

A Retrospective look at Southwest Virginia's Containment Team Response to the 2020 Covid- 19 Pandemic



Malik Outram, MPH, Southwest Regional Covid-19 Epidemiologist

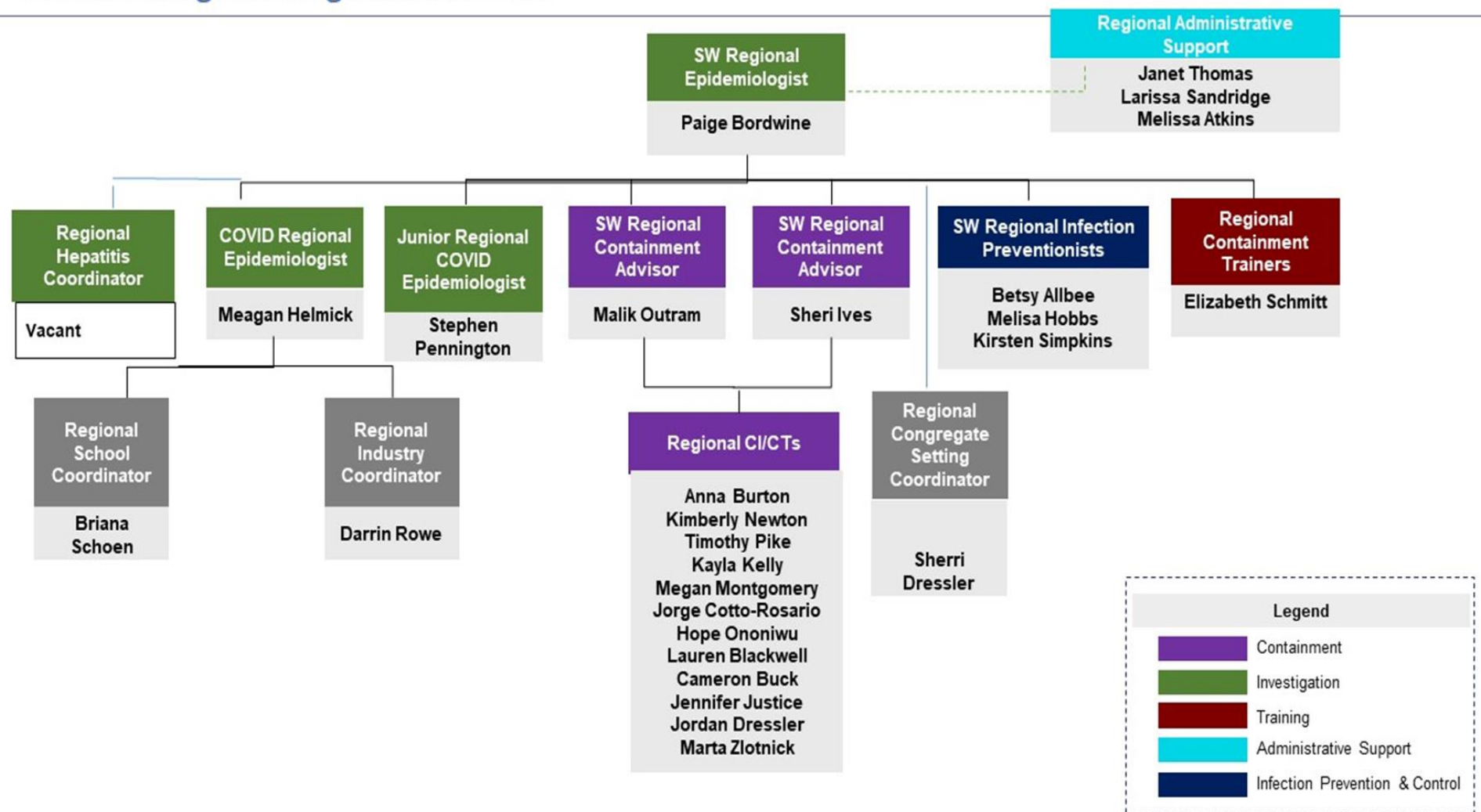
Southwest Region

Health Districts	
Alleghany/Roanoke	Alleghany Co, Botetourt Co, Covington City, Craig Co, Roanoke City, Roanoke Co, Salem City
Central Virginia	Amherst Co, Appomattox Co, Bedford Co, Campbell Co, Lynchburg City
Cumberland Plateau	Buchanan Co, Dickenson Co, Russell Co, Tazewell Co
Lenowisco	Lee Co, Norton City, Scott Co, Wise Co
Mount Rogers	Bland Co, Bristol City, Carroll Co, Galax City, Grayson Co, Smyth Co, Washington Co, Wythe Co
New River	Floyd Co, Giles Co, Montgomery Co, Pulaski Co, Radford City
Pittsylvania/Danville	Danville City, Pittsylvania Co
West Piedmont	Franklin Co, Henry Co, Martinsville City, Patrick Co



- Near Southwest Districts
 - Central Virginia
 - Roanoke City/Alleghany
 - Pittsylvania/Danville
 - West Piedmont
 - New River
- Far Southwest Districts
 - Mount Rogers
 - Cumberland Plateau
 - Lenowisco

