Assessing Facility Risk for Influenza, COVID-19 and Other Respiratory Pathogens
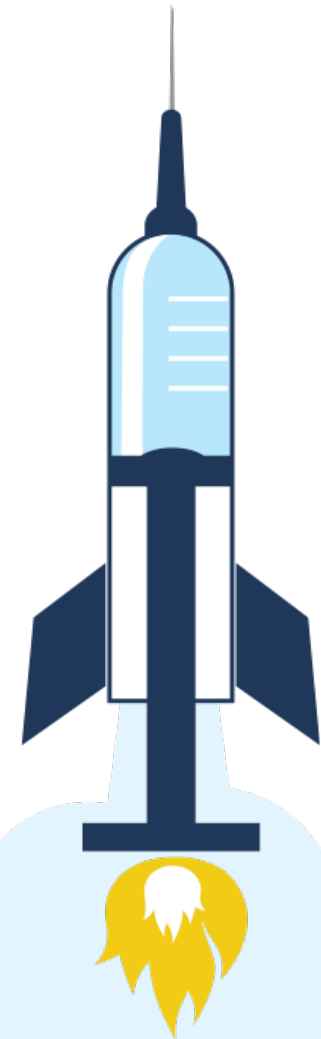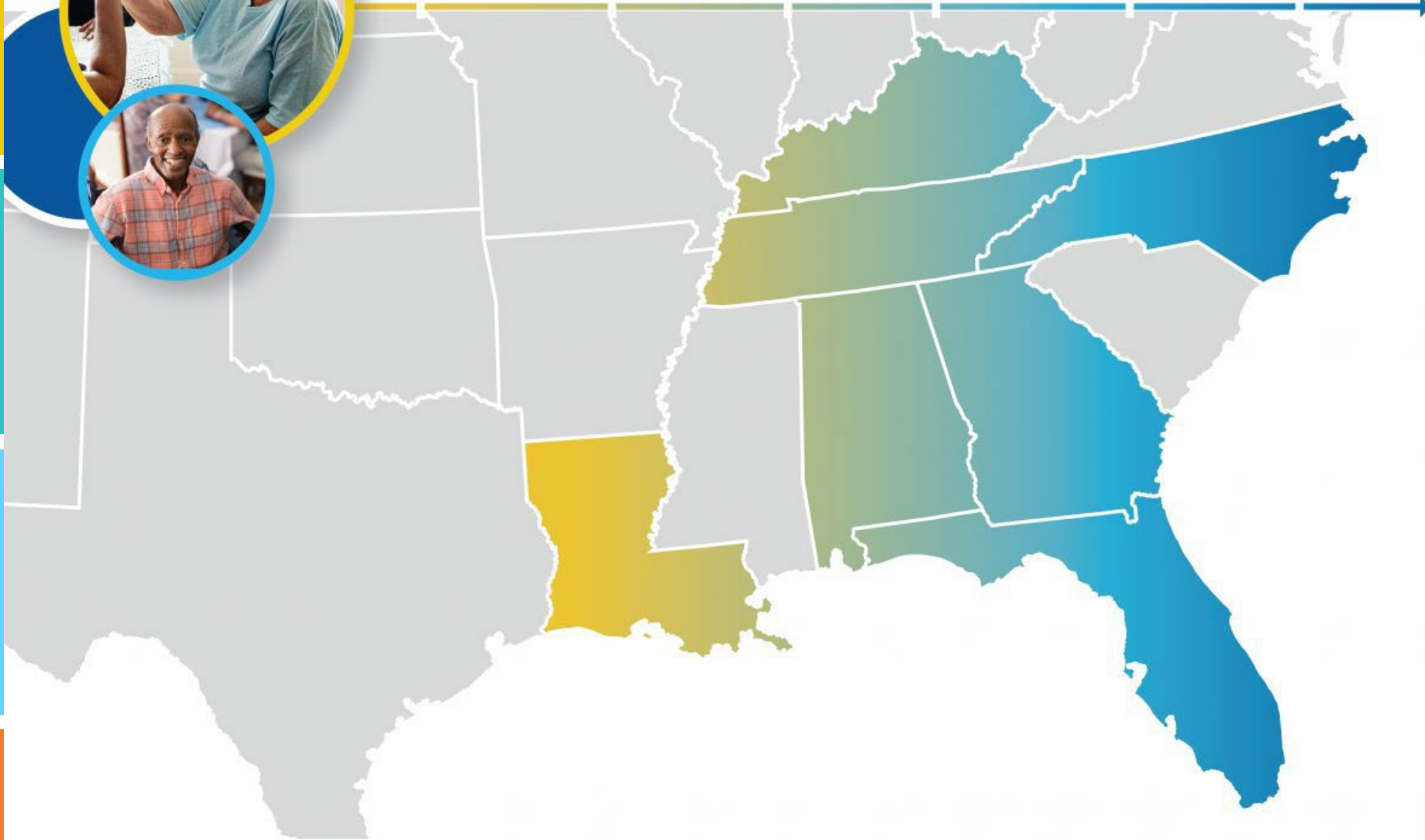
Paula St. Hill, MPH, A-IPC
November 2, 2023

Paula St. Hill, MPH, A-IPC

ALLIANT
HEALTH SOLUTIONS

QIN—QIO
Quality Innovation Network -
Quality Improvement Organizations
CENTERS FOR MEDICARE & MEDICAID SERVICES
iQUALITY IMPROVEMENT & INNOVATION GROUP

