Assessing Facility Risk for Influenza, COVID-19 and Other Respiratory Pathogens

Paula St. Hill, MPH, A-IPC
November 2, 2023
About Alliant Health Solutions
INFECTION PREVENTION TECHNICAL ADVISOR

Paula is a doctoral student with a diverse background in public health, infection prevention, epidemiology and microbiology. She has over 10 years of health care experience and enjoys public health and identifying ways to improve health outcomes, specifically those related to healthcare-associated infections.

Paula enjoys spending time with her friends and family.

Contact: Paula.StHill@allianthealth.org
Agenda

• Discuss the upcoming respiratory virus season
• Provide an overview of RSV, influenza, and COVID-19
• Explore factors to consider when assessing facilities for respiratory pathogens and outbreaks
• Review infection control actions to take during respiratory virus season
• Discuss how to prepare and respond to residents and HCWs who develop signs or symptoms of a respiratory viral infection
What’s in Store for the 2023-2024 Respiratory Virus Season?

• The respiratory virus season for 2023-2024 is expected to bring a triple threat to public health with the confluence of Respiratory Syncytial Virus (RSV), Influenza (Flu), and SARS-Co-V-2 (COVID-19).

• The CDC anticipates this year will be like last year in terms of the total number of hospitalizations from COVID-19, RSV, and flu.

• The total number of hospitalizations this year is expected to be higher than what the United States experienced prior to the COVID-19 pandemic.

Potential Scenarios for Combined Peak Burden of COVID-19, Influenza, and RSV

[Image of a chart showing potential scenarios for combined peak burden of COVID-19, Influenza, and RSV]

- **Scenario A**: Moderate influenza+RSV season - Moderate COVID-19 wave - Staggered peak timing
- **Scenario B**: Severe influenza+RSV season - Moderate COVID-19 wave - Overlapping peak timing

Influenza (Flu) Overview

- Influenza (flu) is a contagious respiratory illness caused by influenza viruses that infect the nose, throat, and sometimes the lungs.
- There are two main types of human flu viruses: types A and B. The flu A and B viruses that routinely spread in people are responsible for seasonal flu epidemics each year.
- Flu viruses spread mainly by tiny droplets made when infected individuals cough, sneeze or talk.
- Influenza can be introduced into a long-term care facility by newly admitted residents, health care personnel and visitors.
- Residents of long-term care facilities can experience severe and fatal illness during influenza outbreaks.

https://www.cdc.gov/flu/about/keyfacts.htm
Influenza Symptoms

Influenza can cause mild to severe illness, and at times can lead to death. Flu symptoms usually come on suddenly. People who have flu often feel some or all these symptoms:

- Fever or feeling feverish/chills
- Cough
- Sore throat
- Runny or stuffy nose
- Muscle or body aches
- Headaches
- Fatigue (tiredness)
- Vomiting and diarrhea (though this is more common in children than adults.)

https://www.cdc.gov/flu/about/keyfacts.htm
The burden of influenza in the United States can vary widely and is determined by several factors including the characteristics of circulating viruses, the timing of the season, how well the vaccine is working to protect against illness, and how many people received vaccinations.

The CDC estimates that influenza has resulted in 9 million – 41 million illnesses, 140,000 – 710,000 hospitalizations, and 12,000 – 52,000 deaths annually between 2010 and 2020.
Respiratory Syncytial Virus (RSV) Overview

• A common respiratory virus that usually causes mild, cold-like symptoms
• RSV is spread through contact with respiratory droplets, or touching surfaces contaminated with the virus and then touching your eyes, nose, or mouth
• RSV typically lives on soft surfaces such as tissues and hands for shorter amounts of time
• Adults 65 and over and adults with chronic conditions or weakened immune systems are at high risk for developing severe RSV
• People do not form long-lasting immunity to RSV and can become infected repeatedly over their lifetime

RSV Symptoms

RSV symptoms may include:

• Congested or runny nose
• Dry cough
• Low-grade fever
• Sore throat
• Sneezing
• Headache

In severe cases, symptoms may include:

• Fever
• Severe cough
• Wheezing
• Tachypnea
• Cyanosis
• Bronchiolitis
• Pneumonia

https://www.cdc.gov/rsv/about/symptoms.html
RSV Burden in the United States

Each year in the United States, RSV leads to:

- **80K**
  58,000-80,000 hospitalizations in children under 5.

