

US VIRGIN ISLANDS DEPARTMENT OF HEALTH

Epidemiology Division
2022 Annual Report





Epidemiology staff supporting awareness for domestic violence during the 2022 St. Thomas Take Back the Night event, October 2022.



Ms. Janelle Rossington (back left), Ms. Yamilix Cruz, Ms. Andrea Baptiste, Ms. Jocelyn Simmers, Ms. Corinne Barber, Ms. Brenae Zimmerman, Dr. Esther Ellis, Ms. Monifa Carrillo (front left), Ms. Clorecia Adams, and Ms. Andra Prosper from the St. Croix Epidemiology Division office wearing pink in honor of breast cancer awareness, October 2022.



To access VIDOH-EPI reports from previous years visit:
<https://bit.ly/epivi-reports>

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The Epidemiology Division (VIDOH-EPI)

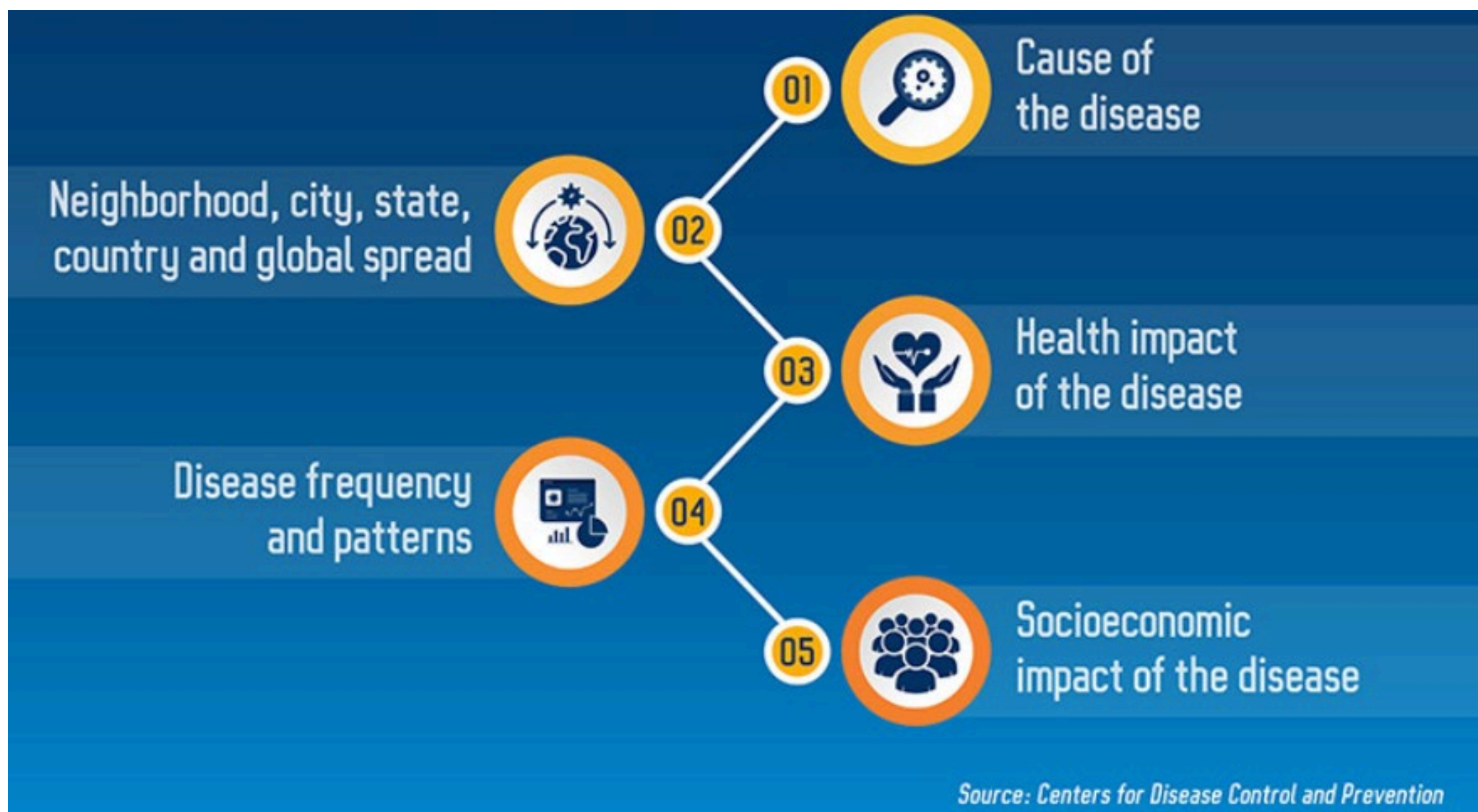
The Virgin Islands Department of Health, Epidemiology Division (VIDOH-EPI) conducts surveillance of nationally notifiable diseases (NNDs) needed for disease monitoring, analysis, and timely reporting of findings to guide public health policy and decision-making. The VIDOH-EPI and the Public Health Laboratory (PHL) are funded through the Epidemiology and Laboratory Capacity for Infectious Diseases Cooperative Agreement from the U.S. Centers for Disease Control and Prevention (CDC).

Forms and Resources

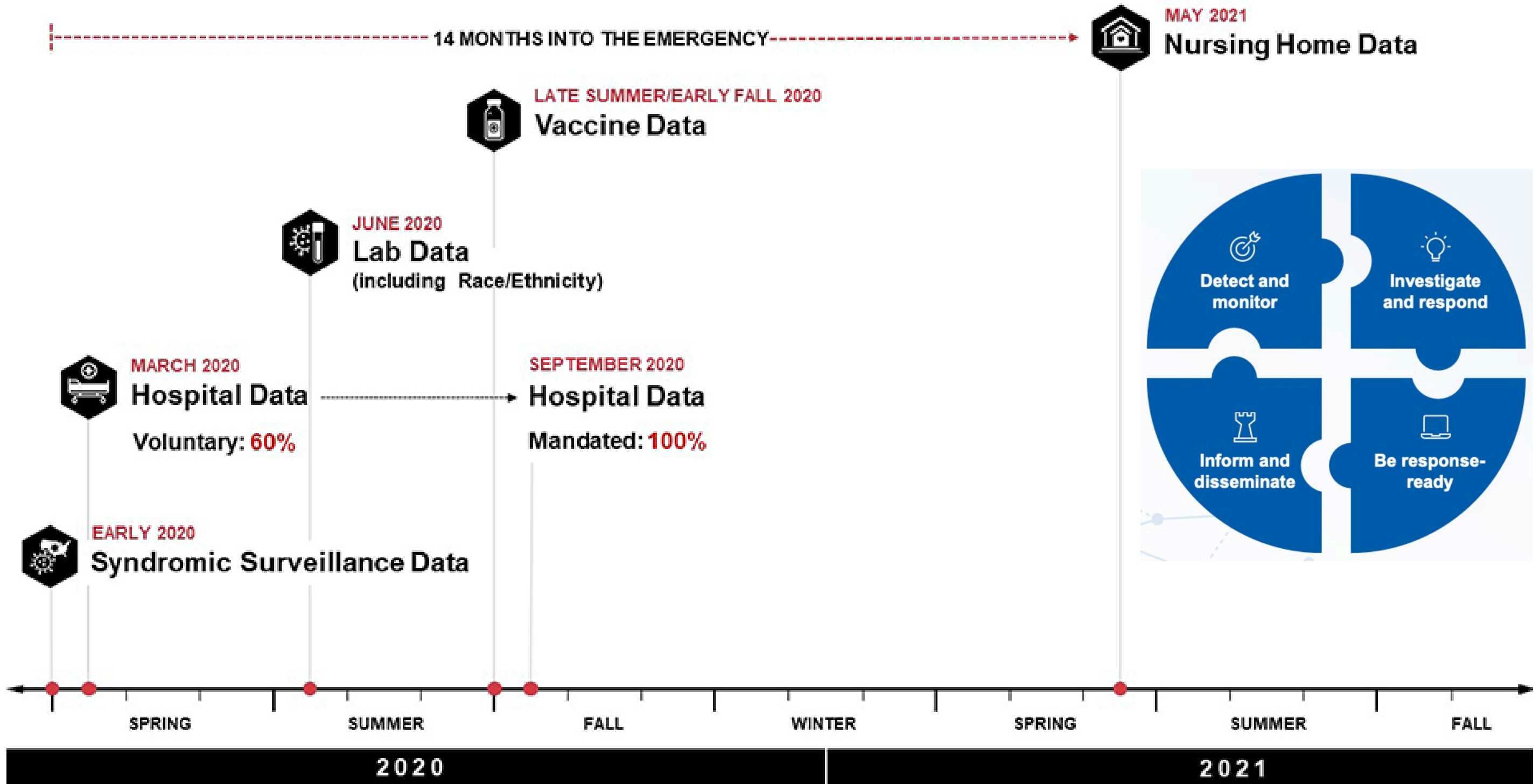
- Epidemiology Division's [website](#).
- General surveillance forms at [VIDOH-EPI general surveillance forms](#).
- Vaccine preventable diseases investigation forms at [VPD surveillance forms](#).
- Job aids for clinicians on collecting the correct specimens for enhanced surveillance of vaccine preventable diseases at [specimen guidance](#).