About Alliant Health Solutions

Paula St. Hill, MPH, A-IPC

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
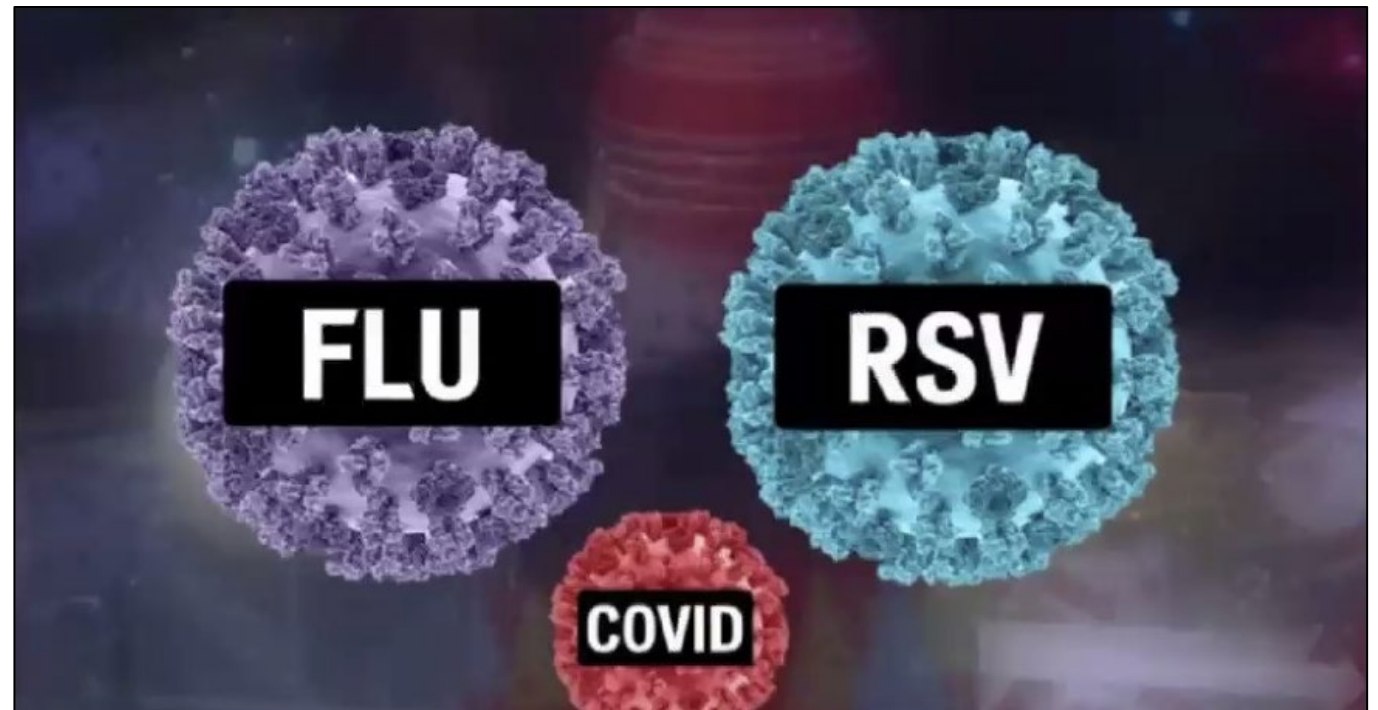
Agenda

- 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
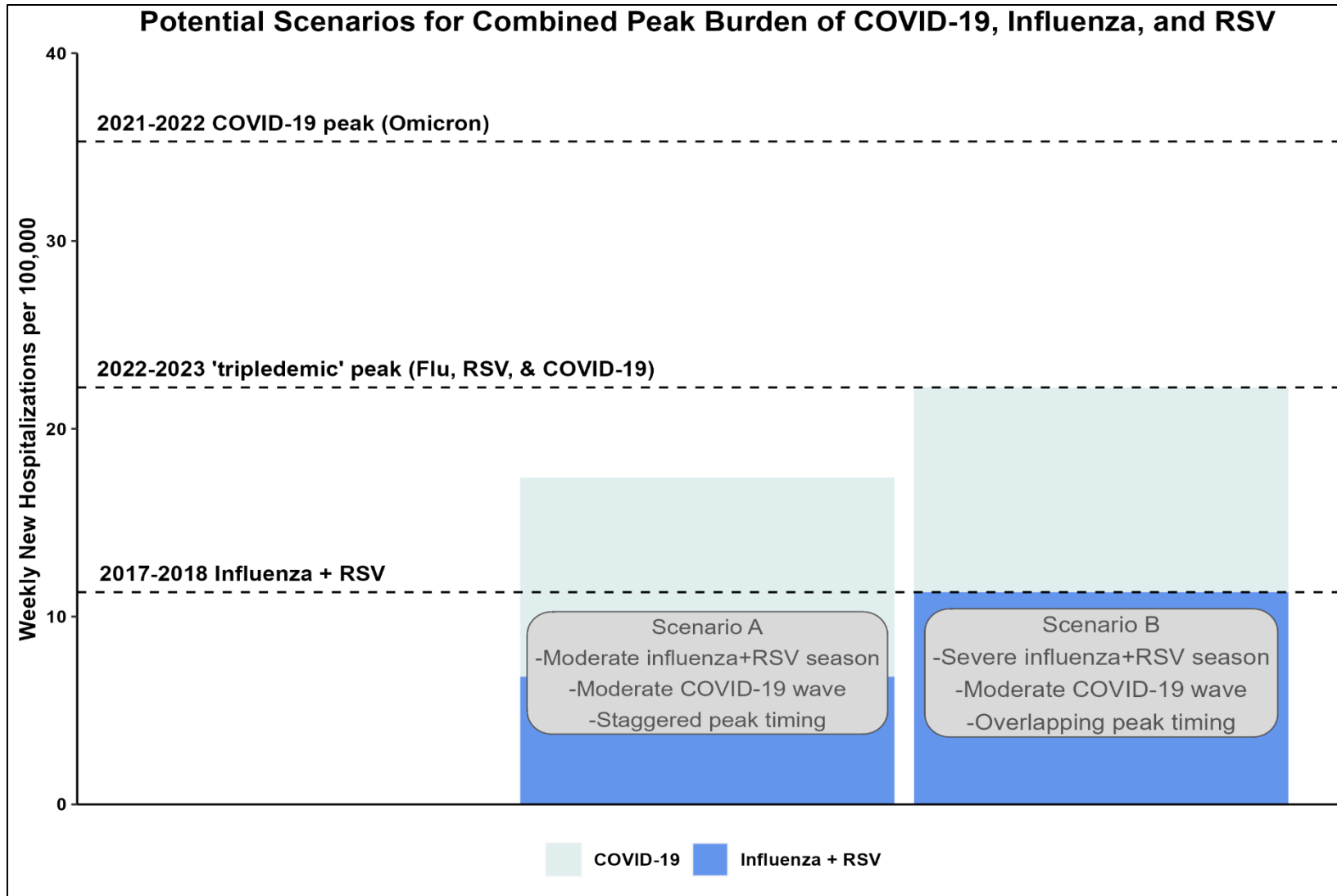
What's in Store for the 2023-2024 Respiratory Virus Season?

- 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.
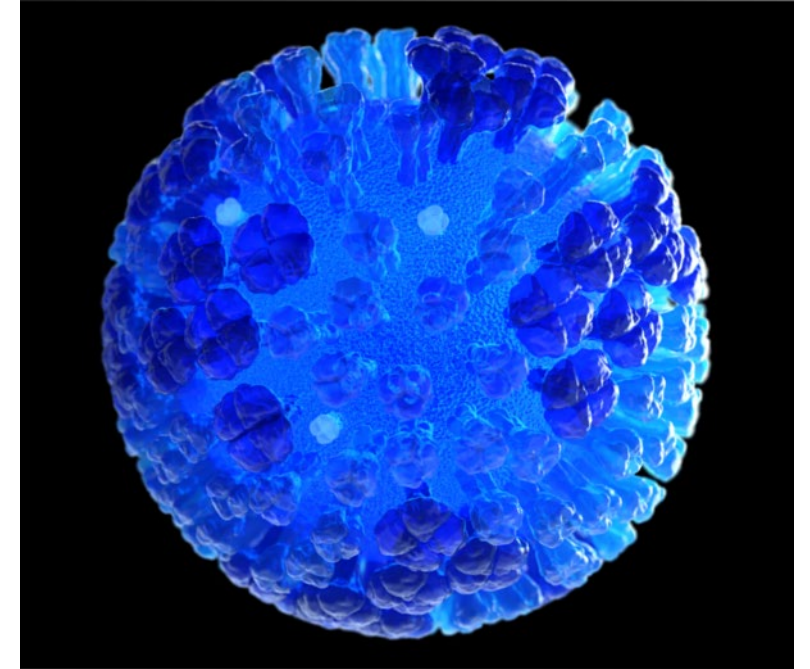
ALLIANT HEALTH SOLUTIONS