Southwest Surge Team Organizational Chart



Updated 11/9/ 2021

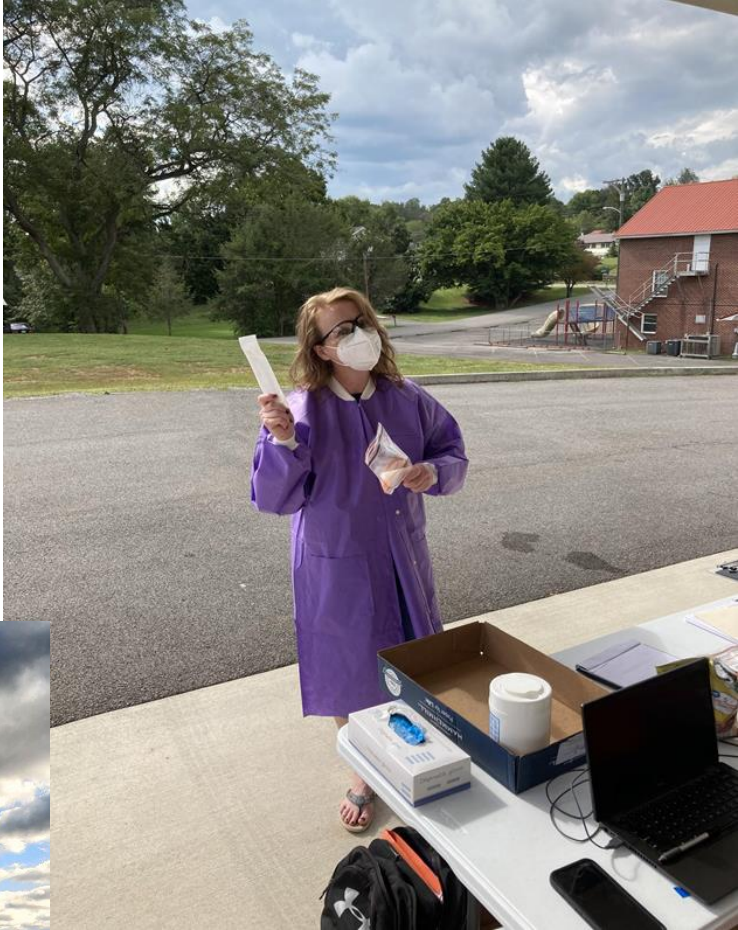
Challenges in serving the southwest population

- Lack of access to reliable testing
- Outreach and educational material was limited
- Geographic size and density of the southwest
- Staff Turnover

Solutions and Activities

- Stood up consistent and reliable testing sites at various locations
 - Salem Civic Center
 - Clifton Forge
 - Martinsville Armory
 - Bristol
- Standardized testing practices across the region in conjunction with the VT Fralin Lab
- Outbreak testing for large facilities (schools, adult correctional facilities, and ALF/SNF)
- Participation in local events and actively promoting public health activities (distribution of take home test)

Community Testing



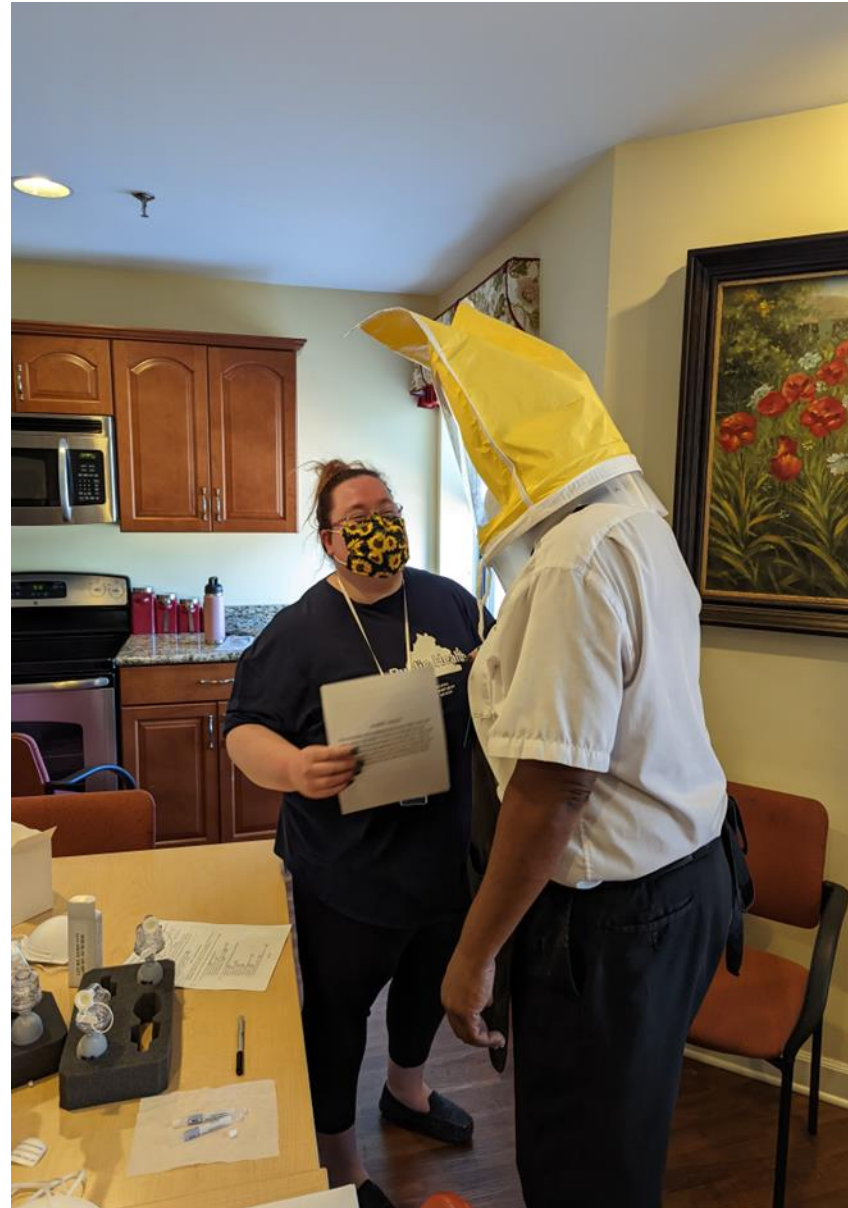
Outbreaks and Local Events



- ❖ Amherst County Schools Testing
- ❖ Blue Ridge Rock Festival
- ❖ Floyd Fest

N-95 Fit Testing & Training

- All team members received training to become fit test trainers and have provided the service throughout the region