- **160K**
  60,000-160,000 hospitalizations in adults 65 or older.

- **10K**
  6,000-10,000 deaths in adults 65 or older.

SARS-CoV-2 (COVID-19) Overview

- COVID-19 is caused by the virus SARS-CoV-2
- SARS-CoV-2 has consistently mutated over the course of the pandemic, resulting in variants that are different from the original SARS-CoV-2 virus
- COVID-19 spreads when an infected person breathes out droplets and very small particles that contain the virus; these droplets may contaminate surfaces they touch
- Anyone infected with COVID-19 can spread it, even if they do NOT have symptoms
- Nursing homes have been severely impacted by COVID-19, with outbreaks causing high rates of infection, morbidity and mortality

COVID-19 Symptoms

Individuals with COVID-19 have a wide range of symptoms, ranging from mild symptoms to severe illness. Possible symptoms include:

- Fever or chills
- Cough
- Shortness of breath or difficulty breathing
- Fatigue
- Muscle or body aches
- Headache
- New loss of taste or smell
- Sore throat
- Congestion or runny nose
- Nausea or vomiting
- Diarrhea

This list does not include all possible symptoms. Symptoms may change with new COVID-19 variants and can vary depending on vaccination status. Older adults and people who have underlying medical conditions, such as heart or lung disease or diabetes are at higher risk for becoming very sick from COVID-19.

COVID-19 Disease Burden

United States of America Situation

103,436,829
confirmed cases

1,136,920
defaths

Source: World Health Organization
Data may be incomplete for the current day or week.

https://covid19.who.int/region/amro/country/us
Other Common Respiratory Diseases

- Chickenpox
- Measles
- Rubella
- Mumps
- Diphtheria
- Pertussis (whooping cough)
- Meningococcal meningitis
- Tuberculosis
What Can You Do and How Can You Prepare?
Risk Assessment – Some things to consider…

- Resident Population
- Facility-resident risk
- Staff, resident, and visitor behaviors
- Community positivity rates
- Activities
- What is going on?
Resident Population

• Are they young or old?
• Are they frail?
• Are they healthy?
• Do they move on their own?
• Do they stay where you put them?
• Do they follow instructions?
• Are they cognitively intact?
Facility-Resident Risk

- What kind of resident unit?
- What type(s) of resident(s)?
- How do they travel through the unit?
- Are they using the same elevators as another unit where there’s an outbreak?
Staff, Resident and Visitor Behaviors

• Can you use posters, signs and precautions effectively?
• Are they going to follow directions?
• What happens when you’re not there?
• Do residents have the capability of following directions independently and when you’re not around?
Community Positivity Rates

CDC COVID-19 data tracker:
- COVID-19 hospital admissions
- COVID-19 deaths
- COVID-19 ED visits
- COVID-19 test positivity
- COVID-19 variants, wastewater, and genomic surveillance

https://covid.cdc.gov/covid-data-tracker/#datatracker-home
U.S. COVID-19 Test Positivity by Geographic Area

- This shows the percentage of COVID-19 nucleic antigen amplification tests that were positive over the past week.

United States COVID-19 Hospitalizations, Deaths, Emergency Department (ED) Visits, and Test Positivity by Geographic Area

Maps, charts, and data provided by CDC, updates weekly for the previous MMWR week (Sunday-Saturday) on Fridays by 8 pm ET†

View Footnotes and Download Data

<table>
<thead>
<tr>
<th>TEST POSITIVITY (PAST WEEK)</th>
<th>% CHANGE IN TEST POSITIVITY</th>
<th>TEST POSITIVITY (PAST 2 WEEKS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.7%</td>
<td>-0.7%</td>
<td>9.8%</td>
</tr>
</tbody>
</table>

CDC | Data through: October 21, 2023. Posted: October 27, 2023

https://covid.cdc.gov/covid-data-tracker/#maps_positivity-week
U.S. COVID-19 Test Positivity by Geographic Area

Percent Positivity of COVID-19 Nucleic Acid Amplification Tests (NAATs) in the Past Week by HHS Region – United States

Percent of positive COVID-19 NAATs in the past week

https://covid.cdc.gov/covid-data-tracker/#/maps_positivity-week
## U.S. COVID-19 Emergency Department (ED) Visits