The Epidemiology Division (VIDOH-EPI)

The Virgin Islands Department of Health, Epidemiology Division conducts surveillance of nationally notifiable diseases needed for disease monitoring, analysis, and timely reporting of findings to guide public health policy and decision-making.



It took too long to access important data when COVID struck.



! ~70% of healthcare organizations using fax to send or receive care records¹

! Up to 80% of epidemiologists' time spent cleaning data² because of non-interoperable systems

! 30%+ of COVID-19 cases missing data on race and ethnicity early in the pandemic³

! 6+ months often needed to develop and potentially rework Data Use Agreements⁴

! 12+ months for data on some reportable conditions to become available in national datasets or be disseminated in accessible and interoperable formats⁴

! ~3 months between first reported domestic mpox case and CDC data access agreements with STLTs⁵

Contact Numbers: Hotline

COVID-19 Hotline (Monday-Friday 8am-5pm)
 STX: (340) 712-6299
 STT/STJ: (340) 776-1519

Testing Summary

	11-Jun	04-Jun	Change since 04-Jun
Total Tests	509,584	509,113	▲ 471
Positive Tests	25,211	25,182	▲ 29
Negative Tests	484,373	483,931	▲ 442

Donut Chart: n = 25,211 (Positive), n = 484,373 (Negative)

Current status of USVI positive cases

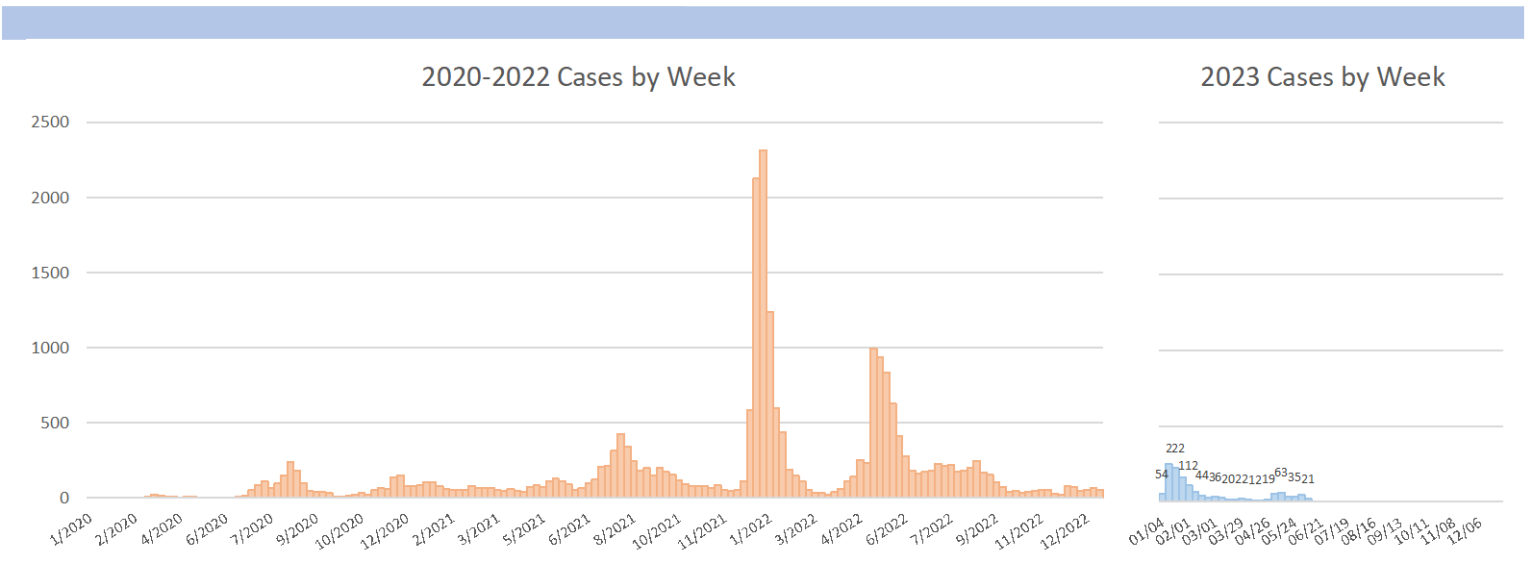
	11-Jun	04-Jun	Change
Active	45	46	▼ 1
Recovered	25,036	25,005	▲ 31
Fatality	131	131	◄ 0

