

Healthcare-Associated Infections and Antimicrobial Resistance (HAI-AR) Updates

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Healthcare-Associated Infections and Antimicrobial Resistance Program
CT Department of Public Health

Agenda

- Respiratory Viral Season Surveillance
- Reporting Requirements for CT DPH
- NHSN Reporting Requirements
- Fit Testing Update
- APIC and CT DPH Educational Opportunities
- Multidrug Resistant Organisms Information and Education

CT Respiratory Viral Disease Surveillance

- CT DPH conducts surveillance for COVID-19, influenza, and respiratory syncytial virus (RSV).
- Data will be posted on the [CT DPH website](#) and it will be updated weekly from October to May.

Infectious Diseases Navigation >

Search Department of Public Health

by Keyword

Respiratory Viral Disease Surveillance

The Connecticut Department of Public Health conducts surveillance for COVID-19, influenza, and respiratory syncytial virus (RSV). These data help us to understand the trends associated with each disease as well as the combined impact of these respiratory illnesses, particularly during the fall and winter months.

Data for the Current Season:

- [2023-2024 Viral Respiratory Disease Surveillance Dashboard](#)

Connecticut Data from Previous Seasons:

- [COVID-19 Data from Previous Seasons](#)
- [Influenza Data from Previous Seasons](#)



Connecticut Department of Public Health



Weekly Viral Respiratory Disease Update

Viral respiratory diseases included in this update are influenza, COVID-19, and respiratory syncytial virus (RSV).

Data for the current week are incomplete. All data are preliminary and routinely updated.

Throughout this report the abbreviation "K" is used to denote a number as thousands (e.g. 10K equals 10,000).

- Viral Respiratory Disease
- Influenza
- Respiratory Syncytial Virus
- COVID-19
- Syndromic Surveillance
- Nursing Homes
- Vaccination

Current Week Ending:
2/10/2024

Previous Week Ending:
2/3/2024

- Influenza Case Data
- Influenza Hospitalizations
- Influenza Deaths
- Influenza Information

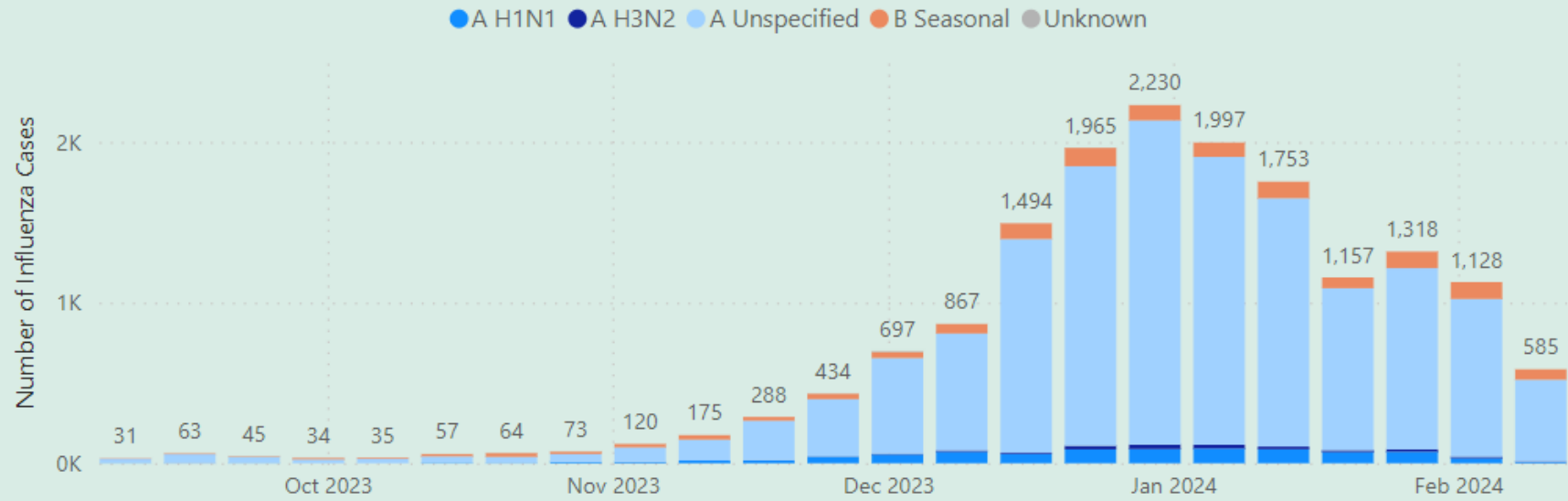
Flu Current Week Case Count (Incomplete)

585

Flu Previous Week Case Count

1,128

Number of Influenza Cases by Virus Type by Week
Current Week is Incomplete





Connecticut Department of Public Health



Weekly Viral Respiratory Disease Update

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Viral Respiratory Disease

Influenza

Respiratory Syncytial Virus

COVID-19

Syndromic Surveillance

Nursing Homes

Vaccination

Current Week Ending:
2/10/2024

Previous Week Ending:
2/3/2024

RSV Case Data

RSV Hospitalizations

RSV Deaths

RSV Information

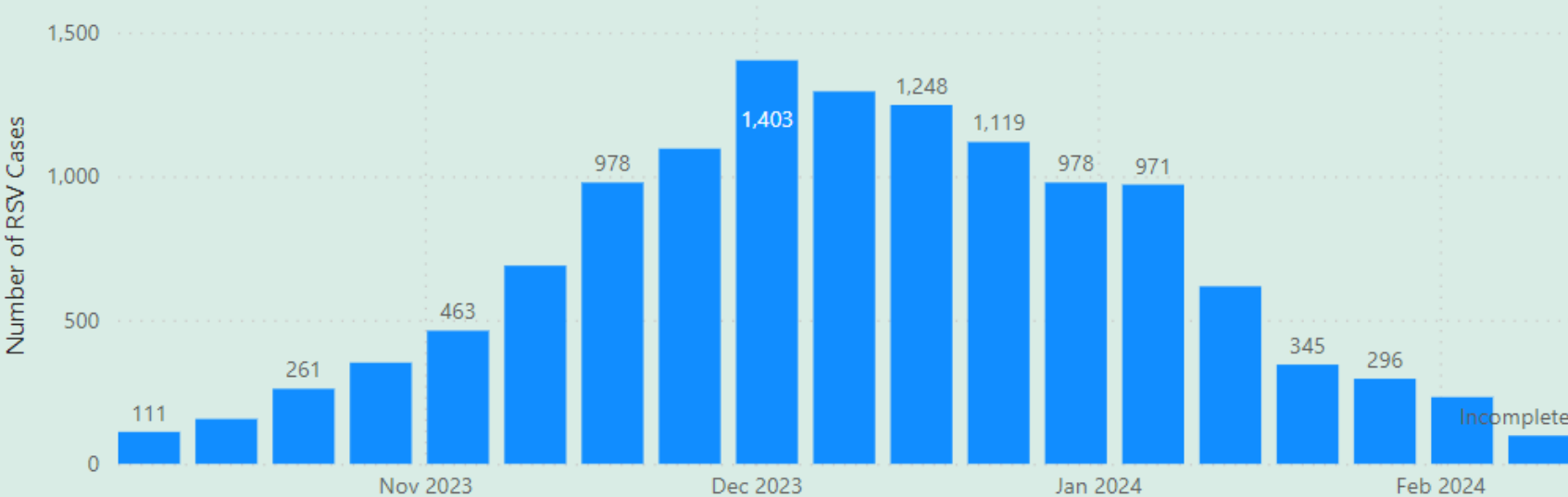
RSV Current Week Case Count (Incomplete)

98

RSV Previous Week Case Count

232

Number of RSV Cases by Week
Current Week is Incomplete





Connecticut Department of Public Health



Weekly Viral Respiratory Disease Update

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- Viral Respiratory Disease
- Influenza
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- Vaccination

Current Week Ending:
2/10/2024

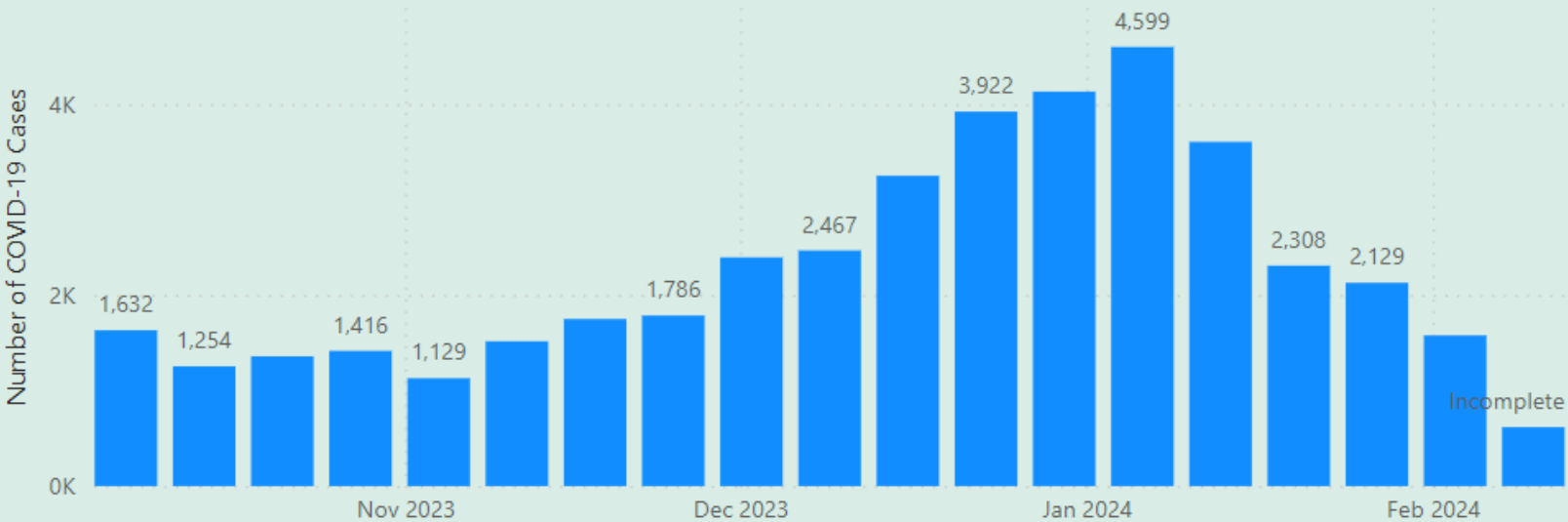
Previous Week Ending:
2/3/2024

- COVID-19 Case Data
- COVID-19 Hospitalizations
- COVID-19 Deaths
- COVID-19 Information

