Field Epidemiology Program Overview

Tuesday, March 25, 2025

We will begin at 8:15 a.m.

Agenda

Times	Topic	Presenter
8:15 – 8:30 am	Welcome and Introductions	Dr. Brandy Darby
Session 1 8:30 – 9:00 am	**Overview of Division of Surveillance and Investigation and District Epidemiologist Roles**	Dr. Brandy Darby
Session 2 9:00 – 9:30 am	**Surveillance Overview**	Katherine McCombs
9:30 – 9:45 am	Break	
Session 3 9:45 – 10:00 am	**Epidemiology Field Investigations Team Overview**	Dawn Saady
Session 4 10:00 – 10:15 am	**Confidentiality and Virginia Code and Regulations**	Dawn Saady
Session 5 10:15 – 11:00 am	**Overview of Foodborne, Respiratory, Vaccine-Preventable, and Vector-Borne Programs**	Seth Levine
11:00 – 11:15 am	Break	
Session 6 11:15 am – 12:00 noon	**Overview of Healthcare-Associated Infections and Antimicrobial Resistance Program;** **MDRO 101**	Dr. Shaina Bernard Emily Hawker

Welcome and Introductions

Dr. Brandy Darby

Overview: Division of Surveillance and Investigation

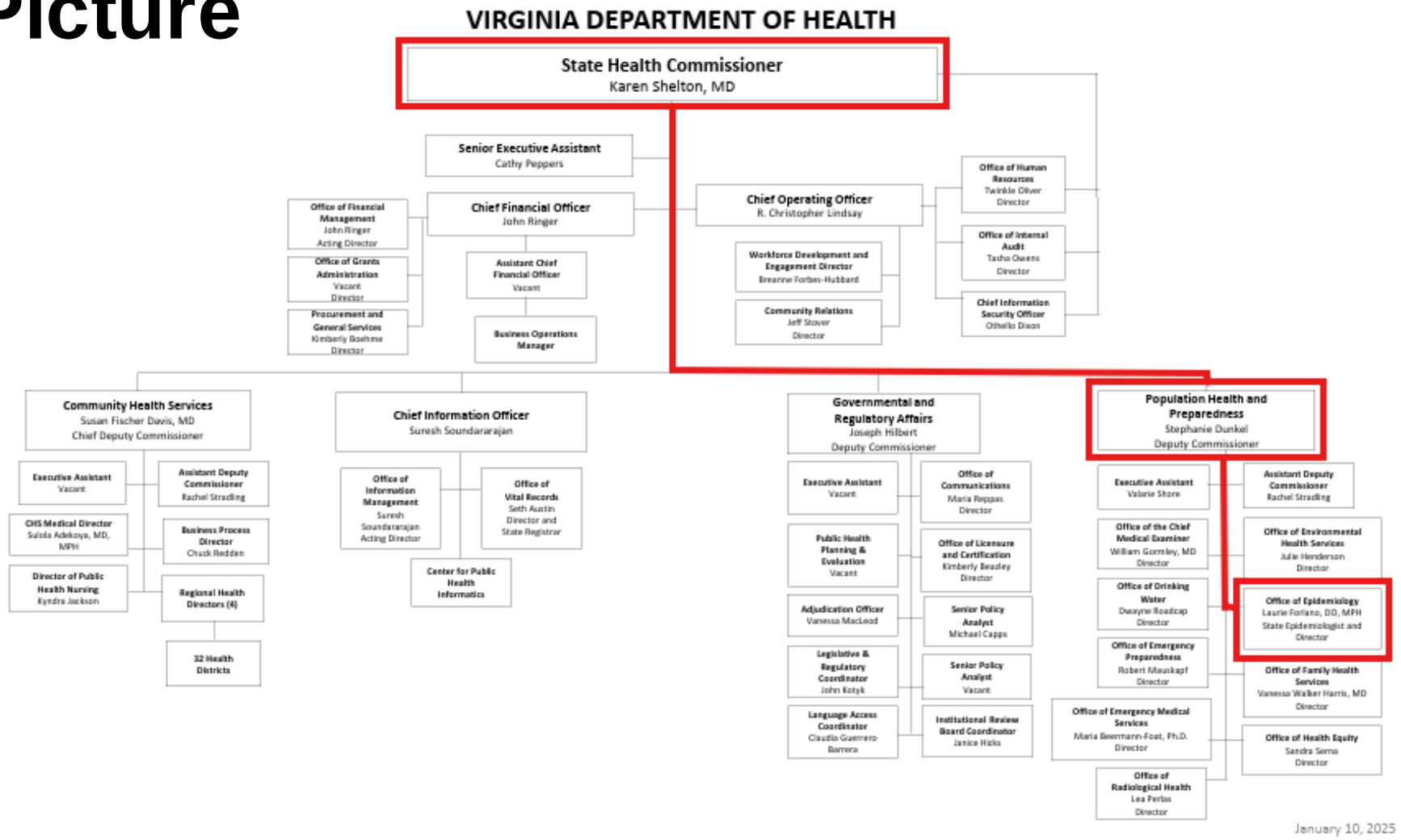
Dr. Brandy Darby

Division of Surveillance and Investigation (DSI)

- Our mission is to serve the citizens of the Commonwealth of Virginia by:
  - Monitoring for the occurrence of reportable and emerging diseases or suspected outbreaks of illness;
  - Providing recommendations and guidance to prevent the spread of communicable diseases;
  - Investigating outbreaks of disease; and
  - Responding to public health emergencies.

https://www.vdh.virginia.gov/surveillance-and-investigation/

The Big Picture



https://www.vdh.virginia.gov/commissioner/#Commissioner
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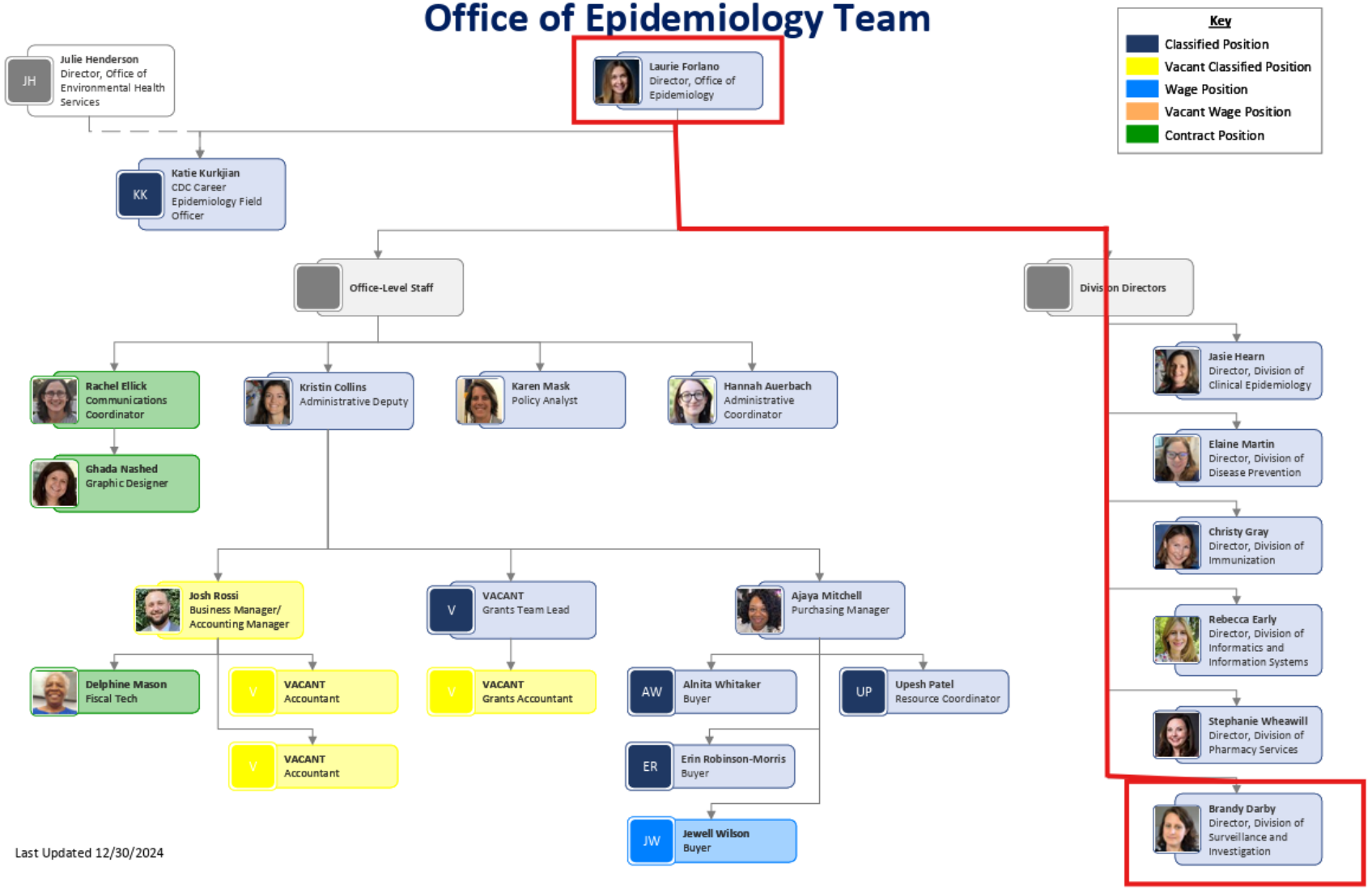
Office of Epidemiology Team



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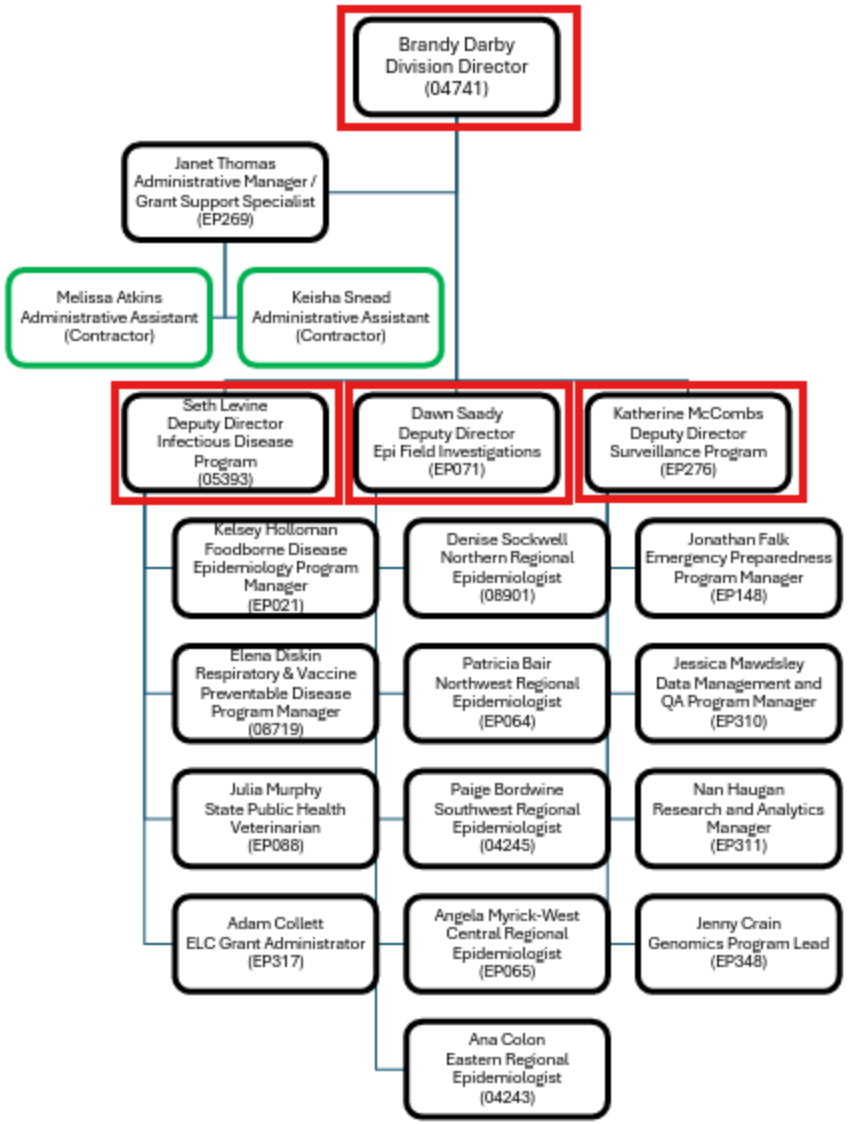
https://vdhweb.vdh.virginia.gov/epidemiology/wp-content/uploads/sites/9/2024/08/Office-of-Epi-Org-Chart.pdf

Division of Surveillance and Investigation

Last Updated: February 2025



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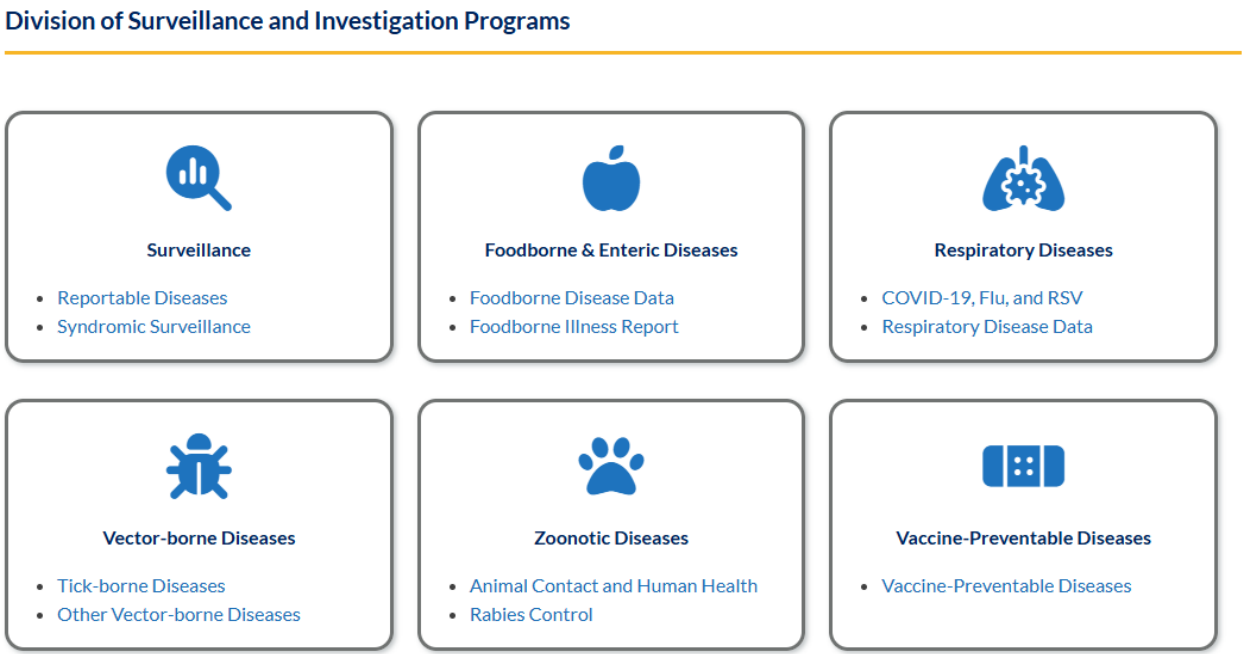
What We Do

- **Surveillance**:
  - Emergency Preparedness Epidemiology Program
    - Cross-Cutting Epidemiology Team (REDCap)
    - Outbreak Surveillance (VOSS)
    - Syndromic Surveillance (ESSENCE)
  - Genomic Epidemiology Program
  - Data Management and Quality Assurance Program
  - Applied Research and Analytics Manager

- **Epidemiology Field Investigations**:
  - Regional Epidemiologists, Deputy Regional Epidemiologists, and Regional Containment Teams support district communicable disease investigations, outbreaks and operations

What We Do

- **Infectious Disease Epidemiology Programs**: Foodborne and Enteric Diseases, Respiratory and Vaccine-Preventable Diseases & Zoonotic and Vector-borne Diseases



https://www.vdh.virginia.gov/surveillance-and-investigation/

What We Do

- **Lead and Support Emergency Responses** to newly emerging and high-consequence pathogens

- Coordinate the **monthly Statewide Epidemiology and Field Epi University calls**

- **Epidemiology and Laboratory Capacity Grant Administration**

External Resources

- **Disease Reporting**: https://www.vdh.virginia.gov/clinicians/disease-reporting-and-control-regulations/
- **Disease Fact Sheets**: https://www.vdh.virginia.gov/epidemiology/epidemiology-fact-sheets/
- **Communicable Disease Data**: https://www.vdh.virginia.gov/surveillance-and-investigation/virginia-communicable-disease-data/
- **Clinician Information**: https://www.vdh.virginia.gov/clinicians/
- **DSI website**: https://www.vdh.virginia.gov/surveillance-and-investigation/

Internal (Intranet) Resources

- **Disease Control Manual**: https://vdhweb.vdh.virginia.gov/disease-control-manual/
- **Reportable Condition Contacts**: https://vdhweb.vdh.virginia.gov/epidemiology/wp-content/uploads/sites/9/2020/11/Reportable-Conditions-Contacts.xlsx
- **DSI intranet page**: https://vdhweb.vdh.virginia.gov/surveillance-and-investigation/
  - Includes links to our **Organizational Chart** and **Contact Directory** (updated monthly)
- **OEPI intranet page**: https://vdhweb.vdh.virginia.gov/epidemiology/
- **Writing, Research, and Publication Resource Guide**: https://vdhweb.vdh.virginia.gov/surveillance-and-investigation/research/

Contact Us

Dr. Brandy Darby	Director, Division of Surveillance and Investigation	brandy.darby@vdh.virginia.gov	(804) 278-7563
Katherine McCombs	Deputy Director, Surveillance	katherine.mccombs@vdh.virginia.gov	(804) 389-1536
Seth Levine	Deputy Director, Infectious Disease Programs	seth.levine@vdh.virginia.gov	(804) 864-8116
Dawn Saady	Deputy Director, Epidemiology Field Investigations	dawn.saady@vdh.virginia.gov	(804) 864-8117

Epidemiology Deliverables

Dr. Brandy Darby

PHEP Cooperative Agreement

- Provides funding to most local health districts (LHD) for a District Epidemiologist
- Any LHD receiving PHEP funds is expected to meet the Local Health District Deliverables
  - Current Grant Cycle: July 1, 2024 – June 30, 2029
- Epidemiology deliverables for local health districts:
  - **Case reporting**
  - **Surveillance case definitions** and timely **follow-up**
  - Ensuring a **response team** to respond to disease events/emergencies
  - **Analysis** and **reporting of communicable disease data**
  - Participation in **enhanced and active surveillance activities**
  - **Assessment of the communicable disease epidemiology program**

Epidemiology Deliverable 1:
Ensure timely and accurate case reporting

- Receive and follow-up on routine, rapid, and after-hours disease reporting
- Ensure that timely and accurate reporting of disease information is made from the LHD to VDH central office

Epidemiology Deliverable 2:
Ensure application of surveillance case definitions and timely follow-up

Ensure the application of surveillance case definitions, enter and update accurate info into VEDSS, and submit case report forms (as needed)

Ensure that timely follow-up of reported conditions is conducted in accordance with procedures outlined in the Virginia Disease Control Manual

Epidemiology Deliverable 3:
Ensure LHD response team is in place to respond to disease events and public health emergencies

- Assemble a multi-disciplinary response team
  - Include epidemiology, nursing, environmental health, administration, MRC, emergency coordination, population/community health, and public information officer
- Host regular response team meetings
- Maintain and exercise an epidemiology response plan
  - Train staff on the plan and their role in response efforts
- Respond to public health events and emergencies

Epidemiology Deliverable 4:
Ensure regular analysis and reporting of communicable disease data

Regularly assess data for quality assurance, conduct appropriate data analysis, and ensure accurate reporting of disease data

Produce data reports and summaries for your local community

Epidemiology Deliverable 5:
Participate in enhanced and active disease surveillance activities

Participate in enhanced and active disease surveillance activities, including:

- Traveler monitoring
- Exposure monitoring
- Special event surveillance
- Early detection of high-consequence conditions
- Surveillance for emerging conditions

Epidemiology Deliverable 6:
Ensure regular assessment of the communicable disease epidemiology program

Coordinate with VDH OEPI to:

- Recruit and train district epidemiologists
- Ensure high quality performance of the field epi program
- Conduct AAR/Review of District Epi Operations
- Partner with your Regional Epidemiologist(s) and implement program changes as needed

Surveillance Overview

Katherine McCombs, MPH

Surveillance Programs

- Emergency Preparedness Epidemiology

- Genomic Epidemiology

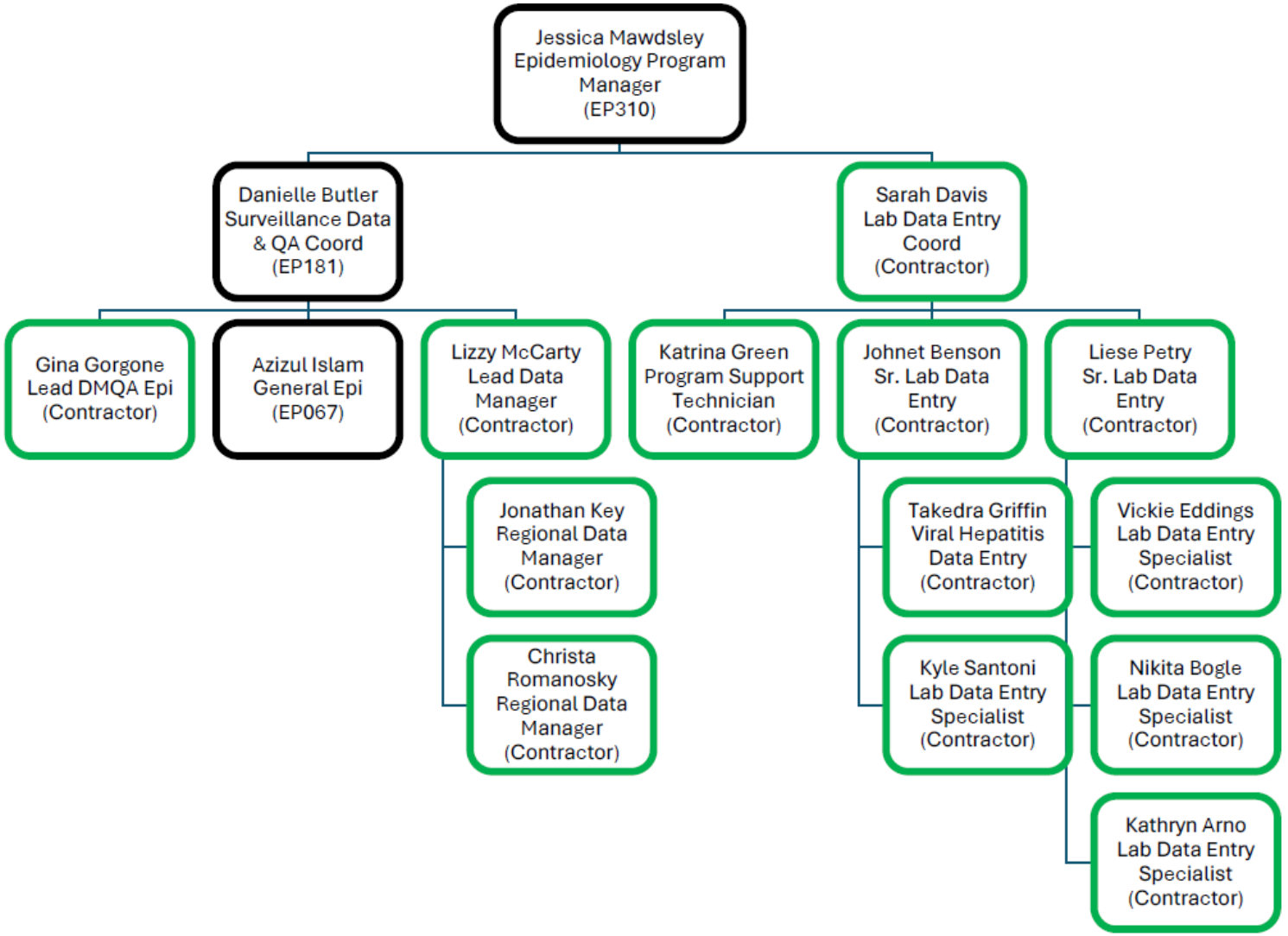
- Data Management and Quality Assurance

- Applied Research

Surveillance-Data Management and Quality Assurance (DMQA) program

DMQA

Surveillance-DMQA



<u>DATA QUALITY</u>

Completeness

Reliability

Consistency

Timeliness

Accuracy

Surveillance-DMQA

- Annual Surveillance Report
- Monthly Morbidity Surveillance Report
- Data Reconciliation
- Data Requests
- Electronic Death Certificate Project
- Lab Aberration Detection System (LADS)

Surveillance-DMQA

VIRGINIA REPORTABLE DISEASE LIST

Reporting of the following diseases is required by state law (Sections 32.1-36 and 32.1-37 of the Code of Virginia and 12 VAC 5-90-80 of the Board of Health Regulations for Disease Reporting and Control). Report all conditions when suspected or confirmed to your local health department (LHD). Reports may be submitted by Confidential Morbidity Report Portal (Epi-1 form), computer-generated printout, CDC or VDH surveillance form, or upon agreement with VDH, by means of secure electronic submission.

