**change that will enable all Virgin Islanders to pursue their own health** regardless of background or socioeconomic circumstance.

Assessment Purpose

The purpose of the USVI 2020 Community Health Assessment is to inform public health and health care planning and improvement efforts of the USVI Department of Health (DOH) and its partners—including sister government agencies, federal agencies, and local organizations with roles in improving resident health and wellness. Improving the health of our people, including residents and visitors, requires an understanding of how they live and the challenges they face in their daily lives. It also requires we examine what information we might need to better assess the health of our people in the future so that we can improve our data collection and reporting work in the future.

Past Assessments

The USVI 2020 Community Health Assessment is the first health assessment developed by the DOH in over a decade. In addition to brief surveillance reports, DOH has collaborated with the Centers for Disease Control and Prevention (CDC) and the Federal Emergency Management Agency (FEMA) to assess the needs of residents. The most recent DOH assessment was conducted in partnership with FEMA to assess the impact of Hurricanes Irma and Maria and was published in 2019. A community needs assessment funded by the Community Foundation of the Virgin Islands and conducted by researchers at the Caribbean Exploratory Research Center at the University of the Virgin Islands examined, among other factors, the health needs of children and families in the USVI post Hurricanes Irma and Maria. However, these reports do not review the full spectrum of resident health needs because their purpose is different (e.g., facilitating recovery efforts, impacts of hurricanes). The USVI DOH utilized data collected by the Eastern Caribbean Center (ECC) to assess aspects of resident health and wellness. As the lead for the U.S. Census, the ECC produces the Virgin Islands Community Survey on an annual basis. This survey includes estimates of information included in the American Community Survey. The most recent VICS report presents sociodemographic information about USVI residents from 2015.

How to Use This Report

The USVI 2020 Community Health Assessment is part of a trio of documents that are intended to set a foundation for a long-term health improvement process, including this report, the USVI DOH Strategic Plan (2020-2025), and the USVI 2020 Community Health Improvement Framework. During that five-year process, it is expected that programs within DOH and their supporting partners

will refer to and build upon the information presented in this report. We invite our partners to use parts of the reports to facilitate actions such as debate or decision-making. Here are some suggestions for that use:



TOPIC-BASED CHAPTERS | The majority of topic areas—births and reproductive health, wellness and disability, infectious disease, etc.—begin with a one-page summary describing the importance of the topic and the major highlights from the assessment. These “one-pagers” can be pulled out of the report and used as briefs to inform public policy debate and decision-making.



HEALTH PROFILE | This five-page summary section is a snapshot of all the findings in the USVI 2020 Community Health Assessment. The profile includes visualizations that are infographic in style and are meant to be understood by non-technical audiences. This section can be pulled out and presented to inform discussion in the community.



DATA VISUALS | The USVI 2020 Community Health Assessment contains over 100 visuals describing public health and health care data. These visuals are meant to be shared. We invite our partners and members of the community to share them via social media or in community presentations.

The USVI 2020 Community Health Assessment will be made available in these shorter formats on the USVI DOH website: doh.vi.gov/cha.

Methods

Vision

Fulfilling the purpose of the USVI 2020 Community Health Assessment is a first step toward reaching DOH’s vision of the future of health in the Virgin Islands:

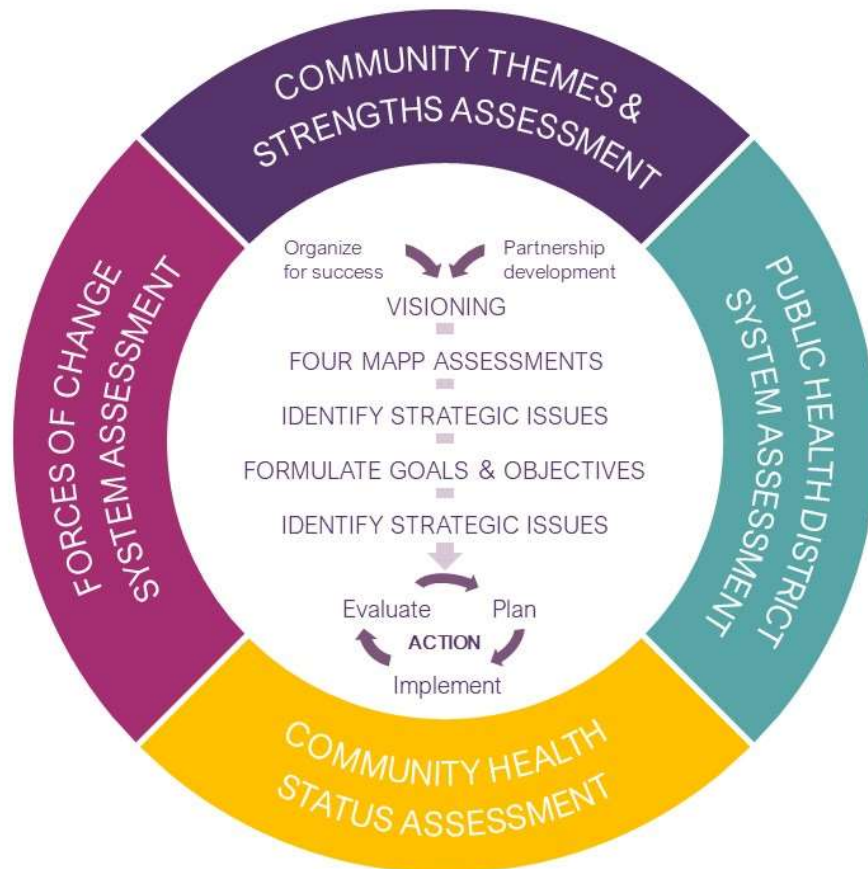
Trusted systems supporting healthy people in healthy communities for a healthy Virgin Islands.

This vision, developed collaboratively by leaders and staff from the DOH and vetted by community representatives, is a statement about what we as public health leaders want to achieve for all Virgin Islanders. That vision includes building an integrated public health and health care system that is trusted by those who are supported by it and use its services. Trust begins with transparency, and for the DOH, that means sharing the data we collect on behalf of our residents and the people who visit our shores.

Guiding Frameworks

The overarching framework for the health planning process is the Mobilizing for Action through Planning and Partnerships (MAPP) framework, a community-driven strategic planning process for improving community health developed by the National Association of County and City Health Officials (NACCHO). MAPP is a six-phase process that emphasizes partnership with community representatives and close collaboration with organizations and agencies with responsibility for improving the health and wellness of communities. The MAPP framework was adapted to a territorial context (Figure 1.1). For example, the USVI Department of Health does not have a traditional local public health system with separate local public health departments. Instead, the DOH operates as two health districts: St. Croix and St. Thomas/St. John/Water Island. DOH assessments are generally territorial and less frequently by health district.

Figure 1.1 | **Framework for the USVI Health Planning Process**



SOURCE | USVI Department of Health, Adapted from National Association of County and City Health Officials

The DOH also considered territorial progress toward meeting the Healthy People 2020 national objectives in the assessment process. The DOH grounded its selection of health indicators using the Leading Health Indicators framework of Healthy People 2020. Leading health indicators are a

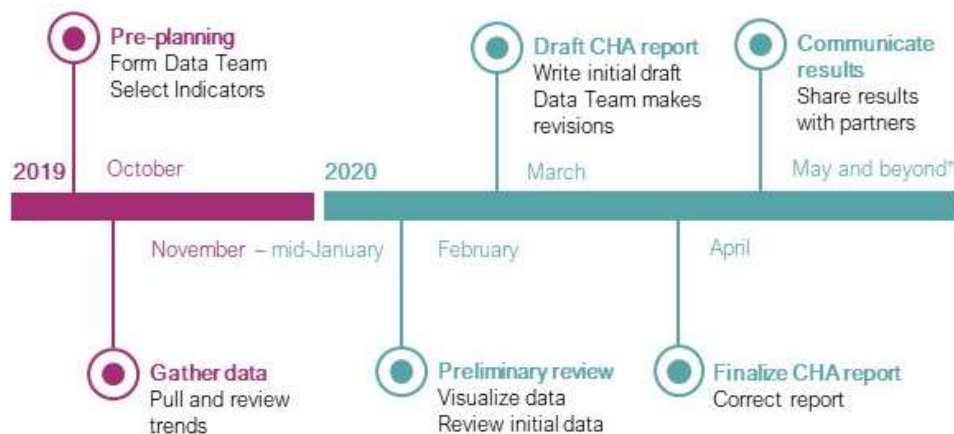
subset of measures that track high-priority health issues that are part of Healthy People 2020. Where data was available, the DOH opted to examine progress toward achieving the 26 leading health indicators across its 12 topic areas of focus: access to health services; clinical preventive services; environmental quality; injury and violence; maternal, infant, and child health; mental health; nutrition, physical activity, and obesity; oral health; reproductive and sexual health; social determinants; substance abuse; and tobacco.

Community Health Assessment Process

The DOH began working in partnership with the CDC in 2019 to develop a year-long health planning process that would lead to the development of this assessment, a strategic plan, and a framework for community health improvement. As part of this effort, the DOH engaged the Association of State and Territorial Health Officials (ASTHO), a national nonprofit organization that represents and supports public health agencies, to develop a health planning approach and facilitate a series of in-person health planning meetings beginning in October 2019. Territorial Health Commissioner Justa Encarnacion appointed Deputy Commissioner Janis Valmond to lead the health planning process. Commissioner Encarnacion also chartered three workgroups to carry out health planning: the **Data Team**, the **Strategic Planning Workgroup**, and the **Improvement Workgroup**.

The Data Team was charged with creating the USVI 2020 Community Health Assessment report, a process which began with an all-day meeting in October 2019 to select health indicators. A timeline of CHA development is presented in **Figure 1.2**. Between November 2019 and mid-January, the Data Team gathered data for preliminary review of trends. The Data Team began visualizing data and developing the report in February 2020. A draft of the USVI 2020 Community Health Assessment report was reviewed by the Data Team and other key members of DOH staff in March 2020. The Data Team finalized the report in April 2020, and the DOH began sharing its findings with partners and the wider community in early May 2020.

Figure 1.2 | **USVI 2020 Community Health Assessment Timeline**



SOURCE | USVI Department of Health

*Due to the global COVID-19 pandemic, communication of results of the CHA may be delayed beyond May 2020

Health Indicator Selection

The Data Team selected data for inclusion in the CHA by engaging in a deliberate process. First, the Data Team created a health indicator inventory of available public health data collected by the DOH, sister territorial agencies, external partner organizations, and national sources. Given the accelerated timeframe of the health planning process, the Data Team prioritized data sources that were accessible by the end of February 2020. The health indicator inventory was prioritized to include the most recent data available within the past 10 years, data quality, alignment with Healthy People 2020's Leading Health Indicators, and whether there were programs that rely on that health indicator for performance monitoring and quality improvement. The Data Team ranked the initial list of health indicators and then selected five to seven indicators per topic area. The initial topic areas included: Sociodemographics, Maternal and Child Health, Environmental Health, Infectious Disease, Chronic Disease, Mental Health and Addiction, and Trauma and Injury. The final list of health indicators was reviewed and approved by the DOH executive team.

Data Sources

The CHA contains quantitative data from a variety of sources. The DOH houses the primary public health surveillance information system, which collects information on diseases, conditions, health care utilization, health behaviors among other indicators. Because health is also determined by social and economic factors, many other territorial agencies and organizations collect information that helps us understand the health and wellness of Virgin Islanders. This report synthesizes those collective data sources to tell a comprehensive story about the health of the USVI. Major sources of data used to create this assessment include:



U.S. CENSUS AMERICAN COMMUNITY SURVEY

The U.S. Census Bureau conducts a census of all U.S. territories every 10 years. Data is published on the U.S. Census Bureau website and is also included in a resource called the International Data Base. This report includes data comparisons with national estimates. There is limited information on the U.S. territories after 2015 except total population estimates.



VIRGIN ISLANDS COMMUNITY SURVEY (VICS)

The Eastern Caribbean Center at the University of the Virgin Islands conducts the VICS survey as part of the U.S. Census. This includes calculating mid-year annual population estimates by sociodemographic characteristics. The last decennial census occurred in 2010. This assessment includes annual population estimates through 2015. Later data is unavailable due to delays related to Hurricanes Irma and Maria.



NATIONAL VITAL STATISTICS SYSTEM

The USVI DOH maintains an office dedicated to collecting vital statistics information including birth and death certificates. This data is transmitted to the National Vital Statistics System at the National Center for Health Statistics.



BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM (BRFSS)

The USVI DOH participates in the BRFSS, a series of telephone surveys about health-related risk behaviors, chronic health conditions, and use of preventive services by U.S. residents.



COMMUNITY ASSESSMENT FOR PUBLIC HEALTH EMERGENCY RESPONSE (CASPER)

The Community Assessment for Public Health Emergency Response is a rapid cross-sectional survey that provides household-level information to public health leaders and emergency managers. The USVI has conducted six CASPERs in the wake of the 2017 Hurricanes Irma and Maria.



YOUTH RISK BEHAVIOR SURVEILLANCE SYSTEM (YRBS)

The USVI does not participate in the national survey that assesses a range of priority health risk behaviors among representative samples of high school students at the national, state, and local levels. However, a survey was conducted in 2018 using the 2017 Youth Risk Behavior Survey and following CDC guidelines for survey implementation.

In addition to DOH surveillance and national public health databases, secondary sources of data utilized for this report include:

- A post-hurricane needs assessment conducted by the Caribbean Exploratory Research Center and the Community Foundation of the Virgin Islands (February 2019)
- The USVI KIDS COUNT Data Book published by the Community Foundation of the Virgin Islands (2019)
- The USVI Healthcare Facilities Readiness Assessment (July 2019)
- Annual labor and economic statistics published by the USVI Bureau of Economic Research (1990 and beyond)

Data Analysis and Interpretation

The Data Team gathered measures for each health indicator, examining the most recent data and annual trends as available. Where possible, data is reported by sociodemographic characteristics such as race/ethnicity, age, sex, income, education, and health insurance status in order to assess disparities. Geographic comparisons by islands are made throughout the report, but it should be noted that geographic data is sometimes collected by health district (e.g., St. Croix and St. Thomas/St. John) rather than by island. Data is also compared to national data, where available, and the Healthy People 2020 targets for the leading health indicators.

Any differences between data comparisons are not statistically significant unless explicitly stated. Data collected through national surveys, such as the BRFSS, are typically subjected to statistical significance testing. However, for this report, we analyzed raw BRFSS data without any adjustment or assessment of statistical significance. As such, the reader should interpret differences across data with caution. Definitions for each indicator are noted by footnote in each figure. The [Appendix](#) includes a [Glossary of Terms](#) and a key of [Abbreviations](#).

This report in general does not interpret the drivers of trends that may be present for a specific health measure. The intent of the report is to provide information so that USVI DOH and its partners can discuss and interpret data together to uncover drivers and develop strategies for improvement.

Data Quality

One of the major reasons the DOH conducted this assessment was to assess its current surveillance capacity as part of a larger environmental scan. The Data Team gathered available data for the assessment based on the indicators selected and then reviewed gaps. It was expected that there would be some gaps in recent data due to Hurricanes Irma and Maria, which caused extensive structural damage and residential displacement in late 2017. The Data Team also expected there to be additional gaps due to other drivers, including factors such as workforce and technical capacity. Where relevant, the assessment notes these gaps and the effect of missing information on the interpretation of data presented. Some of the major gaps in available data are in vital statistics (2013 and 2014 data), environmental health, trauma and injury, and mental health/addiction.

The DOH will use the results of this assessment to inform strategic planning efforts. It is expected that at least one of the strategic priorities for the USVI DOH Strategic Plan, 2020-2025 will focus on enhancing data-driven decisioning-making which will require improvement in public health surveillance capacity and reporting.

Contributors

A community health assessment is a collaborative effort requiring input and labor from many experts. The DOH is grateful to the following individuals for their participation in the Data Team and for their important contribution to creating the USVI 2020 Community Health Assessment report:

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CHAPTER 2

Public Health & Health Care Systems

ABOUT THE USVI | ABOUT THE USVI DEPARTMENT OF HEALTH
ACCESS TO CARE | FUNDING & WORKFORCE

USVI Community Health Assessment 2020

Public Health & Health Care Systems

Five Things You Should Know in 2020

- 1 The Department of Health functions as both the **state health regulatory agency** and the **territorial public health agency** for the USVI.
- 2 In 2016, 81.5% of USVI adults reported having **health insurance** compared to 89.8% of U.S. adults.
- 3 In 2016, 16.4% of USVI adults reported **delaying medical care** compared to 12.1% of U.S. adults.
- 4 Forty-two percent of **territory-funded positions** and 30% of DOH's 165 **federally-funded positions** are vacant.
- 5 The USVI is a **Geographic High Needs Health Professional Shortage Area**.

USVI By the Numbers

48	Number of health care facilities in the USVI	26	Number of public health programs run by DOH
2	Number of tertiary care centers	2	Number of federally-qualified health centers
12	Number of certified National Health Services Corps facilities	6,000	Number of clients seen in community health clinics on St. Croix in 2018-2019
72	Number of primary care providers	78	Number of dentists

For More Information

Visit doh.vi.gov

USVI 2020 Community Health Assessment

USVI Department of Health

3500 Estate Richmond

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Public Health & Health Care Systems

The health and wellness of a population is tied to the **capacity** and **quality** of its public health system and its partner: the health care system. The USVI is unique compared to mainland U.S. states in that the **USVI Department of Health provides both public health and some health care services**. This dual role means DOH has a close partnership with health care providers and is responsible for facilitating access to health care services for residents. This chapter provides a snapshot of the features and capacities of this unique system.

About the USVI

The United States Virgin Islands (USVI) has been a U.S. territory since 1917. Part of the Leeward Islands of the Lesser Antilles, the USVI are a group of islands situated in the Caribbean Sea 1,100 miles south of Miami, Florida and 43 miles east of Puerto Rico. The USVI is about twice the size of the District of Columbia with a total of 133 square miles and four islands: St. Croix, St. Thomas, and St. John which are the three major islands, and the smaller Water Island. Most of the USVI population lives on either St. Croix, which is the largest of the three major islands, or St. Thomas. Tourism, trade, and service industries account for about three-fifths of the USVI's gross domestic product, and government accounts for about one-fifth. The USVI receives between 2.5 – 3 million visitors each year.

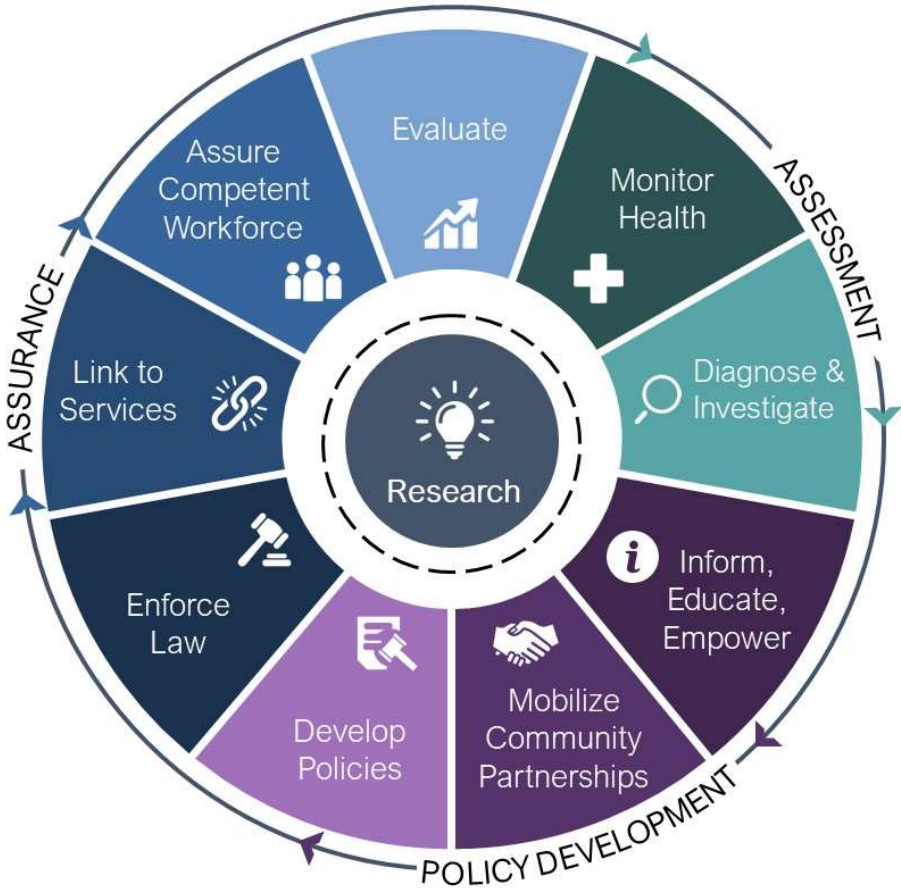
The USVI's geographic position makes it susceptible to climate change and natural disasters. Historically, the USVI experiences a major hurricane every three years. Most recently in September 2017, the USVI was hit by two Category 5 hurricanes, Irma and Maria, within a two-week period.

About the USVI Department of Health

The USVI Department of Health derives its authority to provide public health services to the people of the Virgin Islands from Title 3, Title 19, and Title 27 of the Virgin Islands Code. The Department of Health functions as both the state health regulatory agency and the territorial public health agency for the USVI. In addition to providing oversight of 26 public health programs, as the lead agency for Emergency Services Function 8 (ESF-8), the department also oversees hospitals during a declared emergency or disaster.

The DOH's services are aligned with the Ten Essential Public Health Services which allow the department to fulfill the three core functions of public health: assessment, assurance, and policy development (Figure 2.1).

Figure 2.1 | **Ten Essential Public Health Services**



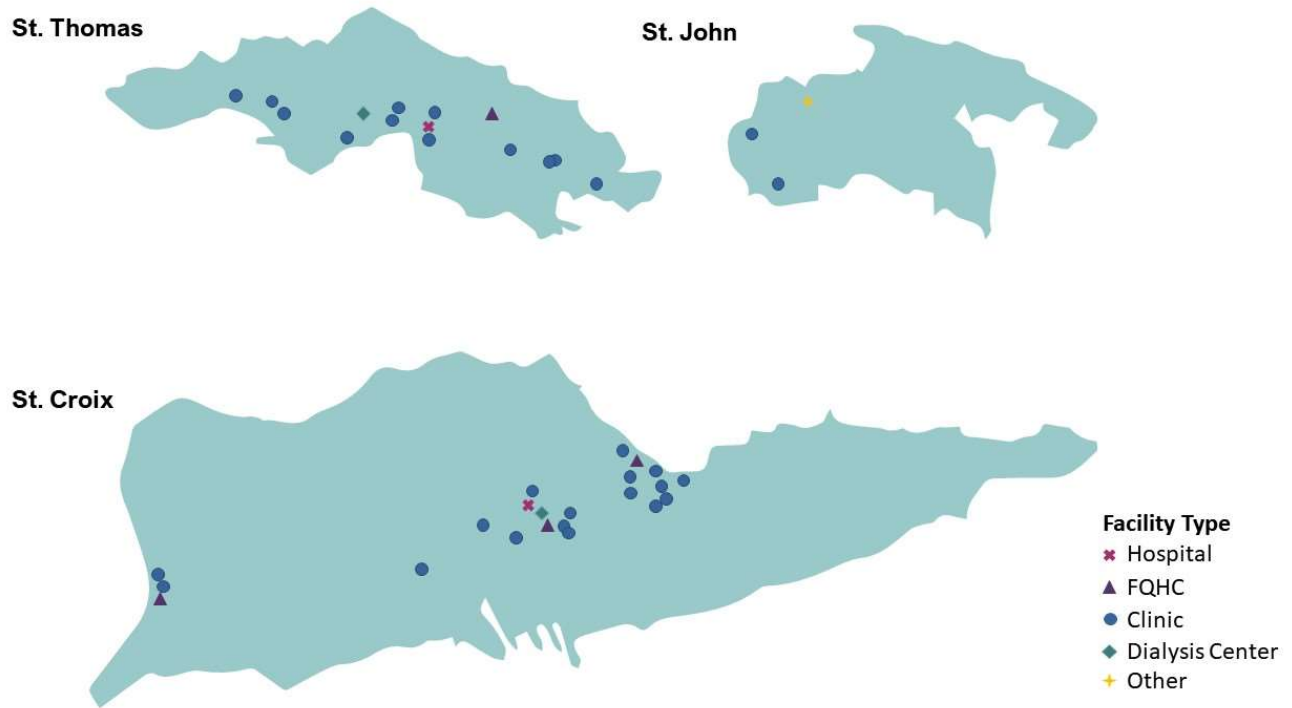
SOURCE | USVI Department of Health

Health Facilities

There are 48 health care facilities in the USVI (Figure 2.2). There are two main hospitals that serve the needs of Virgin Islanders: the Juan F. Luis Medical Center in St. Croix and the Schneider Regional Medical Center in St. Thomas (Figure 2.3). The Myrah Keating Community Health Center on the island of St. John is affiliated with the Schneider Regional Medical Center on the island of St. Thomas. The DOH provides services from four locations within the territory: The Community Health Clinic at the Schneider Regional Medical Center and the Dr. John S. Moorehead Municipal Hospital Complex in St. Thomas; The Morris F DeCastro Clinic in St. John; and, the Charles Harwood Complex-Modular Buildings in St. Croix. There are two federally-qualified health centers (FQHC) in the USVI. Twelve health care facilities are National Health Service Corps (NHSC) certified by the Health Resources and Services Administration. NHSC certification allows those facilities to apply for

federal funding to support health care worker training and enables primary care workers to receive subsidies for school loans.

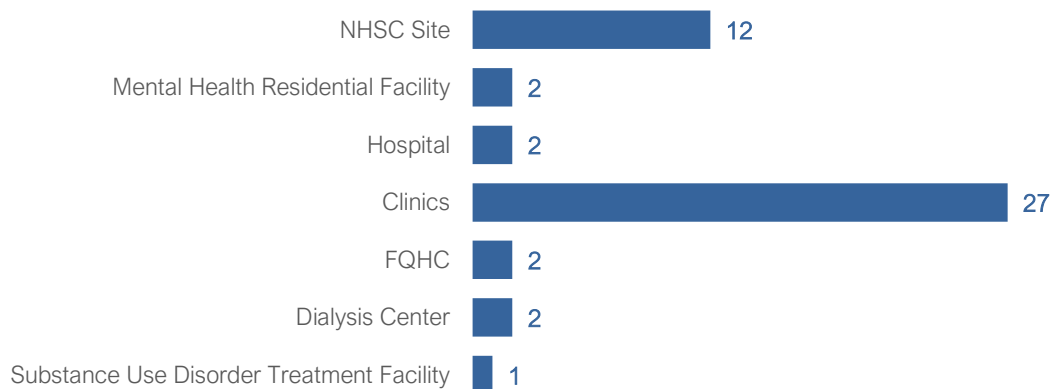
Figure 2.2 | **USVI Health Care Facilities by Type, 2019**



SOURCE | USVI Department of Health, Healthcare Facilities Readiness Report, July 2019

NOTE | FQHC refers to federally qualified health centers; 'Other' refers to a private health clinic.

Figure 2.3 | **Number of USVI Health Care Facilities by Type, 2020**



SOURCE | USVI Department of Health

NOTE | NHSC refers to a National Health Service Corps certified site; FQHC refers to federally qualified health centers. There is one FQHC on St. Croix, and that FQHC has multiple sites. Several of the NHSC sites are clinical programs within the DOH.

Health Programs

The DOH operates several public health programs to meet the health needs of Virgin Islanders. These programs include:

- Mental Health, Alcoholism, and Drug Dependency Services
- Communicable Diseases
- Vital Records and Statistics
- Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)
- Infants and Toddlers Program
- Family Planning
- Maternal and Child Health & Children with Health Care Needs
- Chronic Disease and Prevention
- Environmental Health
- Professional Licenses and Certificates
- Public Health Preparedness
- Emergency Medical Services
- Epidemiology and Disease Reporting
- Public Health Laboratory
- Community Health Services
- Primary Care Office
- Vector Control Program
- Immunization

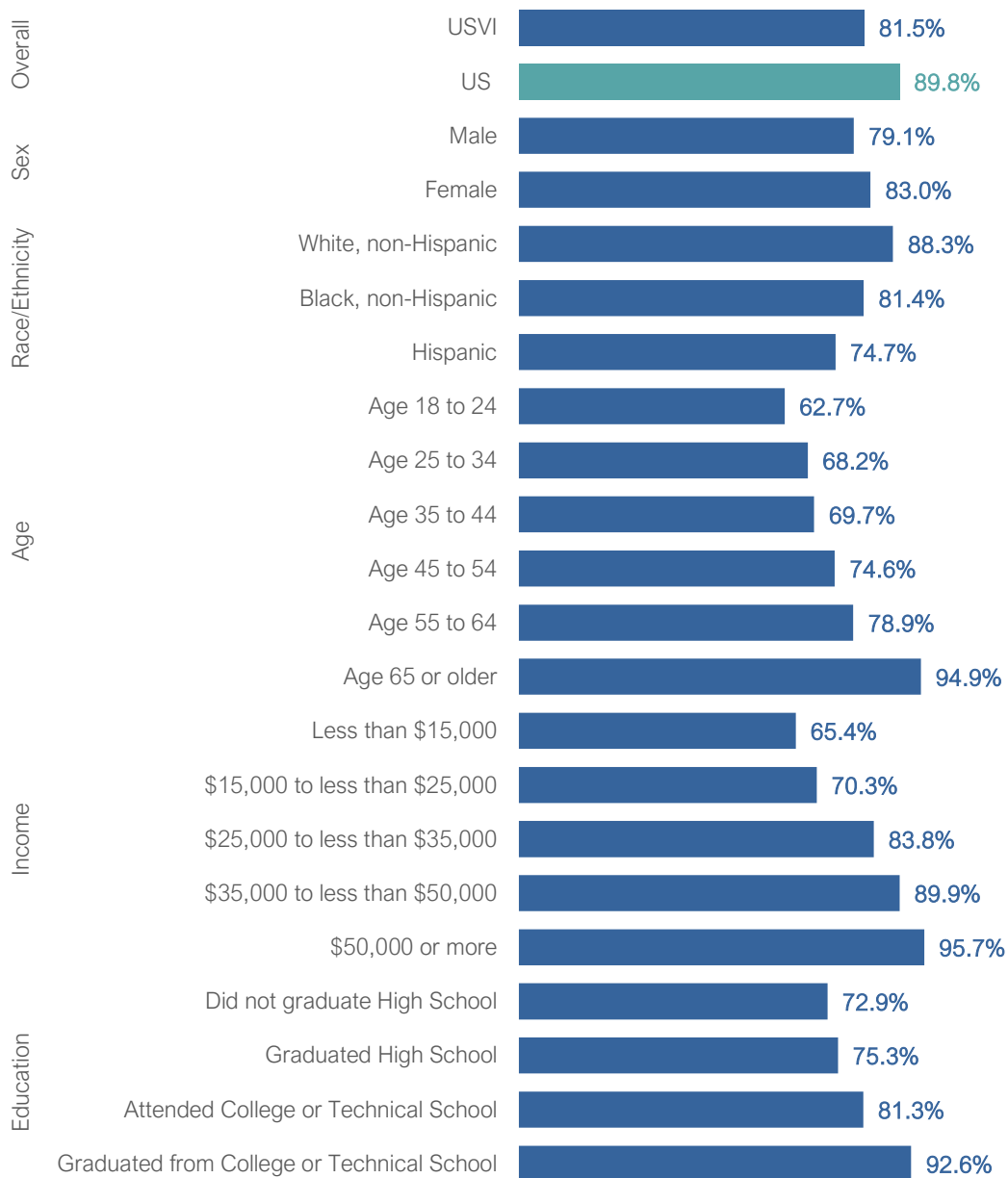
More information about the specific services provided by each program is available on doh.vi.gov.

Access to Care

Health Insurance

A majority of USVI adults report having a source of health insurance. In 2016, 81.5% of USVI adults reported having health insurance compared to 89.8% of U.S. adults (**Figure 2.4**). The percent of adults reporting health insurance coverage was highest for residents who were female, White, non-Hispanic, older age, higher income, and more educated. As of January 31, 2020, 30,493 residents were insured by Medicaid.

Figure 2.4 | **USVI Adults with Health Insurance, 2016**

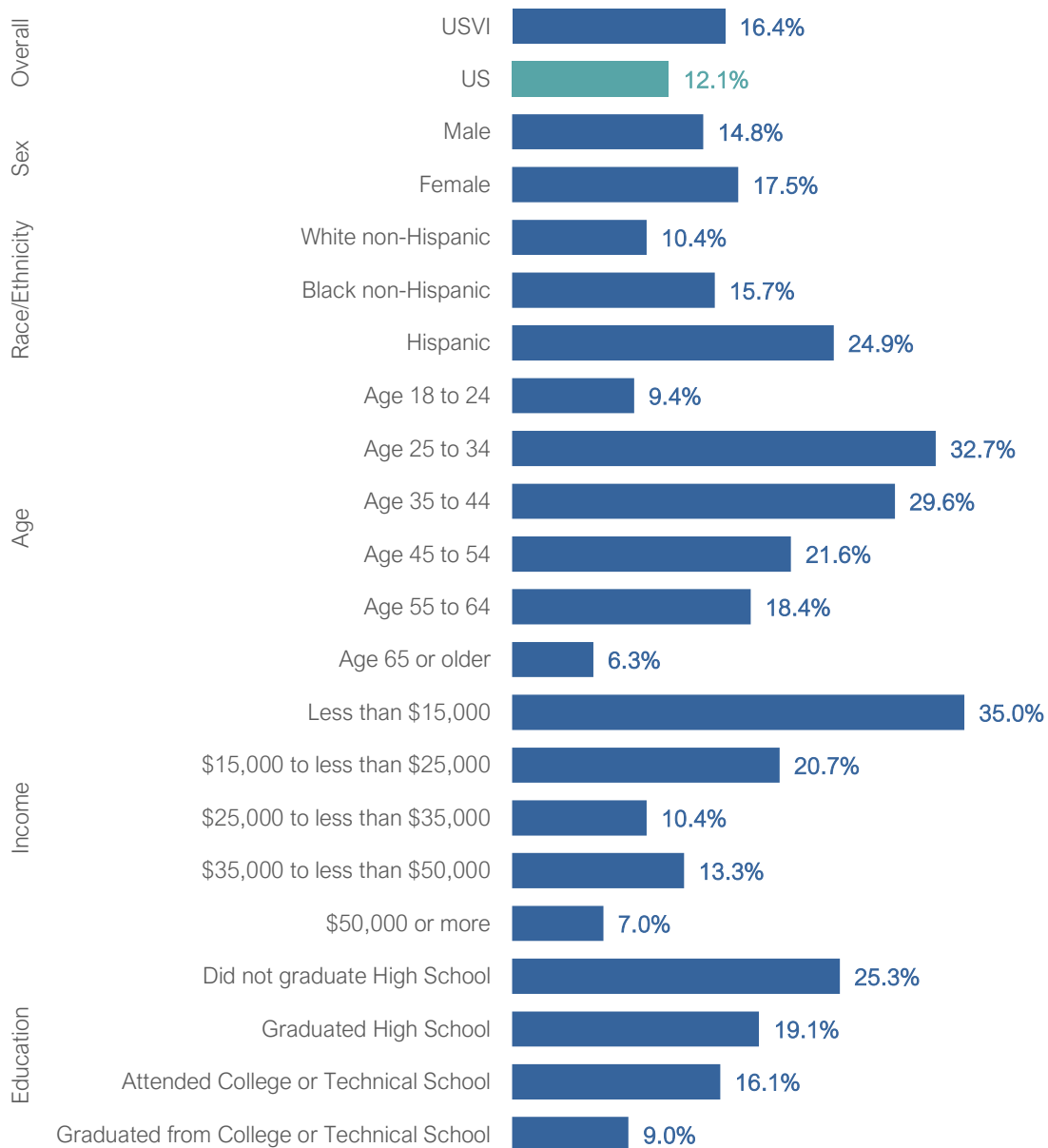


SOURCE | CDC, Behavioral Risk Factor Surveillance System

Delayed Medical Care

A minority of USVI adults reported that they have had to delay medical care because of cost. In 2016, 16.4% of USVI adults reported delaying medical care compared to 12.1% of U.S. adults (Figure 2.5). The percent of adults reporting delayed medical care was highest for residents who were female, Black, non-Hispanic or Hispanic, age 25 to 34, lower income, and with less education.

Figure 2.5 | **USVI Adults Who Delayed Care Because of Cost in the Past Year, 2016**



SOURCE | CDC, Behavioral Risk Factor Surveillance System

Community Health Services and Outreach

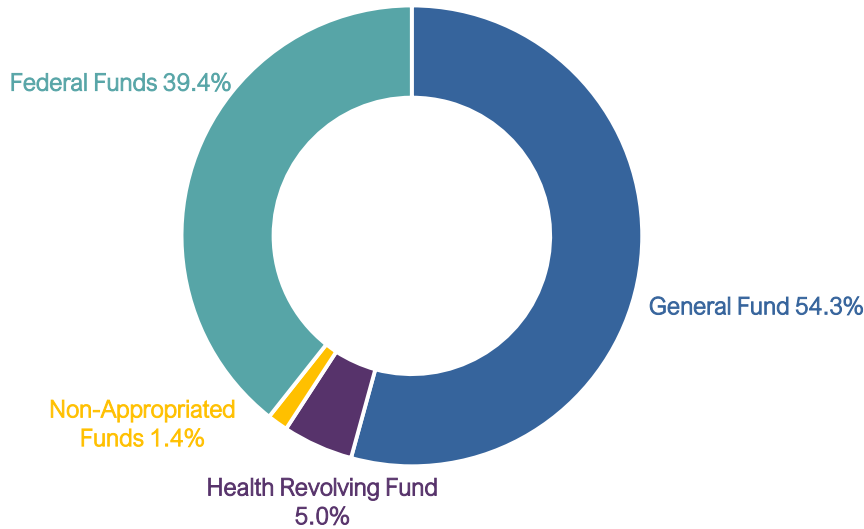
During fiscal year 2018-2019, approximately 6,000 clients were seen in the community health clinics on St. Croix. As of April 30, 2019, when the community health clinic began administration of adult vaccines, approximately 72 clients were served. Clinic staff responded to seven requests for outreach services through the mobile health van, reaching approximately 500 individuals. Additionally, during the 2018 and 2019 agricultural fairs, over 700 individuals were screened, for a total of approximately 7,272 individuals being screened both in clinic and at outreach events.