COVID Current Week Case Count (Incomplete)
616

COVID Previous Week Case Count
1,578

Number of COVID-19 Cases by Week
Current Week is Incomplete





Connecticut Department of Public Health



Weekly Viral Respiratory Disease Update

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Viral Respiratory Disease

Influenza

Respiratory Syncytial Virus

COVID-19

Syndromic Surveillance

Nursing Homes

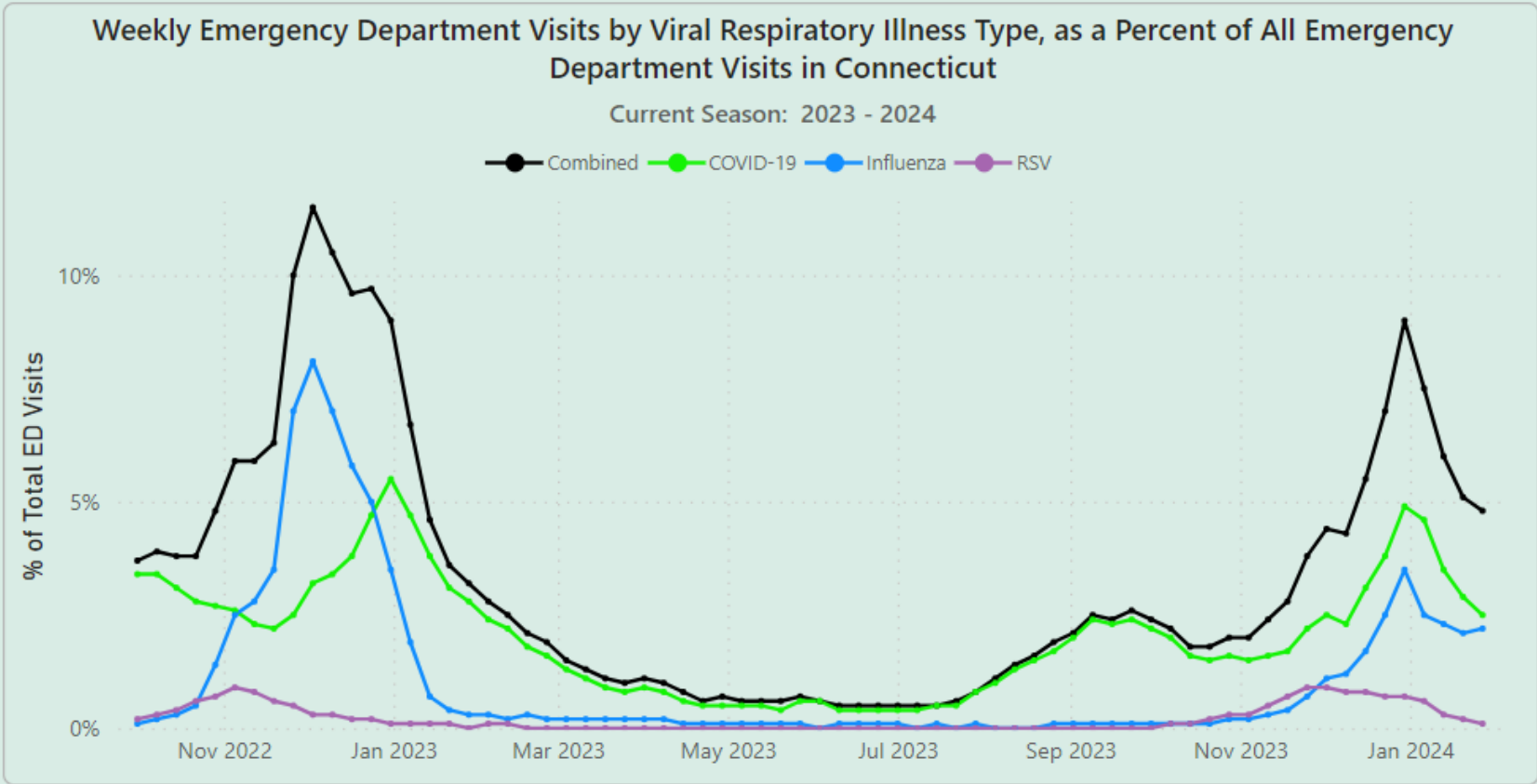
Vaccination

Current Week Ending:
2/10/2024

Previous Week Ending:
2/3/2024

Syndromic Surveillance

Syndromic Surveillance Information





Weekly Viral Respiratory Disease Update

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Connecticut Department of Public Health



Nursing Home
Residents

Nursing Home
Staff

Nursing Home
Information

Viral Respiratory
Disease

Influenza

Respiratory
Syncytial Virus

COVID-19

Syndromic
Surveillance

Nursing Homes

Vaccination

Current Week Ending:
2/10/2024

Previous Week Ending:
2/3/2024

COVID-19 Nursing Home Resident Reporting

01/28/2024-02/03/2024

COVID-19 Cases

197

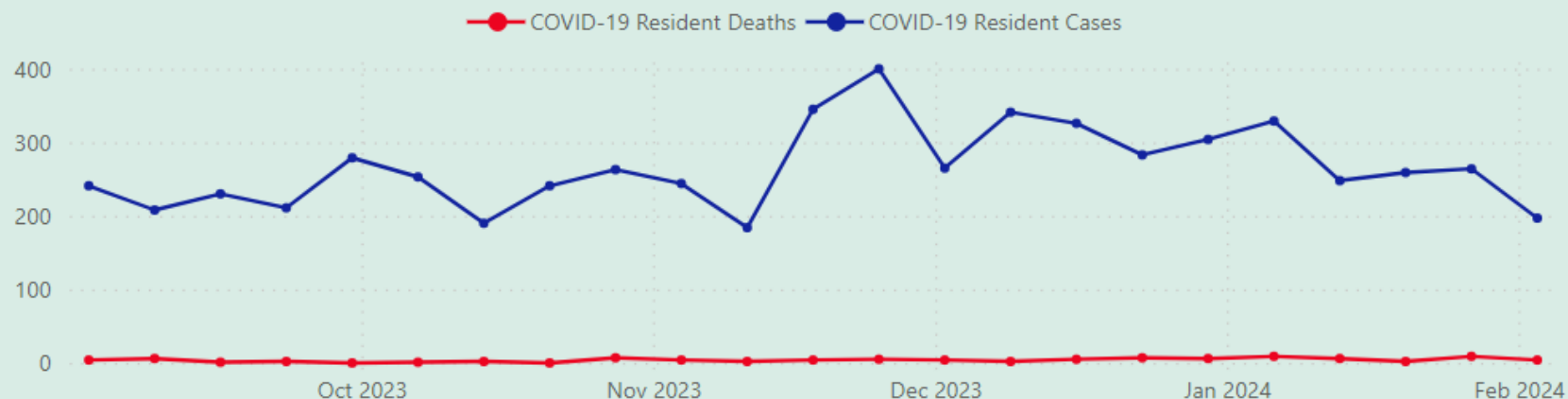
COVID-19 Deaths

4

Facilities Reporting

198

Nursing Home Resident COVID-19 Cases and Deaths by Week





Connecticut Department of Public Health



Weekly Viral Respiratory Disease Update

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Viral Respiratory Disease

Influenza

Respiratory Syncytial Virus

COVID-19

Syndromic Surveillance

Nursing Homes

Vaccination

Current Week Ending:
2/10/2024

Previous Week Ending:
2/3/2024

Nursing Home Residents

Nursing Home Staff

Nursing Home Information

COVID-19 Nursing Home Staff Reporting

01/28/2024-02/03/2024

COVID-19 Cases

135

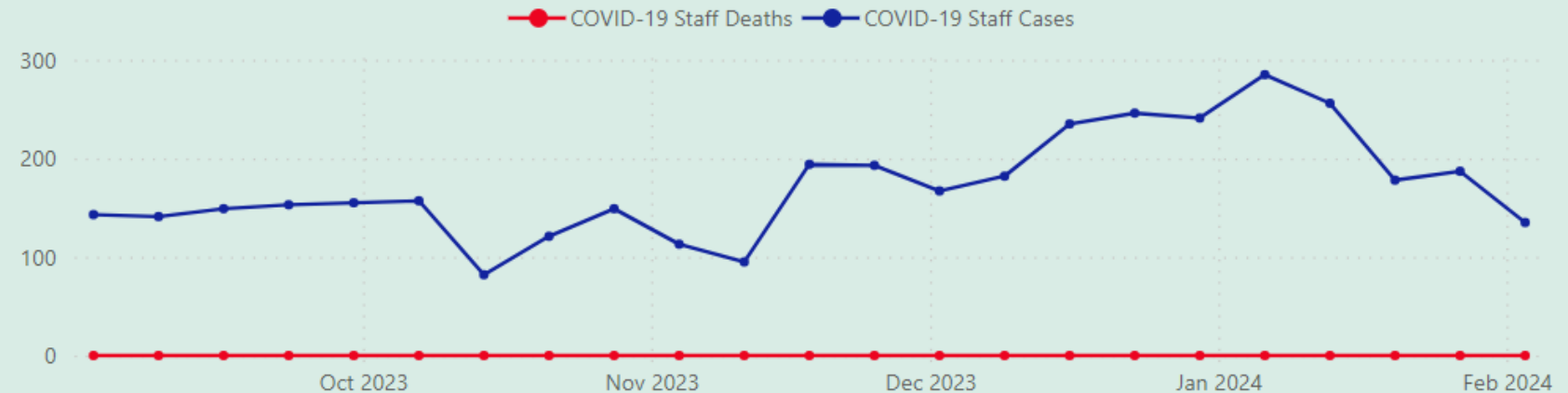
COVID-19 Deaths

0

Facilities Reporting

198

Nursing Home Staff COVID-19 Cases and Deaths by Week





Weekly Viral Respiratory Disease Update

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Current Week Ending:
2/10/2024