REPORT IMMEDIATELY

- Anthrax *(Bacillus anthracis)*
- Botulism *(Clostridium botulinum)*
- Brucellosis *(Brucella* spp.)
- Cholera *(Vibrio cholerae* O1/O139)
- Coronavirus infection, severe (e.g., SARS-CoV, MERS-CoV)
- Diphtheria *(Corynebacterium diphtheriae)*
- Disease caused by an agent that may have been used as a weapon
- *Haemophilus influenzae* infection, invasive
- Hepatitis A
- Influenza-associated deaths if younger than 18 years of age
- Influenza A, novel virus
- Measles (Rubeola)
- Meningococcal disease *(Neisseria meningitidis)*
- Outbreaks, all (including foodborne, healthcare-associated, occupational, toxic substance-related, waterborne, and any other outbreak)
- Pertussis *(Bordetella pertussis)*
- Plague *(Yersinia pestis)*
- Poliovirus infection, including poliomyelitis
- Psittacosis *(Chlamydophila psittaci)*
- Q fever *(Coxiella burnetti)*
- Rabies, human and animal
- Rubella [a], including congenital rubella syndrome
- Smallpox (Variola virus)
- Syphilis *(Treponema pallidum)*, congenital, primary, secondary, and other
- Tuberculosis, active disease (*Mycobacterium tuberculosis* complex) [a]
- Tularemia *(Francisella tularensis)*
- Typhoid/Paratyphoid infection (*Salmonella* Typhi, *Salmonella* Paratyphi (all types))
- Unusual occurrence of disease of public health concern
- Vaccinia, disease or adverse event
- Vibriosis (*Vibrio* spp.) [d]
- Viral hemorrhagic fever
- Yellow fever

REPORT WITHIN 3 DAYS

- Amebiasis *(Entamoeba histolytica)*
- Arboviral infections (e.g., CHIK, dengue, EEE, LAC, SLE, WNV, Zika)
- Babesiosis *(Babesia* spp.)
- Campylobacteriosis *(Campylobacter* spp.)
- *Candida auris*, infection or colonization [b]
- Carbapenemase-producing organism, infection or colonization
- Chancroid *(Haemophilus ducreyi)*
- Chickenpox (Varicella virus)
- Chlamydia trachomatis infection
- Coronavirus disease 2019 (COVID-19 or SARS-CoV-2)
- Cryptosporidiosis *(Cryptosporidium* spp.)
- Cyclosporiasis *(Cyclospora* spp.)
- Ehrlichiosis/Anaplasmosis *(Ehrlichia spp., Anaplasma phagocytophilum)*
- Giardiasis *(Giardia* spp.)
- Gonorrhea *(Neisseria gonorrhoeae)*
- Granuloma inguinale *(Calymmatobacterium granulomatis)*
- Hantavirus pulmonary syndrome
- Hemolytic uremic syndrome (HUS)
- Hepatitis B (acute and chronic)
- Hepatitis C (acute and chronic)
- Hepatitis, other acute viral
- Human immunodeficiency virus (HIV) infection
- Influenza, confirmed [e]
- Lead, blood levels
- Legionellosis *(Legionella* spp.)
- Leprosy/Hansen's disease *(Mycobacterium leprae)*
- Leptospirosis *(Leptospira interrogans)*
- Listeriosis *(Listeria monocytogenes)*
- Lyme disease *(Borrelia* spp.)
- Lymphogranuloma venereum *(Chlamydia trachomatis)*
- Malaria *(Plasmodium* spp.)
- Mumps
- Neonatal abstinence syndrome (NAS)
- Ophthalmia neonatorum
- Rabies treatment, post-exposure
- Salmonellosis *(Salmonella* spp.)
- Shiga toxin-producing *Escherichia coli* infection [c]
- Shigellosis *(Shigella* spp.)
- Spotted fever rickettsiosis *(Rickettsia* spp.)
- Streptococcal disease, Group A, invasive or toxic shock
- *Streptococcus pneumoniae* infection, invasive and <5 years of age
- Syphilis *(Treponema pallidum)*, if not primary, secondary, or congenital
- Tetanus *(Clostridium tetani)*
- Toxic substance-related illness
- Trichinosis (Trichinellosis) *(Trichinella spiralis)*
- Tuberculosis infection
- Vancomycin-intermediate or vancomycin-resistant *Staphylococcus aureus* infection
- Yersiniosis *(Yersinia* spp.)

LEGEND

- Reportable by directors of laboratories. Additional condition-specific requirements for directors of laboratories available here. These and all other conditions listed must be reported by physicians and directors of medical care facilities.
- Laboratories must submit initial isolate or other initial specimen to the Division of Consolidated Laboratory Services (DCLS) within 7 days of identification. All specimens must be identified with patient and physician information, and the LHD must be notified within the timeframe specified below.
- Include available antimicrobial susceptibility findings in report.

a Laboratories report AFB, *M. tuberculosis* complex or any other mycobacteria, and antimicrobial susceptibility for *M. tuberculosis* complex.
b Includes submission of *Candida haemulonii* specimens to DCLS.
c Laboratories that use EIA without a positive culture should forward positive stool specimens or enrichment broth to DCLS.
d Includes reporting of *Photobacterium damselae* and *Grimontia hollisae*.
e By culture, antigen detection by direct fluorescent antibody (DFA), or nucleic acid detection.

ALL REPORTS ARE CONFIDENTIAL AND SHOULD INCLUDE -

1. *the disease or condition diagnosed or suspected*
2. *patient's name, date of birth, age, sex, race/ethnicity, pregnancy status, address, and telephone number*
3. *physician's name, address, and telephone number*
4. *method of diagnosis, if available*

VDH VIRGINIA DEPARTMENT OF HEALTH

Effective January 2023

For more info, please visit https://www.vdh.virginia.gov/clinicians/

Surveillance-DMQA

VDH Laboratory Aberration Detection System (LADS)..

Laboratory Aberration Status

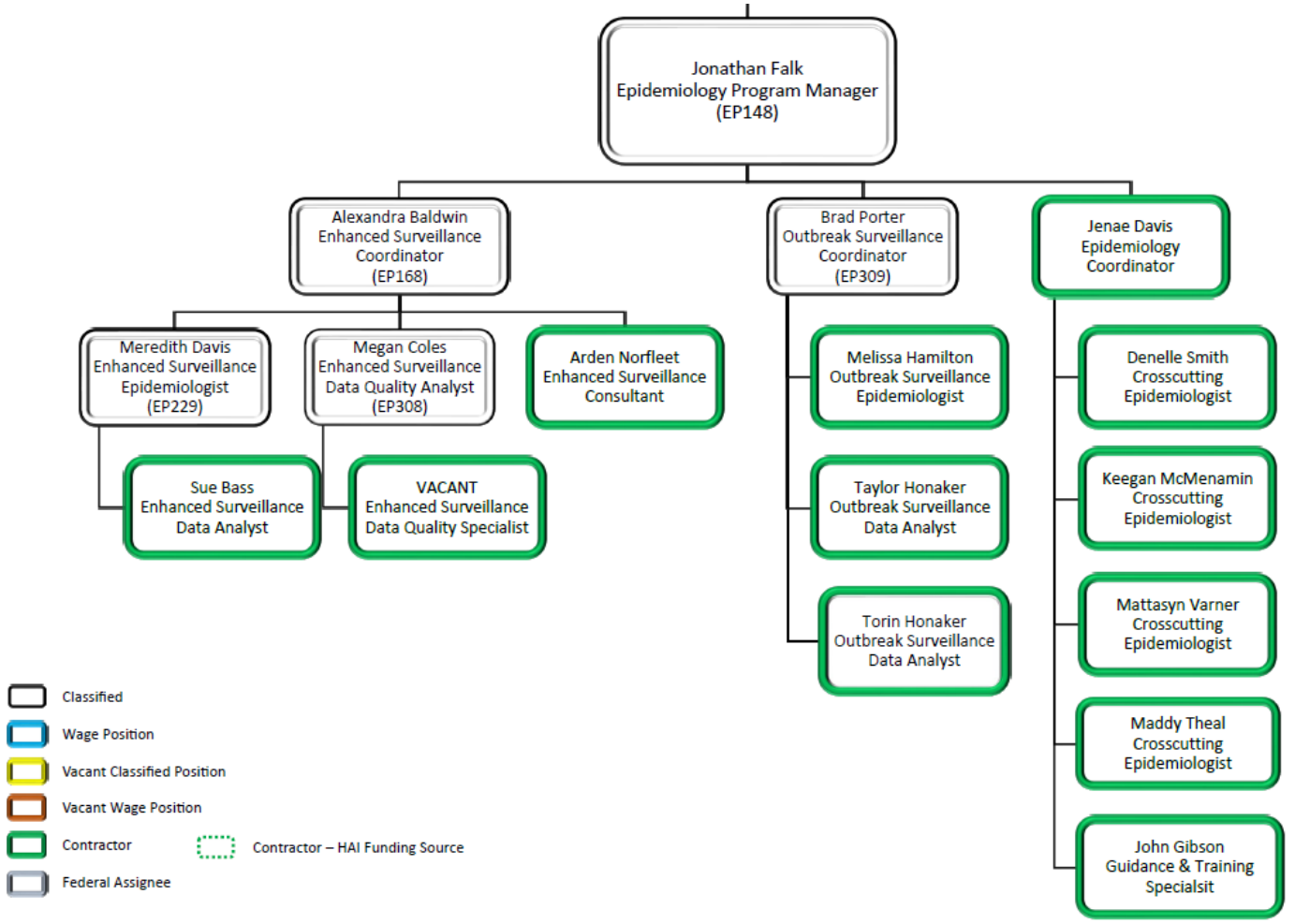
	09-Feb-25	16-Feb-25	23-Feb-25
Anaplasma/Ehrlichia spp.			
Bordetella pertussis			
Borellia burgdorferi			
Campylobacter spp.			
Corynebacterium diphtheria			
Cryptosporidium spp.			
Cyclospora spp.			
Giardia spp.			
Group A Streptococcus, invasive			
Haemophilus influenzae			
Hepatitis A virus			
Hepatitis B virus			
Hepatitis C virus			
Legionella spp.			
Listeria monocytogenes			
Malaria spp.			

No statewide or regional aberration detected

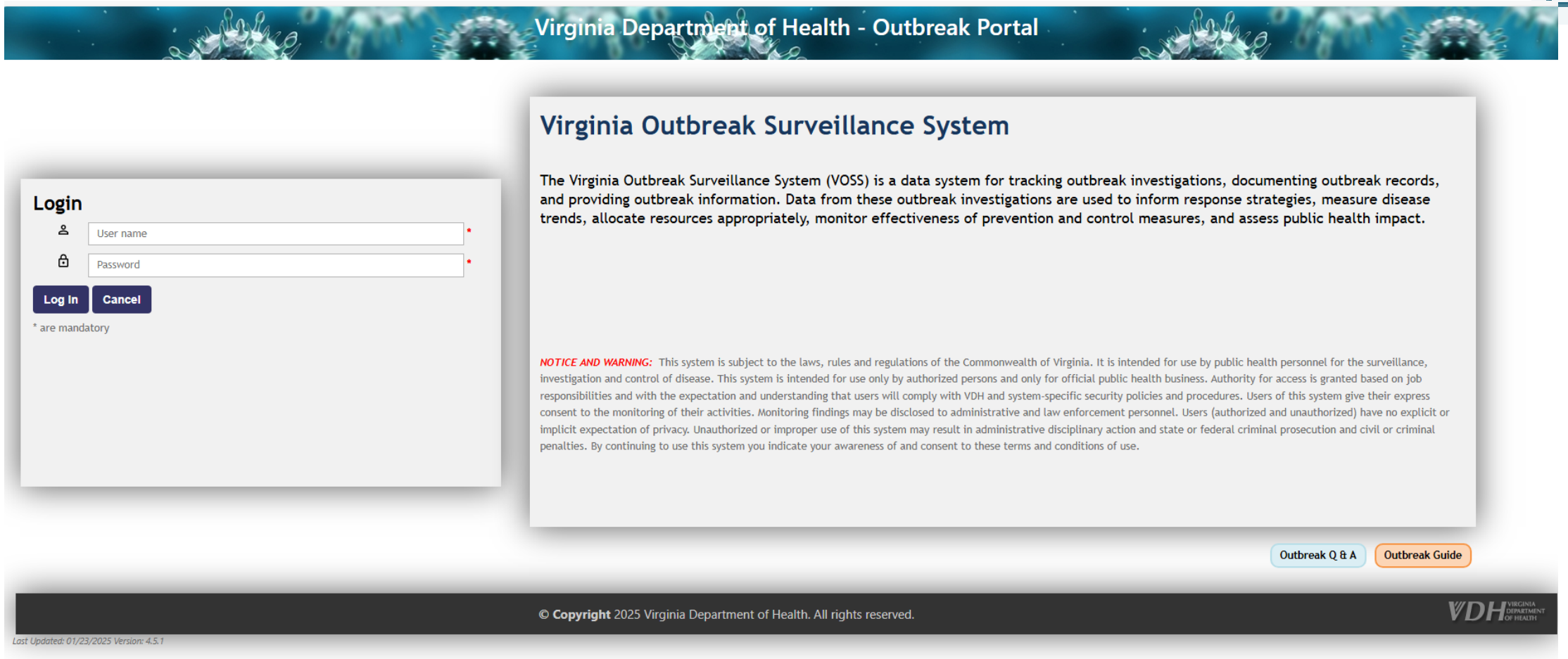
Regional aberration detected (>= 1 region)

Statewide aberration detected

Surveillance-Emergency Preparedness Epidemiology



Surveillance-Emergency Preparedness Epidemiology - Outbreak Surveillance Program



Surveillance-Emergency Preparedness Epidemiology - Outbreak Surveillance Program

Surveillance-Emergency Preparedness Epidemiology-Outbreak Surveillance Program

About the System | User Access & Training | Resources | Data Tools

User Access

Requesting Access:

All users must complete a training and have supervisor approval in order to gain access to VOSS.

General Process:

1. District or Regional users must request access through SAM-VOSS.
2. Supervisors will then need to approve the new user's access request in SAM-VOSS.
3. The Outbreak Surveillance Team will follow up with the individual to set a training date.
4. Following training, each user will receive practice examples to complete and they will be checked for accuracy.
5. Users will be granted access to VOSS Production and will receive an email notification letting them know that they have been approved for VOSS access.

Access can be requested using the SAM-VOSS links below.

User Guide: SAM-VOSS User Guide

User Access Request Form - COV account

Surveillance-Emergency Preparedness Epidemiology-Outbreak Surveillance Program

Outbreak Definition & Classification Table

Outbreak Definition Guidance

Definition used to determine an outbreak investigation's status and the classification of the Etiologic Agent.

Classification Table

Table to help determine the Etiologic Agent of an Outbreak, Cluster, or Surveillance Event based on the lab ev

Guidance

VOSS Facility Type Classifications

Guidance for classifying facility types in VOSS.

Out of State Cases *added 3/27/2023*

Outbreak Status Guidance *added 7/26/2022*

This document includes Surveillance Event and Cluster Definitions.

VOSS Data Dictionaries

Outbreak Surveillance Data Dictionary *(xlsx) (Updated Nov. 2023)*

Dim_Date Table *(xlsx) (Updated Nov. 2023)*

VOSS Minimum Data Elements

This document lists the minimum VOSS fields to be completed when resources are limited (surge events).

Surveillance-Emergency Preparedness Epidemiology Cross-cutting Epidemiology Program

REDCap®

Surveillance-Emergency Preparedness Epidemiology - Enhanced Surveillance

SYNDROMIC SURVEILLANCE

Syndromic surveillance is a strategy used by public health to detect emerging health issues and monitor community health in near-real time. The Virginia Department of Health's (VDH) Office of Epidemiology collects and analyzes health data from participating emergency departments and urgent care centers to identify emerging trends of public health concern. View syndromic surveillance data on the topics listed below.

Drug Overdose

Heat Related Illness

Firearm Injury

Gastrointestinal Illness

Respiratory Illness

Other Surveillance

Additional Resources

About Syndromic Surveillance

Data Limitations

Reporting Data (Meaningful Use)

Contact Us

Surveillance-Genomic Epidemiology Program

Katherine McCombs
Deputy Director
Surveillance Program
(EP276)

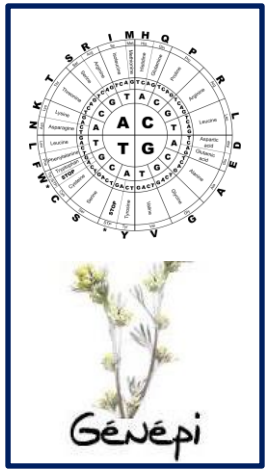
Jenny Crain
Genomics Program Lead
(EP348)

Brendan Jamieson
Genomic Program Analyst
(EP347)

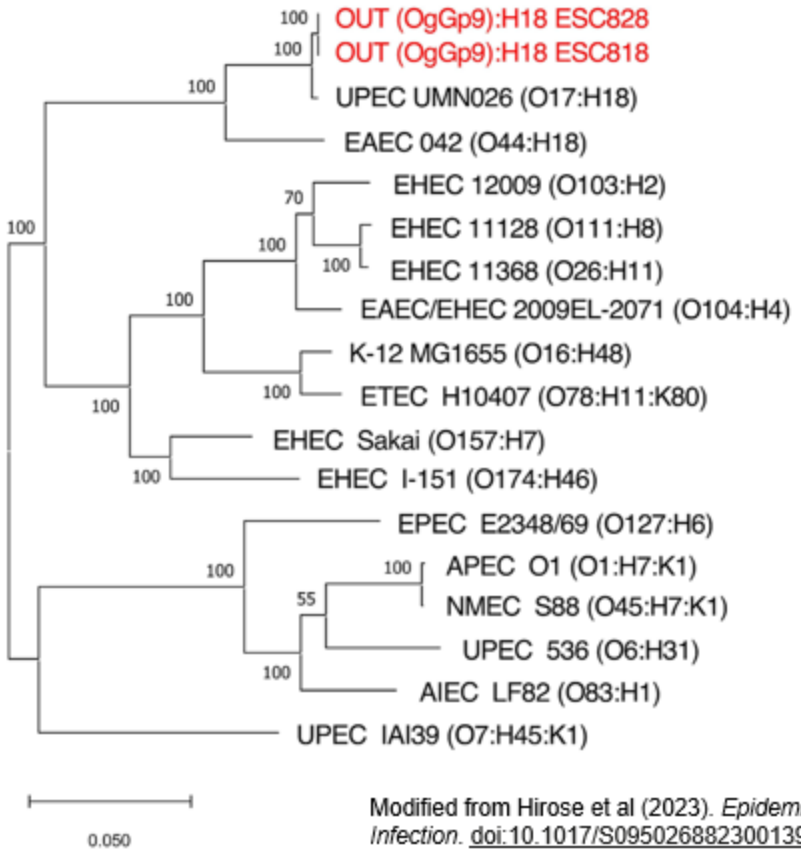
James McCarty
Genomic Epidemiology
Data Scientist

Brianna Schoen
Genomic Lab Liaison

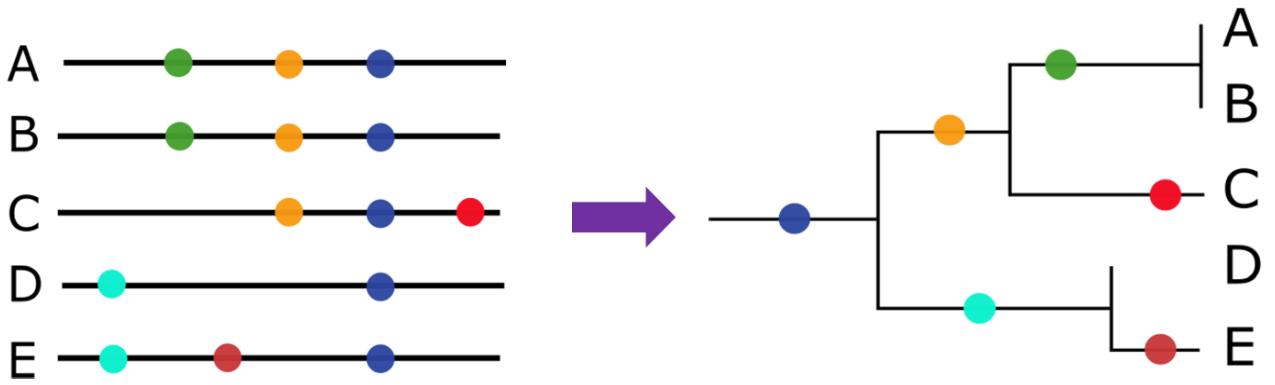
Kayla Delk
Genomic Data Integration
Specialist



Surveillance-Genomic Epidemiology Program

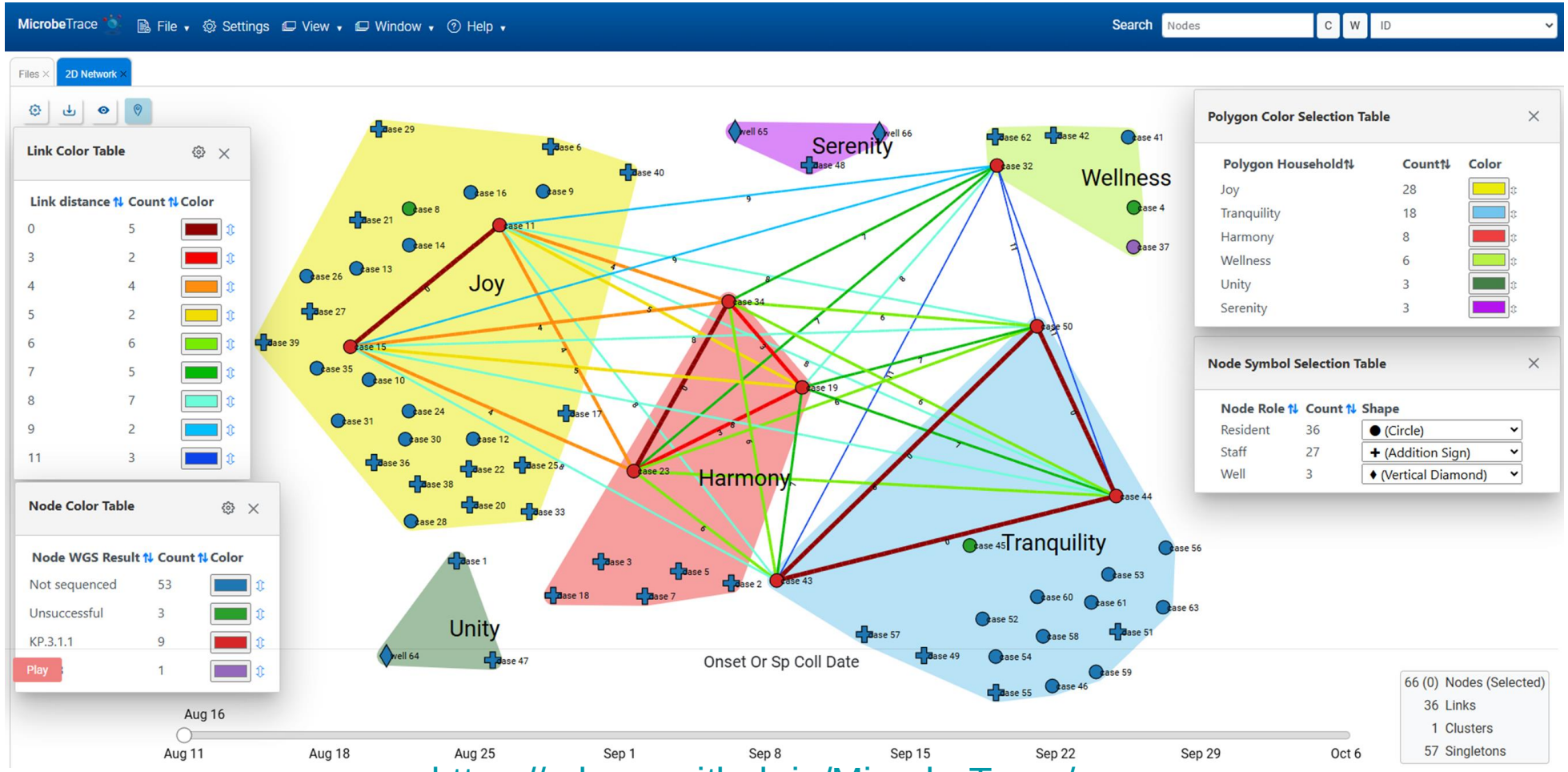


Modified from Hirose et al (2023). *Epidemiology & Infection*. doi:10.1017/S0950268823001395