New Fatalities: None

Test result by age group

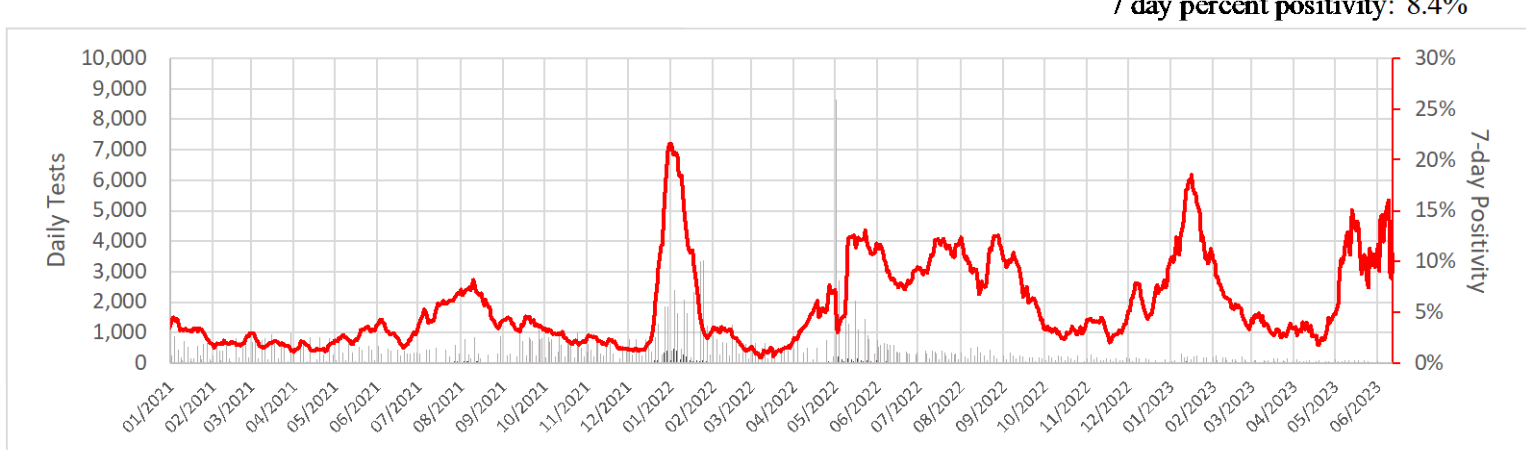
Median age among cases = 37 years

Age Group	Tested positive
65+	5%
50-64	5%
30-49	6%
18-29	6%
0-17	5%



STX positive status			STT positive status			STJ positive status		
	Total	Change		Total	Change		Total	Change
New Cases	20		13091	8		11053	1	
Active	20	▲ 9	13071	24	▼ 10	11045	1	0
Recovered	13,017	▲ 11		10,957	▲ 18		1,061	▲ 1
Fatality	54	0		72	0		5	0

Rate of Positive Tests in the U.S. Virgin Islands Over Time



Sociodemographic Characteristics of the U.S. Virgin Islands (USVI)

The U.S. Virgin Islands is a U.S. territory located between the Atlantic Ocean and the Caribbean Sea, consisting of four major islands: Saint Croix (STX), Saint Thomas (STT), Saint John (STJ), and Water Island (WI). The USVI covers approximately 133 square miles of combined land area (approximately twice the area of the District of Columbia). USVI is located 40-50 miles east of Puerto Rico and extends from west to east ~60 miles at the top of the arc of the other Caribbean Islands. Compared to the U.S. Census Bureau 2010 Decennial Census of Island Areas (DECIA) for USVI*, the 2020 DECIA indicated that the population of the USVI decreased by 19,259 (-18.1%) residents for a remaining total of 87,146 residents. This decrease differed by island. STX reported a decrease of 9,957 (-19%) residents, STT reported a decrease of 9,373 residents (-18.2%), and STJ reported a decrease of 289 (-6.9%) residents.

Race and Ethnicity

In 2020, the racial distribution of USVI included 67,769 (77.8%) residents identifying as Black or African American, 11,584 (13.3%) residents as White, 910 (1.0%) residents as Asian, 371 (0.4%) residents as American Indian and Alaskan Native, 51 (0.1%) residents as Native Hawaiian or Other Pacific Islander, 5,478 (6.3%) residents as some other race, and 6,569 (7.5%) residents as two or more races. A total of 16,075 (18.4%) residents identified as having Hispanic ethnicity. Approximately 1/3 of the population is foreign-born with familial and cultural ties elsewhere, primarily in the Caribbean.

Current Sex

In the 2020 DECIA, approximately 49% of the USVI population were reported as male sex and 51% were reported as female sex.

Insurance

Of the 84,630 persons reported by households in the 2020 DECIA, the number of individuals without insurance was 20,825 (24.6%). Of the 63,805 (75.4%) insured individuals, 46.6% had private health insurance and 37.2% had medical assistance. The proportion of uninsured persons in the USVI in 2020 (24.6%) was almost three times the national estimate for uninsured persons (8.6%) in 2020.

Educational Attainment

In 2020, 38.8% of residents ≥ 25 years had at least a high school diploma, while only 22.3% had a bachelor's degree or higher.

Language

According to the 2020 DECIA, 69.8% of USVI residents ≥ 5 years spoke only English at home. Of the 30.2% who reported speaking another language at home, 56.9% spoke Spanish, 29.3% spoke French Creole, and 13.8% spoke a language other than Spanish or French Creole.

Household Income

In 2019, the median household income in the USVI was \$40,408 (in 2019 inflation-adjusted dollars), which is considerably lower than the U.S. median household income of \$67,521, and lower than the USVI household median income in 2009 of \$44,499. A greater portion of USVI households have a household income of < \$25,000 per year compared to the overall U.S. (32.9% vs 18.1%). In 2020, the unemployment rate for USVI was 9.7%.

Country of Birth

In 2020, 47% (39,916) of the USVI population were born in USVI, 18.1% (15,396) of residents were born in the U.S. or other U.S. island area or Puerto Rico, and 34.8% (29,579) of residents were born elsewhere (predominantly in Latin American or the Caribbean).

Children

In 2020, there were 17,086 children in the U.S. Virgin Islands, comprising approximately 20% of the total population. For more information specific to children in the U.S. Virgin Islands, please access the St. Croix Foundation's 2022 KIDS COUNT Data Book entitled *From Silos to Systems: Pathways to Child Well-being in the USVI*†

<https://www.flipsnack.com/5A76ADFF8D6/2022-kidscount-usvi/full-view.html>.

* Reference: U.S. Census Bureau (2022). 2020 Island Areas Censuses: U.S. Virgin Islands.

† Reference: St. Croix Foundation for Community Development (2022). 2022 KIDS COUNT Data Book, From Silos to Systems: Pathways to Child Well-being in the USVI.

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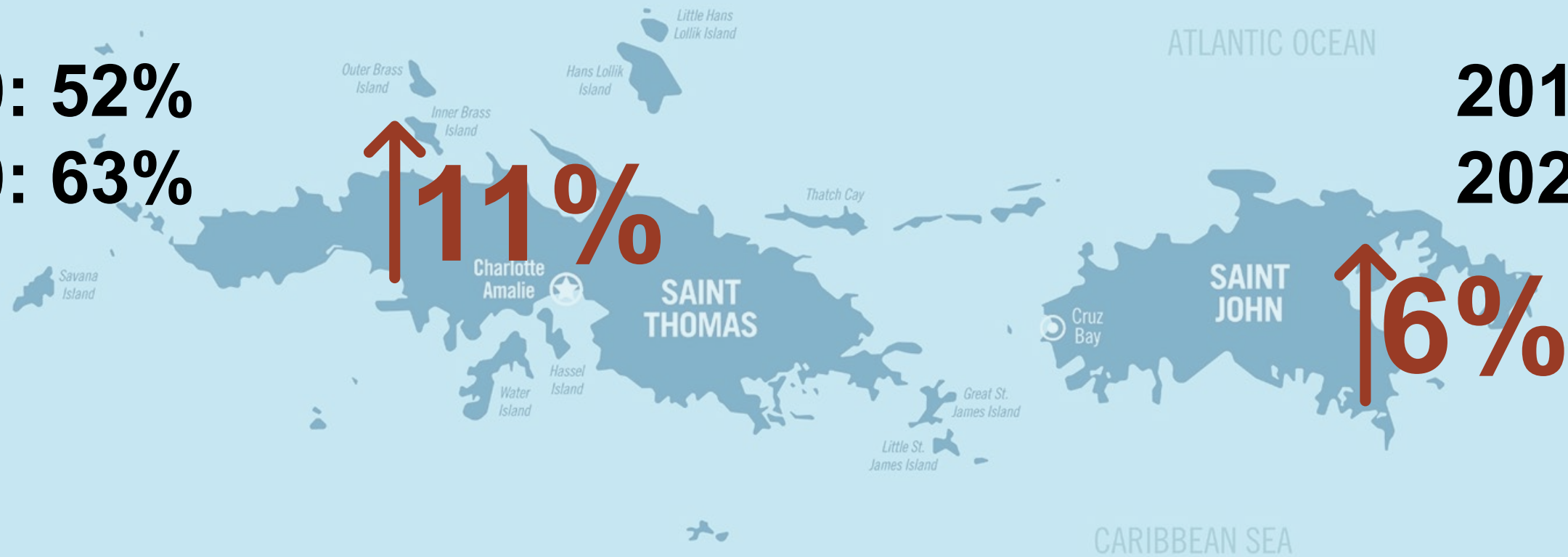
Estimating Bias in COVID-19 Vaccine Coverage Under Changing Population Sizes — U.S. Virgin Islands, December 2020–September 2022