Previous Week Ending:
2/3/2024

Viral Respiratory Disease

Influenza

Respiratory Syncytial Virus

COVID-19

Syndromic Surveillance

Nursing Homes

Vaccination

COVID-19 Vaccinations

RSV Immunization

Influenza Immunization

Vaccination Information

People with the 2023-2024 Updated COVID-19 Vaccine

As of: 02/03/2024

544,453

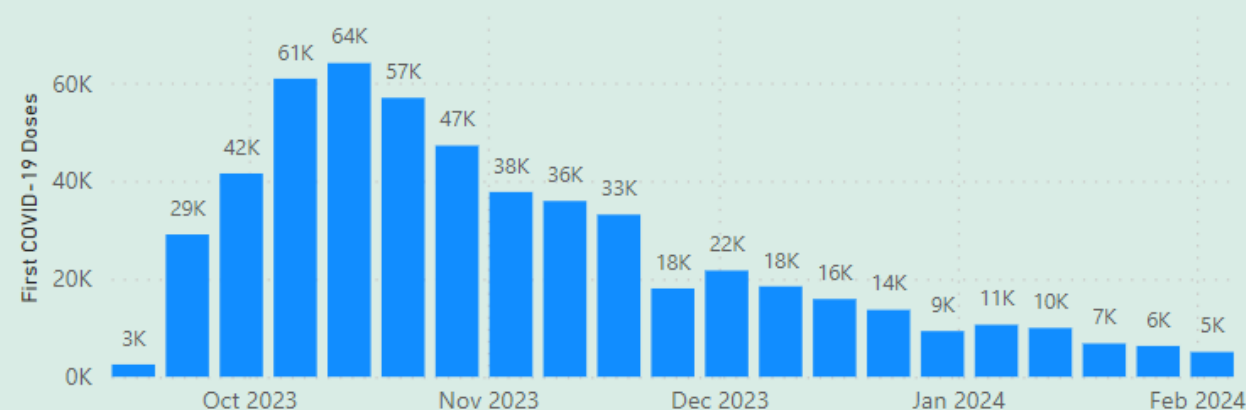
This tab shows data on people with at least one dose of the 2023-2024 updated COVID-19 vaccine as reported to CT WiZ including doses administered since the week ending 9/10/2023.

CDC recommends that everyone ages 6 months and older get the 2023-2024 updated COVID-19 vaccine to protect against serious illness. Children and people with moderate to severe immunosuppression might be recommended more than one dose.

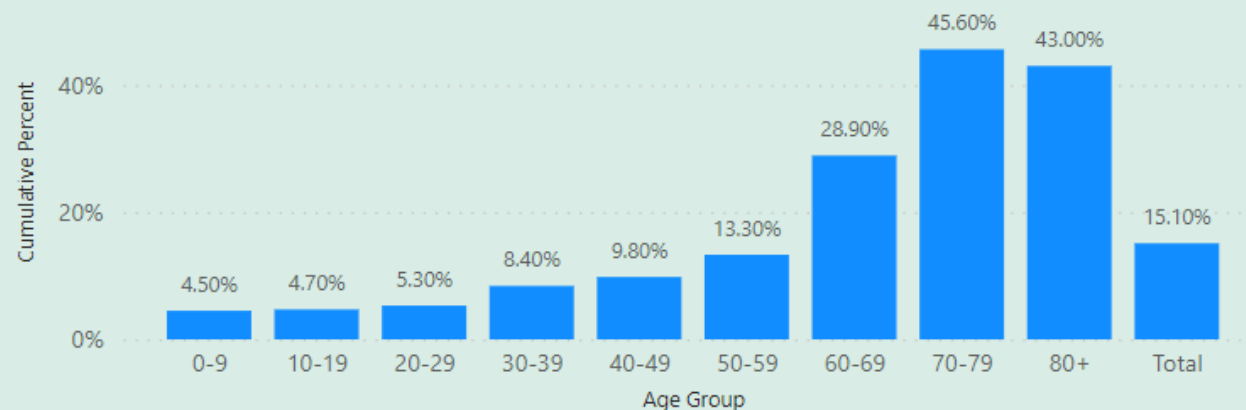
Data are updated weekly on Thursday and include doses administered to the end of the previous week (Sunday to Saturday).

For information on the analysis of these data see the 'Vaccination Information' tab.

People with the 2023-2024 Updated COVID-19 Vaccination by Week



Percent of People with the 2023-2024 Updated COVID-19 Vaccination by Age





Connecticut Department of Public Health



Weekly Viral Respiratory Disease Update

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Viral Respiratory Disease

Influenza

Respiratory Syncytial Virus

COVID-19

Syndromic Surveillance

Nursing Homes

Vaccination

Current Week Ending:
2/10/2024

Previous Week Ending:
2/3/2024

COVID-19
Vaccinations

RSV
Immunization

Influenza
Immunization

Vaccination
Information

People with the 2023-2024 Seasonal Influenza Vaccine

As of: 02/03/2024

1,278,265

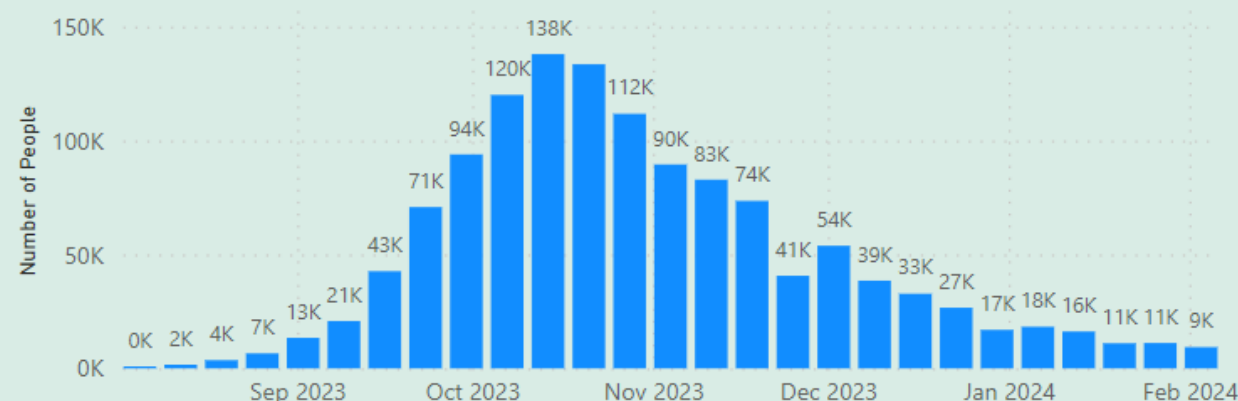
This tab shows data on people who have had a 2023-2024 seasonal influenza vaccination as reported to CT Wiz including doses administered since the week ending 8/5/2023. CDC recommends that all people 6 months of age and older get an annual influenza vaccine*.

Data are updated weekly on Thursday and include doses administered to the end of the previous week (Sunday to Saturday).

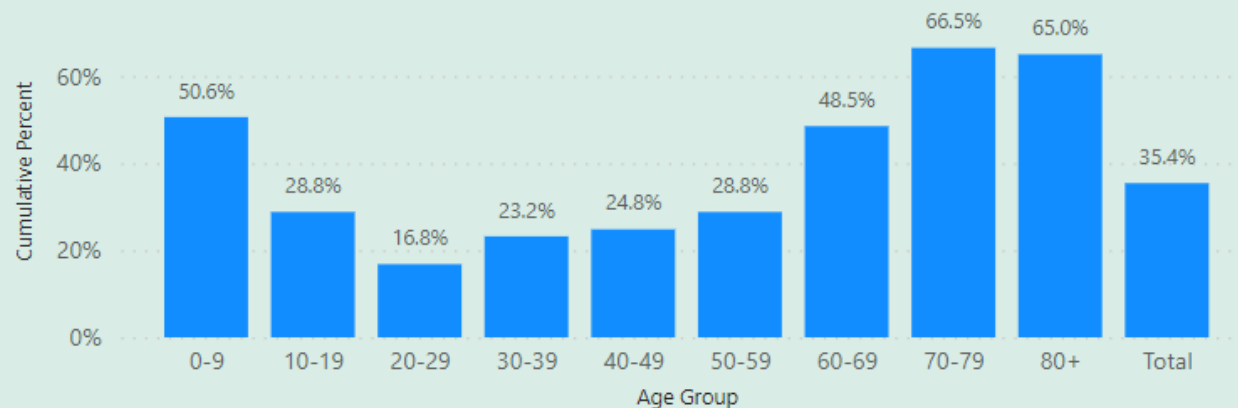
For information on the analysis of these data see the 'Vaccination Information' tab.

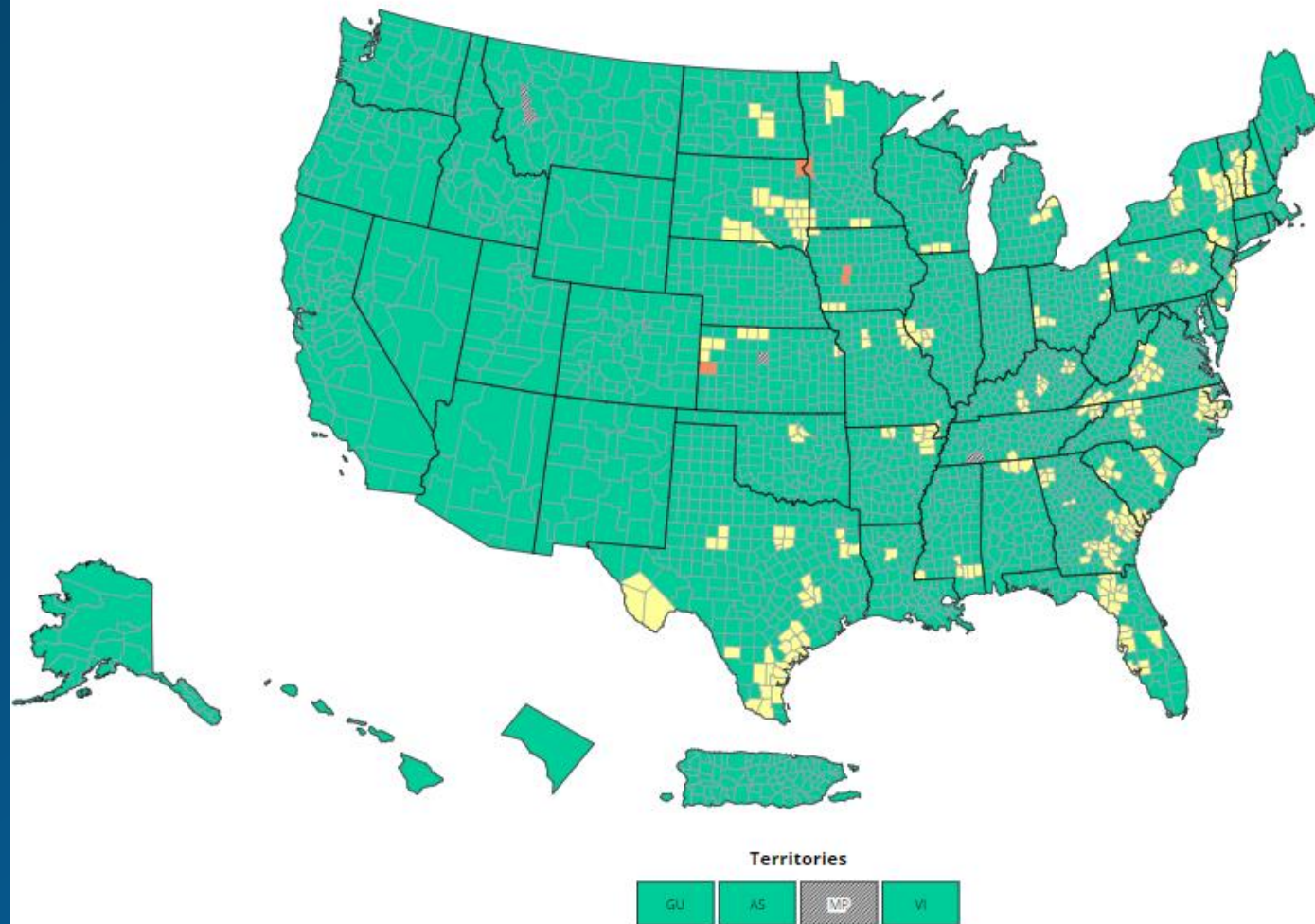
*Children 6 months to 8 years who have not previously received at least 2 total doses of influenza vaccine before July 1, 2023, need 2 doses of the 2023-2024 vaccine. In this case, only the first dose is included here.