Results of the Southwest Team's Work

- At least 99,160 COVID-19 case investigations from Winter 2020 to present
- Supported more than 81 onsite events
- Supported community testing events organized by the local health districts (LHDs)
 - Performing a total of 6,532 PCR tests
- More than 10,000 at-home test kits were distributed at festivals and local events
- N-95 Fit Test Training at any congregate facilities throughout the southwest
- Conducted in-person training for new district staff as well as accompanying them to correctional facilities, and schools for point prevalence testing and infection prevention visits
- Team members augmented staffing for Covid investigations, vaccine clinics, and infection prevention visits
- Created educational material for congregate facilities both in English and Spanish as needed
- The team has estimated their support and direct services to LHD's amount to over \$1,200,083 of staff time and effort as savings

Conclusion

The SW Regional team believes that public health should meet people where they are. This tenet, drove the team to provide more in-person services and solutions to problems facing Virginians. This competent and small team became highly skilled and proved to be an extremely useful resource for health districts to rely on and utilize for their needs. The containment team's ever-increasing skillset led to numerous successful interventions and proved that small, flexible teams can be a great asset to LHDs.

Thank you all for your time!

Questions?

Special Thanks

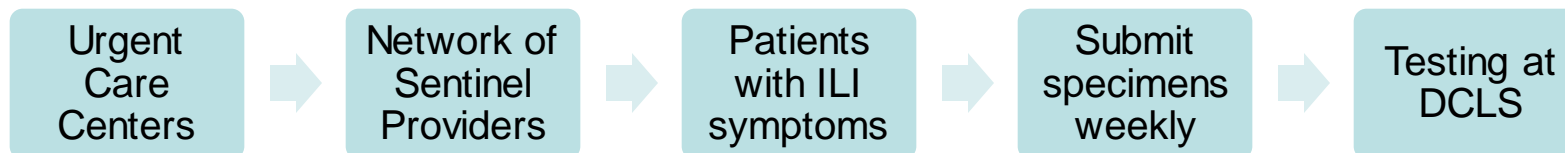
- Paige Bordwine, MPH Southwest Regional Epidemiologist
- Jorge Cotto-Rosario, BS Southwest Hybrid CI/CT

Situational Awareness of Influenza Activity in Virginia: A Sentinel Surveillance Approach on Influenza Like Illness, 2022-23

Lanre Soyoye, MPH, Surveillance Epidemiologist
VDH Division of Surveillance and Investigation

Background

- The Influenza Sentinel Surveillance Program is one of the surveillance activities used by VDH to track influenza (flu) in Virginia
- It involves establishing a network of providers(sentinel providers) from urgent care centers(UCCs) to voluntarily submit specimens weekly from individuals who present with influenza-like-illness (ILI)symptoms for testing at the state public health lab, Division of Consolidated Laboratory Services(DCLS)
- The program aims to
 - Monitor flu for seasonal trends to assess flu burden in VA
 - Monitor novel strains within the state and
 - Provide data for future vaccine formulation decisions



ILI is defined as FEVER of 100°F or more **WITH COUGH and/or SORE THROAT**

Methods

- **Preparation (2022-23 flu season)**
 - The Sentinel Surveillance Team (SST) conducted research on Sentinel Surveillance programs in neighboring states
 - The SST created a repository of program materials to assist with the recruitment and onboarding of facilities in all 5 regions of VA
- **Recruitment and Onboarding**
 - Reached out to 63 facilities for a recruitment meeting
 - Once a facility decided to participate, the SST held an onboarding orientation with DCLS
 - REDCap Survey was utilized to indicate participation and collect contact information
- **DCLS**
 - Flu specimen collection kits were sent by DCLS and included instructions on specimen collection and transportation
 - Testing Capacity
 - Molecular tests that detects both flu and COVID-19
- **Provider Weekly Report**
 - A report was given to providers that included a weekly summary of aggregated results in their facility
 - Report included demographic details such as age groups
- **Check-Ins**
 - Weekly check-ins were conducted via email and monthly touch base meetings were held for the providers
 - End of season survey was administered

Results

- **Criteria:** Individuals who met the ILI criteria
- **Specimen Collection:** 320 specimens were submitted
 - 29 (9%) were positive for flu
 - 53 (17%) were positive for COVID-19
- **Peak**
 - ILI visits peaked during the week of October 16th, 2022
 - 3 specimens positive for flu
 - COVID-19 as a percentage of all positive specimens was at its peak (33%) at the end of October 2022
- The number of positive cases were highest in the first week of January 2023
 - 4 specimens positive for flu
 - 8 specimens positive for COVID
- Nationally, some states saw more Influenza A(H3), which was consistent with the subtyping result seen in VA

Conclusion

- It is worthy to note that visits for ILI dropped sharply subsequently after the initial peak at the beginning of the season
 - Different from what was seen amongst patients who visited ED & UC facilities for ILI
- Surveillance data on flu activity is imperative to describe flu seasons accurately
- The Sentinel Surveillance Program helps provide data for the flu vaccine compositions
- The report was an effective tool for tracking the statistics of flu within their region for situational awareness
 - Allows to see the breakdown of flu and COVID positives for the season