Katie Labgold, PhD, MPH

**Epidemic Intelligence Service Officer, CDC
U.S. Virgin Islands Department of Health**



2010: 52%
2020: 63%



2010: 81%
2020: 87%

2010: 49%
2020: 60%



SNAPSHOTS 2022

VIDOH-EPI

VIDOH-EPI conducted an online survey to describe the dynamics and changes within the USVI community during the COVID-19 pandemic. This online survey provided a forum for 370 community members to provide insight and feedback about their experiences during the pandemic. While not a scientific study from which results could be generalized to reflect the views of the entire population, the input enabled VIDOH to guide programmatic activities based on the issues shared by community members. Highlights of survey findings include a higher percentage of participants whose employment and income decreased, rather than increased, and one-third of participants responded “No, No need” when asked if they had utilized behavioral health services during the pandemic. Despite the self-reported lack of need for mental health services, one-third of participants reported difficulty sleeping, and one-fourth reported agitated behavior (23.5%). Thus, it may be necessary to take the steps to educate the community on the importance of mental health, the mental health services available, and how mental health services can be utilized in response to sudden financial and other life changes during public health emergencies.



Nearly 1,400 students from 15 USVI schools took part in Dengue Day with VIDOH-EPI, a health education program in which students played the role of "disease detectives" for the day. Parents were also given the opportunity to provide permission for their child to be tested for past dengue infection. Based on the results of the nearly 400 children that received dengue antibody testing, it is estimated that half of USVI children have previously contracted dengue virus.



Findings from VIDOH-EPI initiative to evaluate the quality of cistern water of ~400 households throughout USVI were published in *ACS ES&T Water*. The study identified 80% of cistern water (taken directly from the cistern hatch) tested positive for E. coli contamination while 58% of tap water (taken from kitchen tap) sourced from cisterns tested positive for E. coli contamination. The information gathered will help us develop guidelines specific to the USVI on the maintenance and treatment of cisterns and cistern water to protect USVI residents and travelers from waterborne biologic pathogens.



During 2022, VIDOH epidemiologists continued to utilize multi-pronged approaches to community outreach including a variety of informational announcements regarding COVID-19 vaccinations and testing, how to access Mpox vaccinations, along with live radio shows with COVID-19 weekly updates across USVI-based radio stations.



U.S. Virgin Islands Dengue EpiAid

We conducted a serosurvey of children in 3rd–7th grades during April–May 2022 to determine the prevalence of past dengue infection in the age group eligible for dengue vaccination.

Fifteen schools across USVI hosted a Dengue Day in which nearly 1,400 children participated, receiving a health education program where they were “disease detectives” for a day.

In addition to the health education program, children with parental permission received testing for dengue antibodies using a dengue IgG rapid diagnostic test.

Among USVI children aged 9–13, the age group eligible for the dengue vaccine, it was estimated that nearly half have previously been infected with dengue virus.

USVI Notifiable Conditions

Category A	Category B
Acute Flaccid Myelitis	Anaplasmosis
Anthrax	Chancroid
Botulism	Chlamydia
Brucellosis	Ciguatera
Cholera	Ehrlichiosis
Coronavirus (novel, including SARS)	Gonorrhea
CP-CRE	Hansen's Disease
Diphtheria	Hanta Virus Pulmonary Syndrome
E.coli (O 157)	Hemolytic Uremia Syndrome
Encephalitis	Hepatitis A
Enterovirus D-68	Hepatitis B
Foodborne Outbreak	Hepatitis C
<i>Haemophilus influenzae</i>	HIV/AIDS
Influenza (novel and seasonal)	Malaria
Legionellosis	Psittacosis
Measles	Staph aureus (drug resistant)
Meningitis	Streptococcus pneumoniae
Pertussis	Syphilis
Plague	Trichinosis
Poliomyelitis	Vancomycin Resistant <i>Enterococcus</i> (VRE)
Rabies	Staph. Aureus (VRSA)
Rubella	
Q Fever	
Smallpox	
Tuberculosis	
Tularemia	
Typhoid	
Typhus	
Viral Hemorrhagic Fever (including Ebola)	
Waterborne Outbreak	
West Nile	
Yellow Fever	
Category C	
	Babesiosis
	Campylobacter
	Chickenpox (Varicella)
	Coccidiomycosis
	Cryptosporidiosis
	Cyclosporiasis
	Giardia
	Listeriosis
	Lyme Disease
	Mumps
	Salmonellosis
	Shigellosis
	Spotted Fever
	Tetanus
	Toxic Shock Syndrome
	Vibriosis

The reporting of nationally notifiable diseases to VIDOH by healthcare providers is required by law in the U.S. Virgin Islands.

Disease Reporting in the USVI

Overview

The reporting of Nationally Notifiable Diseases (NNDs) to VIDOH by healthcare providers is required by law in the USVI. The current list of USVI Notifiable Conditions can be accessed [here](#) (left panel).

Diseases are reported using two primary forms, the [Notification of Infectious Diseases Form \(EPI-1\)](#) and the [Dengue, Chikungunya, Zika, and Febrile Illness Reporting Form \(EPI-2\)](#). The EPI-1 form is included on the next page for immediate referral. Additionally, VIDOH-EPI uses disease-specific surveillance and investigation forms for case-based investigation requirements of all NNDs.

What

In addition to NNDs, any outbreaks, exotic diseases, and unusual group expression of disease must be reported. All diseases require the reporting of patient information, including name, age, sex, race/ethnicity, date of birth, address and estate, telephone number, disease, date of onset, and symptomology. Other required information includes the method of diagnosis, laboratory result (if applicable), date of diagnosis, as well as the name, address, and telephone number of the reporting health care provider.

When

Cases or suspected cases of illness considered to be public health emergencies, outbreaks, exotic diseases, and unusual group expressions of disease must be reported to the VIDOH immediately (**Category A**). Other diseases for which there must be a quick public health response must be reported within two working days (**Category B**). All other conditions must be reported within four working days (**Category C**).