People with 2023-2024 Seasonal Influenza Vaccinations by Week



Percent of People with the 2023-2024 Seasonal Influenza Vaccinations by Age





New COVID-19 hospital admissions per 100,000 population, past week (total)

Low (<10.0) Medium (10.0 to 19.9) High (≥ 20.0) Insufficient data

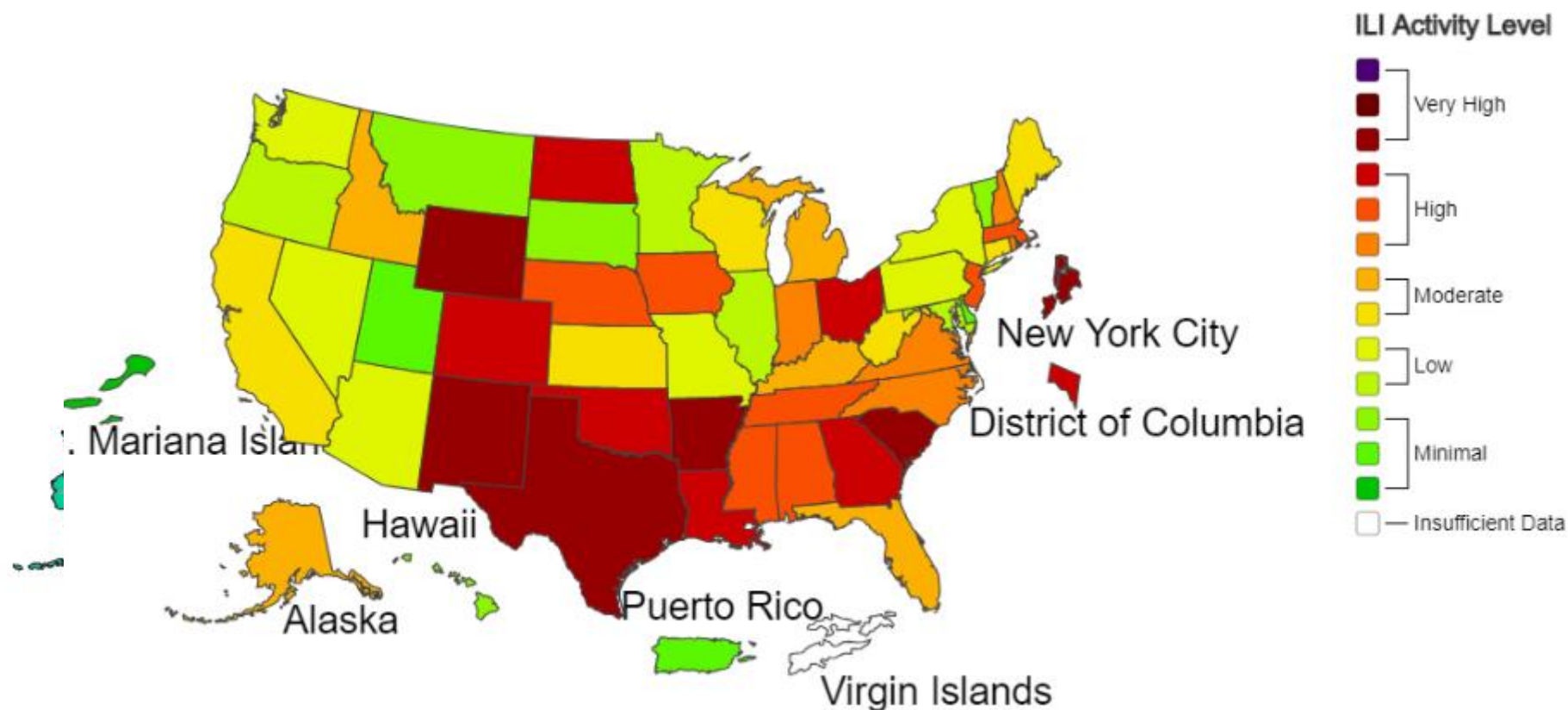
Reported COVID-19 New Hospital Admissions Rate per 100,000 Population in the Past Week, by County - United States

A Weekly Influenza Surveillance Report Prepared by the Influenza Division

Outpatient Respiratory Illness Activity Map Determined by Data Reported to ILINet

This system monitors visits for respiratory illness that includes fever plus a cough or sore throat, also referred to as ILI, not laboratory confirmed influenza and may capture patient visits due to other respiratory pathogens that cause similar symptoms.

2023-24 Influenza Season Week 5 ending Feb 03, 2024



CDC Respiratory Virus Season Resources

- CDC has published a summary of existing infection control measures to help prevent and slow the spread of flu, RSV, and COVID-19 to protect patients and healthcare personnel. Preparing and responding to respiratory viruses requires a comprehensive approach that includes infection prevention, testing, vaccination, and treatment.
 - **Preventing Transmission of Viral Respiratory Pathogens in Healthcare Settings** – Summary of existing infection control measures that should be implemented into standard procedures to prevent the spread of **all** viral respiratory infections in healthcare settings.
 - **Viral Respiratory Pathogens Toolkit**– Summary of recommendations for long-term care facilities to **PREPARE** for respiratory virus season, to **RESPOND** when a resident or healthcare provider develops signs and symptoms of a respiratory infection, and to **CONTROL** transmission when spread has been identified in a facility.

Basic Infection Control Practices During Respiratory Virus Season

- Prepare for Respiratory viruses (Influenza, RSV, SARS-CoV-2)
 - Vaccinate: educate and if possible, provide recommended vaccines to residents and HCP.
 - Increase availability of resources: alcohol- based hand sanitizers, masks for people who want to use them.
 - Monitor: Be aware when levels of respiratory virus spread are increasing in the community. When community levels are high, consider broader use of source control
 - Educate: ensure everyone is aware of IPC practices. Simple passive education method is to post signage encouraging people to stay home when sick and to practice good hand hygiene
 - Ventilate: In consultation with facilities/environment staff, explore options to improve ventilation and indoor air quality
 - Test and treat: Develop plans to provide rapid clinical evaluation and intervention to ensure that residents receive treatment/prophylaxis

- Respond when a resident or HCP develops signs or symptoms of a respiratory viral infection
 - Residents: educate residents to stay in their apartments until symptoms resolve
 - HCP who enter the resident's apartment should adhere to Standard Precautions. Different respiratory viruses have different precautions requirements
 - Test anyone with respiratory illness signs or symptoms
 - Provide recommended treatment and prophylaxis
 - Investigate for potential respiratory virus spread among resident and HCP

- Control respiratory virus spread when transmission is identified
 - Continue active surveillance to identify other with respiratory illness and manage people who are exposed and infected
 - Consider implementing universal source control on affected areas or facility-wide
 - Consider limiting activities and communal dining when outbreak increases
 - Contact local or state public health department about additional interventions
 - Reinforce and if possible, offer vaccination

Instructions:

- This form is for general disease reporting and should be used unless a specialized reporting form is indicated. Diseases with specialized reporting forms are asterisked (*) in the disease lists below and links to the forms are available in the lower center column.
- Fax completed PD-23 forms to (860) 629-6962 or Hospital IPs can enter directly into CTEDSS (when applicable).
- Copies must also be sent to the Director of Health of the city or town where the patient resides and kept in the patient's medical record.
- A fillable PD-23 and contact information for all [Connecticut Health Directors](#) are available on the [DPH website](#).

2024 REPORTABLE DISEASES, EMERGENCY ILLNESSES, AND HEALTH CONDITIONS**Category 1 Diseases**

- Report by phone on the day of diagnosis or suspicion.
Business hours: (860) 509-7994
Evenings, weekends, holidays: (860) 509-8000
- Complete and submit a PD-23 within 12 hours.

- Acute HIV Infection* ^{1,2}
- Anthrax
- Botulism
- Brucellosis
- Cholera
- Diphtheria
- Measles
- Melioidosis
- Meningococcal disease
- Outbreaks
 - foodborne (involving ≥ 2 persons)
 - institutional
 - unusual disease or illness ³
- Plague
- Poliomyelitis
- Q fever
- Rabies
- Ricin poisoning
- Severe Acute Respiratory Syndrome (SARS)
- Smallpox
- Staphylococcal enterotoxin B pulmonary poisoning
- Staphylococcus aureus* disease, reduced or resistant susceptibility to vancomycin ¹
- Syphilis, congenital*
- Tuberculosis*
- Tularemia
- Venezuelan equine encephalitis virus infection
- Viral hemorrhagic fever
- Yellow fever

Footnotes

- Report only to DPH.
- As described in the [CDC case definition](#).
- Individual cases of "significant unusual illness" are also reportable.
- Report COVID-19 cases only when a diagnostic test was performed on-site in a healthcare facility (provider's office, urgent care clinic, long-term care facility, etc.).
- Invasive disease: from sterile fluid (blood, CSF, pericardial, pleural, peritoneal, joint, or vitreous), bone, internal body sites, or other normally sterile site, including muscle.
- Report HAIs according to current CMS pay-for-reporting or pay-for-performance requirements. Detailed instructions on the types of HAIs, facility types and locations and methods of reporting are available on the [DPH website](#).
- On request from the DPH and if adequate serum is available, send serum from patients with HUS to the State Public Health Laboratory for antibody testing.
- Clinical sepsis and blood or CSF isolate obtained from an infant <3 days of age.
- Community-acquired: infection present on admission to hospital, and person has no previous hospitalizations or regular contact with the health-care setting.