### United States COVID-19 Hospitalizations, Deaths, Emergency Department (ED) Visits, and Test Positivity by Geographic Area

Maps, charts, and data provided by CDC, updates weekly for the previous MMWR week (Sunday-Saturday) on Fridays by 8 pm ET

View Footnotes and Download Data

<table>
<thead>
<tr>
<th>WEEKLY % OF COVID-19 ED VISITS</th>
<th>% CHANGE IN COVID-19 ED VISITS (%) FROM PRIOR WEEK</th>
<th>COVID-19 HOSPITAL ADMISSIONS (PAST WEEK)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3%</td>
<td>-4.6%</td>
<td>16,186</td>
</tr>
</tbody>
</table>

CDC | Data through: October 21, 2023. Posted: October 27, 2023

U.S. COVID-19 Deaths

- This shows the percentage of deaths due to COVID-19 in the past week as a timely measure of mortality trends.

United States COVID-19 Hospitalizations, Deaths, Emergency Department (ED) Visits, and Test Positivity by Geographic Area

Maps, charts, and data provided by CDC, updates weekly for the previous MMWR week (Sunday-Saturday) on Fridays by 8 pm ET†

View Footnotes and Download Data

% COVID-19 DEATHS IN PAST WEEK
2.7%

% CHANGE FROM PRIOR WEEK
12.5%

ABSOLUTE CHANGE FROM PRIOR WEEK
0.3%

CDC | Data through: October 21, 2023. Posted: October 27, 2023

https://covid.cdc.gov/covid-data-tracker/#/maps_percent-covid-deaths
# U.S. COVID-19 Hospitalizations

## United States COVID-19 Hospitalizations, Deaths, Emergency Department (ED) Visits, and Test Positivity by Geographic Area

Maps, charts, and data provided by CDC, updates weekly for the previous MMWR week (Sunday-Saturday) on Fridays by 8 pm ET

*View Footnotes and Download Data*

<table>
<thead>
<tr>
<th>COVID-19 HOSPITAL ADMISSIONS (PAST WEEK)</th>
<th>% CHANGE IN COVID-19 HOSPITAL ADMISSIONS</th>
<th>COVID-19 HOSPITAL ADMISSIONS PER 100,000 (PAST WEEK)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16,186</td>
<td>-0.2%</td>
<td>4.88</td>
</tr>
</tbody>
</table>

CDC | Data through: October 21, 2023. Posted: October 27, 2023

U.S. COVID-19 Hospitalizations

United States COVID-19 Hospitalizations, Deaths, Emergency Department (ED) Visits, and Test Positivity by Geographic Area

Maps, charts, and data provided by CDC, updates weekly for the previous MMWR week (Sunday-Saturday) on Fridays by 8 pm ET.

View Footnotes and Download Data

COVID-19 HOSPITAL ADMISSIONS (PAST WEEK) 16,186
%

% INPATIENT BEDS OCCUPIED BY COVID-19 PATIENTS (PAST WEEK) 2%

ABSOLUTE CHANGE IN COVID-19 INPATIENT BED OCCUPANCY -0.1%

CDC Data through: October 21, 2023. Posted: October 27, 2023

https://covid.cdc.gov/covid-data-tracker/#maps_percent-inpatient-beds-county
COVID-19 Prevention Actions

There are many ways your actions can help protect you, your household, and your community from severe illness from COVID-19. CDC’s COVID-19 hospital admission levels provide information about the amount of severe illness in the community where you are located to help you decide when to take action to protect yourself and others.

COVID-19 County Check

Find hospital admission levels and prevention steps by county. Data updated weekly.

Select a Location (all fields required)

State
County
Go

How to Protect Yourself and Others | CDC
COVID-19 County Check

Find hospital admission levels and prevention steps by county. Data updated weekly.

Select a Location (all fields required)

Georgia ▼ Chatham County ▼

< Start Over

Low

In Chatham County, Georgia, the COVID-19 hospital admission level is Low.

- Stay up to date with COVID-19 vaccines.
- Maintain ventilation improvements.
- Avoid contact with people who have suspected or confirmed COVID-19.
- Follow recommendations for isolation if you have suspected or confirmed COVID-19.
- Follow the recommendations for what to do if you are exposed to someone with COVID-19.
- If you are at high risk of getting very sick, talk with a healthcare provider about additional prevention actions.