How

Reporting forms can be downloaded from the VIDOH [website](#) and are regularly updated. **In case of emergency (Category A, select Category B conditions or major outbreak/incident), reports can be made by telephone to the Territorial Epidemiologist at (340) 626-1654 as indicated in the EPI-1 form instructions.**

Summary

- Disease reporting of notifiable diseases to VIDOH is required by law in the USVI.
- Unusual diseases or outbreaks of any kind should be reported immediately.
- Report diseases by following the instructions in the EPI-1 or EPI-2 forms. These and all investigation forms can be downloaded [here](#).



Notification of Infectious Disease Form

Emergency Phone: (340) 626-1654, Territorial Epidemiology Fax: 1-888-400-8620
 Fax HIV/STD reports to the Communicable Diseases Division Fax: 1-612-712-7878



This form may be used to report suspected cases and cases of notifiable conditions in the US Virgin Islands (USVI), listed with their reporting time frames on the current USVI Notifiable Conditions List 2020. In addition, any outbreak, exotic disease, or unusual group expression of disease that may be of public health concern should be reported by the most expeditious means available. A Health Department epidemiologist will contact you if further investigation is required.

Source of Information: <input type="checkbox"/> Private Physician <input type="checkbox"/> Private Laboratory <input type="checkbox"/> Hospital <input type="checkbox"/> Clinic <input type="checkbox"/> School		Date of Report: _____ <small>(mm/dd/yyyy)</small>	Island: <input type="checkbox"/> St. Croix <input type="checkbox"/> St. John <input type="checkbox"/> St. Thomas <input type="checkbox"/> Water Island	
Name of Physician or Person Reporting		Physician/Reporter Address		Physician/Reporter Phone (____) _____ - _____ extension _____
Admitted to Hospital? <input type="checkbox"/> No <input type="checkbox"/> Yes	Date Admitted: _____ Date Discharged: _____	Disease Fatal? <input type="checkbox"/> No <input type="checkbox"/> Yes	Parent/Guardian: _____ <small>(if applicable)</small>	
Patient Name (Last)		(First)	(MI)	Telephone: (____) ____ - ____ Other: _____
Address <small>(indicate ESTATE)</small>		City	State	Zip Code Country
Date of Birth <small>(mm/dd/yyyy)</small>	Age	Gender: <input type="checkbox"/> M <input type="checkbox"/> F <input type="checkbox"/> Other	Ethnicity: <input type="checkbox"/> Hispanic <input type="checkbox"/> Not Hispanic	Race: <input type="checkbox"/> Black <input type="checkbox"/> White <input type="checkbox"/> Asian <input type="checkbox"/> Unknown <input type="checkbox"/> Other:
Notes, comments, or additional information such as pregnancy status (EDD), occupation (food handler), school name/grade, daycare facility, travel history				

Category A -- Report IMMEDIATELY to the USVI Department of Health

SERIOUS PUBLIC HEALTH RISK. Make an IMMEDIATE telephone report to the USVI Department of Health at 626-1654 then send the completed form IMMEDIATELY (within 24 hrs) by fax to 1-888-400-8620. If an immediate report is required after regular working hours, please call 626-1654.

<input type="checkbox"/> Acute Flaccid Myelitis	<input type="checkbox"/> CP-CRE	<input type="checkbox"/> Haemophilus influenzae	<input type="checkbox"/> Pertussis	<input type="checkbox"/> Smallpox	<input type="checkbox"/> Waterborne Outbreak
<input type="checkbox"/> Anthrax	<input type="checkbox"/> Diphtheria	<input type="checkbox"/> Influenza, novel and seasonal	<input type="checkbox"/> Plague	<input type="checkbox"/> Tuberculosis	<input type="checkbox"/> West Nile
<input type="checkbox"/> Botulism	<input type="checkbox"/> E. coli (O157)	<input type="checkbox"/> Legionellosis	<input type="checkbox"/> Poliomyelitis	<input type="checkbox"/> Tularemia	<input type="checkbox"/> Yellow Fever
<input type="checkbox"/> Brucellosis	<input type="checkbox"/> Encephalitis	<input type="checkbox"/> Measles	<input type="checkbox"/> Rabies	<input type="checkbox"/> Typhoid	
<input type="checkbox"/> Cholera	<input type="checkbox"/> Enterovirus D-68	<input type="checkbox"/> Meningitis	<input type="checkbox"/> Rubella	<input type="checkbox"/> Typhus	
<input type="checkbox"/> Coronavirus, novel, including SARS	<input type="checkbox"/> Foodborne Outbreak		<input type="checkbox"/> Q Fever	<input type="checkbox"/> Viral Hemorrhagic Fever, including Ebola	

Category B -- Report WITHIN 48 HOURS to the USVI Department of Health

SIGNIFICANT PUBLIC HEALTH RISK. These should be reported within 48 hours to the USVI Department of Health. A completed copy of the form must be faxed to 1-888-400-8620. A telephone report to 626-1654 is only required for those diseases indicated by the (*).

<input type="checkbox"/> Anaplasmosis	<input type="checkbox"/> Hansen's Disease*	<input type="checkbox"/> HIV/AIDS	<input type="checkbox"/> Trichinosis
<input type="checkbox"/> Chancroid	<input type="checkbox"/> Hanta Virus Pulmonary Syndrome*	<input type="checkbox"/> Malaria	<input type="checkbox"/> Vancomycin Resistant:
<input type="checkbox"/> Chlamydia	<input type="checkbox"/> Hemolytic Uremic Syndrome	<input type="checkbox"/> Psittacosis	<input type="checkbox"/> Enterococcus
<input type="checkbox"/> Ciguatera	<input type="checkbox"/> Hepatitis A*	<input type="checkbox"/> Staph. aureus (drug resistant)	<input type="checkbox"/> Staph
<input type="checkbox"/> Ehrlichiosis	<input type="checkbox"/> Hepatitis B	<input type="checkbox"/> Streptococcus pneumoniae	
<input type="checkbox"/> Gonorrhea	<input type="checkbox"/> Hepatitis C	<input type="checkbox"/> Syphilis*	

Category C -- Report PROMPTLY WITHIN 96 HOURS to the USVI Department of Health

Should be reported promptly to the USVI Department of Health. A completed form must be faxed to 1-888-400-8620.

<input type="checkbox"/> Babesiosis	<input type="checkbox"/> Coccidioidomycosis	<input type="checkbox"/> Giardia	<input type="checkbox"/> Mumps	<input type="checkbox"/> Spotted Fever	<input type="checkbox"/> Vibrios
<input type="checkbox"/> Campylobacter	<input type="checkbox"/> Cryptosporidiosis	<input type="checkbox"/> Listeriosis	<input type="checkbox"/> Salmonellosis	<input type="checkbox"/> Tetanus	
<input type="checkbox"/> Chickenpox (varicella)	<input type="checkbox"/> Cyclosporiasis	<input type="checkbox"/> Lyme Disease	<input type="checkbox"/> Shigellosis	<input type="checkbox"/> Toxic Shock Syndrome	

Other disease, please specify: _____

Diagnosis Status <input type="checkbox"/> Suspect Case <input type="checkbox"/> Confirmed Case Diagnostic Criteria: <input type="checkbox"/> Symptoms <input type="checkbox"/> Laboratory	Clinical Information Treatment Provided? <input type="checkbox"/> No <input type="checkbox"/> Yes Specify Treatment: _____ Earliest Symptom Onset Date: _____ <small>(mm/dd/yyyy)</small>
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Laboratory Results:

Date 1 <small>(mm/dd/yyyy)</small>	Test Name 1	Result 1
Date 2 <small>(mm/dd/yyyy)</small>	Test Name 2	Result 2
Date 3 <small>(mm/dd/yyyy)</small>	Test Name 3	Result 3

Information collected is confidential pursuant to the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and reports will be maintained by the US Virgin Islands Department of Health. All reports other than HIV should be faxed to Dr. Esther Ellis at 718-1508 (Charles Harwood Complex, 3500 Estate Richmond, Christiansted, St. Croix, VI 00820). HIV/STD reports should be forwarded to the HIV/STD Program at secure fax 1-612-712-7878. PLEASE NOTE: THE REPORTING OF NOTIFIABLE DISEASES TO THE DEPARTMENT OF HEALTH IS REQUIRED BY LAW IN THE US VIRGIN ISLANDS. Fulfilling this requirement will by no means negate your responsibility to report similar information to other agencies or programs with which you have collaborative agreements.

