



# Looking Ahead to the Upcoming Respiratory Season

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 **Outline:**

- **COVID-19 and respiratory virus surveillance**
  - *What has changed?*
  - *What can we expect this fall?*
- **Vaccine operations**
  - *Program overview*
  - *Upcoming season*



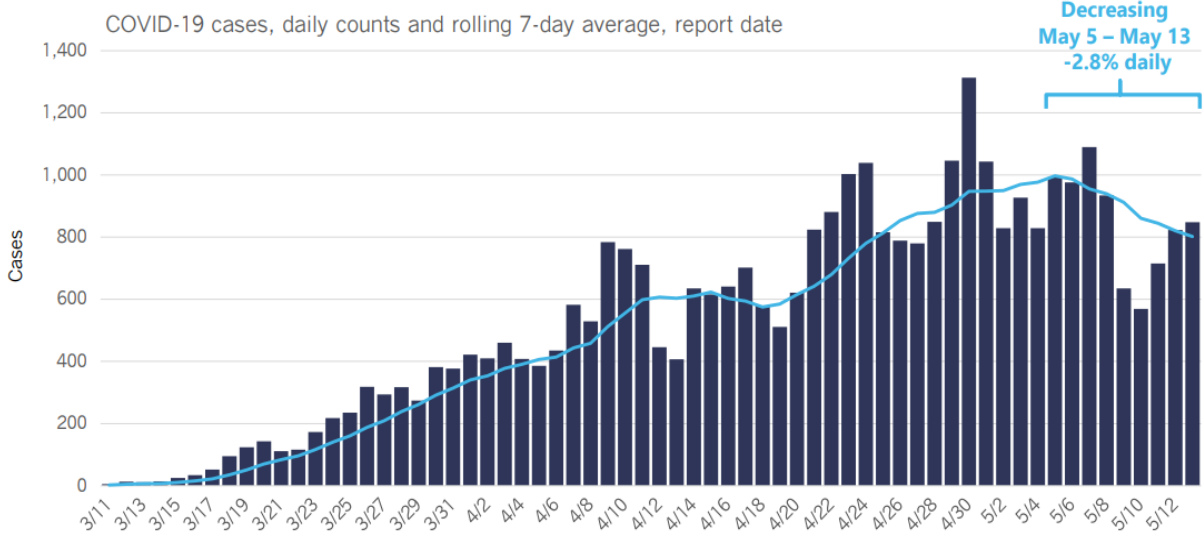


May 22, 2020

# CAUTIOUS OPTIMISM



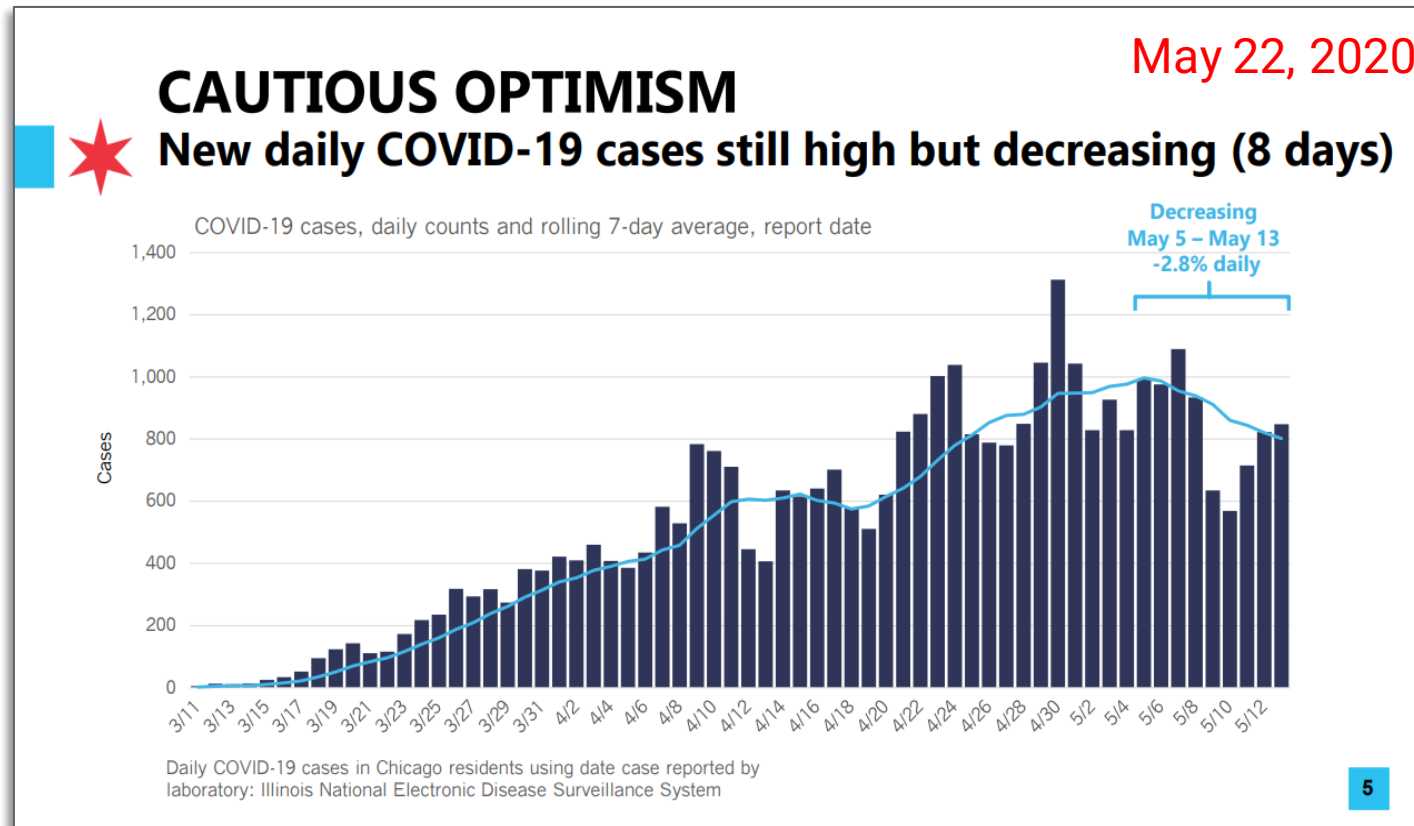
## New daily COVID-19 cases still high but decreasing (8 days)



Daily COVID-19 cases in Chicago residents using date case reported by laboratory: Illinois National Electronic Disease Surveillance System