Funding & Workforce

Funding

The USVI DOH is funded by both territorial and federal sources. In fiscal year 2020, the USVI DOH proposed a \$ 51,591,446 budget, 39.4% of which included federal funds (Figure 2.6).

Figure 2.6 | **Sources of USVI Department of Health Funding, Proposed Fiscal Year 2020 Budget**



SOURCE | USVI Department of Health

Public Health Workforce

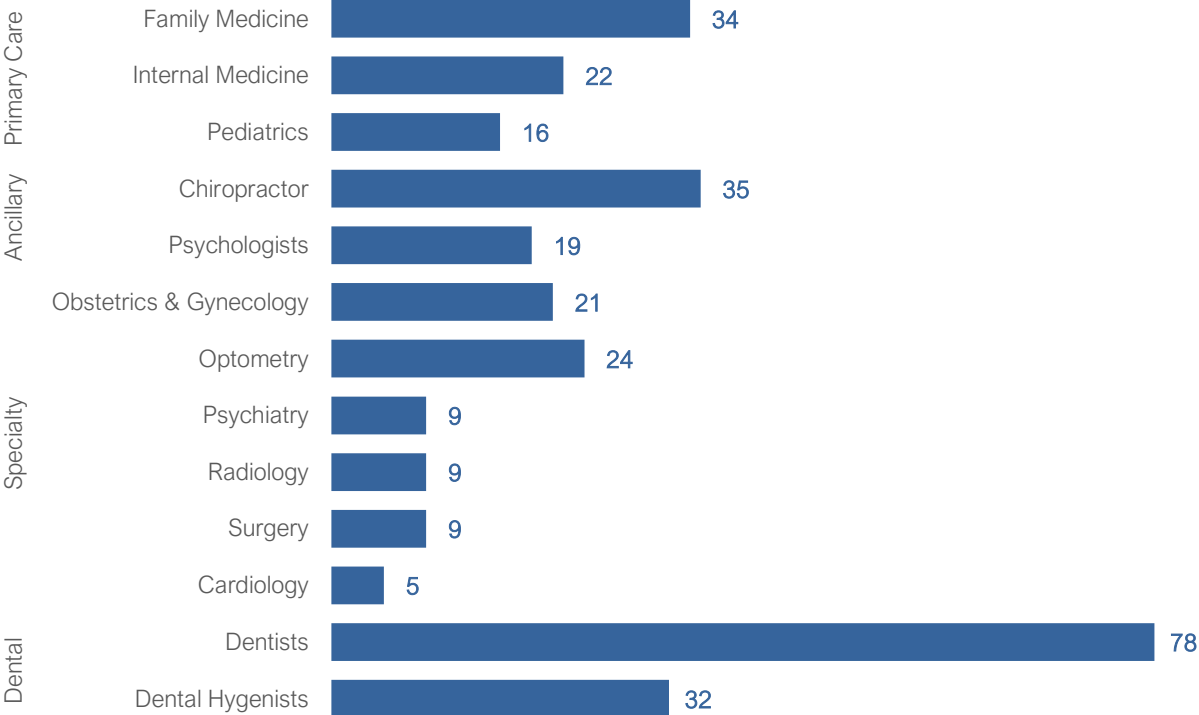
Maintaining a trained public health workforce is an ongoing challenge for many of our nation's public health departments. The DOH's Fiscal Year 2020 Budget included 401 funded positions, and 235 of those positions are funded by the territorial government. Forty-two percent of territory-funded positions are vacant as of the writing of this report. In addition, just over 30% of DOH's 165 federally funded positions are vacant. Turnover due to resignations, retirements, and transfers to other agencies have driven vacancies. Long-term vacancies have the potential to affect the agency's capacity to provide core public health services such as communicable disease prevention, treatment and surveillance.

Health Care Workforce

Before September 2017, the U.S. Health Resources and Services Administration (HRSA) designated the U.S. Virgin Islands as a Geographic High Needs Health Professional Shortage Area (HPSA), indicating a shortage of health providers and services. Currently, the USVI is served by a number of

health care professionals including 72 primary care providers (Figure 2.7). There are 78 dentists and 32 dental hygienists licensed in the USVI.

Figure 2.7 | **Number of USVI Health Care Professionals by Specialty, 2019**



SOURCE | USVI Department of Health



CHAPTER 3

Population Characteristics

POPULATION CHANGE | DEMOGRAPHIC IDENTITY
SOCIOECONOMIC POSITION

USVI Community Health Assessment 2020

Population Characteristics

Five Things You Should Know in 2020

- 1 The number of USVI residents peaked at 108,642 in 2000 but **declined** to an estimated 106,631 residents (-1.9%) by 2019.
- 2 The **median age** of USVI residents **increased** by 34.0%, from 28.2 years in 1990 to 37.8 years in 2015, following the national trend.
- 3 The number of **Black residents decreased** from 90,758 in 2005 to 80,559 in 2015, an 11.2% decrease.
- 4 The overall **unemployment rate** almost **doubled** from 5.8% in 2008 to 9.9% in 2018.
- 5 A majority of our residents had a **high school education** or more (70.2%) in 2015 compared to 87.1% of U.S. adults.

USVI By the Numbers

4	Number of major inhabited islands	3 in 4	Hispanics who identify as Black Hispanic
↓11.2%	Amount the Black population has decreased between 2005 - 2015	14.8%	People whose primary language is Spanish
792.2	Number of people per square mile	49.9%	People who were born in USVI
37.8	Median age in 2015	9.9%	Unemployment rate in 2018

For More Information

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USVI Department of Health

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Population Characteristics

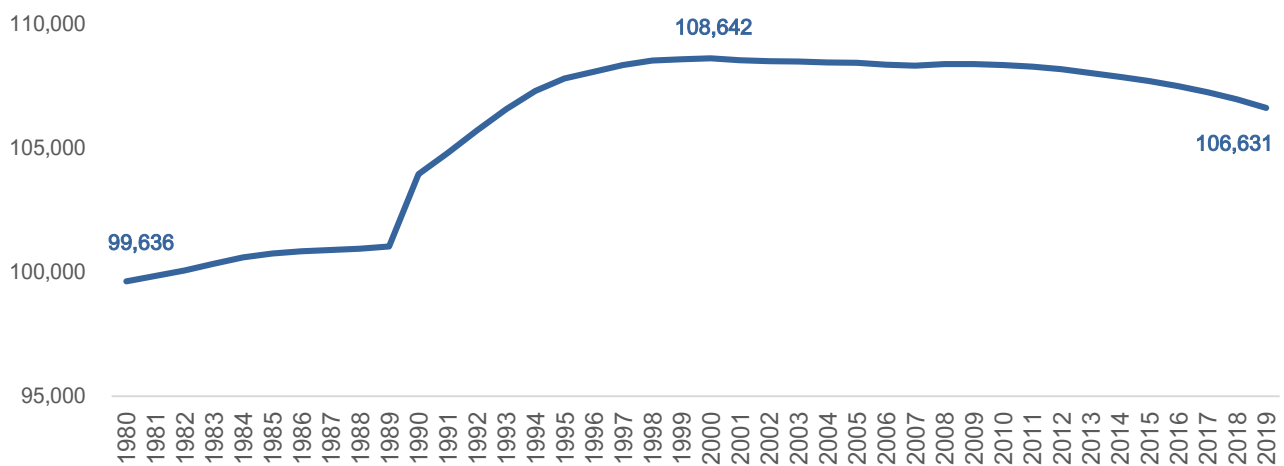
The health of a place is defined by the **character of its people** and the spirit of that people in the face of challenges. The people of the United States Virgin Islands are in a state of recovery following two Category 5 hurricanes, but we are striving to thrive and move into the future. This chapter defines **our basics**—our number, our demographic identities, and our socioeconomic position. It is a beginning to understanding who we are, our resiliency, and our potential for a bright future.

Population Change

Population Size

The residential population of the U.S. Virgin Islands has changed in number over the course of the last thirty years. The USVI population has occasionally been affected by the occurrence of natural disasters and other significant historical events. Since 1980, there has been a 7.0% overall increase in the USVI population size. There was a 9.0% increase in population alone between 1980 – 2000 despite the devastation caused by Hurricane Hugo in 1989 (**Figure 3.1**). The number of USVI residents peaked at 108,642 in 2000 but declined to an estimated 106,631 residents (-1.9%) by 2019. This decrease in population after 2000 occurred after two major events in USVI history: the closure of the St. Croix Hovensa-owned refinery in early 2012 and Hurricanes Irma and Maria in late 2017.

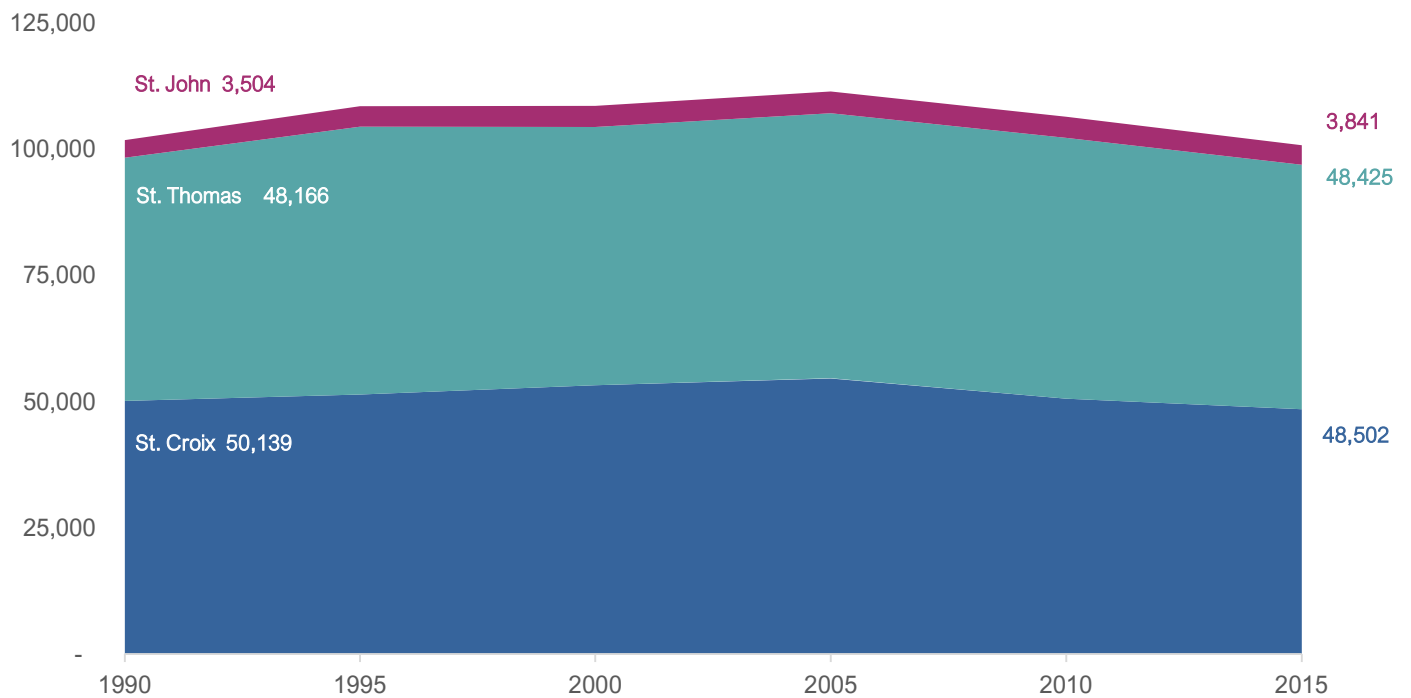
Figure 3.1 | **Estimated Number of USVI Residents, 1980-2019**



SOURCE | U.S. Census Bureau, International Data Base

Following overall population trends, the number of residents living on each island has remained consistent over the last several decades. St. Croix, which at 84.17 square miles is the largest of the USVI’s four main islands, is home to almost half of all residents with an estimated 48,502 residents living there in 2015 (Figure 3.2). St. Thomas is physically smaller than St. Croix (32.00 square miles) but has a similar number of residents (48,425 in 2015). At 19.61 square miles, St. John had an estimated 3,841 residents in 2015. Water Island, the youngest of the USVI’s four islands having been transferred to the local government in December 1996, is also the smallest island at just 491.5 acres and a population of fewer than 200 people.

Figure 3.2 | **Estimated Number of USVI Residents by Island, 1990-2015**

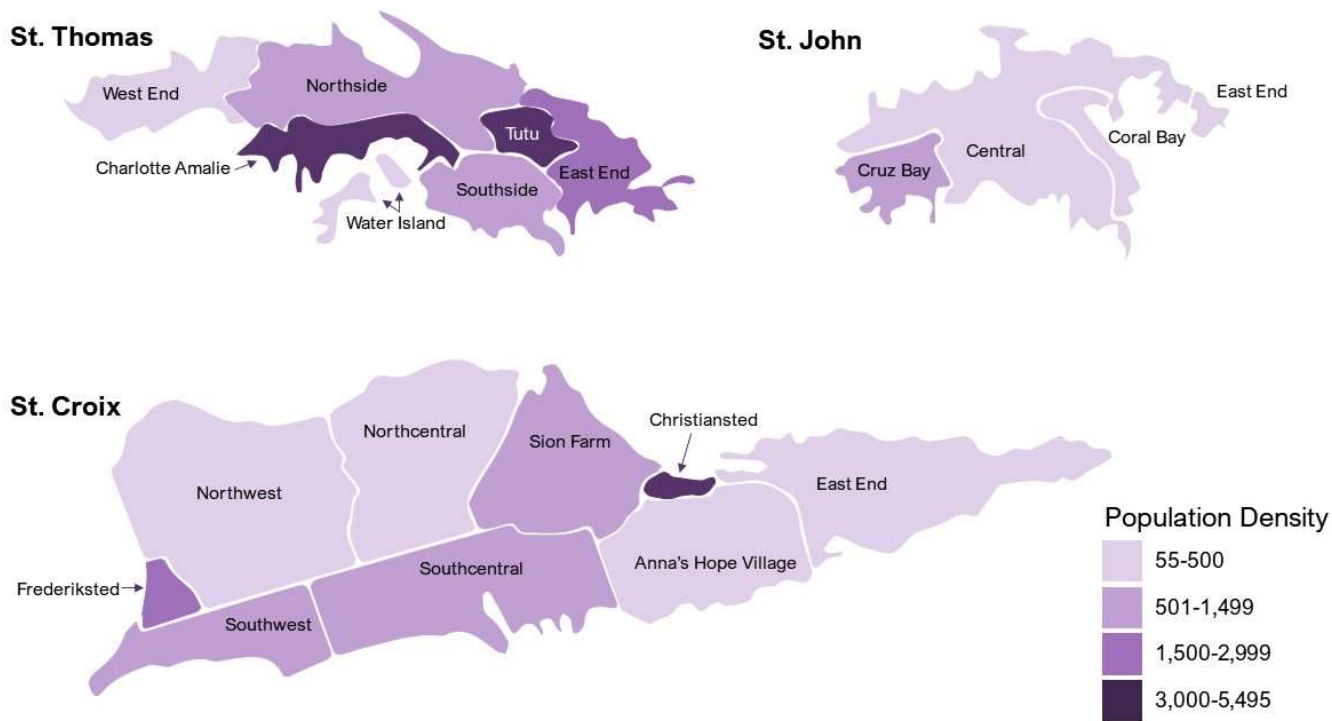


SOURCE | Virgin Islands Community Survey, Eastern Caribbean Center

Population Density

In 2010, the USVI had an overall population density of 792.2 people per square mile, with 53.4% of residents living in rural settings. The most populated city is the capital city of Charlotte Amalie on St. Thomas with an estimated 10,354 residents in 2010. St. Thomas Island had the highest population density among the four islands, at 1,649.1 people per square mile in 2010 (Figure 3.3). Between 2000 – 2010, the population of St. Thomas’ Northside subdistrict increased by 15.3% while the Tutu subdistrict decreased in population by 16.2%. During the same time period, all subdistricts in St. Croix and St. John decreased in population except St. Croix’s East End subdistrict (+4.8%) and St. John’s Central subdistrict (+4.4%).

Figure 3.3 | **Population Density by USVI Subdistrict, 2010**



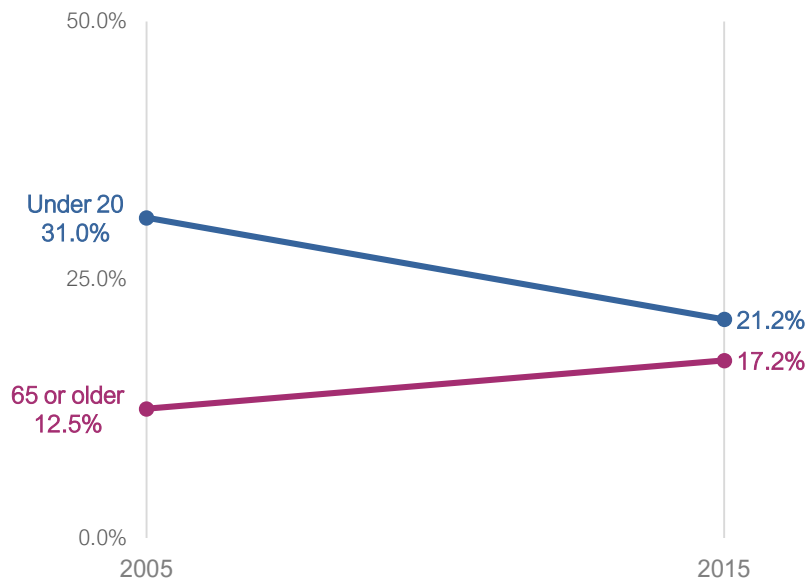
SOURCE | U.S. Census Bureau, American Community Survey

Demographic Identity

Age and Sex

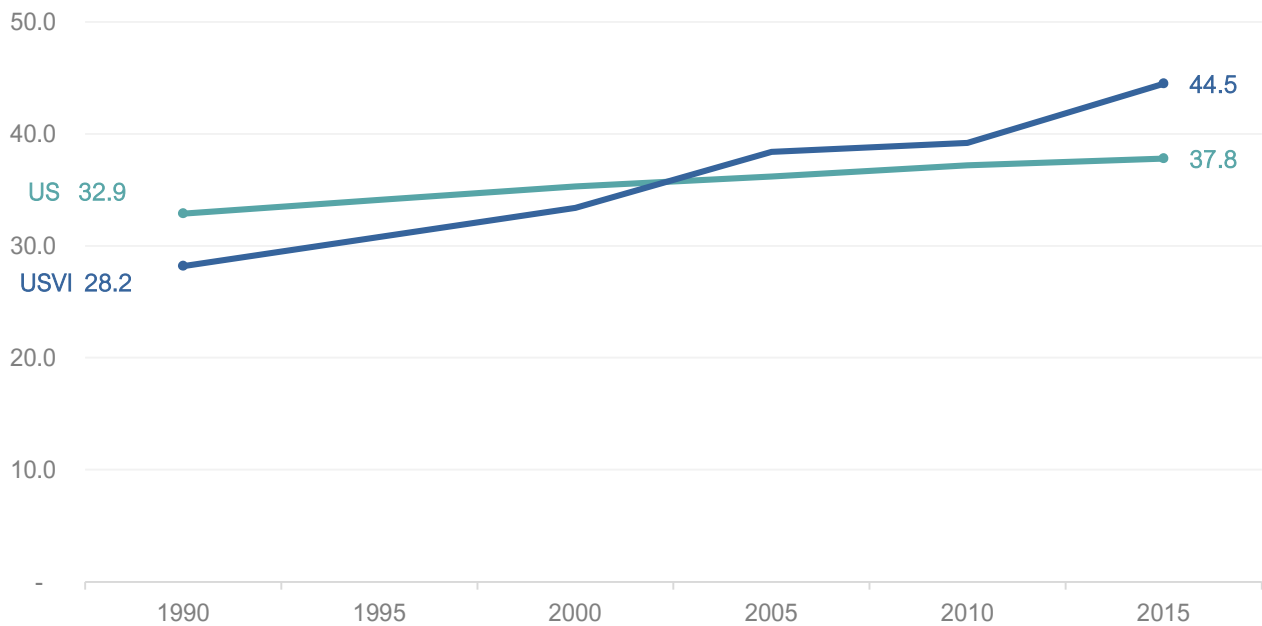
Our population has become increasingly older. Over the past decade, the percent of individuals who are age 65 and older increased by 37.6% (from 12.5% in 2005 to 17.2% in 2015) while the percent of children and young adults (under 20) decreased by 31.6% (from 31.0% in 2005 to 21.2% in 2015) (Figure 3.4). The median age of USVI residents increased by 34.0%, from 28.2 years in 1990 to 37.8 years in 2015, following the national trend but more quickly (Figure 3.5). The distribution of age in the USVI population in 2019 was similar between males and females (Figure 3.6).

Figure 3.4 | **Number of USVI Residents Under 20 Years v. 65 Years and Older, 2005 v. 2015**



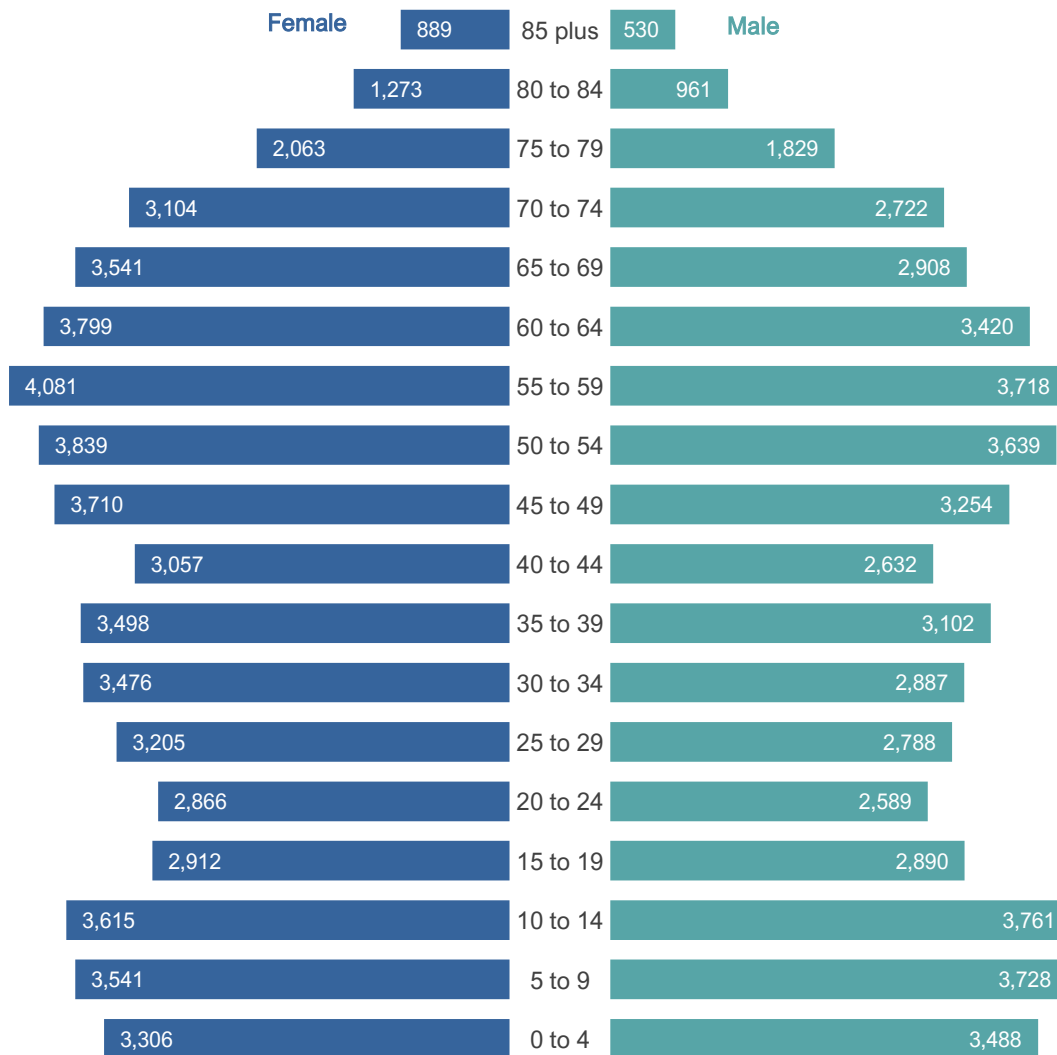
SOURCE | Virgin Islands Community Survey, Eastern Caribbean Center

Figure 3.5 | **USVI Resident Median Age, 1990-2015**



SOURCE | Virgin Islands Community Survey, Eastern Caribbean Center

Figure 3.6 | **Estimated Number of USVI Residents by Age Group, 2019**

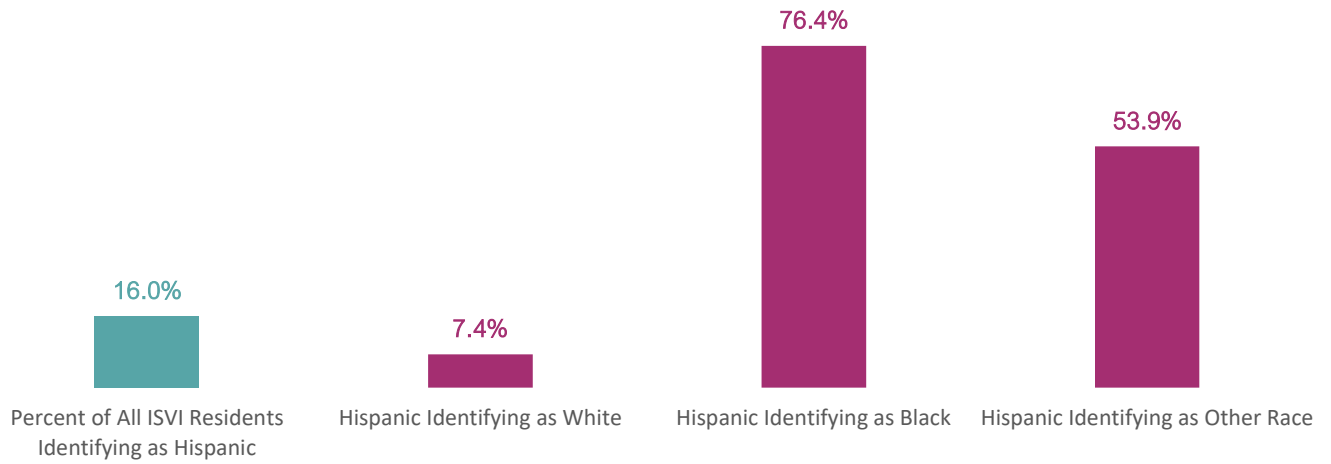


SOURCE | U.S. Census Bureau, International Data Base

Race and Ethnicity

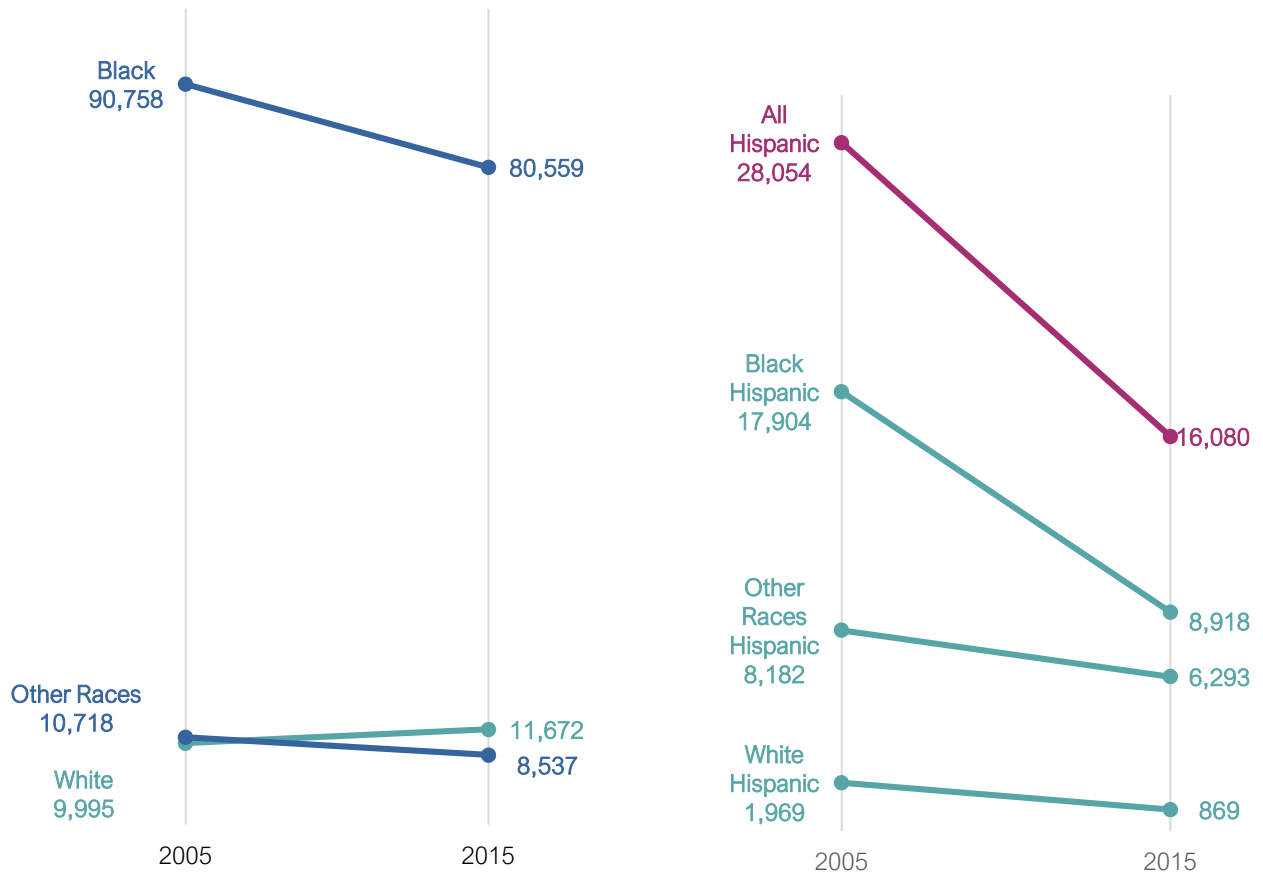
The USVI has a racially diverse population. A large majority of our residents identify as Black (79.9%) followed by 11.6% White and 8.5% Other (data not shown). One in five (16.0%) residents identifies as Hispanic, and three in four Hispanics (76.4%) report they are of Black race (**Figure 3.7**). The number of Black residents decreased from 90,758 in 2005 to 80,559 in 2015, an 11.2% decrease (**Figure 3.8**).

Figure 3.7 | **Percent of USVI Residents Identifying as Hispanic by Race, 2015**



SOURCE | Virgin Islands Community Survey, Eastern Caribbean Center

Figure 3.8 | **Estimated Number of USVI Residents by Race or Ethnicity, 2005 v. 2015**

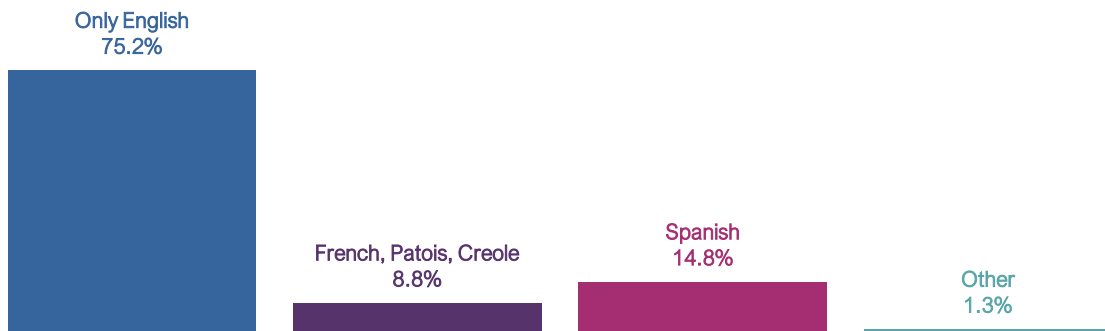


SOURCE | Virgin Islands Community Survey, Eastern Caribbean Center

Primary Language

Most USVI residents speak English as a primary language, but there is a growing number of residents who speak other languages. In 2015, 75.2% of our population spoke English as their primary language in the home (Figure 3.9). The percent of residents who speak Spanish as their primary language was 14.8%.

Figure 3.9 | **Percent of USVI Residents by Primary Language, 2015**



SOURCE | Virgin Islands Community Survey, Eastern Caribbean Center

Nativity

About half of USVI residents were born here. In 2015, 49.9% of the population was born in the USVI, 9% were born on mainland US, 4.4% were born in Puerto Rico, and 34.3% were born in another part of the Caribbean (Figure 3.10). Only 2% of residents were born outside of the United States and Caribbean. St. Thomas and St. John had a higher percent of residents from other places in the Caribbean than St. Croix.

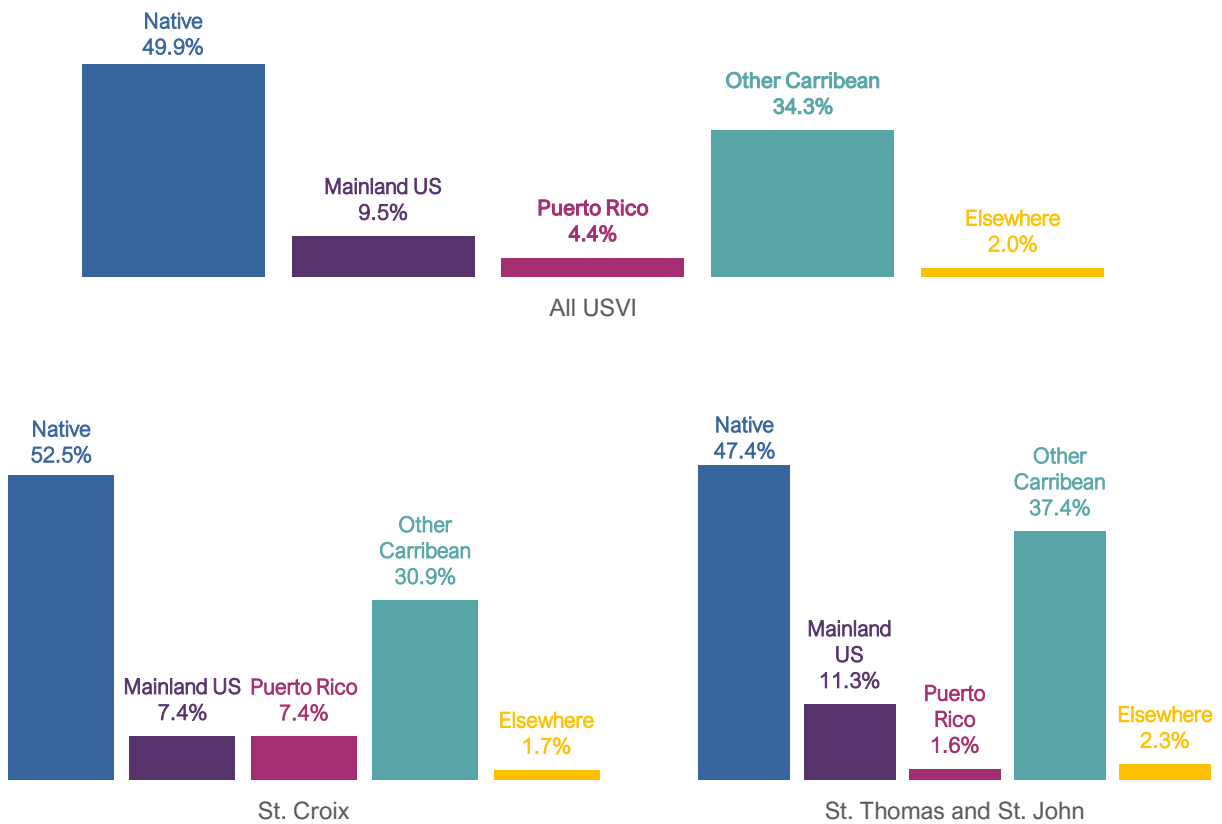
Socioeconomic Position

Unemployment

The economic outlook in the USVI shifted dramatically in the aftermath of the September 2017 Category 5 Hurricanes Irma and Maria. For example, air arrivals decreased from 771,517 in 2017 to 385,959, a 50% loss. Changes in tourism stemming from the hurricanes, along with a general downward trend in the economy, have had an impact on the service industry, which is the largest source of private sector employment in the USVI.

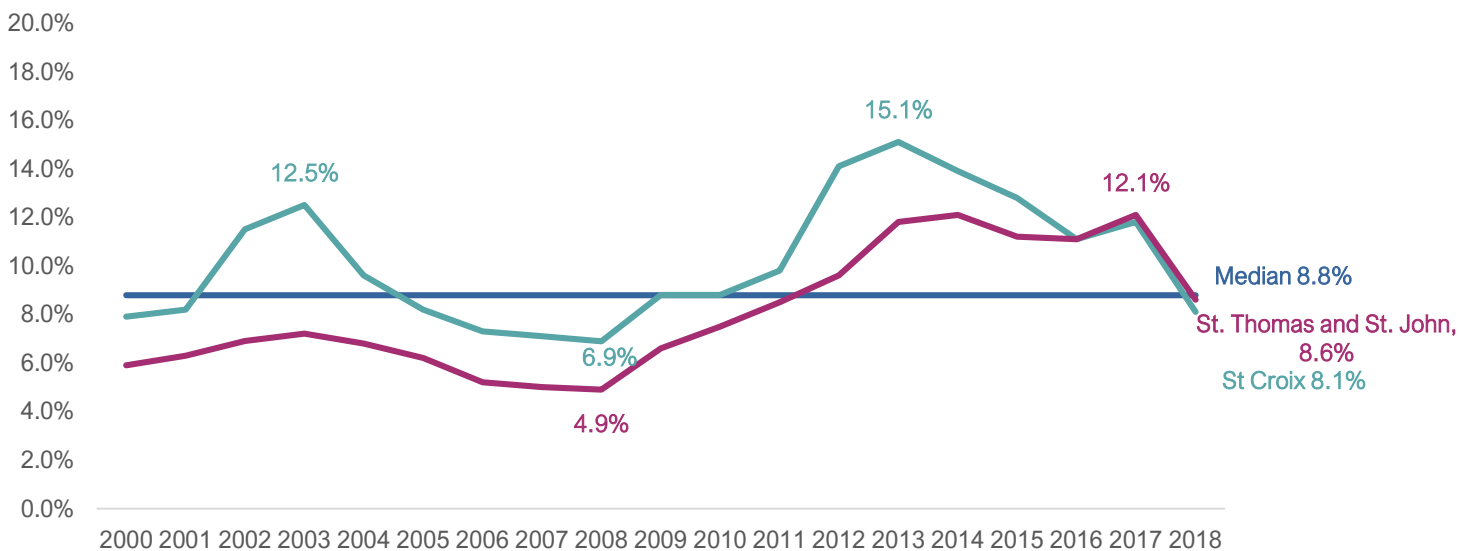
The overall unemployment rate almost doubled from 5.8% in 2008 to 9.9% in 2018 (Figure 3.11). Compared to 2018, unemployment has increased over a low of 2.8% in 1990. The unemployment rates by island district have been consistent over the past decade, and historically the rate has been higher in St. Croix.