Our Current Approach

Influenza Sentinel Surveillance Program for the 2023-24 Flu Season

- We are constantly working on program improvements to reduce flu illness and prevent flu-related hospitalizations
- The SST incorporated new processes for the ongoing 2023-24 flu season
 - Program Incentives
 - DCLS tour
 - Certificate of appreciation
 - Provider Weekly Report
 - Expanding Program Scope
 - Targeted Providers: Universities, LTCFs, FQHCs, UCCs with hospitals, Peds facilities
 - Testing: RVP capacity
 - Ease
 - DCLS testing form: highlight portion to be completed and prepopulate required fields
 - Recruitment
 - Recruitment process began a little earlier than last season
 - New recruitment approach to include outreach in VDH newsletters and VDH social media
 - Flexibility
 - Flexibility with swabbing (providers may send 2-3ml in lieu of a 2nd swab)

Acknowledgements & Appreciation

Sentinel Surveillance Team

- Tammy Flores, Lab Surveillance Lead
- Sabrina Rahman, Deputy Respiratory Coordinator
- Lisa Sollot, Respiratory Disease Program Coordinator

Respiratory Disease Team

**Thank You for
Your Time and Attention!**

**Please reach out
flu@vdh.virginia.gov**



Insights into COVID-19 Reinfections:

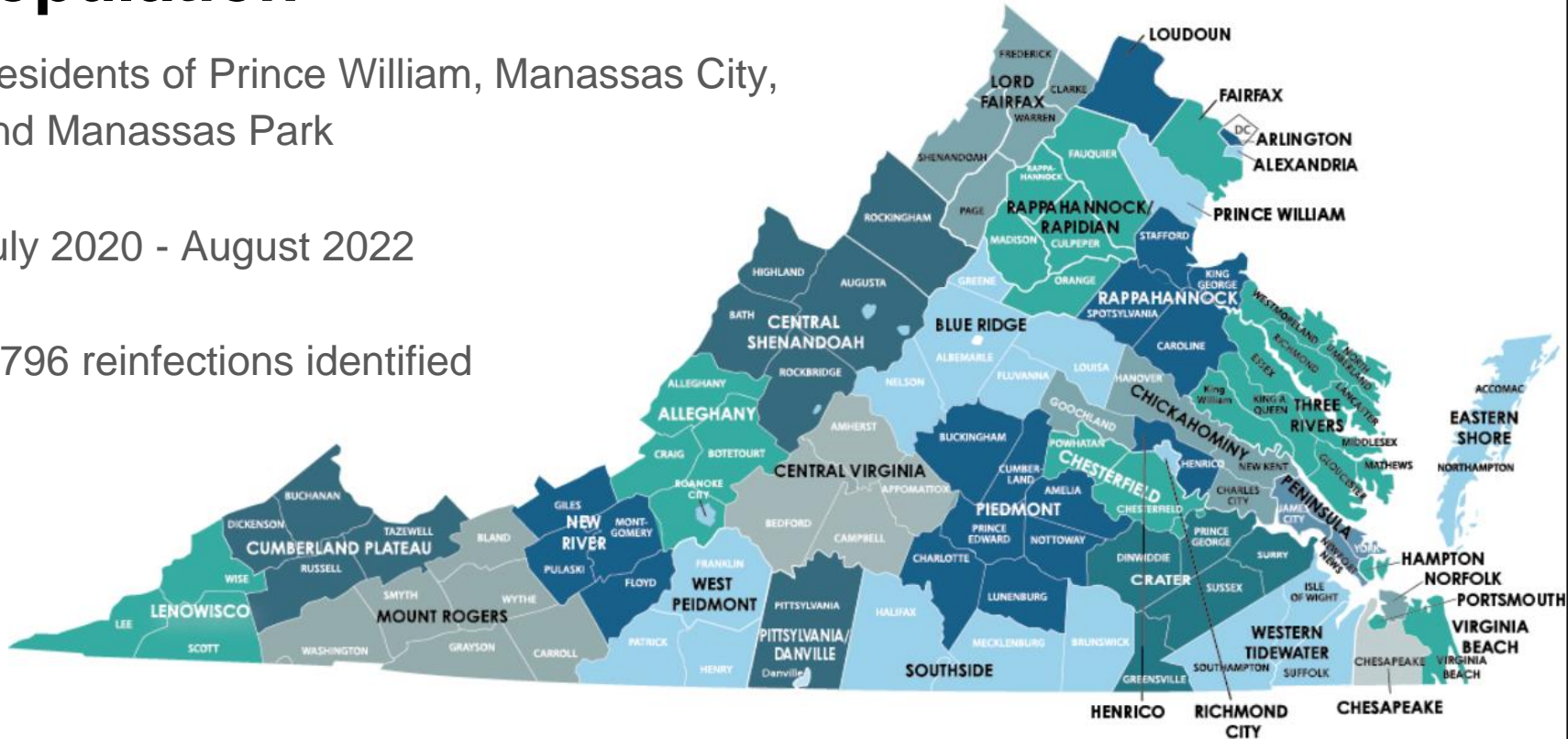
A Retrospective Case Series Study in the Prince William Health
District, July 2020 – August 2022

Micaela Manley, MPH
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Matthew Manalel, MPH
Gabrielle Bostetter
Margarita Castillo

Research Objectives

1. Identify patterns and risk factors associated with reinfection events
2. Contribute to the existing knowledge on reinfection events
3. Explore potential implications for public health strategies

4,796 reinfections identified



Prince William Health District: Statistics

	Prince William	Manassas Park City	Manassas City
Population	482,204	16,703	42,722
Sex	49.8% Male 50.2% Female	52.1% Male 47.9% Female	50.8 % Male 49.2% Female
% without Healthcare Coverage	10.5%	19%	17.5%
Median Household Income	\$120,398	\$90,544	\$101,934
% Hispanic or Latino	25.2%	41%	42.9%

