

# Emerging Health Threats

Office of Epidemiology, VDH

# Agenda

- Healthcare-Associated Infections (HAI) and Antimicrobial Resistance (AR) Program Dashboards Released
- National and International Trends for Measles
- Meningococcal Outbreak Update
- THC/CBD Adverse Illness Events in Children
- Highly Pathogenic Avian Influenza (HPAI) A(H5N1) Update

# HAI/AR Dashboards Released

# Carbapenemase-producing Organisms (CPO) Dashboard Release

- Virginia case counts have been displayed on a dashboard located on the HAI/AR website since 2019.
  - The following changes have been made to the dashboard based on feedback:
    - Overall changes to be 508 compliant
    - Created different sections by organism
    - Added testing numbers by Virginia Health Planning region
    - Added sex, age, and race/ethnicity data
- Case counts will be updated quarterly going forward
- Dashboard can be found here: <https://www.vdh.virginia.gov/haiar/diseases-organisms/carbapenem-resistant-organisms-cro/carbapenemase-producing-organisms-quarterly-report/>

## ***Candida auris* Dashboard Release**

- Virginia case counts have been displayed on a PDF report located on the HAI/AR Website since 2022.
- The change to reporting cases on a dashboard is occurring to allow more flexibility for the end user and to be consistent with how other case counts are being displayed on the VDH website.
- Case counts will be updated monthly going forward
- Dashboard can be found here: <https://www.vdh.virginia.gov/haiar/diseases-organisms/candida-auris/candida-auris-in-the-state-of-virginia/>

# Implementation of Antimicrobial Stewardship Activities in Virginia Hospitals

- The National Health and Safety Network (NHSN) collects the Patient Safety Component Annual Hospital Survey
  - Includes questions intended to assess a hospital's adoption of the CDC Core and Priority Elements for Hospital Antimicrobial Stewardship Programs.
- The VDH HAI/AR program created a dashboard to summarize the NHSN Survey responses and classifies them by CDC Core and Priority Elements
  - Created using feedback from the Virginia HAI Advisory Group
- Dashboard will be updated annually
- Dashboard can be found here: <https://www.vdh.virginia.gov/haiar/as/hospital-antibiotic-stewardship/>

# Measles

# Measles Activity in the U.S.

- Nationally, a total of 132 measles cases have been reported by 21 states, including Virginia\*

## Age

- Under 5 years: 58 cases (44%)
- 5-19 years: 30 cases (23%)
- 20+ years: 44 cases (33%)

## Vaccination Status

- Unvaccinated or Unknown: 81%
- One MMR dose: 14%
- Two MMR doses: 5%

- Nationally, 8 outbreaks (3 or more cases) have been reported in 2024.
  - The largest outbreak started in a Chicago migrant shelter in March. As of May 14<sup>th</sup>, 64 cases associated with the outbreak have been reported.
- [Vaccination coverage among U.S. kindergartners](#) decreased from 95.2% during the 2019–2020 school year to 93.1% in the 2022–2023 school year, leaving approximately 250,000 kindergartners at risk each year over the last three years.
  - In Virginia, 95.8% if kindergartners were estimated to be vaccinated for the 2022–2023 school year, one of only 13 states with above 95% estimated coverage.