General Communicable Diseases Surveillance

Hepatitis Surveillance

Reported 2022 events reflect zero confirmed or probable cases of acute hepatitis A virus infection. There were zero confirmed or probable cases of acute hepatitis B virus infection and 30 confirmed or probable chronic hepatitis B virus infections. Furthermore, there were zero confirmed or probable cases of acute hepatitis C virus infection and 29 confirmed or probable chronic hepatitis C virus infections.

Vaccine Preventable Diseases (VPDs) Surveillance For a complete list of VPDs click [here](#). For 2022, VIDOH-EPI investigated and confirmed 1 case of tetanus, along with 5 confirmed cases of varicella (plus 1 probable case).

Foodborne and Waterborne Diseases Surveillance

For 2022, VIDOH-EPI investigations resulted in 5 confirmed cases of salmonellosis, 3 confirmed cases of giardiasis, and 2 confirmed cases of ciguatera fish poisoning. VIDOH-EPI identified 3 confirmed cases of legionellosis in USVI travelers and residents for 2022, with one suspected case that could not be confirmed.

Healthcare-Associated Infections (HAI)

VIDOH uses the CDC National Healthcare Safety Network (NHSN) to track healthcare metrics that identify needs and measure progress of HAI prevention efforts in facilities who actively report. For 2022, NHSN reports included 31 dialysis events, 1 central line-associated bloodstream infection (CLABSI), 5 ventilator-associated events (VAE), 8 catheter-associated urinary tract infections (CAUTI), and 3 surgical site infections (SSI). Organisms identified contributing to HAIs are: *Klebsiella* sp., 1 event; *Enterococcus* spp., 3 events; *Pseudomonas* spp., 4 events; *Staphylococcus* spp., 3 events; *P. mirabilis*, 1 event; *M. morgani*, 1 event.

Other Communicable Diseases

VIDOH also monitors other communicable diseases that can affect the USVI community. In 2022, VIDOH-EPI investigated 1 case of hand, foot, and mouth disease.

Vector-borne and Environmental Diseases

Arboviral Diseases

Arboviral refers to viruses that are transmitted by mosquitoes, ticks, or other arthropods. Examples include the Zika, chikungunya, dengue, and yellow fever viruses. VIDOH-EPI uses a specialized database called ArboNET for arboviral surveillance. In addition, cases are also reported into VI-NEDSS through ELRs. There were no arboviral outbreaks in the USVI in 2022. The VIDOH-EPI department's Vector-Borne Disease Surveillance resulted in identifying 2 cases of Lyme disease that were contracted outside of USVI. VIDOH-EPI continues surveillance for arboviral diseases. There were no reported cases of dengue, yellow fever, Zika or chikungunya in the Territory in 2022.

The image shows a detailed form titled "Varicella Reporting and Investigation Form (VPD-22)". The form is divided into several sections: "Patient Information" (including name, address, phone, and date of birth), "Reporting Period" (with checkboxes for "Probable Case" and "Confirmed Case"), "Patient/Location of acquisition" (with checkboxes for "Household", "School", "Daycare", "Work", "Travel", "Other"), "Laboratory Information" (including specimen type, date, and results), "Clinical" (including onset date, rash type, and other symptoms), and "Vaccine History" (including dates and types of varicella vaccines). The form also includes a section for "Physician/Investigator" and a "How long have you lived in the USVI?" question.

Download the varicella investigation form (VPD-22) [here](#).



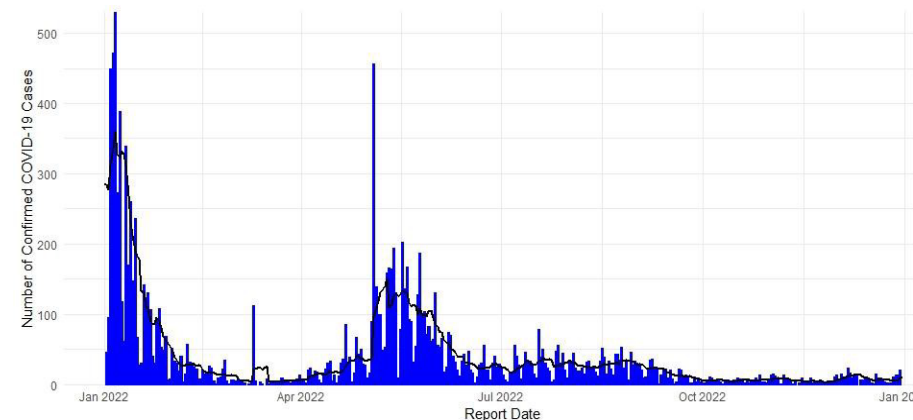
St. Thomas Epidemiology staff members Mr. Jamaal Carroll and Mr. Cosme Harrison with cistern water collection supplies during a technical assist from CDC Legionnaires' Disease team members: EIS Officer Dr. Heidi Moline, Ms. Heather Walker, and Ms. Jessica Smith, February 2022.

COVID-19 Pandemic Epidemiological Response

VIDOH-EPI continues to lead the COVID-19 response efforts in USVI for 2022. The COVID-19 hotline remained a crucial component in the COVID-19 response efforts as an accessible resource for those with questions about COVID-19 testing, vaccinations, and access to medical countermeasures. In addition, the COVID-19 hotline fielded calls from residents to support the Mpox response in USVI.

In 2022, VIDOH-EPI detected a total of 13,675 COVID-19 cases and 38 COVID-19-related fatalities during 2022 from a total of 230,702 tests completed territory-wide:

- 5,565 (41%) cases detected in STT and WI, with 23 fatalities.
- 7,528 (55%) cases detected in STX, with 15 fatalities.
- 585 (4%) cases detected in STJ, with no fatalities.



COVID-19 Surveillance in Schools and Congregate Living Settings

VIDOH-EPI expanded access to COVID-19 testing through more than 10 testing events in response to COVID-19 outbreaks in congregate living settings. To support the return of students to in-person classes for the U.S. Virgin Islands Department of Education, VIDOH-EPI led 2 sets of mass testing events for students and staff across both school districts to ensure access to COVID-19 testing to students returning to school, completing 29,261 tests of which 855 tests showed a positive result leading to treatment and isolation of identified cases. In 2022, VIDOH-EPI distributed over 17,000 test kits. COVID-19 home testing kits to families of students and to staff to supplement in-school testing provided by school staff trained by VIDOH-EPI at CLIA-certified school testing sites.