Data Collection Methods



Used SQL to form our initial list of reinfections from VEDSS



Reviewed and verified the demographics and vaccination statuses of cases



Established definitions and rules for data



Made edits to the dataset if more information was available in VEDSS or VIIS

Definitions

Reinfections: at least two positive SARS-CoV-2 tests with specimen collection dates 90+ days apart

- Excludes epidemiologically linked probable reinfections without lab confirmation

Hospitalization Status: admitted into the hospital for greater than twenty-four hours due to a COVID-19 diagnosis (must have an admission dates or investigative notes that mention the length and reason for stay)

Definitions

Vaccination Status: individual's vaccination status prior to the reinfection

- **Unvaccinated/Incomplete:** cases who did not verbally report their vaccination status during an interview OR cases whose vaccination status was not able to be verified within the VIIS system OR cases who did not have their last dose of a primary vaccination received at least 14 days prior to reinfection with COVID-19 OR cases who did not complete the primary series
- **Primary Series:** cases who completed a 2-dose series (Pfizer, Moderna) for mRNA vaccinations and a single dose of vaccination with a 1 dose series (Janssen) completed at least 14 days prior to reinfection with COVID-19, includes cases who have also received their booster dose less than 14 days prior to the reinfection event.
- **Boosted:** an additional dose of vaccination beyond the primary series, received prior to reinfection with COVID-19

Statistical Methods

- Utilized R statistical analysis software
 - Chi-square goodness of fit: *vaccination, race, ethnicity, sex*
 - Chi-square test of independence: *race & sex, vaccine status & sex, vaccine status & race, vaccine status & ethnicity*
 - McNemar's Chi-square test: *symptomatic, hospitalization*
- Significance level set at $p < 0.05$

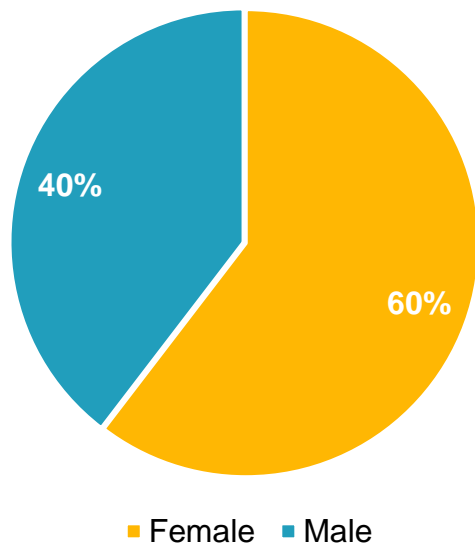
Results

Age

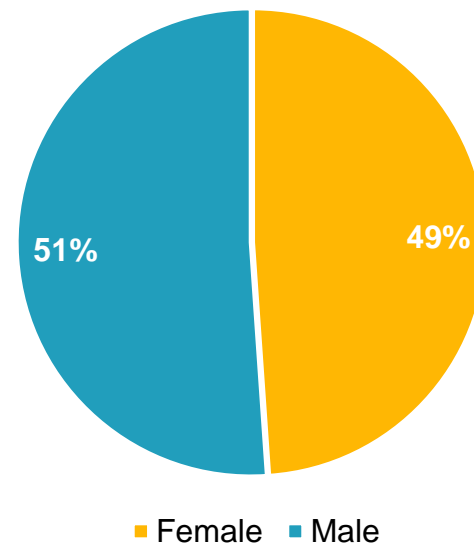
Mean	36.5 years
IQR	24 – 48 years
SD	17.19 years

Sex

Reinfection Cases



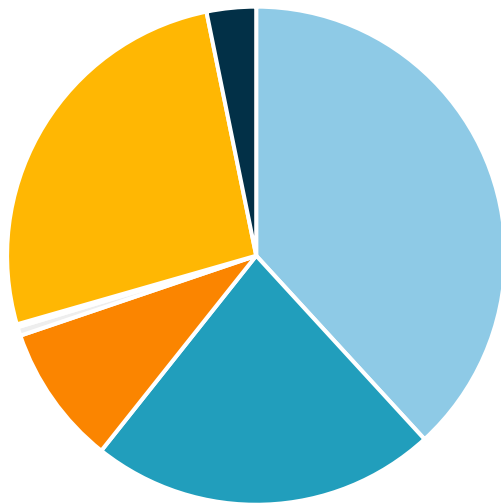
Prince William Health District



Race & Ethnicity

Race

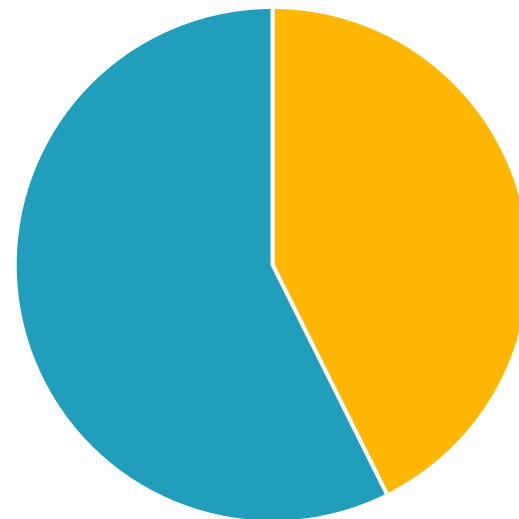
- White
- Black or African American
- Asian
- American Indian or Alaska Native
- Native Hawaiian or Pacific Islander
- Other
- 2+ Races