Surveillance-Genomic Epidemiology Program

Integrated GenEpi Data Visualization



https://cdcgov.github.io/MicrobeTrace/

Surveillance-Genomic Epidemiology Program

VDH Office of Epi. Division	Disease Program Area	Pathogen
Surveillance and Investigation (DSI)	Foodborne Disease Epidemiology Team	*Salmonella*, *E. coli* O157 (STEC), *Campy*, *Shigella*, *Vibrio*, *Listeria*, Hepatitis A, Noro, Cyclospora
DSI	Respiratory Disease Epidemiology Team	SARS-CoV-2, Influenza, RSV, Adenovirus, *Legionella*, etc.
Clinical Epidemiology (DCE)	Healthcare Associated Infections and Antimicrobial Resistance Team	CPO (CRE, CRPA, CRA), MRSA, *C. difficile*, iGAS, *Candida auris*
DCE	Tuberculosis Surveillance Team	*Mycobacterium* TB Complex (drug resistance)
Disease Prevention (DDP)	HIV Cluster Detection and Response Team	HIV (drug resistance)
DDP	Hepatitis Surveillance Team	Hepatitis C

Surveillance-Genomic Epidemiology Program

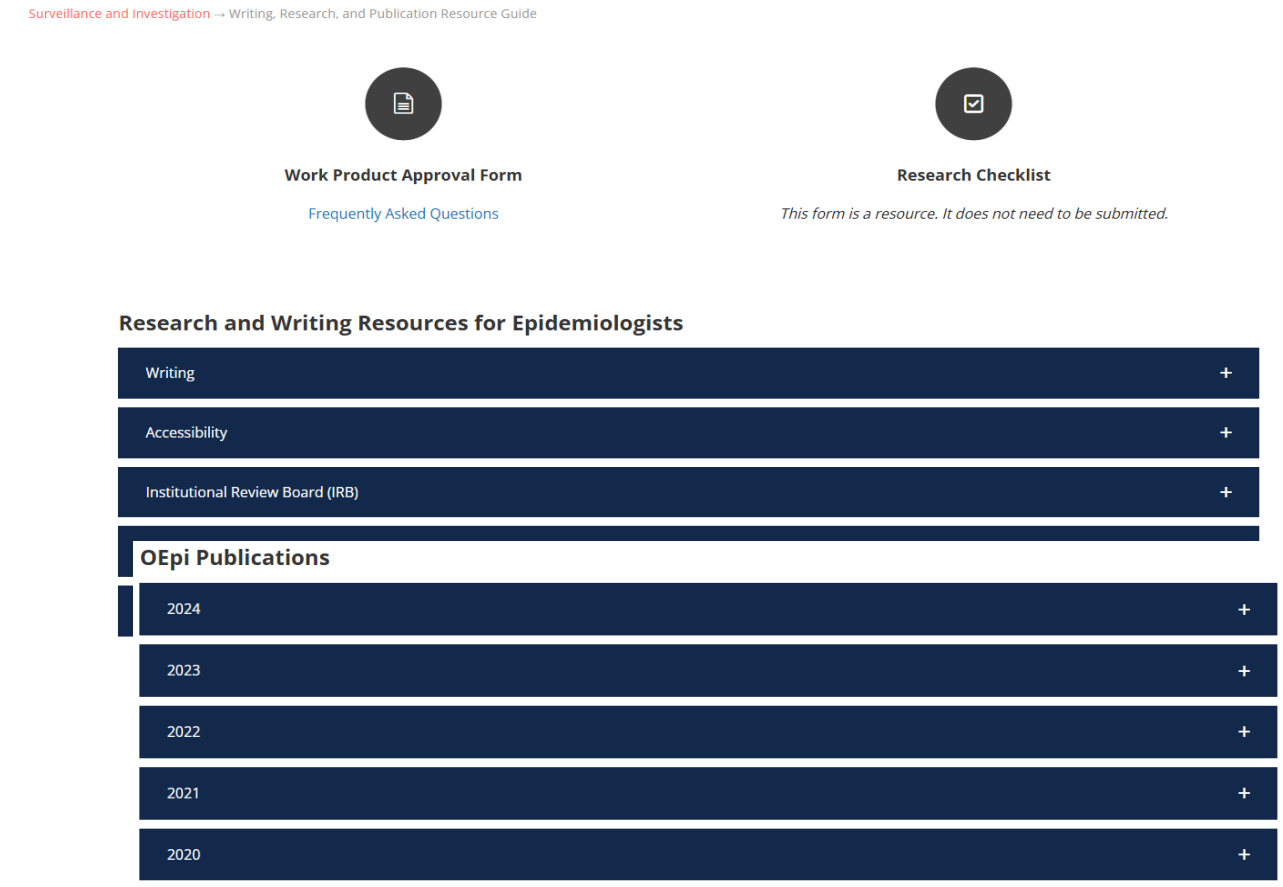
- Homepage | Virginia Pathogen Genomics Center of Excellence
- COVID-19 Genomic Epidemiology Toolkit
- An applied genomic epidemiological handbook
- Genomic Epi and Public Health Substack Training Resources

Surveillance-Applied Research Program

- Assists Office of Epidemiology staff with writing, research, and data sharing projects, including:
  - Editing abstracts
  - Planning research
  - Data sharing agreements and data dictionaries
- Connecting staff with resources
- Serve as a DSI surveillance representative on inter-division projects and appropriate committees, including:
  - Data Release Policy
  - OEpi Communications
  - ECR workgroup

Surveillance-Applied Research Program

Writing, Research, and Publication Resource Guide



Surveillance-Applied Research Program

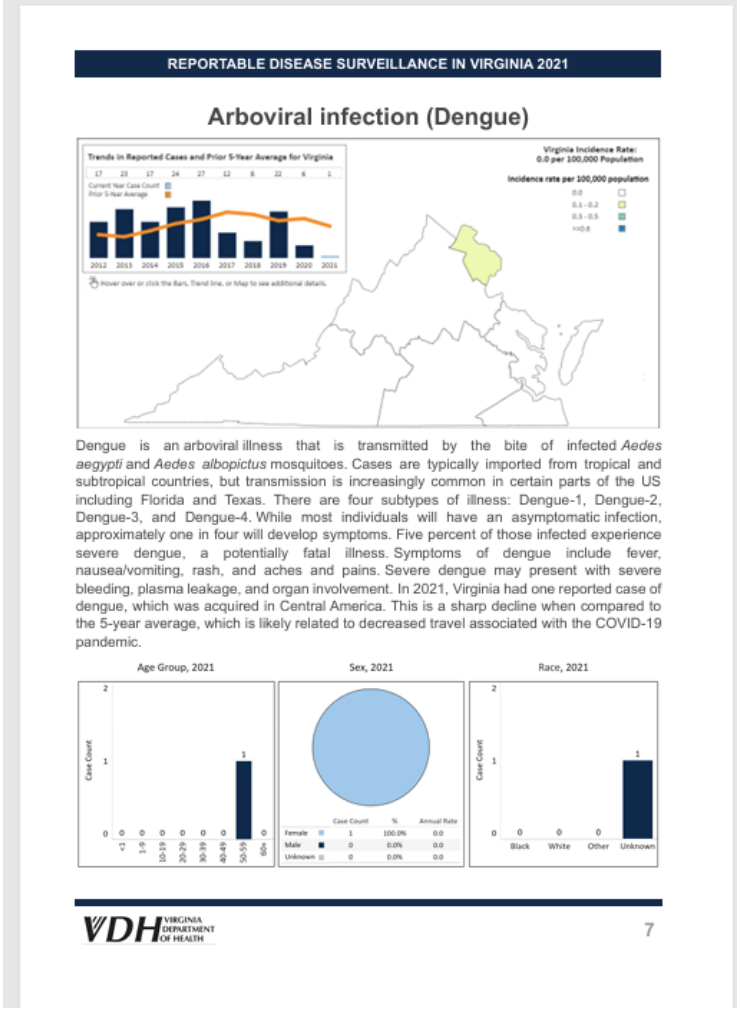
Virginia Reportable Disease Surveillance Data Annual Report, 2022

Virginia Reportable Disease Surveillance Data Annual Report Dashboard, 2022

Virginia Reportable Disease Surveillance Data Annual Reports, 1988-2016, 2021

Annual reports generated from 1988-2016, 2021 are available as historical PDFs. For 2017-2020 data, see the annual report dashboard.

2021 2016 2015 2014 2013 2012 2011 2010 2009 2008 2007 2006 2005
2004 2003 2002 2001 2000 1999 1998 1997 1996 1995 1994 1993 1992
1991 1990 1989 1988



REPORTABLE DISEASE SURVEILLANCE IN VIRGINIA 2021

Arboviral infection (Dengue)

Dengue is an arboviral illness that is transmitted by the bite of infected *Aedes aegypti* and *Aedes albopictus* mosquitoes. Cases are typically imported from tropical and subtropical countries, but transmission is increasingly common in certain parts of the US including Florida and Texas. There are four subtypes of illness: Dengue-1, Dengue-2, Dengue-3, and Dengue-4. While most individuals will have an asymptomatic infection, approximately one in four will develop symptoms. Five percent of those infected experience severe dengue, a potentially fatal illness. Symptoms of dengue include fever, nausea/vomiting, rash, and aches and pains. Severe dengue may present with severe bleeding, plasma leakage, and organ involvement. In 2021, Virginia had one reported case of dengue, which was acquired in Central America. This is a sharp decline when compared to the 5-year average, which is likely related to decreased travel associated with the COVID-19 pandemic.

Age Group, 2021 | Sex, 2021 | Race, 2021

VDH VIRGINIA DEPARTMENT OF HEALTH 7

Contact Information

- DMQA: Surveillance@vdh.virginia.gov
- REDCap: REDCap@vdh.virginia.gov
- ESSENCE: Syndromic@vdh.virginia.gov
- National Syndromic Surveillance Program: Syndromic@vdh.virginia.gov
- VOSS: VOSS@vdh.virginia.gov
- Applied Research: Nan.Haugan@vdh.virginia.gov
- Crosscutting: Jenae.Davis@vdh.virginia.gov or Jonathan.falk@vdh.virginia.gov
- Genomic Epidemiology: genepi@vdh.virginia.gov

Epidemiology Field Investigations Overview

Dawn Saady, M.S.

MEET THE TEAM

DAWN SAADY

ANGELA MYRICK-WEST

PAIGE BORDWINE

ANA COLÓN

DENISE SOCKWELL

PATRICIA BAIR

HALEY GREENE

PAMELA RAY

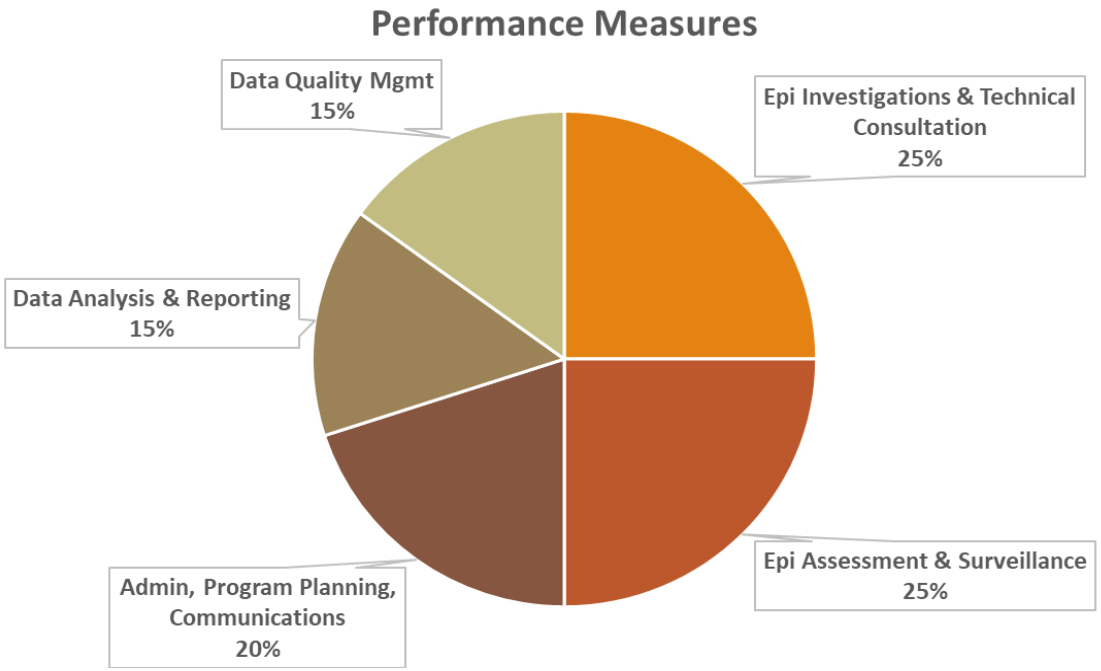
BRITTANY KENDALL

MONICA SOLIS

STEPHANIE KELLNER

Role of Regional Epidemiologists

- Central office Division of Surveillance and Investigation (DSI) staff
- Serve as a resource for district communicable disease staff
- Provide feedback about policies/procedures and ability of districts to implement surveillance and investigation of communicable diseases
- Provide training
- Ensure consistent approach across the region



Epi Investigations and Technical Consultation

Guidance on disease surveillance, investigation, and control

Assistance during outbreak investigations; coordination of multi-district investigations

Technical consultation on LHD surveillance and investigation program operations

Training to ensure district staff are familiar with epi investigation methods

Feedback on Field Epidemiology Reports (FERs) and writing as needed

Epi Assessment and Surveillance

Conduct *Reviews of District Epidemiology Operations*

Conduct After Action Reviews/identifies areas of success and opportunities for improvement

Special surveillance activities as needed

Assist with VEDSS, VOSS and other trainings in districts

Support to district staff in meeting disease reporting requirements

Program Planning, Administrative, Communications

Assist with orientation for new district communicable disease staff

Meet at least quarterly with districts to discuss disease trends and regional coordination

Provide feedback to inform central office epidemiologic policies and response plans

Assist in planning and delivering training for OEPI, DSI and regional training events

Data Analysis, Reporting, Quality Assurance

Provide technical guidance about epi methods, data analysis and reporting and Generate accurate and complete reports and statistics

Ensure that districts have timely completion of outbreak forms and reports and submission of morbidity data

Coordinate with Division members on quality assurance of surveillance and investigation data

Conduct training/evaluation programs

Field Epidemiology Assessment Team (FEAT)

Purpose: Gather and incorporate feedback from LHD staff about VDH Office of Epidemiology processes, procedures, guidance documents, databases and other materials

Participation:

- District CD staff are asked to participate on a rotating basis, considering interest level, expertise, and availability
- Regional Epidemiologists assist in identifying participants. Talk to your Regional Epi if interested!

Recent meetings: VOSS outbreak report; Regional GI Illness Report; Hepatitis Outbreak and Response Plan

Review of District Epidemiology Operations

Purpose:

- Document LHD epidemiologic operations capacity and practices, identifying strengths, best practices, opportunities for enhancement
- Assess consistency in disease surveillance and investigation practices across the state
- Promote compliance with Virginia Disease Control Manual Guidelines
- Assess if VDH is meeting related requirements of the Regulations for Disease Reporting and Control, as well as Local Health Department PHEP Epidemiology Deliverables

Process:

- During 2025, District epi will be asked to review communicable disease operations across key areas (e.g., epi capacity, communicable disease response teams, coordination with EH/nursing/emergency preparedness, after-hours reporting and response)
- REDCap tool will used
- Follow-up meeting with Regional Epidemiologists, District Director, District Epidemiologist

Key Investigation Resources

Resource	How to find it	Notes
Statewide Epi Call	• Monthly meeting for communicable disease staff across the state • Occurs the First Tuesday, 2-3 pm	To be added to the call distribution list, complete the REDCap link: VDH Statewide Epi Call and Field Epi University Survey
Field Epi University	• Investigation centered call for communicable disease staff across the state • Occurs the Third Thursday, 2-3 pm	
Virginia Disease Control Manual	VDH Intranet: Disease Control Manual	Guidance on the public health response to reportable diseases, outbreaks, other conditions of public health concern
Epi-X	Request access through Regional Epidemiologist. Requires approval by State Epidemiologist.	CDC Internet-based web board for public health employees to report outbreaks and other health events of public health importance.
OEPI Reportable Conditions Contacts	OEPI Intranet Page under "Quick Links" https://vdhweb.vdh.virginia.gov/epidemiology/wp-content/uploads/sites/9/2020/11/Reportable-Conditions-Contacts.xlsx	
Epi Field Kit	VDH Intranet: Epi Field Kit – Surveillance and Investigation	Currently under construction/revision. Field kit is intended to be an internal landing place for tools/resources that do not live in DCM.

Important Contact Numbers

Contact	Number	Notes
Business Hours DSI Epidemiologist On-Call	804-864-8141	Call if Regional Epis are unavailable and you want to speak with an on-call EPI or SME
After-Hours OEPI Epidemiologist On-Call (Epi Phone)	804-840-1814	Call for after-hours disease consultation, to report a rapid report disease, or for inter-state rapid reporting
VDH Local Health Department After-Hours Call Service	866-531-3068	Call if you need to urgently reach another Virginia local health department
DCLS Business Hours	804-684-4480	Call for specimen submission questions
DCLS Emergency Services Officer	804-335-4617	Call to reach DCLS regarding specimen submission after hours, weekends, and/or holidays
District and Regional Epidemiologist Directory	Directory link is on DSI Intranet page: https://vdhweb.vdh.virginia.gov/surveillance-and-investigation/wp-content/uploads/sites/26/2025/03/Epi-Contact-Directory.xlsx	

How Can We Help?

- Eight quick questions!
- Let us know how the team can help you
- No identifying information is required to complete the survey

https://forms.office.com/g/Nx8U1jkDBw

Confidentiality

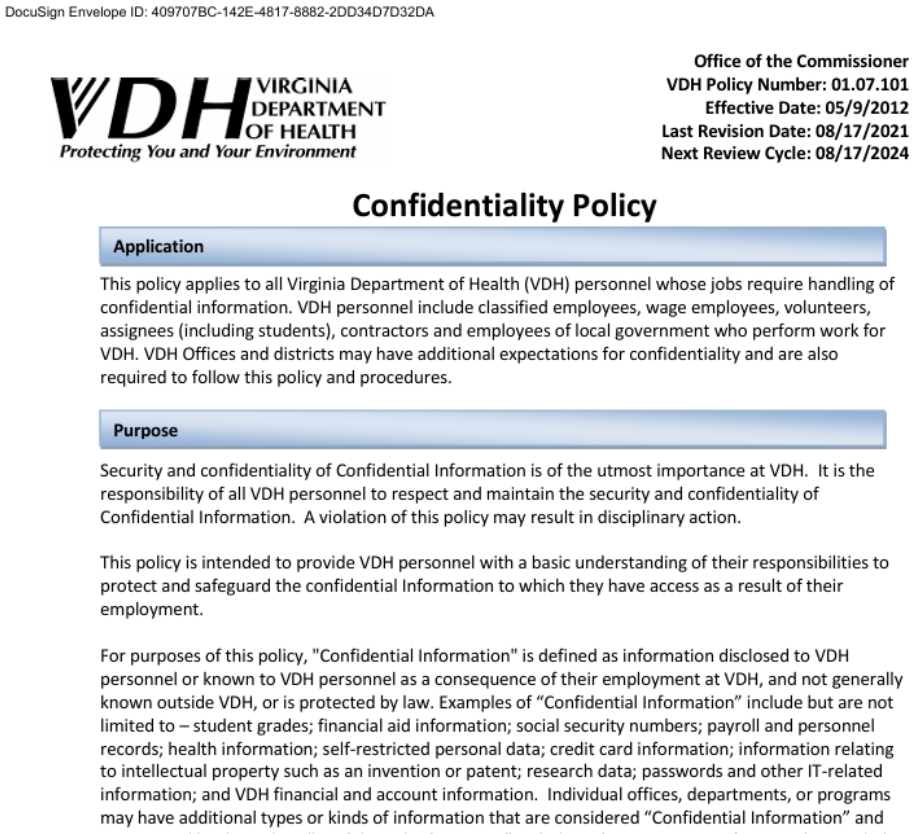
Dawn Saady

Objective

Provide an overview of VDH Confidentiality Policy and state/federal laws addressing confidentiality

VDH Confidentiality Policy

- VDH Policy Number: 01.07.101
- Covers Protected Health Information (PHI) and Personally Identifiable Information (PI)
- Applies to:
  - Employees, clients/patients, and the public
  - Proprietary and/or business information
- Covers precautions needed while providing **conducting public health investigations**
- Limit the **collection, use**, **access to**, and **disclosure** of confidential information



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VDH VIRGINIA DEPARTMENT OF HEALTH
Protecting You and Your Environment

Office of the Commissioner
VDH Policy Number: 01.07.101
Effective Date: 05/9/2012
Last Revision Date: 08/17/2021
Next Review Cycle: 08/17/2024

Confidentiality Policy

Application

This policy applies to all Virginia Department of Health (VDH) personnel whose jobs require handling of confidential information. VDH personnel include classified employees, wage employees, volunteers, assignees (including students), contractors and employees of local government who perform work for VDH. VDH Offices and districts may have additional expectations for confidentiality and are also required to follow this policy and procedures.

Purpose

Security and confidentiality of Confidential Information is of the utmost importance at VDH. It is the responsibility of all VDH personnel to respect and maintain the security and confidentiality of Confidential Information. A violation of this policy may result in disciplinary action.

This policy is intended to provide VDH personnel with a basic understanding of their responsibilities to protect and safeguard the confidential Information to which they have access as a result of their employment.

For purposes of this policy, "Confidential Information" is defined as information disclosed to VDH personnel or known to VDH personnel as a consequence of their employment at VDH, and not generally known outside VDH, or is protected by law. Examples of "Confidential Information" include but are not limited to – student grades; financial aid information; social security numbers; payroll and personnel records; health information; self-restricted personal data; credit card information; information relating to intellectual property such as an invention or patent; research data; passwords and other IT-related information; and VDH financial and account information. Individual offices, departments, or programs may have additional types or kinds of information that are considered "Confidential Information" and

Public Health Access & Responsibility

Public health has legal access to medical information necessary for disease control and prevention to benefit the community

With access, comes an **obligation to protect anonymity**, **ensure use is within authorized limits**, and **assure no unwarranted disclosures** occur

State Health Laws
Chapter 2, Title 32.1 of the *Code of Virginia*

Article 1. Reporting of Disease

§ 32.1-36. Reports by physicians and laboratory directors

§ 32.1-37. Reports by persons other than physicians (person in charge of any medical care facility, licensed program, school or summer camp)

- Mandate to report diseases required by the Board
- Allow for voluntary reporting for special surveillance or other epidemiologic studies

Article 2. Investigation of Disease

- § 32.1-40. Authority of Commissioner to examine medical records
- Every practitioner … shall permit the Commissioner **or his designee** to examine and review any medical records upon request
- … in the course of investigation, research or studies of diseases or deaths of public health importance
- No such practitioner shall be liable for permitting this record review

Article 2. Investigation of Disease

- § 32.1-41. Anonymity of patients and practitioners to be preserved in the use of medical records.
- The Commissioner **or his designee** shall preserve the anonymity of each patient and practitioner… whose records are examined pursuant to §32.140
- … the Commissioner, **in his sole discretion**, may divulge the identity … If pertinent to an investigation, research or study.

Article 1. Reporting of Diseases

§ 32.1-36.D

… the Commissioner may disclose the patient's identity and disease to the patient's employer if …

- (i) the patient's employment responsibilities require contact with the public, and
- (ii) the nature of the patient's disease and nature of contact with the public constitutes a threat to the public health

HIPAA - Health Insurance Portability and Accountability Act (Federal)

Enacted to:

- Ensure continued health insurance coverage to those who change jobs
- Establish standards regarding the sharing of health information

Privacy Rule protects individually identifiable health information and sets national standards for the security of electronic protected health information

HIPAA continued

Goal – ensure protection health information while allowing the flow of health information to provide and promote quality care

Key elements:

- Use and disclosure of PHI
- Authorization for any use and disclosure
- Adherence to “minimum necessary” principle
- Privacy practices notice

Relates to direct patient care

HIPAA and Public Health

- "… permit covered entities to disclose protected health information without individual authorization directly to public health authorities … as well as state and local public health departments, for *public health purposes*…"

- Public health purposes:

  - Preventing and controlling communicable disease, public health surveillance, public health investigations and interventions, etc.