Figure 3.10 | **Percent of USVI Residents by Place of Birth, 2015**



SOURCE | Virgin Islands Community Survey, Eastern Caribbean Center

Figure 3.11 | **Percent of Unemployed Adult USVI Residents by Island District, 2000-2018**

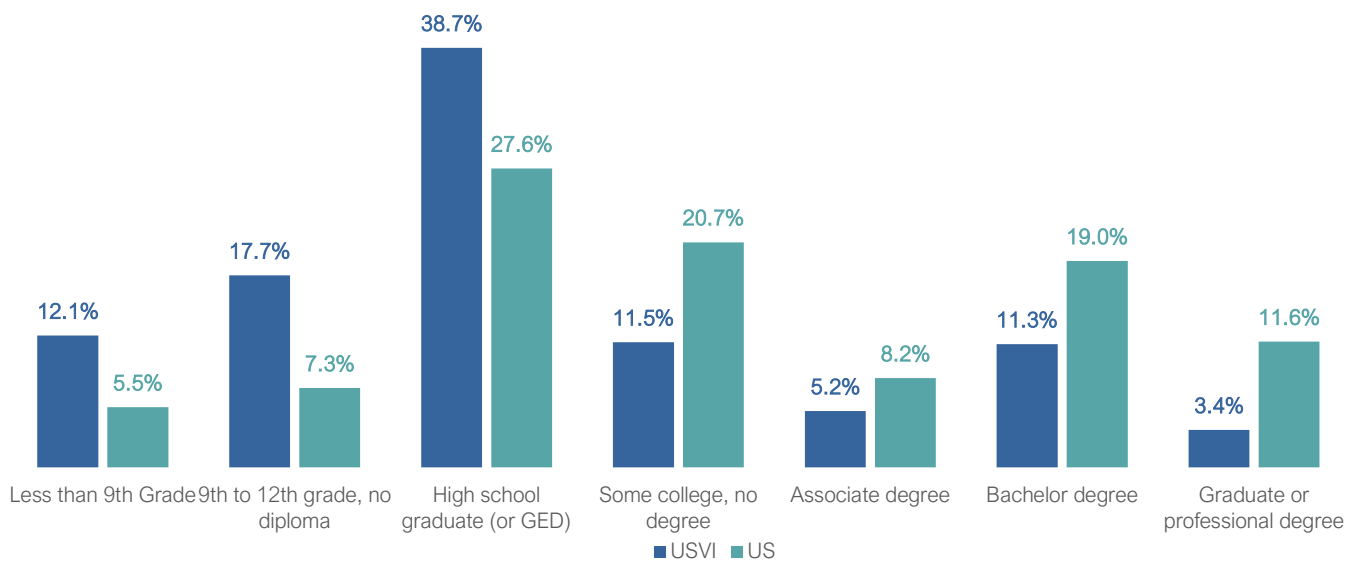


SOURCE | USVI Office of the Governor, Bureau of Economic Research

Educational Attainment

A person's education is a major determinant of future health. The majority of residents had a high school education or more (70.2%) in 2015 compared to 87.1% of U.S. adults (**Figure 3.12**). Some USVI adults have pursued higher education and 20.0% have obtained a degree: 5.2% earned an Associate's degree, 11.3% earned a Bachelor's degree, and 3.4% earned a graduate or professional degree.

Figure 3.12 | **Percent of USVI Adults by Educational Attainment, 2015**



SOURCE | Virgin Islands Community Survey, Eastern Caribbean Center

Looking Ahead

USVI residents are a diverse people who have experienced a lot of change, both environmentally and economically, over the past decade. The closure of the Hovensa-owned refinery and the impact of Hurricanes Irma and Maria are reflected in the decline in population. The doubling of unemployment in the past 15 years is a worrisome trend that could have many health ramifications. While a majority of residents are high school graduates, 30% are not. Education, along with income, are major social determinants of health that have long-lasting consequences. In addition, an aging population means that the health needs of residents will shift toward a higher burden of chronic disease.

The USVI DOH examined population characteristics using some data that pre-dates the recent hurricanes and economic changes. Having more current census data and additional information, such as the housing people live in and their transportation needs, would be helpful in developing a stronger foundation for improvement.



CHAPTER 4

Births & Reproductive Health

FERTILITY & BIRTHS | HEALTHY PREGNANCY | DELIVERIES & BIRTH OUTCOMES

USVI Community Health Assessment 2020

Births & Reproductive Health

Five Things You Should Know in 2020

- 1 USVI birth rates are decreasing in every age group except women aged 30 to 34.
- 2 The percentage of pregnant women who initiate prenatal care in the first trimester decreased from 78.5% in 2015 to 63.2% in 2017.
- 3 Preterm births are trending downward from 15.2% in 2006 to 10.2% in 2016.
- 4 Black, non-Hispanic mothers in the USVI have a higher rate of delivering low birthweight babies than average, but the disparity is not as wide as the national average.
- 5 Infant mortality is low, with 56 infant deaths occurring between 2010 - 2017, and a majority caused by extreme prematurity.

USVI By the Numbers

↓21.0%	Fertility rate between 2006 - 2016	↓29.0%	Birth rate between 2006 - 2016
3 in 4	Births to unmarried women in 2016	↓48.8%	Teen birth rate between 2006 - 2016
↓18.9%	First trimester prenatal care initiation between 2006 - 2016	26.9%	Babies delivered by caesarean section in 2016
976	Number of deliveries to USVI women in 2018	↓34.6%	Percentage of preterm births between 2006 - 2016
9	Average number of infant deaths per year between 2010 - 2017	0	Number of maternal deaths between 2015 - 2018

For More Information

Visit doh.vi.gov

USVI 2020 Community Health Assessment

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Births & Reproductive Health

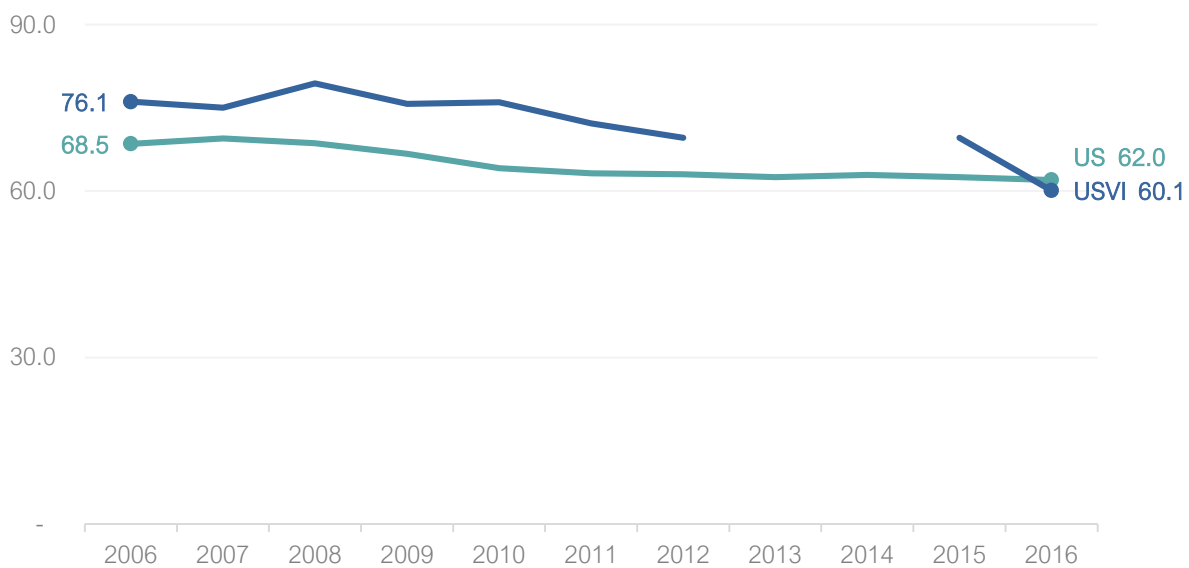
The health of a community can be measured by the health of its mothers and the children they bear. Healthy communities promote healthy pregnancies supported by timely prenatal care and access to appropriate obstetric intervention to minimize pregnancy and delivery complications. Public health departments monitor poor birth outcomes such as preterm birth, low birthweight, and maternal and infant mortality to assess how well we care for and support women as they become mothers. In this chapter, we describe our maternal and infant health—the USVI’s foundation for a healthy future.

Fertility & Births

Fertility Rate

The overall fertility rate among USVI women aged 15 to 44 has decreased over the past decade, decreasing from 76.1 births per 1,000 women in 2006 to 60.1 births per 1,000 women in 2016 (Figure 4.1). This ten-year 21.0% decrease in fertility rate follows the national trend.

Figure 4.1 | Number of Births per 1,000 USVI Women Aged 15 to 44, 2006-2016



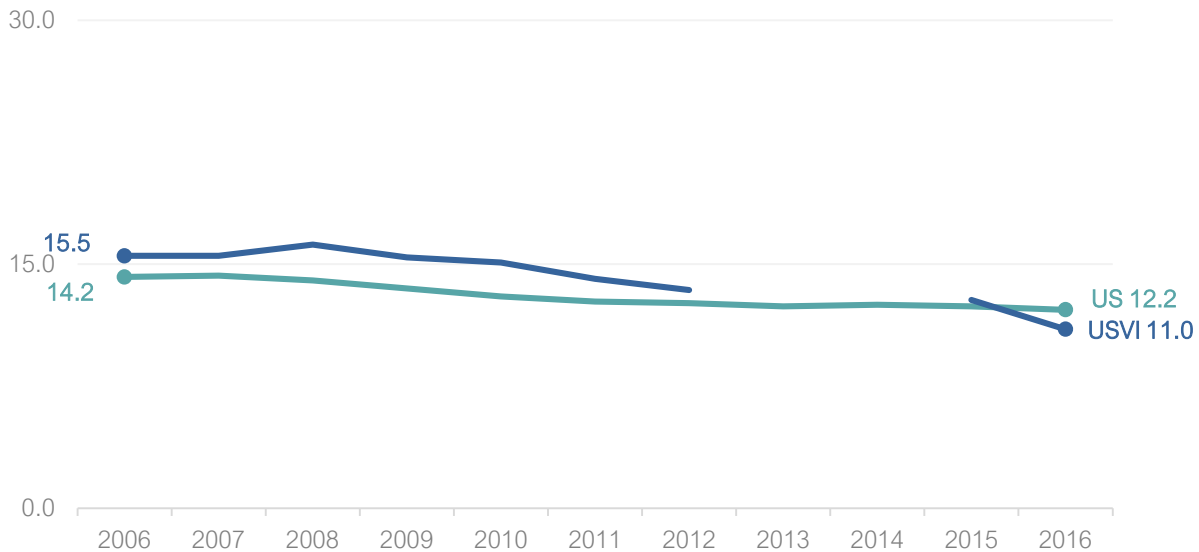
SOURCE | National Center for Health Statistics, National Vital Statistics System, Natality

NOTE | Vital statistics information for the USVI is not available for 2013 and 2014.

Birth Rate

In 2018, 976 babies were delivered in USVI health care facilities, with 15 of those infants transferred to facilities outside of the USVI due to severe prematurity or pregnancy complications (data not shown). The overall birth rate in the USVI is similar to the U.S. rate, which is decreasing but stagnant. In the ten-year period between 2006 – 2016, the birth rate in the USVI declined by 29.0% from 15.5 live births per 1,000 women to 11.0 live births per 1,000 women (Figure 4.2).

Figure 4.2 | **Number of Live Births per 1,000 USVI Women, 2006-2016**

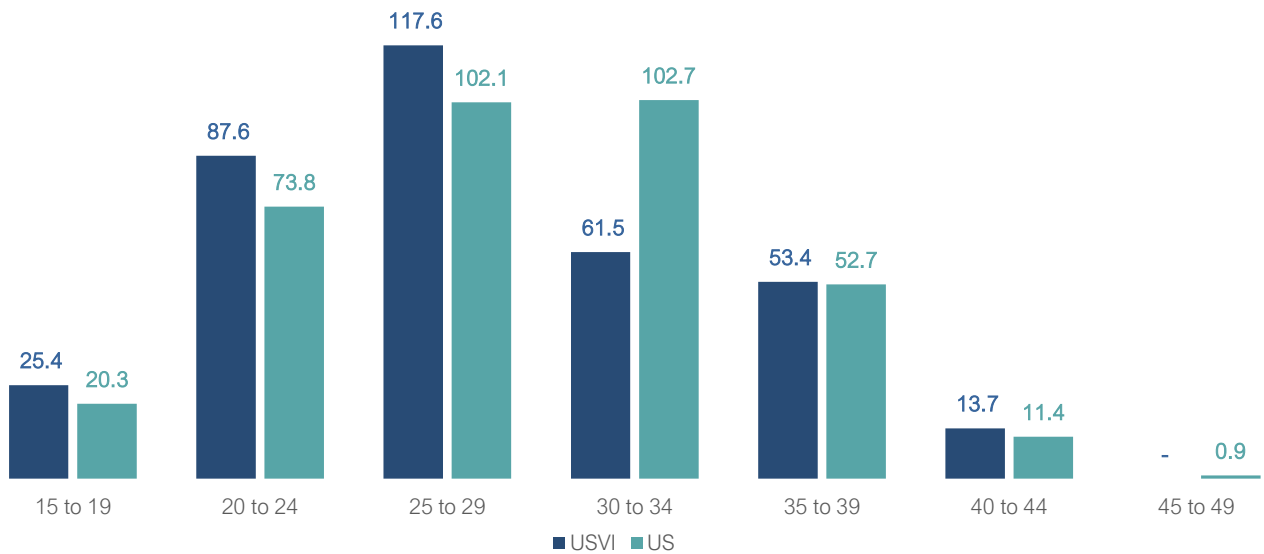


SOURCE | National Center for Health Statistics, National Vital Statistics System, Natality

NOTE | Vital statistics information for the USVI is not available for 2013 and 2014.

In the USVI, the majority of live births occur to mothers who are age 25 to 29 years with a rate of 117.6 live births per 1,000 women in 2016 (Figure 4.3). In the United States during the same year, the highest birth rate occurred for women who were age 30 to 34, with a rate of 102.7 live births per 1,000 women. Overall birth rate is either flat or trending downward for all age groups except women age 35 to 39 (Figure 4.4).

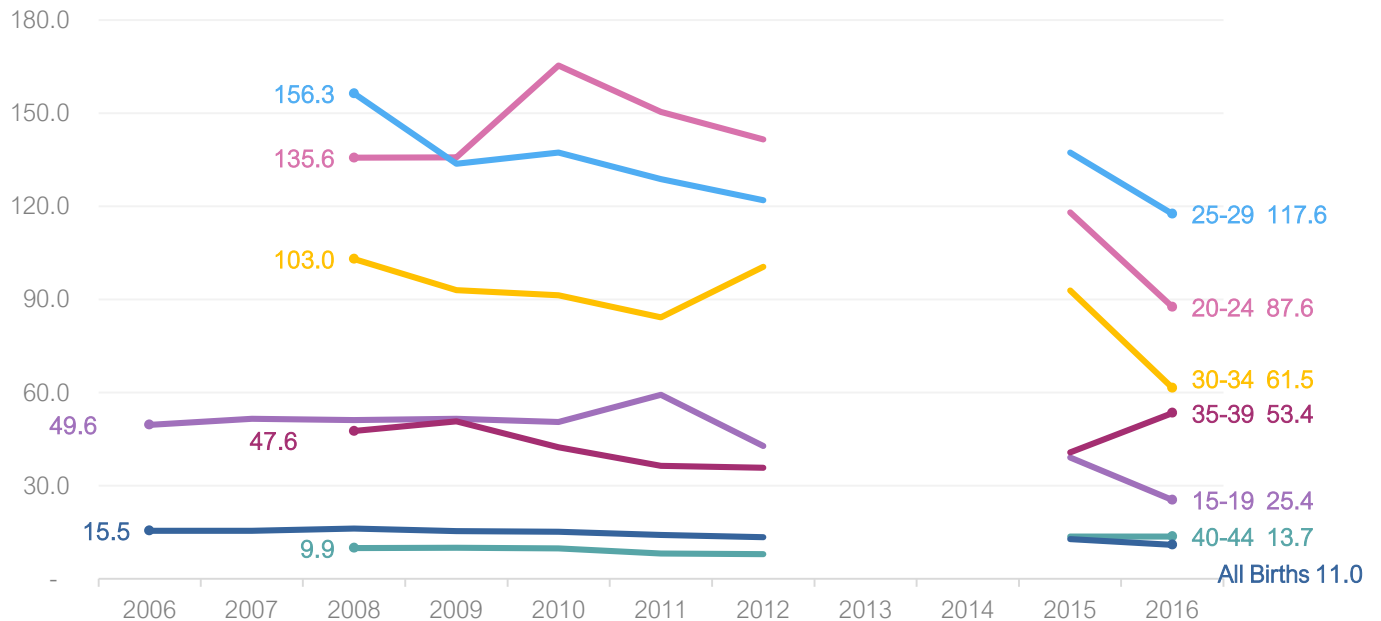
Figure 4.3 | **Number of Live Births per 1,000 USVI Women by Maternal Age, 2016**



SOURCE | National Center for Health Statistics, National Vital Statistics System, Natality

NOTE | Births among mothers older than 44 is not presented due to the small number of cases.

Figure 4.4 | **Number of Live Births per 1,000 USVI Women by Maternal Age, 2006-2016**

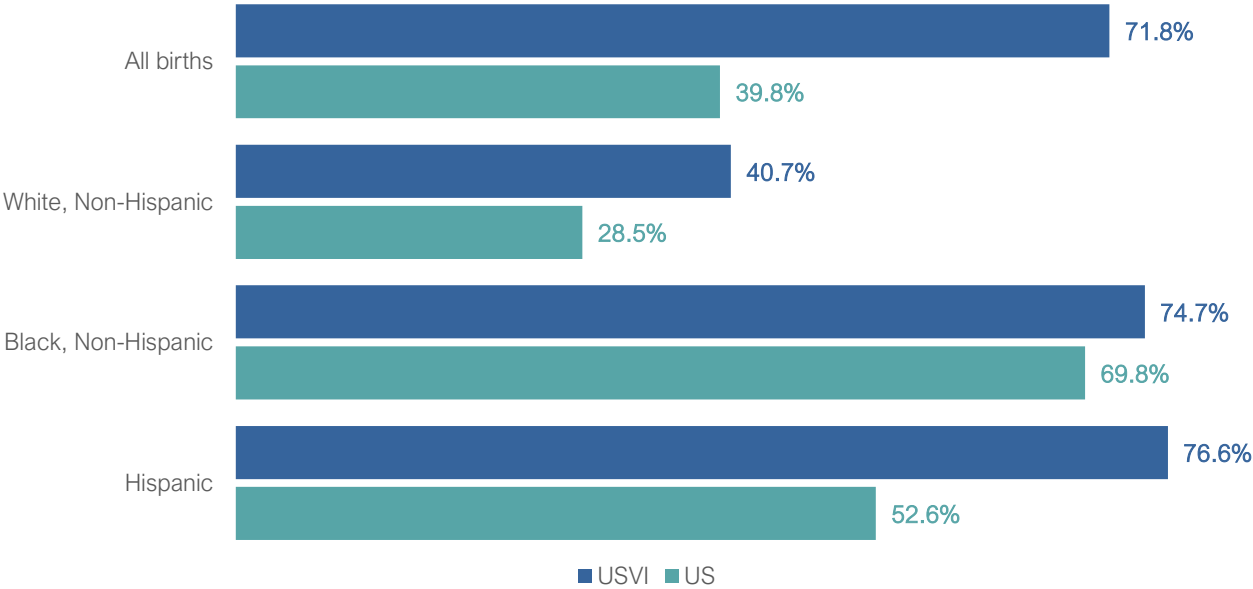


SOURCE | National Center for Health Statistics, National Vital Statistics System, Natality

NOTE | Births among mothers older than 44 is not presented due to the small number of cases; Vital statistics information for the USVI is not available for 2013 and 2014.

Almost three in four live births that occur in USVI health care facilities occur to women who are unmarried (71.8% of live births in 2016) (Figure 4.5). This percentage is dramatically higher than the U.S. level, which was 39.8% in 2016. The disparity between the USVI and U.S. proportions of live births attributed to unmarried mothers occurs in mothers of all races and ethnicities. The largest difference is in Hispanic unmarried mothers, who accounted for 76.6% of live births by women who are unmarried in the USVI 2016 in contrast to 52.6% of live births nationally. The smallest difference is in the percent of live births to Black, non-Hispanic women in the USVI, who are similar to the national level (74.7% in the USVI versus 69.8% nationally).

Figure 4.5 | **Percent of USVI Live Births to Unmarried Women by Race/Ethnicity, 2016**

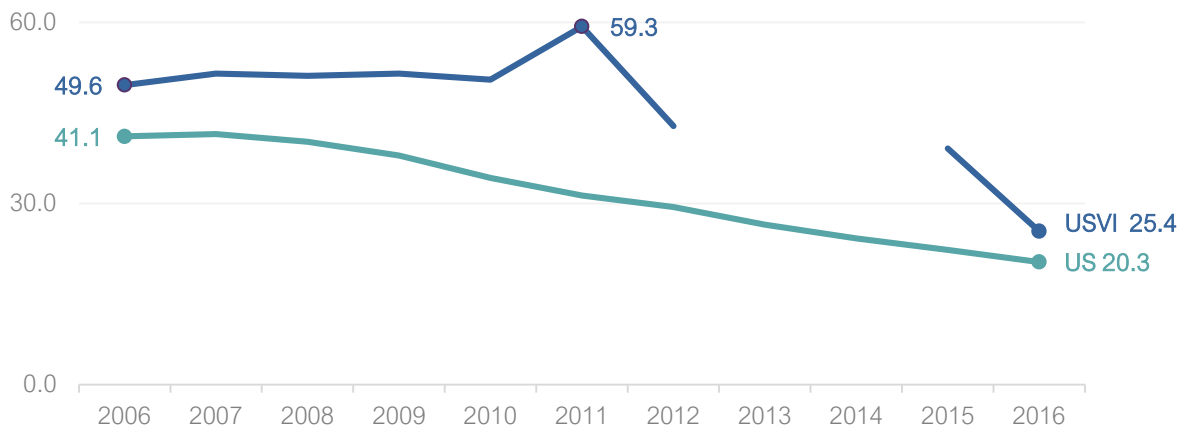


SOURCE | National Center for Health Statistics, National Vital Statistics System, Natality

Teen Birth Rate

The teen birth rate in the USVI is trending downward after trending upward from 2006 to a high point in 2011 of 59.3 live births per 1,000 women aged 15 to 19 (Figure 4.6). Overall, live births occurring to women aged 15 to 19 decreased by 48.8% in the USVI from 2006 to 2016—from 49.6 to 25.4 live births per 1,000 women aged 15 to 19. While the number of births occurring to teen mothers is higher in the USVI than in the United States overall, the USVI trend in teen birth is going in the same downward direction as the national trend.

Figure 4.6 | **Number of Live Births per 1,000 USVI Women Aged 15 to 19, 2006-2016**



SOURCE | National Center for Health Statistics, National Vital Statistics System, Natality

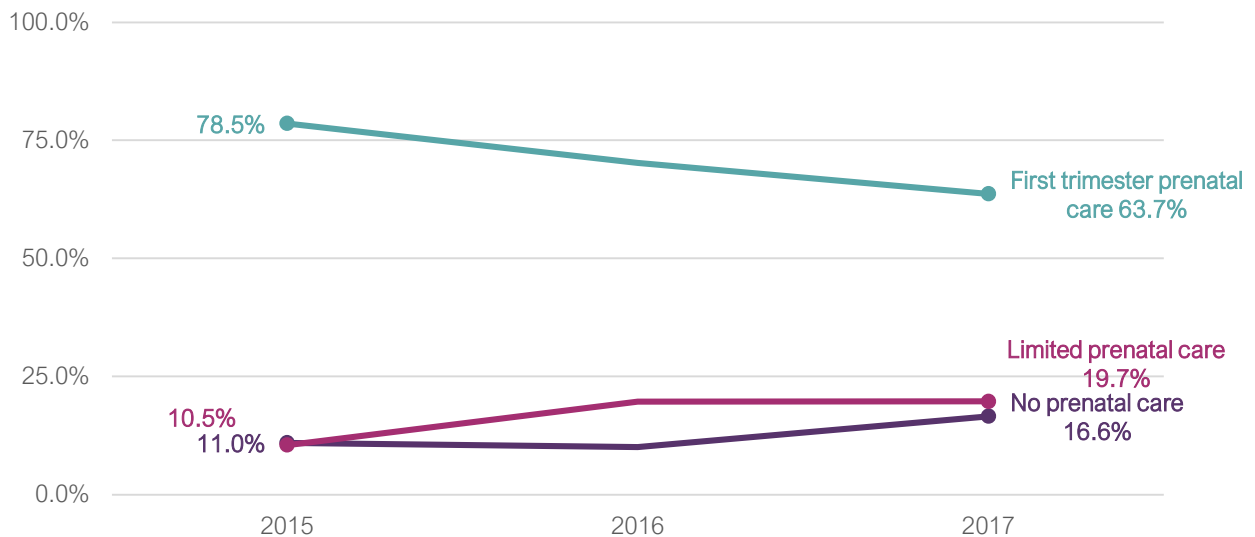
NOTE | Vital statistics information for the USVI is not available for 2013 and 2014.

Healthy Pregnancy

Prenatal Care

Most pregnant women in the USVI initiate prenatal care in the first trimester, but the percent of pregnant women who do so has declined by 18.9% from 78.5% in 2015 to 63.7% in 2017 (Figure 4.7). At the same time, the percent of pregnant women with no prenatal care has increased — up 33.3% from 11.0% of pregnant women in 2015 to 16.6% of pregnant women in 2017.

Figure 4.7 | **Percent of USVI Women with Prenatal Care, 2015-2017**



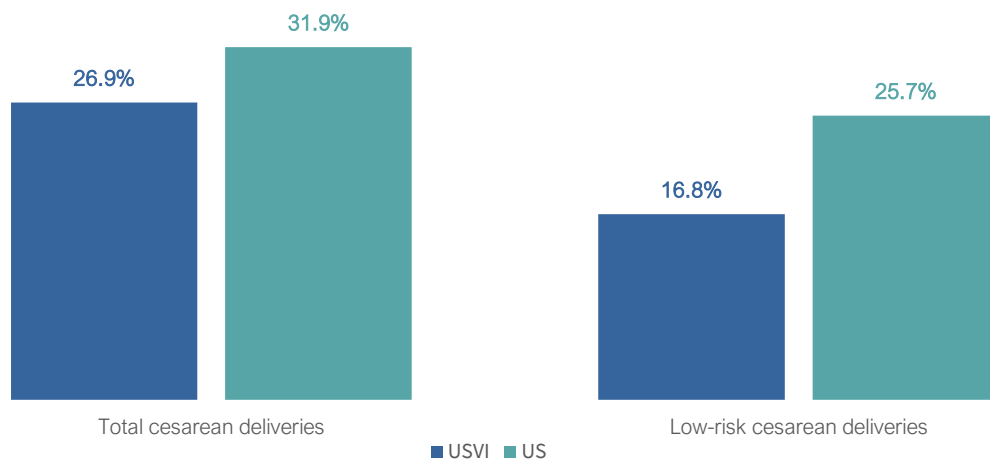
SOURCE | USVI Department of Health, Maternal and Child Health Program

Deliveries & Birth Outcomes

Caesarean Sections

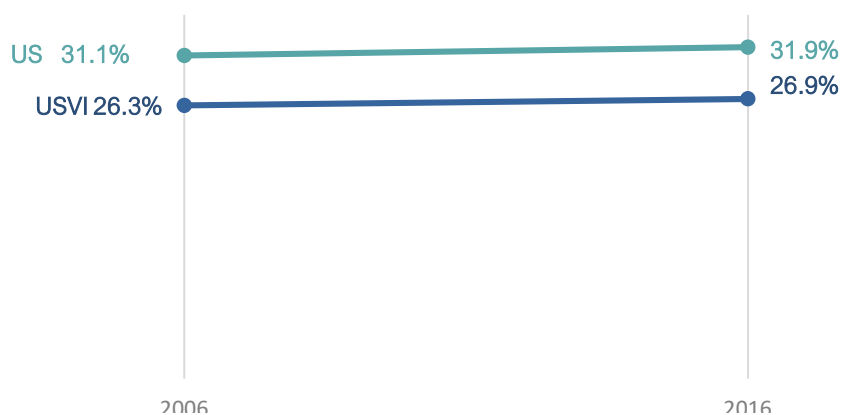
A lower percent of USVI women deliver their babies via caesarean section than U.S. women, regardless of risk level. In 2016, 16.8% of caesarean section deliveries to USVI women were low risk compared to 25.7% of U.S. women overall (Figure 4.8). The trend in percent of USVI women having caesarean sections was flat between 2006 – 2016, as was the national trend (Figure 4.9). In 2018, the percent of deliveries in the USVI occurring through cesarean section was 33.0%. Hispanic mothers had the highest percent of caesarean section deliveries in 2016 (29.7%) and White, non-Hispanic mothers had the lowest (21.5%) (Figure 4.10).

Figure 4.8 | **Percent of Live USVI Births Delivered by Cesarean Section by Risk Level, 2016**



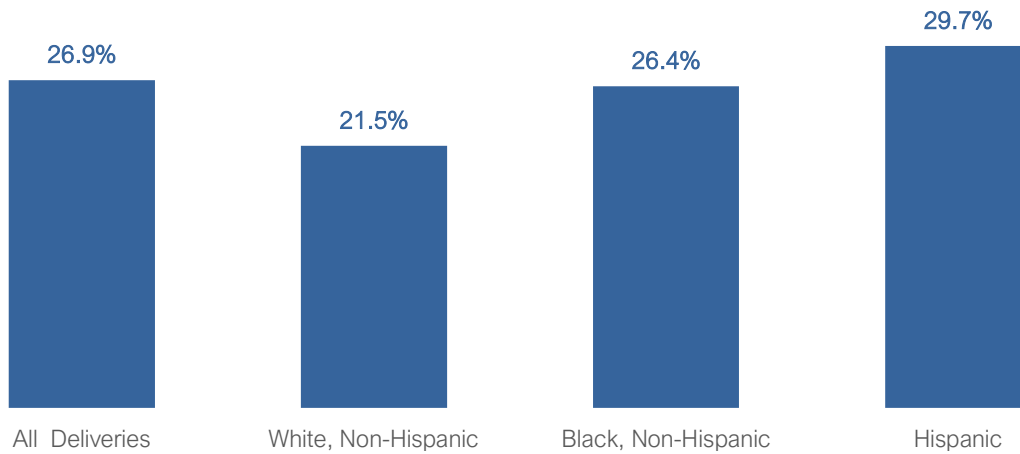
SOURCE | National Center for Health Statistics, National Vital Statistics System, Natality

Figure 4.9 | **Percent of Live USVI Births Delivered by Cesarean Section, 2006 v. 2016**



SOURCE | National Center for Health Statistics, National Vital Statistics System, Natality

Figure 4.10 | **Percent of USVI Live Births Delivered by Cesarean Section by Race/Ethnicity, 2016**



SOURCE | National Center for Health Statistics, National Vital Statistics System, Natality

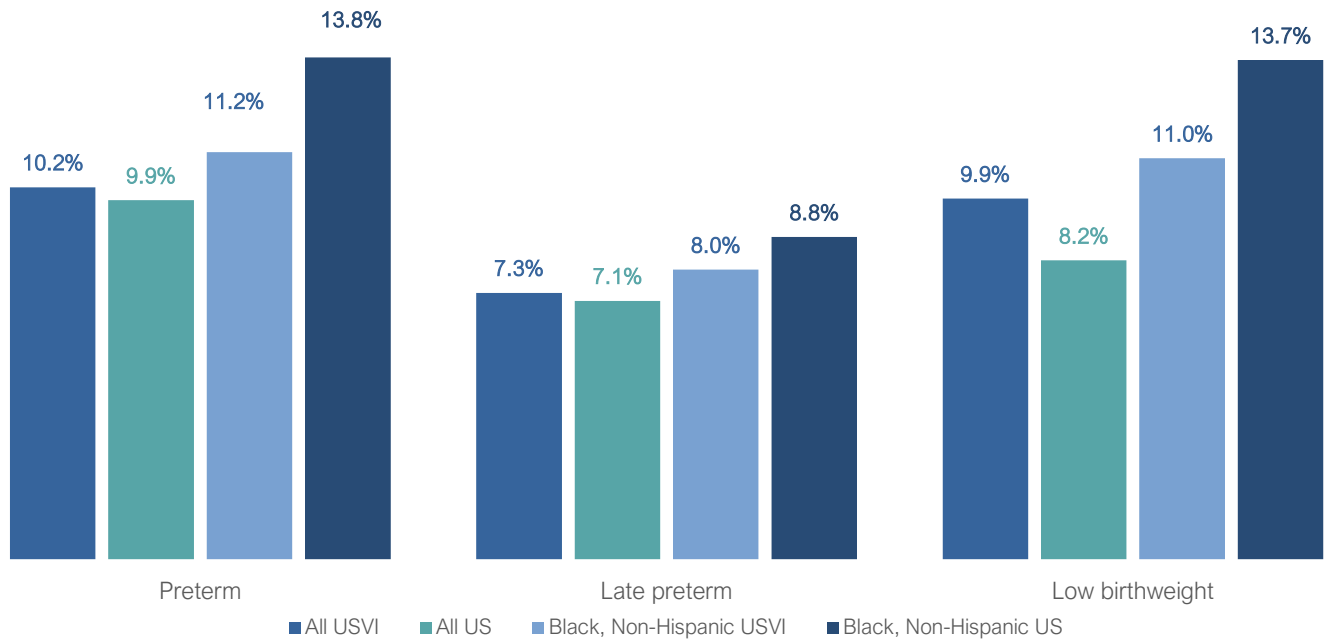
Preterm Birth and Low Birthweight

USVI mothers deliver babies pre-term at approximately the same rate as the nation. In 2016, 10.2% of USVI births were preterm—or occurred before 37 weeks gestation—compared to 9.9% of U.S. mothers (**Figure 4.11**). USVI late-term births—or births occurring 34 to 36 weeks gestation—were similar to U.S. births overall: 7.3% compared to 7.1% of U.S. mothers. The percent of preterm births in the USVI decreased by 34.6% from 15.6% in 2006 to 10.2% in 2016 (**Figure 4.12**). In 2018, 87% of USVI births were full-term, averaging 38 weeks in gestation (data not shown).

The percentage of births that are low birthweight—or weighing less than five pounds, eight ounces—is higher than the national level. In 2016, 9.9% of babies born to USVI mothers had low birthweight compared to 8.2% of babies born to U.S. mothers (**Figure 4.11**). The percentage of USVI low birthweight births decreased from 10.4% in 2006 to 9.9% in 2016 (**Figure 4.12**).

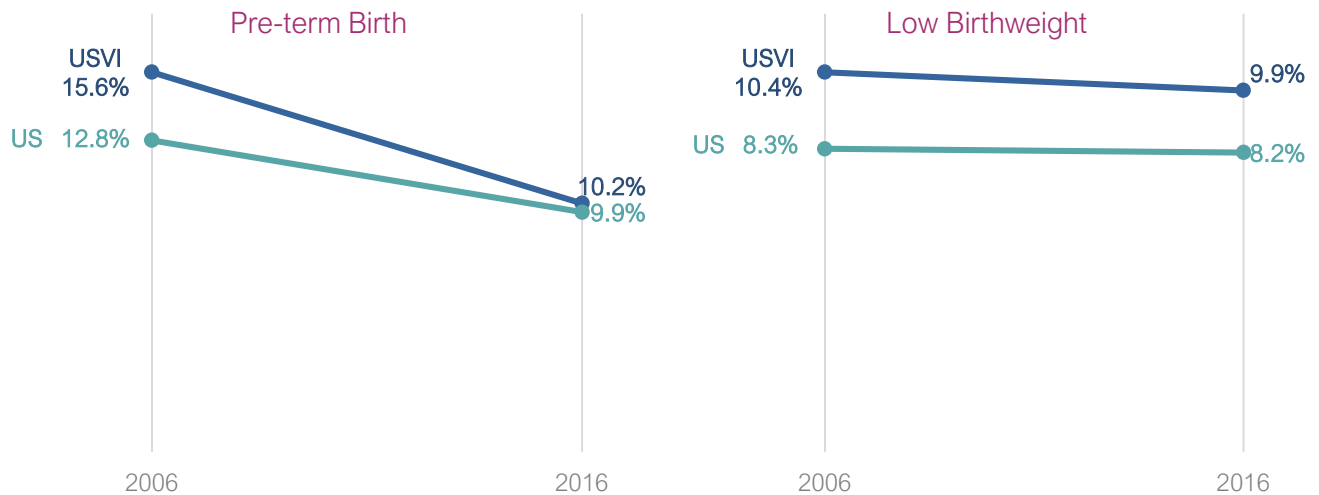
Disparities in birth outcomes among Black, non-Hispanic mothers are an alarming trend nationally. However, while Black, non-Hispanic mothers in the USVI have higher rates of poor birth outcomes than other mothers, the differences are not as marked as those seen nationally. For example, in 2016 the percent of babies of low birthweight born to USVI Black, non-Hispanic mothers was 11.0% versus 9.9% of babies born to all mothers (**Figure 4.11**). In contrast, 13.7% of babies born to U.S. Black, non-Hispanic mothers were low birthweight compared to 8.2% of babies born to all mothers.