n = 4245

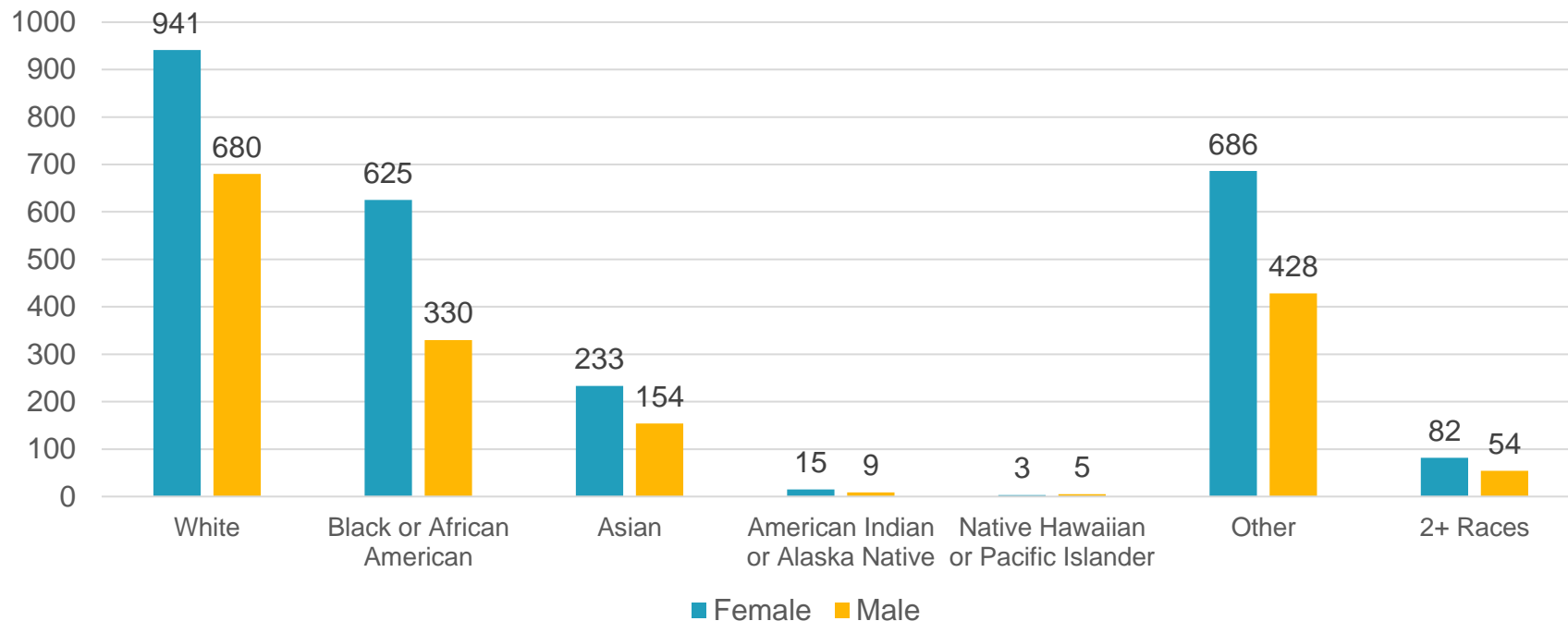
Ethnicity

- Hispanic
- Not Hispanic



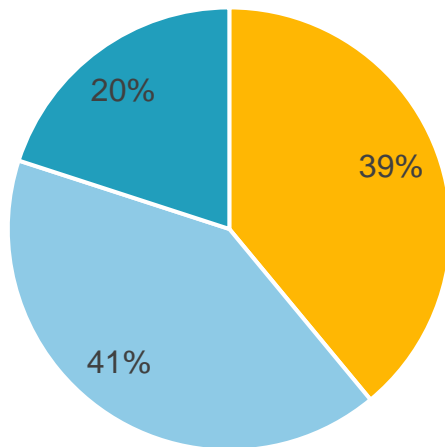
n = 4144

Race vs. Sex

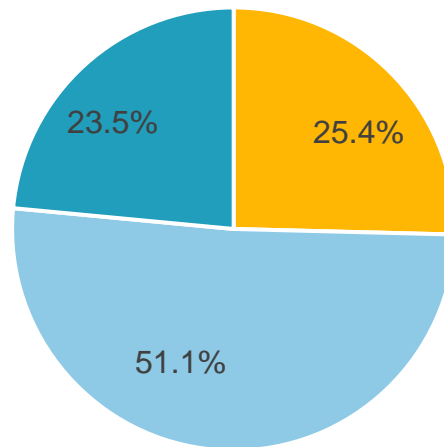


Vaccination

Reinfection Cases



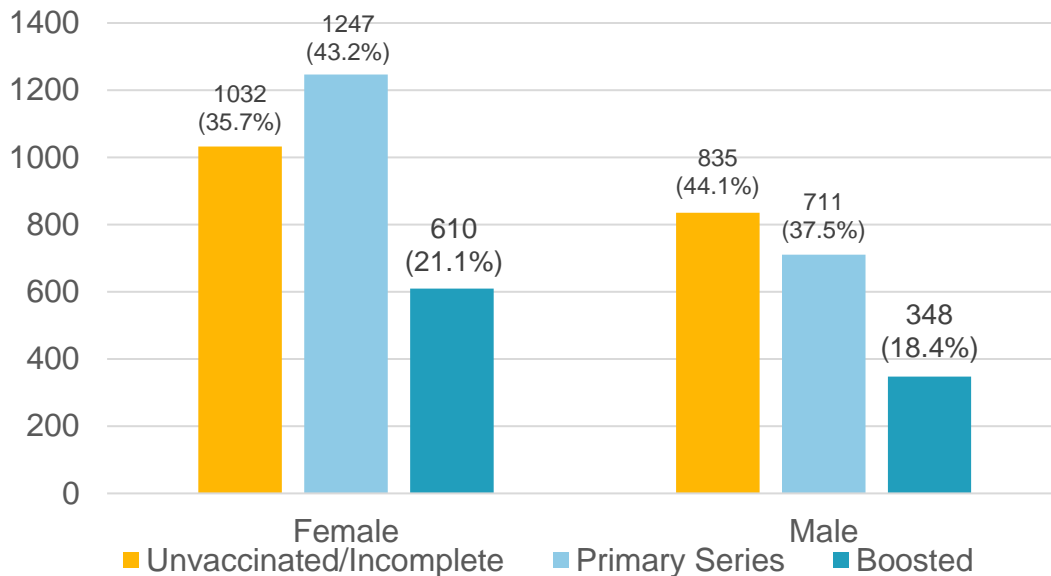
Virginia Population