Protected Health Information

- Defined in VDH Confidentiality Policy
- Individually identifiable health information including demographic data that:
  - Relates to past, present or future physical or mental health or condition and provision of health care to the individual or past, present, or future payment for the provision of health care to the individual, and
  - Identifies the individual or for which there is a reasonable basis to believe can be used to identify the individual.
    - Includes many common identifiers (e.g., name, address, birth date, SSN)

Personally Identifiable Information (PII)

Addresses:	Personal ID#s:	Telephone #s:
▪ Email Addresses ▪ Street Address ▪ Internet Protocol Address	▪ Social Security Number ▪ Passport Number ▪ Driver's License Number ▪ State Identification Number ▪ Taxpayer Identification Number ▪ Patient Identification Number ▪ Financial account Number ▪ Credit/Debit Card Number	▪ Mobile Number ▪ Business Number ▪ Personal Number ▪ Internet Number
Personal Characteristics:	**Personally Owned Property:**	**Linkable Information:**
▪ Photographic image ▪ X-rays ▪ Fingerprints ▪ Retina Scan ▪ Voice Signature ▪ Facial Geometry	▪ Vehicle Registration Number ▪ Vehicle Title Number	▪ Date of Birth ▪ Place of Birth ▪ Race ▪ Religion ▪ Weight ▪ Activities ▪ Geographical Indicators ▪ Employment Information ▪ Medical Information ▪ Education Information ▪ Financial Information ▪ Family Members

Handling Confidential Information

Keep confidential records locked up and limit access

Be careful when/where cases are discussed

Do not share confidential information by email unless encrypted

Electronic records must have secured access

Do not allow others to access your computer

Sharing Confidential Data

Rarely need to share confidential information between agencies
- Usually requires Commissioner exception

Never release to media; avoid inadvertently divulging diagnosis, facility, occupation

Follow VDH Communicable Disease Surveillance Data Release Policy
- Only age group and region for an individual case

When in doubt, consult with:
- Health Director
- Office of Epidemiology
- Commissioner's Office
- Legal Counsel

Overview of DSI Disease-Specific Programs

Seth Levine, MPH

Foodborne Disease Epidemiology Team

- Team members

Kelsey Holloman, MPH
Foodborne Disease Epidemiology Program Manager

MaryBeth DeMarco, BS
Foodborne Disease Epidemiologist

Victoria Alexander, MPH
Outbreak (OBNE) Epidemiologist

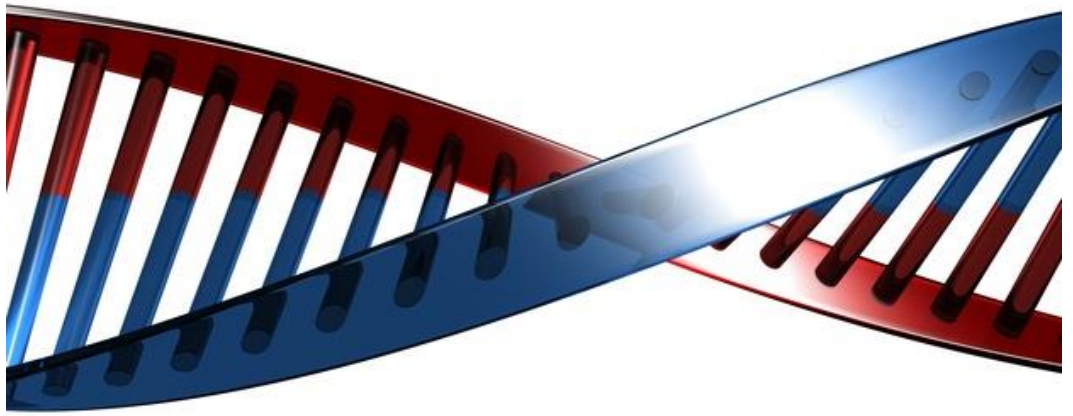
- Foodborneepi@vdh.virginia.gov

About the VDH Foodborne Disease Epidemiology Team (FDET)

- Serves as subject matter experts for foodborne and enteric diseases
- Conducts surveillance of these diseases
  - Reviews data that are reported from:
    - Clinical labs
    - Division of Consolidated Laboratory Services
    - Local health departments

Projects and Initiatives: WGS Clusters and Investigations

- Manages and investigates whole genome sequencing (WGS) clusters and multistate outbreaks
  - The FDET works closely partners on the local, state (DCLS, VDACS) and federal levels (CDC, FDA, USDA)



Projects and Initiatives: Core Member of Virginia Rapid Response Team

- The FDET collaborates with the VA RRT
  - Foodborne outbreak/cluster investigations
  - Ensures a multi-disciplinary approach to investigation
  - Focuses on food products, restaurants or manufacturing facilities

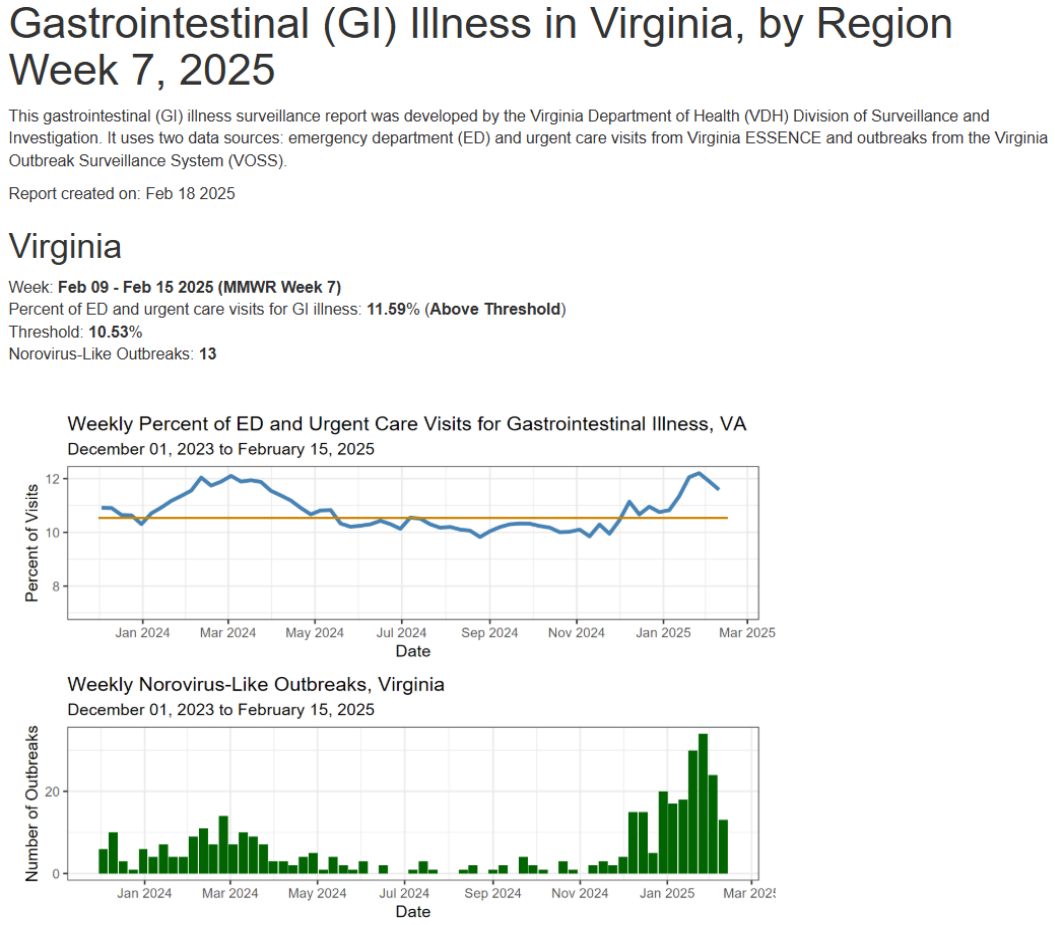
Virginia Rapid Response Team

Projects and Initiatives: My Meal Detective (MMD)

- VDH's statewide, public-facing, online foodborne illness complaint system is called My Meal Detective.
- Surveys found at My Meal Detective Suspected Foodborne Illness Report
- The survey is hosted in REDCap and is jointly managed with VDH's Office of Environmental Health Services.

Projects and Initiatives: Gastrointestinal (GI) Illness Report

- Weekly report is available to the public on the VDH GI Illness Report website.
- Combines GI illness emergency department and urgent care visit data
- Uses ESSENCE data and norovirus-like outbreak data from the Virginia Outbreak Surveillance System (VOSS)



Gastrointestinal (GI) Illness in Virginia, by Region
Week 7, 2025

This gastrointestinal (GI) illness surveillance report was developed by the Virginia Department of Health (VDH) Division of Surveillance and Investigation. It uses two data sources: emergency department (ED) and urgent care visits from Virginia ESSENCE and outbreaks from the Virginia Outbreak Surveillance System (VOSS).

Report created on: Feb 18 2025

Virginia

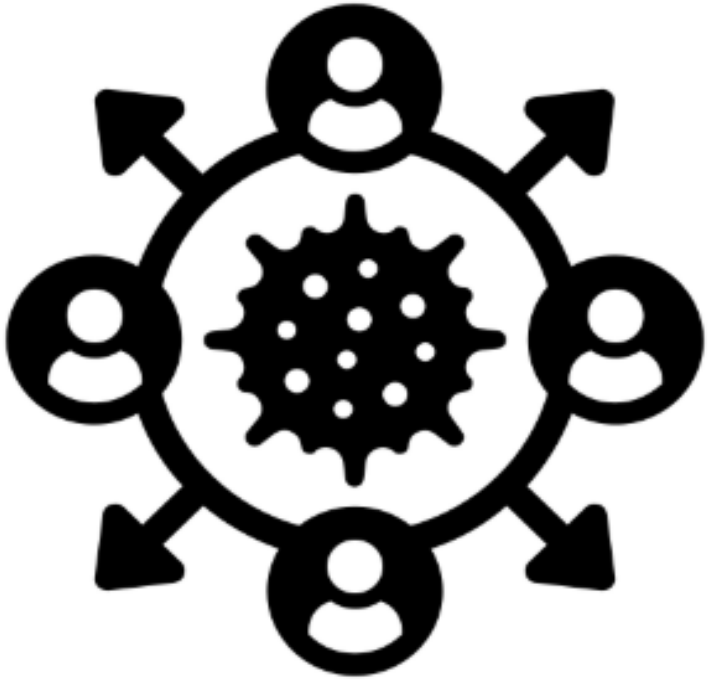
Week: **Feb 09 - Feb 15 2025 (MMWR Week 7)**
Percent of ED and urgent care visits for GI illness: **11.59%** (**Above Threshold**)
Threshold: **10.53%**
Norovirus-Like Outbreaks: **13**

Projects and Initiatives: Collaborating with CDC Programs

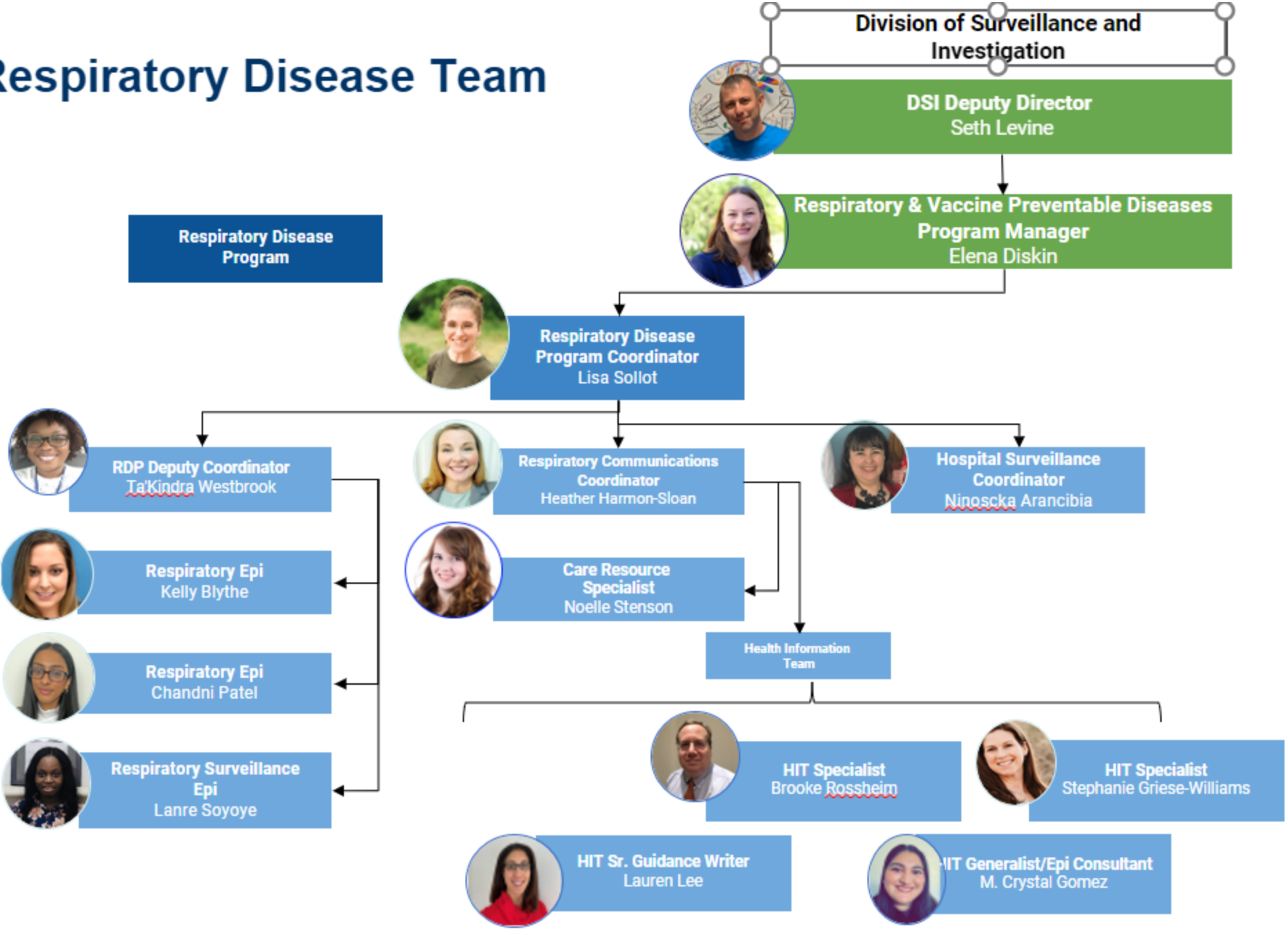
- The FDET reports all enteric disease outbreaks to CDC's National Outbreak Reporting System (NORS).
- The FDET participates in the CDC NoroSTAT and OutbreakNet Enhanced (OBNE) programs

Additional Support from the FDET

- Outbreak response
  - FDET assists LHDs in responding to foodborne outbreaks
    - Example: development of REDCap outbreak surveys
- Guidance and Training
  - FDET makes updates to foodborne/enteric Disease Control Manual chapters and foodborne outbreak trainings



Respiratory Disease Team



About the VDH Respiratory Disease Program (RDP)

- The RDP covers respiratory conditions including influenza, COVID-19, legionellosis, RSV, enterovirus and rhinovirus.
- Primary activities include
  - Surveillance
  - Investigation
  - Communication activities

Pillars of Focus: Investigation

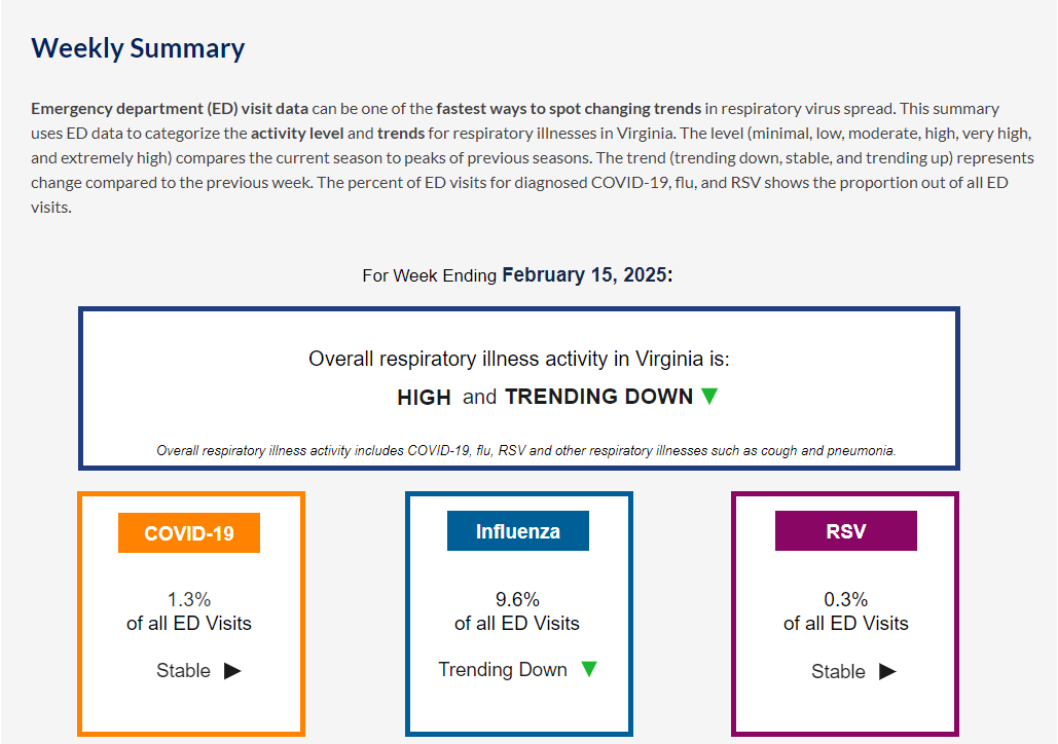
- Maintain and improve the Disease Control Manual Resources
- Provide consultation to LHDs for outbreak investigations as needed

Pillars of Focus: Communication

- Enhance VDH webpages
- Present to various audiences about respiratory diseases and prevention
- Develop communication resources
- Draft clinician letters and news releases
- Serve as media spokespersons

Pillars of Focus: Surveillance

- Maintain Respiratory Illness Dashboard
- Publish weekly Respiratory Disease Reports
- Monitor trends in ESSENCE and VOSS
- Facilitate sentinel surveillance (i.e., voluntary submission of ILI specimens by providers)
- Facilitate COVID and flu-associated hospitalization enhanced surveillance



Vaccine Preventable Disease Team

DSI Deputy Director
Seth Levine

Respiratory & Vaccine Preventable Diseases Program Manager
Elena Diskin

Vaccine Preventable Disease Program Coordinator
Meredith Robinson

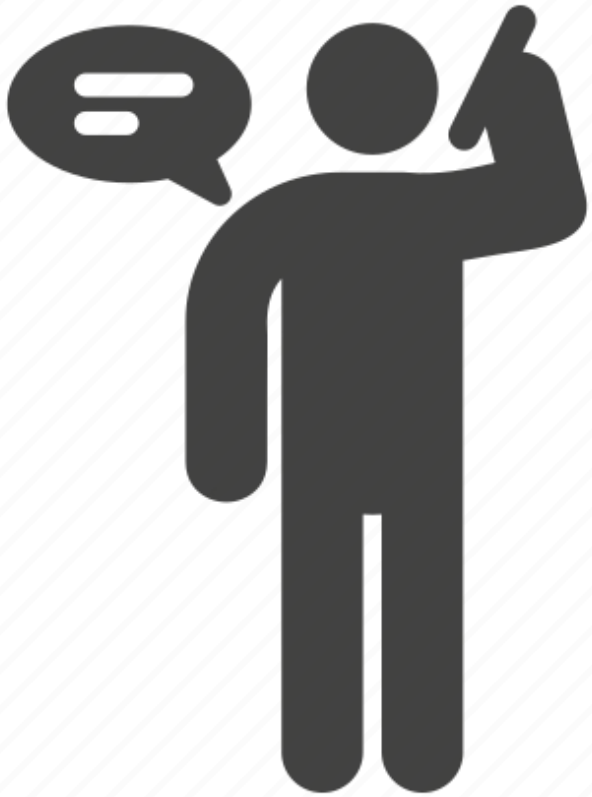
Vaccine Preventable Disease Epidemiologist
Emily Rich

Vaccine Data Analyst
Corryn Hicks

About the Vaccine-Preventable Disease (VPD) Program

- The VPD team oversees the following activities for diseases including varicella, pertussis, measles, and meningococcal disease:
  - Surveillance
  - Investigation
  - Communication

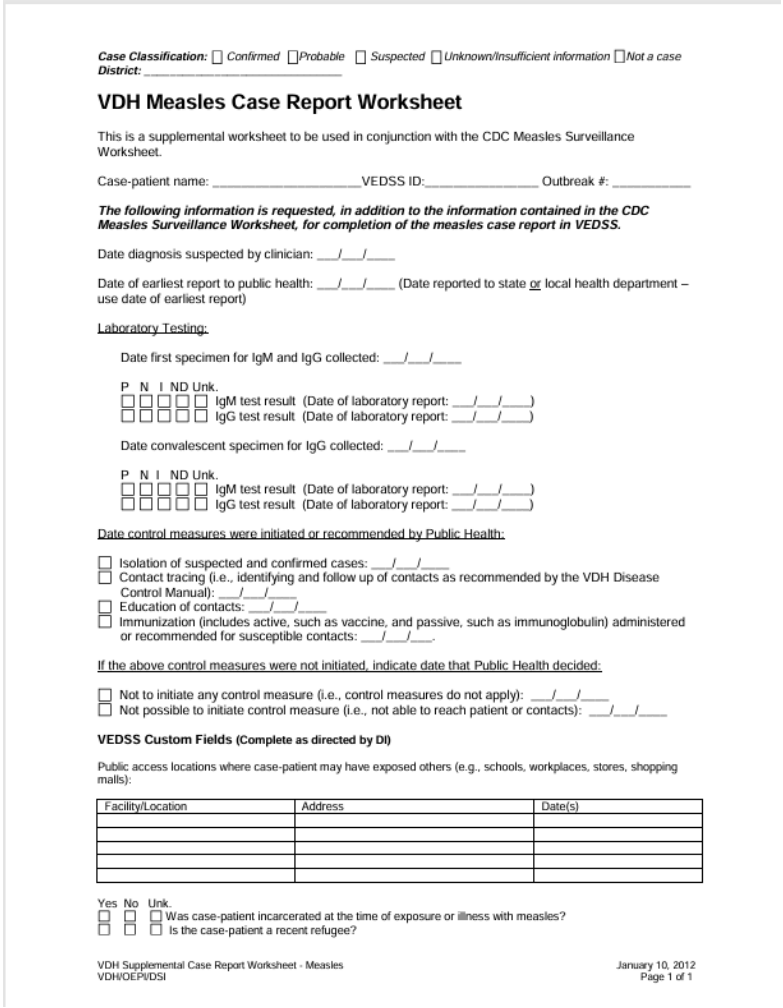
Projects and Initiatives: Subject Matter Consultation



- VPD team supports LHDs in case and outbreak investigations.
- Involves guidance interpretation on:
  - Infection control practices
  - Post-exposure prophylaxis (PEP) needs
  - Isolation or quarantine recommendations

Projects and Initiatives: Disease Reporting

- VPD team reviews case investigations to ensure complete and accurate date are reported to CDC
- These reporting activities are ELC VPD grant requirements.



Case Classification: ☐ *Confirmed* ☐ *Probable* ☐ *Suspected* ☐ *Unknown/Insufficient information* ☐ *Not a case*
District: _____

VDH Measles Case Report Worksheet

This is a supplemental worksheet to be used in conjunction with the CDC Measles Surveillance Worksheet.

Case-patient name: _____VEDSS ID:_____ Outbreak #: _____

The following information is requested, in addition to the information contained in the CDC Measles Surveillance Worksheet, for completion of the measles case report in VEDSS.