Category 2 Diseases

- Complete and submit a PD-23 within 12 hours.
- A Hospital IP entering a case in CTEDSS (when applicable) satisfies the reporting requirement.

- Acquired Immunodeficiency Syndrome (AIDS)* ^{1,2}
- Acute flaccid myelitis
- Anaplasmosis
- Babesiosis
- Borrelia miyamotoi* disease
- California group arbovirus infection
- Campylobacteriosis
- Candida auris*
- Chancroid
- Chickenpox (Varicella)*
- Chickenpox-related death*
- Chikungunya
- Chlamydia (*C. trachomatis*) (all sites)*
- COVID-19 (SARS-CoV-2 infection) ⁴
- COVID-19 death
- COVID-19 hospitalization
- Cronobacter*
- Cryptosporidiosis
- Cyclosporiasis
- Dengue
- E-cigarette or vaping product use associated lung injury (EVALI)*
- Eastern equine encephalitis virus infection
- Ehrlichia chaffeensis* infection
- Escherichia coli* O157:H7 infection
- Escherichia coli*, invasive in infants <1 year of age ⁵
- Gonorrhea*
- Group A Streptococcal disease, invasive ⁵
- Group B Streptococcal disease, invasive ⁵
- Haemophilus influenzae* disease, invasive ⁵
- Hansen's disease (Leprosy)
- Healthcare-associated infections ⁶
- Hemolytic-uremic syndrome ⁷
- Hepatitis A
- Hepatitis B
 - acute infection ²
 - HBsAg positive pregnant women
- Hepatitis C
 - acute infection ²
 - perinatal infection
 - positive rapid antibody test result
- HIV-1/HIV-2 infection* ^{1,2}
- HPV, biopsy proven CIN 2, CIN 3, or AIS or their equivalent ¹
- Influenza-associated death
- Influenza-associated hospitalization
- Legionellosis
- Listeriosis
- Malaria
- Mercury poisoning
- Mpox
- Multisystem inflammatory syndrome in children (MIS-C)
- Mumps
- Neonatal bacterial sepsis ⁸
- Occupational asthma*
- Pertussis
- Pneumococcal disease, invasive ⁵
- Powassan virus infection
- Respiratory Syncytial Virus (RSV) associated death
- RSV-associated hospitalization
- Rocky Mountain spotted fever
- Rubella (including congenital)
- Salmonellosis
- Shiga toxin-related diseases (gastroenteritis)
- Shigellosis
- Silicosis
- St. Louis encephalitis virus infection
- Staphylococcus aureus* methicillin-resistant disease, invasive, community acquired ^{5,9}
- Staphylococcus epidermidis* disease, reduced or resistant susceptibility to vancomycin ¹
- Syphilis*
- Tetanus
- Trichinosis
- Typhoid fever
- Vaccinia* disease
- Vibrio* infection (*V. parahaemolyticus*, *V. vulnificus*, others)
- West Nile virus infection
- Zika virus infection

Specialized Reporting Forms

Report Type	Fax to:
Chickenpox (Varicella) Report	(860) 707-1905
HIV Case Report Form	(860) 509-8237
Occupational Diseases Report	(860) 730-8424
Sexually Transmitted Diseases	(860) 730-8380
Tuberculosis Report Form	(860) 730-8271
Vaping Lung Injury Case Report	(860) 706-1262

Contact DPH Infectious Disease Programs

Program	Phone:
Epidemiology & Emerging Infections	(860) 509-7994
Healthcare Associated Infections	(860) 509-7995
HIV/HCV Surveillance Program	(860) 509-7900
Immunization Program	(860) 509-7929
STD Control Program	(860) 509-7920
Tuberculosis Control Program	(860) 509-7722

CT DPH Reporting Requirements

In accordance with Connecticut General Statutes, diseases on the lists of reportable diseases, emergency illnesses and health conditions, and laboratory reportable significant findings are required to be reported to [DPH](#) and the [Local Health Department](#) of the town in which the patient resides.

- Outbreaks
 - foodborne (involving ≥ 2 persons)
 - institutional
 - unusual disease or illness ³

SNF Reporting Requirements to CT DPH

- Facilities are only required to report outbreaks that initiated in their facility
- An outbreak is defined as a sudden rise in the number of cases of a disease
- The reporting criteria mentioned in this document are broad and each facility should work as a team (IP, DNS, and medical director) to identify if an outbreak is truly occurring



Reportable Event	Facility Licensing and Investigations Section (FLIS) Reporting Requirement	Infectious Disease (ID) Epidemiology Reporting Requirement	Local Health Department (LHD) Reporting Requirement
COVID-19	<ul style="list-style-type: none"> Report via DPH FLIS Events portal 1 confirmed case of COVID-19 (staff or resident) 	<ul style="list-style-type: none"> Report to Epidemiology via DPH FLIS Events 1 confirmed case of COVID-19 (staff or resident) 	<ul style="list-style-type: none"> Please contact your LHD to inquire regarding their outbreak reporting requirements.
GI outbreaks	<ul style="list-style-type: none"> Report via DPH FLIS Events portal Facilities should report GI outbreaks when there is an increase in cases above the expected baseline for your facility. Depending on your facility's census this can mean 2 or more cases.² 	<ul style="list-style-type: none"> Report to Epidemiology via phone (860-509-7994) Facilities should report GI outbreaks when there is an increase in cases above the expected baseline for your facility. Depending on your facility's census this can mean 2 or more cases.² 	<ul style="list-style-type: none"> Please contact your LHD to inquire regarding their outbreak reporting requirements.
Legionella reporting	<ul style="list-style-type: none"> Report via DPH FLIS Events portal 1 or more case of presumptive healthcare-associated³ Legionnaires' disease at any time 2 or more cases of possible healthcare-associated⁴ Legionnaires' disease within 12 months of each other 	<ul style="list-style-type: none"> Report to Epidemiology via phone (860-509-7994) 1 or more case of presumptive healthcare-associated³ Legionnaires' disease at any time 2 or more cases of possible healthcare-associated⁴ Legionnaires' disease within 12 months of each other 	<ul style="list-style-type: none"> Please contact your LHD to inquire regarding their outbreak reporting requirements.
Respiratory (including Influenza) outbreaks	<ul style="list-style-type: none"> Report via DPH FLIS Events portal 1 confirmed case of Flu (staff or resident) Other respiratory diseases (e.g. RSV) should be reported when there is an increase in cases above the expected baseline for your facility. Depending on your facility's census this can mean 2 or more cases.² 	<ul style="list-style-type: none"> Report to Epidemiology via phone (860-509-7994) 1 confirmed case of Flu (staff or resident) Other respiratory diseases (e.g. RSV) should be reported when there is an increase in cases above the expected baseline for your facility. Depending on your facility's census this can mean 2 or more cases.² 	<ul style="list-style-type: none"> Please contact your LHD to inquire regarding their outbreak reporting requirements.
TB	<ul style="list-style-type: none"> Report via DPH FLIS Events portal. TB disease is reportable immediately on recognition by healthcare provider. Latent TB infection is not reportable. 	<ul style="list-style-type: none"> Report to Tuberculosis Control Program via phone (860-509-7722). TB disease is reportable immediately on recognition by healthcare provider. Latent TB infection is not reportable. 	<ul style="list-style-type: none"> Please contact your LHD to inquire regarding their outbreak reporting requirements.
Other	<ul style="list-style-type: none"> Report via DPH FLIS Events portal All institutional outbreaks of any infectious disease are Category 1 reportable conditions. Facilities should report institutional outbreaks when there is an increase in cases above the expected baseline for your facility. 	<ul style="list-style-type: none"> Report to Epidemiology via phone (860-509-7994) All institutional outbreaks of any infectious disease are Category 1 reportable conditions. Facilities should report institutional outbreaks when there is an increase in cases above the expected baseline for your facility. 	<ul style="list-style-type: none"> Please contact your LHD to inquire regarding their outbreak reporting requirements.

¹Facilities are only required to report outbreaks that initiated in their facility.

COVID-19 and Flu Reporting on NHSN

- CMS-certified skilled nursing facilities need to report COVID-19 information on a weekly basis using NHSN.
 - There are two modules: **LTCF COVID-19 Module Surveillance Pathways** and the **COVID-19 Vaccination Module**
 - This requirement was extended through a final rule and is set to end on December 31, 2024.
- CMS-certified skilled nursing facilities are required to report annual HCP influenza vaccination summary data through the **NHSN Healthcare Personnel Safety (HPS) Component** for 2023-2024 influenza season by **May 15, 2024**.
 - Facilities are required to submit one report covering the entire influenza season
 - The reporting period for the 2023-2024 influenza season is from October 1, 2023 through March 31, 2024
- For questions about CMS requirements please contact CMS at: SNFQualityQuestions@cms.hhs.gov



Fit Testing Services Still Available Until May 10, 2024

- For the past 2 years, The Connecticut Department of Public Health (CT DPH) has provided fit testing services to skilled nursing facilities.
- These fit testing services offer your facility's staff free certified N95 fit testing and respirator education.
- CT DPH has contracted two vendors to provide these services. Depending on your county, your facility will be contacted by either Safety Fit, Inc or OccuMed/EquipNet.
 - Only nursing homes are eligible
 - Scheduling fit testing with this service is not mandatory, facilities may choose to schedule their own fit testing services
 - Occumed: (877)399-1698 (select OccuMed when you reach the directory)
 - Safety Fit Inc: tina.kahrimanis@n95safetyfit.com
 - For additional questions: (860)509-7995 or dph.haiar@ct.gov

OccuMed/EquipNet	Safety Fit, Inc
New London	Fairfield
Tolland	Hartford
Windham	Litchfield
	Middlesex
	New Haven

DPH-APIC: 2024 Courses Available

- CT DPH is partnering with the Association for Professionals in Infection Control and Epidemiology (APIC) to offer 2 Courses in 2024:
 - LTC Infection Preventionist Essentials Course (3 additional courses)
 - LTC-CIP Certification Prep Course
- Training registrants will receive a FREE annual national APIC membership and local CT Chapter membership. If you already have a membership, it will be extended by 1 year.