■ Unvaccinated/Incomplete
 ■ Primary Series
 ■ Boosted

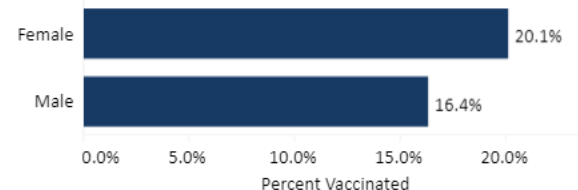
Vaccine Status vs. Sex

Reinfection Cases



Virginia

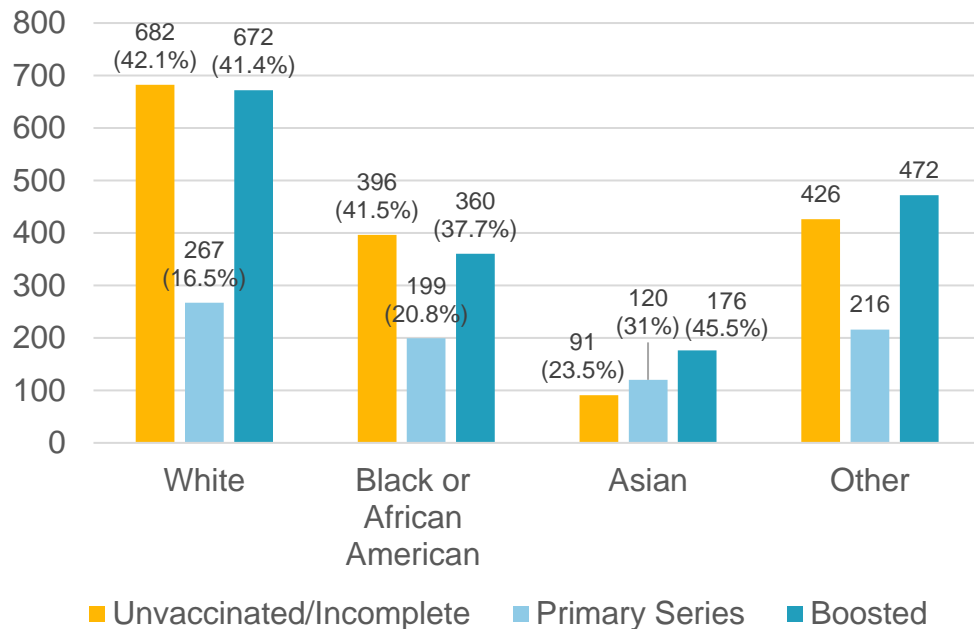
Percent of the Total Population Up to Date - By Sex



[COVID-19 in Virginia: Vaccine Demographics](#)