# ★ How has our surveillance evolved since 2020?





**We have ADAPTED previous infrastructure and expanded its scope.**



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Expanded epi data



New diagnostics & tests

Outbreak data



Hospital capacity

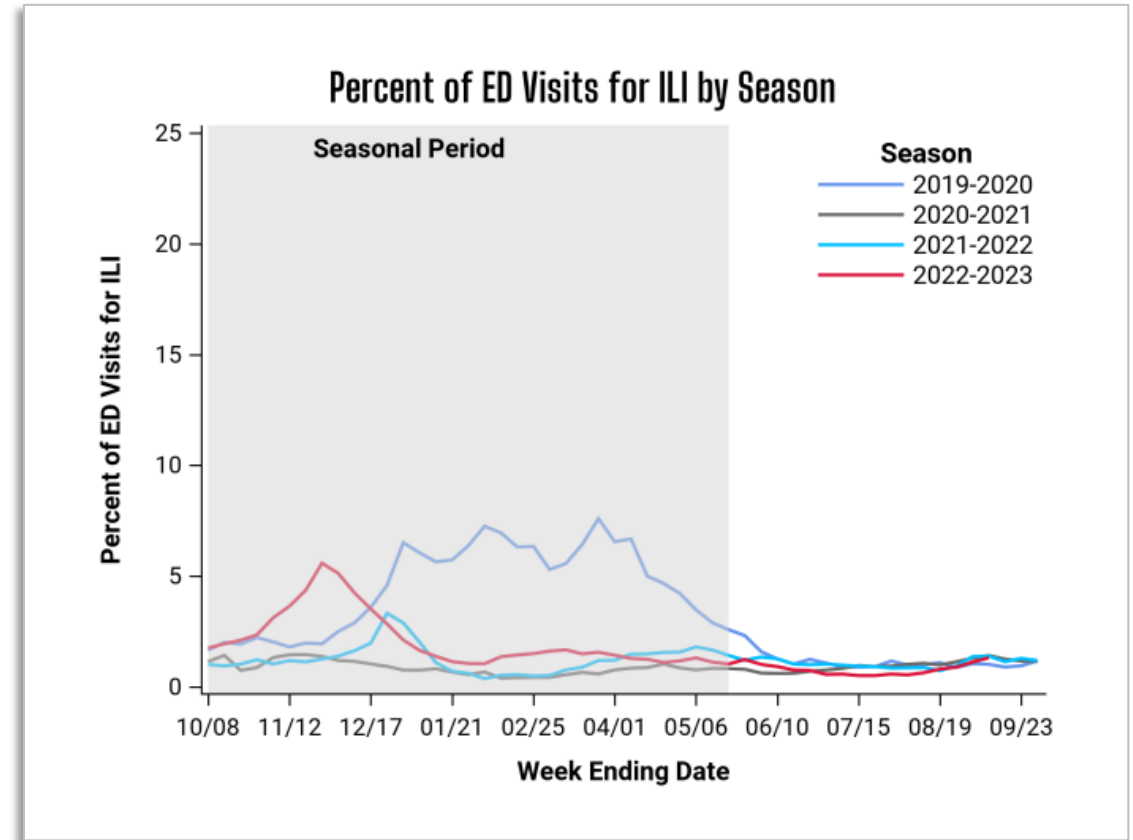




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## Influenza-like illness (ILI)

fever + (cough OR sore throat)



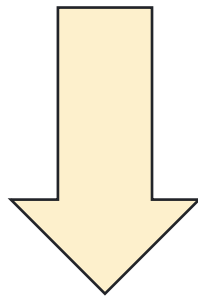




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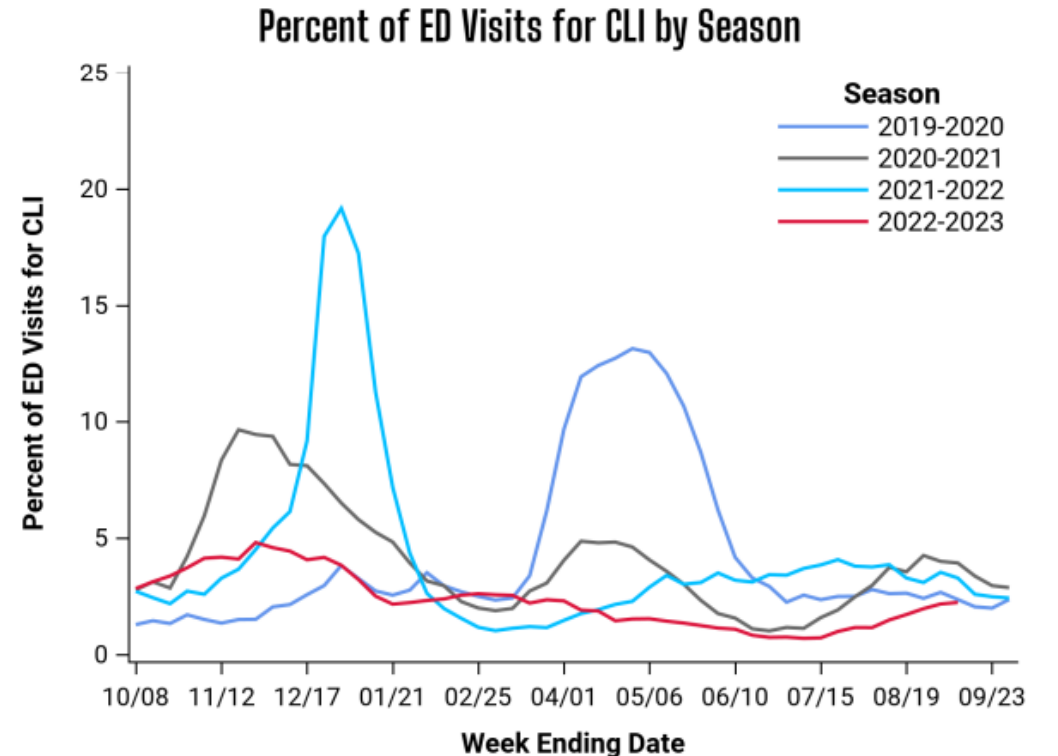


## COVID-like illness (CLI)

fever + (cough or SOB or difficulty breathing)

+ no mention of flu/influenza

Percent of ED Visits for ILI by Season





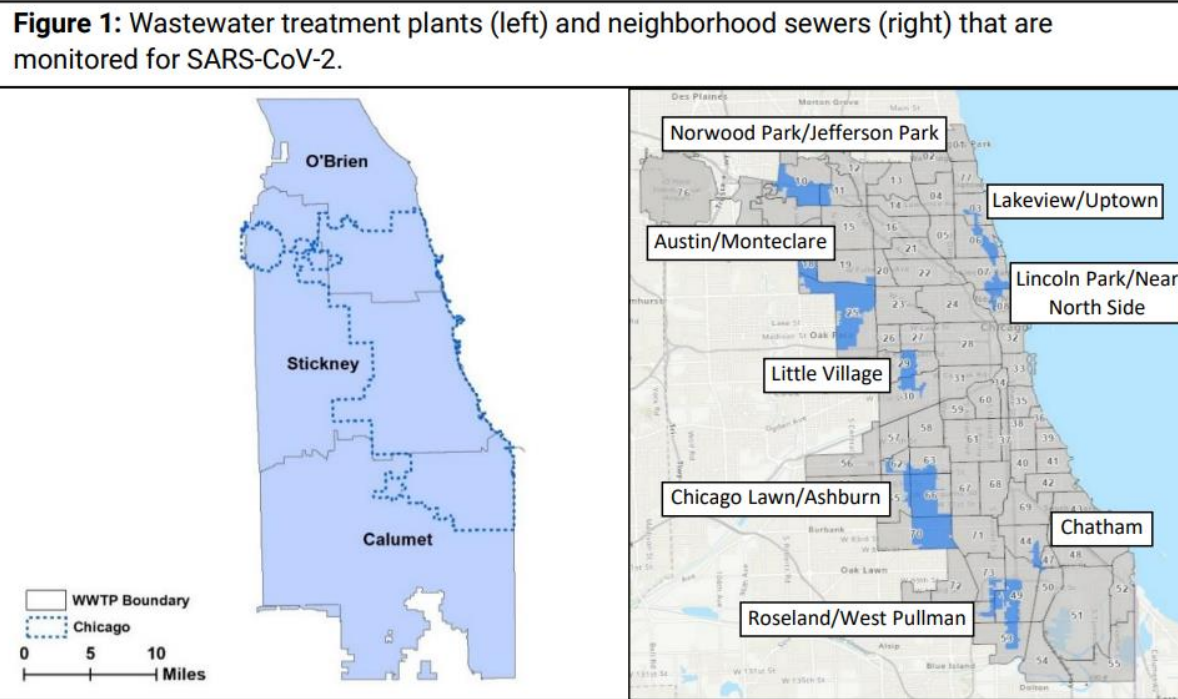
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## Wastewater Surveillance