Date diagnosis suspected by clinician: ___/___/____

Date of earliest report to public health: ___/___/____ (Date reported to state or local health department – use date of earliest report)

Laboratory Testing:

Date first specimen for IgM and IgG collected: ___/___/____

P N I ND Unk.
☐☐☐☐☐ IgM test result (Date of laboratory report: ___/___/____)
☐☐☐☐☐ IgG test result (Date of laboratory report: ___/___/____)

Date convalescent specimen for IgG collected: ___/___/____

P N I ND Unk.
☐☐☐☐☐ IgM test result (Date of laboratory report: ___/___/____)
☐☐☐☐☐ IgG test result (Date of laboratory report: ___/___/____)

Date control measures were initiated or recommended by Public Health:

☐ Isolation of suspected and confirmed cases: ___/___/____
☐ Contact tracing (i.e., identifying and follow up of contacts as recommended by the VDH Disease Control Manual): ___/___/____
☐ Education of contacts: ___/___/____
☐ Immunization (includes active, such as vaccine, and passive, such as immunoglobulin) administered or recommended for susceptible contacts: ___/___/___.

If the above control measures were not initiated, indicate date that Public Health decided:

☐ Not to initiate any control measure (i.e., control measures do not apply): ___/___/____
☐ Not possible to initiate control measure (i.e., not able to reach patient or contacts): ___/___/____

VEDSS Custom Fields (Complete as directed by DI)

Public access locations where case-patient may have exposed others (e.g., schools, workplaces, stores, shopping malls):

Facility/Location	Address	Date(s)

Yes No Unk.
☐ ☐ ☐ Was case-patient incarcerated at the time of exposure or illness with measles?
☐ ☐ ☐ Is the case-patient a recent refugee?

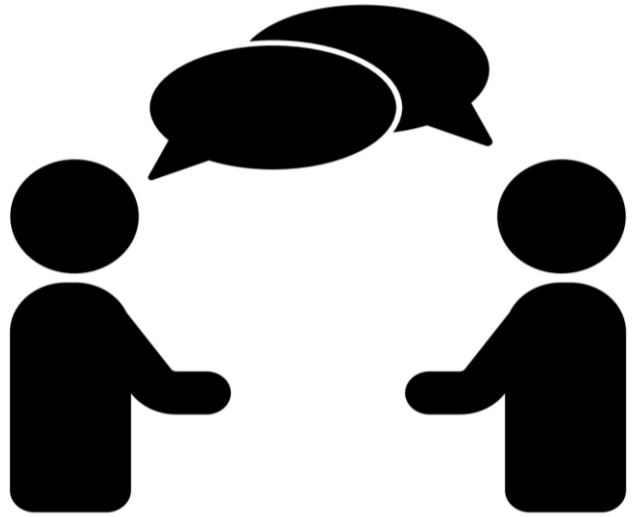
VDH Supplemental Case Report Worksheet - Measles
VDH/OEPI/DSI
January 10, 2012
Page 1 of 1

Projects and Initiatives: Communication

- VPD team develops and enhances:
  - DCM materials
  - Webpages
  - Fact sheets
  - Clinician letters
  - News releases
  - Relevant talking points

Projects and Initiatives: Immunization System Support

- VPD team supports the immunization registry development, enhancement, and functioning by providing feedback from the epidemiology stakeholder position

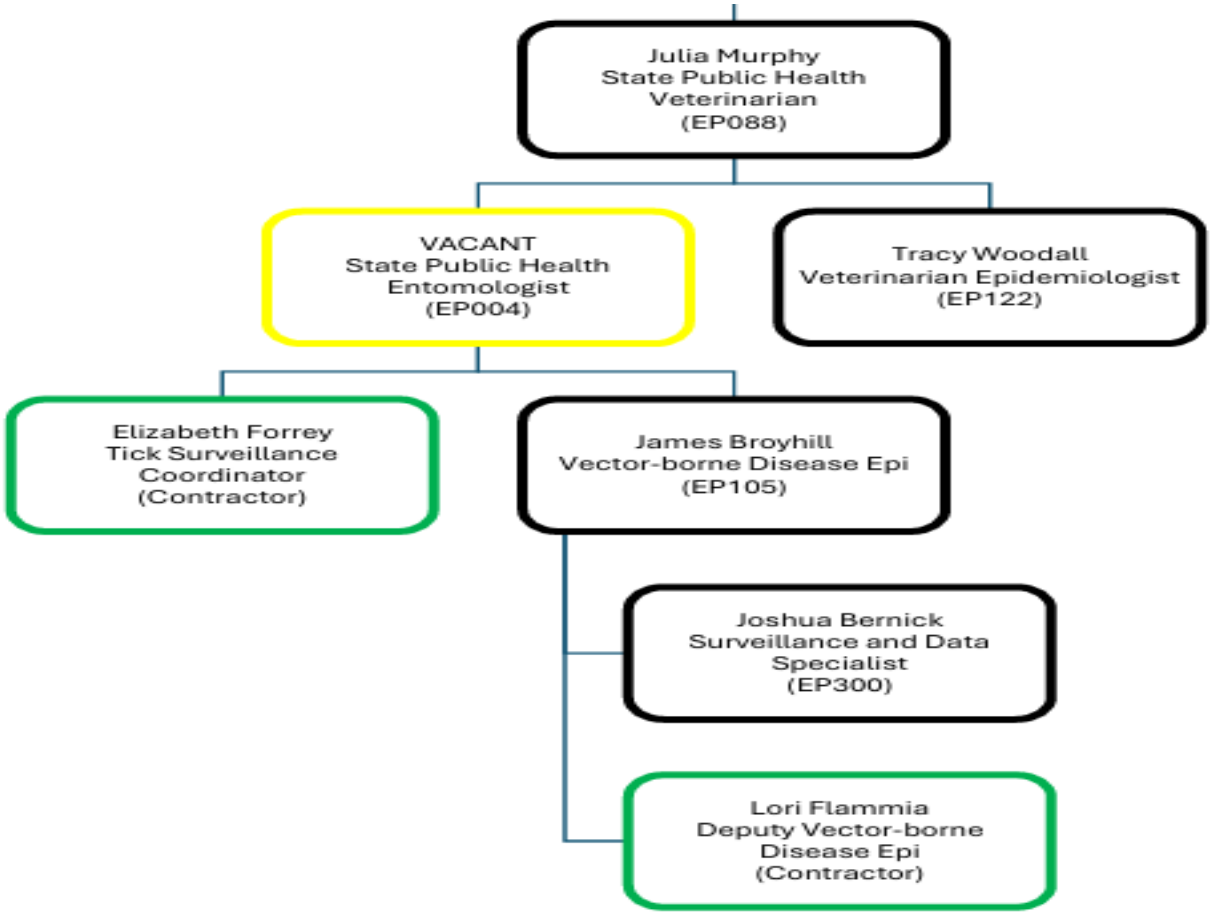


Projects and Initiatives: Vaccination Recommendations

- The VPD team works closely with the VDH Division of Immunization (DOI) to:
  - Monitor vaccine recommendation changes
  - Maintain outbreak response vaccination plans

Vectorborne and Zoonotic Disease Teams

- Team members



About the Vectorborne and Zoonotic Disease Programs

- Monitors for the occurrence of reportable and emerging diseases or suspected outbreaks
- Provides recommendations and guidance to prevent the spread of vectorborne and zoonotic diseases
- Investigates outbreaks of disease
- Responds to public health emergencies

Projects and Initiatives: Hiring of New State Public Health Entomologist (SPHE) and Seasonal Staff

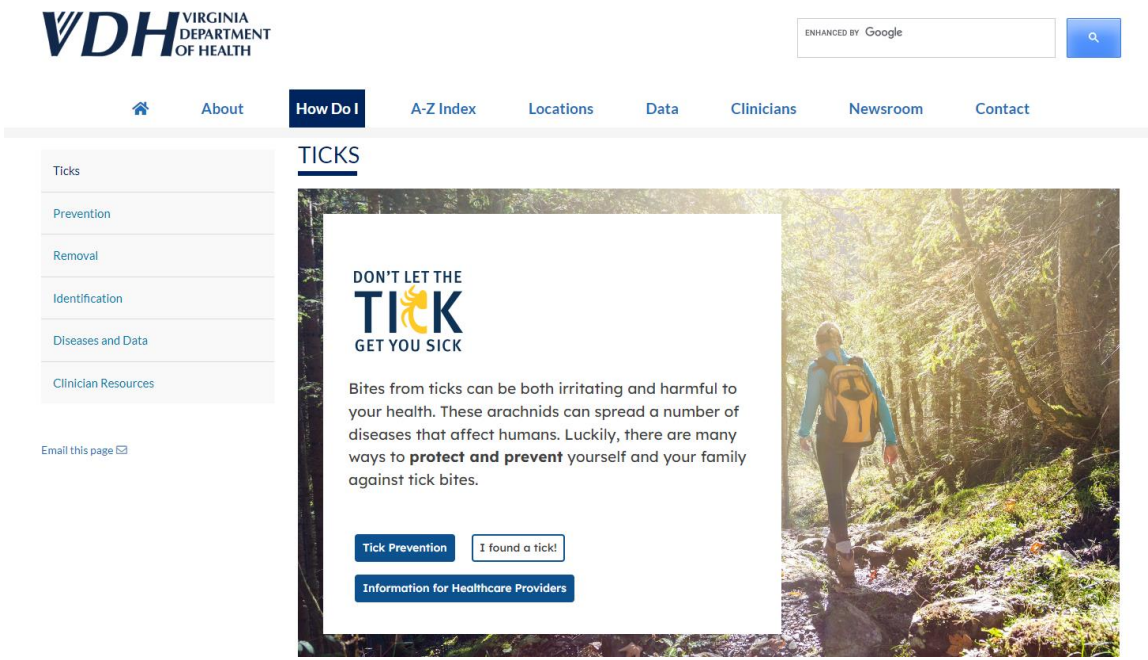
- Longtime VDH SPHE Dr. David Gaines retired at the end of 2024
- Recruitment for the new SPHE started in the beginning of 2025
- Recruitment for seasonal tickborne biologist(s) will start soon
  - Vectorborne team performs tick surveys throughout the Commonwealth

Projects and Initiatives: Working with LHDs

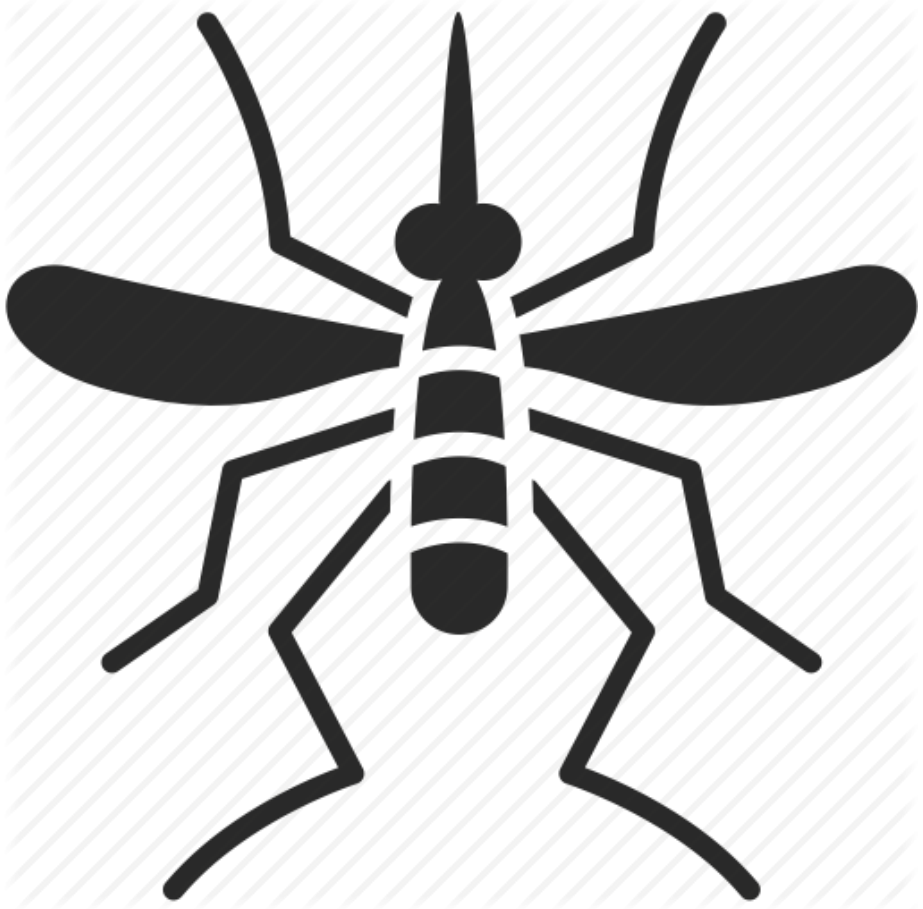
- The Vectorborne and Zoonotic disease teams assist LHDs with investigations

Projects and Initiatives: VDH Website Updates

- VDH Tickborne website updated
  - Sections include
    - Tick prevention
    - Tick removal
    - Tick ID
      - Can send in to VDH through Virginia Tick Survey
    - Tickborne disease data
      - Monthly
      - Annual Report
      - CDC
    - Clinician Resources



Projects and Initiatives: VDH Website Updates



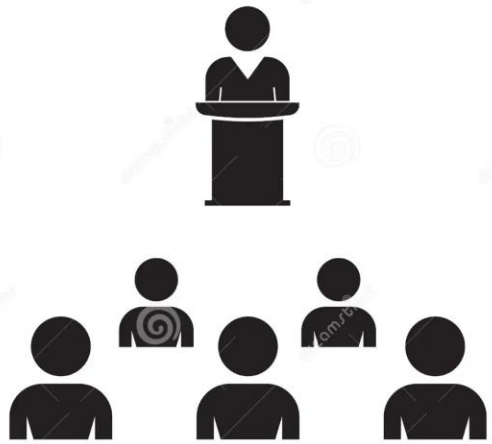
- Working on updating the VDH Mosquito-borne website and developing a slide set regarding mosquito-borne disease as a resource

Projects and Initiatives: Arrival of Alpha-gal Syndrome (AGS) as Condition Added by Board of Health

- Bill introduced during last GA to add AGS to the Code of Virginia as reportable condition
  - Efforts in progress to add AGS to the reportable disease list in VA
  - Receiving lab reports voluntarily currently from LabCorp
  - Estimating thousands of lab reports annually
  - Considering various surveillance and investigation strategies

Projects and Initiatives: Presenting to Various Audiences

- The vectorborne team presents disease prevention information to multiple partners, including:
  - Master Naturalists
  - Department of Forestry
  - Virginia Mosquito Association
  - Local health departments



Zoonotic Disease Activities

- HPAI planning and response
- Assists with rabies exposure response and zoonotic disease prevention
- Rabies workgroup
  - New products will be developed for LHDs
  - GA request to capture data on LHD rabies bite clinics
  - Working on a product with the Office of Environmental Health Services regarding multi-jurisdictional rabies response efforts
- Working with the Department of Education to complete zoonotic disease education modules for use by secondary school agriculture instructors
- Manages zoonotic disease data

Questions?

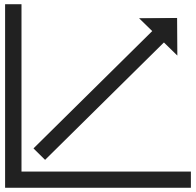
Overview of Healthcare-Associated Infections (HAI) and Antimicrobial Resistance (AR) Program

Dr. Shaina Bernard

To reach a member of the HAI team: hai@vdh.virginia.gov

HAI/AR Program

Strategies



Surveillance, Detection, and Response

Prevention and Intervention

Education, Communication, and Partnerships

Team Members

Organization Chart

Leadership
- Program Manager – Vacant
- Admin Team Lead – Lindsey Lambert
- AR/AS/HAI Team Lead – Shaina Bernard, PharmD
- IPC Team Lead – Angela Spleen, PhD

IPC Team
- Regional IP Coordinator – Andrea Chapman, MPH, CIC
- HAI/AR Education and Training Specialist – Ginger Vanhoozer, MPH, BSN, RN, CIC
- Dialysis IP Coordinator - Suzanne Capps, RN, a-IPC
- HAI/AR Communications Specialist – Smrithi Chikkala, MBBS, MPH
- Infection Prevention Epidemiologist – Victoria Nichols, MPH

Admin Team
- Admin Assistant – Laura Robertson, BS
- Contract Manager - Debra Bennett, BSBA

AR/AS/HAI Team
- Nurse Epidemiologist – Carolyn Kiefer, RN, MSN, CIC, FAPIC
- AR/AS Epidemiologist – Emily Valencia, MPH
- MDRO Epidemiologist – Allison O'Rourke, MPH
- HAI Epidemiologist – Jacqueline Williams, MPH
- AS Data Analyst – Victoria Geissinger, MPH
- HAI Data Analyst – Joshua Benton, MPH
- CSTE Applied Epi Fellow – Emily Hawker, MPH

Surveillance, Detection, and Response

Activities

- *Support LHD response to targeted MDROs and HAI risks*
- *Facilitate epi-lab coordination*
- *Support response-driven onsite infection control assessments and gap mitigation*
- *Use available data to identify high HAI/AR burden areas*

Resources

- External Data Dashboards
  - Reportable AR organism case counts
    - *Candida auris*
    - Carbapenemase-producing organisms (CPOs)
  - National Healthcare Safety Network (NHSN) HAI Data
    - Acute Care Hospitals
    - Long-Term Acute Care Hospitals
    - Inpatient Rehab Facilities
- HAI/AR Program Intranet
  - Status of healthcare facilities enrollment in the Emergency Department Care Coordination (EDCC)
  - Multidrug-resistant organism (MDRO) Dashboard for LHDs
- Disease Control Manual
  - *Candida auris*
  - Carbapenemase-producing Organisms
  - Invasive Group A *Streptococcus* (GAS)

Team Member Spotlight - Surveillance

Jacqueline Williams

- Serves as NHSN reporting requirements point of contact
- Creates and updates external HAI dashboards

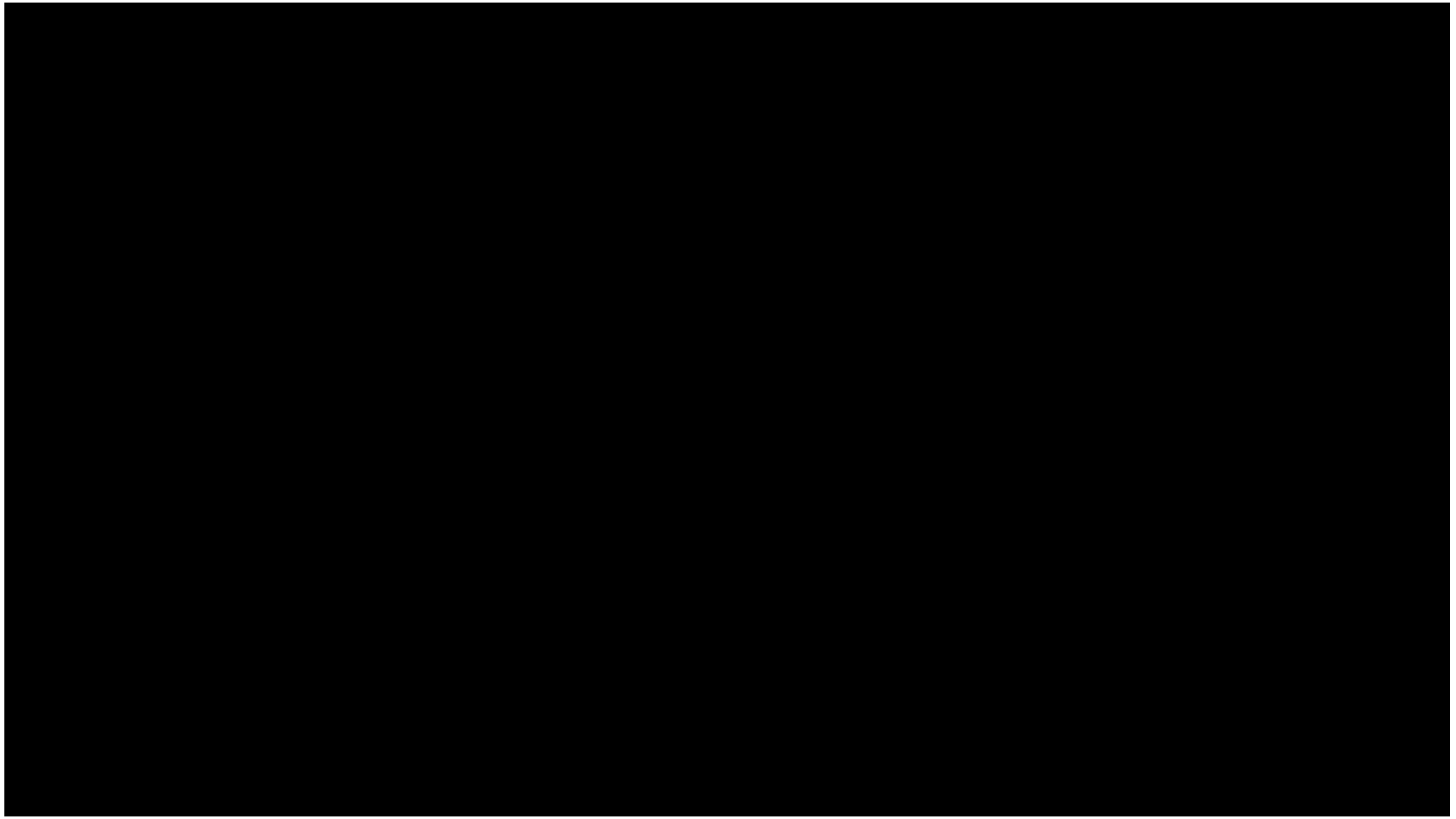
Let Jacqueline know if you have NHSN-specific data requests or questions about the external HAI dashboards

Emily Valencia

- Creates and updates external and internal MDRO dashboards
- Approves VEDSS case notifications and updates VEDSS guidance

Let Emily know if you have ideas for helpful data visualizations or questions related to the HAI Program Area in VEDSS

Message from Carolyn – HAI/AR Nurse Epi



carolyn.kiefer@vdh.virginia.gov

Prevention and Intervention

Activities

- *Conduct prevention-driven IPC assessments and gap mitigation*
- *Track actions to inform future prevention efforts*
- *Implement antibiotic stewardship efforts*
- *Provide access to antibiotic stewardship education and expertise*

Resources

External website

- HAI/AR Resource Hub – organized by healthcare setting, infections/conditions, HAI/AR topic
  - IPC resources
  - IPC Assessments page
- Acute Care Hospital Antimicrobial Stewardship Activities and Core Element Priorities Dashboard

HAI/AR Program Intranet

- IPC Lunch and Learns (recording and slides)
- Acute care hospital responses to NHSN annual survey

Team Member Spotlight – Prevention and Intervention

Andrea Chapman

- Serves as team IPC subject matter expert
- Supports the Regional IPs, collaborating on development of guidance, education, and other resources
- Hosts IPC Lunch and Learns for public health staff

Let Andrea know if you have ideas for lunch and learn topics or if you have needs for any IPC educational resource