QIN—QIO
Quality Innovation Network -
Quality Improvement Organizations
CENTERS FOR MEDICARE & MEDICAID SERVICES
iQUALITY IMPROVEMENT & INNOVATION GROUP

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

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

2021-2022 COVID-19 peak (Omicron)

2022-2023 'tripledemic' peak (Flu, RSV, & COVID-19)

2017-2018 Influenza + 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

Weekly New Hospitalizations per 100,000

COVID-19   Influenza + RSV

https://www.cdc.gov/respiratory-viruses/whats-new/2023-2024-season-outlook.html

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

ALLIANT HEALTH SOLUTIONS

QIN–QIO
Quality Innovation Network -
Quality Improvement Organizations
CENTERS FOR MEDICARE & MEDICAID SERVICES
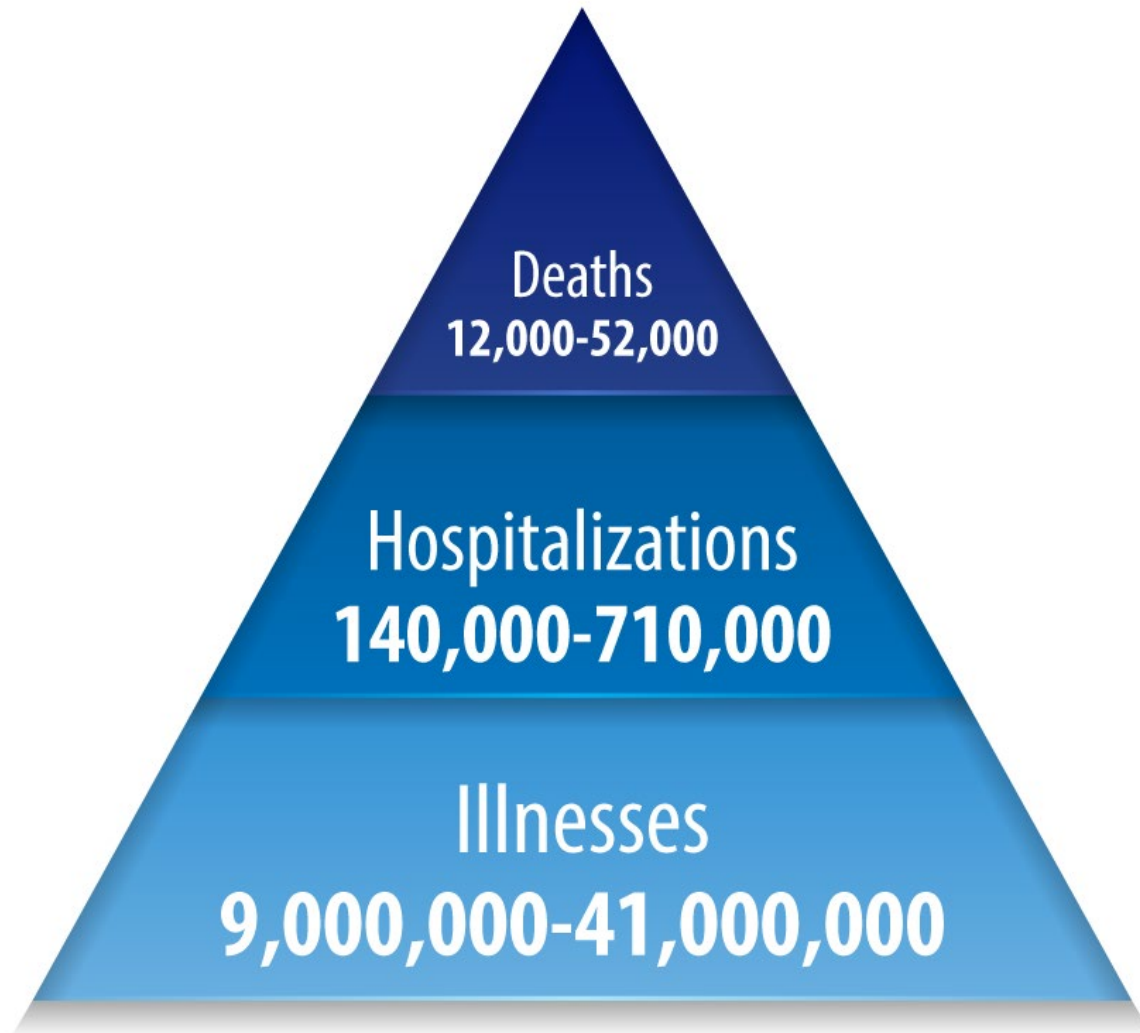iQUALITY IMPROVEMENT & INNOVATION GROUP

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.)
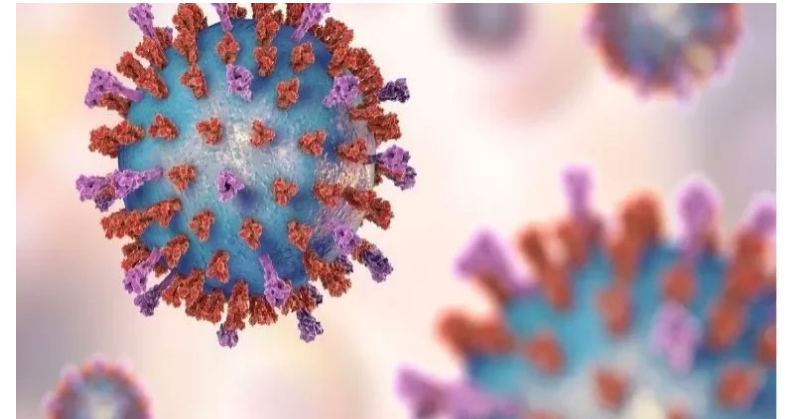
ALLIANT HEALTH SOLUTIONS

QIN–QIO
Quality Innovation Network -
Quality Improvement Organizations
CENTERS FOR MEDICARE & MEDICAID SERVICES
IQUALITY IMPROVEMENT & INNOVATION GROUP

Disease Burden of Influenza

Deaths
12,000-52,000

Hospitalizations
140,000-710,000

Illnesses
9,000,000-41,000,000

- 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.

ALLIANT HEALTH SOLUTIONS

QIN–QIO
Quality Innovation Network -
Quality Improvement Organizations
CENTERS FOR MEDICARE & MEDICAID SERVICES
IQUALITY IMPROVEMENT & INNOVATION GROUP

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

ALLIANT HEALTH SOLUTIONS

QIN—QIO
Quality Innovation Network -
Quality Improvement Organizations
CENTERS FOR MEDICARE & MEDICAID SERVICES
iQUALITY IMPROVEMENT & INNOVATION GROUP

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

ALLIANT
HEALTH SOLUTIONS

QIN—QIO
Quality Innovation Network -
Quality Improvement Organizations
CENTERS FOR MEDICARE & MEDICAID SERVICES
IQUALITY IMPROVEMENT & INNOVATION GROUP

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.