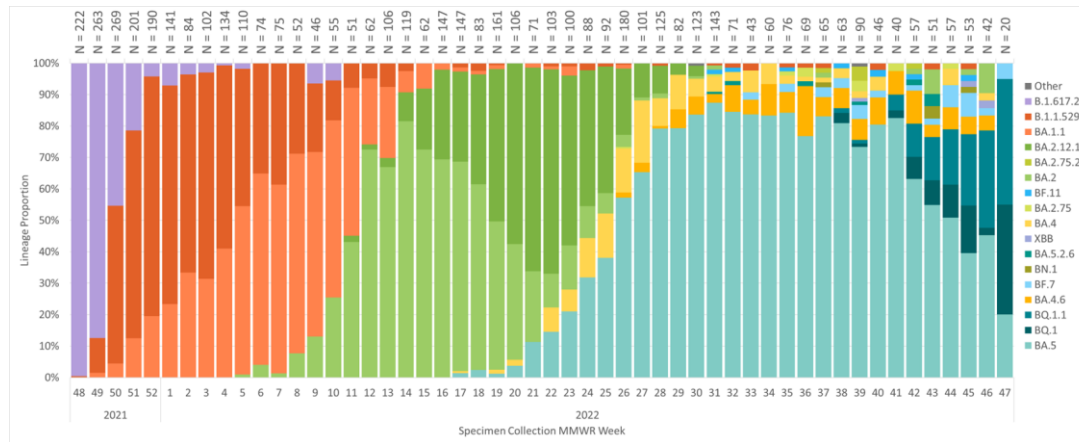


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## Genomic Surveillance

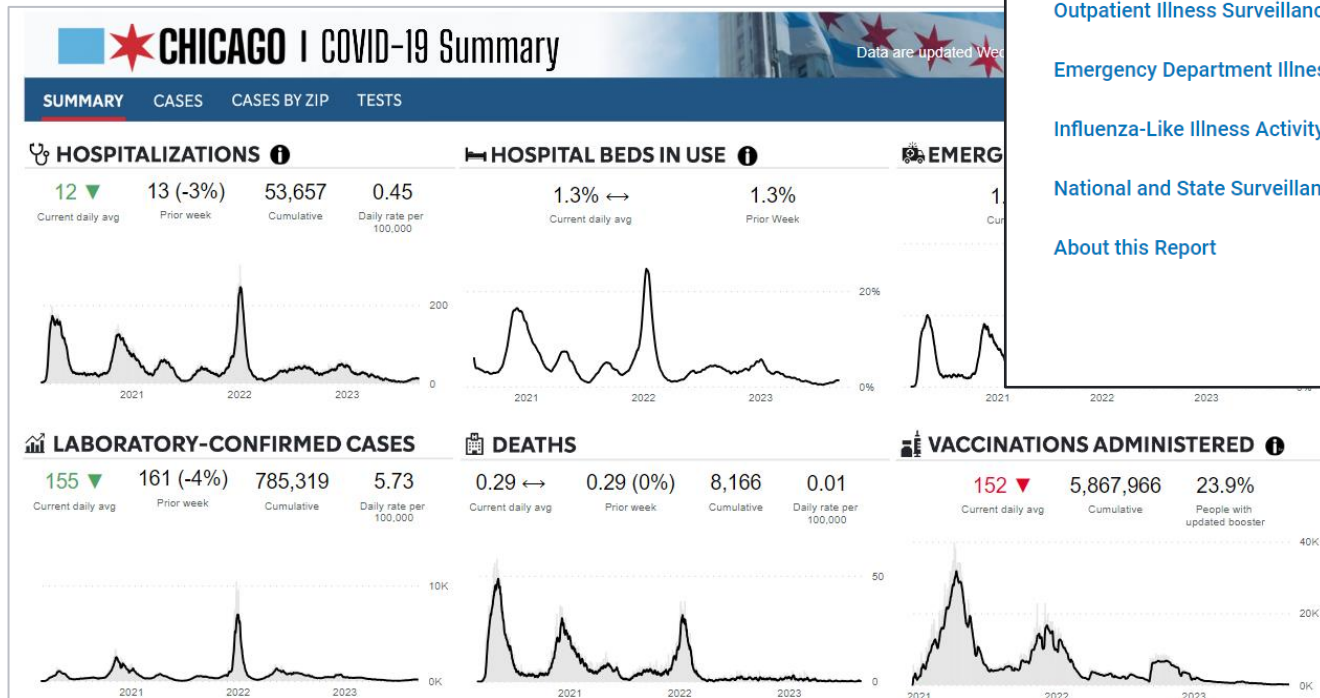


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# We have ADOPTED new technologies and established new surveillance capabilities.



Intensive Care Unit (ICU) Hospitalizations

**Laboratory Surveillance**

Outpatient Illness Surveillance

Emergency Department Illness Surveillance

Influenza-Like Illness Activity Map

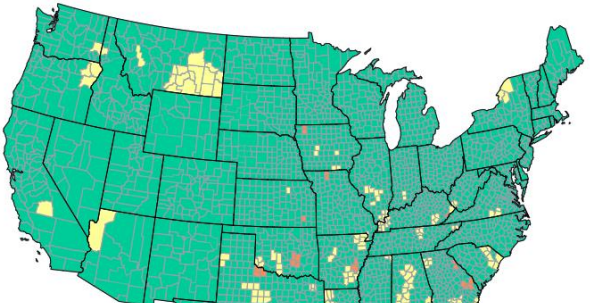
National and State Surveillance

About this Report

Weekly number of reported specimens tested for influenza  
 Influenza Season ● 2020-2021 ● 2021-2022

CDC Centers for Disease Control and Prevention  
 CDC 24/7: Saving Lives, Protecting People™

## COVID Data Tracker





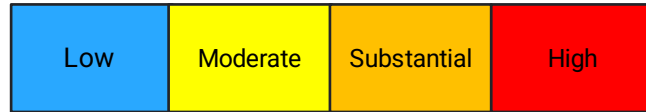
**We have ADJUSTED our approach to address evolving priorities**



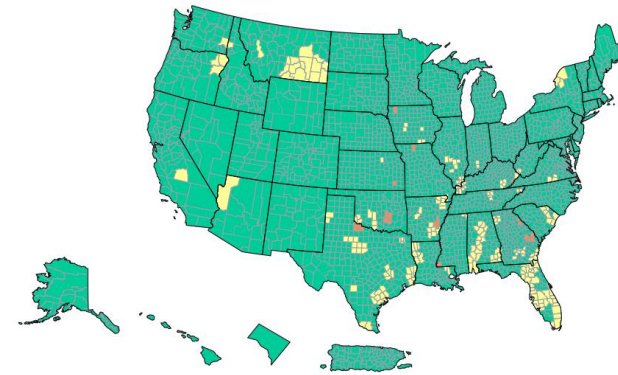


# We have **ADJUSTED** our approach to address evolving priorities

COVID-19 Community Transmission Levels



COVID-19 Hospital Admissions Levels



Chicago's COVID-19 Risk Level is **LOW**





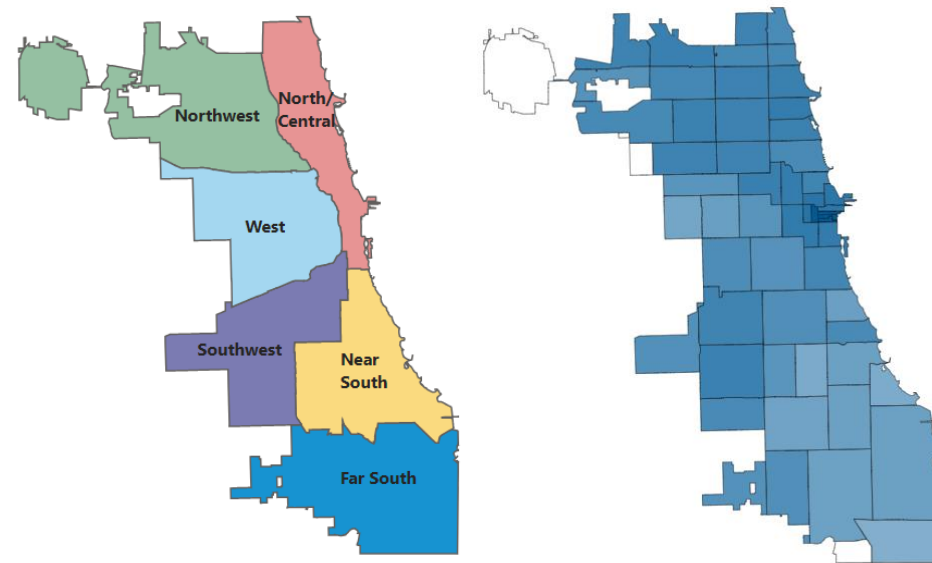
# We have ADJUSTED our approach to address evolving priorities

## COVID-19 Vaccinations By Healthy Chicago Equity Zone

	At Least One Dose	Completed Primary Series	Updated (Bivalent) Booster
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Welcome to the City of Chicago COVID-19 Vaccination HCEZ Dashboard. To view coverage and insights for a specific region, age group, and race-ethnicity, click on the cell in the table for the group you are interested in.