Suzanne (Suzy) Capps

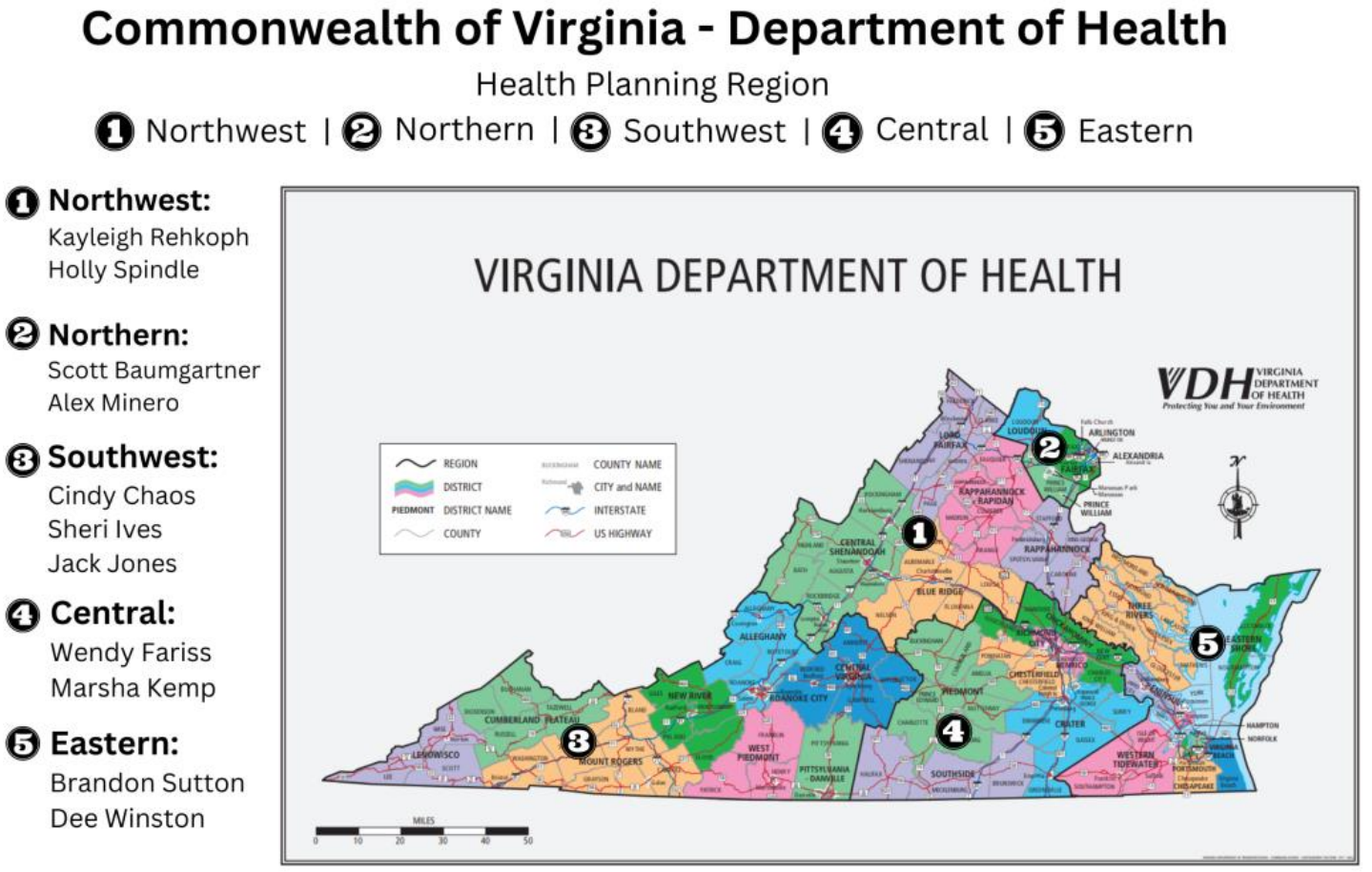
- Dialysis IPC expert
- Assesses and supports dialysis facilities to ensure they meet IPC standards
- Work with Regional IPs to focus on identifying risks, providing resources for IPC best practices, and providing education to ensure HCP and patient safety in dialysis setting

Let Suzy know if you need help assessing situations related to outbreaks or concerns about IPC practices in dialysis facilities OR if you know about good lunch or coffee spots in your area

Meet the Regional Infection Preventionists

Activities

- *Conduct onsite infection prevention and control assessments (prevention-based "proactive" or response-based "reactive")*
  - ***Proactive visit priority settings**: nursing homes, long-term acute care hospitals, outpatient facilities*
  - ***Reactive visit priorities**: Tier 1 or 2 MDROs, MRSA in NICU, Group A Strep, infection control breaches, unknown respiratory illness*
- *Consult on case or outbreak investigations in healthcare settings*
- *Provide education/training on IPC topics*



Central_IP@vdh.virginia.gov
EasternIP@vdh.virginia.gov
NorthernIP@vdh.virginia.gov
NorthwestIP@vdh.virginia.gov
SWIP@vdh.virginia.gov

Education, Communication, and Partnership

Activities

- *Provide HAI/AR education and training*
- *Ensure public health HAI/AR response and prevention expertise is available to provide support*
- *Identify and engage with partners*
- *Convene HAI/AR advisory committee*

Resources

- **HAI/AR IPC Training Programs**
  - *Cuppa Tea with an IP*
  - Infection Prevention Educator Boost Session
  - IP Educator Roadshow
- **HAI/AR Education Series**
  - Education fair posters, nursing home IP quick guides, & more!
- **HAI & AR Navigator** – Subscribe to bimonthly newsletter
- **Partnerships**
  - Virginia HAI Advisory Group (VHAG)
  - Virginia Infection Prevention & Control Training Alliance (VIPTA)
    - Subscribe to monthly bulletin for event & resource updates
  - VCU's Virginia Infection Prevention Training Center (VIPTC)
  - APIC Virginia & VDH IP Mentorship Program

Team Member Spotlight – Education, Communication, and Partnership

Angela Spleen

- Oversees IPC team
- Leads VHAG workgroup related to IPC education

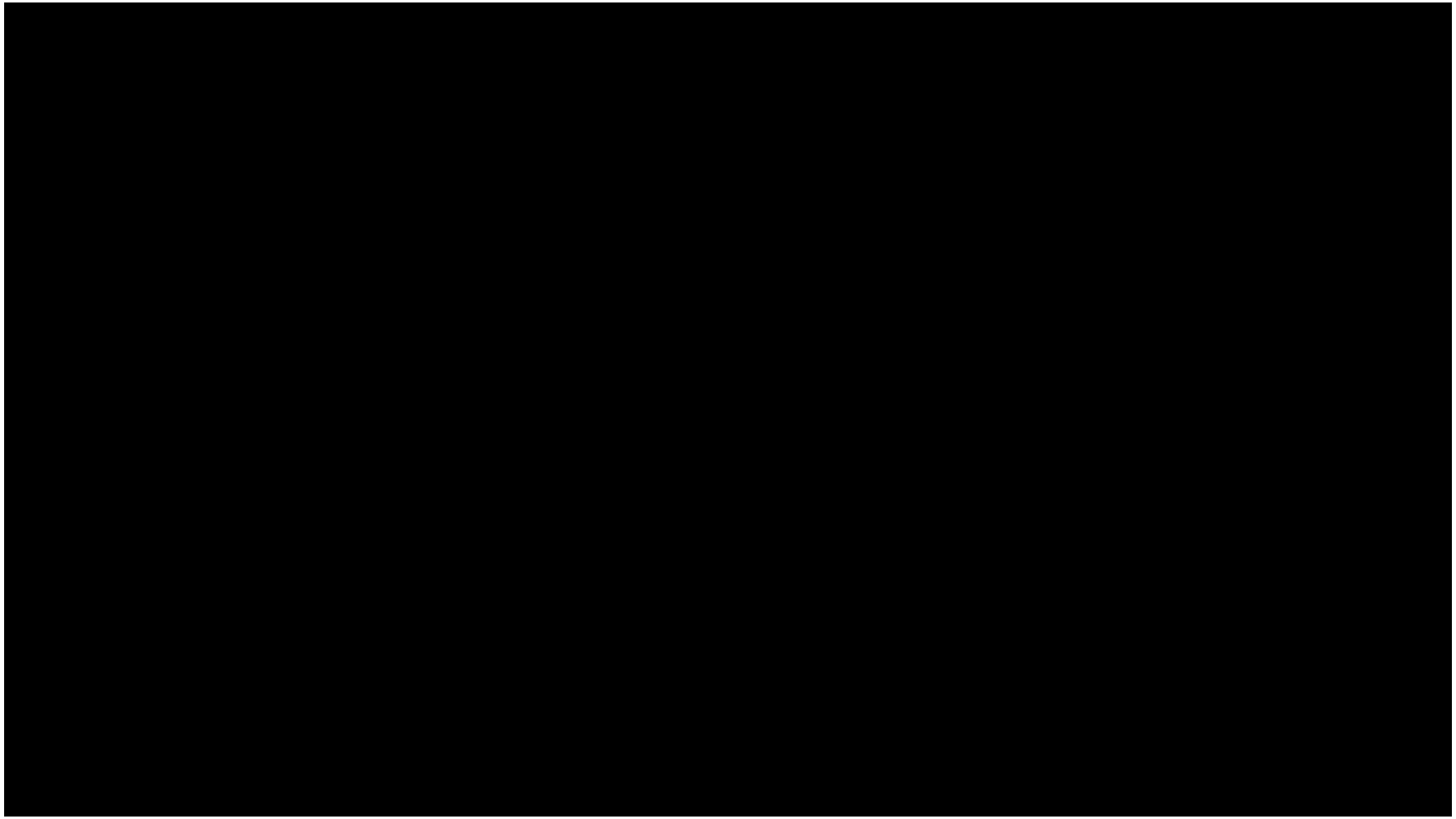
Let Angela know if you want to talk about improving IPC support activities, big picture ideas for collaboration, ideas for new IPC-related projects, and questions related to VIPTA and/or VHAG

Victoria Geissinger

- Analyzes antimicrobial stewardship data
- Partnering with Office of Health Equity on antimicrobial stewardship in small and rural hospitals

Let Victoria know if you want to learn more about the responses from your hospitals on the NHSN annual survey related to antimicrobial stewardship and laboratory practices

Message from Ginger – IPC Health Educator



ginger.vanhoozer@vdh.virginia.gov

What words come to mind when you think about our field epi staff?

21 responses

MDRO 101

Emily Hawker, MPH

MDRO 101 Objectives

- Define multidrug-resistant organism (MDRO) and learn common examples of MDROs
- Understand why targeted MDROs are targeted for public health prevention and containment activities
  - Learn where to find additional information on MDROs, including specific organisms, prevention, and containment activities.
- Introduce the major principles of infection prevention and control
  - Learn where to find additional IPC resources
- Apply our knowledge of MDROs by walking through the path of a germ from specimen collection to investigation completion
  - Learn where to find additional resources for targeted MDRO investigations

Multidrug-Resistant Organisms

What are they, and what are their implications for public health?

What are Multidrug-Resistant Organisms?

MDROs are microorganisms, usually bacteria and fungi, that are resistant to one or more classes of antimicrobial agents. This makes them difficult to treat.

What are Multidrug-Resistant Organisms?

MDROs are microorganisms, usually bacteria and fungi, that are resistant to one or more classes of antimicrobial agents. This makes them difficult to treat.

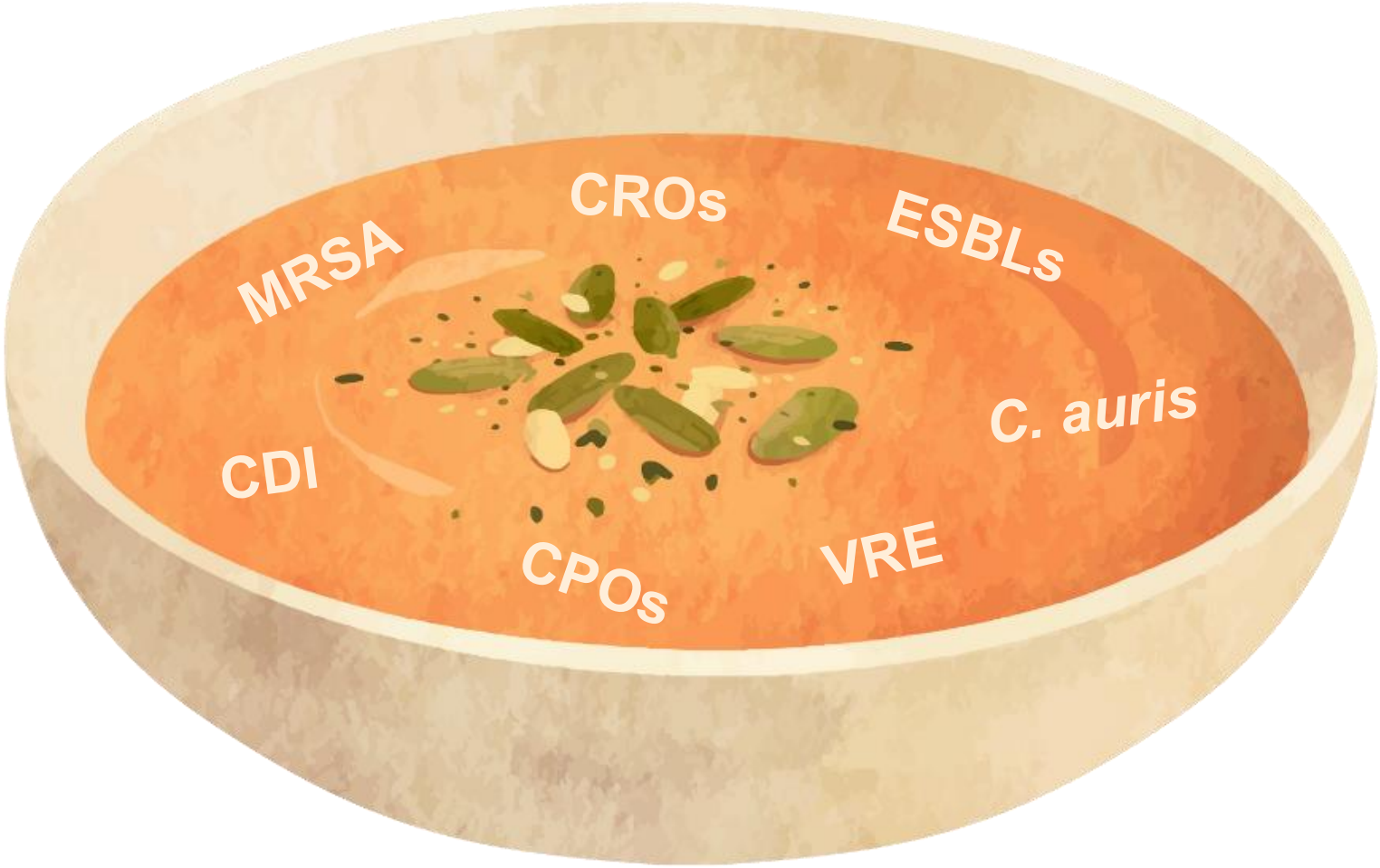
Bacteria

- Methicillin Resistant *Staphylococcus aureus* (MRSA)
- Extended-Spectrum Beta-Lactamases (ESBLs)
- Vancomycin Resistant Enterococcus (VRE)
- *Clostridioides difficile* (*C. diff or* CDI)
- Carbapenem Resistant Organisms (CROs) and Carbapenemase Producing Organisms (CPOs)

Fungi

- *Candida auris*

Acronym Soup!



How is resistance detected?

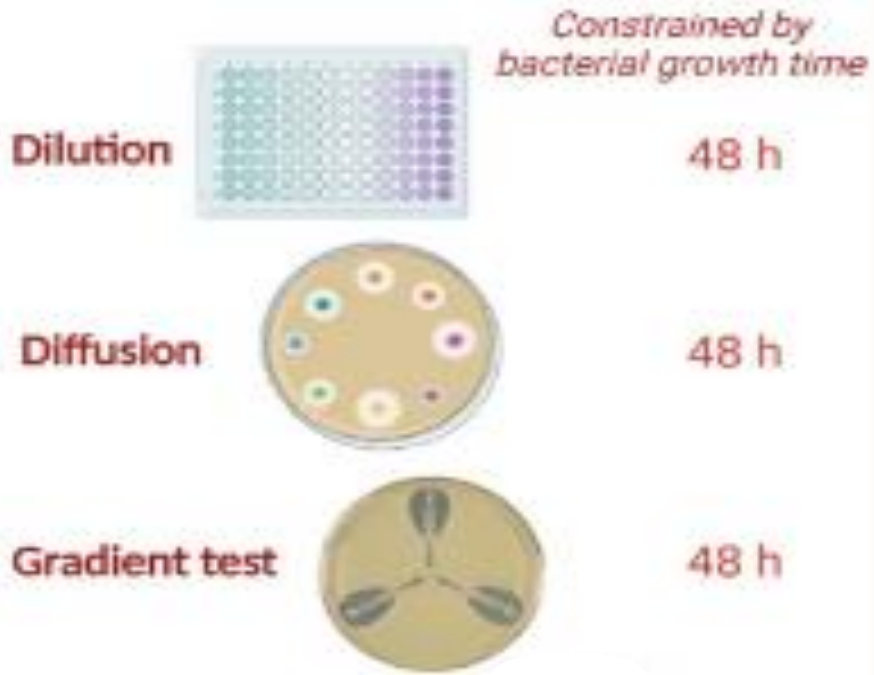
Antimicrobial susceptibility testing (AST)

- **AST** is lab-based testing on a pure microbial culture to determine the **minimum inhibitory concentration (MIC)** of drugs required to inhibit or kill that microbe.

- Determines if a microbe is sensitive or resistant to an antibiotic at varying amounts

- Clinical and Laboratory Standards Institute (CLSI) publishes guidance on the appropriate antimicrobial agents to test and criteria to interpret the MIC results for most bacterial species

Common AST methods include:

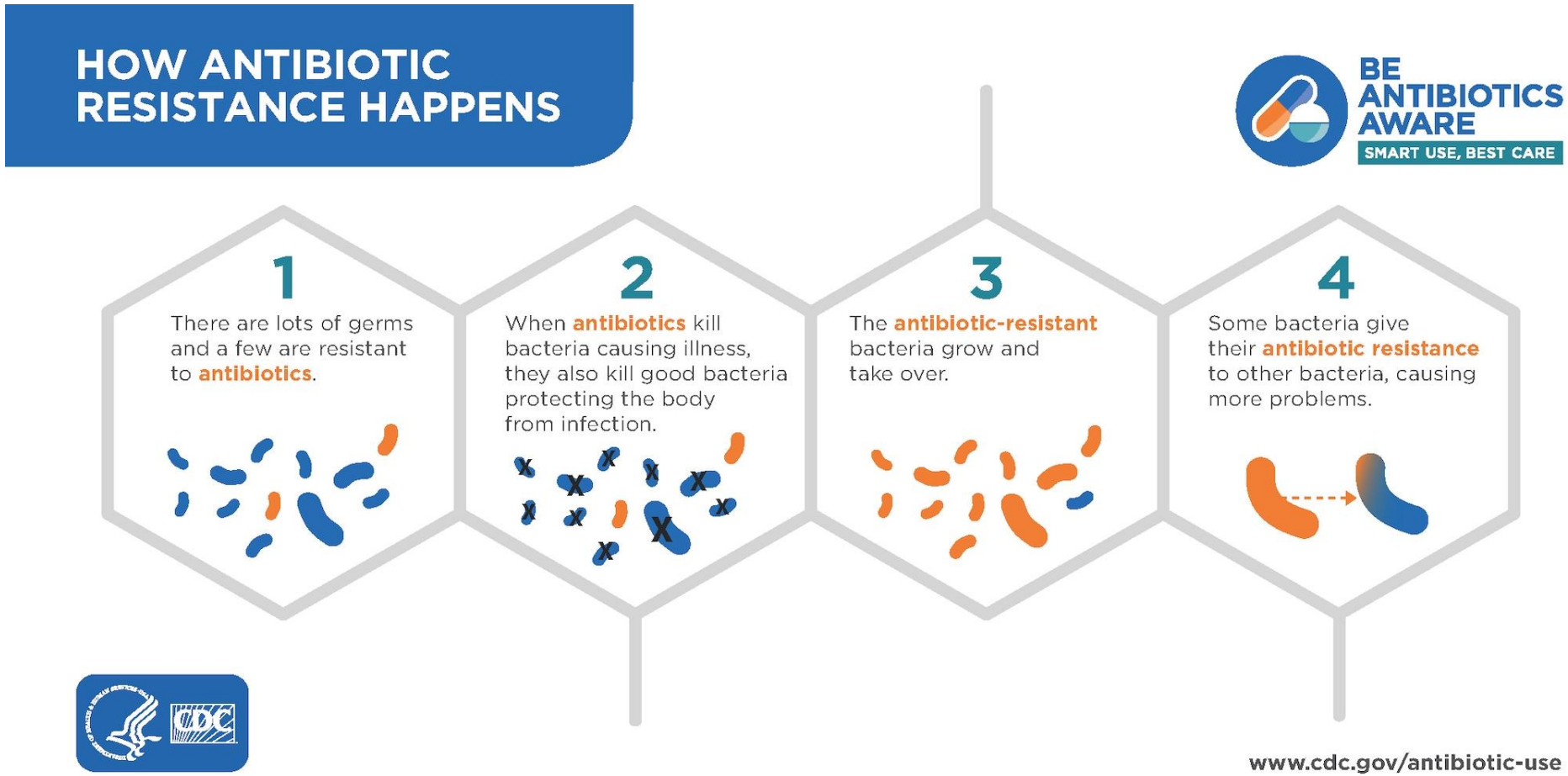


Additional Information on Antimicrobial Susceptibility Testing

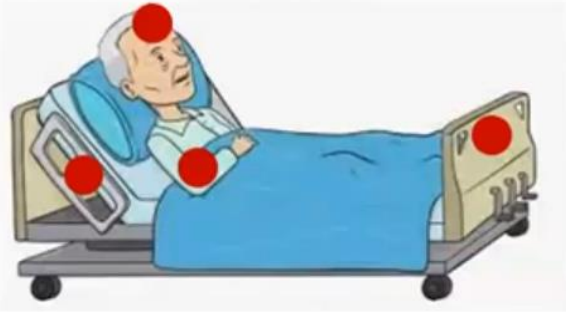
How To Read a Targeted MDRO Lab Report - HAI/AR Intranet Page:

- Describe microbiology testing methods performed on Carbapenemase Producing Organisms (CPOs)
- Interpret Division of Consolidated Laboratory Services (DCLS) Electronic Lab Reports
- Interpret Maryland Antimicrobial Resistance Laboratory Network (MD ARLN) Lab Reports

How does resistance happen?



How do MDROs spread?



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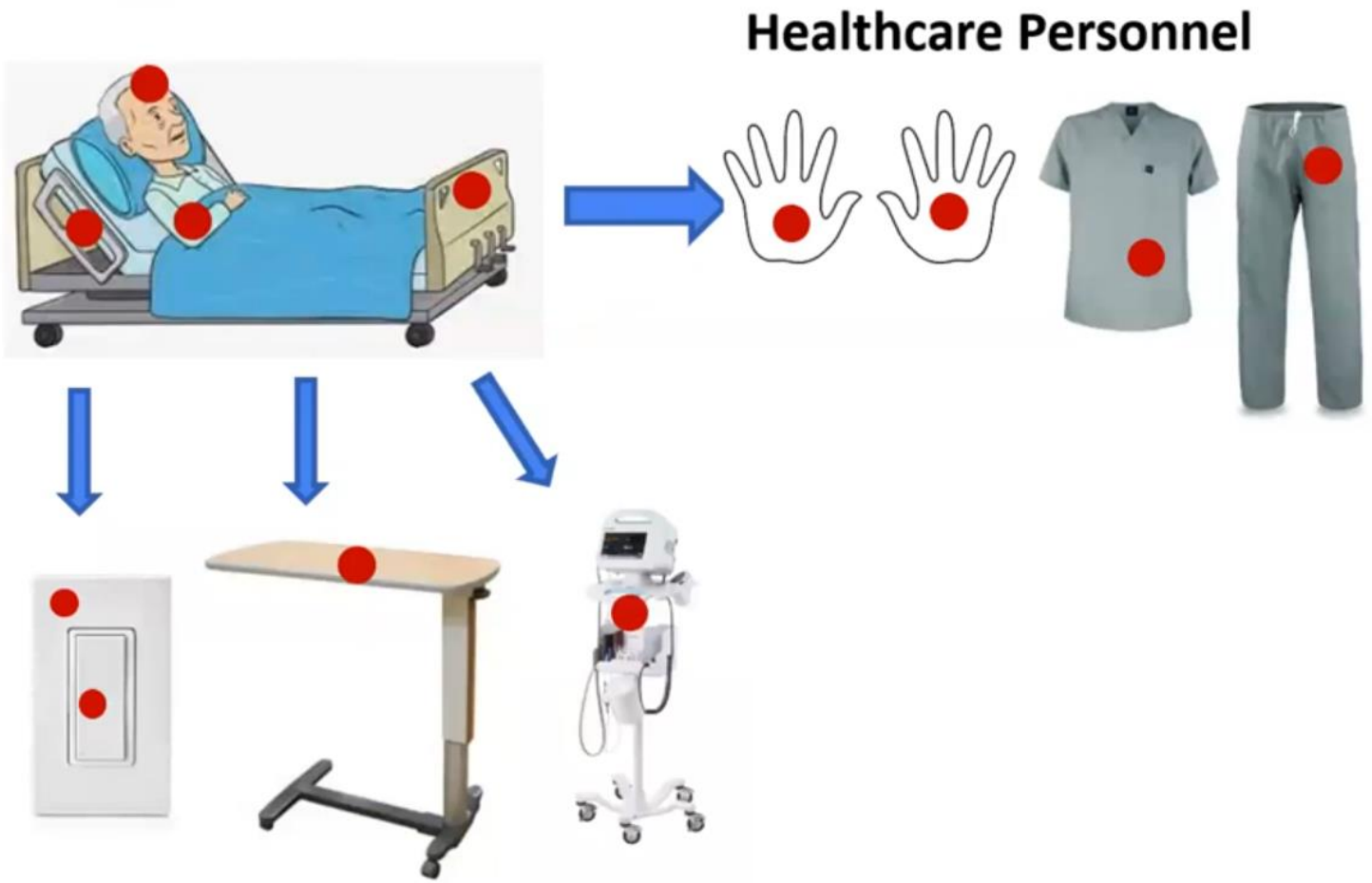

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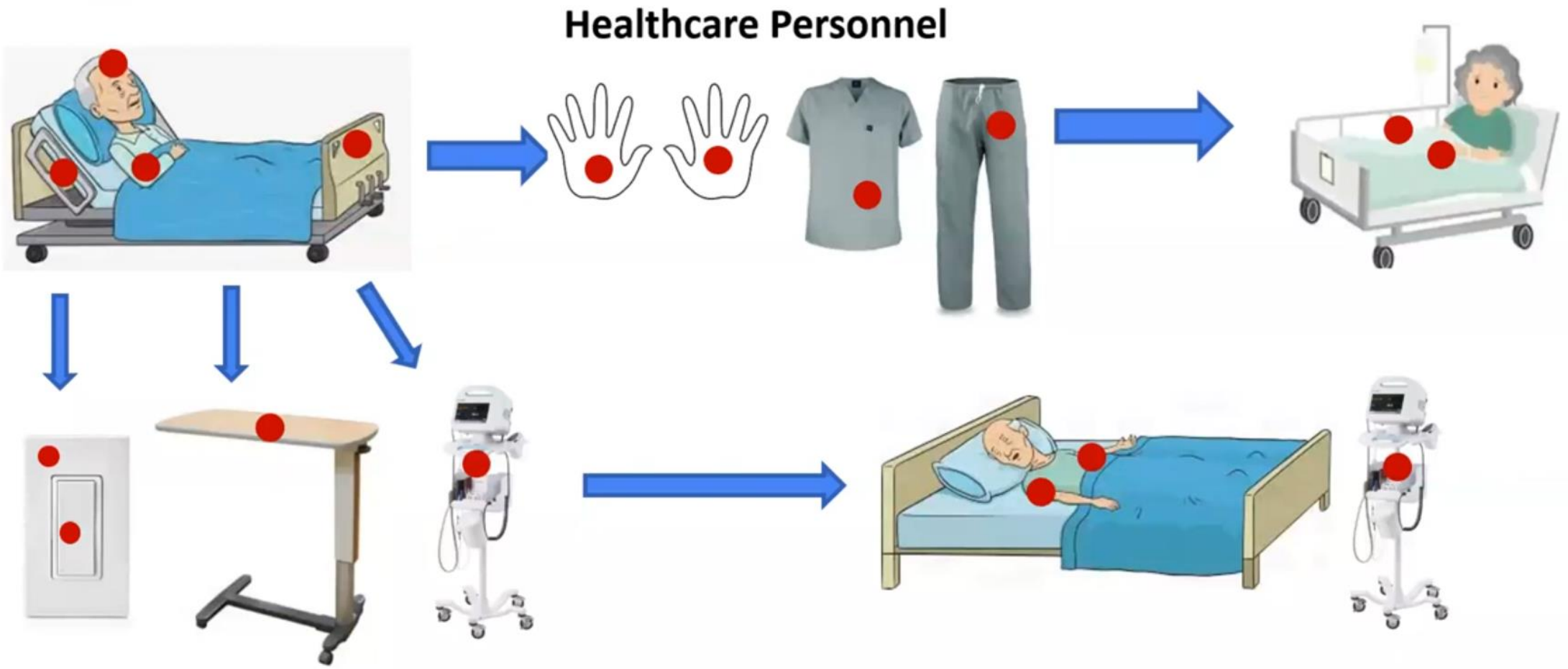


What risk factors are associated with higher risk of MDROs?