Figure 4.11 | **Percent of Live USVI Births that were Pre-Term, Late Pre-Term, or Low Birthweight, All Mothers v. Black, Non-Hispanic Mothers, 2016**



SOURCE | National Center for Health Statistics, National Vital Statistics System, Natality

Figure 4.12 | **Percent of Live USVI Births that were Pre-Term or Low Birthweight, 2006 v. 2016**



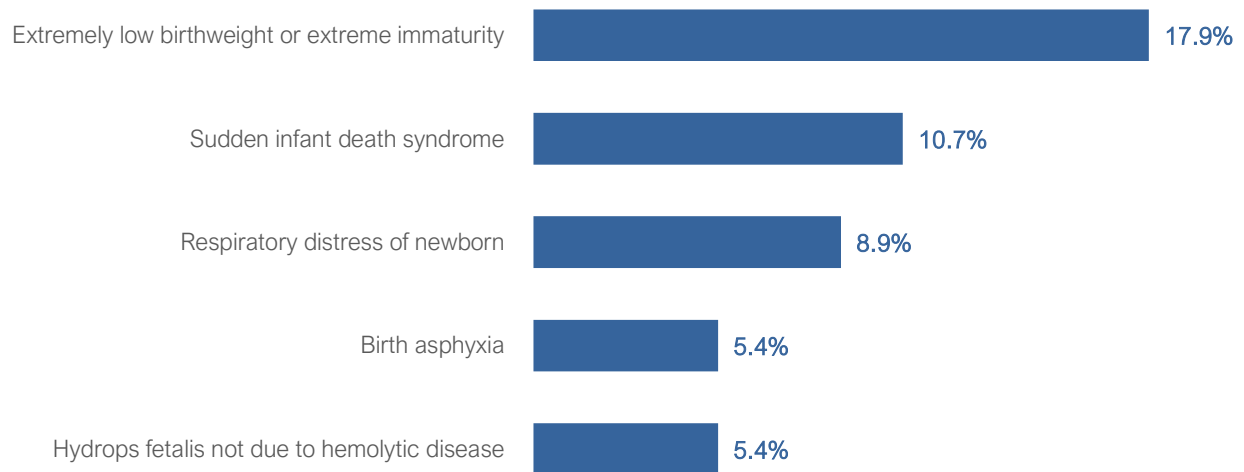
SOURCE | National Center for Health Statistics, National Vital Statistics System, Natality

Maternal and Infant Mortality

The USVI has a very low rate of pregnancy-associated mortality. Between 2015 – 2018, there was only one maternal death (data not shown). Similarly, very few infants die in the USVI annually. Between 2010 – 2017, 56 infants died in the USVI (data not shown). The top five leading causes of

infant death between 2010 – 2017 included extremely low birthweight or extreme immaturity (17.9%), sudden unexpected infant death syndrome (10.7%), respiratory distress of newborn (8.9%), birth asphyxia (5.4%), and hydrops fetalis not due to hemolytic disease (5.4%) (Figure 4.13).

Figure 4.13 | **Leading Causes of USVI Infant Mortality, 2010-2017**



SOURCE | USVI Department of Health, Maternal and Child Health Program

NOTE | Vital statistics information for the USVI is not available for 2013 and 2014; top causes reflect data from 2010-2012 and 2015-2017; Birth asphyxia refers to a medical condition resulting from deprivation of oxygen to a newborn infant that lasts long enough during the birth process to cause physical harm; Hydrops fetalis refers to a serious fetal condition defined as abnormal accumulation of fluid in two or more fetal compartments.

Looking Ahead

Births in the USVI are decreasing with the national trend, except among older mothers aged 30 to 34. Understanding this shift in birth rate helps our hospitals and providers educate and support women to have a healthy pregnancy. Prenatal care initiation in the first trimester is trending downward, signaling an opportunity to educate pregnant women about the benefits of prenatal care. Preterm births are also decreasing, a positive outcome that indicates babies are born healthier. Black, non-Hispanic mothers in the USVI have a higher rate of delivering low birthweight babies than the average, but the disparity is not as wide as the national average. While this is good news, it is important for the USVI DOH to continue to support Black, non-Hispanic pregnant women and mothers to ensure equity in birth outcomes.

While the data presented in this chapter is comprehensive, the assessment is missing both 2013 and 2014 vital statistics birth and fetal death data. There have been several challenges in collecting and analyzing data for those years. In the future, the USVI DOH will need to complete its set of birth statistics for improved analysis and identification of improvement opportunities.



CHAPTER 5

Child & Adolescent Health

WHERE CHILDREN LIVE | CHILD IMMUNIZATIONS
SCHOOL READINESS & PARTICIPATION | YOUTH HEALTH
CONDITIONS | CHILD & ADOLESCENT MORTALITY

USVI Community Health Assessment 2020

Child & Adolescent Health

Five Things You Should Know in 2020

- 1 The percentage of **children living in poverty** has largely remained the same since 2006, at 29.6% of USVI children.
- 2 Children in the USVI have the **lowest rate of measles, mumps, and rubella vaccination** in the US, at 70.5%.
- 3 More than half of children entering kindergarten in 2015-2016 were between **six months to over a year behind developmentally**.
- 4 The percent of **high school students who dropped out of school** increased from 5.9% in the 2007-2008 school year to 9.2% in the 2017-2018 school year.
- 5 The **teen death rate** of 60 per 100,000 is higher than the national rate of 48 deaths per 100,000 teens.

USVI By the Numbers

58.2%	Children living in families headed by female single parents in 2015	82.8%	Children living in families receiving SNAP benefits in 2015
↑160.7%	Percent increase in children living in poverty who live in St. John from 2014 – 2015	↑12.3%	How much the median income has increased from 2006 – 2015
45.7%	Children aged 19 to 35 months with recommended vaccines in 2016	10	Grade with the highest dropout rate in 2015-2016 school year

For More Information

Visit doh.vi.gov

USVI 2020 Community Health Assessment

USVI Department of Health

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Child & Adolescent Health

The USVI is home to almost **20,000 children and youth**, all of whom need support to become healthy adults. Research shows that children who grow up in poverty, do not finish high school, or experience violence are more likely to have **poor health as adults**. This chapter describes our children and youth—where they live, their educational attainment, and the foundations built for a healthy future.

Where Children Live

The number of children and adolescents living in the USVI has declined from 30,917 in 2005 to 19,730 in 2015, a 36.2% decrease (data not shown). In 2015, over two-thirds of the USVI's children lived in single-parent headed households, with 58.2% living in female single-parent households and 10.2% living in male single-parent households (**Figure 5.1**). The percent of children living in female single-parent households increased by 43.7% between 2006 – 2015.

The percent of children living in poverty has remained largely the same since 2006, at 29.6% of USVI children in 2015 (**Figure 5.2**). Children living in female single-parent households have higher poverty rates than the average, a rate that decreased from 39.6% in 2006 to 34.1% in 2015. Poverty rates have decreased in both St. Croix and St. Thomas, but the poverty rate among St. John families with children increased from 14.0% in 2014 to 36.5% in 2015 (**Figure 5.3**). USVI families have a median income well below the \$68,000 median U.S. family income (data not shown). The median income of USVI families was \$43,731 in 2015 up from \$38,914 in 2006, a 12.3% increase (**Figure 5.4**).

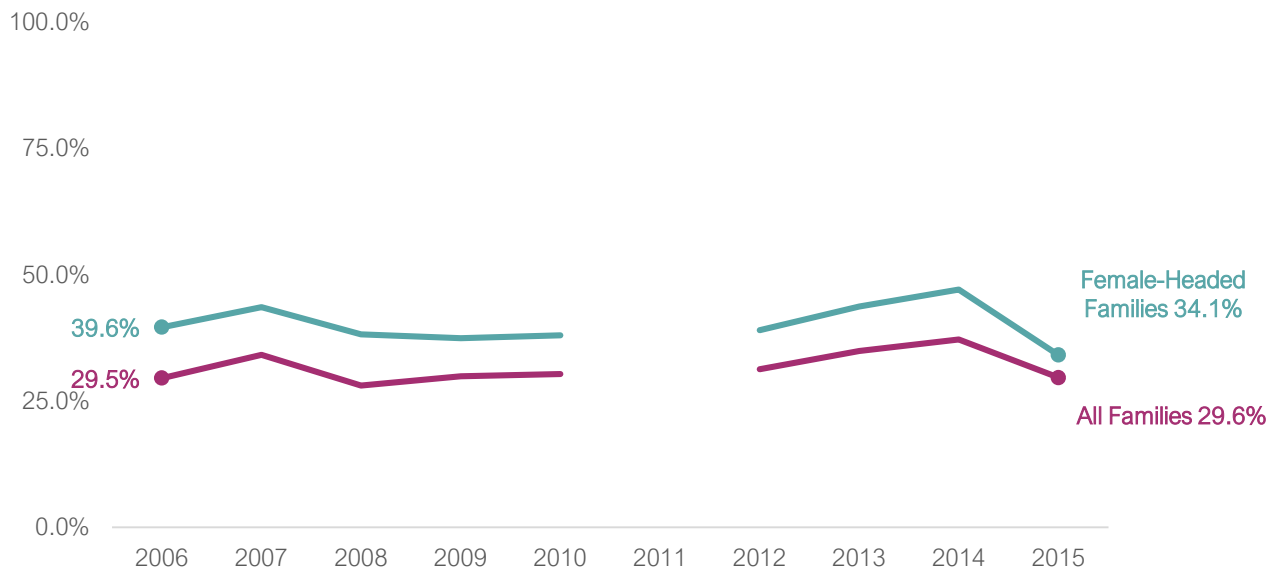
A large percentage of USVI children live in families receiving benefits from public programs such as Temporary Assistance for Needy Families (TANF), Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and Supplemental Nutrition Assistance Program (SNAP). In 2015, 82.8% of USVI children were living in families receiving SNAP benefits, an increase of 75.8% from 2009 when 47.1% of children were living in families receiving SNAP benefits (**Figure 5.5**). The percentage of children living in families receiving TANF benefits has remained consistent at around 6% between 2009 – 2015.

Figure 5.1 | **Percent of Children Living in USVI Families, By Household Structure, 2006-2015**



SOURCE | VICS via KIDS COUNT Database

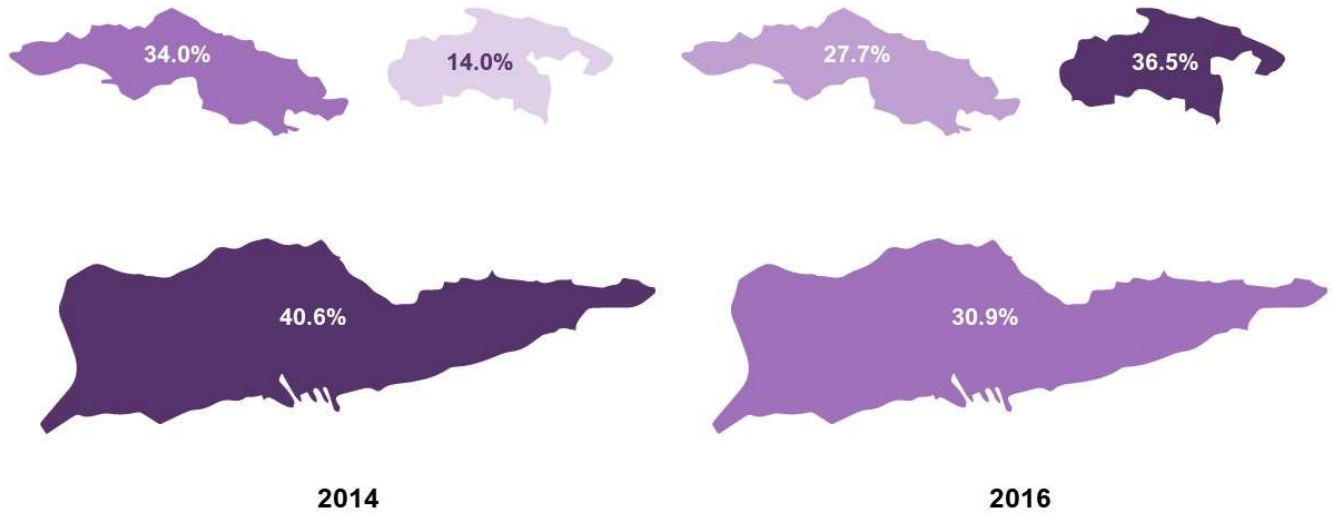
Figure 5.2 | **Percent of USVI Children Living in Poverty, By Household Head, USVI, 2006-2015**



SOURCE | VICS via KIDS COUNT Database

NOTE | No data is available for 2011.

Figure 5.3 | **Percent of USVI Children Living in Poverty, By Island, 2006-2015**



SOURCE | VICS via KIDS COUNT Database

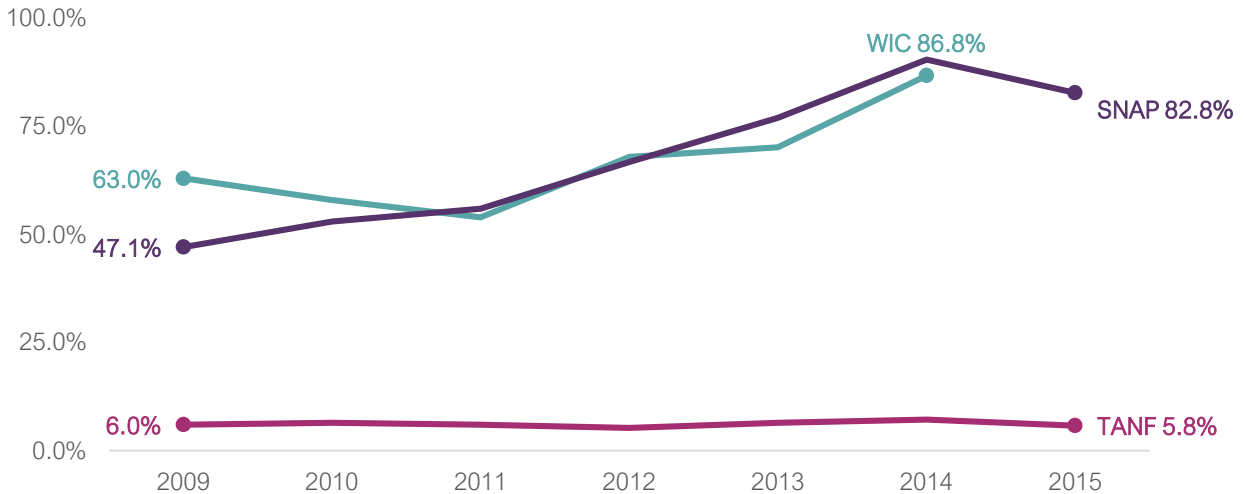
Figure 5.4 | **Median Income of USVI Families with Children, 2009-2015**



SOURCE | VICS via KIDS COUNT Database

NOTE | No data is available for 2011. Data by race unavailable for 2010.

Figure 5.5 | **Percent of Children Living in USVI Families Receiving Public Assistance, 2009-2015**



SOURCE | VICS via KIDS COUNT Database

Child Immunizations

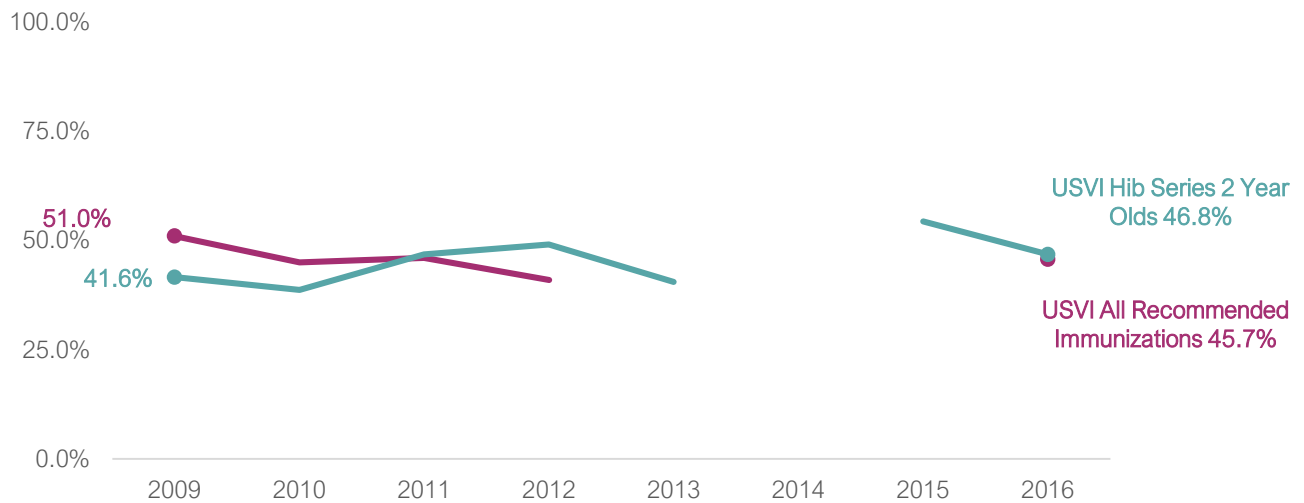
Child Immunization Rate

Children in the USVI have among the lowest vaccination rates¹ in the United States. According to the National Immunization Survey, in 2016 45.7% of USVI children aged 19 to 35 months were vaccinated according to the recommended national immunization schedule, representing a decline of 10.4% since 2009 when 51.0% of USVI children aged 19 to 35 months received all recommended vaccines (**Figure 5.6**). In comparison, 64.4% of children aged 19 to 35 months received their recommended vaccines in Puerto Rico and 70.4% nationally in 2016. Less than half of USVI two-year-olds received the complete Haemophilus influenzae type b (Hib) series in 2016 (48.6%), but this level of Hib vaccination was an improvement over 41.6% of two-year-olds in 2009.

Measles is an infectious disease with serious health consequences, including pneumonia, brain damage, and death. Children in the USVI have the lowest documented rate of MMR (measles, mumps, rubella) vaccination in the United States. Compared to 91.1% nationally and 85.7% in Puerto Rico, 70.5% of USVI children were vaccinated against measles, mumps, and rubella in 2016 (**Figure 5.7**). This means that 29.5% of USVI children were at risk for measles, mumps, and rubella as of 2016.

¹ Data after 2016 is unavailable because the National Immunization Survey was suspended during 2017 due to the severity of the hurricane season and did not occur at all in 2018.

Figure 5.6 | **Percent of Children Receiving U.S. Recommended Immunizations, 2009-2016**



SOURCE | National Immunization Survey

NOTE | Data refer to the percent of children aged 19 to 35 months who received the recommended doses of DTaP, polio, MMR, Hib, hepatitis B, varicella, and PCV. The Hib vaccine series prevents Haemophilus influenzae type b (Hib) disease in children. Per CDC recommendations, infants will usually get their first dose of Hib vaccine at two months of age and will usually complete the series at 12-15 months of age.

Figure 5.7 | **Percent of Children with Measles, Mumps, and Rubella Immunization, 2016**



SOURCE | National Immunization Survey

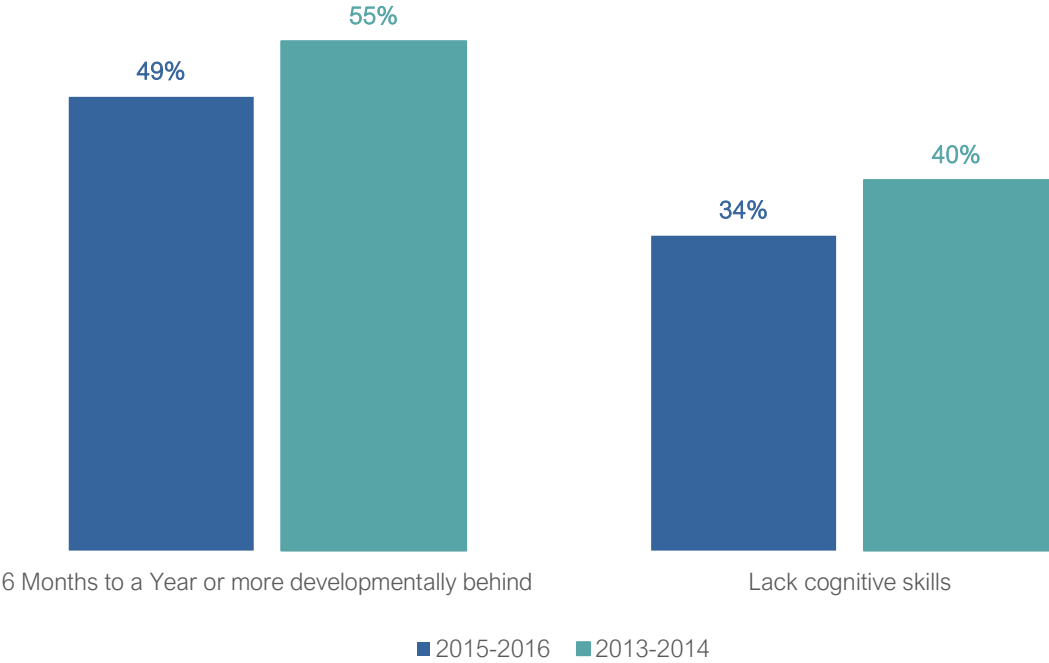
School Readiness & Participation

School Readiness

In the 2015-2016 school year, half (49%) of children entering kindergarten were six months to over a year behind developmentally compared to 55% of children entering school for the 2013-2014 school year (Figure 5.8). Approximately one-third of children entering kindergarten for the 2015-2016 school year did not have adequate cognitive skills (34%), a decrease from 40% in the 2013-

2014 school year (data not shown). In 2015, 6.2% or 1,230 USVI children under age 18 were identified as developmentally delayed or at risk of delay (data not shown).

Figure 5.8 | **Percent of USVI Children Ready for School Developmentally and Cognitively, 2013-2016**

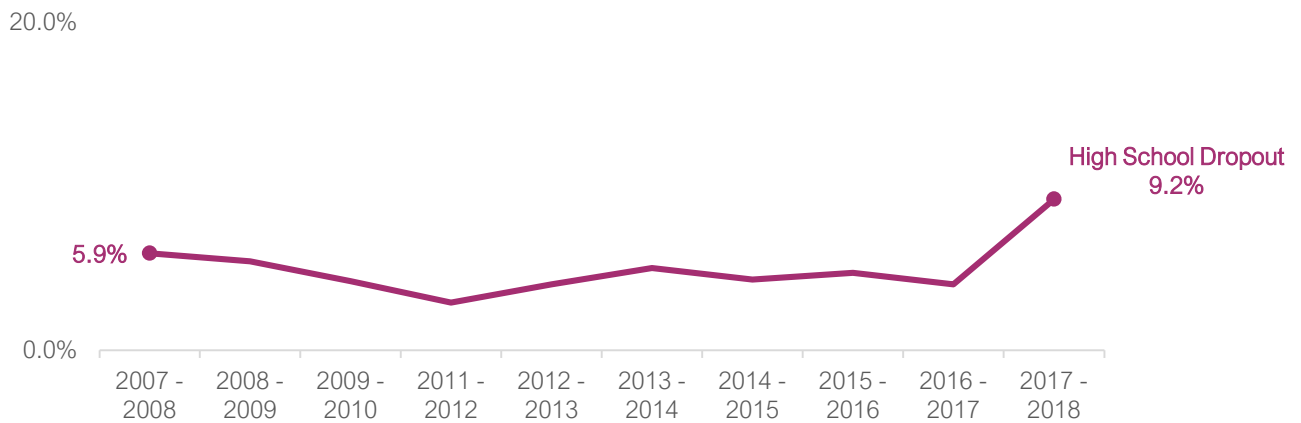


SOURCE | KIDS COUNT Database

High School Graduation

Children and youth who dropped out of school before completing high school graduation have higher rates of poor health and social outcomes such as unemployment and utilization of public assistance. During the 2015-2016 school year, 1.6% of 2,122 students enrolled in seventh or eighth grade dropped out of school (data not shown). The percent of high school students (grades 7 through 12) who dropped out of school increased from 5.9% in the 2007-2008 school year to 9.2% in the 2017-2018 school year (Figure 5.9). Students in grade 10 had the highest percent of dropouts in the 2015-2016 year at 8.2% (data not shown).

Figure 5.9 | **Percent of USVI Public High School Dropouts, 2007-2018**

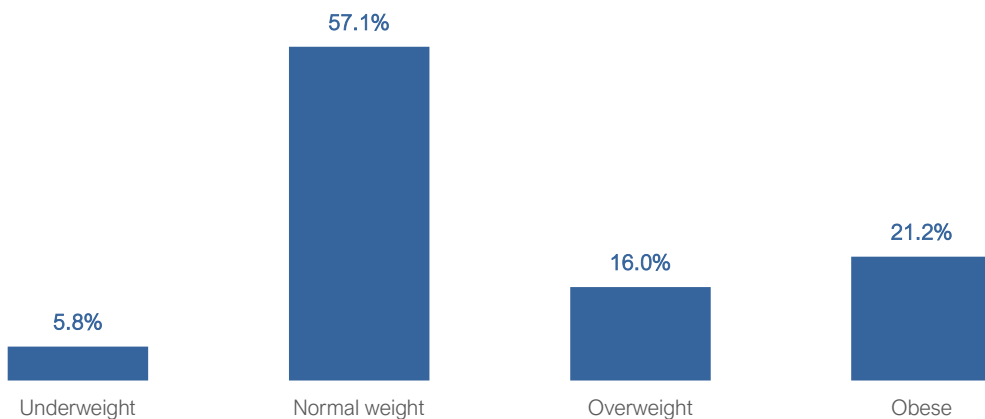


SOURCE | KIDS COUNT Database

Youth Health Conditions

Adolescents living in the USVI have a variety of health conditions. Among high school students, 37.2% classified as overweight (16%) or obese (21.2%), based on body mass index (BMI) and CDC growth charts for age and gender (*Overweight: 85th ≤ BMI < 95th percentile; Obese: BMI ≥ 95th percentile*) (Figure 5.10). In 2017, 16.9% of high school students reported ever being told they had asthma by a doctor; the proportion was slightly lower among 7th and 8th graders at 15.9% (data not shown).

Figure 5.10 | **Percent of High School Students by Weight Status, 2017**



SOURCE | USVI 2017 Youth Risk Behavior Survey

NOTE | USVI Weight status is based on body mass index and CDC growth charts and was defined as follows: Underweight: BMI < 5th percentile; Normal weight: 5th ≤ BMI < 85th percentile; Overweight: 85th ≤ BMI < 95th percentile; Obese: BMI ≥ 95th percentile.

Some high school and middle school students also struggle with depressive symptoms. In 2017, when asked if they ‘felt so sad or hopeless almost every day for two or more weeks in a row that they stopped doing some usual activities’ in the past year, 32.5% of 7th and 8th grade students said yes (data not shown). Among the high school students, 35.5% reported feeling sad or hopeless almost every day for two weeks or more in a row (**Figure 5.11**). Female high school students and 11th grade students reported the highest rates of sadness or hopelessness.

Figure 5.11 | **Percent of High School Students Reporting Feeling Sad or Hopeless Almost Every Day for Two Weeks or More in a Row, by Sex and Grade, 2017**

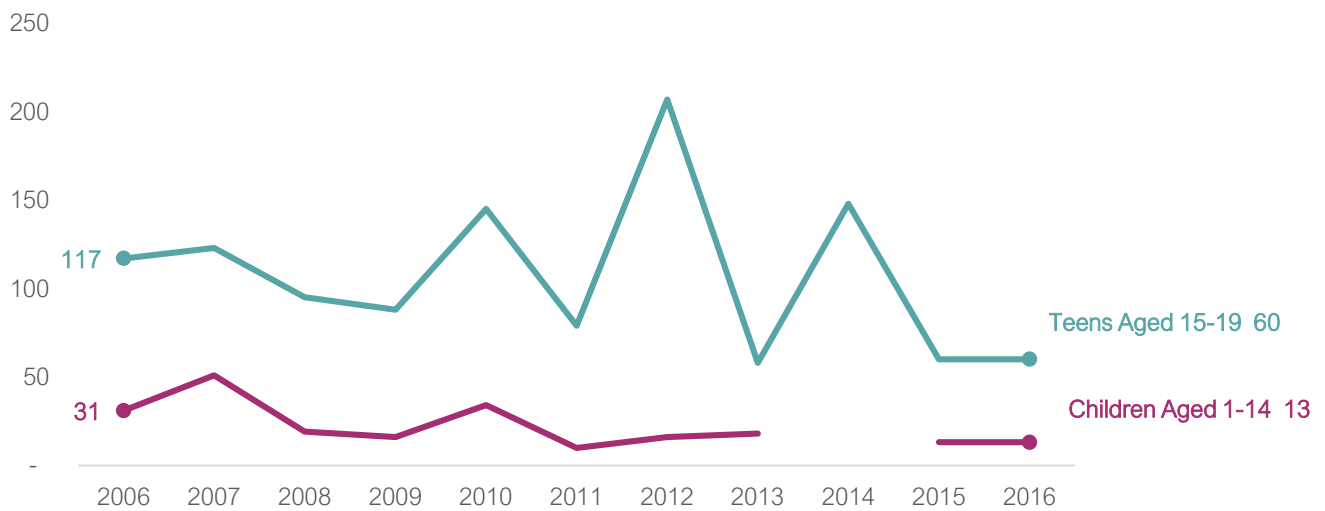


SOURCE | USVI 2017 Youth Risk Behavior Survey

Child & Adolescent Mortality

A death of a child or teenager is an indicator of poor health in a community. Nationally, motor vehicle accidents are the leading cause of death of children. Other causes vary and include safety, poor parental health or substance use, level of adult supervision, neighborhood factors, and health care access. Few deaths of children and adolescents occur in the USVI each year. In 2015, two children aged one to 14 years died in the USVI at a rate of 13 deaths per 100,000, a rate lower than the national rate of 16 deaths per 100,000 children (**Figure 5.12**). In 2015, three teenagers aged 15 to 19 years died in the USVI at a rate of 60 per 100,000 teens, a rate higher than the U.S. rate of 48 deaths per 100,000 teens.

Figure 5.12 | **Number of USVI Child and Teen Deaths Per 100,000, 2006-2016**



SOURCE | USVI Department of Health, Vital Statistics Program

Looking Ahead

The health of our children, from their birth until adulthood, is essential in ensuring a healthy USVI in the long term. While our children are generally free from health conditions that affect adults, this assessment shows that many of our families live in difficult circumstances that may affect child and adolescent health. Children living in poverty, for example, are at risk for many poor outcomes as they mature into adults. There is evidence that some of our youth experience negative health outcomes, including premature death. As a territory, we must address the social factors that enable these poor outcomes, including educational attainment. Our high school dropout rate has almost doubled over the past decade, a factor that we know disadvantages our young people from achieving their dreams.

We know that about 30% of our two-year-olds are not receiving MMR immunization, and that about half of all 19- to 35- month-olds do not receive all the U.S. recommended vaccines. The data also shows that about 37.2% of high school students are classified as overweight or obese and that approximately 17% suffer from asthma. These statistics are a starting point for urgent action. We need to better educate our families about the importance of immunizations in preventing infectious diseases and ensure their access to this life-saving measure. Further, it is well documented that health conditions present in adolescence often track into adulthood. Therefore, investing in interventions aimed at prevention and improvement of health outcomes in children and adolescents have the potential to improve overall health outcomes in adulthood. It was not possible to examine data from the immunization program more closely for this assessment. Additionally, while the data

on middle and high schools students was available for 2018, the USVI does not routinely conduct health surveillance among children and adolescents, making it difficult to assess any trends in health related behaviors and health status of youth in the USVI. Overall, health-related surveillance among child and adolescent populations in the territory is an important next step in determining a plan for population health improvement.



CHAPTER 6

Health Status & Chronic Disease

HEALTH STATUS | CHRONIC DISEASE CONDITIONS | CANCER
CARDIOVASCULAR HEALTH | HEALTH BEHAVIORS

USVI Community Health Assessment 2020

Health Status & Chronic Disease

Five Things You Should Know in 2020

- 1 The percent of adults in the USVI who report a **current asthma diagnosis** is about half of the national percentage (4.6% in the USVI versus 9.1% nationally).
- 2 The number of **Black males with diabetes** who went to a DOH clinic in fiscal year 2018 **increased** by 179% over the previous year.
- 3 Almost half (49.9%) of USVI adults aged 50 to 75 reported having a **colonoscopy** in the past 10 years.
- 4 **Prostate cancer** is the most common cancer in men in the USVI. In women, the top cancer is **breast cancer**.
- 5 In 2016, 5.6% of USVI adult residents reported **current tobacco smoking**—61.7% lower than the national level (17.0% of U.S. adults) and 53.3% lower than the Healthy People 2020 target.

USVI By the Numbers

1 in 4	Residents with arthritis	30.1%	Adults with a body mass of 30.0 or higher (obese) in 2016
476	Number of new cancer cases in 2016	3 in 4	Number of women aged 50 to 74 who received a mammogram in 2016
16.8%	Adults with diabetes in 2016	#1	Ranking of breast cancer incidence among all cancers affecting USVI women in 2016
3.1%	Persons who were told they had a heart attack in 2016	75.7%	Adults who have done some physical activity or exercise during the past 30 days (2016)

For More Information

Visit doh.vi.gov

USVI 2020 Community Health Assessment

USVI Department of Health

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Health Status & Chronic Disease

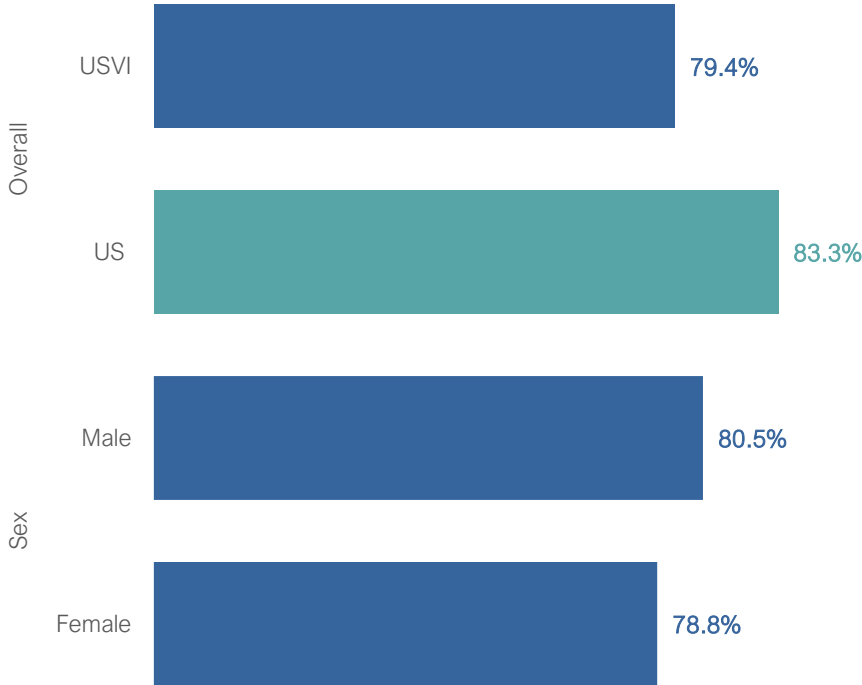
How well we feel and our health behaviors affect our overall health. USVI residents are largely healthy, but **many people live with chronic diseases**. Resident health varies across several socioeconomic strata, reflecting our **diversity and disparities** in how healthy we are as a community. This chapter reviews our **general health status** and the **prevalence of chronic diseases**, including cancer, among our residents.

Health Status

Perceived General Health

Most residents report being in good or better health. Compared to 83.3% of U.S. residents, 79.4% of USVI residents say they enjoyed good or better health in 2016 (Figure 6.1).

Figure 6.1 | **Percent of USVI Adults Reporting Good or Better Health, 2016**



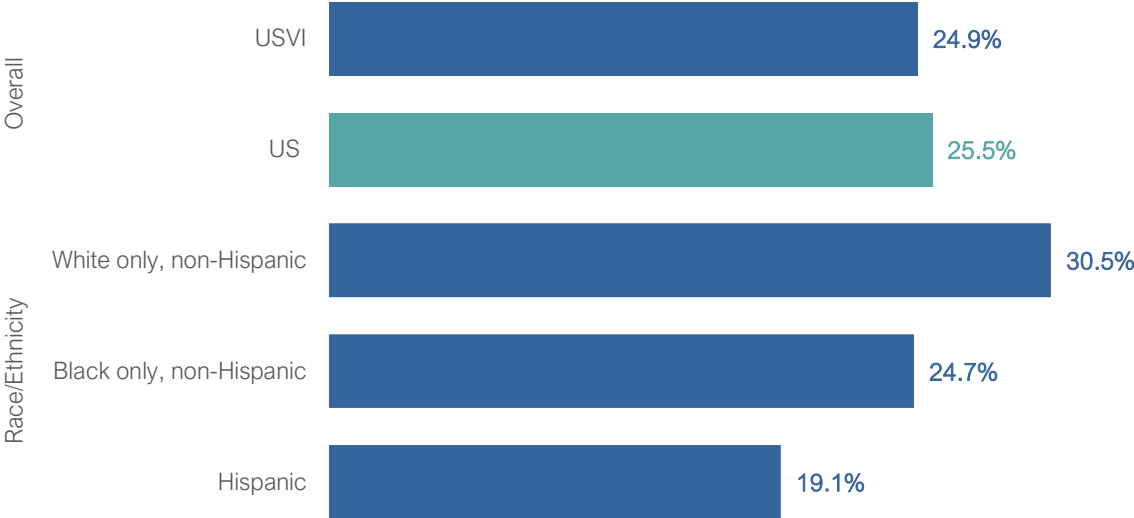
SOURCE | Behavioral Risk Factor Surveillance System, 2016

Chronic Disease Conditions

Arthritis

One in four USVI adults reported having a diagnosis of arthritis in 2016, a proportion similar to the U.S. level (Figure 6.2). Among persons of different race-ethnicity, White, non-Hispanic people had the highest percent of reported arthritis (30.5%).

Figure 6.2 | **Percent of USVI Adults Reporting Ever Being Diagnosed with Arthritis, 2016**

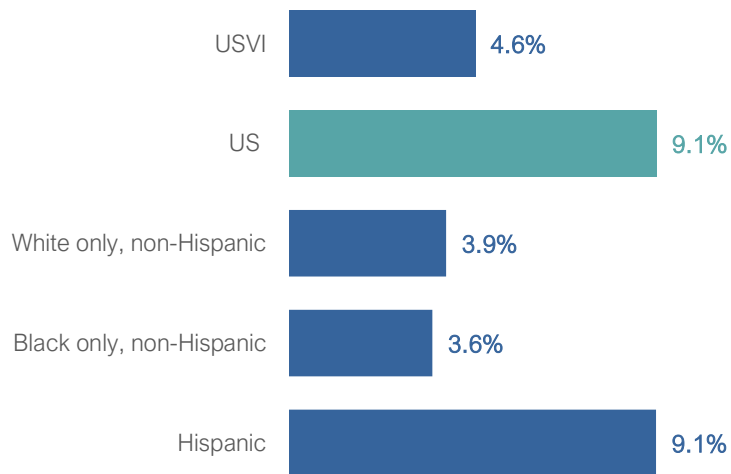


SOURCE | CDC, Behavioral Risk Factor Surveillance System

Asthma

Asthma is a respiratory disease that causes inflammation of the airways and difficulty breathing. Adult asthma rates are low in the USVI. The percent of adults in the USVI in 2016 who report a current asthma diagnosis is about half of the national percent (4.6% in the USVI versus 9.1% nationally) (Figure 6.3). The percent of Hispanic adults reporting current asthma is almost three times the percent of other races/ethnicities. The number of patients presenting with asthma at a DOH-operated clinic between August 2016 – September 2018 was 104 (data not shown).