Age Group and Race/Ethnicity	Citywide	Far South	Near South	North/Central	Northwest	Southwest	West
<b>0 to 17</b>							
Asian, non-Latinx	61%	40%	67%	59%	57%	66%	58%
Black, non-Latinx	29%	30%	25%	41%	36%	29%	26%
Latinx	51%	38%	52%	52%	49%	52%	51%
White, non-Latinx	54%	41%	65%	58%	49%	54%	51%
<b>18 to 64</b>							
Asian, non-Latinx	85%	43%	91%	88%	74%	90%	73%
Black, non-Latinx	61%	56%	58%	79%	64%	60%	55%
Latinx	79%	63%	84%	79%	74%	82%	79%
White, non-Latinx	73%	71%	66%	74%	68%	73%	72%
<b>65 and Older</b>							
Asian, non-Latinx	84%	99%	65%	98%	66%	83%	99%
Black, non-Latinx	74%	77%	71%	99%	70%	60%	65%
Latinx	79%	74%	74%	96%	84%	75%	67%
White, non-Latinx	78%	73%	88%	88%	70%	61%	80%
<b>All Ages</b>							
Asian, non-Latinx	81%	48%	87%	84%	70%	85%	72%
Black, non-Latinx	56%	54%	53%	74%	58%	54%	49%
Latinx	71%	56%	73%	75%	68%	72%	70%
White, non-Latinx	71%	65%	69%	74%	66%	68%	70%



Data current as of August 26, 2023.

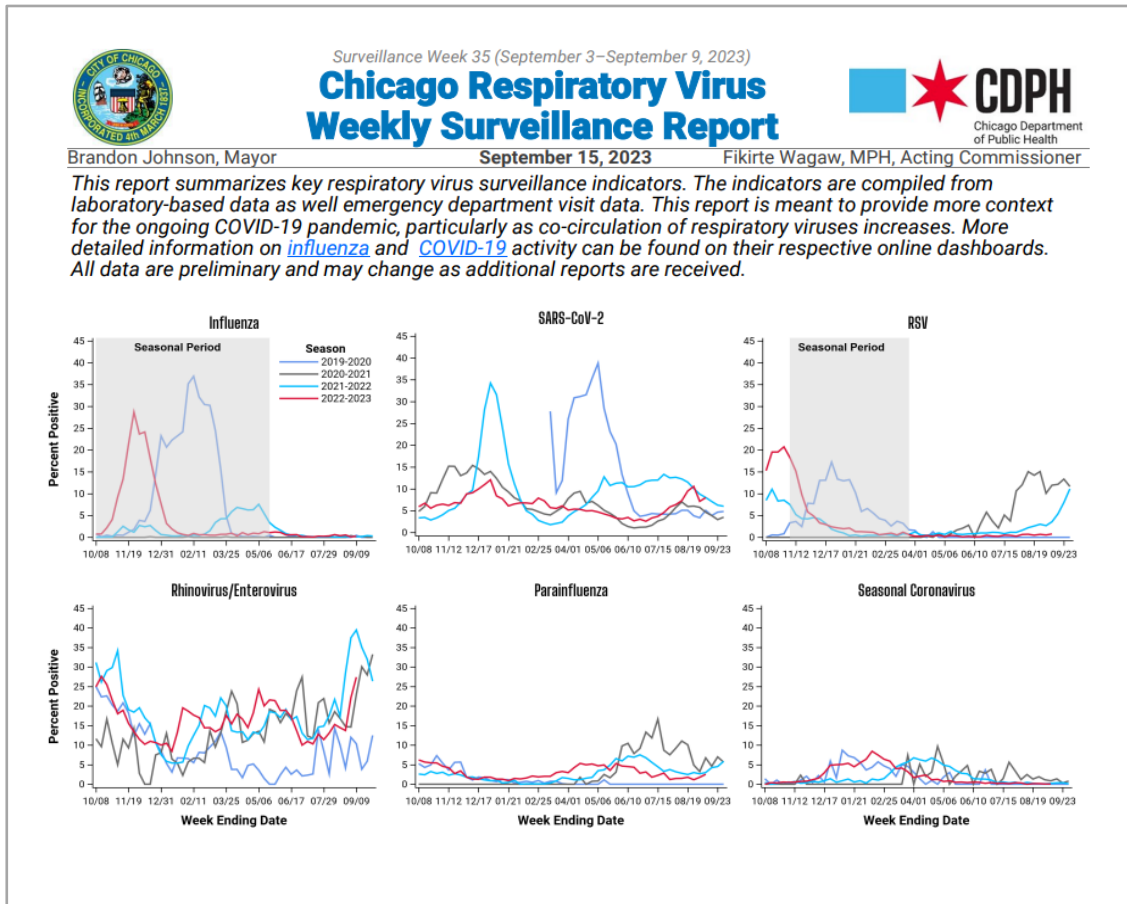
Data are updated the first Thursday of the month at 5:30 p.m., except for City holidays. All data are provisional and subject to change.