People may choose to mask at any time. People with symptoms, a positive test, or exposure to someone with COVID-19 should wear a high-quality mask or respirator when indoors in public.

If you are immunocompromised, learn more about how to protect yourself.

Find out more about the COVID-19 situation in Chatham County, Georgia with COVID-19 Data Tracker.

October 21, 2023
**Individual-Level Prevention Steps You Can Take Based on Your COVID-19 Hospital Admission Level**

**LOW, MEDIUM, AND HIGH**

At all COVID-19 hospital admission levels:
- Stay up to date on vaccination.
- Maintain ventilation improvements.
- Avoid contact with people who have suspected or confirmed COVID-19.
- Follow recommendations for isolation if you have suspected or confirmed COVID-19.
- Follow the recommendations for what to do if you are exposed to someone with COVID-19.
- If you are at high risk of getting very sick, talk with a healthcare provider about additional prevention actions.

**MEDIUM AND HIGH**

When the COVID-19 hospital admission level is Medium or High:
- If you are at high risk of getting very sick, wear a high-quality mask or respirator (e.g., N95) when indoors in public.
- If you have household or social contact with someone at high risk for getting very sick, consider self-testing to detect infection before contact, and consider wearing a high-quality mask when indoors with them.

**HIGH**

When the COVID-19 hospital admission level is High:
- Wear a high-quality mask or respirator.
- If you are at high risk of getting very sick, consider avoiding non-essential indoor activities in public where you could be exposed.

Community-Level Prevention Strategies

**LOW, MEDIUM, AND HIGH**

At all COVID-19 hospital admission levels:

- Promote equitable access to vaccination, testing, masks and respirators, treatment and prevention medications, community outreach, and support services.
- Ensure access to testing, including through point-of-care and at-home tests for all people.
- Maintain ventilation improvements.
- Provide communications and messaging to encourage isolation among people who test positive.

**MEDIUM AND HIGH**

When the COVID-19 hospital admission level is Medium or High:

- Implement screening testing in high-risk settings where screening testing is recommended.

**HIGH**

When the COVID-19 hospital admission level is High:

- Implement healthcare surge support as needed.

RESP-NET Interactive Dashboard

- The Respiratory Virus Hospitalization Surveillance Network (RESP-NET) comprises three networks that conduct population-based surveillance for laboratory-confirmed hospitalizations associated with COVID-19, respiratory syncytial virus (RSV), and influenza among children and adults.

- While RESP-NET does not collect data on all hospitalizations caused by respiratory illnesses, it can describe hospitalizations caused by three viruses that account for a large proportion of these hospitalizations.

[Link to RESP-NET Interactive Dashboard](https://www.cdc.gov/surveillance/resp-net/dashboard.html)
How To Use the RESP - NET Interactive Dashboard

1) **Select a topic of interest**
   • To use the RESP-NET interactive dashboard, select a topic to see specific data trends. Topics include age group, race and ethnicity, sex, state, and season. Hospitalization rates can be viewed as weekly or cumulative rates.

2) **Select a filter of interest**
   • Data can be filtered by pathogen, age group, race and ethnicity, sex, season, and state. Filters vary by topic, as not all topics have filters available.

3) **Select different ways to view the data**
   • The data can be displayed in a graph, which is the default view, or as a table. Right-click anywhere in the graph and select “Show as a table” for a tabular view. Hovering your mouse over or selecting a data point or bar in the graph will display detailed information. Some graphs allow you to hide or show data from the legend for detailed analysis.

https://www.cdc.gov/surveillance/resp-net/dashboard.html
Activities

• Are there parties or community events?
• Are there a lot of shared items among residents, such as games, pencils, pens, etc.?
What Is Going On?