ALLIANT HEALTH SOLUTIONS

QIN—QIO
Quality Innovation Network -
Quality Improvement Organizations
CENTERS FOR MEDICARE & MEDICAID SERVICES
iQUALITY IMPROVEMENT & INNOVATION GROUP

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
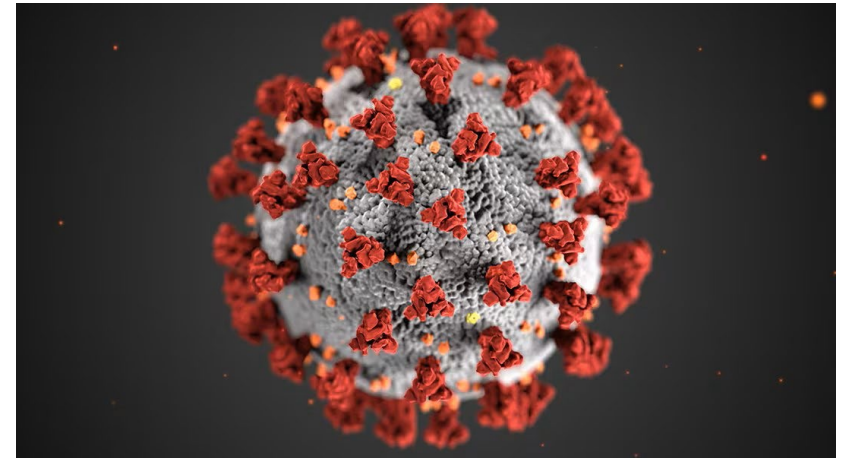
COVID-19 Symptoms

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.

https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html

COVID-19 Disease Burden
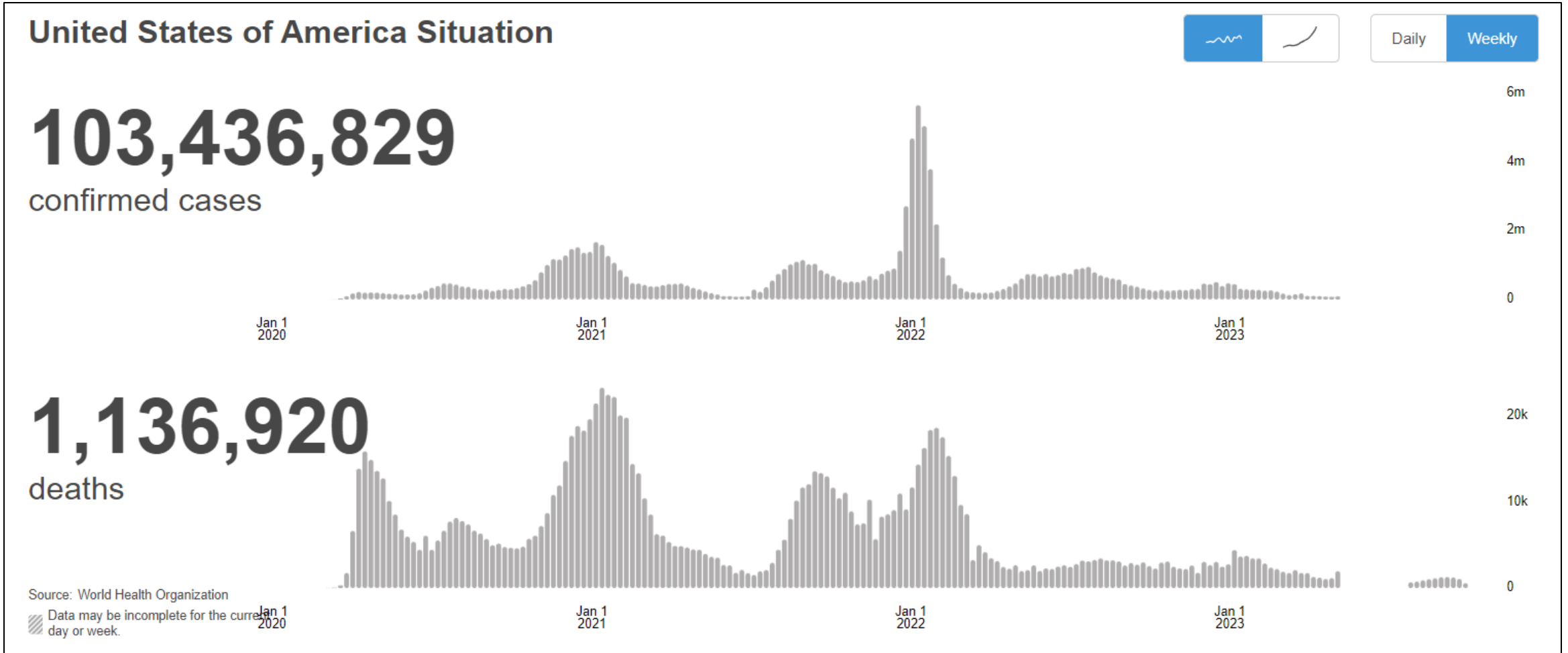
Other Common Respiratory Diseases

- Chickenpox
- Measles
- Rubella
- Mumps
- Diphtheria
- Pertussis (whooping cough)
- Meningococcal meningitis
- Tuberculosis