Antibiotics

Extended or Frequent Hospitalizations

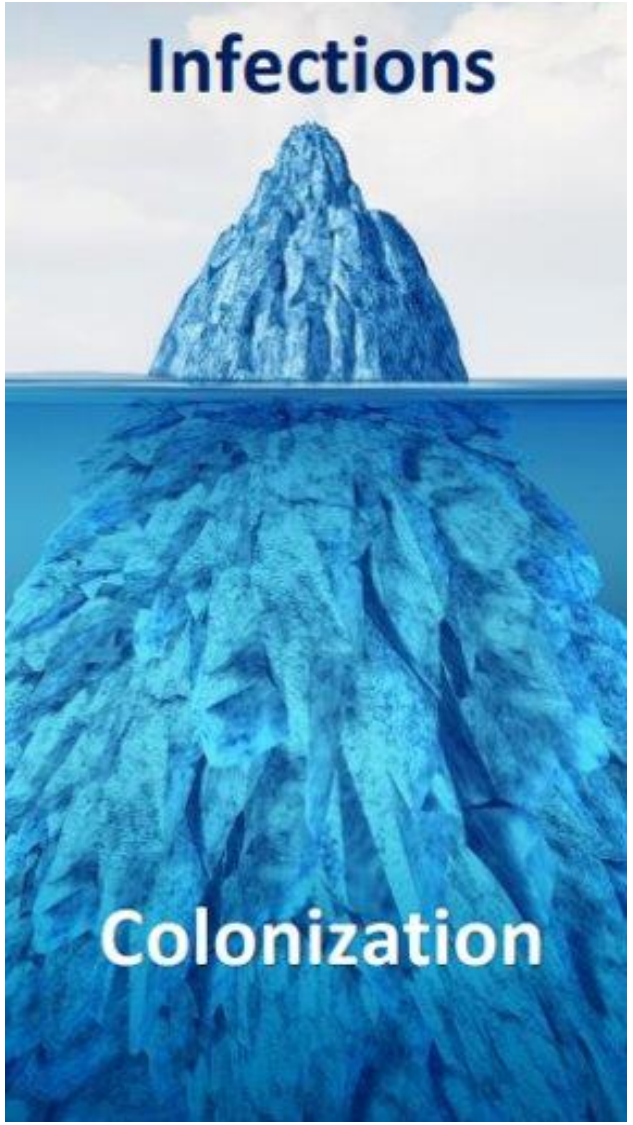
Weakened Immune System

Indwelling Medical Devices

Colonization plays a role in the spread of MDROs

- Colonization is when a patient carries an MDRO with no clinical signs or symptoms
  - Different body sites, depending on the organism
  - Can persist for months to years
  - Increases an individual's risk for infection

- Colonization increases the spread of MDROs in healthcare settings
  - Requires infection prevention and control measures



Targeted MDROs

Which MDROs are targeted for public health action, and why?

What are Targeted MDROs?

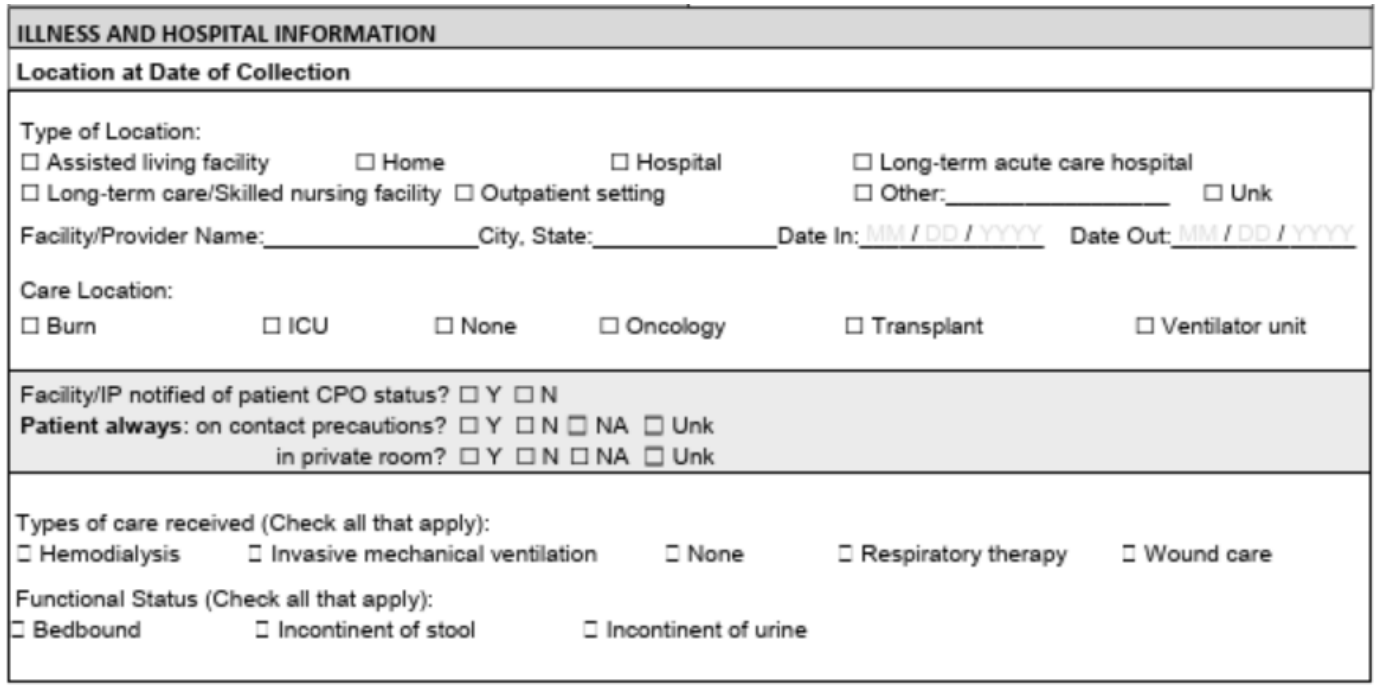
Targeted MDROs are resistant to most or all available antimicrobials, have the potential to spread widely, and have high morbidity and mortality. These are targeted for public health prevention and containment activities.

These have been added to the Virginia reportable disease list.

Targeted MDROs

- Vancomycin Resistant *Staphylococcus aureus* (VRSA)
- *Candida auris*
- Carbapenemase-producing organisms (CPOs):
  - Carbapenemase-producing Enterobacterales (CP-CRE)
  - Carbapenemase-producing *Pseudomonas aeruginosa* (CP-CRPA)
  - Carbapenemase-producing *Acinetobacter baumannii* (CP-CRAB)

Gathering Information



ILLNESS AND HOSPITAL INFORMATION

Location at Date of Collection

Type of Location:
☐ Assisted living facility ☐ Home ☐ Hospital ☐ Long-term acute care hospital
☐ Long-term care/Skilled nursing facility ☐ Outpatient setting ☐ Other:_____ ☐ Unk

Facility/Provider Name:_____City, State:_____Date In:MM / DD / YYYY Date Out:MM / DD / YYYY

Care Location:
☐ Burn ☐ ICU ☐ None ☐ Oncology ☐ Transplant ☐ Ventilator unit

Facility/IP notified of patient CPO status? ☐ Y ☐ N
Patient always: on contact precautions? ☐ Y ☐ N ☐ NA ☐ Unk
in private room? ☐ Y ☐ N ☐ NA ☐ Unk

Types of care received (Check all that apply):
☐ Hemodialysis ☐ Invasive mechanical ventilation ☐ None ☐ Respiratory therapy ☐ Wound care

Functional Status (Check all that apply):
☐ Bedbound ☐ Incontinent of stool ☐ Incontinent of urine

- Conduct initial response measures at the facility where the patient is **currently** admitted.
  - Verify implementation of appropriate infection control measures.
  - Verify patient and/or family have been notified about the results and infection control measures.
  - If organism was identified on admission, verify the previous facility has been notified of the result.

Gathering Information

HEALTHCARE EXPOSURE—Prior to Date of Collection

Healthcare Exposure—Prior (such as hospital, long-term care, emergency department or home health)

Patient transferred to/from another facility **30 days *PRIOR* to date of collection?** ☐ Y ☐ N ☐ Unk
(At least 30 days and up to 12 months, if relevant to investigation)
If **Y**, provide:

MRN/Patient ID	Facility/Agency Name	City, State	Facility Type[1]	Date In	Date Out
_____	_____	_____	_____	MM / DD / YYYY	MM / DD / YYYY
_____	_____	_____	_____	MM / DD / YYYY	MM / DD / YYYY
_____	_____	_____	_____	MM / DD / YYYY	MM / DD / YYYY
_____	_____	_____	_____	MM / DD / YYYY	MM / DD / YYYY

Care Location[2]	Facility/IP notified?	Pt always on contact precautions/ enhanced barrier precautions?	Pt in private room?	Types of care received[3]	Functional Status[4]
_____	☐ Y ☐ N ☐ Unk	☐ Y ☐ N ☐ Unk	☐ Y ☐ N ☐ Unk	_____	_____
_____	☐ Y ☐ N ☐ Unk	☐ Y ☐ N ☐ Unk	☐ Y ☐ N ☐ Unk	_____	_____
_____	☐ Y ☐ N ☐ Unk	☐ Y ☐ N ☐ Unk	☐ Y ☐ N ☐ Unk	_____	_____
_____	☐ Y ☐ N ☐ Unk	☐ Y ☐ N ☐ Unk	☐ Y ☐ N ☐ Unk	_____	_____

Facility Type[1]	Care Location[2]	Types of care received[3]	Functional Status[4]
1. Assisted living facility	1. Burn	1. Hemodialysis	1. Bedbound
2. Emergency Department	2. ICU	2. Invasive mechanical ventilation	2. Incontinent of stool
3. Home health agency	3. None	3. None	3. Incontinent of urine
4. Hospital	4. Oncology	4. Respiratory therapy	
5. Long term acute care hospital	5. Transplant	5. Wound care	
6. Long term care/Skilled nursing facility	6. Ventilator Unit		
7. Other			

- Investigate exposures within the past 30 days from the date of specimen collection.
  - Period for review may extend up to 3 months prior or longer depending on the organism and other factors.
  - Ensure adherence to infection prevention and control (IPC) measures.
  - Instruct healthcare facilities to “flag” patient records for infection prevention and control precautions upon re-admission.

Gathering Information

- Enter all the information in VEDSS!
  - Enter the information into the “Case Info Tab” on the corresponding VEDSS page.

- Prioritize the following fields:
  - Admission/discharge dates and facility information for current, prior, and post-isolate collection hospitalizations
  - Care location(s) within a facility
  - Presence and duration of roommates
  - Types of care received
  - Functional status
  - History of travel and/ or healthcare outside the U.S. in the prior 12 months

Additional Information on Targeted MDROs

Recommended Viewing

- Updates on Public Health Response for *C. auris* and CPOs — slides / recording
  - Updated MDRO Containment Strategy FAQs
  - DCM Chapter Updates
- Simplifying Carbapenem Resistant Organisms — slides / recording
  - Describe carbapenem antibiotics
  - Describe types of pathogens and resistance mechanisms
  - Describe laboratory testing of carbapenem-resistant organisms
- Overview of Targeted MDROs – HAI/AR Intranet Page
  - Understand which MDROs are targeted for public health response and their common abbreviations
  - Understand the similarities and differences between carbapenem-resistant organisms and carbapenemase-producing organisms
  - Learn which carbapenemase genes are targeted
  - Understand MDRO colonization
- Targeted MDROs - Organism specifics – HAI/AR Intranet Page
  - Understand the public health implications for the targeted MDROs Carbapenemase-producing Enterobacterales (CP-CRE), Carbapenemase-producing *Pseudomonas aeruginosa* (CP-CRPA), Carbapenemase-producing *Acinetobacter baumannii* (CP-CRAB), and *Candida auris*.
  - Describe transmission pathways, common reservoirs, and risk factors, supported by the literature.
  - Review successful prevention strategies, supported by the literature.

Additional Information on Targeted MDROs

Recommended reading

- Carbapenemase-Producing Organisms DCM Chapter
- *Candida auris* DCM Chapter
- Vancomycin-Intermediate and -Resistant *Staphylococcus aureus* DCM Chapter

- Coming soon! Updated response guidance based on input from the field

Infection Prevention and Control practices are key to preventing the spread of MDROs

What are the major principles of infection prevention?

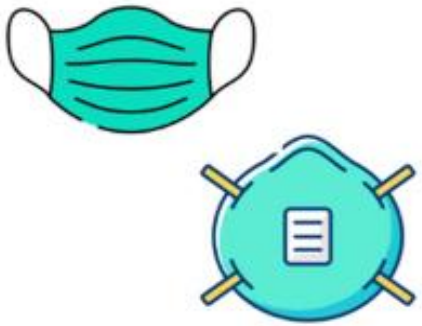
Hand Hygiene

- Soap and water or alcohol-based hand sanitizer

Standard Precautions and Personal Protective Equipment

Standard Precautions are used for all patient care. They're based on a risk assessment and make use of common-sense practices and personal protective equipment use that protect healthcare providers from infection and prevent the spread of infection from patient to patient.

Face mask or N95 respirator:
If contact with respiratory droplets (face mask) or aerosolized respiratory particles (N95) may occur

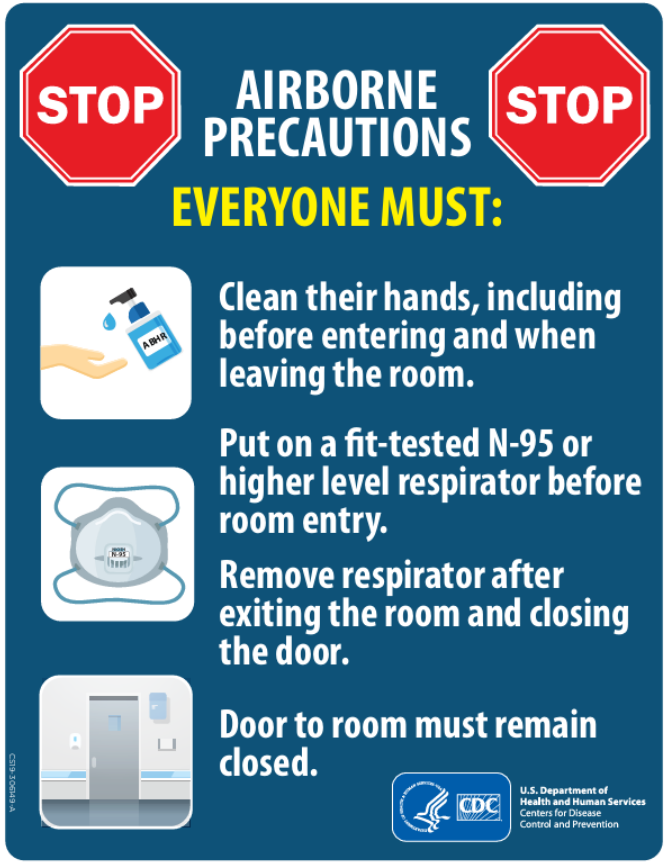


Eye protection (face shield or goggles):
If splash or spray may occur

Gown:
If contact with blood or body fluids may occur

Gloves:
If contact with blood or body fluids may occur

Transmission Based Precautions

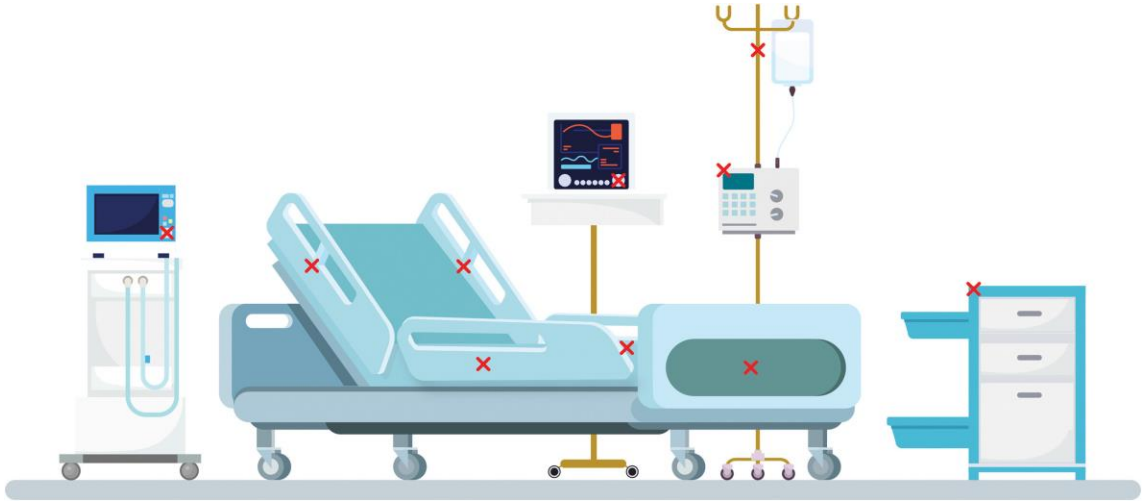


Enhanced Barrier Precautions

- Nursing homes only
- For residents with multidrug-resistant organisms (MDROs) or at risk for acquiring an MDRO (wounds, invasive devices)
  - Private room not required
  - Resident not restricted to their room

Environmental Cleaning

- The healthcare environment can contribute to MDRO transmission
  - Patient bed rails, bedside tables, medical devices, sinks and countertops, supply carts and more are **high touch surfaces.**



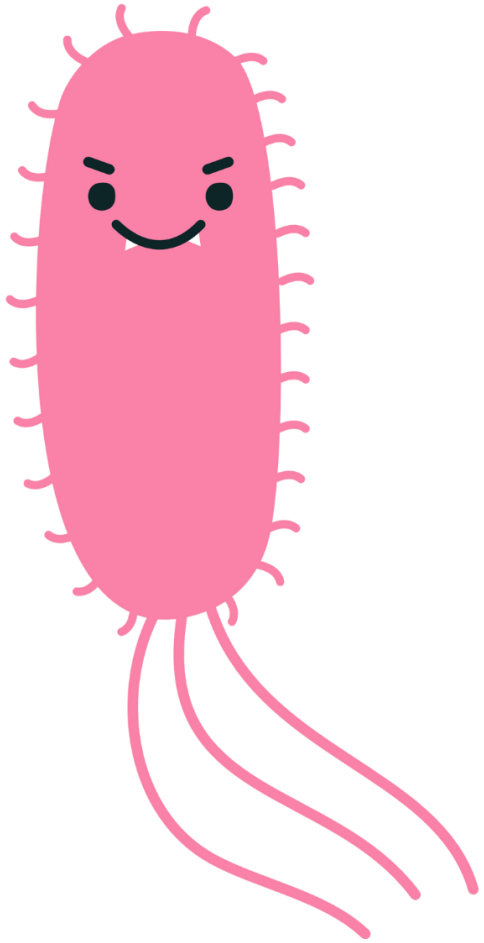
- Environmental cleaning and disinfection can interrupt transmission by removing the MDRO from the environment

Additional Information on Infection Prevention and Control

- Foundational Infection Prevention and Control Strategies: Part One – slides / recording
  - Chain of infection
  - Standard precautions, Enhanced barrier precautions, and Transmission based precautions
  - Hand hygiene
  - PPE
- Foundational Infection Prevention and Control Strategies: Part Two – slides / recording
  - Safe injection practices
  - Respiratory hygiene/cough etiquette
  - Environmental cleaning and disinfection

The story of a germ!

Walking through the path of a germ from collection to investigation



Isolate collected at a facility

Sally is admitted to an acute care hospital from a nursing home with fever, chills, and lower back tenderness.

A urine specimen was collected from Sally.

E. coli was isolated from the specimen at the hospital's clinical laboratory.

Antimicrobial susceptibility testing was also performed at the clinical lab.