• Are there a lot of callouts among staff?
• Are staff and residents feeling sick?
Prevention Starts With Knowing the Risk!
Prevention Strategies

- Hand Hygiene
- Standard Precautions
- Environmental Control
- Source Control
- Vaccination
- Education
- Respiratory Hygiene
Preparing for and Responding to Nursing Home Residents or Health Care Personnel (HCP) Who Develop Signs or Symptoms of a Respiratory Viral Infection

- **ACTION: PREPARE** for respiratory viruses (e.g., SARS-CoV-2, influenza, RSV)
  - Vaccinate
  - Allocate resources
  - Monitor and Mask
  - Educate
  - Ventilate
  - Test and Treat

- **ACTION: RESPOND** when a resident or HCP develops signs or symptoms of a respiratory viral infection
  - For Residents: Apply appropriate transmission-based precautions
  - For HCP: Test anyone with respiratory illness signs or symptoms
  - Investigate for potential respiratory virus spread among residents and HCP

- **ACTION: CONTROL** respiratory virus spread when transmission is identified
  - Notify the local or state public health department when respiratory viral outbreaks* are suspected or confirmed
  - Consider establishing cohort units for residents with confirmed infections
  - Limit group activities and communal dining
  - Consider modifications to indoor visitation policies
  - Avoid new admissions or transfers into and out of units or wards with infected residents or facility-wide if the outbreak is more widespread

Interim Guidance for Influenza Outbreak Management in Long-Term Care and Post-Acute Care Facilities

• If one laboratory-confirmed influenza-positive case is identified along with other cases of acute respiratory illness in a unit of a long-term care facility, an influenza outbreak might be occurring

• Active surveillance for additional cases should be implemented as soon as possible once one case of laboratory-confirmed influenza is identified in a facility

• When two cases of laboratory-confirmed influenza are identified within 72 hours of each other in residents in the same unit, outbreak control measures should be implemented as soon as possible

• Implementation of outbreak control measures can also be considered as soon as possible when one or more residents have an acute respiratory illness with suspected influenza and the results of influenza molecular tests are not available on the same day of specimen collection

https://www.cdc.gov/flu/professionals/infectioncontrol/ltc-facility-guidance.htm
Resources

- Interim Guidance for Influenza Outbreak Management in Long-Term Care and Post-Acute Care Facilities
- Interim Infection Prevention and Control Recommendations for Healthcare Personnel During the Coronavirus Disease 2019 (COVID-19) Pandemic
- RESP-NET Interactive Dashboard
- Viral Respiratory Pathogens Toolkit for Nursing Homes
Questions?
Nursing Home and Partnership for Community Health: CMS 12th SOW GOALS

**OPIOID UTILIZATION AND MISUSE**
- Promote opioid best practices
- Reduce opioid adverse drug events in all settings

**PATIENT SAFETY**
- Reduce hospitalizations due to c. diff
- Reduce adverse drug events
- Reduce facility acquired infections

**CHRONIC DISEASE SELF-MANAGEMENT**
- Increase instances of adequately diagnosed and controlled hypertension
- Increase use of cardiac rehabilitation programs
- Reduce instances of uncontrolled diabetes
- Identify patients at high risk for kidney disease and improve outcomes

**CARE COORDINATION**
- Convene community coalitions
- Reduce avoidable readmissions, admissions to hospitals and preventable emergency department visits
- Identify and promote optimal care for super utilizers

**COVID-19**
- Support nursing homes by establishing a safe visitor policy and cohort plan
- Provide virtual events to support infection control and prevention
- Support nursing homes and community coalitions with emergency preparedness plans

**IMMUNIZATION**
- Increase influenza, pneumococcal, and COVID-19 vaccination rates

**TRAINING**
- Encourage completion of infection control and prevention trainings by front line clinical and management staff
Making Health Care Better Together

Leighann Sauls
Leighann.Sauls@AlliantHealth.org
Georgia, Kentucky, North Carolina and Tennessee

Julie Kueker
Julie.Kueker@AlliantHealth.org
Alabama, Florida and Louisiana

Leighann Sauls
Leighann.Sauls@AlliantHealth.org
Georgia, Kentucky, North Carolina and Tennessee

Program Directors
Making Health Care Better Together

This material was prepared by Alliant Health Solutions, a Quality Innovation Network – Quality Improvement Organization (QIN – QIO) under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services (HHS). Views expressed in this material do not necessarily reflect the official views or policy of CMS or HHS, and any reference to a specific product or entity herein does not constitute endorsement of that product or entity by CMS or HHS.

Publication No. 125GW-AHS-QIN-QIO TO1-NH TO1-PCH-4752-10/30/23