What Can You Do and How Can You Prepare?
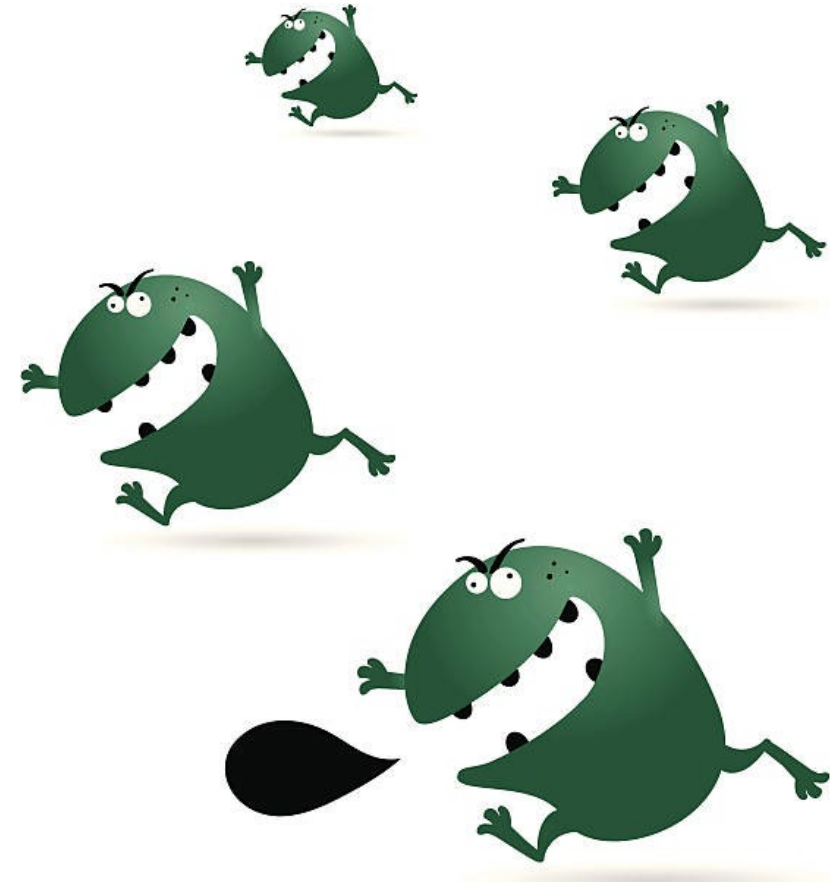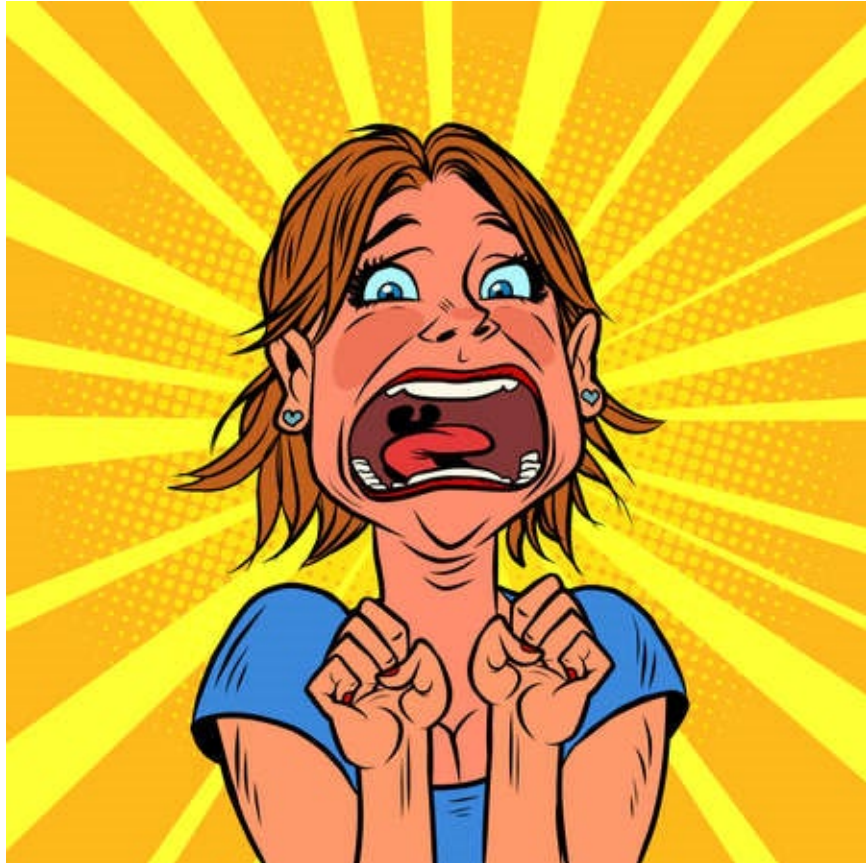
Risk Assessment – Some things to consider…

- 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

Community Positivity Rates

COVID Data Tracker

Maps, charts, and data provided by CDC, updates Mondays and Fridays by 8 p.m. ET   COVID-19 Home >

COVID-19 Update for the United States

Early Indicators

Test Positivity >

% Test Positivity

8.7%
(October 15 to October 21, 2023)

Trend in % Test Positivity
-0.7% in most recent week

Sep 2, 2023   Oct 21, 2023

Emergency Department Visits >

% Diagnosed as COVID-19

1.3%
(October 15 to October 21, 2023)

Trend in % Emergency Department Visits
-4.6% in most recent week

Sep 2, 2023   Oct 21, 2023

Severity Indicators

Hospitalizations >

Hospital Admissions

16,186
(October 15 to October 21, 2023)

Trend in Hospital Admissions
-0.2% in most recent week

Sep 2, 2023   Oct 21, 2023

Deaths >

% of All Deaths in U.S. Due to COVID-19

2.7%
(October 15 to October 21, 2023)

Trend in % COVID-19 Deaths
+12.5% in most recent week

Sep 2, 2023   Oct 21, 2023

These early indicators represent a portion of national COVID-19 tests and emergency department visits. Wastewater information also provides early indicators of spread.

Total Hospitalizations	Total Deaths
6,438,882	1,150,119

CDC | Test Positivity data through: October 21, 2023; Emergency Department Visit data through: October 21, 2023; Hospitalization data through: October 21, 2023; Death data through: October 21, 2023.
Posted: October 27, 2023 12:08 PM ET

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

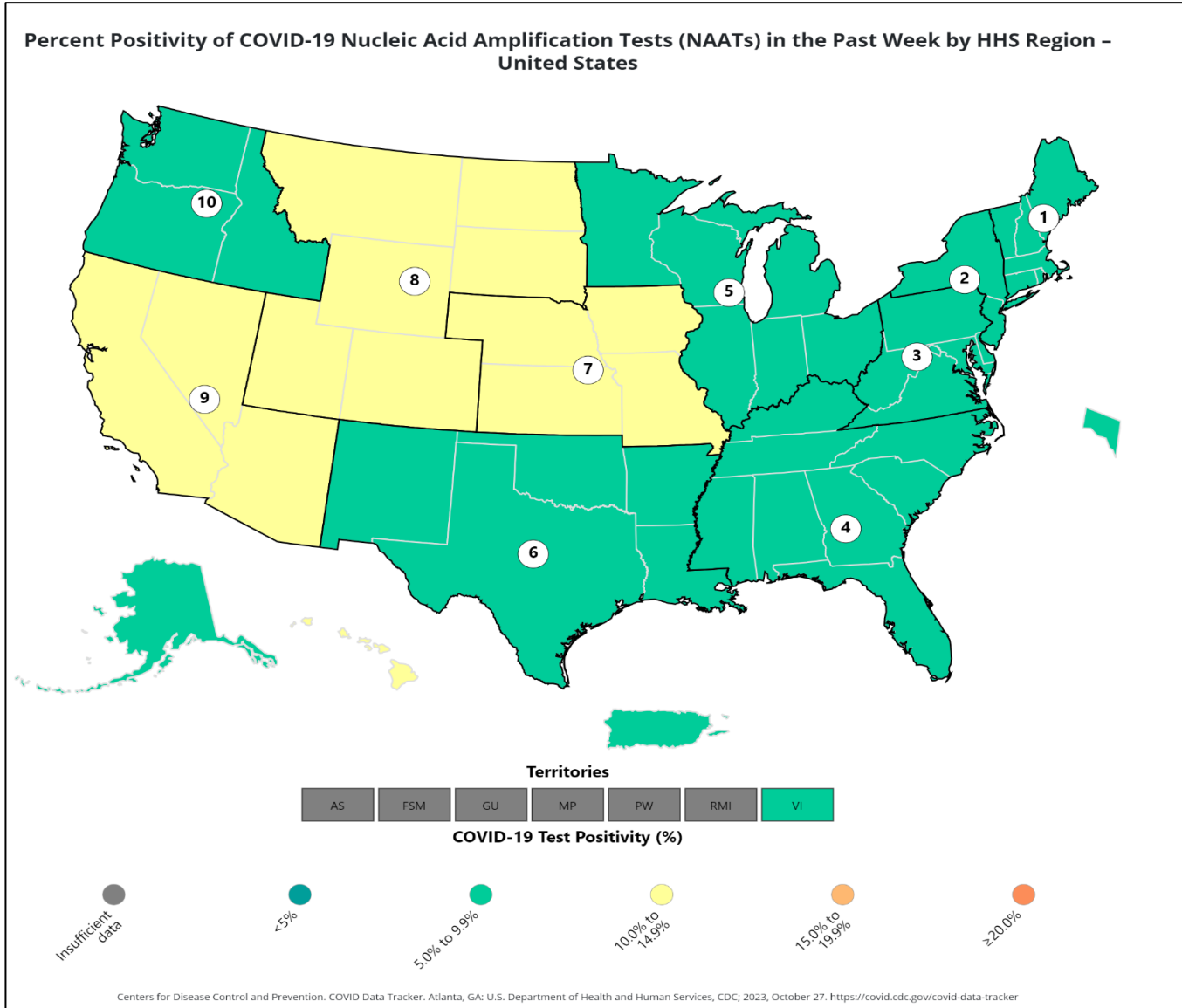| TEST POSITIVITY (PAST WEEK)	% CHANGE IN TEST POSITIVITY	TEST POSITIVITY (PAST 2 WEEKS)
8.7%	-0.7%	9.8%