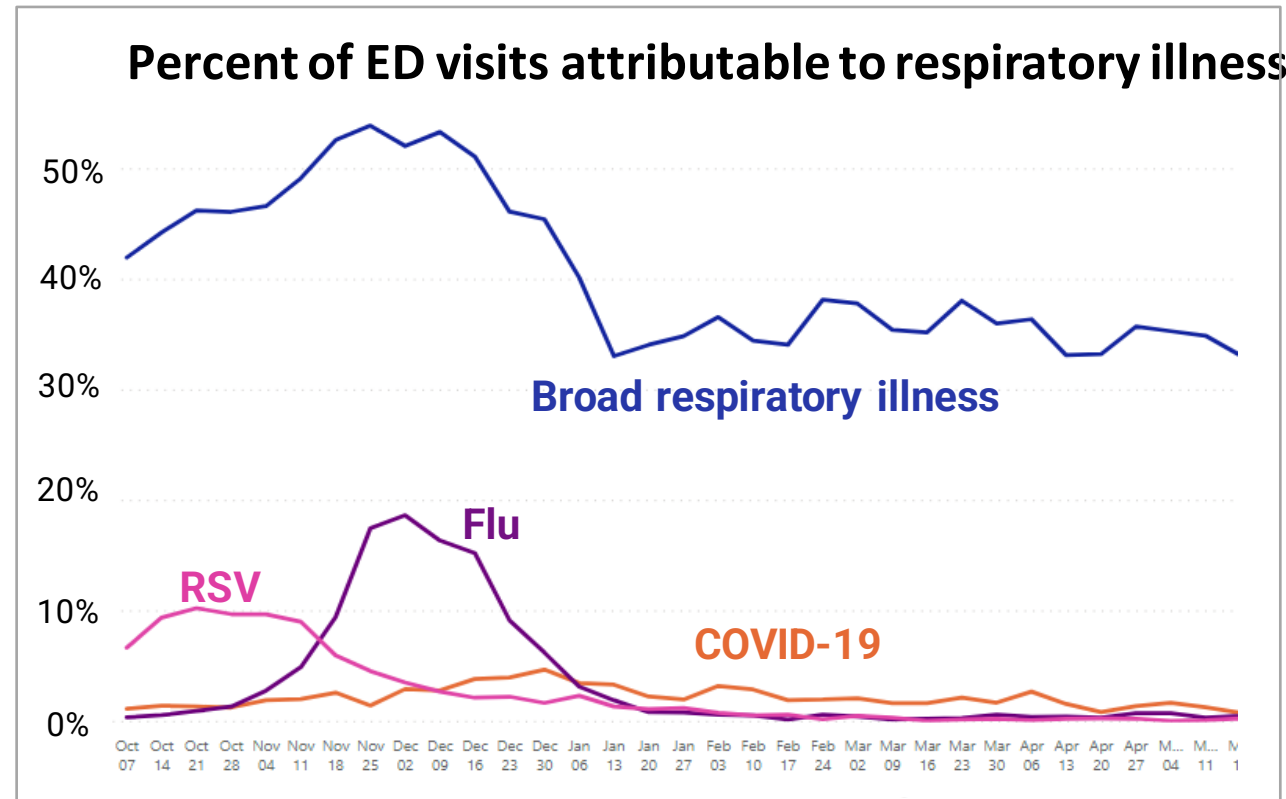




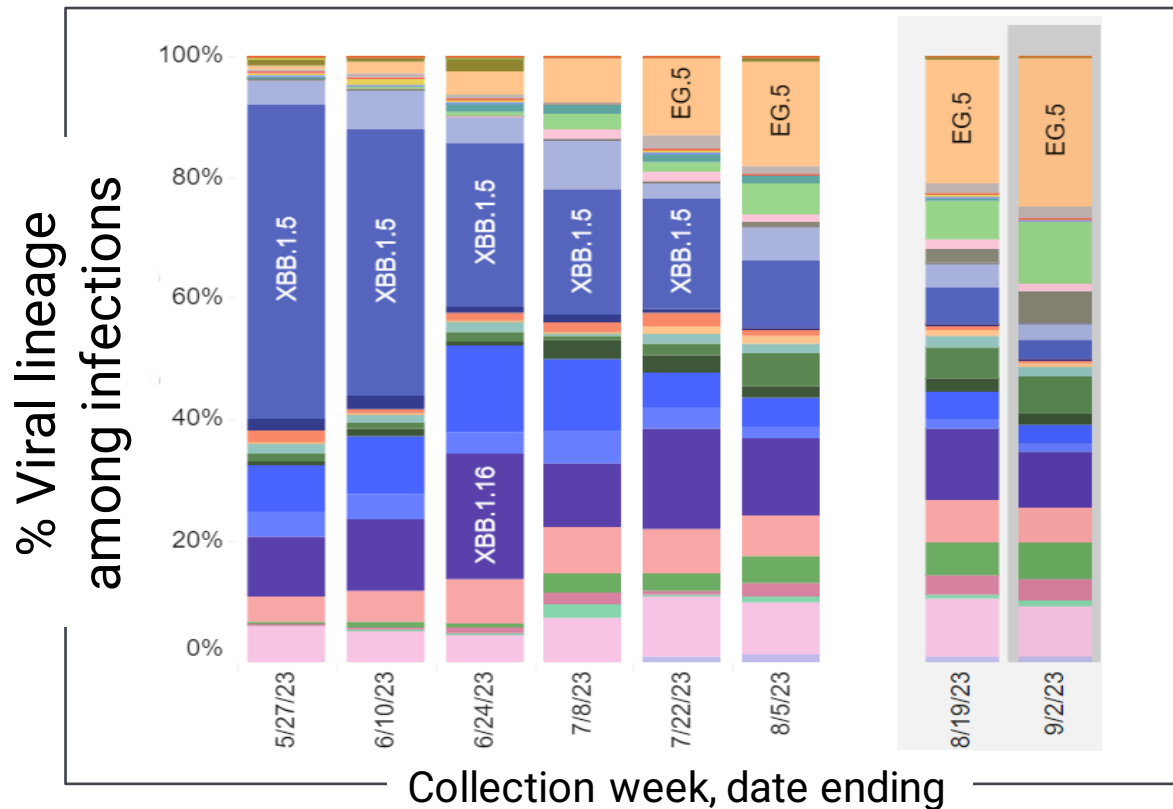
# This season, we will broaden our pan-respiratory approach to viral surveillance.



★★ ————— Mock future dashboard ————— ★★



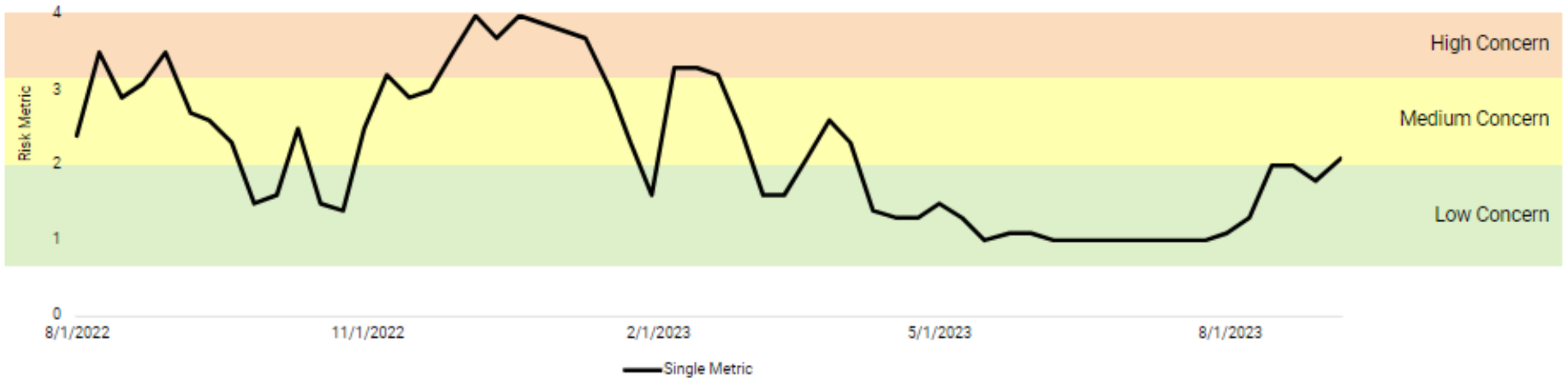
# ★ Sequencing and wastewater will still provide early warnings.



EG.5	24.5%	19.0-31.0%	
FL.1.5.1	10.0%	6.3-15.2%	
XBB.1.16	9.3%	7.8-10.9%	
XBB.2.3	8.4%	6.2-11.4%	
XBB.1.16.6	6.1%	4.7-7.7%	
XBB.1.5.70	6.0%	3.8-9.1%	
XBB.1.16.1	5.8%	4.7-7.1%	
HV.1	5.0%	2.4-9.5%	
XBB.1.16.11	3.3%	1.7-6.0%	
XBB.1.9.1	3.2%	2.6-4.0%	
XBB.1.5	3.1%	2.5-3.9%	
XBB	3.0%	2.1-4.3%	
XBB.1.5.72	2.0%	1.1-3.5%	
EG.6.1	1.8%	0.9-3.5%	
XBB.1.5.68	1.5%	0.9-2.6%	
GE.1	1.4%	0.6-2.8%	
XBB.1.9.2	1.1%	0.8-1.6%	
XBB.1.42.2	1.0%	0.5-1.7%	
XBB.2.3.8	0.8%	0.3-2.2%	
XBB.1.5.59	0.8%	0.4-1.7%	
XBB.1.5.10	0.6%	0.4-0.9%	