Figure 6.3 | **Percent of USVI Adults Reporting a Current Asthma Diagnosis, 2016**



SOURCE | CDC, Behavioral Risk Factor Surveillance System

Obesity

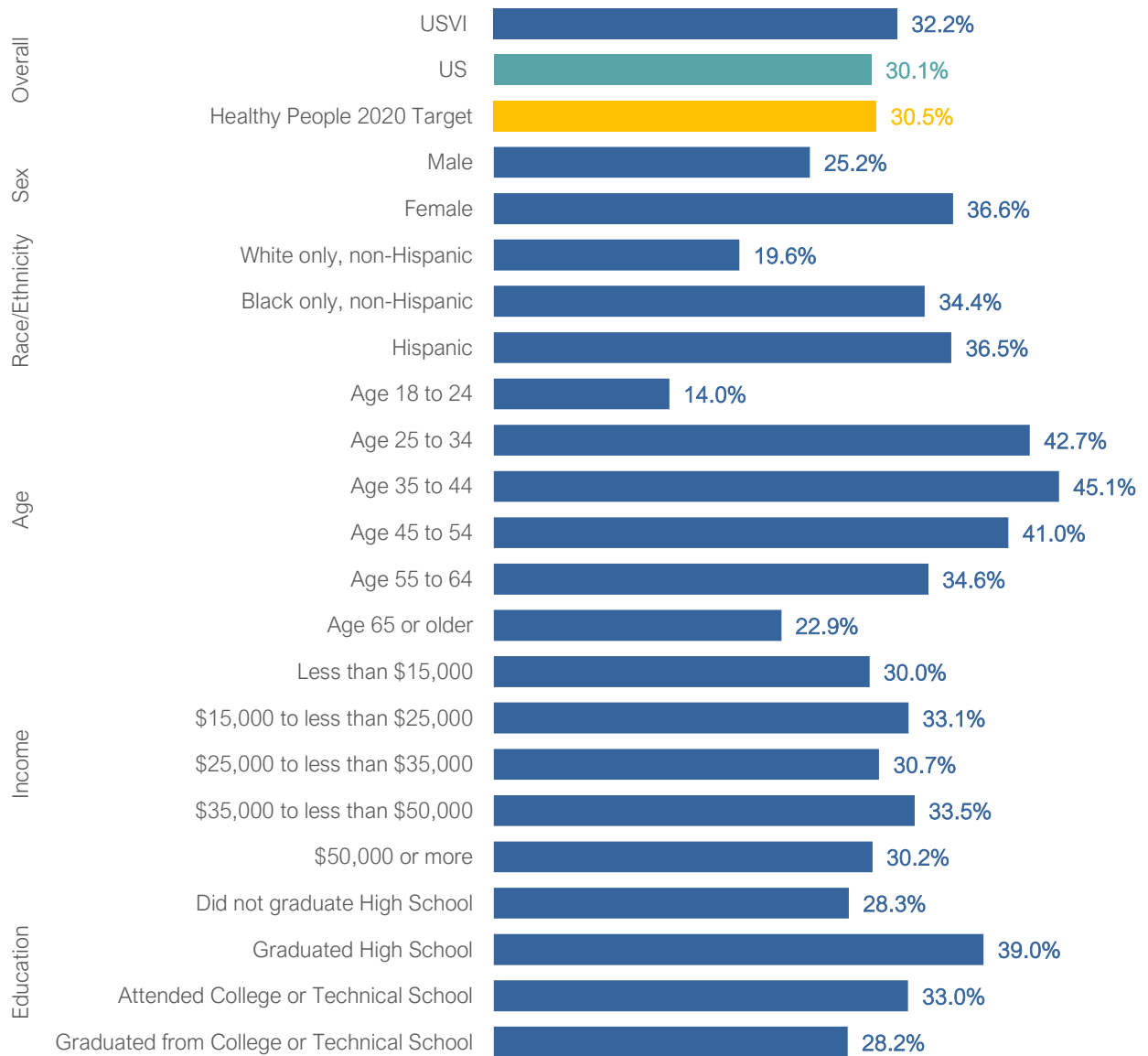
Obesity is a complex medical condition requiring lifelong intervention and support. In the USVI in 2016, 32.2% of adults reported a body mass index² of 30.0 or higher, compared to 30.1% of U.S. adults—short of the Healthy People 2020 Target (Figure 6.4). A higher percentage of females (36.6%) and persons who were not White, non-Hispanic reported being obese in 2016.

Diabetes

Diabetes is a metabolic condition that causes higher than normal blood sugar levels and can have dire complications if not treated. For adults presenting at DOH clinics with diabetes, the number of Black males who presented with diabetes in FY2018 increased by 179% over the previous year (data not shown). In 2016, 16.8% of USVI adults reported ever being told they had diabetes, compared to 10.5% of U.S. adults — on par with the Healthy People 2020 Target (Figure 6.5). Those reporting the highest percent of diabetes diagnosis were Black, non-Hispanic, older in age, lower in income, and had less education.

² Body mass index is a measure of body fat based on height and weight. It is calculated by taking a person's weight in kilograms divided by the square of height in meters.

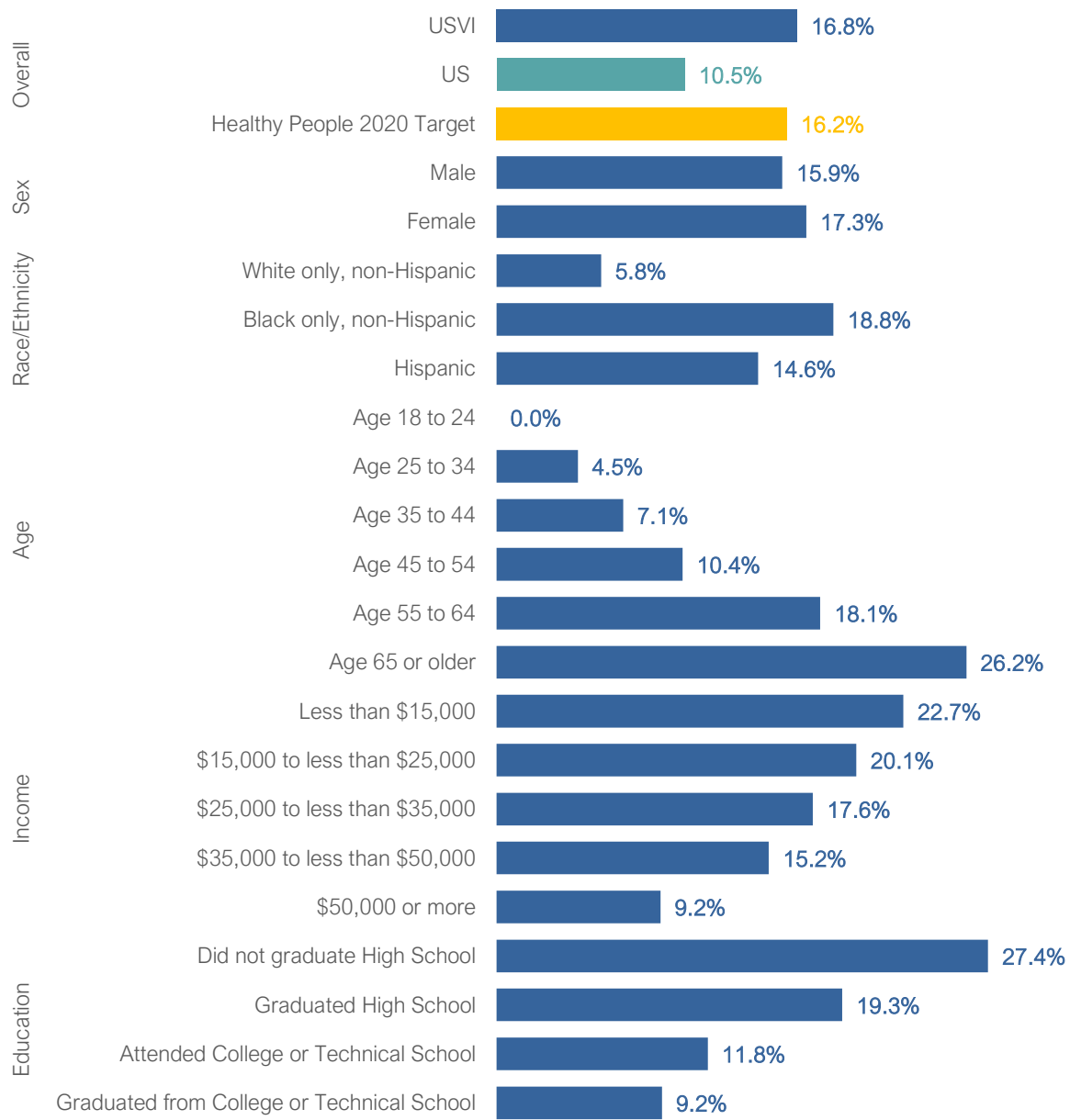
Figure 6.4 | **Percent of USVI Adults with Obesity, 2016**



SOURCE | CDC, Behavioral Risk Factor Surveillance System

NOTE | Obesity is defined as a body mass index of 30.0 or higher.

Figure 6.5 | **Percent of USVI Adults Ever Told They Had Diabetes, 2016**



SOURCE | CDC, Behavioral Risk Factor Surveillance System

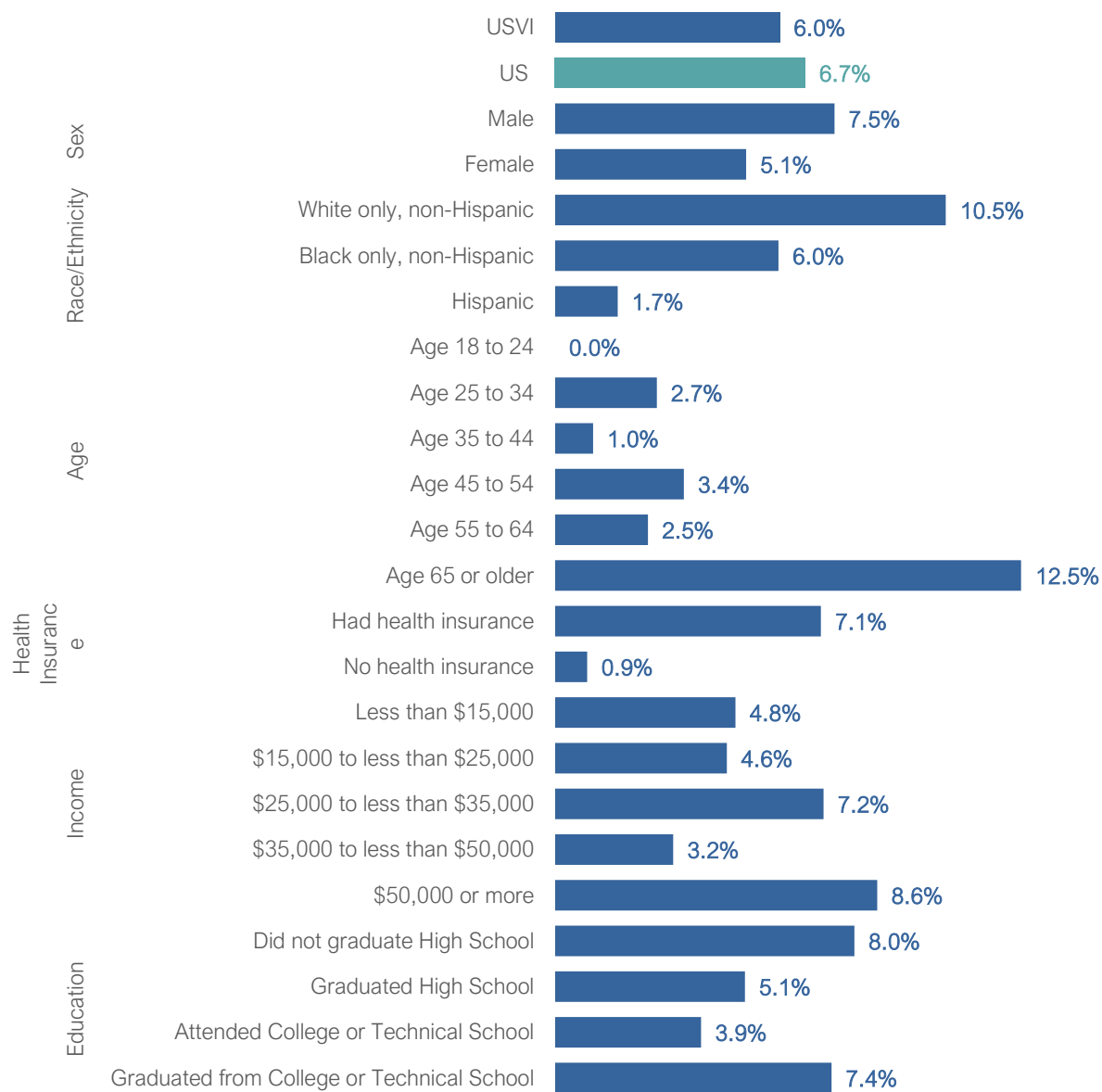
NOTE | Data is self-reported; U.S. comparison presents the median response percentage using crude prevalence; USVI data is the raw percentage across all survey respondents.

Cancer

Cancer Incidence and Prevalence

In 2016, there were 476 new cases of cancer: 235 in St. Croix, 221 in St. Thomas, and 20 in St. John (data not shown). The top cancers in men were prostate cancer, colon cancer, and cancer of the blood and lymph nodes, while the top cancers in women were breast cancer, uterine cancer, and colon cancer (data not shown). In 2016, 6.0% of adults reported ever having been told they had cancer, compared to 6.7% of U.S. adults (Figure 6.6).

Figure 6.6 | **Percent of USVI Adult Ever Told They Had Cancer, 2016**



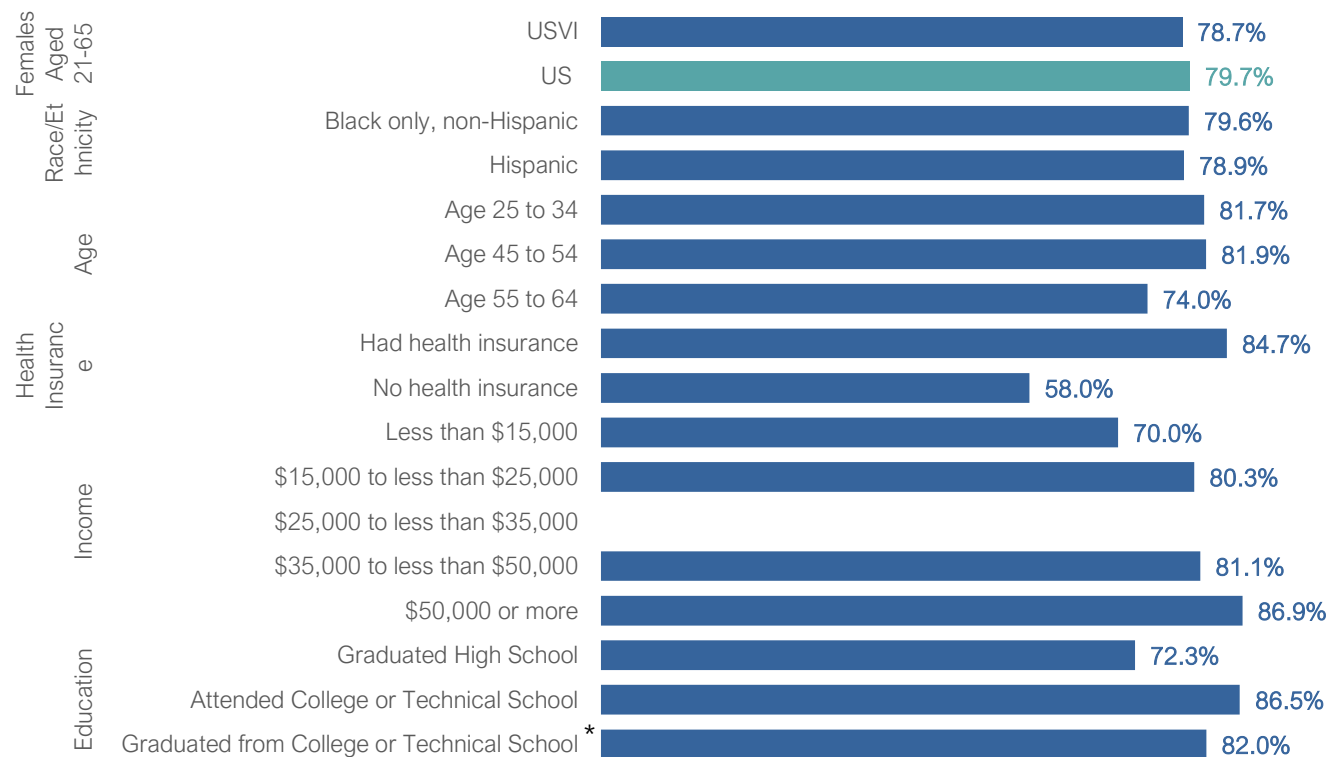
SOURCE | CDC, Behavioral Risk Factor Surveillance System

Cancer Screening

Cancer screening is an important public health measure that identifies cancer early and prevents morbidity and premature mortality. The U.S. Preventive Services Task Force recommends screening for cervical cancer in women age 21 to 65 years with cytology (Pap smear) every three years, biennial screening mammography for women aged 50 to 74 years, and colonoscopy screening for adults starting at age 50 years and continuing until age 75 years. For men aged 55 to 69 years, the U. S. Preventative Services Task Force (USPSTF) recently changed its guidelines on screening for prostate cancer to support patients making the decision to screen for prostate-specific antigen (PSA) together with their provider.

USVI adult women generally have cancer screening rates on par with the rest of the United States. In 2016, 78.7% of adult USVI women aged 21 to 65 had a pap test, an important screening to detect cervical cancer (Figure 6.7). The percent of women who report having a pap test was lowest among older women, women with no health insurance, women with lower income, and women with a high school education.

Figure 6.7 | **Percent of USVI Adult Women Aged 21-65 with a Pap Test in the Past Three Years, 2016**

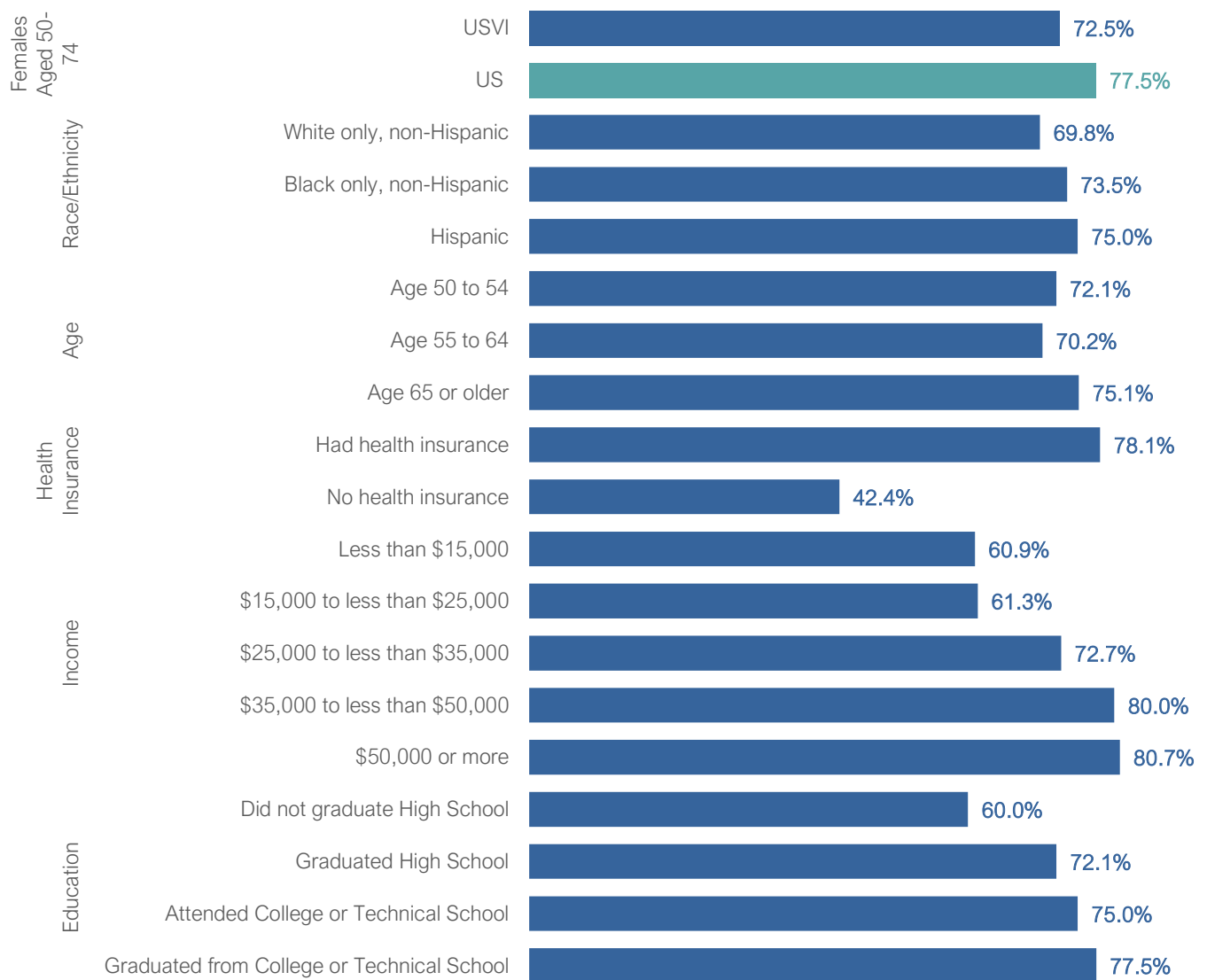


SOURCE | CDC, Behavioral Risk Factor Surveillance System

NOTE | * Sample size was too small for the income bracket of \$25,000 to less than \$35,000

About three in four (72.5%) women aged 50 to 74 in the USVI in 2016 received a mammogram in the past two years, an important screening to detect breast cancer (Figure 6.8). The percent of women who report having a mammogram was lowest among White, non-Hispanic women, women aged 55 to 64, women without health insurance, women with lower income, and women with lower levels of education.

Figure 6.8 | **Percent of USVI Adult Women Aged 50-74 with a Mammogram in the Past Two Years, 2016**

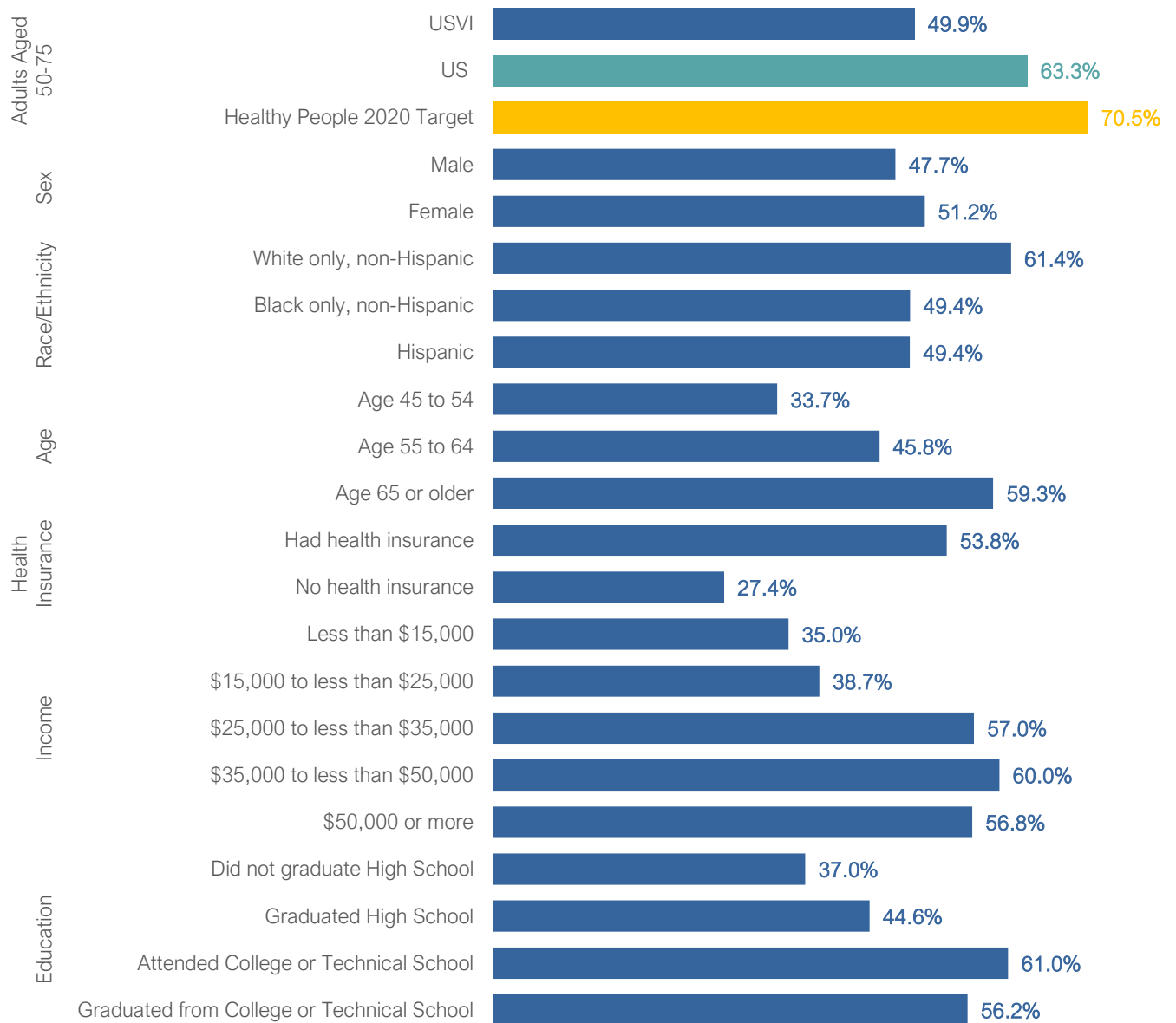


SOURCE | CDC, Behavioral Risk Factor Surveillance System

Fewer than half (49.9%) of USVI adults aged 50 to 75 reported having a colonoscopy in the past 10 years, an important diagnostic tool in detecting early colon cancer (Figure 6.9). This percent falls

short of the Healthy People 2020 Target of 70.5% and is lower than the U.S. level (63.3%). Report of colonoscopy is lowest among males, people who are not White, non-Hispanic, and younger age, and people without health insurance, with lower income, or with lower levels of education.

Figure 6.9 | **Percent of USVI Adults Aged 50-75 with a Colonoscopy in the Past 10 Years, 2016**



SOURCE | CDC, Behavioral Risk Factor Surveillance System

Prostate cancer is the most common cancer in men in the USVI. In 2016, just over half of men aged 40 or older had a prostate-specific antigen (PSA) test compared to 39.7% of adult U.S. males of the same age (Figure 6.10). A lower percent of White, non-Hispanic men aged 40 years or older reported ever having a PSA test than Black, non-Hispanic men aged 40 years or older.

Figure 6.10 | **Percent of USVI Men Aged 40+ Years Who Had a PSA Test, 2016**



SOURCE | CDC, Behavioral Risk Factor Surveillance System

Cardiovascular Health

Heart Attack and Stroke

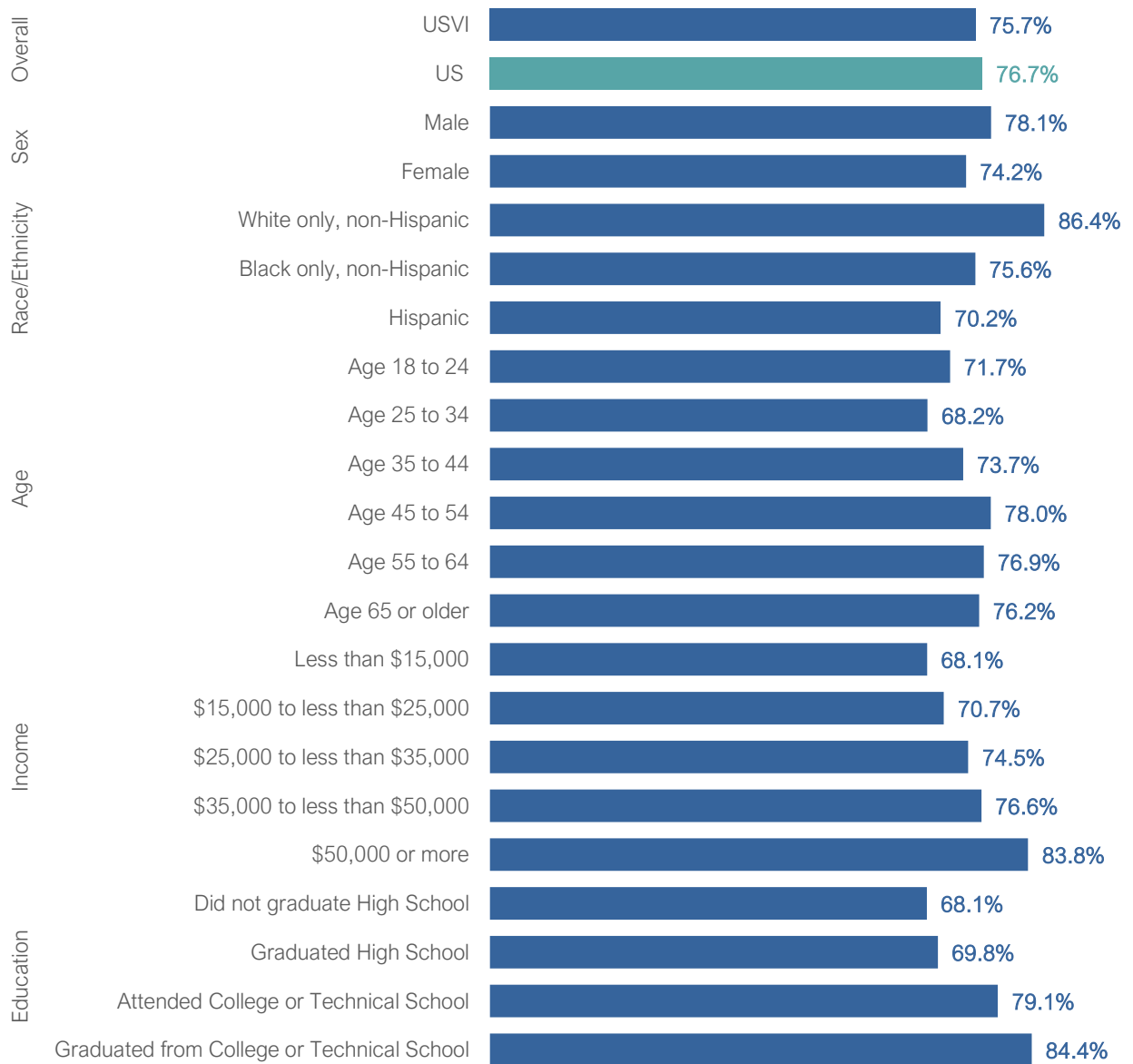
A small percent of adults in the USVI reported ever being told they had a heart attack or myocardial infarction in 2016 (3.1% versus 4.4% of U.S. adults) (data not shown). A higher percent of males and White, non-Hispanic persons reported being told they had a heart attack. In 2016, only 2.5% of USVI adults reported ever being told they had a stroke, compared to 3.0% of U.S. adults (data not shown). A higher percent of Hispanic persons reported being told they had a stroke compared to other races/ethnicities.

Health Behaviors

Physical Activity

USVI prevalence of physical activity is high and similar to national levels. In 2016, 75.7% of adults reported doing physical activity or exercise in the past 30 days (other than their regular job) compared to 76.7% of U.S. adults (**Figure 6.11**). Physical activity levels were highest among men, persons identifying as White, non-Hispanic, aged 45 to 54 years, persons with a household income of \$50,000 or more, and persons who graduated from college or technical school.

Figure 6.11 | **Percent of USVI Adults Reporting Physical Activity in Past 30 Days, 2016**

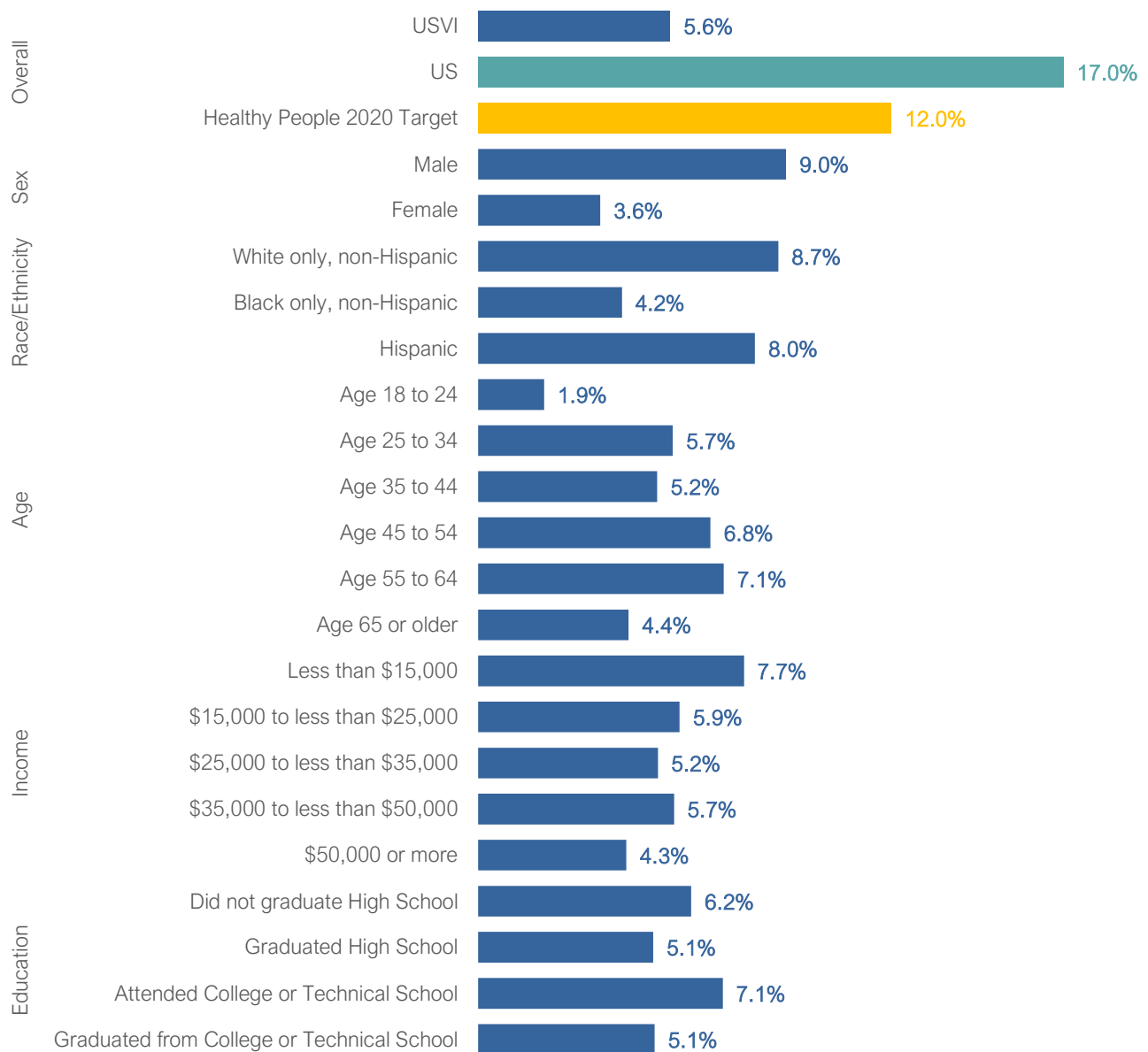


SOURCE | CDC, Behavioral Risk Factor Surveillance System

Current Smoking

USVI prevalence of smoking tobacco is among the lowest in the nation. In 2016, 5.6% of USVI adult residents reported current smoking—61.7% lower than the national level (17.0% of U.S. adults) and 53.3% lower than the Healthy People 2020 target (Figure 6.12). Current smoking levels among women are less than half the prevalence among men (3.6% in women versus 9.0% among men). Similarly, current smoking levels among Black, non-Hispanic residents are half those of White, non-Hispanic and Hispanic residents.

Figure 6.12 | **Percent of USVI Adults who Currently Smoke Tobacco, 2016**



SOURCE | CDC, Behavioral Risk Factor Surveillance System

Looking Ahead

The USVI met or exceeded the diabetes and current smoking Healthy People 2020 leading indicators by 2016, according to the most recent data collected by the USVI for the Behavioral Risk Factor Surveillance System. These are important successes for Virgin Islanders, but there are several areas that can be improved. Just under half of USVI adults receive the recommended screening for colonoscopy, preventive care that can detect colon cancer early and prevent

premature death. Over 30% of USVI adults are obese, a health condition that can lead to other chronic diseases and poor cardiovascular treatment. The USVI DOH has an opportunity to update risk factor screening data collection and to examine more recent data. Identifying current behaviors and health conditions among residents will help the department develop better health communication and educational programs.



CHAPTER 7

Trauma, Injury & Mental Health

CHILD MALTREATMENT | ACCIDENTS | VIOLENCE | SUICIDE

Trauma, Injury & Mental Health

Five Things You Should Know in 2020

- 1 The **child maltreatment rate** has **decreased** from 13.5 per 1,000 children in 2013 to 11.0 per 1,000 children under age 18 in 2015.
- 2 The overall trend in number of **deaths from motor vehicle accidents** of all age groups has been **increasing**—from 4 deaths in 2005 to 11 deaths in 2017.
- 3 **Homicide and felony assault decreased** between 2017 - 2019, but **rape** has **increased** (from 19 to 31).
- 4 The rate of **death by suicide** among adult USVI **men** has **increased** by 351.3% over 2005 (3.9 per 100,000 men in 2005 compared to 17.6 per 100,000 men in 2017).
- 5 USVI adults have lower reported depression levels than the United States, with 5.2% of USVI adults reporting having ever been told they had a form of **depression** compared to 17.3% of U.S. adults.