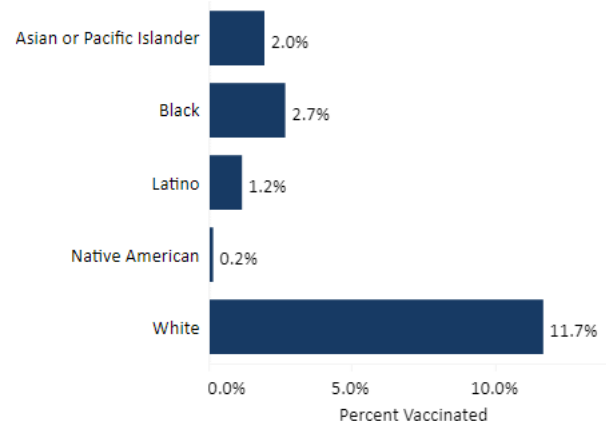
Vaccine Status vs. Race

Reinfection Cases



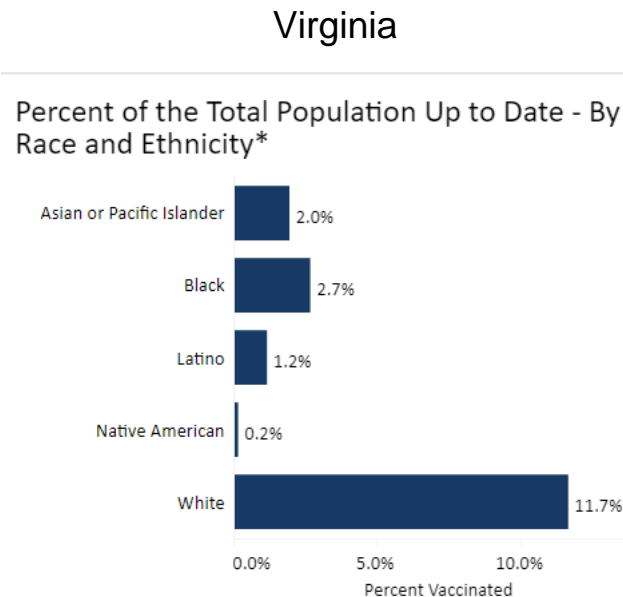
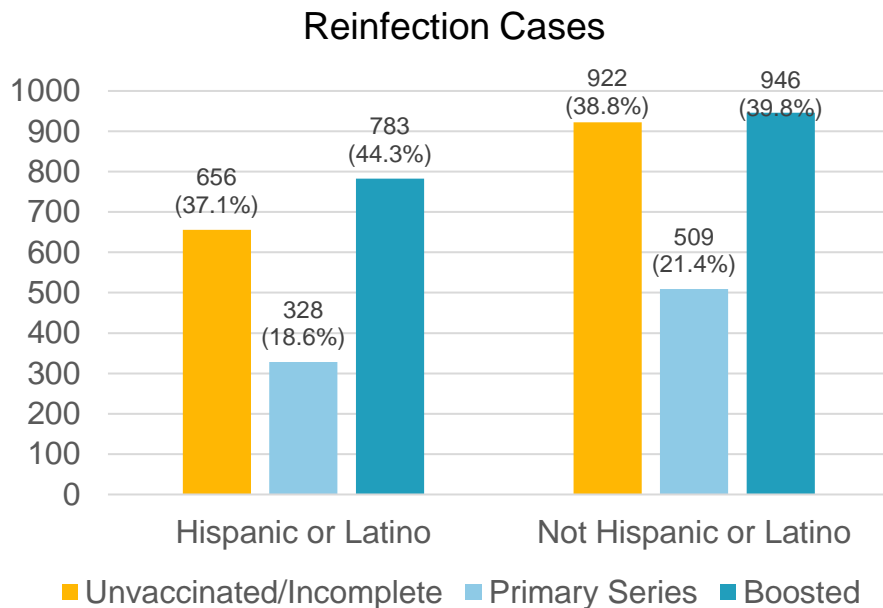
Virginia

Percent of the Total Population Up to Date - By Race and Ethnicity*



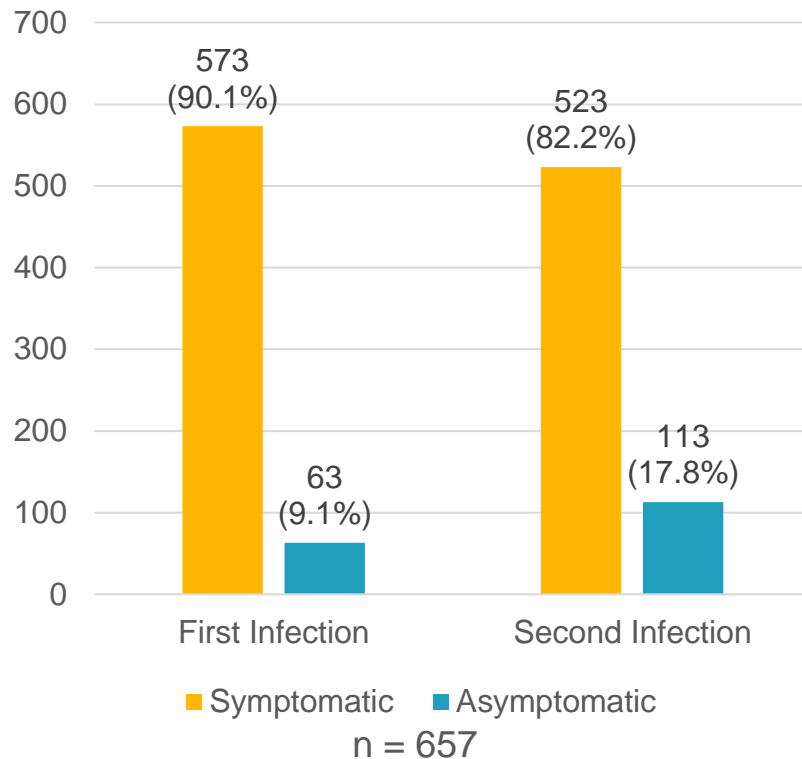
[COVID-19 in Virginia: Vaccine Demographics](#)

Vaccine Status vs. Ethnicity



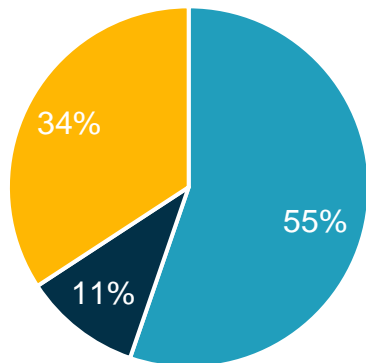
Symptoms

First Infection	Reinfection		
	Symptoms	No	Yes
	No	17	46
	Yes	96	477



Hospitalizations

Hospitalized During Reinfection



■ Vaccination Status
 ■ Primary Series
 ■ Boosted
 ■ Unvaccinated/Incomplete

n = 38

		Second Infection	
		No	Yes
First Infection	Hospitalization	No	Yes
		497	22
First Infection	No	28	6
	Yes		

Discussion

Limitations

- Symptomatic and hospitalization data is very limited as most reinfection cases were not interviewed prior to September 2021
 - Prior to September 2021, reinfection case in VA were counted on a yearly basis as a "case per person" vs every 90 days. (symptomatic n = 657, hospitalization n = 38)
- Insufficient staffing to interview all reinfection cases
- Unable to capture all reinfection cases
 - Home tests often not reported
 - Asymptomatic or mild cases may not have sought testing
 - Limited pediatric testing in the health district

Strengths

- Data Quality
- Demographics
- Defined definitions and actions to approach unique situations
- Collaboration

Risk Factors for COVID-19 Reinfection



Not vaccinated / Not up-to-date



Young adults



Females



People of color

Proposed Action: Local health districts develop individualized vaccine promotion campaigns for their communities that are uniquely designed to target young adults, women, and people of color.

Further Research

- Are these results applicable to other infectious diseases?
- How do other disparities, such as health care and socioeconomic, impact reinfection incidence and outcomes?
- What public health strategies can best reach young adults, women, and people of color to improve vaccination rates?