# ★ Sequencing and wastewater will still provide early warnings.

## Composite wastewater concern level for SARS-CoV-2



## Wastewater Surveillance Data as a Complement to Emergency Department Visit Data for Tracking Incidence of Influenza A and Respiratory Syncytial Virus — Wisconsin, August 2022–March 2023

Peter M. DeJonge, PhD<sup>1,2</sup>; Carly Adams, PhD<sup>1,3</sup>; Ian Pray, PhD<sup>2,4</sup>; Melissa K. Schussman, MS<sup>5</sup>; Rebecca B. Fahney<sup>6</sup>; Martin Shafer, PhD<sup>6</sup>; Dagmara S. Antkiewicz, PhD<sup>6</sup>; Adélaïde Roguet, PhD<sup>6</sup>

### Abstract

Wastewater surveillance has been used to assist public health authorities in tracking local transmission of SARS-CoV-2. The usefulness of wastewater surveillance to track community spread of other respiratory pathogens, including influenza virus and respiratory syncytial virus (RSV), is less clear. During the 2022–23 respiratory diseases season, concentrations of influenza A virus and RSV in wastewater samples in three major Wisconsin cities were compared with emergency department (ED) visits associated with these pathogens. In all three cities, higher concentrations of influenza A virus and RSV in wastewater were associated with higher numbers of associated ED visits (Kendall's tau range = 0.50–0.63 for influenza-associated illness and 0.30–0.49 for RSV-associated illness). Detections of both influenza A virus and RSV in wastewater often preceded a rise in associated ED visits for each pathogen, and virus material remained detectable in wastewater for up to 3 months after pathogen-specific ED visits declined. These results demonstrate that wastewater surveillance has the potential to complement conventional methods of influenza and RSV surveillance, detecting viral signals earlier and for a longer duration than do clinical data. Continued use of wastewater surveillance

surveillance data. Wastewater surveillance data for influenza A virus and RSV were compared with influenza- and RSV-associated emergency department (ED) visits, both descriptively and with basic correlation statistics, to broadly ascertain whether wastewater surveillance might be a useful, complementary surveillance tool for ongoing and future use in Wisconsin.

### Methods

#### Data Sources

During August 2022–March 2023, wastewater samples were collected at least once weekly from approximately 40 wastewater treatment plants (treatment plants) as part of Wisconsin's established wastewater surveillance system. Refrigerated samples were shipped overnight to either the Wisconsin State Laboratory of Hygiene or a University of Wisconsin-Milwaukee laboratory for processing; laboratories used different concentration and extraction methods, but all samples from a given treatment plant were processed by the same laboratory.\* Established assays were used with CDC primers and probes† to quantify concentrations (in gene copies per liter [gc/L]) of influenza A virus and RSV in samples (4). Weekly geometric mean concentrations were calculated in instances when more

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### Methods

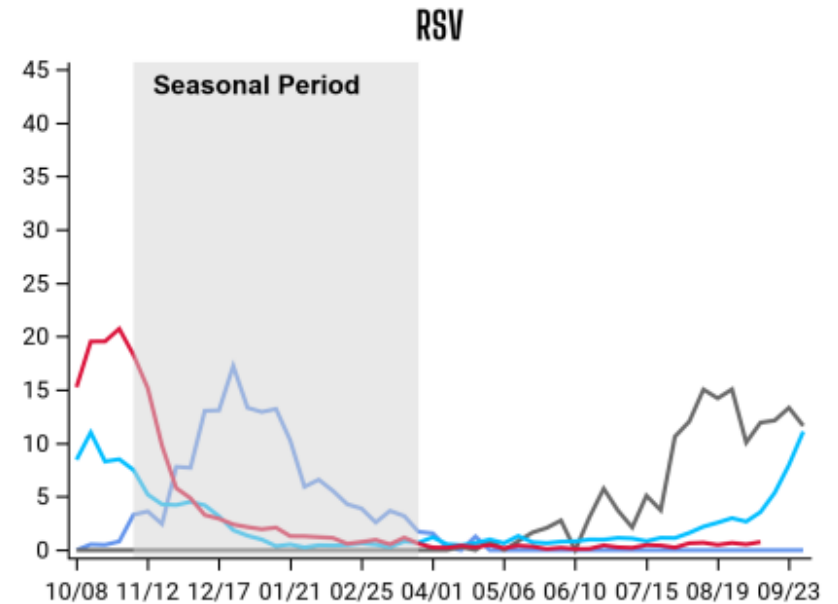
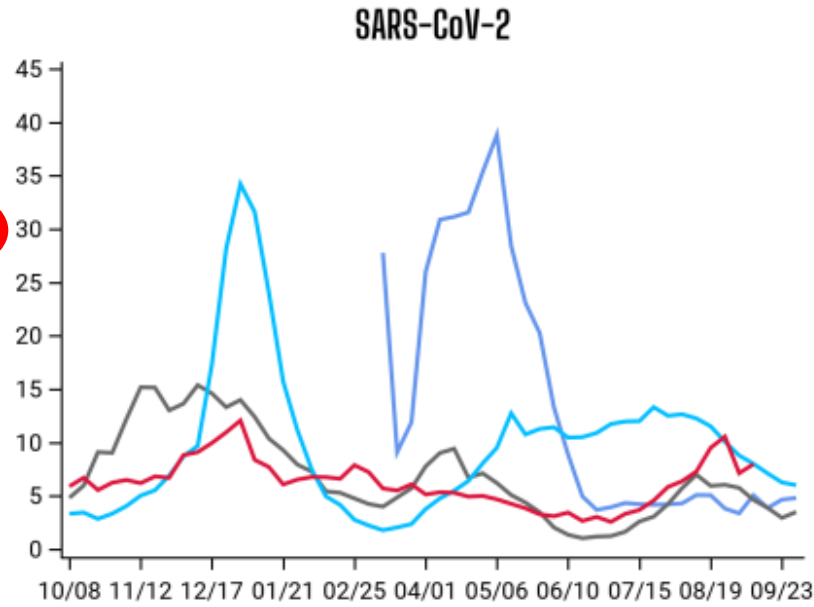
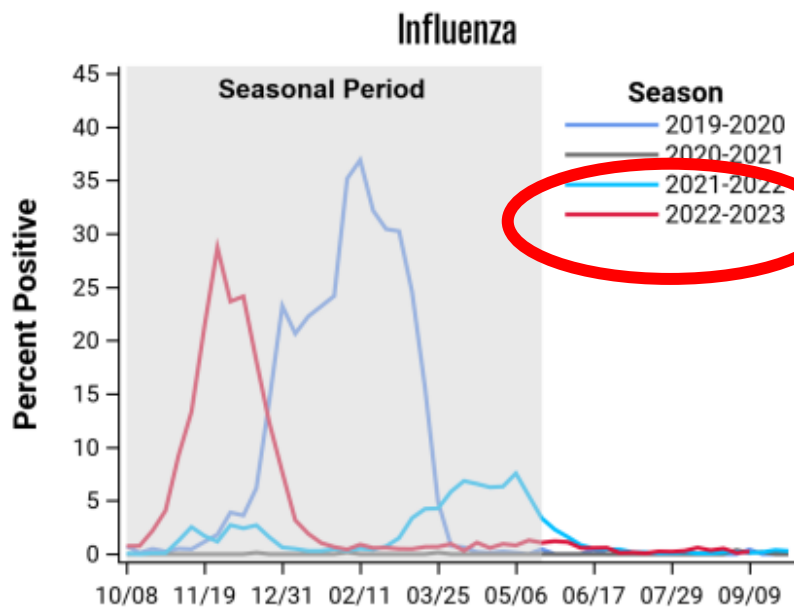
#### Data Sources

During August 2022–March 2023, wastewater samples were collected at least once weekly from 10 treatment plants (treatment plants) in the wastewater surveillance system. Residuals were stored overnight to either the Wisconsin Department of Health Services or a University of Wisconsin–Milwaukee laboratory. All laboratories used different concentrations but all samples from a given treatment plant were analyzed at the same laboratory.\* Established assays were used with CDC primers and probes† to quantify concentrations (in gene copies per liter [gc/L]) of influenza A virus and RSV in samples (4). Weekly geometric mean concentrations were calculated in instances when more