Antimicrobial Susceptibility Testing Results

- Antimicrobial susceptibility testing show the following results:

Organism: *E. coli* Source: Urine		
Drug	**Drug Class**	**Susceptibility Interpretation**
Amikacin	Aminoglycoside	Susceptible
Cefazolin	Cephalosporin	Resistant
Ceftriaxone	Cephalosporin	Resistant
Cefepime	Cephalosporin	Resistant
Gentamicin	Aminoglycoside	Susceptible
Levofloxacin	Fluoroquinolone	Resistant
Meropenem	Carbapenem	Resistant

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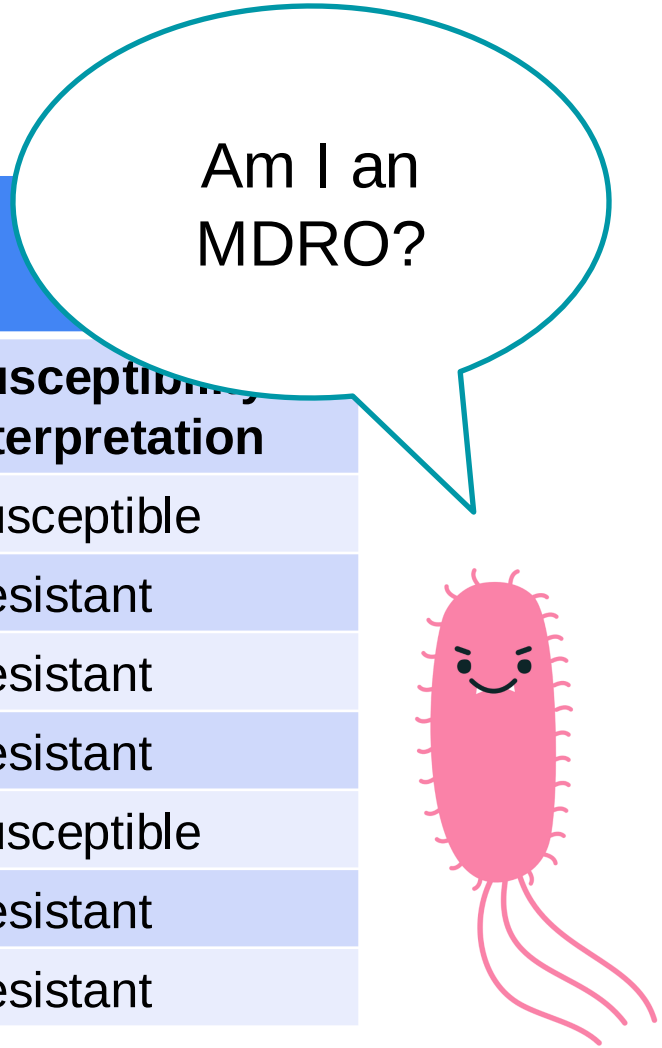

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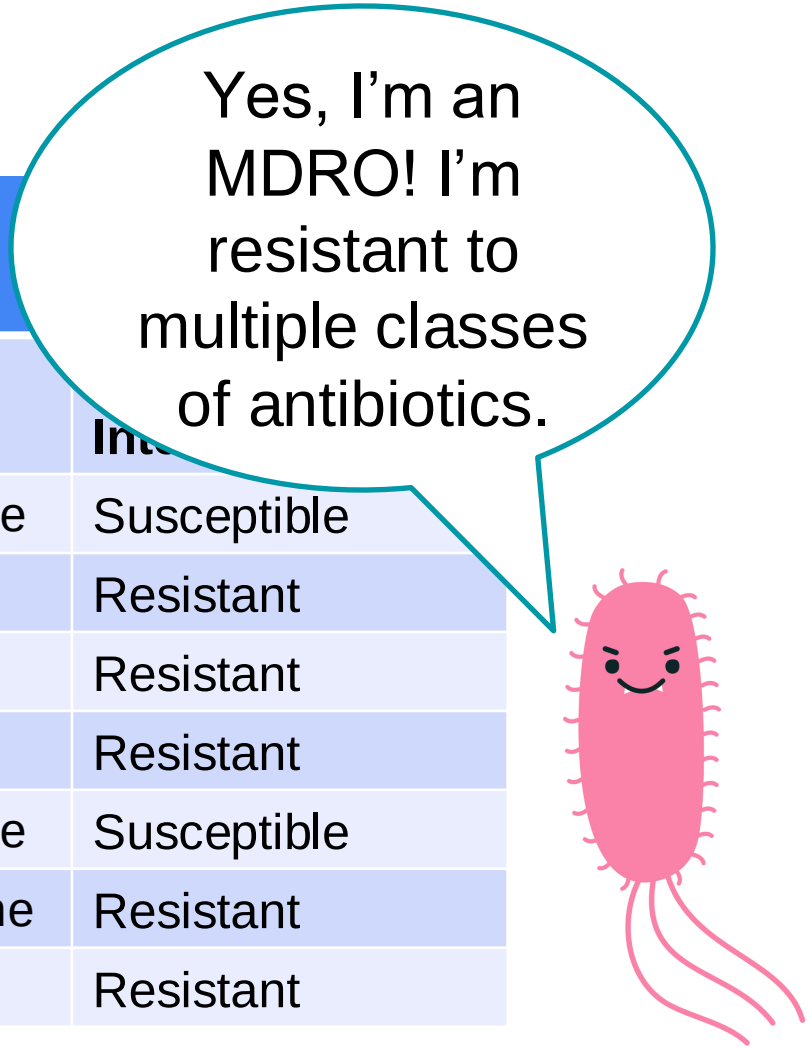

Antimicrobial Susceptibility Testing Results

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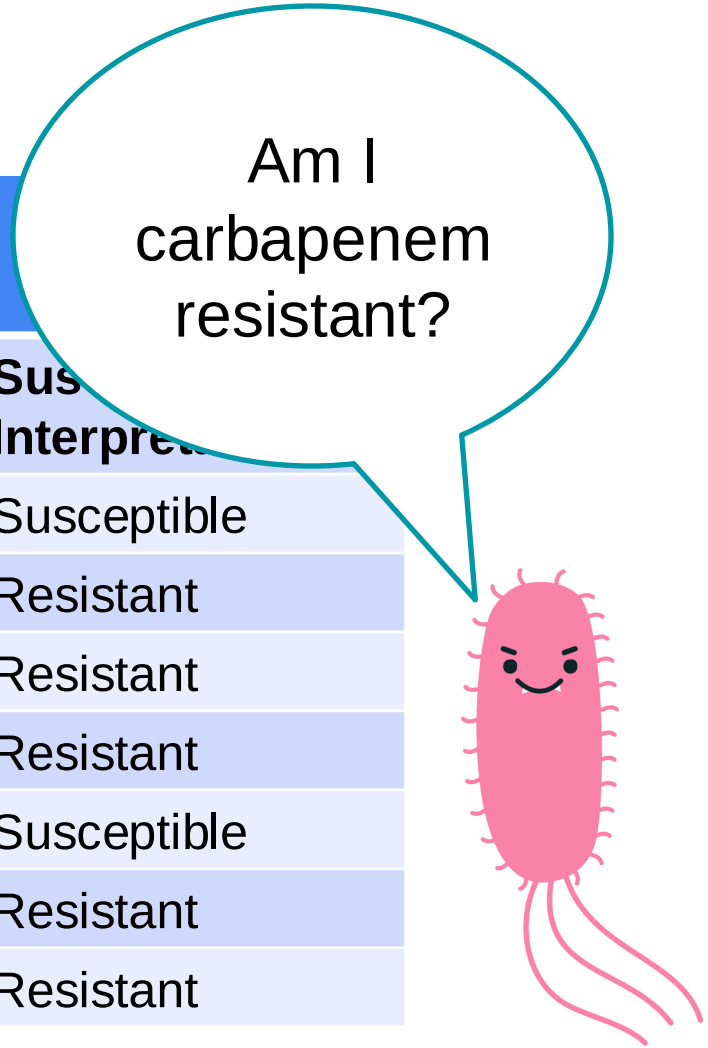
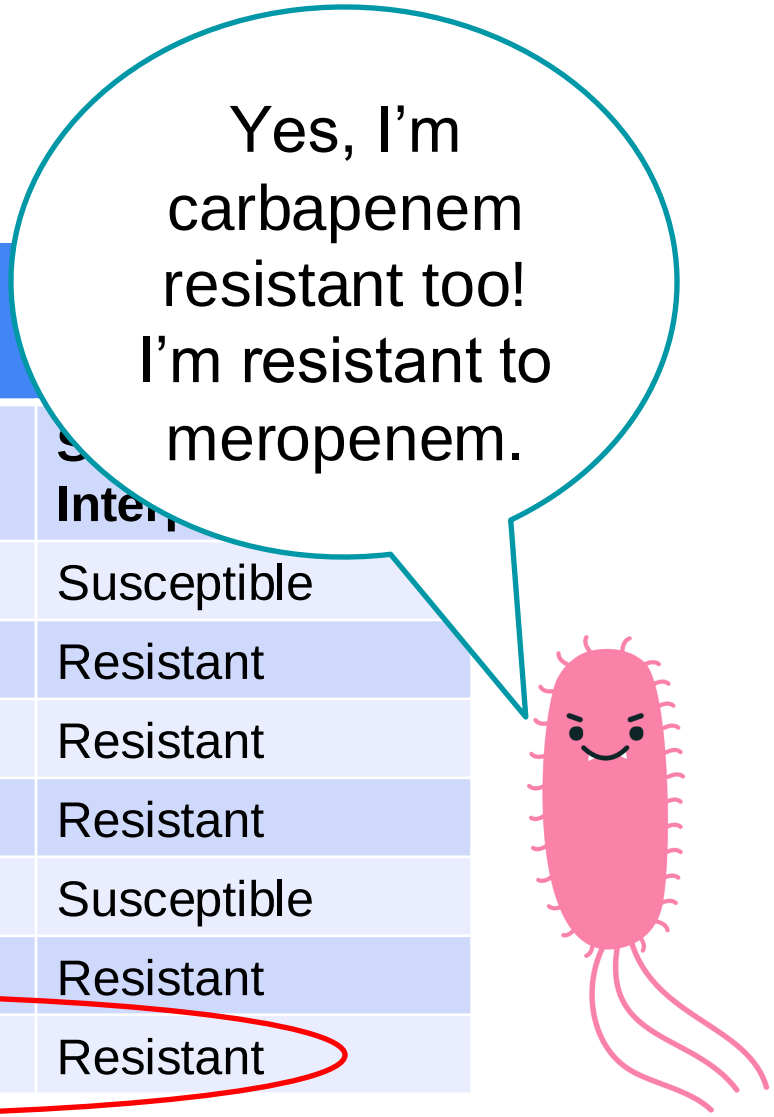


Isolate collected at a facility

Organism: *E. coli* Source: Urine		
Drug	**Drug Class**	**S… Inter…**
Amikacin	Aminoglycoside	Susceptible
Cefazolin	Cephalosporin	Resistant
Ceftriaxone	Cephalosporin	Resistant
Cefepime	Cephalosporin	Resistant
Gentamicin	Aminoglycoside	Susceptible
Levofloxacin	Fluoroquinolone	Resistant
Meropenem	Carbapenem	Resistant



What are the next steps for our patient Sally?

Now we know what the infection is, and which drugs should work. The hospital starts treatment.

We need to determine what infection prevention and control measures the hospital should implement for our patient, Sally, who has this MDRO infection.

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Now we know what the infection is, and which drugs should work. The hospital starts treatment.

We need to determine what infection prevention and control measures the hospital should implement for our patient, Sally, who has this MDRO infection.

What infection prevention and control practices should be implemented?

a) Continue only using standard precautions
b) Place Sally on contact precautions
c) Send Sally back to the nursing home, she should not be at a hospital with an MDRO infection!

What are the next steps for our patient Sally?

Now we know what the infection is and the which drugs it is susceptible and resistant to.

We need to determine what infection prevention and control measures the hospital should implement for our patient, Sally, who has this MDRO infection.

What infection prevention and control practices should be implemented?

a) Continue only using standard precautions
b) Place Sally on contact precautions
c) Send Sally home, she should not be at a hospital with an MDRO infection!

VDH VIRGINIA DEPARTMENT OF HEALTH

It is time for Sally's room to be cleaned. Identify high touch surfaces.

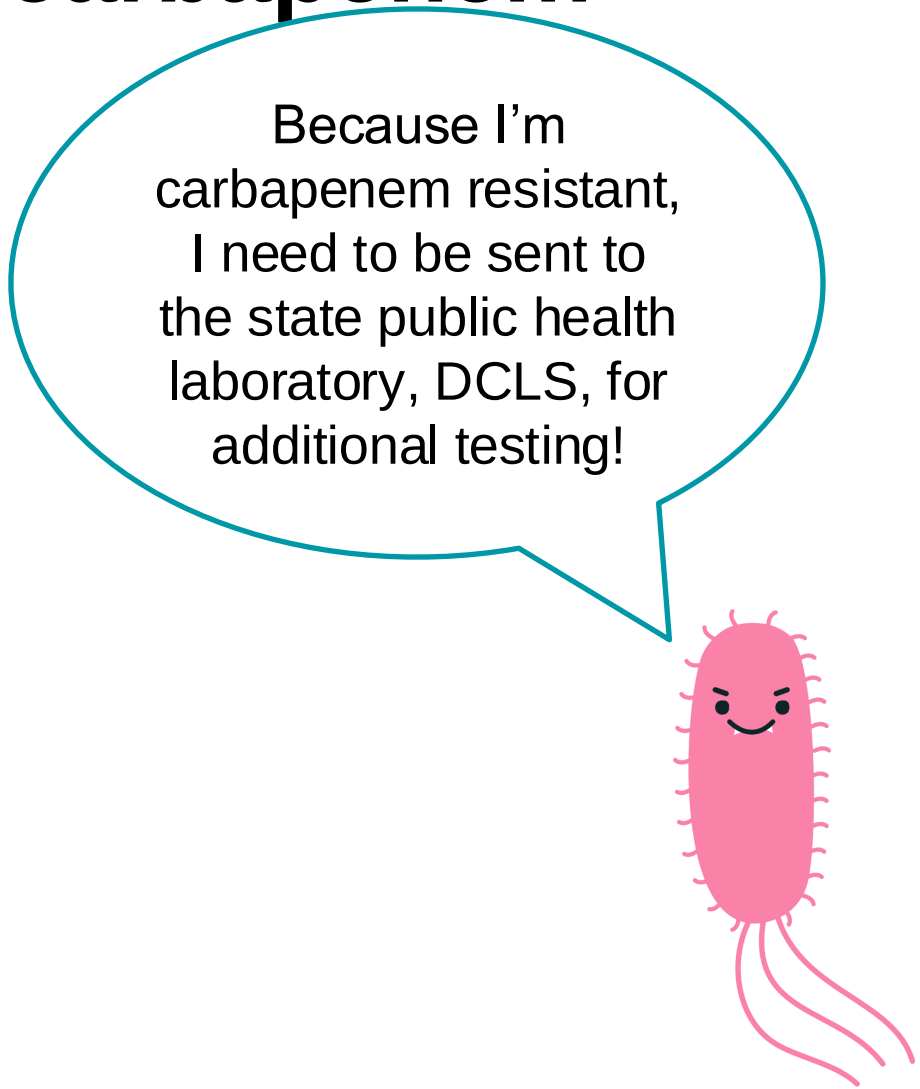
VDH VIRGINIA DEPARTMENT OF HEALTH

It is time for Sally's room to be cleaned. Identify high touch surfaces.

What are the next steps for the carbapenem resistant isolate?

The hospital's clinical lab should coordinate with the state public health lab, DCLS, to forward this *E. coli* isolate for additional testing.

When testing at DCLS is complete, the results will be uploaded into VEDSS via ELR.



[redacted] | 02/26/2024 |

AMPICILLIN:
Resistant
AMPICILLIN+SULBACTAM:
Resistant
AZTREONAM:
Resistant
Amikacin:
No Interpretation
CEFAZOLIN:
Resistant
CEFEPIME:
Resistant
CEFTAZIDIME:
Resistant
CEFTRIAXONE:
Resistant
CIPROFLOXACIN:
Resistant
Carbapenemase Islt QI:
Positive
Ceftazidime+Avibactam [Susceptibility] by Minimum inhibitory concentration (MIC):
Resistant
Ceftolozane+Tazobactam [Susceptibility] by Minimum inhibitory concentration (MIC):
Resistant
Ertapenem:
Resistant
GENTAMICIN:
Susceptible
IMIPENEM:
Resistant
LEVOFLOXACIN:
Resistant
MEROPENEM:
Resistant
MICROORGANISM IDENTIFIED:
Escherichia coli
PIPERACILLIN-TAZOBACTAM:
Resistant
TETRACYCLINE:
Susceptible
TOBRAMYCIN:
Susceptible
TRIMETHOPRIM+SULFAMETHOXAZOLE:
Resistant
blaIMP gene PCR - Carbapenem resistance:
Not Detected
blaKPC gene PCR - Carbapenem resistance:
Not Detected
blaNDM gene PCR - Carbapenem resistance:
Detected
blaOXA-48 gene PCR - Carbapenem resistance:
Not Detected
blaVIM gene PCR - Carbapenem resistance:
Not Detected

Positive for carbapenemase production

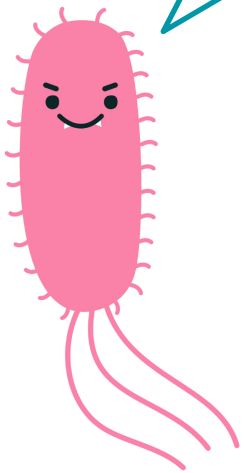
Resistant to carbapenems

Organism Identified: *Escherichia coli*

Testing for IMP, KPC, NDM, OXA-48, and VIM genes

NDM resistance mechanism Detected

That's right, I'm carbapenemase-producing *E. coli*!



Resistant to carbapenems

[redacted] 02/26/2024

AMPICILLIN:
Resistant
AMPICILLIN+SULBACTAM:
Resistant
AZTREONAM:
Resistant
Amikacin:
No Interpretation
CEFAZOLIN:
Resistant
CEFEPIME:
Resistant
CEFTAZIDIME:
Resistant
CEFTRIAXONE:
Resistant
CIPROFLOXACIN:
Resistant
Carbapenemase Islt QI:
Positive
Ceftazidime+Avibactam [Susceptibility] by Minimum inhibitory concentration (MIC):
Resistant
Ceftolozane+Tazobactam [Susceptibility] by Minimum inhibitory concentration (MIC):
Resistant
Ertapenem:
Resistant
GENTAMICIN:
Susceptible
IMIPENEM:
Resistant
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Positive for carbapenemase production

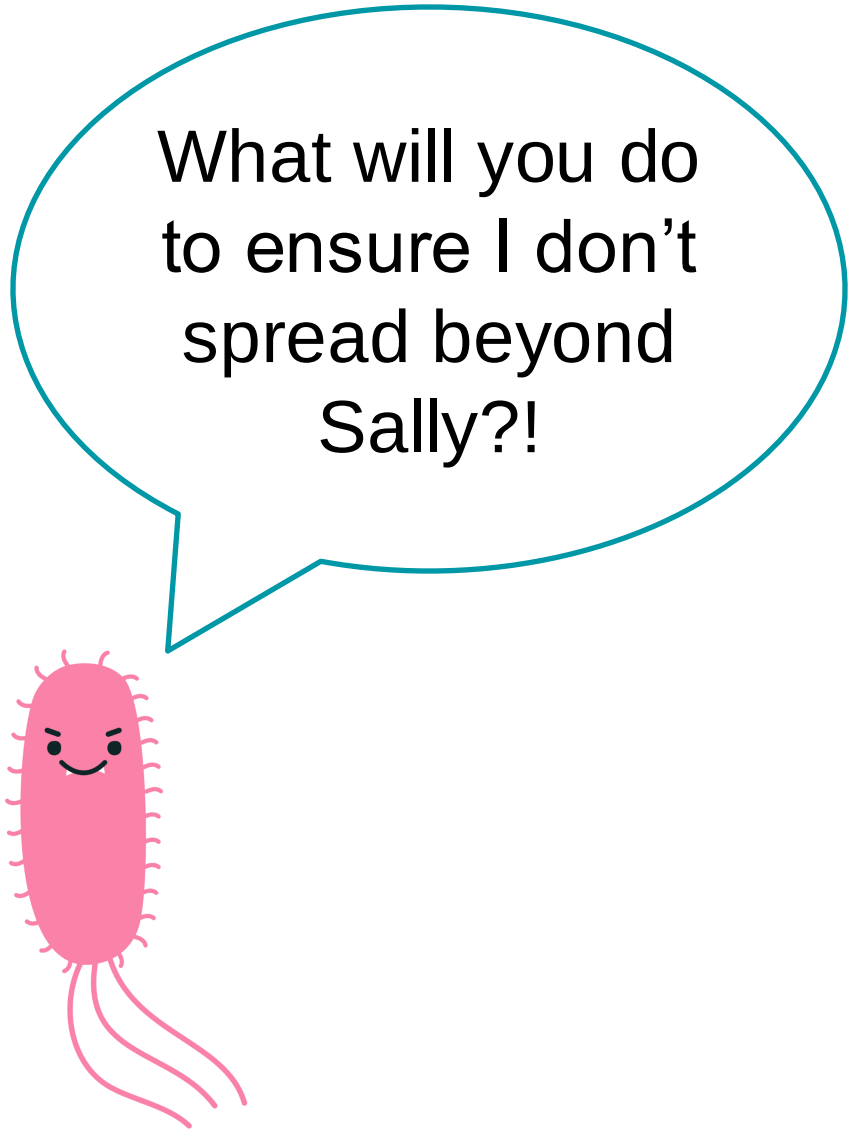
Organism Identified: *Escherichia coli*

NDM resistance mechanism Detected

Testing for IMP, KPC, NDM, OXA-48, and VIM genes

How do we stop the spread?

- Now that we know the result is a CPO and does require public health intervention, brainstorm public health's role to stop the spread of this organism!



Public Health Investigation

Gather information on current healthcare exposure, and healthcare exposures before and after the positive culture.

Enter all the information in VEDSS!

- Enter the information into the “Case Info Tab” on the corresponding VEDSS page

Prioritize the following fields:

- Admission/discharge dates for current, prior, and post-isolate collection hospitalizations
- Care location(s) within a facility
- Presence and duration of roommates
- Types of care received
- Functional status
- History of travel and/ or healthcare outside the U.S. in the prior 12 months.

Public Health Recommendations

Recommendations were provided to both the nursing home and acute care hospital:

- Infection Prevention and Control
  - Prioritize assessments for the facility currently caring for the index patient, for any facilities with evidence of transmission, and for high-acuity post-acute care facilities (e.g., LTACHs and vSNFs)
  - Work with your regional IP, regional Epi and HAI team on focus areas
    - Verifying policies and procedures
    - Facility audit practices
    - Disinfection and Cleaning

Public Health Recommendations

Recommendations were provided to both the nursing home and acute care hospital:

- Contact investigation
  - Work with your regional IP, regional Epi, and HAI team
  - Example prioritization factors to consider:
    - Patients/residents at higher risk of acquisition
    - Length of stay of index-case
    - Transmission risk of index-case
    - Suspicion of transmission at a facility
    - Infection prevention and control practices at the facility

Public Health Recommendations

Recommendations were provided to both the nursing home and acute care hospital:

- Flag patient chart
  - Ensure contact precautions or enhanced barrier precautions will be implemented if re-admitted

Public Health Recommendations

Recommendations were provided to both the nursing home and acute care hospital:

- Communication of MDRO status at transfer
  - Ensure facility has a process

Public Health Recommendations

Recommendations were provided to both the nursing home and acute care hospital:

- Retrospective and prospective laboratory surveillance
  - Verify laboratory the nursing home contracts with is forwarding specimens to DCLS

Wrapping up

After months of collaboration with the facilities, regional IP, regional Epi, and the HAI/AR team, there are positive improvements!

The nursing home is using enhanced barrier precautions to manage Sally's MDRO infection.

IPC practices are improving at the nursing home based on recommendations and MDRO status is being communicated upon transfer.

Point prevalence screenings were conducted at Sally's nursing home, and no new cases were identified on the most recent screening.

Wrappin

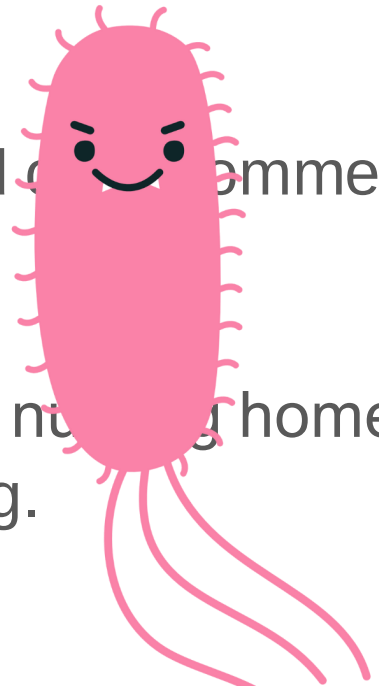
Nooo! Your recommendations stopped me from spreading!

After m nal IP, regional Epi, and the HAI/A

The nu ions to manage Sally's MDRO in

IPC practices are impro nursing home based c mmendations and MDRO status is being communicated upon transfer.

Point prevalence screenings were conducted at Sally's nu home, and no new cases were identified on the most recent screening.



Additional Information on Public Health Investigations for Targeted MDROs

Local Health Department Investigation and Response Checklist for Carbapenemase- Producing Organisms

Local Health Department Investigation and Response Checklist for *Candida auris*

Healthcare Associated Outbreaks and Investigations DCM Chapter

How To Read a Targeted MDRO Lab Report - HAI/AR Intranet Page:

- Describe microbiology testing methods performed on Carbapenemase Producing Organisms (CPOs)
- Interpret Division of Consolidated Laboratory Services (DCLS) Electronic Lab Reports
- Interpret Maryland Antimicrobial Resistance Laboratory Network (MD ARLN) Lab Reports

Applying CSTE Case Definition for CPOs and C. auris - HAI/AR Intranet Page:

- Interpret lab report for case definition according to CSTE CPO Case Definition
- Interpret lab report for case definition according to CSTE *C. auris* Case Definition