COVID-19 Vaccine Coverage Estimates

Vaccine coverage, defined as the proportion of individuals completing a vaccination series out of a total population, is an important tool for guiding epidemiologic response activities. VIDOH-EPI previously calculated estimates of COVID-19 primary series vaccine coverage using the 2010 U.S. Census USVI population count. In November 2022, VIDOH-EPI updated the vaccine coverage estimate using the recently released 2020 population counts. This analysis found that given the large population decline over the ten-year period, COVID-19 vaccine coverage using the 2020 population count was 12 percentage points higher than coverage using 2010 denominator, when comparing on an absolute scale. Coverage was estimated at 63%, but was previously estimated to be only 51%.



Ms. Winifred Powell (right) training school staff to perform COVID-19 rapid testing for students and staff at St. John Christian School, St. John, January 2022.



Ms. Nickee Hernandez, Ms. Zula Battiste, Dr. Lisa Ekpo, Ms. Jade Bernadel, Ms. Anellie Gumbs, and Ms. Briana Lettsome from the St. Thomas Epidemiology Division office wearing pink in honor of breast cancer awareness, October 2022.

Scientific Publications, Presentations, Accolades

1. Artus, Aileen, Ilana J. Schafer, Caitlin M. Cossaboom, Dana L. Haberling, Renee Galloway, Graham Sutherland, A. Springer Browne, Joseph Roth Jr, Hannah M. Cranford, Kristine J. Kines, Justine Pompe, Brett R. Ellis, Henry Walke, Esther M. Ellis. **“Seroprevalence, Distribution, and Risk Factors for Human Leptospirosis in the United States Virgin Islands.”** PLoS Neglected Tropical Diseases 16, no. 11 (November 2022): e0010880. <https://doi.org/10.1371/journal.pntd.0010880>.
2. Browne, A. Springer, David Rickless, Carter Reed Hranac, Andrew Beron, Breanna Hillman, Leah de Wilde, Harris Short, Cosme Harrison, Andra Prosper, E Joy Joseph, Irene Guendel, Lisa L Ekpo, Joseph Roth, Marissa Grossman, Brett R Ellis, Esther M Ellis. **“Spatial, Sociodemographic, and Weather Analysis of the Zika Virus Outbreak: U.S. Virgin Islands, January 2016-January 2018.”** Vector Borne and Zoonotic Diseases (Larchmont, N.Y.) 22, no. 12 (December 2022): 600–605. <https://doi.org/10.1089/vbz.2021.0098>.
3. Cranford, Hannah M. **“Bats, a Potential Reservoir for Leptospira Species—U.S. Virgin Islands, 2019–2020.”** Oral Presentation (OnDemand) presented at the 2022 CSTE Annual Conference, Louisville, Kentucky, USA, 2022.
4. Cruz, Miguel Angel, Luis O. Rivera-González, Elizabeth Irvin-Barnwell, Jessica Cabrera-Marquez, Esther Ellis, Brett Ellis . . . Joseph Roth, et al. **“Public Health Branch Incident Management and Support as Part of the Federal Government Response during the Emergency Phase of Hurricanes Irma and Maria in Puerto Rico and the US Virgin Islands.”** Journal of Emergency Management (Weston, Mass.) 19, no. 8 (Special Issue on Puerto Rico 2022): 63–77. <https://doi.org/10.5055/jem.0631>.
5. Delaney, Augustina, Samantha M. Olson, Nicole M. Roth, Janet D. Cragan, Shana Godfred-Cato, Ashley N. Smoots . . . Leah DeWilde, et al. **“Prevalence of Individual Brain and Eye Defects Potentially Related to Zika Virus in Pregnancy in 22 U.S. States and Territories, January 2016 to June 2017.”** Birth Defects Research 114, no. 14 (August 15, 2022): 805–11. <https://doi.org/10.1002/bdr2.2067>.
6. Hamond, Camila, A. Springer Browne, Leah H. de Wilde, Richard L. Hornsby, Karen LeCount, Tammy Anderson, Tod Stuber, Hannah M. Cranford, Stephanie K. Browne, Gerard Blanchard, David Horner, Marissa L. Taylor, Michael Evans, Nicole F. Angeli, Joseph Roth, Kristine M. Bisgard . . . Brett R. Ellis . . . Esther M. Ellis. **“Assessing Rodents as Carriers of Pathogenic Leptospira Species in the U.S. Virgin Islands and Their Risk to Animal and Public Health.”** Scientific Reports 12, no. 1 (January 21, 2022): 1132. <https://doi.org/10.1038/s41598-022-04846-3>.
7. Mac, Valerie, Marissa Taylor, Irene Guendel, I Harris, Joseph Roth, Kristine Bisgard, Esther M. Ellis. **“Falsification of Travel-Required COVID-19 Laboratory Reports— United States Virgin Islands, March—April 2021.”** Oral Presentation presented at the Council of State and Territorial Epidemiologists 2022 Annual Conference, Louisville, Kentucky, USA, June 19, 2022.
8. Newton, Suzanne M., Emily L. Reeves, Emily O’Malley Olsen, Kate R. Woodworth, Sherry L. Farr, Romeo R. Galang, Megan R. Reynolds . . . Esther M. Ellis, et al. **“Preterm Birth among Pregnant Persons with Severe Acute Respiratory Syndrome Coronavirus 2 Infection.”** Journal of Perinatology : Official Journal of the California Perinatal Association 42, no. 10 (October 2022): 1328–37. <https://doi.org/10.1038/s41372-022-01467-6>.
9. Rao, Gouthami, Amy Kahler, Lee E. Voth-Gaeddert, Hannah Cranford, Stephen Libbey, Renee Galloway, Noelle-Angelique Molinari, Esther M. Ellis . . . Brett R. Ellis. **“Microbial Characterization, Factors Contributing to Contamination, and Household Use of Cistern Water, U.S. Virgin Islands.”** ACS ES&T Water 2, no. 12 (December 9, 2022): 2634–44. <https://doi.org/10.1021/acsestwater.2c00389>.
10. Roth, Nicole M., Megan R. Reynolds, Elizabeth L. Lewis, Kate R. Woodworth, Shana Godfred-Cato, Augustina Delaney, Amanda Akosa . . . Esther M. Ellis, et al. **“Zika-Associated Birth Defects Reported in Pregnancies with Laboratory Evidence of Confirmed or Possible Zika Virus Infection - U.S. Zika Pregnancy and Infant Registry, December 1, 2015-March 31, 2018.”** MMWR. Morbidity and Mortality Weekly Report 71, no. 3 (January 21, 2022): 73–79. <https://doi.org/10.15585/mmwr.mm7103a1>.
11. Roth, Nicole M., Kate R. Woodworth, Shana Godfred-Cato, Augustina M. Delaney, Samantha M. Olson, John F. 3rd Nahabedian, Megan R. Reynolds . . . Esther M. Ellis, et al. **“Identifying Possible Inaccuracy in Reported Birth Head Circumference Measurements among Infants in the US Zika Pregnancy and Infant Registry.”** Birth Defects Research 114, no. 8 (May 2022): 314–18. <https://doi.org/10.1002/bdr2.1997>.
12. Seger, Krystal R., Corey A. Day, Lee Gaeddert, Gouthami Rao, Amy Kahler, Esther M. Ellis, Brett R. Ellis, Brian D. Byrd. **“A Cross-Sectional Household Survey in the US Virgin Islands (2019) Reveals Cisterns as Challenging Peridomestic Aedes Aegypti Habitats.”** Journal of the American Mosquito Control Association 38, no. 2 (June 1, 2022): 113–17. <https://doi.org/10.2987/21-7022>.
13. Simmers, Jocelyn, Briana Lettsome, Jade Bernadel, Valerie Mac, Katie Labgold, John Orr, Esther M. Ellis. **“Building Our Capacity at the USVI Department of Health Division of Epidemiology.”** Presented at the Oral presentation at: Council of State and Territorial Epidemiologists (CSTE) Data Science Team Training (DSTT) Showcase, Virtual Format, December 2022.