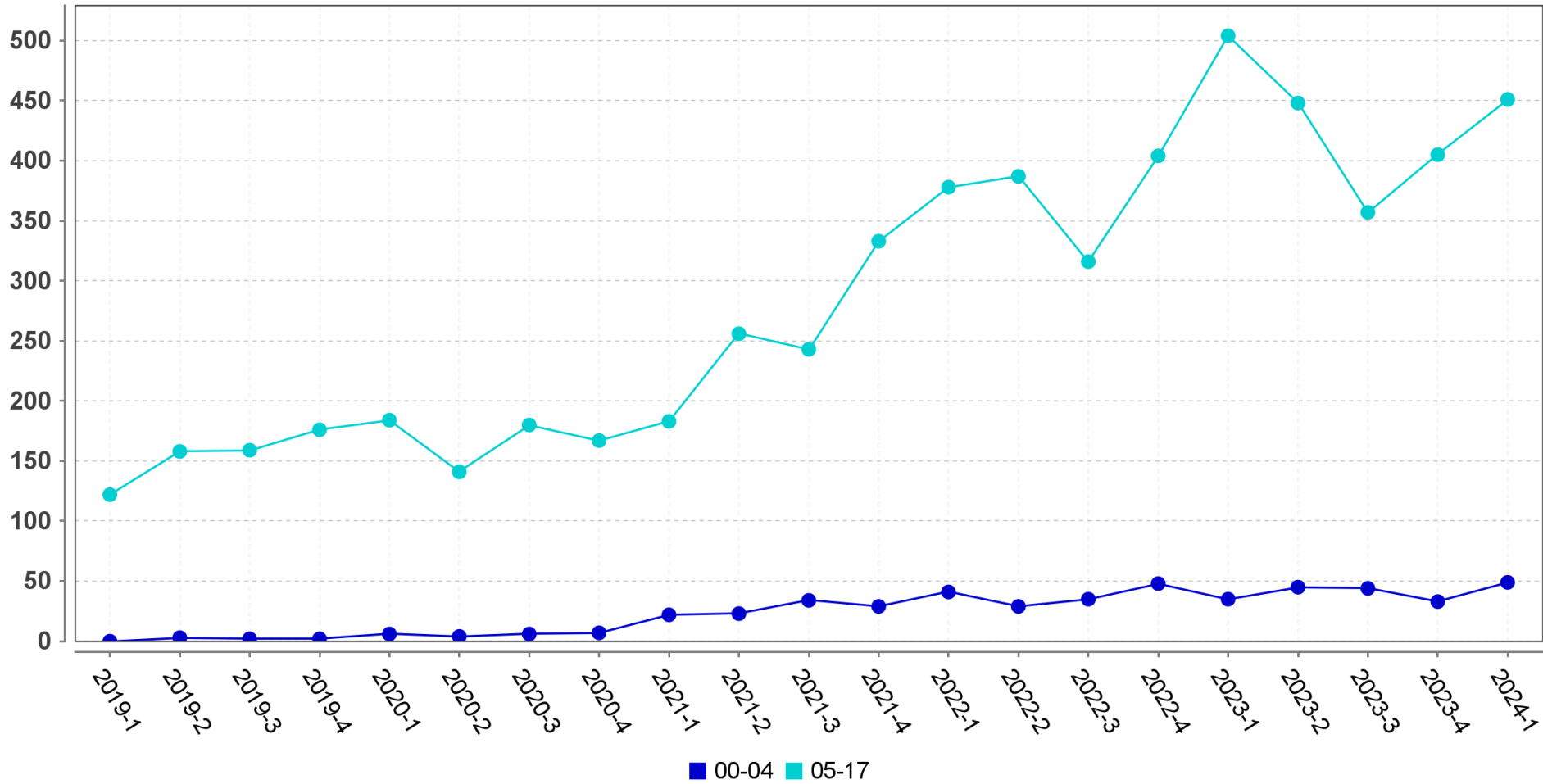
# Meningococcal Disease

# Increase in Meningococcal Disease Activity

- Twelve cases of meningococcal disease have been reported across four health planning regions since January 30. This is above baseline incidence and generates concern of increased transmission among vulnerable populations. Four cases have been fatal.
  - Five cases are associated with the statewide outbreak of *Neisseria meningitidis* serogroup Y that was first identified in June 2022 in eastern Virginia. CDC released a [health advisory](#) on March 28 alerting jurisdictions to a nationwide increase in meningococcal disease linked to this strain (ST-1466). In Virginia, and across the US, cases are disproportionately occurring in people ages 30–60 years, Black or African American people, and people with HIV.
  - Two cases are caused by a strain of *N. meningitidis* that is resistant to ciprofloxacin and penicillin. This strain has only been detected in residents of/travelers to the DC metro area.
- **Key points:**
  - The increase in meningococcal disease is driven by multiple strains, including the outbreak strain (ST-1466) and a ciprofloxacin and penicillin-resistant strain (ST-3587).
  - VDH expanded our vaccination strategy in April to increase access to MenACWY vaccine for persons at increased risk for meningococcal disease (e.g., people with HIV).
  - VDH also released a clinician letter on April 11<sup>th</sup> to raise provider awareness of the ongoing outbreak and provide testing and prophylaxis guidance in response to the detection of antibiotic-resistant *N. meningitidis* in northern Virginia.