USVI By the Numbers

32	Number of residents who died from accidental causes in 2017	218	Number of child maltreatment referrals to DHS in 2015
36.0	Average age at death from a motor vehicle accident in 2017	57	Number of children placed in foster care
93.5%	Percent of adults reporting always using their seat belt	26	Number of teen deaths caused by guns between 2010 - 2017
#5	Country rank in homicide rate globally	5.2%	Percent of adults reporting depression in 2016

For More Information

Visit doh.vi.gov

USVI 2020 Community Health Assessment

USVI Department of Health

3500 Estate Richmond

Christiansted, 00820-4323, U.S. Virgin Islands

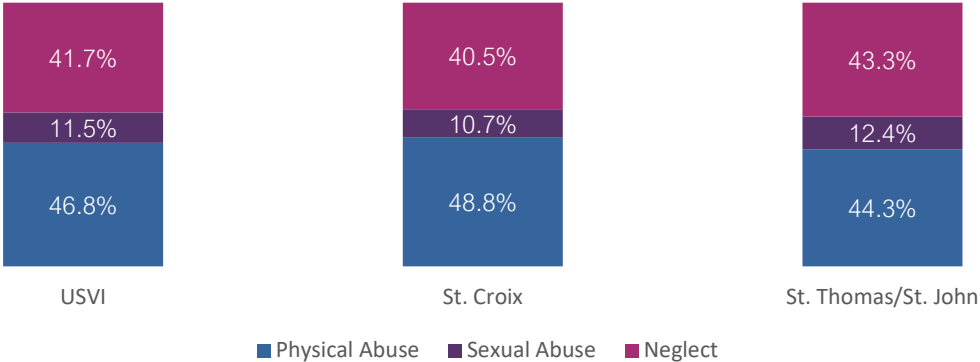
Trauma, Injury & Mental Health

Maintaining **positive psychological health** and wellness is an important determinant of our physical health. People who experience **trauma**—whether it is psychological or physical—are at risk for poor health. Children who experience trauma in the form of neglect or physical or sexual abuse have higher rates of divorce, depression, anxiety, and suicide. Communities who experience **natural disasters** go through both a physical and mental recovery that can take several years. This chapter describes trauma and its impact on our communities.

Child Maltreatment

Every year, the USVI experiences cases of child maltreatment, which includes physical abuse, sexual abuse, and neglect. Child maltreatment can result in poor mental health, challenges in development, and even death. In 2015, the child maltreatment rate was 11.0 per 1,000 children under age 18, a decrease from 2013 (13.5 per 1,000 children) (data not shown). The rate of child maltreatment in the USVI is higher than the U.S. rate of 9.2 per 1,000 children. Among the 218 cases of maltreatment referred to USVI Department of Human Services in 2015, 46.8% were referred for physical abuse, 11.5% were referred for sexual abuse, and 41.7% were referred for neglect (**Figure 7.1**). A higher percentage of St. Croix’s cases of child maltreatment were for physical abuse compared to St. Thomas and St. John combined. In 2015, 57 children were removed by DHS from a parent or caregiver due to maltreatment and placed in foster care (data not shown).

Figure 7.1 | **USVI Child Maltreatment Case Referrals by Case Type and Island, 2015**



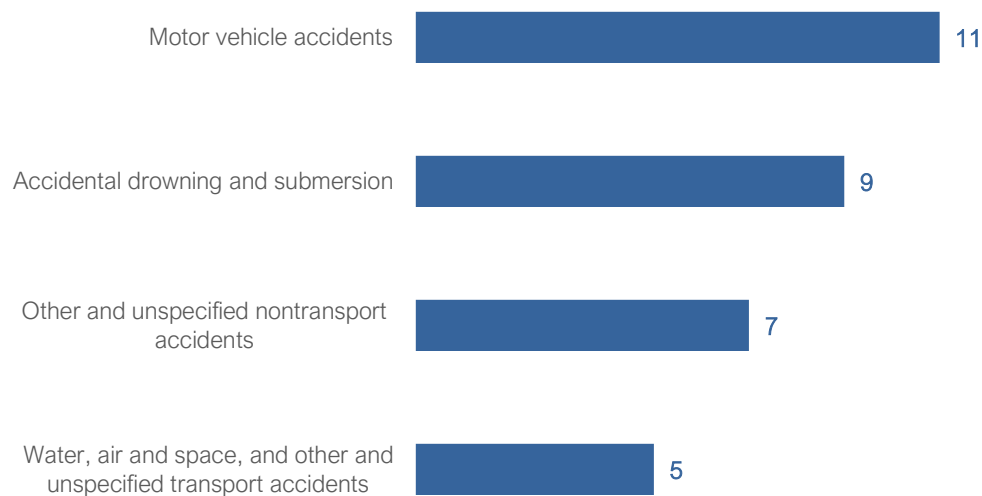
SOURCE | KIDS COUNT Database

Accidents

Accidental Death

Several USVI residents die annually due to accidental causes such as drowning and motor vehicle accidents. In 2017, a total of 32 USVI residents died from accidental causes, including 11 from motor vehicles accidents and nine from accidental drowning and submersion (Figure 7.2).

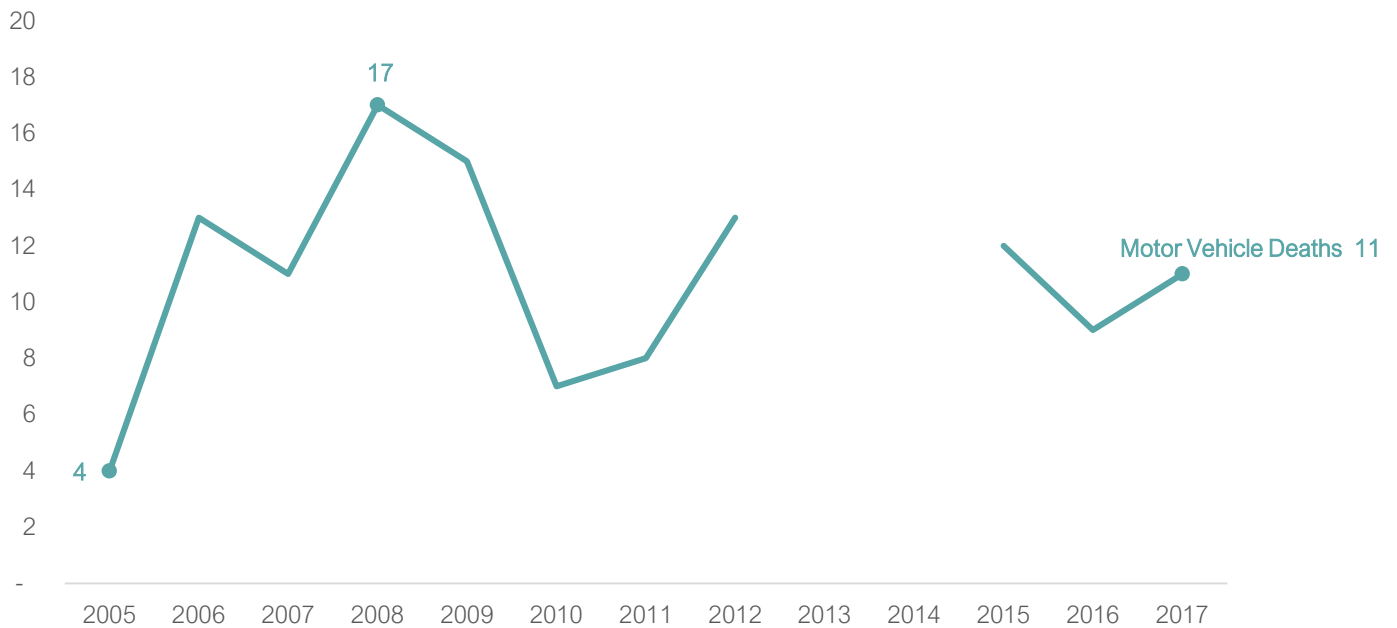
Figure 7.2 | **Number of Accidental Deaths by Cause, USVI, 2017**



SOURCE | USVI Department of Health

Motor vehicle accidents caused 40,100 deaths in the United States in 2017 (data not shown). Motor vehicle accidents may be attributed to many causes including sleep deprivation, road conditions, and substance use. The USVI has a low number of deaths from motor vehicle accidents each year. The overall trend in number of deaths due to motor vehicle accidents of all age groups has been increasing since 2005, although there is variation across years. Between 2005 – 2017, there was a low of four deaths due to motor vehicle accidents (in 2005) and a high of 17 deaths due to motor vehicle accidents (in 2008) (Figure 7.3). It should be noted that USVI drivers use the left side of the road, a practice established under Danish control of the territory before the USVI became part of the United States. Tourists may be confused about which side of the road to drive on, potentially leading to accidents.

Figure 7.3 | **Number of USVI Deaths Due to Motor Vehicle Accidents, 2005-2017**



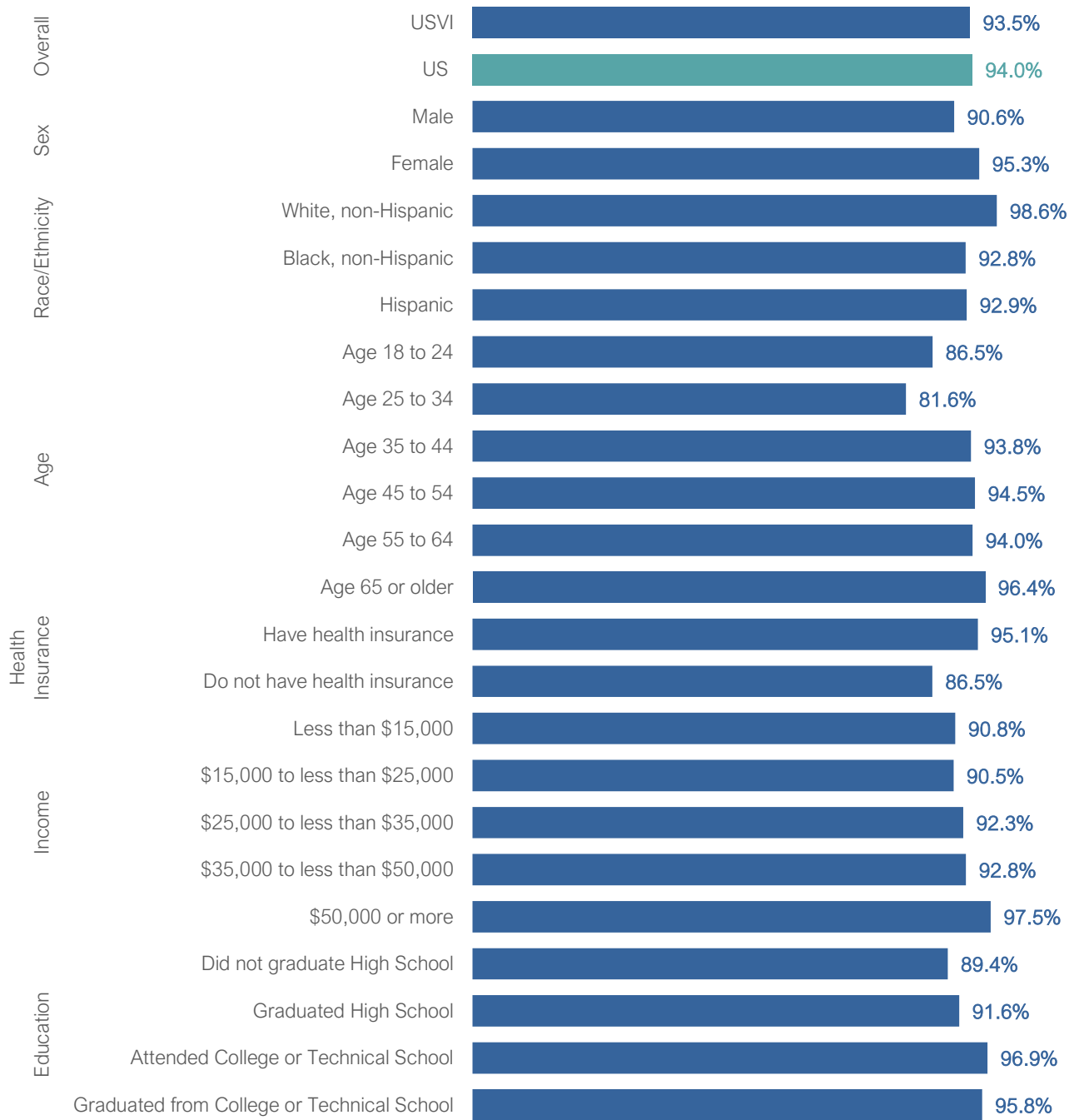
SOURCE | USVI Department of Health, Vital Statistics

NOTE | No vital statistics data is available for 2013 or 2014.

Safe Driving Behaviors

USVI adults report high utilization of their seat belt in a motor vehicle. In 2016, 93.5% of USVI adults reported always using a seat belt, which was similar to the national level (94.0%) (Figure 7.4). Seat belt use was above 80% across all subgroups, with the lowest reported percentage being adults aged 25 to 34. The average age of death for persons who die after motor vehicle accidents in the USVI was 36.0 years in 2017 (data not shown).

Figure 7.4 | **Percent of USVI Adults Reporting Always Using Seat Belts, 2016**

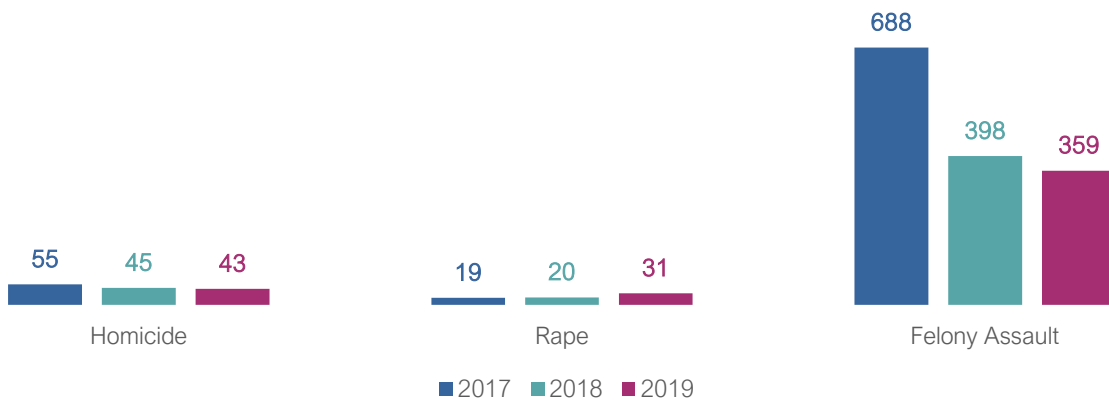


SOURCE | CDC, Behavioral Risk Factor Surveillance System

Violence

Violence is a significant threat to one’s personal health and wellness. In the USVI, several rapes and assaults occur annually, including homicides. The USVI has the highest murder rate per capita in the United States and has the fifth highest rate of homicides worldwide. The number of homicides has declined from 55 in 2017 to 43 in 2019 (Figure 7.5). Felony assaults have also decreased from 688 in 2017 down to 359 in 2019. Rapes have increased from 19 in 2017 to 31 in 2019.

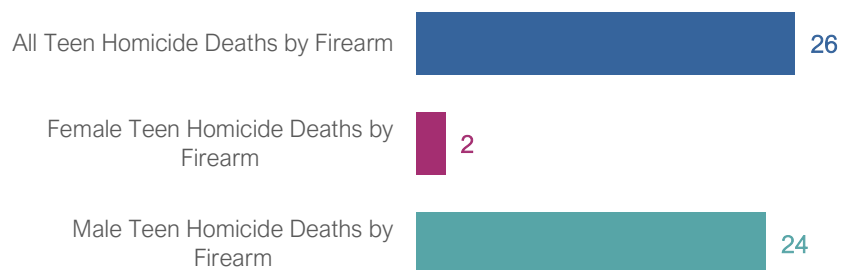
Figure 7.5 | **Number of USVI Homicides, Rapes, and Felony Assaults, USVI, 2017-2019**



SOURCE | USVI Police Department

USVI youth are also at risk of violence. Among middle school students in 2017, 16.2% reported having ever carried a weapon to school and 65.1% said they had been in a physical fight (data not shown). Among high school students, 9.4% reported not wanting to go to school because they did not feel safe there and 7% reported having been threatened with a weapon at school in the past year (data not shown). Among the 44 teen deaths that occurred between 2010 – 2017, 32 were caused by homicide (72.7%) (data not shown). Among the 32 teen homicide deaths, 26 (81.3%) were caused by firearms; a majority of the 26 teen homicide deaths occurred to males (Figure 7.6).

Figure 7.6 | **Number of USVI Teen Homicide Deaths Caused by Firearm Discharge, 2010-2017**



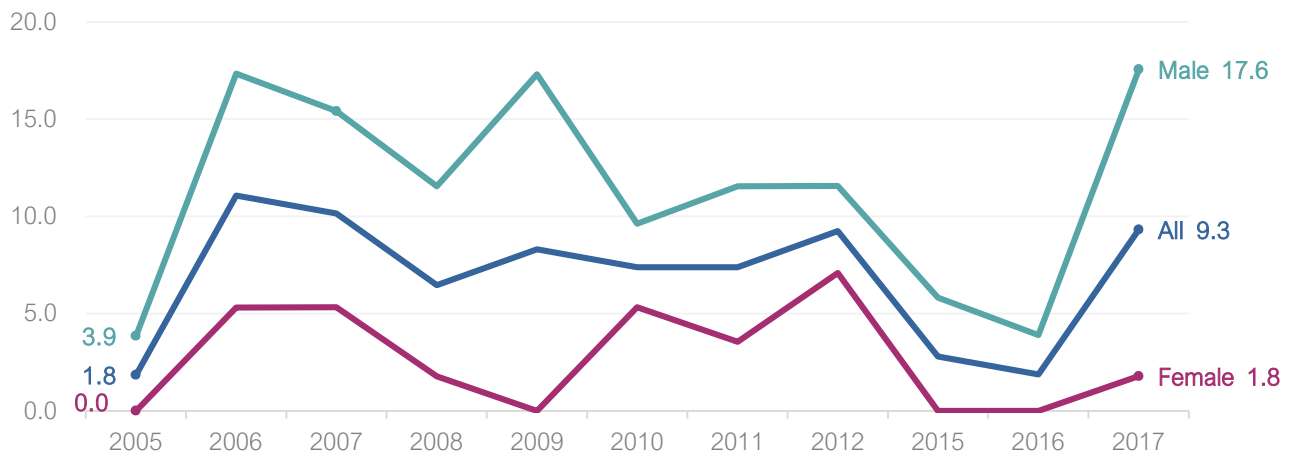
SOURCE | USVI Department of Health, Vital Statistics

Suicide

Adult men have higher rates of death by suicide compared to women in the USVI. In 2017, the suicide rate among USVI men was 17.6 suicides per 100,000 compared to 1.8 suicides per 100,000 among women (Figure 7.7). The rate of death by suicide among adult USVI men has increased by 351.3% over 2005 (3.9 per 100,000 men in 2005 compared to 17.6 per 100,000 men in 2017). The annual U.S. suicide rate increased by 23.8% between 1999 – 2014, from 10.5 to 13.0 suicides per 100,000 people, the highest rate recorded in 28 years.

About one in five (22.5%) middle school students in the USVI in 2017 thought seriously about suicide compared to 17.0% of high school students (Figure 7.8). Among middle school students, 14.3% made a suicide plan and 8.5% attempted suicide. Among high school students, more females (18.1%) than males (8.6%) made a suicide plan (data not shown) and one in ten (10.3%) high school students attempted suicide.

Figure 7.7 | **Age-Adjusted Suicide Rate per 100,000 USVI Adults, 2005-2017**



SOURCE | USVI Department of Health, Vital Statistics

Figure 7.8 | **Suicidal Thoughts and Behaviors among USVI Middle and High School Students, 2017**



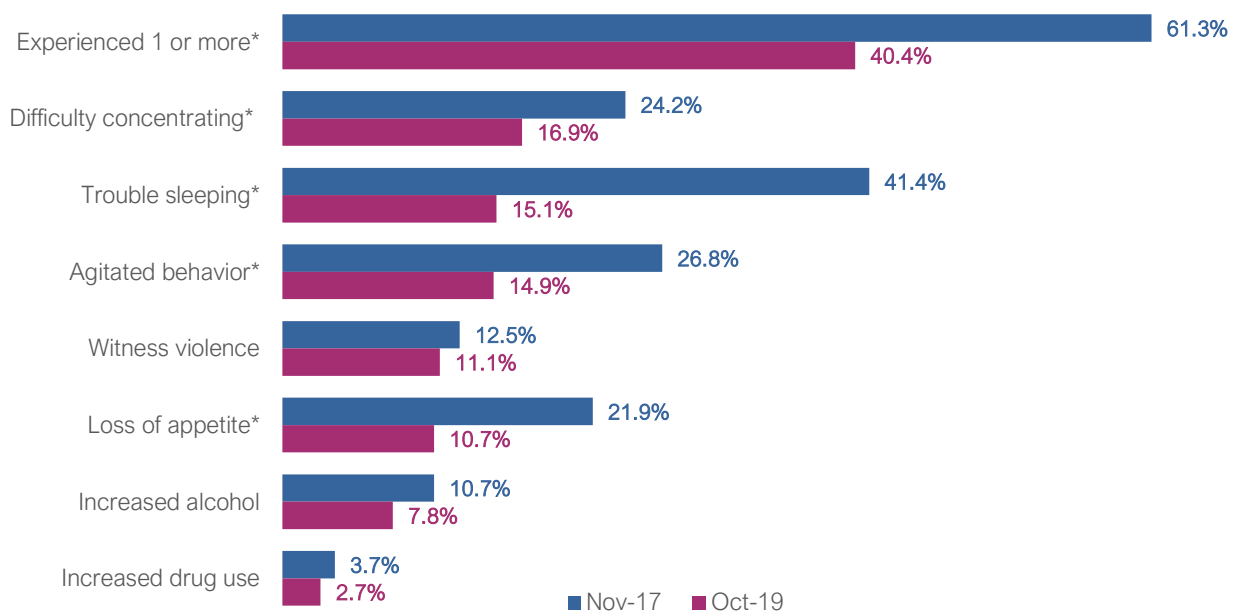
SOURCE | USVI Youth Risk Behavior Survey

Mental Health

Post-Hurricane Mental Health

Residents of the USVI experienced two traumatic hurricanes in late 2017 that destroyed many peoples' homes and took at least four lives. The USVI utilized the CASPER system several times to assess resident needs, including mental health after the hurricane. Almost two years after Hurricanes Irma and Maria, 40.9% of surveyed USVI residents reported suffering from one or more mental health concern, down from 61.3% in November 2017 (Figure 7.9).

Figure 7.9 | **Percent of USVI Adults Reporting Mental Health Concerns After Hurricanes Irma and Maria, 2017-2019**

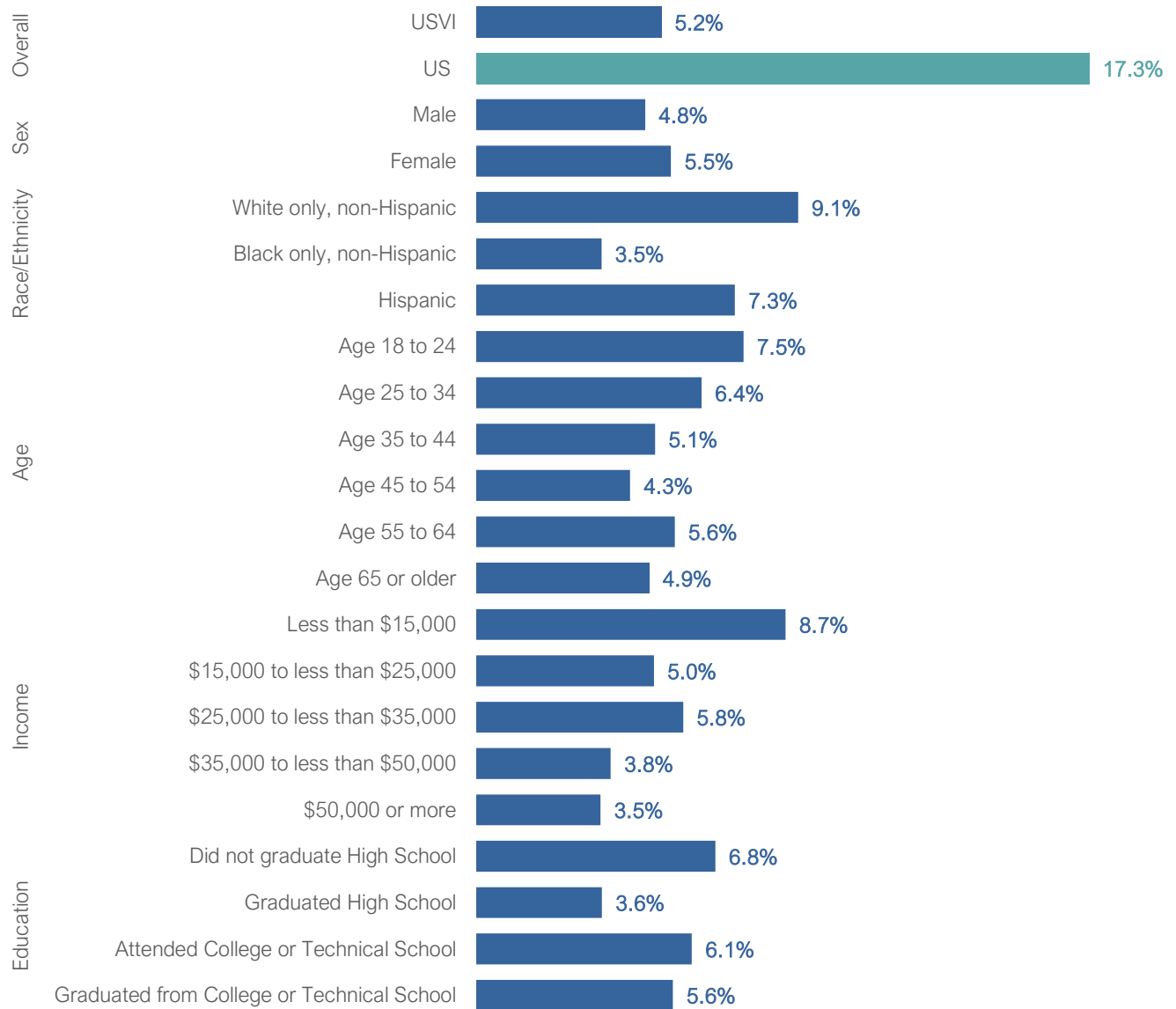


SOURCE | CDC CASPER Hurricane Recovery Surveys

Depression

Residents of the USVI report having low rates of depression. In 2016, 5.2% of USVI adults reported having ever been told they had a form of depression compared to 17.3% of U.S. adults (Figure 7.10). A higher percent of adults reporting depression were female (5.5%), White, non-Hispanic (9.1%), age 18 to 24 (7.5%), had a household income of less than \$15,000 (8.7%), and did not graduate high school (6.8%).

Figure 7.10 | **Percent of USVI Adults Reporting Diagnosis of Depression, 2016**



SOURCE | CDC, Behavioral Risk Factor Surveillance System

Looking Ahead

There have been improvements in instances of trauma and injury over the past few years, such as reduced cases of child maltreatment, number of homicides, and assaults. However, there is an alarming trend among USVI adult men who die by suicide. Data also reveal that youth homicides are largely caused by firearms, particularly among young men. The number of rapes that occur in the USVI has also increased. The root causes of violence and intentional injury relate to social factors including family structure, racism, lack of economic opportunity, and other social determinants of health. These trends, particularly in men, require deeper assessment and

conversation in our community. The USVI DOH has an opportunity to partner with the USVI Police Department and community leaders to dig deeper into the challenges facing young men and to develop strategies to reduce violence and suicide.

The data also show that, on average, Virgin Islanders are mentally well and have lower rates of reported depression compared to the United States. However, data collected through the BRFSS provides only a snapshot of depressive symptoms and clinical depression and may not reveal the true impact of depression in the USVI. Mental health has also improved in the aftermath of Hurricanes Irma and Maria. These numbers are heartening but may not reflect the mental health of all our residents. It is important that the USVI DOH continue to support resident mental health. This report does not include data on mental health service utilization due to lack of availability. Understanding patterns of mental health service use by residents will enable the USVI DOH to assess its programs and to develop new strategies to enhance post-hurricane community recovery.



CHAPTER 8

Infectious Diseases

FOOD & VECTOR-BORNE DISEASE | HIV/AIDS | SEXUALLY TRANSMITTED DISEASES | HEPATITIS | VACCINATIONS | EMERGING PATHOGENS

Infectious Diseases

Five Things You Should Know in 2020

- 1 There was an epidemic of **Zika virus** beginning in **early 2016** that resulted in 2,017 confirmed Zika fever cases, the majority occurring on **St. Thomas**.
- 2 DOH tested 3,583 **pregnant women** for **Zika virus** in 2016, and 8.1% (292) were positive.
- 3 The rate of **HIV infection diagnosis decreased** by 80.4% from a high of 42.8 per 100,000 people in 2010 to a low of 8.4 per 100,000 people in 2018.
- 4 The incidence of **chlamydia** cases in the USVI **decreased** by 43.7% from a high of 757.2 per 100,000 people in 2011 to 430.7 per 100,000 people in 2017.
- 5 **Less than half** (41.7%) of adults aged 65 and older received the **pneumococcal vaccine** compared to 73.4% of adults nationally in 2016.

USVI By the Numbers

68	Number of confirmed foodborne and diarrheal illnesses between 2014 - 2018	83	Number of Norovirus cases during an outbreak in 2017
621	Number of people living with HIV/AIDS at the end of 2017	1,494	Number of CDC-funded HIV tests in 2017
49.5%	Adults who report ever having an HIV test in 2016	75	Number of Hepatitis cases from all causes between 2014 - 2018
65.9%	Households with pets vaccinated against rabies in 2017	0	Number of primary and secondary syphilis cases in 2017

For More Information

Visit doh.vi.gov

USVI 2020 Community Health Assessment

USVI Department of Health

3500 Estate Richmond

Christiansted, 00820-4323, U.S. Virgin Islands

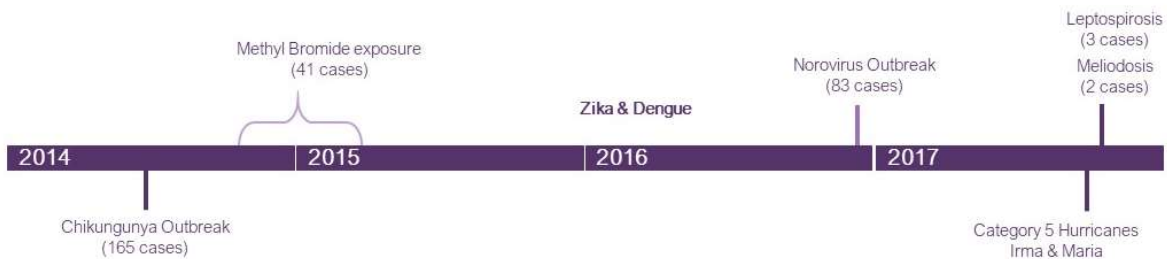
Infectious Diseases

Remaining free from infectious disease is a major determinant of how healthy we are as a community. As an island culture, we enjoy a **warm climate** that attracts thousands of visitors each year. With our geography and economy comes a responsibility to be vigilant about screening for and protecting ourselves from pathogens, including **new and re-emerging diseases** such as Zika virus. This chapter examines the **burden of infectious disease** on the health of USVI residents.

Food- & Vector-borne Disease

As a popular tourist destination with a tropical climate, the USVI experiences occasional outbreaks of both food- and vector-borne disease. Between 2014 and the end of 2017, the USVI experienced outbreaks from exposure to viral and bacterial pathogens including Norovirus, Chikungunya, Leptospirosis, Melioidosis, Dengue Fever, and Zika (**Figure 8.1**). In addition, 41 people were made ill by exposure to the pesticide Methyl Bromide in late 2014 and early 2015.

Figure 8.1 | **Timeline of Major Food- and Vector-Borne Disease Outbreaks, USVI, 2014-2017**

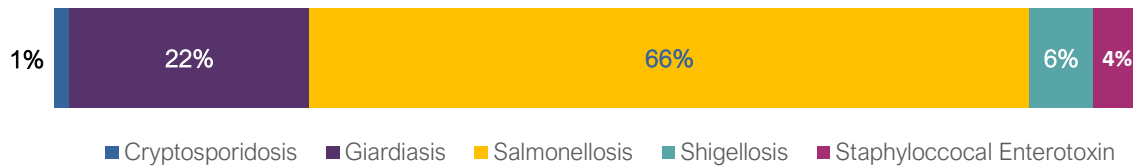


SOURCE | USVI DOH, Epidemiology and Disease Reporting Division

Foodborne and Diarrheal Disease

Between 2014 – 2018, there were 68 confirmed cases of foodborne and diarrheal illnesses in the USVI. The majority of these cases (45 total) were salmonellosis, a bacterial disease affecting the intestinal tract that is caused by consuming water or food contaminated with salmonella bacteria (**Figure 8.2**). There were 15 cases of giardiasis, a diarrheal disease caused by the Giardia parasite, during the same period. During late 2016 and early 2017, there was an outbreak of norovirus that affected 83 people.

Figure 8.2 | **Percent of USVI Foodborne and Diarrheal Disease Cases by Type, 2014-2018**



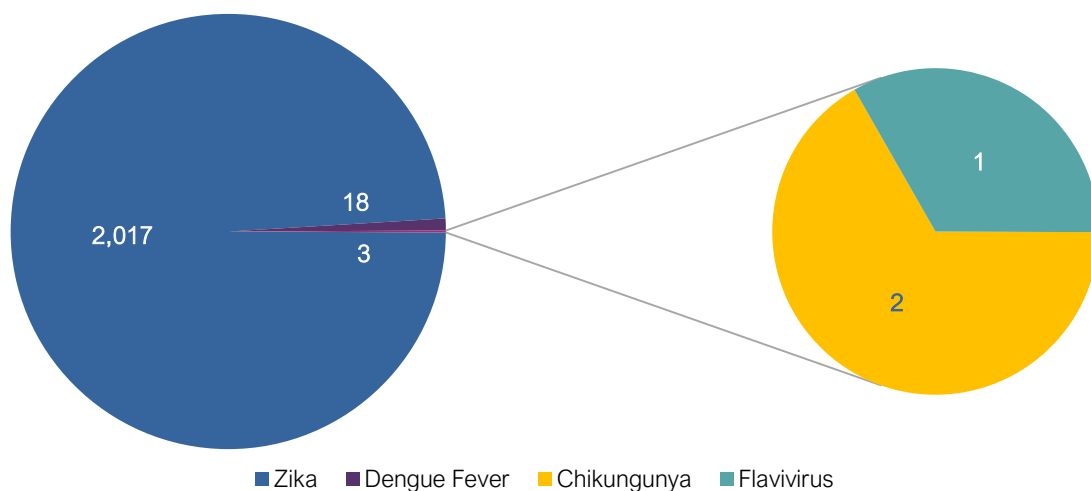
SOURCE | USVI DOH, VI-National Electronic Disease Surveillance System

Zika Virus and Other Arboviral Diseases

As an island community situated in a tropical climate, there are often cases of disease caused by viruses spread to people by the bite of infected insects such as mosquitoes and ticks. These arboviruses tend to be transmitted during warmer months of the year when their vectors are more active. USVI residents often develop symptoms aligned with flavivirus infection, a family of viruses that include West Nile virus, dengue virus, tick-borne encephalitis virus, and yellow fever virus. However, the number of confirmed cases is often much lower than suspected cases. Between 2016 – 2019, the top arboviruses were all mosquito-borne and included Zika, Dengue, Chikungunya, and other unspecified flavivirus (e.g., West Nile, etc.).

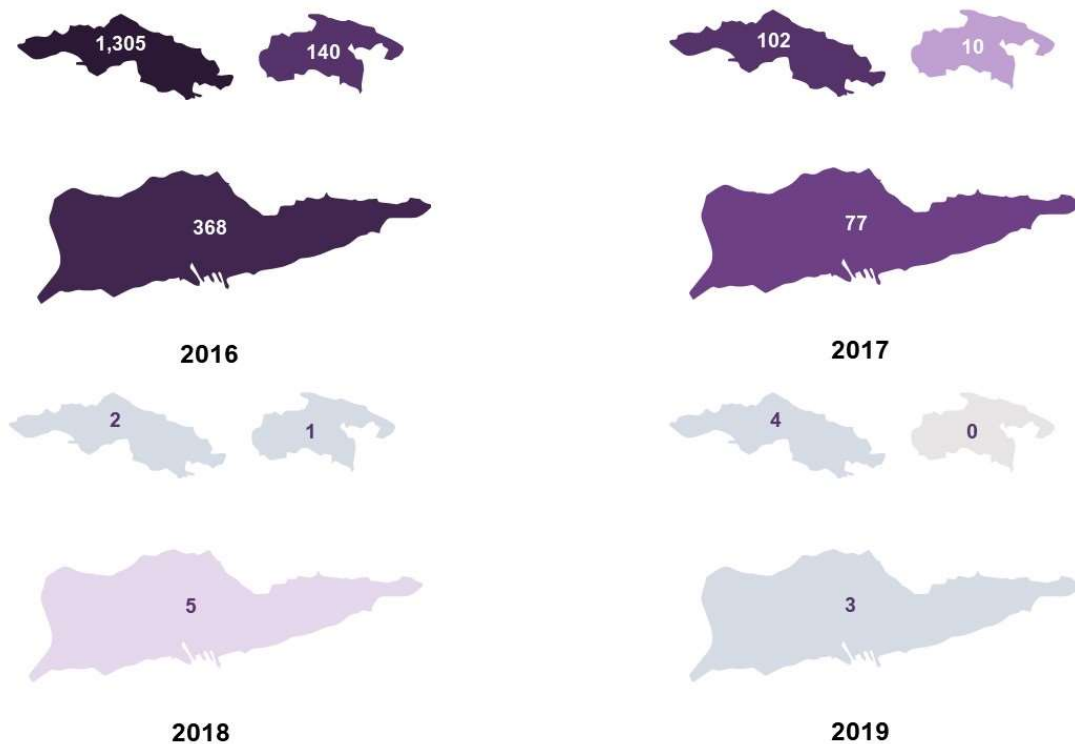
Zika virus infection rarely causes physical symptoms, but it does have dire effects in pregnant women. Pregnant women infected with Zika virus are at increased risk of birth defects such as microcephaly. An epidemic of Zika virus beginning in early 2016 resulted in 2,017 confirmed Zika fever cases (Figure 8.3). The majority of cases occurred on St. Thomas, peaking at 1,305 confirmed cases on the island in 2016 (Figure 8.4). St. Croix and St. John were not as affected by Zika virus as St. Thomas.