CSTE Data Science Training Team

During 2020, a team from VIDOH was selected by the Council of State and Territorial Epidemiologists (CSTE) as a CSTE 2022 Data Science Training Team and received a training stipend to be used by the team to further develop data science capacity for public health in USVI. The team's training culminated in the production of an infectious disease dashboard, focusing on COVID-19 as the first dashboard disease feature, which will launch in 2023.

Seroprevalence, distribution, and risk factors for human leptospirosis in the United States Virgin Islands

Aileen Artus¹, Ilana J Schafer¹, Caitlin M Cossaboom^{1 2}, Dana L Haberling¹, Renee Galloway¹, Graham Sutherland¹, A Springer Browne^{2 3}, Joseph Roth Jr^{3 4}, Valicia France³, Hannah M Cranford³, Kristine J Kines⁵, Justine Pompey⁵, Brett R Ellis³, Henry Walke¹, Esther M Ellis³; Leptospirosis Serosurvey Investigation Team

Affiliations [+](#) expand

PMID: 36378681 PMCID: PMC9665390 DOI: 10.1371/journal.pntd.0010880

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➤ [Vector Borne Zoonotic Dis. 2022 Dec;22\(12\):600-605. doi: 10.1089/vbz.2021.0098.](#)

Epub 2022 Nov 18.

Spatial, Sociodemographic, and Weather Analysis of the Zika Virus Outbreak: U.S. Virgin Islands, January 2016–January 2018

A Springer Browne ^{1 2}, David Rickless ¹, Carter Reed Hranac ³, Andrew Beron ², Breanna Hillman ², Leah de Wilde ², Harris Short ², Cosme Harrison ², Andra Prosper ², E Joy Joseph ², Irene Guendel ², Lisa L Ekpo ², Joseph Roth ¹, Marissa Grossman ¹, Brett R Ellis ², Esther M Ellis ²

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PMID: 36399688 DOI: [10.1089/vbz.2021.0098](#)

Public health branch incident management and support as part of the Federal Government response during the emergency phase of Hurricanes Irma and Maria in Puerto Rico and the US Virgin Islands

Miguel Angel Cruz ¹, Luis O Rivera-González ², Elizabeth Irvin-Barnwell ³,
Jessica Cabrera-Marquez ⁴, Esther Ellis ⁵, Brett Ellis ⁶, Benjamin Qi ⁷,
Christopher Maniglier-Poulet ³, Justin Andrew Gerding ⁸, Alice Shumate ⁹, Ashley Andujar ¹⁰,
Jonathan Yoder ¹⁰, Joseph Laco ⁸, Alberto Santana ¹¹, Tesfaye Bayleyegn ⁸, Carolina Luna-Pinto ¹²,
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PMID: 36239499 DOI: 10.5055/jem.0631

Assessing rodents as carriers of pathogenic *Leptospira* species in the U.S. Virgin Islands and their risk to animal and public health

Camila Hamond^{1 2}, A Springer Browne^{3 4 5}, Leah H de Wilde⁴, Richard L Hornsby^{2 6}, Karen LeCount^{1 2}, Tammy Anderson^{1 2}, Tod Stuber^{1 2}, Hannah M Cranford⁴, Stephanie K Browne^{4 7}, Gerard Blanchard⁸, David Horner⁹, Marissa L Taylor⁴, Michael Evans¹⁰, Nicole F Angeli¹¹, Joseph Roth⁴, Kristine M Bisgard¹², Johanna S Salzer¹³, Ilana J Schafer¹³, Brett R Ellis⁴, David P Alt^{2 6}, Linda Schlater^{1 2}, Jarlath E Nally^{14 15}, Esther M Ellis⁴

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PMID: 35064157 PMCID: [PMC8782869](#) DOI: [10.1038/s41598-022-04846-3](#)

[Free PMC article](#)

Preterm birth among pregnant persons with severe acute respiratory syndrome Coronavirus 2 infection

Suzanne M Newton¹, Emily L Reeves², Emily O'Malley Olsen², Kate R Woodworth², Sherry L Farr³, Romeo R Galang², Megan R Reynolds², Elizabeth Harvey^{4 5}, Jing Shi⁶, Eirini Nestoridi⁷, Jerusha Barton⁸, Van P Ngo⁹, Mamie Lush¹⁰, Nicole D Longcore¹¹, Paula Dzimira¹², Lucille K Im¹³, Ayomide Sokale¹⁴, Samantha Siebman¹⁵, Camille Delgado López¹⁶, Tiffany Chen¹⁷, Evan L Mobley¹⁸, Salma Khuwaja¹⁹, Paul A Romitti²⁰, Carolyn Fredette²¹, Esther M Ellis²², Kristin Silcox²³, Aron J Hall², Eduardo Azziz-Baumgartner², Suzanne M Gilboa², Carrie K Shapiro-Mendoza⁵, Van T Tong²

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PMID: 35927486 PMCID: PMC9362668 DOI: 10.1038/s41372-022-01467-6

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Microbial Characterization, Factors Contributing to Contamination, and Household Use of Cistern Water, U.S. Virgin Islands

Gouthami Rao¹, Amy Kahler¹, Lee E Voth-Gaeddert¹, Hannah Cranford², Stephen Libbey³,
Renee Galloway⁴, Noelle-Angelique Molinari¹, Esther M Ellis², Jonathan S Yoder¹,
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PMID: 36530952 PMID: PMC9745795 DOI: 10.1021/acsestwater.2c00389

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E coli was detected in 80% of 399 cisterns tested and 58% of kitchen taps

Also found Salmonella, Naegleria fowleri, pathogenic Leptospira, Cryptosporidium, Giardia

› [J Am Mosq Control Assoc. 2022 Jun 1;38\(2\):113-117. doi: 10.2987/21-7022.](#)

A Cross-Sectional Household Survey in the US Virgin Islands (2019) Reveals Cisterns as Challenging Peridomestic *Aedes aegypti* Habitats

[Krystal R Seger](#), [Corey A Day](#), [Lee Gaeddert](#), [Gouthami Rao](#), [Amy Kahler](#), [Esther M Ellis](#), [Brett R Ellis](#), [Brian D Byrd](#)

PMID: [35588174](#) PMCID: [PMC9351386](#) DOI: [10.2987/21-7022](#)

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Acknowledgement of CDC Foundation Staff

During the last 3 years of the COVID-19 Pandemic, an amazing group of public health practitioners stepped up to serve the US Virgin Islands community and travelers during a time of unprecedented need. While the public health emergency is ending, and our staffing is changing accordingly, we want the entire US Virgin Islands community to know that the contributions of the CDC Foundation VIDOH-EPI hotline staff, communications staff, and COVID-19 surge staff members, through countless hours served on the frontlines of the COVID-19 pandemic, had an immeasurable impact, saved lives, and changed the course of history for the US Virgin Islands.

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Thank you!

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