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

ALLIANT HEALTH SOLUTIONS

QIN—QIO
Quality Innovation Network -
Quality Improvement Organizations
CENTERS FOR MEDICARE & MEDICAID SERVICES
iQUALITY IMPROVEMENT & INNOVATION GROUP

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

WEEKLY % OF COVID-19 ED VISITS	% CHANGE IN COVID-19 ED VISITS (%) FROM PRIOR WEEK	COVID-19 HOSPITAL ADMISSIONS (PAST WEEK)
1.3%	-4.6%	16,186

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

ALLIANT HEALTH SOLUTIONS

QIN—QIO
Quality Innovation Network -
Quality Improvement Organizations
CENTERS FOR MEDICARE & MEDICAID SERVICES
IQUALITY IMPROVEMENT & INNOVATION GROUP

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	% CHANGE FROM PRIOR WEEK	ABSOLUTE CHANGE FROM PRIOR WEEK
2.7%	12.5%	0.3%

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

ALLIANT
HEALTH SOLUTIONS

QIN—QIO
Quality Innovation Network -
Quality Improvement Organizations
CENTERS FOR MEDICARE & MEDICAID SERVICES
IQUALITY IMPROVEMENT & INNOVATION GROUP

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)	% CHANGE IN COVID-19 HOSPITAL ADMISSIONS	COVID-19 HOSPITAL ADMISSIONS PER 100,000 (PAST WEEK)
16,186	-0.2%	4.88

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

ALLIANT HEALTH SOLUTIONS

QIN–QIO
Quality Innovation Network -
Quality Improvement Organizations
CENTERS FOR MEDICARE & MEDICAID SERVICES
iQUALITY IMPROVEMENT & INNOVATION GROUP

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)	% INPATIENT BEDS OCCUPIED BY COVID-19 PATIENTS (PAST WEEK)	ABSOLUTE CHANGE IN COVID-19 INPATIENT BED OCCUPANCY
16,186	2%	-0.1%

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

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)	% ICU BEDS OCCUPIED BY COVID-19 PATIENTS (PAST WEEK)	ABSOLUTE CHANGE IN COVID-19 ICU BED OCCUPANCY
16,186	1.8%	0%

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

https://covid.cdc.gov/covid-data-tracker/#maps_percent-inpatient-beds-county

COVID-19 County Check

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

COVID-19 County Check

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.

https://www.cdc.gov/coronavirus/2019-ncov/your-health/covid-by-county.html

Community-Level Prevention Strategies

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.

ALLIANT HEALTH SOLUTIONS

QIN—QIO
Quality Innovation Network -
Quality Improvement Organizations
CENTERS FOR MEDICARE & MEDICAID SERVICES
QUALITY IMPROVEMENT & INNOVATION GROUP

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.

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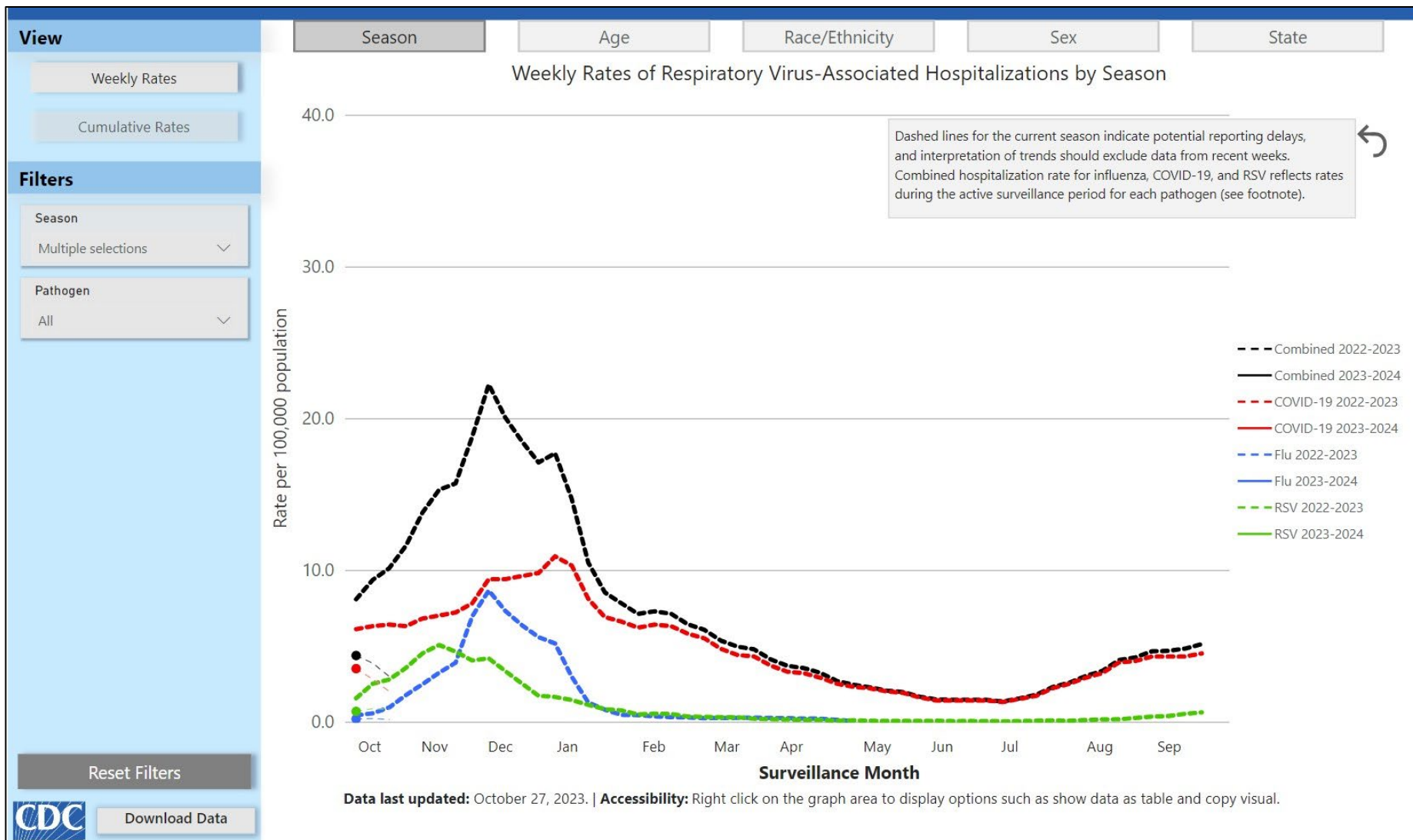
2) Select a filter of interest
- Data can be filtered by pathogen, age group, race and ethnicity, sex, season, and state. Filters vary by topic, as not all topics have filters available.