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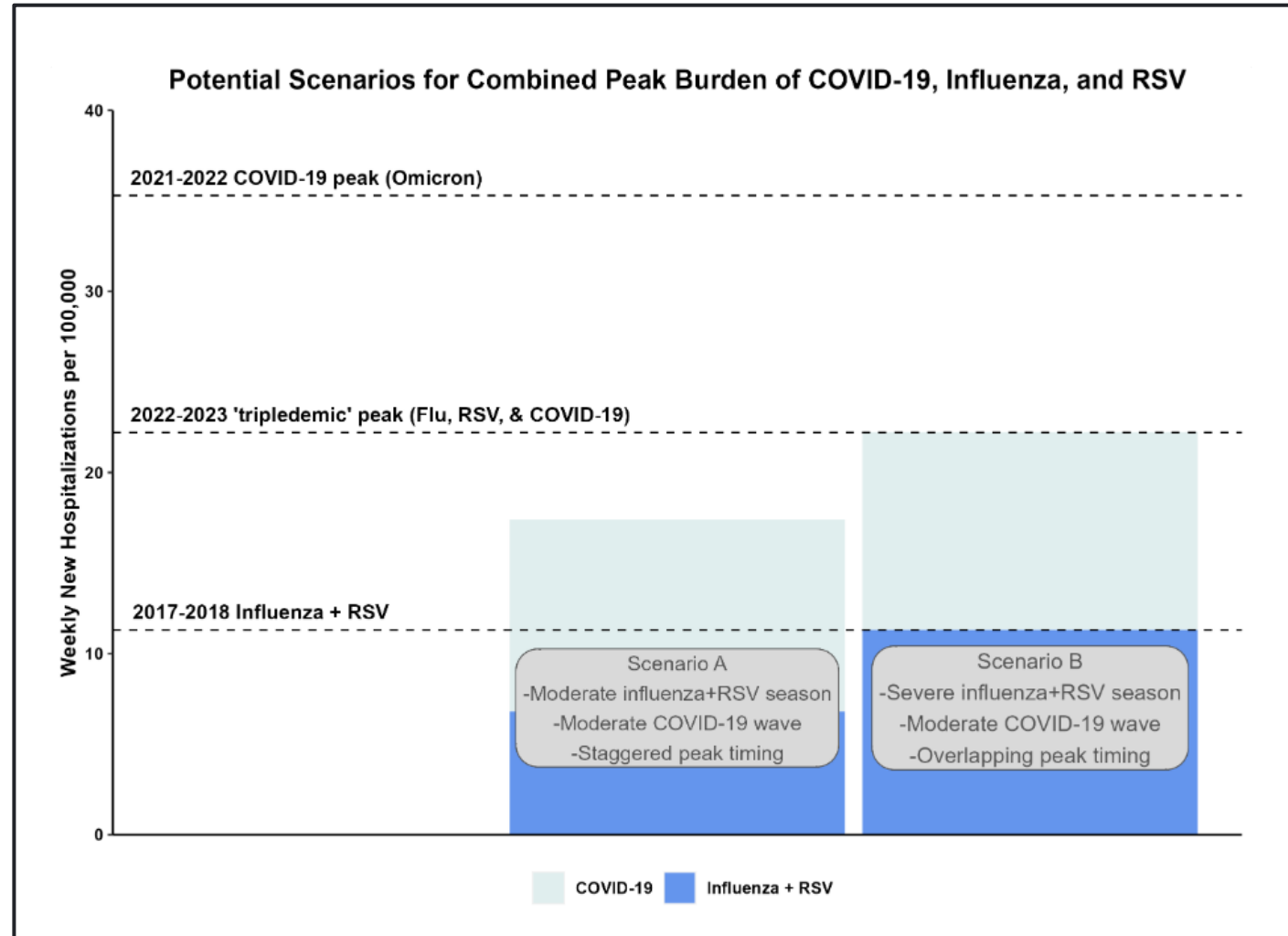


# Respiratory virus levels are low, but expected to increase.



# CDC expects hospitalizations similar to last season.

- Average season can still strain hospital system.
- Uncertainties include
  - viral evolution
  - vaccine uptake/performance



**First time in history:**  
**★ vaccines for all three major respiratory viruses**  
**(!)**



Influenza



RSV



COVID-19

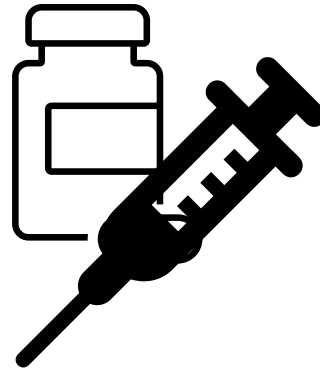




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vaccines for all three major respiratory viruses  
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Influenza



RSV



COVID-19

- 52% VE
- Hopefully good match

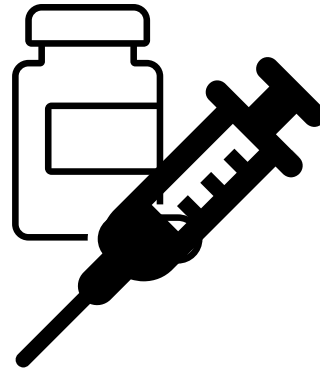


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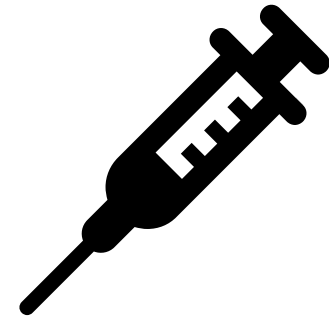
Influenza

- 52% VE
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RSV

- >80% VE
- Multiple age groups



COVID-19

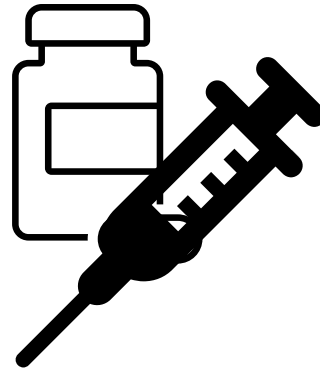


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**Influenza**

- ~52% VE
- Hopefully good match



**RSV**

- >80% VE
- Multiple age groups



**COVID-19**

- **Long-COVID protection**
- **Matches circulating variants**






# **CDPH Immunizations Program/Vaccine Operations**


**Updated 9/18/2023**

**Jacqueline Tiema-Massie, DrPH, MPH, Immunization Program Director/  
Director of Public Health Operations**








# CDPH Immunization Program

- **Mission – To protect children, adolescent and adults from potentially life-threatening vaccine preventable diseases**
  - **What we do ...**
    - Support citywide vaccine distribution to over 500 providers (VFC, Adult, COVID/Bridge Access, Perinatal Hep B, and FLU)
    - Manage the Vaccines for Children (330+ providers) and Adult Programs
    - Provide direct immunization services
      - ❖ (3) Walk-in Immunization Clinics (Lower West, Uptown, and Greater Lawn)
      - ❖ CareVan Mobile Services (BCBS-IL)
      - ❖ Protect Chicago At Home Program
    - Conduct healthcare and community immunization education (ICAAP, EverThrive, etc.)
    - Sponsor the citywide annual fall FLU/COVID Campaign – 100 + Vaccination Events (Aldermanic Wards, CCC, DFSS Senior Centers, First Responders, City Employees)
- 

 This fall there will be vaccines to protect against **Influenza, COVID-19, and Respiratory Syncytial Virus (RSV)**