LTC Infection Preventionist Essentials Course

- This intensive, foundational course provides healthcare professionals with training and competency-building needed to manage the unique challenges of infection prevention and control (IPC) in long-term care settings.
- Designed for novices or those gaining proficiency in infection control, the Long-Term Care Infection Preventionist Essentials course tailors baseline knowledge of IPC to meeting challenges specific to the LTC practice setting.
- It includes the topics Centers for Medicare and Medicaid Services (CMS) requires and grounds the novice IP in the role and practice of being an effective infection preventionist, including creating and managing successful IPC programs and mitigating risk at your facility.
- Topics covered in this course include The Role of the IP, Federal and State Regulations and the Mega Rule, Managing an IPC Program, Monitoring the Health of the Community, PPE and Precautions, Introduction to NHSN, COVID-19 Basics, Basic Microbiology, Antimicrobial Stewardship, Influenza and Vaccination, and much more!
- <https://apic.org/course/long-term-care-infection-preventionist-essentials-training/>

DPH-APIC: LTC Infection Preventionist Essentials Course

- Available sessions:
 - March 26-28, 2024:
https://secure.apic.org/web/apic/Events/Event_Display.aspx?EventKey=24LTEMACT5
 - April 3-5, 2024:
https://secure.apic.org/web/apic/Events/Event_Display.aspx?EventKey=24LTEAPCT6
 - April 30-May 1, 2024:
<https://secure.apic.org/web/Staff/EventDashboard?EventKey=24LTEMAC T7>

DPH-APIC: LTC-CIP Certification Prep Course

- The LTC-CIP provides a standardized measure of the basic knowledge, skills and abilities expected of professionals working in the field.
- The LTC-CIP is offered worldwide. The exam is an objective, multiple-choice examination consisting of 150 questions. 135 of these questions are used to compute the score.
- This comprehensive, virtual workshop includes guidance and support from certified instructors and access to the APIC Learning System for LTC-CIP.
- The course will build upon the foundation you have already established through your studies, guiding you through interactive discussions and activities as well as sample test questions.
- With online reading materials and study tools found in the APIC Learning System, you will be able to identify your areas of strength and build on them, while pinpointing areas where you need further study in preparation for the exam.
- <https://apic.org/course/ltc-cip-certification-preparation-course/>

DPH-APIC: LTC-CIP Certification Prep Course

- Available sessions:
 - March 12-14, 2024:
https://secure.apic.org/web/apic/Events/Event_Display.aspx?EventKey=24LTCMACT2
 - April 9-11, 2024:
https://secure.apic.org/web/apic/Events/Event_Display.aspx?EventKey=24LTCAPCT3

What is a multidrug resistant organism?

- A multidrug resistant organism (MDRO) is a germ that is resistant to many antibiotics. If a germ is resistant to an antibiotic, it means that certain treatments will not work or may be less effective.
- MDROs can be difficult to treat since many antibiotics won't work to treat them.
 - Examples of MDROs include:
 - Methicillin resistant *Staphylococcus aureus* (MRSA)
 - Resistant *Acinetobacter*
- These germs can cause illnesses, including:
 - Urinary tract infections
 - Pneumonia
 - Blood infections
 - Wound infections



MDRO Landscape

- Antimicrobial resistance was one of our greatest public health concerns prior to the COVID-19 pandemic, and it remains so.
- As of 2019 that more than **3 million Americans** acquire an antimicrobial-resistant infection or Clostridioides difficile infection (often associated with taking antimicrobials) each year. Nearly 50,000 people die from these threats.
- A January 2022 report shows antimicrobial resistance is a leading cause of death globally, with the highest burden in low-resource countries.

COVID-19 Pandemic and the rise of MDROs

- The COVID-19 pandemic has contributed to the rise in cases of MDROs:
 - **Overuse of antibiotics:** In the early stages of the pandemic, there was a significant increase in the use of antibiotics to treat COVID-19 patients, despite the fact that antibiotics are ineffective against viral infections like COVID-19. This overuse of antibiotics can lead to the development of antibiotic resistance in bacteria.
 - **Increased hospitalizations:** COVID-19 patients often require hospitalization, which can lead to prolonged stays and increased exposure to healthcare-associated infections, including MDROs.
 - **Stress on healthcare systems:** The pandemic has put immense stress on healthcare systems worldwide, leading to overcrowded hospitals, overwhelmed staff, and lapses in infection control practices. These conditions can facilitate the spread of MDROs within healthcare facilities.
 - **Changes in infection control practices:** In response to the pandemic, healthcare facilities implemented various infection control measures such as personal protective equipment (PPE) use, isolation protocols, and changes in visitor policies. While these measures were crucial for preventing the spread of COVID-19, they may have inadvertently disrupted routine infection control practices aimed at preventing MDRO transmission.
 - **Disruption of public health efforts:** The focus on combating COVID-19 may have diverted attention and resources away from ongoing efforts to address antibiotic resistance and MDROs, leading to gaps in surveillance, prevention, and control measures.

COVID-19 Impacts on 18 Antimicrobial-Resistant Bacteria and Fungi Threat Estimates

The following table summarizes the latest national death and infection estimates for 18 antimicrobial-resistant bacteria and fungi. The pathogens are listed in three categories—urgent, serious, and concerning—based on level of concern to human health identified in 2019.

	Resistant Pathogen	2017 Threat Estimate	2018 Threat Estimate	2019 Threat Estimate	2017-2019 Change	2020 Threat Estimate and 2019-2020 Change
URGENT	Carbapenem-resistant <i>Acinetobacter</i>	8,500 cases 700 deaths	6,300 cases 500 deaths	6,000 cases 500 deaths	Stable*	7,500 cases 700 deaths Overall: 35% increase* Hospital-onset: 78% increase*
	Antifungal-resistant <i>Candida auris</i>	171 clinical cases†	329 clinical cases	466 clinical cases	Increase	754 cases Overall: 60% increase
	<i>Clostridioides difficile</i>	223,900 infections 12,800 deaths	221,200 infections 12,600 deaths	202,600 infections 11,500 deaths	Decrease	Data delayed due to COVID-19 pandemic
	Carbapenem-resistant Enterobacterales	13,100 cases 1,100 deaths	10,300 cases 900 deaths	11,900 cases 1,000 deaths	Decrease*	12,700 cases 1,100 deaths Overall: Stable* Hospital-onset: 35% increase*
	Drug-resistant <i>Neisseria gonorrhoeae</i>	550,000 infections	804,000 infections	942,000 infections	Increase	Data unavailable due to COVID-19 pandemic
SERIOUS	Drug-resistant <i>Campylobacter</i>	448,400 infections 70 deaths	630,810 infections	725,210 infections	Increase	Data delayed due to COVID-19 pandemic† 26% of infections were resistant, a 10% decrease
	Antifungal-resistant <i>Candida</i>	34,800 cases 1,700 deaths	27,000 cases 1,300 deaths	26,600 cases 1,300 deaths	Decrease*	28,100 cases 1,400 deaths Overall: 12% increase* Hospital-onset: 26% increase*
	ESBL-producing Enterobacterales	197,400 cases 9,100 deaths	174,100 cases 8,100 deaths	194,400 cases 9,000 deaths	Increase*	197,500 cases 9,300 deaths Overall: 10% increase* Hospital-onset: 32% increase*
	Vancomycin-resistant Enterococcus	54,500 cases 5,400 deaths	46,800 cases 4,700 deaths	47,000 cases 4,700 deaths	Stable*	50,300 cases 5,000 deaths Overall: 16% increase* Hospital-onset: 14% increase*

COVID-19: U.S. Impact on Antimicrobial Resistance, Special Report 2022

	Resistant Pathogen	2017 Threat Estimate	2018 Threat Estimate	2019 Threat Estimate	2017-2019 Change	2020 Threat Estimate and 2019-2020 Change
SERIOUS	Multidrug-resistant <i>Pseudomonas aeruginosa</i>	32,600 cases 2,700 deaths	29,500 cases 2,500 deaths	28,200 cases 2,400 deaths	 Decrease*	28,800 cases 2,500 deaths Overall: Stable* Hospital-onset: 32% increase*
	Drug-resistant nontyphoidal <i>Salmonella</i>	212,500 infections 70 deaths	228,290 infections	254,810 infections	 Increase	Data delayed due to COVID-19 pandemic† 14% of infections were resistant, a 3% decrease
	Drug-resistant <i>Salmonella</i> serotype Typhi	4,100 infections <5 deaths	4,640 infections	6,130 infections	 Increase	Data delayed due to COVID-19 pandemic† 85% of infections were resistant, a 10% increase
	Drug-resistant <i>Shigella</i>	77,000 infections <5 deaths	215,850 infections	242,020 infections	 Increase	Data delayed due to COVID-19 pandemic† 46% of infections were resistant, a 2% increase
	Methicillin-resistant <i>Staphylococcus aureus</i>	323,700 cases 10,600 deaths	298,700 cases 10,000 deaths	306,600 cases 10,200 deaths	Stable*	279,300 cases 9,800 deaths Overall: Stable* Hospital-onset: 13% increase*
	Drug-resistant <i>Streptococcus pneumoniae</i>	12,100 invasive infections 1,500 deaths†	See pathogen page if comparing data over time	12,000 invasive infections 1,200 deaths	Stable	Data delayed due to COVID-19 pandemic
	Drug-resistant Tuberculosis (TB)	888 cases 73 deaths†	962 cases 102 deaths	919 cases	Stable	661 cases Decrease†
CONCERNING	Erythromycin-resistant group A <i>Streptococcus</i>	5,400 infections 450 deaths†	See pathogen page if comparing data over time	6,200 infections 560 deaths	 Increase	Data delayed due to COVID-19 pandemic
	Clindamycin-resistant group B <i>Streptococcus</i>	13,000 infections 720 deaths†	See pathogen page if comparing data over time	15,300 cases 940 deaths	 Increase	Data delayed due to COVID-19 pandemic

See the [Data Methods](#) section for definitions of each pathogen.