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.

ALLIANT HEALTH SOLUTIONS

QIN—QIO
Quality Innovation Network -
Quality Improvement Organizations
CENTERS FOR MEDICARE & MEDICAID SERVICES
iQUALITY IMPROVEMENT & INNOVATION GROUP
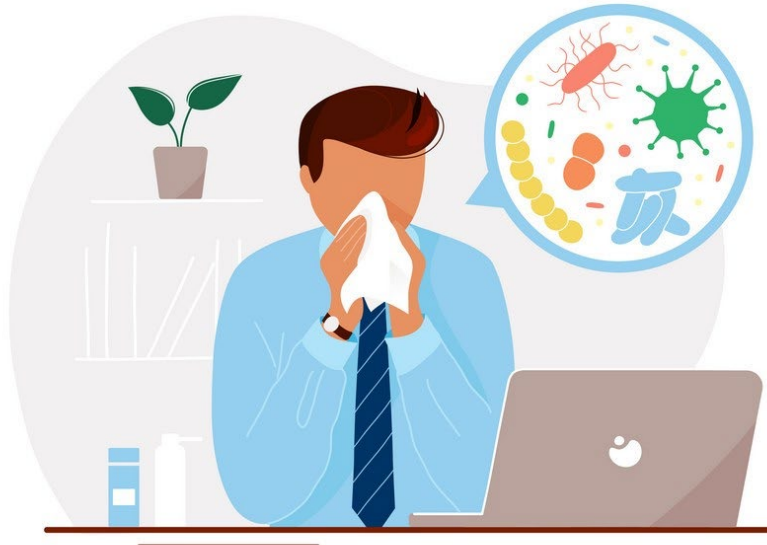
RESP-NET Surveillance Dashboard

Activities

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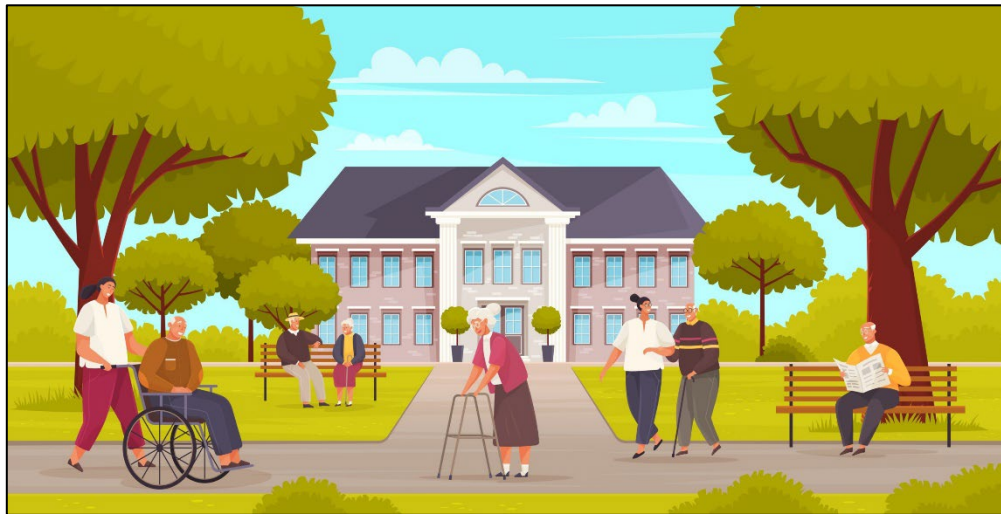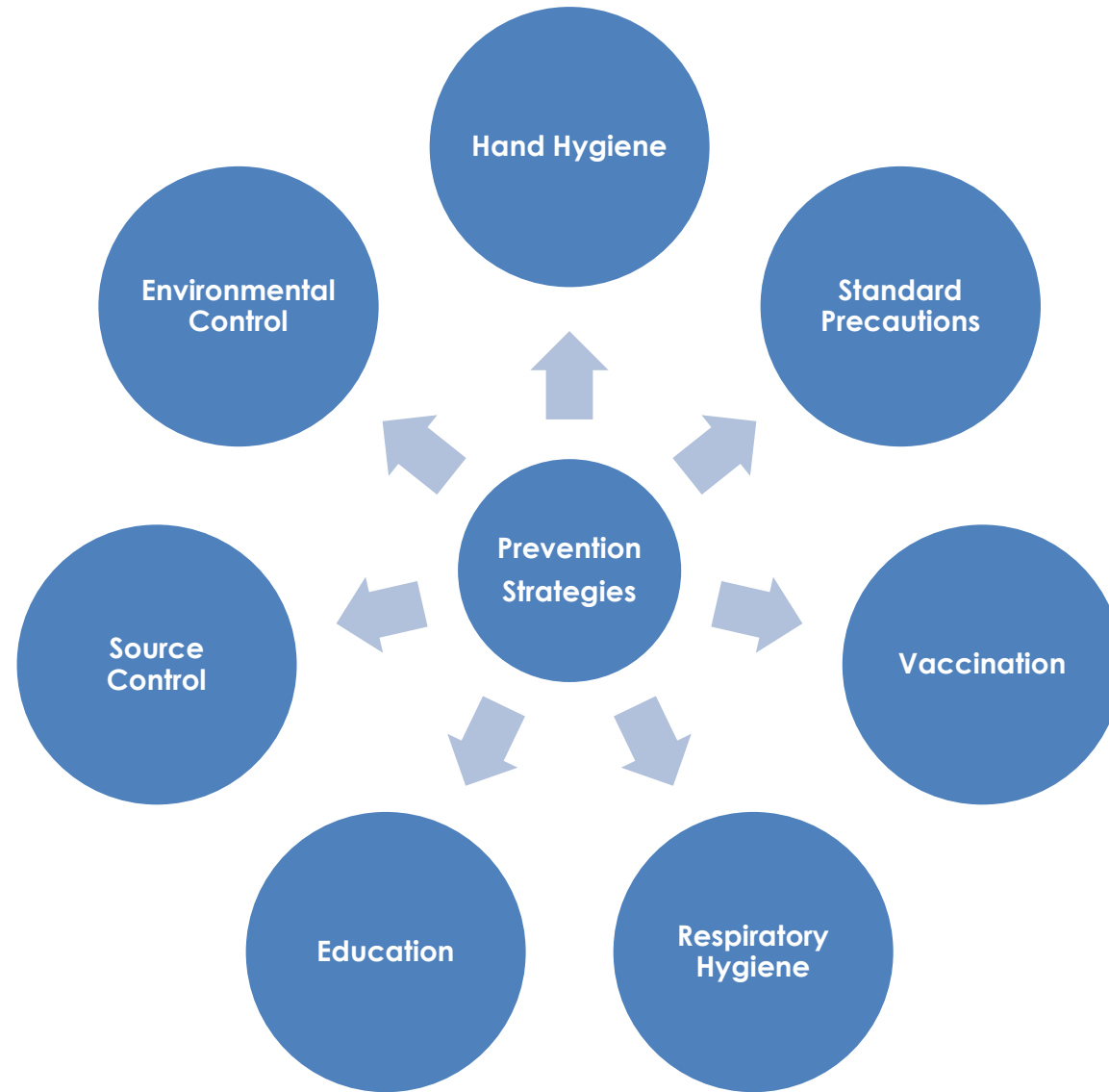
What Is Going On?