# THC/CBD Adverse Illness Events in Children



# Cannabis-Related Emergency Department (ED) Visits Among 0-17 Year Old Children, by Quarter, Virginia



# Adverse Illness Reports

- Since November 2022, VDH has received some voluntary reports of adverse illnesses in patients who consumed Delta-8 or other THC products
  - Reported symptoms include vomiting, hallucinations, low blood pressure, and low blood sugar
- Multi-disciplinary working group was assembled to review data and develop recommendations
  - VDH Offices of Epidemiology, Family Health Services, and Environmental Health Services
  - VDH Local Health Department
  - Virginia Department of Agriculture and Consumer Services (VDACS)
    - Industrial Hemp Program
    - Virginia Rapid Response Team
  - Virginia Poison Center

# Surveillance for Adverse Events

- Working group recommended collecting more systematic data
- VDH Health Commissioner established a surveillance system for reporting such adverse events, in accordance with authority in Virginia *Regulations for Disease Reporting and Control* (Title 12 VAC 5-90-80), Section H
- What should be reported?
  -  Adverse event in a person <18 years following exposure to a THC or CBD product and requiring hospitalization, and
  -  Clusters of events (2+) in persons <18 years following exposure to a THC or CBD product
- How should reports be made?
  - VDH [THC and CBD Adverse Events Reporting Portal](#), or
  - [Local Health Department](#), by the most rapid means available (preferably by telephone)

# Public Health Follow-Up of Reports

## VDH staff actions:



- Collect demographic and symptom information



- Assess exposures and additional illness(es)



- Review available laboratory reports and assess whether testing of patients or products is being requested at DCLS (advance approval through the Local Health Department is required)



- If product was obtained from a business, the name/address of the business will be shared with VDACS

## Future plans:



- Review events reported by geography and demographics



- Review symptoms reported and severity of illness (duration of hospitalization, level of care required, etc.)



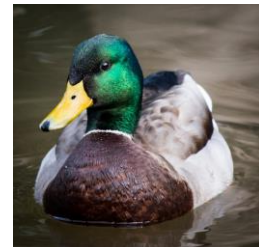
- Assess if particular products are causing illnesses
- Make recommendations for future surveillance efforts

# Highly Pathogenic Avian Influenza (HPAI) A(H5N1) Update



# Avian Influenza

- Avian influenza refers to the disease caused by infection with avian (bird) influenza (flu) Type A viruses.
- **Aquatic birds** are thought to be the main natural reservoir of influenza A virus diversity, flu spreads among wild aquatic birds worldwide without causing illness
- Avian Influenza viruses are subtyped according to their pathogenicity (ability to cause disease) in chickens
  - **Low-pathogenic (LPAI)**
  - **Highly-pathogenic (HPAI)**



# Wildlife

- Most AI viruses are **H5** or **H7** subtypes and most are LPAI
- Wild aquatic birds: ducks, geese, swans
- Some infected wild birds show little to no signs of illness, but large mortality events of wild birds have occurred in VA
  - Large mortality events of Black vultures reported from Loudoun County to Chesterfield County; including Albemarle County
  - Many shorebirds – Hampton Roads
- Infected birds shed AI virus in their feces and respiratory secretions



# Influenza Ecology

**Wild aquatic birds** are considered the natural reservoir for all influenza A viruses, harboring 16 HA and 9 NA antigenic subtypes.