Version: Aug 2023

## FALL 2023 VACCINES

	What are the options?	Who is eligible?	How well do they work?	When should I get it?
<b>INFLUENZA</b> 	A shot that targets 4 strains of seasonal flu	6 months and older	Typically reduces the risk of going to the doctor by 40- 60%	October is ideal, as vaccine protection wanes over a season
<b>COVID-19</b> 	Updated vaccine formula targeting XBB - an Omicron subvariant  Options: Moderna and Pfizer (mRNA) and Novavax (protein)	TBD. CDC will decide in mid-to-late September	Last year, the fall COVID-19 vaccine provided 40-60% additional effectiveness against severe disease	For protection against <b>severe disease</b> , get it anytime  Protection against <b>infection</b> : It's best to get it right before a wave, which can be challenging to time
<b>RSV (OLDER ADULTS)</b> 	2 options: GSK and Pfizer. They are slightly different in design, but only at a microscopic level	60 years and older	82-86% efficacy against severe disease	Protection is durable. Get when it's available; no need to juggle timing
<b>RSV (PREGNANCY)</b> 	Pfizer is actively seeking approval	Pregnant people (then protection will pass to baby for protection in first 6 months of life).	82% efficacy in preventing hospitalization in first 3 months of life. 69% efficacy after 6 months	It's not available yet but once approved, get at 24 to 36 weeks of pregnancy
<b>RSV ANTIBODY</b> 	A new monoclonal antibody by AstraZeneca. This is not a vaccine (doesn't teach the body to make antibodies) but rather a proactive medication (provides antibodies).	All infants <8 months. High-risk infants 8-19 months	Reduces risk of hospitalization and healthcare visits by ~80%	Will be available soon.  Protection lasts 4-6 months

By: Katelyn Jetelina, MPH PHD and Caitlin Rivers, MPH PHD. For more information go to Your Local Epidemiologist



# **New Updated 2023-2024 Monovalent COVID-19 Vaccines**

- On Monday, 9/11/23 **FDA authorized the new updated 2023-2024 monovalent XBB. 1.5 variant mRNA COVID 19 vaccines** by Moderna and Pfizer-BioNTech
- On Tuesday, 9/12/23, **ACIP/CDC recommended use of these updated vaccines for individuals 6 months of age and older**
- **Bivalent mRNA COVID-19 vaccines are no longer recommended in the United States**
- **The original Novavax COVID-19 vaccine remains authorized** for use as a 2-dose primary series and as a booster dose for those ages 18+ in limited situations
- Updated COVID-19 vaccines **are on the way to providers and availability will continue to increase in the coming weeks.**

# New COVID-19 Vaccine - Interim Clinical Considerations

- **Everyone ages 5 years and older is recommended to receive 1 dose of updated (2023--2024 Formula) mRNA COVID-19 vaccine**
- **Children ages 6 months–4 years**
  - Initial vaccination: should receive either 2 doses of updated (2023–2024 Formula) Moderna or 3 doses of updated (2023–2024 Formula) Pfizer-BioNTech COVID-19 vaccine
  - Received previous mRNA doses: need 1 or 2 doses of updated (2023–2024 Formula) Moderna or updated (2023–2024 Formula) Pfizer-BioNTech COVID-19 vaccine, depending on the number of prior doses
- **People who are moderately or severely immunocompromised**
  - Initial vaccination: should receive a 3-dose series of updated (2023–2024 Formula) Moderna or updated (2023–2024 Formula) Pfizer-BioNTech COVID-19 vaccine
  - Received previous mRNA doses: need 1 or 2 doses of updated (2023–2024 Formula) Moderna or updated (2023–2024 Formula) Pfizer-BioNTech COVID-19 vaccine, depending on the number of prior doses
  - May receive 1 or more additional updated (2023–2024 Formula) mRNA COVID-19 vaccine doses



# Updated COVID-19 Vaccine Access Post Commercialization

- **Beginning Sept. 12, 2023, new COVID-19 vaccines will no longer be free** through the US government but available via the private marketplace
- **Where can someone get a vaccine?**
  - Healthcare Providers, Federally Qualified Health Centers, Retail Pharmacies, and City-run clinics
- **How can someone get vaccines?**
  - **Insurance** (public or private)
  - **Vaccines for Children (VFC) Program** – Children (0-18) on Medicaid, underinsured, uninsured, American Indian or Alaska Native
    - **Bridge Access Program (BAP)** – BAP ensures cost-free access to COVID-19 vaccines and treatments to uninsured/underinsured adults after the commercialization of these products, Fall 2023 through December 2024
- Under the Affordable Care Act, most insurance plans are required to cover the full cost of vaccines, without co-pays.
- Providers will need to directly purchase doses of the updated 2023-2024 COVID-19 vaccines and administer them through their standard processes

# Finding Updated COVID-19 and Flu Vaccines



- **Annual FLU/COVID Campaign**
  - Over 100 clinics planned citywide
  - Family Vaccination Clinics at City Colleges
    - 7 Location, Saturdays – 9:00 am – 2:00 pm, 10/21/23 - 12/9/23
  - 46 Aldermanic Wards
  - 3 CDPH Immunization Walk-in Clinics
  - Protect Chicago At Home Program
- **Questions**
  - [Vaccines.gov](https://www.vaccines.gov)
  - [Vacunas.gov](https://www.vacunas.gov) (Spanish version )
  - City's COVID-19 helpline at 312-745-4835
  - [CHI.GOV/FLU](https://www.chi.gov/flu)



# Respiratory Syncytial Virus (RSV)

## Immunizations

- RSV is one of the most common respiratory viruses and poses a heightened risk to Infants and Seniors.
- **Disease Burden -**
  - Among children younger than 5 years old: 2.1 million outpatient (non-hospitalization) visits, 58,000-80,000 hospitalizations, and 100-300 deaths
  - Among adults 65 years and older: 60,000-160,000 hospitalizations and 6,000-10,000 deaths

### Infants

- **ACIP recommended Nirsevimab (AstraZeneca), monoclonal antibody, for all infants aged <8 months who are born during or entering their 1st RSV season and for infants and children aged 8-19 months who are at increased risk for severe RSV disease and are entering their 2nd RSV season.**
- Starting October, **Nirsevimab will be part of the VFC program** and will facilitate access for all infants, regardless of insurance status.
- **Nirsevimab will also be available through private providers and birthing hospitals**
- **Birthing Hospitals**
  - The Immunization Program is working with CDPH's Office of the Chief Medical Officer to survey birthing hospitals about their plans to vaccinate for RSV and with ICAAP to share results with private providers and assess their plans to offer Nirsevimab



# Respiratory Syncytial Virus (RSV) Immunizations – Cont.

## Seniors

- Seniors with health problems such as heart or lung disease, immunocompromised, and living in congregate settings are at higher risk for severe RSV disease.
- Adults have **two (2) approved vaccines available to prevent RSV in adults 60 and older, Pfizer's Abrysvo and GSK's Arexvy.**
- The CDC recommends seniors to consult with their providers about the risks and benefits of vaccination.

## Maternal

- **A maternal vaccine (Abrysvo, Pfizer)** administered in the third trimester (32 to 36 weeks pregnancy) passes protection to the infant has been FDA approved; however, it still needs ACIP/CDC recommendation before distribution.
- Available through select provider offices and retail pharmacies
- CDPH is unable to offer the vaccine for Adults – the vaccine costs ~\$320 per dose compared to COVID at ~\$120 dose and Flu which is under \$20 a dose



# Vaccine Access Post PHE - Vaccines for Adult Program

- Lifesaving adult vaccines underscore the need for a Vaccines for Adult Program.
- A comprehensive Vaccines for Adults Program is proposed in the Biden Administration's FY23 and FY24 President's Budgets.
- It is important to expand vaccine access to targeted populations, like the uninsured to promote equity, improve vaccination rates, reduce disparities, and reduce vaccine-preventable illnesses and deaths.
- This would build on the success of the VFC program which has saved \$2.2 trillion since it began in 1993, avoided over \$1 million deaths and prevented an estimated 472 million illnesses.