- Are there a lot of callouts among staff?
- Are staff and residents feeling sick?

Prevention Starts With Knowing the Risk!

Prevention Strategies

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

ALLIANT HEALTH SOLUTIONS

QIN—QIO
Quality Innovation Network -
Quality Improvement Organizations
CENTERS FOR MEDICARE & MEDICAID SERVICES
IQUALITY IMPROVEMENT & INNOVATION GROUP

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
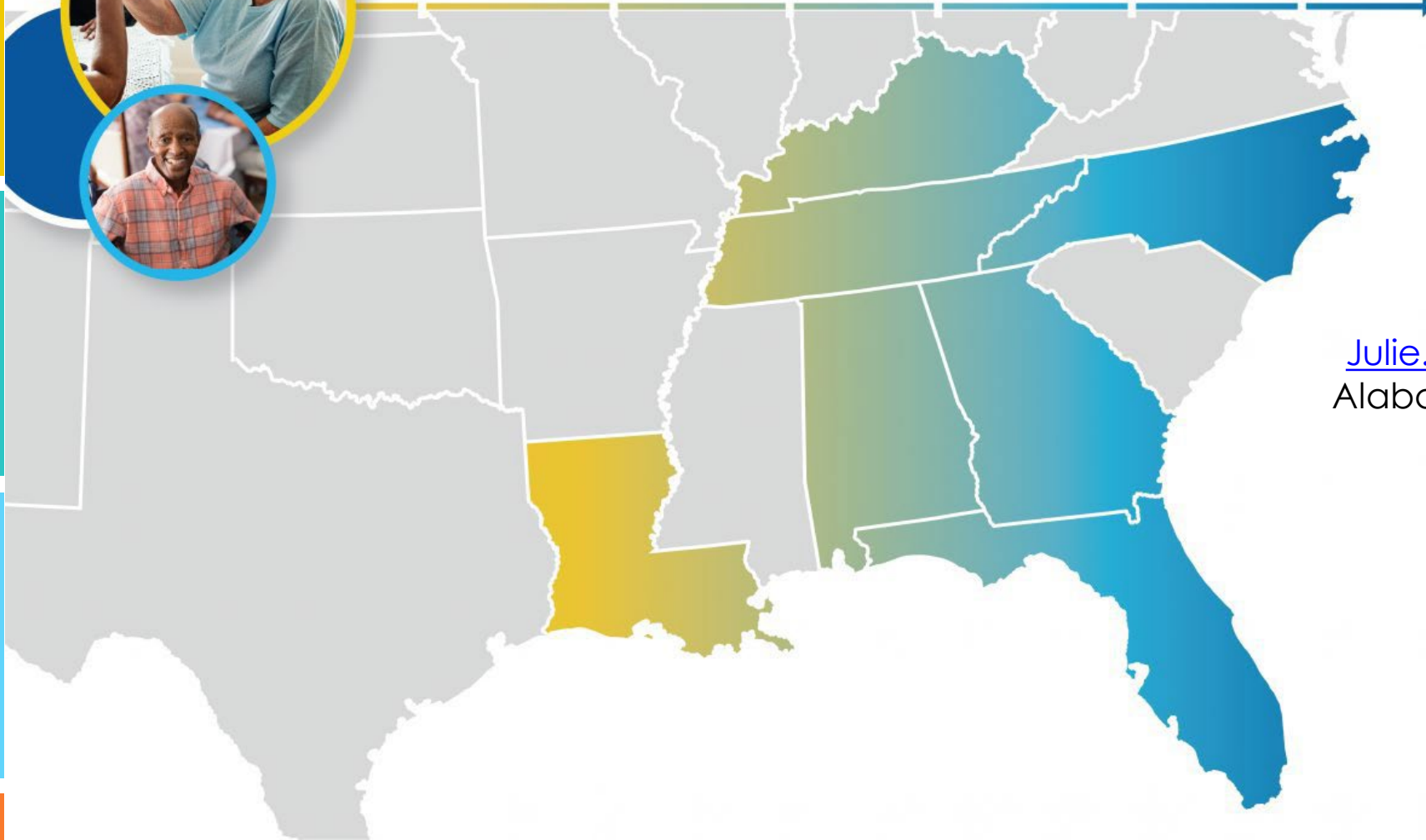
IMMUNIZATION

Increase influenza, pneumococcal, and COVID-19 vaccination rates

TRAINING

Encourage completion of infection control and prevention trainings by front line clinical and management staff

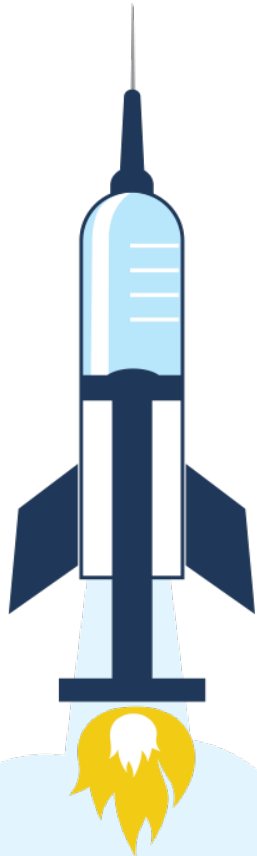Making Health Care Better *Together*

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

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

Program Directors

@AliantQIO

@AliantQIO

Alliant Health Solutions

AlliantQIO

Making Health Care Better Together