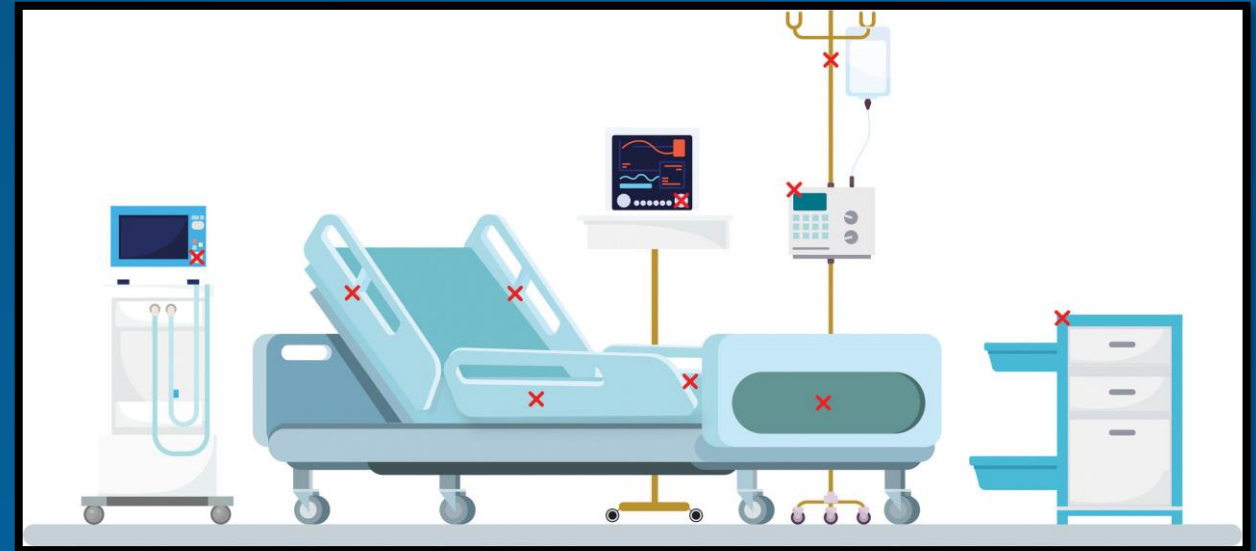
†CDC's database allows for continuous updates for TB, *C. auris*, and *Streptococcus*. Variations in historical TB data are attributable to updated information submitted in the interim by reporting areas; this report includes data reported through June 14, 2021. For *Streptococcus*, table reflects infection increase for 2017 data as of October 2021. For *C. auris*, this report reflects clinical case increase for 2018 data.

*Changes are in rates, not comparisons of counts. Data for healthcare pathogens show a significant increase in hospital-onset rates of resistant infections in 2020, likely due to smaller number of overall hospitalizations during the pandemic.

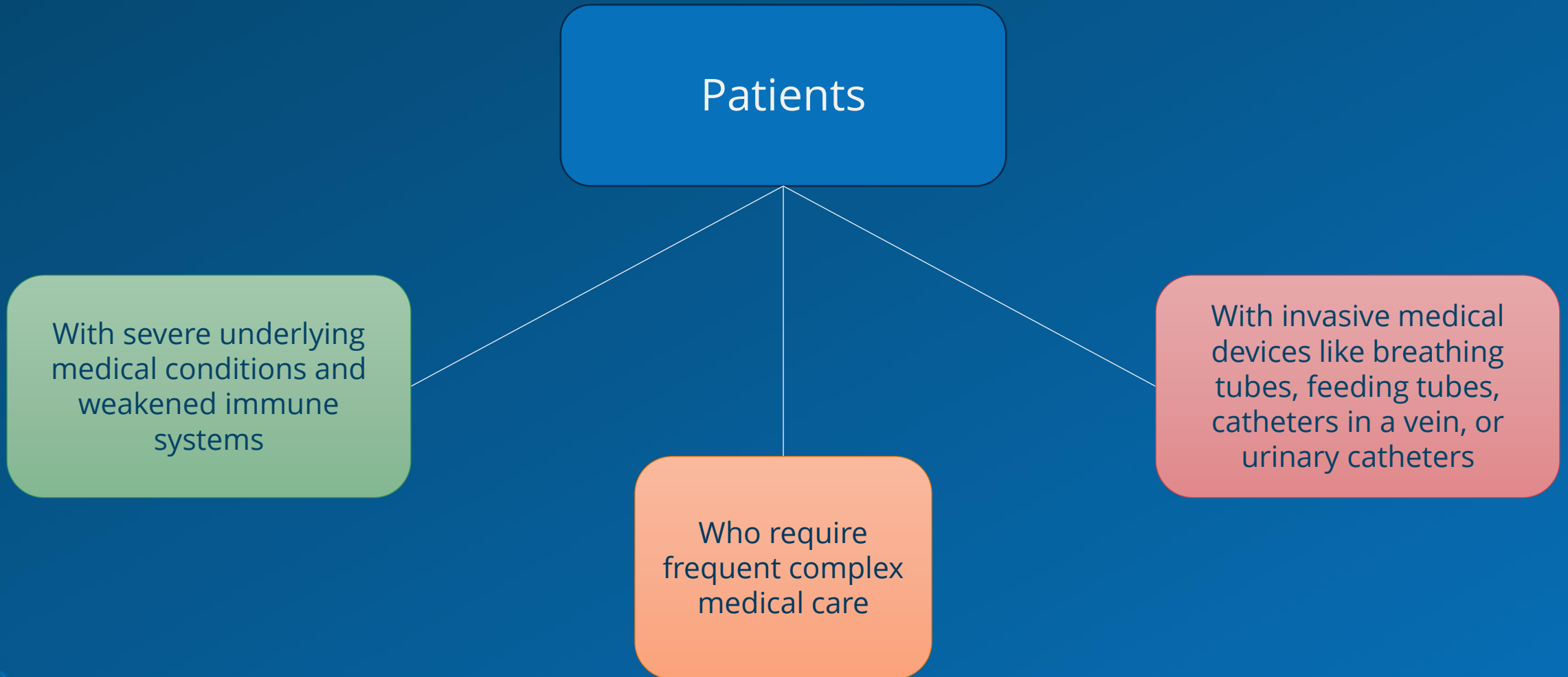
†For TB, 2019 and 2020 death reports are not available due to a 2-year lag. For enteric pathogens, 2018-2020 death estimates and 2020 estimates of total number of resistant infections are not available at this time.

How are MDROs spread?

- Most MDRO infections are spread by direct contact with an infected person's bodily fluids, such as blood, drainage from a wound, urine, bowel movements (stool), or sputum (phlegm).
- They can also be spread by contact with equipment or surfaces that may have the germ on them.
- Casual contact, such as touching or hugging, does not spread MDROs.



Who is at Risk?



Colonization vs. Infection

Patients can be COLONIZED
with MDROs.

Patients can be INFECTED with
MDROs.

Patients who are COLONIZED with MDRO can develop infection

What is COLONIZATION?

A person has the organism somewhere on their body but has no symptoms from infection with this organism

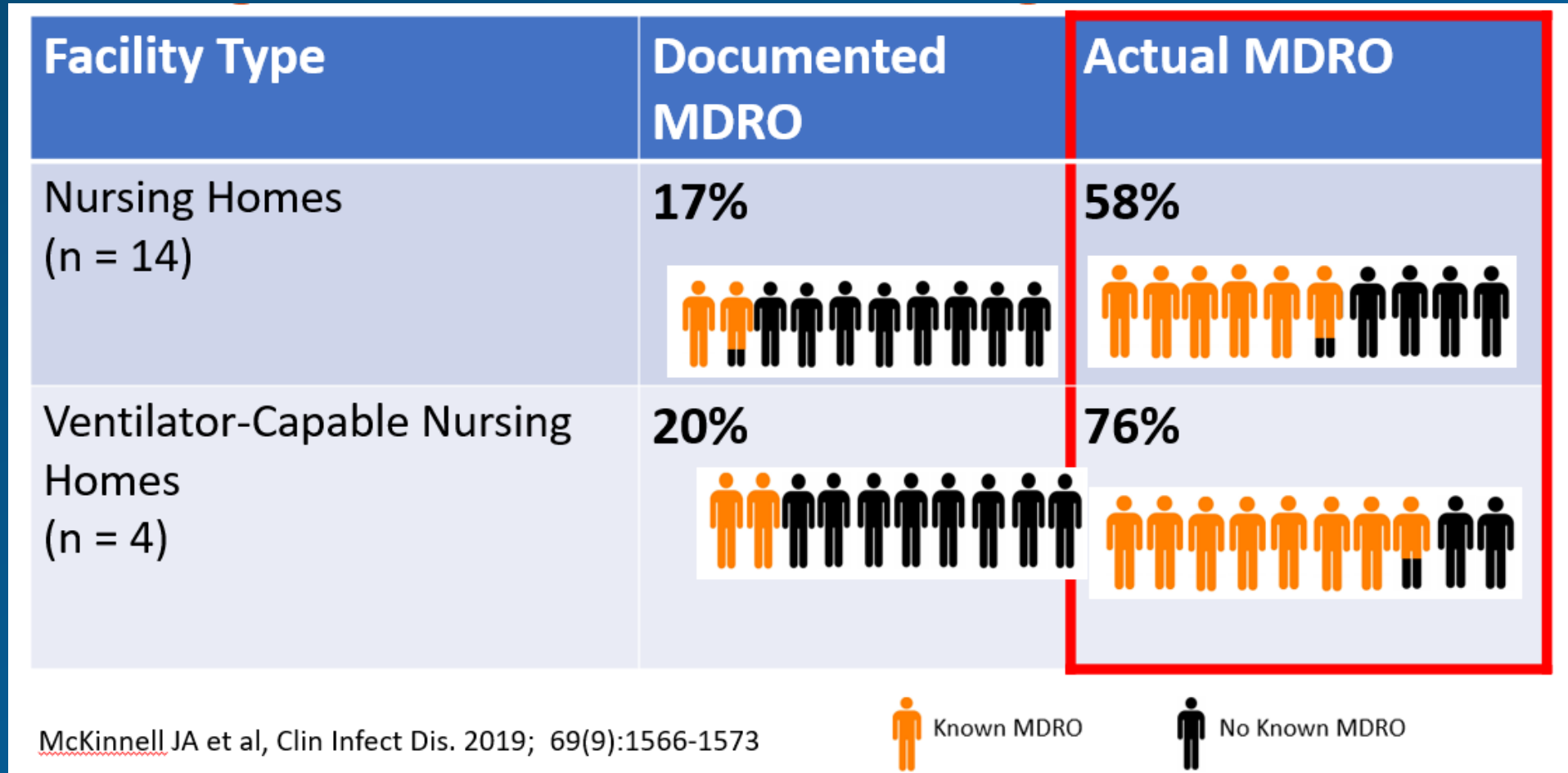
Colonization can only be detected by screening