Figure 8.3 | **Number of USVI Confirmed Cases of Mosquito-Borne Disease, 2016-2019**



SOURCE | USVI DOH, VI-National Electronic Disease Surveillance System

Figure 8.4 | **Number of USVI Annual Confirmed Cases of Zika Fever, 2016-2019**

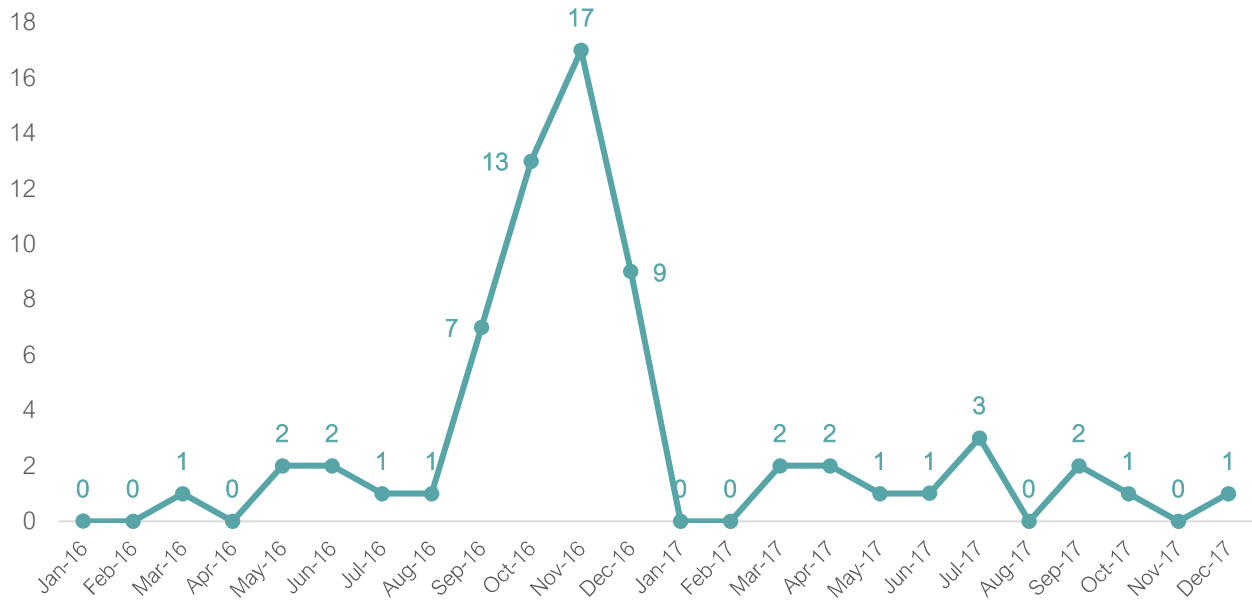


SOURCE | USVI DOH, VI-National Electronic Disease Surveillance System

In 2016, the USVI DOH in collaboration with its health care partners tested 3,583 pregnant women for Zika virus. Ultimately 8.1% (292) of pregnant women tested were positive for the Zika virus and were followed closely by medical providers. A total of 66 mothers positive for Zika virus delivered at DOH health care facilities between 2016 – 2017, and the highest number of births occurred in late 2016 (Figure 8.5). A total of 156 infants born to Zika-positive mothers were monitored after birth for signs of abnormalities during the 2016 – 2018 period. No information about the health status of those infants, their mothers, or other Zika-positive pregnant women was available at the time of publication of this report.

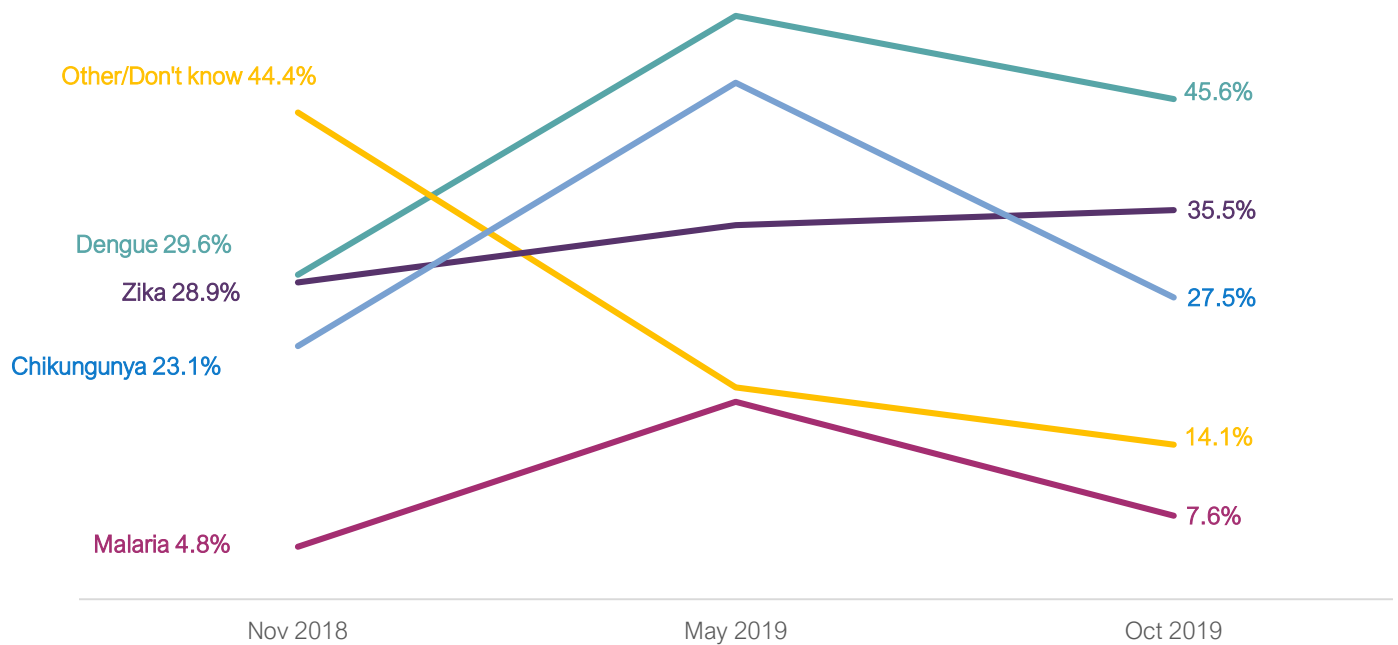
Following the hurricanes of 2017, there was increased concern about vector-borne diseases among USVI residents. According to the Community Assessment for Public Health Emergency Response (CASPER) surveys conducted between 2017 – 2019, concern about Dengue fever, Chikungunya, and Malaria grew between November 2018 – May 2019 but decreased by October 2019 (Figure 8.6). Concern about Zika virus grew less sharply and did not wane over the same time period.

Figure 8.5 | **Number of USVI Zika Virus Positive Mothers Delivering in DOH Facilities by Month, 2016-2017**



SOURCE | USVI DOH, VI-National Electronic Disease Surveillance System

Figure 8.6 | **Trend in Household Concern about Contracting Mosquito-borne Disease After Hurricanes Irma and Maria, USVI, 2017-2019**



SOURCE | CDC, CASPER Survey System

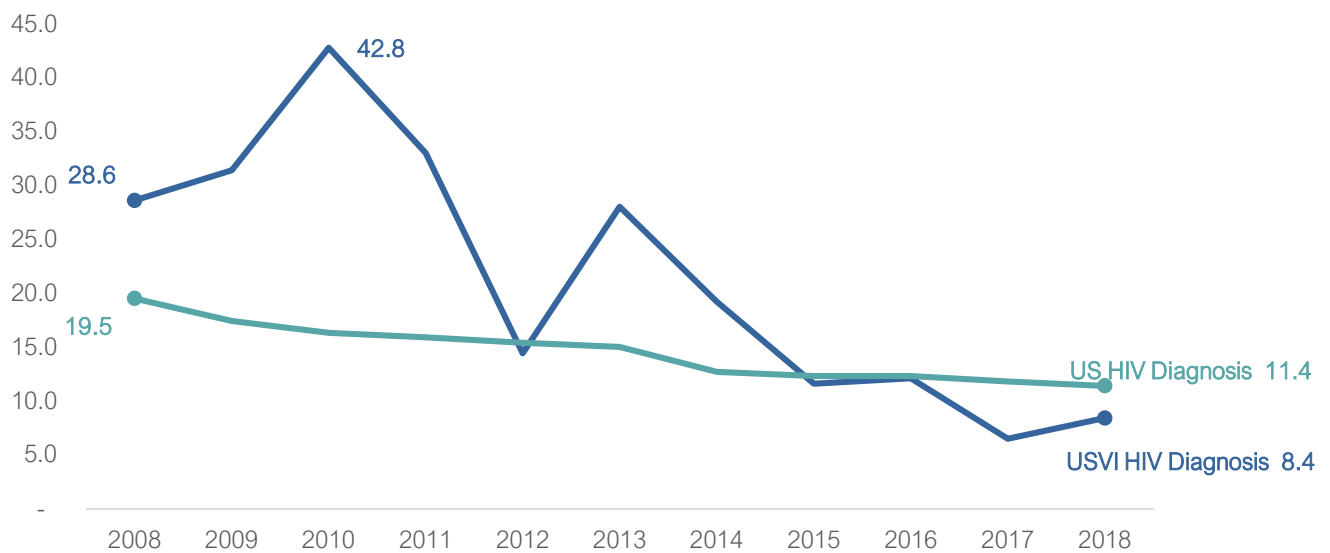
HIV/AIDS

HIV/AIDS Incidence and Prevalence

HIV/AIDS infection rates in the Caribbean are among the highest in the world, second only to Sub-Saharan Africa. The USVI has consistently ranked among the top states and territories in terms of HIV incidence and prevalence. At the end of 2007, the USVI's estimated HIV rate was 641.3 adults and adolescents per capita living with HIV, the second highest HIV rate per capita in the United States at the time.

In the past decade, the rate of HIV infection diagnosis has decreased by 80.4% from a high of 42.8 per 100,000 people in 2010 to a low of 8.4 per 100,000 people in 2018 (Figure 8.7). In 2018, the USVI ranked 33 among states and territories in terms of HIV prevalence with a rate of 7.9 per 100,000 people (data not shown).

Figure 8.7 | HIV Incidence Among USVI Residents, 2008-2018

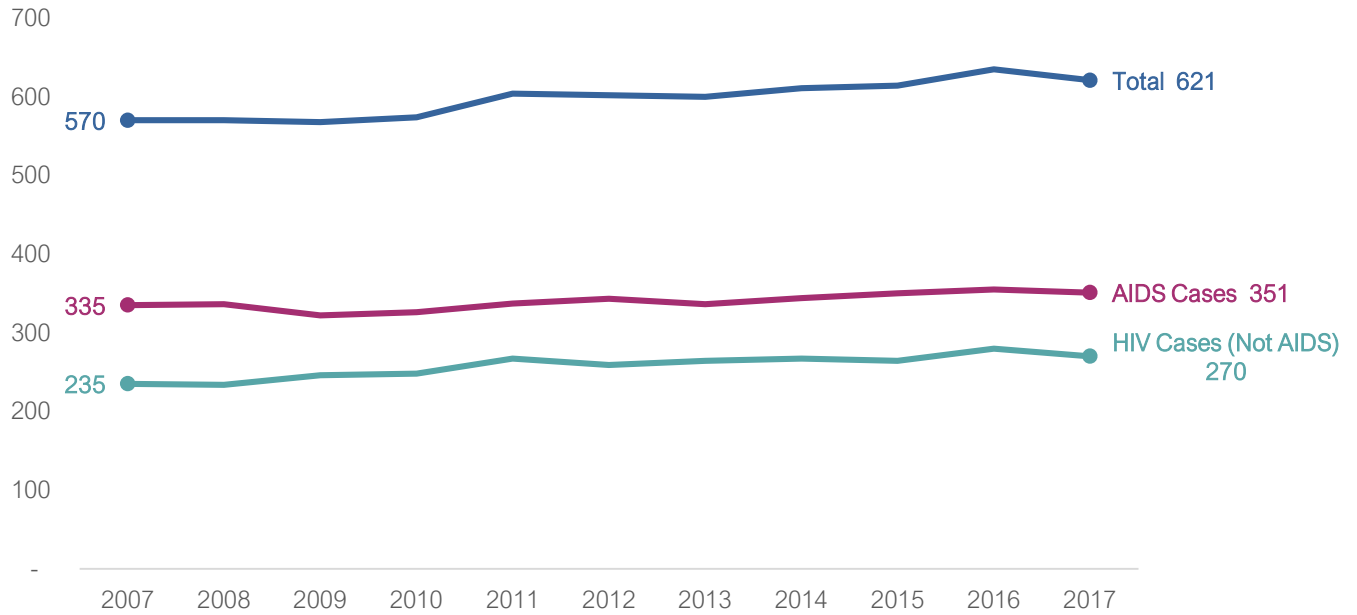


SOURCE | CDC, Division of HIV/AIDS Prevention, Annual HIV Surveillance Report

By the end of 2017, there were 270 people living with HIV and 351 living with AIDS in the USVI, a total of 621 residents (Figure 8.8). The number of persons living with HIV infection (not AIDS) increased from 237 people in 2005 to 270 people in 2017, a 13.9% increase. The number of persons living with HIV infection ever classified as AIDS increased from 296 people in 2005 to 351 people in 2019, a 18.6% increase (data not shown). A majority of persons living with AIDS in the USVI are Black or African-American (52.5%) or Hispanic (37.3%) (Figure 8.9). Cumulatively since the beginning of the HIV/AIDS epidemic, there have been 808 cases of AIDS among adults and adolescents and 21 among children living in the USVI (data not shown). The prevalence of AIDS in

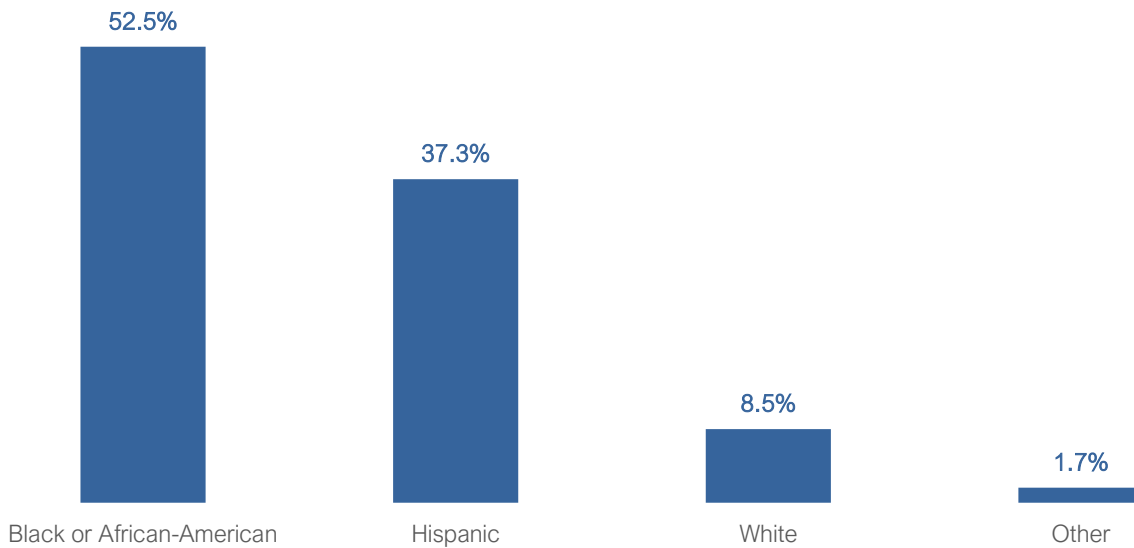
the USVI has decreased from 12.7 per 100,000 people in 2008 to 4.7 per 100,000 people in 2018, falling below the U.S. rate for the second year in a row (Figure 8.10).

Figure 8.8 | **Number of Persons Living with HIV/AIDS in the USVI, 2007-2017**



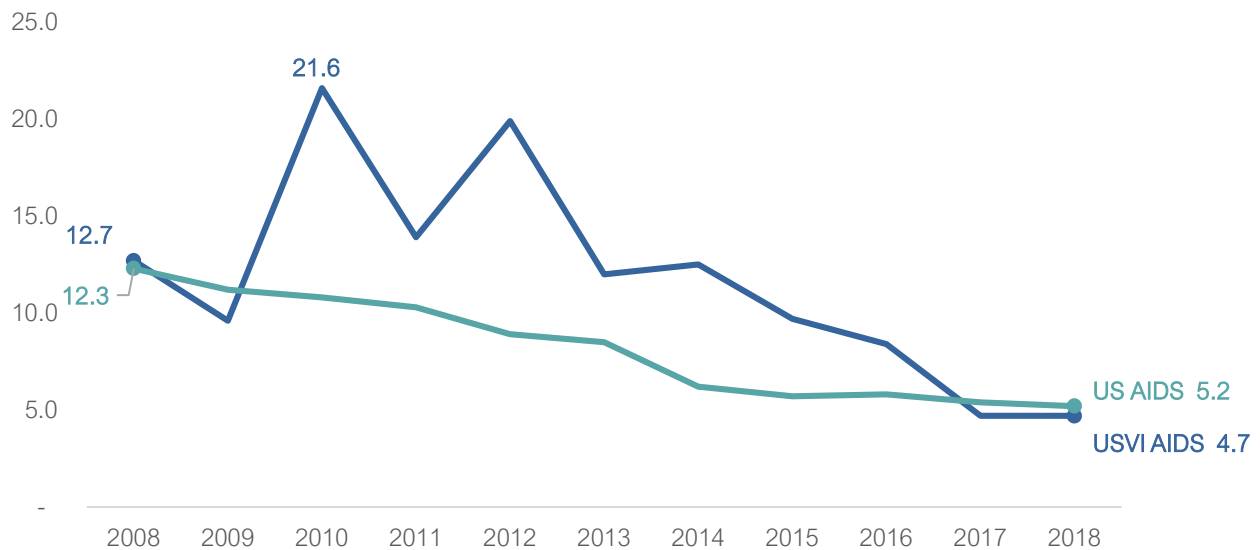
SOURCE | CDC, Division of HIV/AIDS Prevention, Annual HIV Surveillance Report

Figure 8.9 | **Percent of USVI AIDS Cases by Race and Ethnicity, 2018**



SOURCE | CDC, Division of HIV/AIDS Prevention, Annual HIV Surveillance Report

Figure 8.10 | **Prevalence of AIDS Among USVI Residents, 2008-2018**



SOURCE | CDC, Division of HIV/AIDS Prevention, Annual HIV Surveillance Report

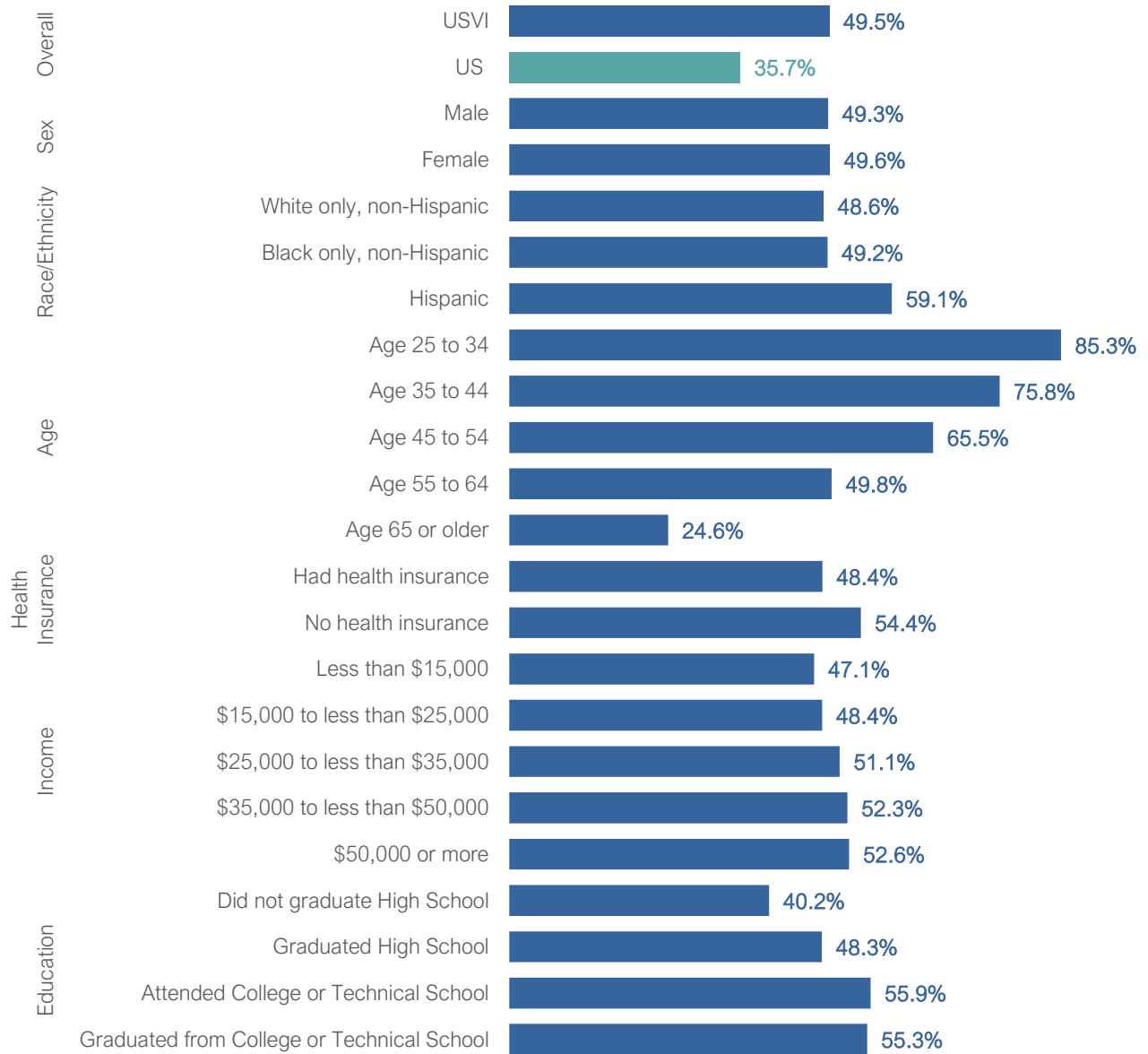
HIV Testing

Almost half the USVI adult population has been tested for HIV. In 2016, 49.5% of USVI adults reported ever having a test for HIV compared to 35.7% of adults nationally (Figure 8.11). Persons identifying as Hispanic, and of younger age, without health insurance, with high income, or with more education had the highest prevalence of HIV testing. In 2017, the USVI administered 1,494 CDC-funded HIV tests (data not shown).

HIV/AIDS Treatment

DOH provides medication assistance to 54 individuals through the AIDS Drug Assistance Program (ADAP) and insurance co-pay. ADAP and co-pay assistance is funded through the Ryan White Program from the Health Resources and Services Administration (HRSA). The average cost for medications for an individual living with HIV can be very expensive. However, DOH receives a significant discount on HIV medication as a HRSA 340B eligible entity. On an average, DOH spends \$32,999 a month for ADAP medications and \$3,400 for insurance co-pay assistance at the 340B rate.

Figure 8.11 | **Percent of USVI Adults Tested for HIV, 2016**



SOURCE | CDC, Behavioral Risk Factor Surveillance System

Sexually Transmitted Diseases

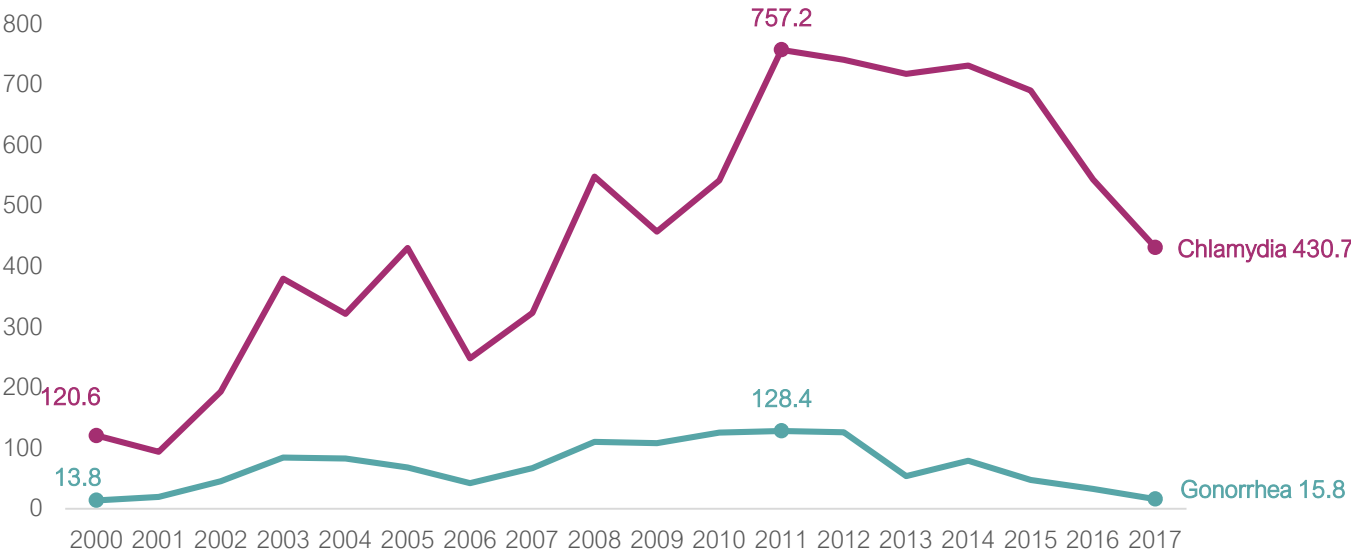
Chlamydia, a curable sexually transmitted infection caused by the bacteria *chlamydia trachomatis*, is the most common sexually transmitted infection in the United States. The incidence of chlamydia nationally has been increasing steadily for the past two decades, from 251.2 per 100,000 people in 2000 to 524.6 per 100,000 people in 2017 (data not shown). The USVI mirrored the national trend over most of the same period, peaking in 2011 with a high of 820 cases (data not shown). The incidence of chlamydia cases in the USVI has decreased by 43.7% from a high of 757.2 per 100,000

people in 2011 to 430.7 per 100,000 people in 2017 (Figure 8.12). Following national trends, female USVI residents have the highest incidence of chlamydia at 571.2 per 100,000 among females compared to 277.1 per 100,000 among males in 2017 (data not shown). Chlamydia incidence was also highest in the 20- to 24-year age group in 2017 at 2,818.8 per 100,000 people, a rate similar to the national level of 2,853.7 per 100,000 people (Figure 8.13). USVI teens aged 15 to 19 years had the second highest chlamydia incidence rate in 2017 (1,637.2 per 100,000 people).

Gonorrhea is a curable sexually transmitted disease caused by the bacterium *Neisseria gonorrhoeae*. Like chlamydia, the incidence of gonorrhea has increased nationally from 98.2 per 100,000 people in 2000 to 170.6 per 100,000 people in 2017 (data not shown). The USVI has few cases of gonorrhea annually, with a recorded 17 cases in 2017, although the number of cases did experience an upward trend between 2000 – 2011 (data not shown). The gonorrhea incidence rate decreased by 87.7% from 128.4 per 100,000 in 2011 to 15.8 per 100,000 people in 2017 (Figure 8.12).

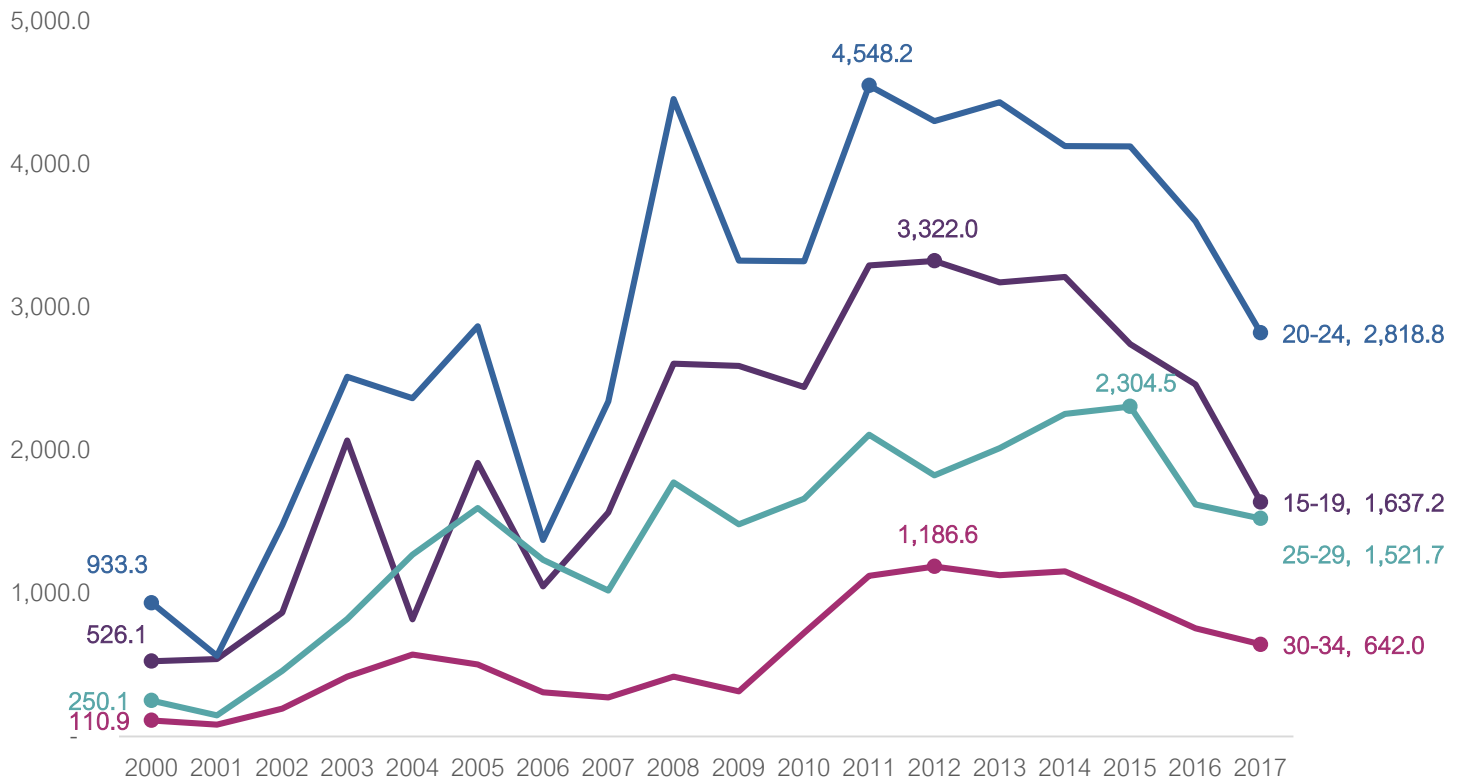
Syphilis, a curable sexually or congenitally transmitted disease caused by the bacterium *treponema pallidum*, is one of the least common sexually transmitted infections in the United States. There were no cases of primary or secondary syphilis in the USVI in 2017. Between 2000 – 2017, the USVI DOH recorded a total of 23 cases of primary or secondary syphilis with the last confirmed cases occurring in 2015 (eight cases) (data not shown). The last cases of congenital syphilis were recorded in 2001 (data not shown).

Figure 8.12 | **Incidence of Chlamydia and Gonorrhea, USVI, 2000-2017**



SOURCE | CDC, Division of STD Prevention

Figure 8.13 | **Chlamydia Incidence by Age Group, 15-34, USVI, 2000-2017**



SOURCE | CDC, Division of STD Prevention

Hepatitis

Hepatitis refers to inflammation of the liver, which is often caused by a virus, but can also be caused by alcohol consumption or drug use. The three most common types of Hepatitis are A, B, and C. Hepatitis A and B are vaccine-preventable diseases. There is no vaccine for Hepatitis C, but appropriate treatment can clear the infection and cure the disease.

There are very few cases of Hepatitis annually in the USVI. Between 2014 – 2018, there were 78 cases of Hepatitis A, B, and C combined (data not shown). The majority of those cases were chronic Hepatitis C, with 43 cases.

Vaccinations

Influenza Vaccination

Influenza is sporadic in the USVI, with a total of 182 suspected (and 14 confirmed) cases of influenza reported during the entire 2014 – 2018 period. Despite the low incidence of influenza, the USVI DOH aggressively promotes CDC’s guidelines to vaccinate all people six months and older. In 2016, 20.1% of adults reported receiving the influenza vaccine compared to 58.2% of adults nationally (Figure 8.14). Those USVI residents with the highest influenza vaccination rates included persons aged 18 to 24 years, persons aged 65 or older, persons identifying as White, and higher income or education.

Pneumococcal Vaccination

Pneumococcal disease is a vaccine-preventable illness caused by the bacteria *Streptococcus pneumoniae* (pneumococcus) and leads to 150,000 hospitalizations annually in the United States. The effects of pneumococcal disease are wide-ranging and include sinus infections and pneumonia. In some cases, severe illness can result in death. There were approximately 3,600 deaths nationally in 2017 due to pneumococcal disease.

The CDC recommends pneumococcal vaccination for all children younger than two years old and all adults 65 years or older. In 2016, 41.7% of adults aged 65 and older received the pneumococcal vaccine compared to 73.4% of adults nationally (Figure 8.15).

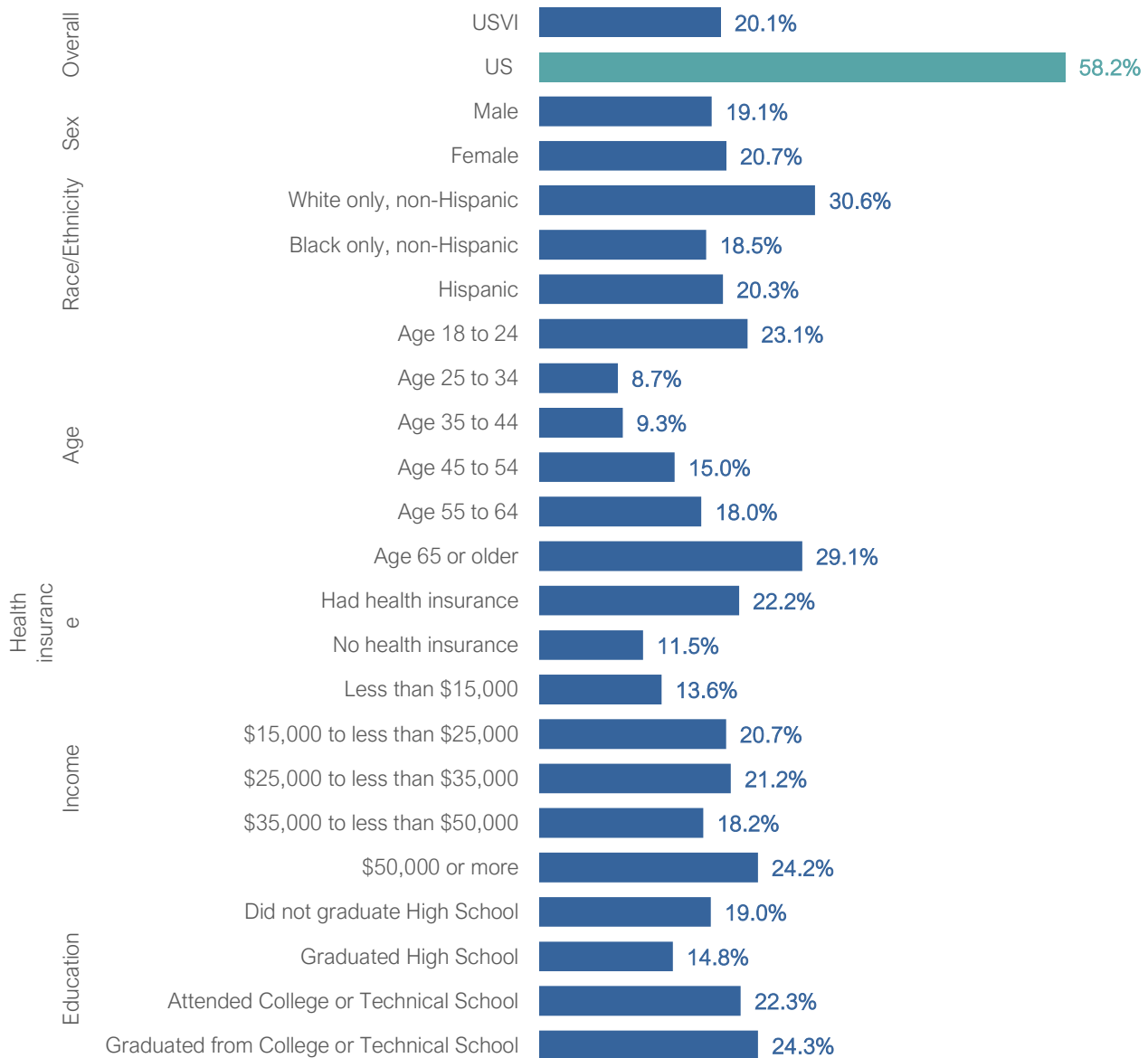
Pet Rabies Vaccination

Rabies is a fatal viral infection that infects the central nervous system, causing brain inflammation in humans and other mammals. Due to widespread vaccination of companion animals, transmission of rabies to humans is very low in the United States with an average of two to three cases per year. An estimated 52.3% of households in the USVI have pets. In the aftermath of Hurricanes Irma and Maria, there was concern in the USVI about ensuring adequate pet rabies vaccination coverage among domestic animals. Among households with pet, 65.9% reported in the CASPER survey that their pets were vaccinated for rabies.

Emerging Pathogens

The USVI has relatively low incidence of many diseases commonly seen in other parts of the Caribbean and the mainland United States. However, there are a handful of infectious diseases that the USVI DOH is monitoring due to recent outbreaks. For example, there was an outbreak of antibiotic-resistant Enterobacteriaceae at a health care facility in March 2017 resulting in eight confirmed cases occurring between March 4 – March 31, 2017.