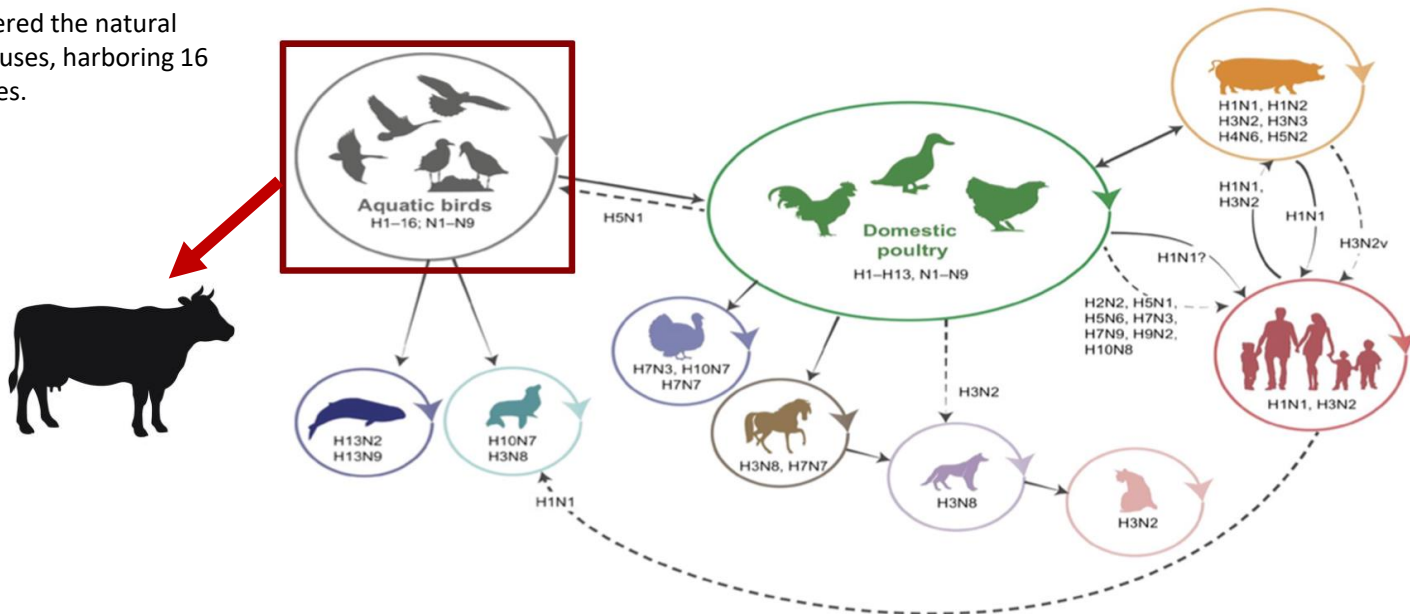
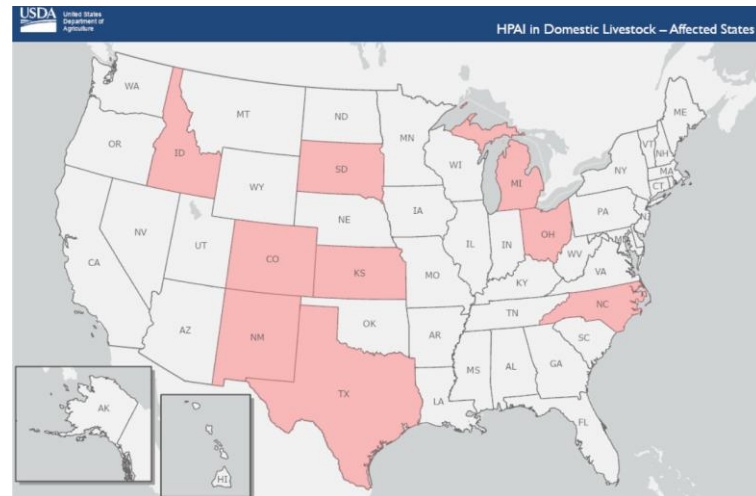


Image adapted from Interspecies transmission of IAVs (Joseph et al., 2016)

# HPAI A(H5N1) in Dairy Cattle

- First detection in March 2024 in dairy cattle in Texas and Kansas
  - Cattle were showing signs of decreased milk production and decreased feed intake
  - Tested negative for more common conditions that would cause these signs of illness
  - USDA NVSL confirmed HPAI A(H5N1)
- **Cow-to-cow transmission** and **sub-clinical infections** in cattle have been reported
- On April 25, USDA announced that dairy cattle are required to receive a negative test for Influenza A before interstate travel
  - No federal quarantine orders for states



[USDA HPAI Detections in Livestock](#)

*As of 5/16, 46 herds of dairy cattle across nine states have been affected*

# Response Preparedness

**One Health Approach:** VDH is working closely with agriculture partners, including VDACS, to ensure preparedness

- **Enhanced disease surveillance** including of wastewater, healthcare visit trends, and laboratory testing
- **Education and outreach** including website, flyer, and social media
- **Providing PPE** to dairy farmers, milk processing facilities, and slaughterhouse workers

# Resources

- [CDC Interim Recommendations for Prevention, Monitoring, and Public Health Investigations for HPAI A\(H5N1\) Virus in Animals](#)
- [VDH Novel Influenza Viruses](#)
- [USDA 2022 Detections of Highly Pathogenic Avian Influenza](#)