Treatment is not required
colonization
no specific intervention is known to reduce or eliminate colonization

Patients COLONIZED with these MDROs usually remain colonized for a long period of time

There are currently no recommendations to retest patients for evidence of colonization

MDRO Burden in Nursing Homes



McKinnell JA et al, Clin Infect Dis. 2019; 69(9):1566-1573

- EBP are indicated for nursing home residents with any of the following:
 - Infection or colonization with an MDRO *when Contact Precautions do not otherwise apply*
 - Wounds and/or indwelling medical devices
- EBP is not limited to outbreaks or specific MDROs
 - Use of gown and gloves during high-contact resident care activities
 - No private room required
 - Residents can participate in group activities
 - Intended to be used for resident's entire length of stay

The infographic is titled "ENHANCED BARRIER PRECAUTIONS EVERYONE MUST:" and is flanked by two red octagonal "STOP" signs. It features three main sections: 1) Hand hygiene, illustrated with an icon of hands being washed with blue liquid, with the text "Clean their hands, including before entering and when leaving the room." 2) Provider and staff requirements, titled "PROVIDERS AND STAFF MUST ALSO:", which includes an icon of blue gloves and a blue gown. The text specifies: "Wear gloves and a gown for the following High-Contact Resident Care Activities. Dressing, Bathing/Showering, Transferring, Changing Linens, Providing Hygiene, Changing briefs or assisting with toileting, Device care or use: central line, urinary catheter, feeding tube, tracheostomy, Wound Care: any skin opening requiring a dressing." 3) A warning at the bottom: "Do not wear the same gown and gloves for the care of more than one person." The CDC logo and "U.S. Department of Health and Human Services Centers for Disease Control and Prevention" are in the bottom right corner. A small vertical text "CDC 320844" is on the left edge.

STOP **ENHANCED BARRIER PRECAUTIONS** **STOP**
EVERYONE MUST:

Clean their hands, including before entering and when leaving the room.

PROVIDERS AND STAFF MUST ALSO:

Wear gloves and a gown for the following High-Contact Resident Care Activities.
Dressing
Bathing/Showering
Transferring
Changing Linens
Providing Hygiene
Changing briefs or assisting with toileting
Device care or use:
central line, urinary catheter, feeding tube, tracheostomy
Wound Care: any skin opening requiring a dressing

Do not wear the same gown and gloves for the care of more than one person.

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

CDC 320844

Table: Summary of Personal Protective Equipment (PPE) Use and Room Restriction When Caring for Residents in Nursing Homes:

Precautions	Applies to	PPE used for these situations	Required PPE	Room restriction
Standard Precautions	All residents	Any potential exposure to: <ul style="list-style-type: none"> Blood Body fluids Mucous membranes Non-intact skin Potentially contaminated environmental surfaces or equipment 	Depending on anticipated exposure: gloves, gown, facemask or eye protection (Change PPE before caring for another resident)	None
Enhanced Barrier Precautions	All residents with <i>any of the following</i> : <ul style="list-style-type: none"> Infection or colonization with an MDRO <i>when Contact Precautions do not otherwise apply</i> Wounds and/or indwelling medical devices (e.g., central line, urinary catheter, feeding tube, tracheostomy/ventilator) <i>regardless of MDRO colonization status</i> 	During high-contact resident care activities: <ul style="list-style-type: none"> Dressing Bathing/showering Transferring Providing hygiene Changing linens Changing briefs or assisting with toileting Device care or use: central line, urinary catheter, feeding tube, tracheostomy/ventilator Wound care: any skin opening requiring a dressing 	Gloves and gown prior to the high-contact care activity (Change PPE before caring for another resident) (Face protection may also be needed if performing activity with risk of splash or spray)	None

Table: Summary of Personal Protective Equipment (PPE) Use and Room Restriction When Caring for Residents in Nursing Homes:

Precautions	Applies to	PPE used for these situations	Required PPE	Room restriction
Contact Precautions	All residents infected or colonized with a MDRO <i>in any of the following situations</i> : <ul style="list-style-type: none"> Presence of acute diarrhea, draining wounds or other sites of secretions or excretions that are unable to be covered or contained For a limited time period, as determined in consultation with public health authorities, on units or in facilities during the investigation of a suspected or confirmed MDRO outbreak When otherwise directed by public health authorities All residents who have another infection (e.g., <i>C. difficile</i> , norovirus, scabies) or condition for which Contact Precautions is recommended in Appendix A (Type and Duration of Precautions Recommended for Selected Infections and Conditions) of the CDC Guideline for Isolation Precautions.	Any room entry	Gloves and gown (Don before room entry, doff before room exit; change before caring for another resident) (Face protection may also be needed if performing activity with risk of splash or spray)	Yes, except for medically necessary care

Decisions regarding the use of additional practices to prevent the spread of MDROs can be determined in conjunction with public health. These strategies might differ depending on the prevalence or incidence of the MDRO in the facility and region.

Successful EBP Implementation:



Hand Hygiene



Environmental
Cleaning and
Disinfection



Enhanced
Barrier
Precautions



Auditing



Communication



Key Goals from HAI-AR

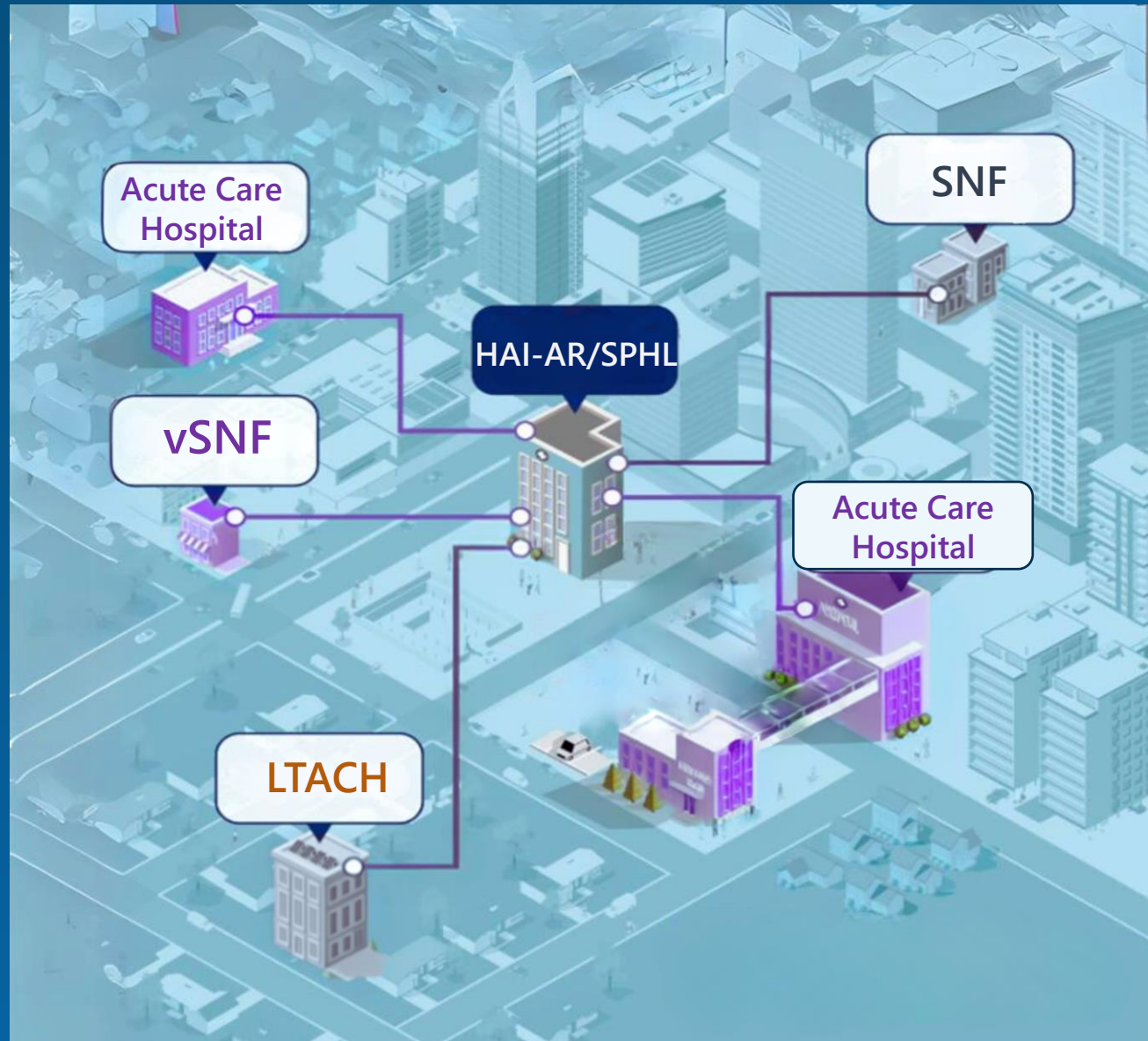
Contain the spread of *novel MDRO* through rapid identification, investigation and response

Improve preparedness throughout the healthcare continuum

Promote the efficient and effective flow of information between facilities to improve patient safety upon transfer

Ensure safe, equitable, access to quality healthcare for all CT residents regardless of colonization status

Preserve healthcare capacity by ensuring appropriate patient flow



Responsibilities

HAI-AR Program

Provider Education

Education of providers & facility leadership

Infection Control Guidance

Communication of best practices, implementation strategy

Data Analysis/ Outbreak Response Navigation

Targeted, data-driven recommendations to address facility-specific outbreak response



SPHL

Species Confirmation

Definitive identification of clinical isolates

Colonization Screening

Screening of healthcare contacts, patients at elevated risk, monitoring of outbreak response

Susceptibility Testing

Testing to identify antimicrobial susceptibility of the MDRO's

Resources:

- [2022 Special Report: COVID-19 US Impact on Antimicrobial Resistance](#)
- [Implementation of Personal PPE Use in Nursing Homes to Prevent Spread of Multidrug-resistant Organisms \(MDROs\)](#)
- [Consideration for the Use of Enhanced Barrier Precautions in Skilled Nursing Facilities](#)
- [Guideline for Isolation Precautions](#)
- [Core Infection Prevention and Control Practices for Safe Healthcare Delivery in all settings](#)
- [Appendix A—Type and Duration of Precautions Recommended for Selected Infections and Conditions](#)
- [Enhanced Barrier Precautions \(EBP\)—Pocket Guide\(cdc.gov\)](#)

Questions?

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