Figure 8.14 | **Percent of USVI Adults Who Received the Influenza Vaccine, 2016**



SOURCE | CDC, Behavioral Risk Factor Surveillance System

Figure 8.15 | **Percent of USVI Aged 65+ Who Received the Pneumococcal Vaccine, 2016**



SOURCE | CDC, Behavioral Risk Factor Surveillance System

A new virus called SARS-CoV-2 has emerged as a potential threat to the United States and its territories. SARS-CoV-2 is spread person to person and causes a respiratory infection referred to as coronavirus disease 2019 (COVID-19). On March 11, 2020, the World Health Organization described SARS-CoV-2 as a pandemic. As of the publication of this report, there were a number of confirmed cases of COVID-19 in the USVI as well as some deaths. Because there is no vaccine for SARS-CoV-2 and identifying effective treatment is ongoing, the USVI is monitoring this situation closely and will update this assessment with continued surveillance. Numbers are sure to rise and will need a long term, sustained, public health response.

Looking Ahead

The USVI has a history of outbreaks of food- and vector-borne diseases, owing to its geographic location in the Caribbean and its position as a tourist destination. Its most recent outbreak of the Zika virus affected over 2,000 people in the USVI, including almost 300 pregnant women. The USVI DOH infectious disease surveillance activities are a crucial component of public health in the USVI, especially as the SARS-CoV-2 pandemic progresses. It is vital that the USVI DOH continue to monitor and release information about pathogens affecting residents with transparency to the public.



CHAPTER 9

Mortality & Hospital Care

MORTALITY TRENDS | LIFE EXPECTANCY | PREMATURE MORTALITY | HOSPITALIZATIONS & EMERGENCY CARE

USVI Community Health Assessment 2020

Mortality & Hospital Care

Five Things You Should Know in 2020

- 1 Between 2008 - 2015, the overall USVI mortality rate declined from 729.0 deaths per 100,000 to 531.0 deaths per 100,000.
- 2 The four leading causes of death in the USVI in 2016 were heart disease, cancer, homicide, and unintentional injuries.
- 3 The USVI has the highest homicide rate in the United States and the fifth highest in the world.
- 4 In 2017, the top cause of premature death in the USVI was homicide, with 2,341.3 years of potential life lost before the age of 75 per 100,000 residents.
- 5 The most common complaints among emergency department visits between 2016 - 2019 were abdominal pain, a “check-up,” or lower extremity pain or injury.

USVI By the Numbers

78.6	Life expectancy in 2017	#1	Rank in homicide rate among United States states & territories in 2016
2,341	Years of potential life lost before 75 due to homicide in 2017	45	Number of people who died from homicide in 2016
125	Number of people who died from heart disease in 2016	24	Number of people who died from unintentional injury in 2016
109	Number of people who died from cancer in 2016	2,650	Number of hospital admissions on St. Croix in 2019

For More Information

Visit doh.vi.gov

USVI 2020 Community Health Assessment

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Mortality & Hospital Care

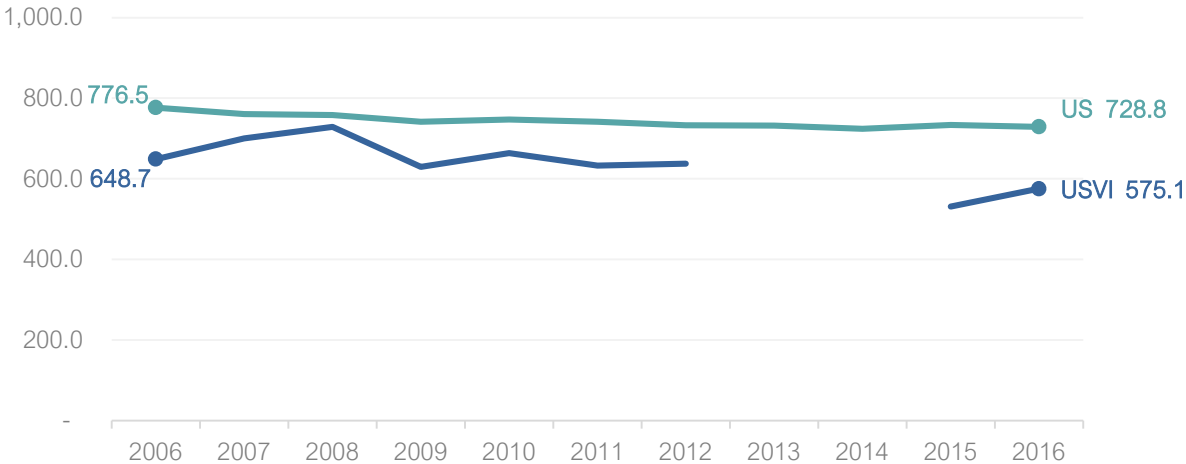
Examining how we die provides clues into how healthy we are as a community. Some deaths, like those caused by intentional or unintentional injury, are preventable and shorten our lifespan. Trends in mortality also tell us how well our health care system is working. Hospitalizations and emergency care are our safety net when our health declines or when we want to improve our health with surgical intervention. This chapter describes how we die and how we use our health care system.

Mortality Trends

Overall Mortality Rate

The overall mortality rate in the USVI has been decreasing, following the national trend. Between 2008 – 2015, the overall mortality rate declined from 729.0 deaths per 100,000 to 531.0 deaths per 100,000 (Figure 9.1). The USVI mortality rate increased between 2015 – 2016 to 575.1 deaths per 100,000.

Figure 9.1 | USVI Age-Adjusted Mortality Rate per 100,000, 2006-2016



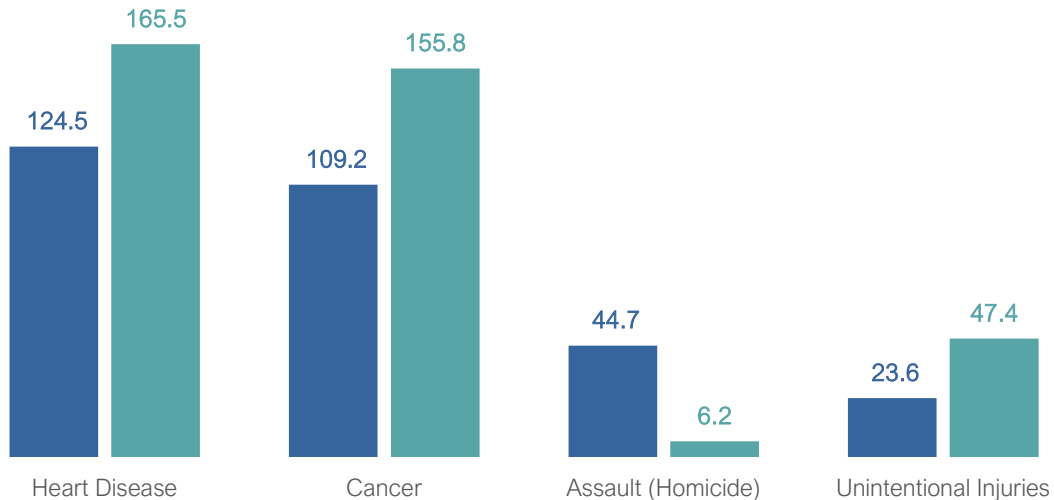
SOURCE | National Center for Health Statistics, National Vital Statistics System

Leading Causes of Death

The four leading causes of death in the USVI in 2016 were heart disease, cancer, homicide, and unintentional injuries. The USVI death rates for the top four causes were lower than the national

rate, with the exception of homicide with 44.7 deaths per 100,000 compared to 6.2 deaths per 100,000 nationally (Figure 9.2).

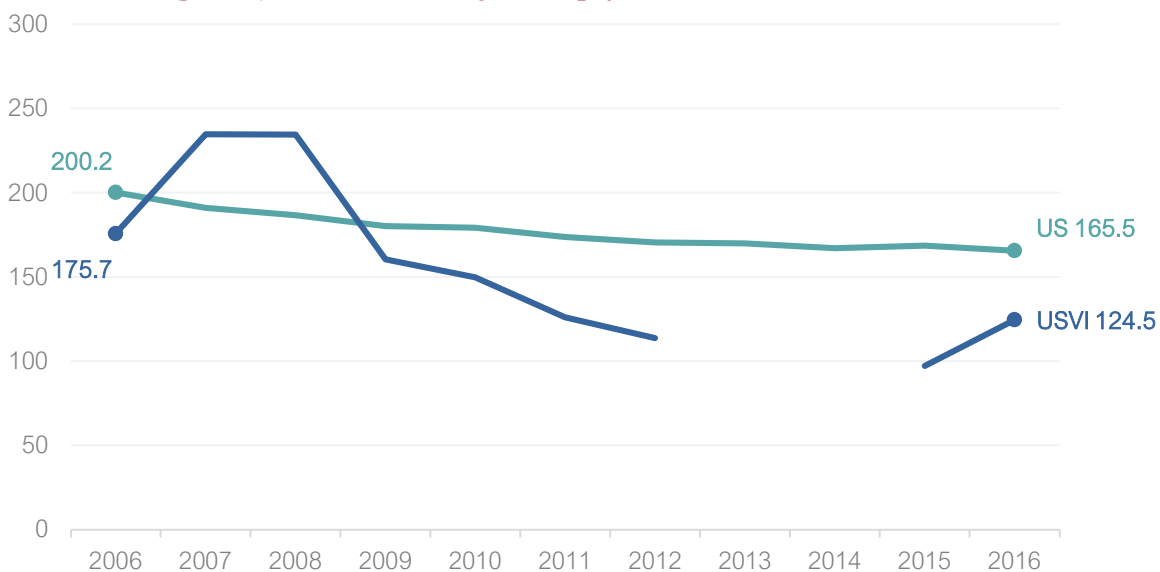
Figure 9.2 | **USVI Age-Adjusted Deaths per 100,000 for Top Causes of Death, 2016**



SOURCE | National Center for Health Statistics, National Vital Statistics System

Heart disease is the leading cause of death in the United States and in every state and territory. The death rate due to heart disease has been trending downward nationally, as has the USVI rate. However, the USVI death rate from heart disease increased between 2015 – 2016 (from 97.1 per 100,000 in 2015 to 124.5 per 100,000 in 2016) (Figure 9.3).

Figure 9.3 | **USVI Age-Adjusted Mortality Rate per 100,000 for Heart Disease, 2006-2016**

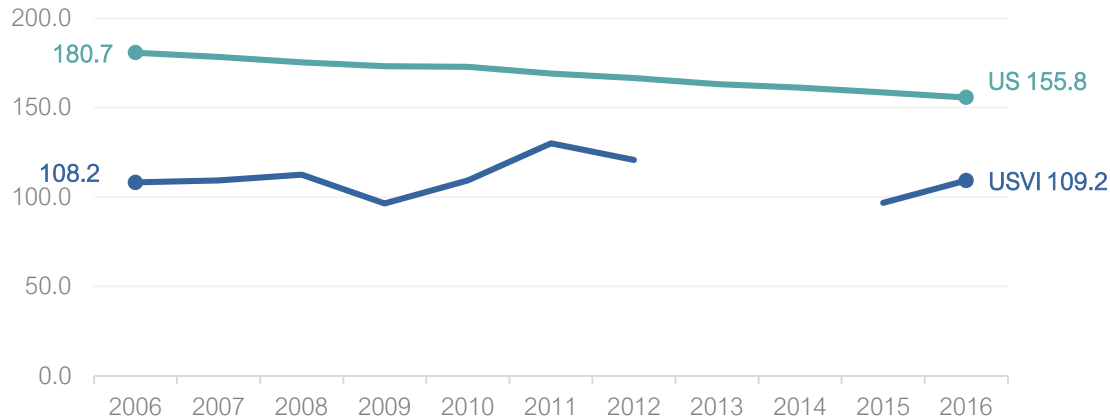


SOURCE | National Center for Health Statistics, National Vital Statistics System

NOTE | Vital statistics for the USVI are unavailable for 2013-2014.

Cancer mortality has also been declining nationally but began increasing in the USVI in 2015. The USVI cancer mortality rate increased from 96.7 per 100,000 in 2015 to 109.2 per 100,000 in 2016 (Figure 9.4).

Figure 9.4 | **USVI Age-Adjusted Mortality Rate per 100,000 for Cancer, 2006-2016**

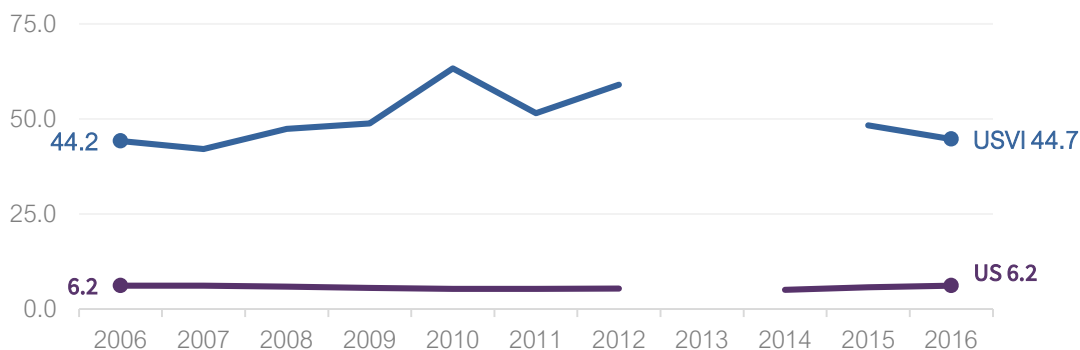


SOURCE | National Center for Health Statistics, National Vital Statistics System

NOTE | Vital statistics for the USVI are unavailable for 2013-2014.

While the USVI has a higher rate of homicide than the United States, the overall homicide rate in the USVI has been decreasing steadily since 2010—from 63.3 deaths per 100,000 in 2010 to 44.7 deaths per 100,000 in 2016 (Figure 9.5). Among other countries, the USVI homicide rate is fifth in the world behind Jamaica with 47.0 deaths per 100,000 in 2016 (Figure 9.6). The USVI has the highest homicide rate in the United States and is more than double the rate in Louisiana, which has the second highest homicide rate in the United States at 14.3 deaths per 100,000 (Figure 9.7).

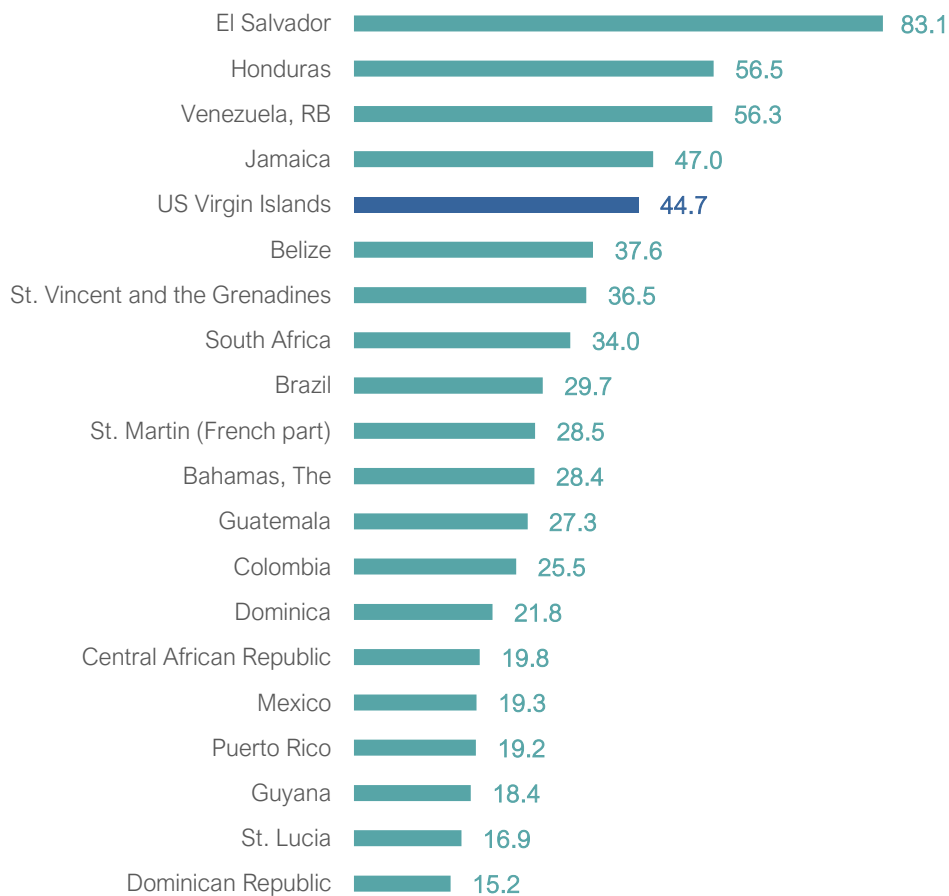
Figure 9.5 | **USVI Age-Adjusted Mortality Rate per 100,000 for Assault (Homicide), 2006-2016**



SOURCE | National Center for Health Statistics, National Vital Statistics System

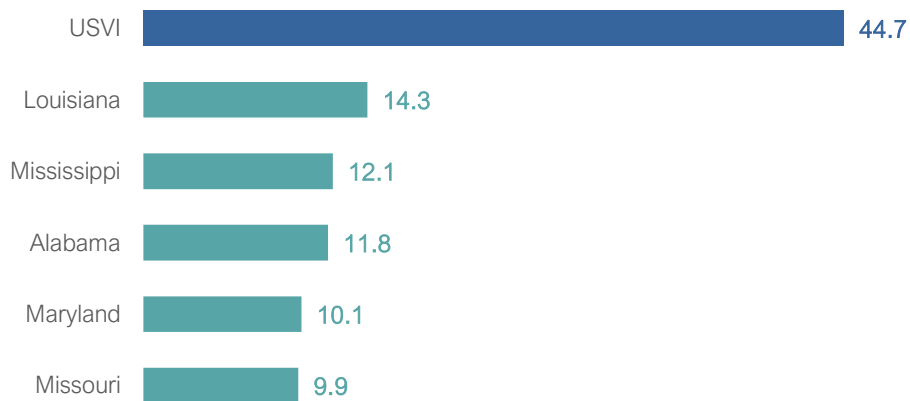
NOTE | Vital statistics for the USVI are unavailable for 2013-2014.

Figure 9.6 | **Homicides per 100,000, by Top 20 Countries with Highest Homicide Rates, 2016**



SOURCE | UN Office on Drugs and Crime's International Homicide Statistics database

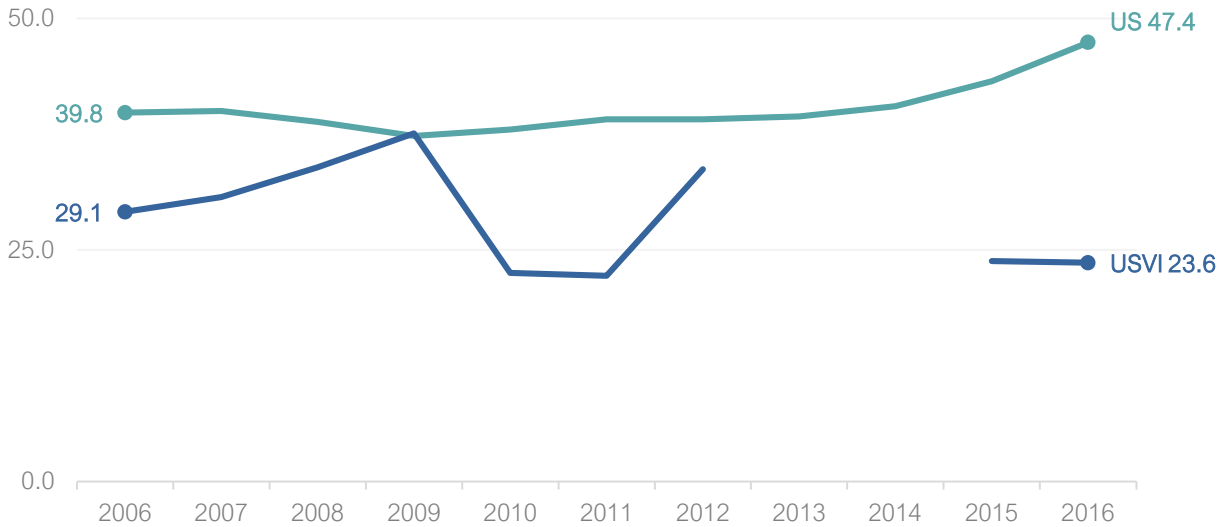
Figure 9.7 | **Homicides per 100,000, USVI and Top 5 U.S. States, 2016**



SOURCE | NCHS, National Vital Statistics System

The death rate for unintentional injuries has been increasing nationally but has decreased in the USVI from 29.1 deaths per 100,000 in 2006 to 23.6 deaths per 100,000 in 2016 (Figure 9.8).

Figure 9.8 | **USVI Age-Adjusted Mortality Rate per 100,000 for Unintentional Injuries, 2006-2016**



SOURCE | National Center for Health Statistics, National Vital Statistics System

NOTE | Vital statistics for the USVI are unavailable for 2013-2014.

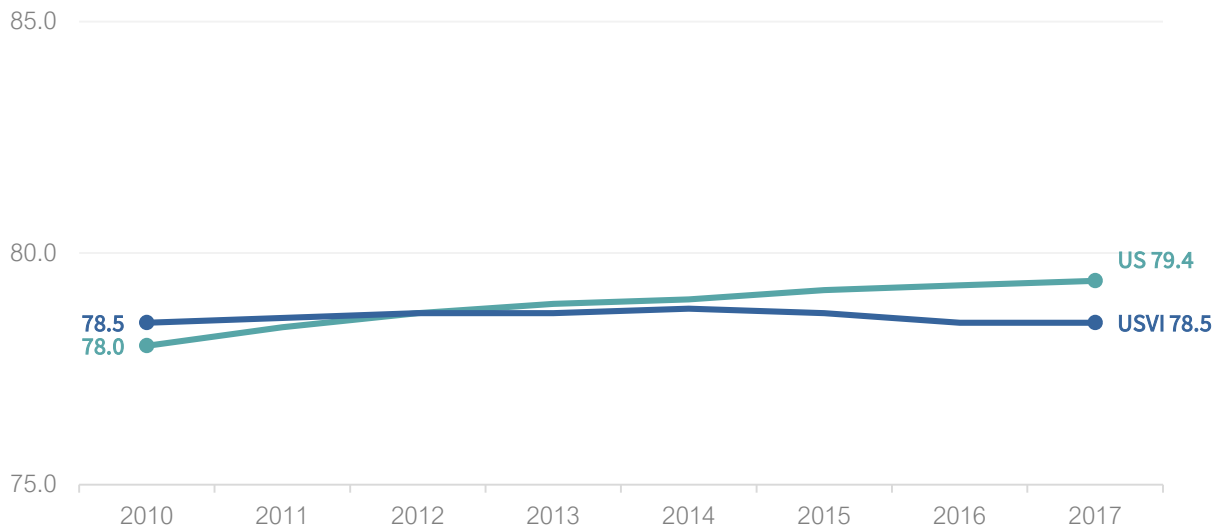
Life Expectancy

Life expectancy in the U.S. Virgin Islands has remained consistent over the past several years at 78.5 years (Figure 9.9) but increased to 79.8 years in 2019, according to the Central Intelligence Agency World Fact Book. In contrast, life expectancy in the United States has been declining since 2017, from 79.4 years to 78.6 years in 2019.

Premature Mortality

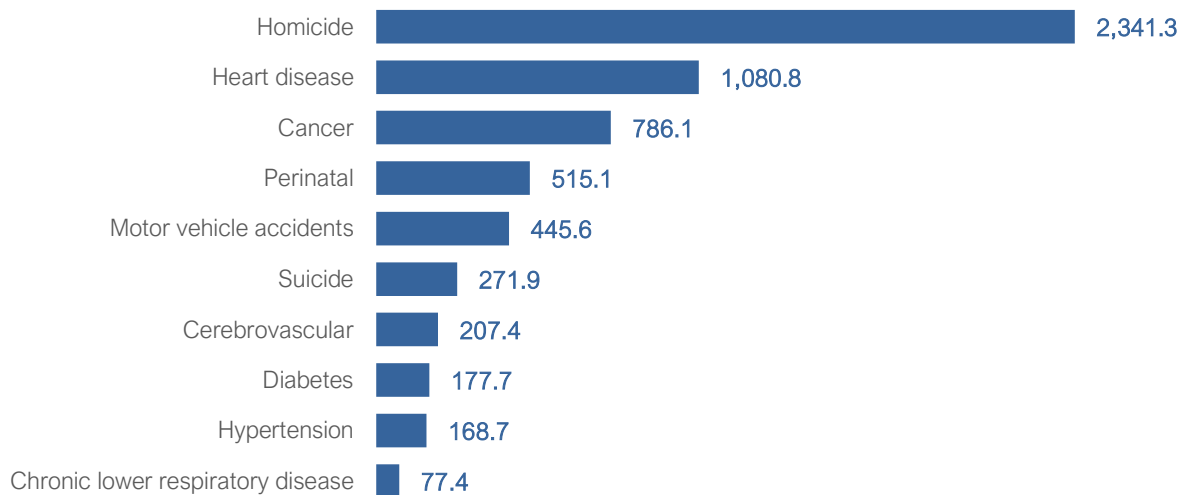
Premature mortality measures the numbers of years a person could have lived if a preventable event or condition had not caused death. In 2017, the top cause of premature death in the USVI was homicide, with 2,341.3 years of potential life lost before the age of 75 per 100,000 residents (Figure 9.10). The years of potential life lost due to homicide was more than double the second cause of premature death: heart disease.

Figure 9.9 | **Number of Years Lived on Average by USVI Residents, 2010-2017**



SOURCE | World Bank World Development Indicators

Figure 9.10 | **Number of USVI Resident Years of Potential Life Lost Before Age 75, 2017**



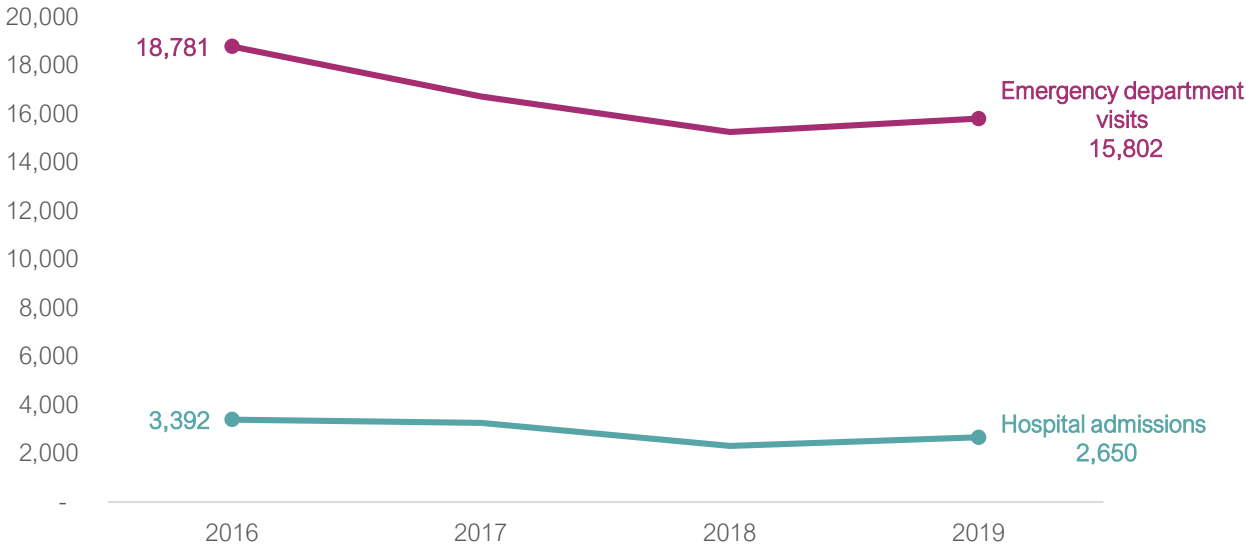
SOURCE | National Center for Health Statistics, National Vital Statistics System

Hospitalizations & Emergency Care

Both hospitals in the USVI experienced major damage following Hurricanes Irma and Maria in late 2017. During the storm, Schneider Regional Medical Center Hospital evacuated all its patients to St. Croix and other hospitals in the region. Hospital admissions and emergency department visits

declined over the 2016 – 2019 period at one of USVI’s major hospitals.³ In 2016, the Juan F. Luis Hospital and Medical Center had 3,392 admissions, but this number declined to 2,650 in 2019 (Figure 9.11). Emergency department visits followed the same trend, declining from 18,781 visits in 2016 to 15,802 visits in 2019. The decline may be due to facility destruction caused by Hurricanes Irma and Maria and the challenges associated with providing health services during recovery.

Figure 9.11 | **Number of Hospital Admissions and Emergency Department Visits at Governor Juan F. Luis Hospital and Medical Center, St. Croix, USVI, 2016-2019**

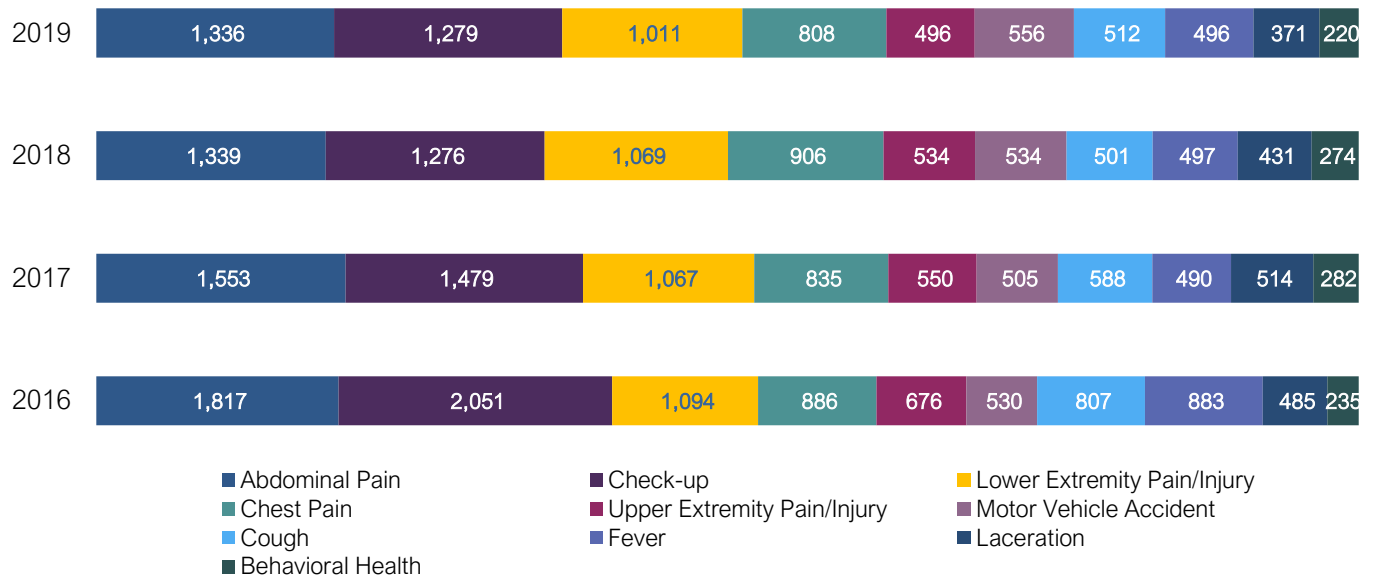


SOURCE | USVI Department of Health

The most common complaints among emergency department visits between 2016 – 2019 were abdominal pain, a check-up, or lower extremity pain or injury (Figure 9.12). The number of visits for check-ups in 2019 was 1,279—a decrease from 2,051 visits for check-ups at the emergency department in 2016. The largest source of health insurance among persons admitted to the hospital between 2016 – 2019 was either Medicare or Medicaid (Figure 9.13).

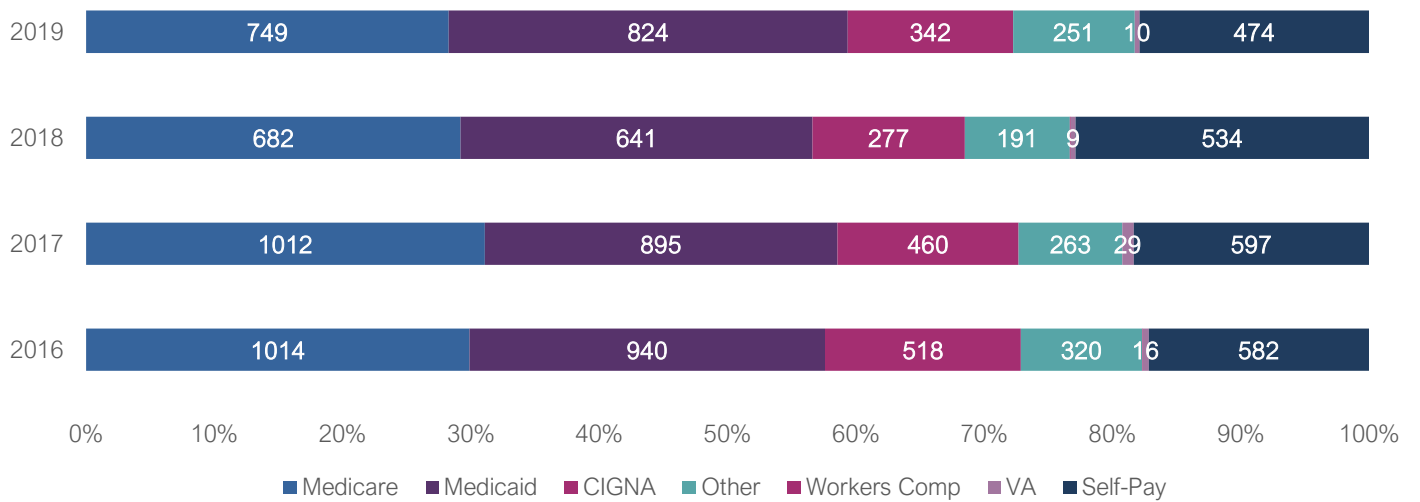
³ Data available for this portion of the assessment is from the Juan F. Luis Hospital and Medical Center on St. Croix unless otherwise specified. More detailed information describing inpatient and emergency department care at Schneider Regional Medical Center in St. Thomas was unavailable for this report.

Figure 9.12 | **Top Ten Chief Complains at the Emergency Department, Governor Juan F. Luis Hospital and Medical Center, St. Croix, USVI, 2016-2019**



SOURCE | USVI Department of Health

Figure 9.13 | **Number of Hospital Admissions by Insurance Source, Governor Juan F. Luis Hospital and Medical Center, St. Croix, USVI, 2016-2019**



SOURCE | USVI Department of Health

Looking Ahead

Mortality is the final marker for health in any community. The number of USVI residents of older age is increasing, which means that diseases like heart disease and cancer are also increasing. While overall mortality rates are decreasing, there is one cause of death that is notable: death by homicide. The USVI has the highest homicide rate in the United States compared to all other states and territories and has the fifth highest homicide rate in the world when compared to other countries. This trend is consistent and urgent. Men, particularly young men, are dying from violence that is preventable and this must be addressed to ensure a healthier USVI.

At the same time, the USVI health care system is serving community residents for primary care—a challenge experienced across the United States and beyond. This trend is important, especially because of destruction to key acute care facilities during the 2017 hurricane season and the need to ensure capacity to handle emerging health threats like COVID-19. A key next step for the USVI DOH is to improve availability of health care statistics to assess system capacity across all services provided territory-wide.

As mentioned in Chapter 4: Births and Reproductive Health, there is a gap in vital statistics data, including death statistics. There is no data on mortality for both 2013 and 2014. This gap impairs the USVI DOH's capacity to assess improvements and drivers of trends in mortality. It will be important to address this gap in future assessments to better support planning for community health improvement activities.



Appendix

USVI Community Health Assessment 2020

Glossary of Terms

Birth rate	The number of live births per 1,000 women in a specific population or location.
CASPER	The Community Assessment for Public Health Emergency Response survey system is a data collection system funded and conducted by the Centers for Disease Control and Prevention.
Determinants of health	The personal, social, economic, and environmental factors that determine the health status of individuals or populations.
Epidemic	The occurrence of cases of an illness, health-related behavior, or other health-related event in excess of what one would normally expect in a specific population or location.
Fertility rate	The number of births per 1,000 women in a specific population or location.
Incidence	The number of cases of disease that occur during a specified period. Incidence is often expressed as a rate.
Infant mortality	The number of babies born alive who die before their first birthday per 1,000 live births.
Leading Health Indicators	A smaller set of measures from the Healthy People 2020 initiative that describe high-priority targets (e.g., diabetes prevalence, current smoking).
Life Expectancy	A measure of the average time a person can be expected to live in a specific population or location.
Morbidity	A measure describing the presence of disease or a health condition in a specific population or location.
Mortality	A measure of deaths in a specific population or location.
Pandemic	An epidemic that affects or attacks the population of an extensive region, country, or continent.
Partners	Individuals, leaders, organizations, and agencies that collaborate with the USVI DOH to improve the health and wellness of Virgin Islanders.
Pathogen	A microorganism such as bacterium, virus, or fungus that causes disease in people or animals.
Prevalence	The number of cases of a disease, affected people, or people with a characteristic related to health and wellness that is present during a specified time period. Prevalence is often expressed as a rate.

Screening	The use of technology and procedures to differentiate those individuals with signs or symptoms of disease from those less likely to have the disease.
Statistical Significance	A measure of likelihood that a relationship between two or more things is caused by something other than chance.
Years of Potential Life Lost	A measure of the effects of disease or injury in a population that calculates years of life lost before a specific age (often ages 64 or 75).

Abbreviations

AIDS	Acquired Immunodeficiency Disease Syndrome
BRFSS	Behavioral Risk Factor Surveillance System
CASPER	Community Assessment for Public Health Emergency Response
CDC	Centers for Disease Control and Prevention
HIB	Haemophilus influenzae type B vaccine
HIV	Human Immunodeficiency Virus
HRSA	Human Resources and Services Administration
MMR	Measles, mumps, rubella vaccine
SNAP	Supplemental Nutrition Assistance Program
TANF	Temporary Assistance for Needy Families
USPSTF	United States Preventive Services Task Force
USVI DOH	United States Virgin Islands Department of Health
WIC	Special Supplemental Nutrition Program for Women, Infants, and Children
YRBS	Youth Risk Behavior Survey