Community Surveillance of Respiratory Viruses Among Families in the Utah Better Identification of Germs–Longitudinal Viral Epidemiology (BIG-LoVE) Study

Carrie L. Byington, Krow Ampofo, Chris Stockmann, Frederick R. Adler, Amy Herbener, Trent Miller, Xiaoming Sheng, Anne J. Blaschke, Robert Crisp, Andrew T. Pavia

Author Notes

Clinical Infectious Diseases, Volume 61, Issue 8, 15 October 2015, Pages 1217–1224,
https://doi.org/10.1093/cid/civ486

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Estimation of the Timing and Intensity of Reemergence of Respiratory Syncytial Virus Following the COVID-19 Pandemic in the US

Zhe Zheng, MPhil, MBBS\textsuperscript{1}; Virginia E. Pitzer, ScD\textsuperscript{1}; Eugene D. Shapiro, MD\textsuperscript{2}; \textit{et al.}


\textbf{Findings} In this simulation modeling study of a simulated population of 19.45 million people, virus introduction from external sources was associated with the spring and summer epidemics in 2021. Reemergent RSV epidemics in 2021 and 2022 were projected to be more intense and to affect patients in a broader age range than in typical RSV seasons.
Preparation for uncertainty: endemic pediatric viral illnesses after COVID-19 pandemic disruption

Kevin Messacaw, Rachel E Baker, Sang Woo Park, Han Nguyen Tran, Jessica R Cantor, and Bryan Gerton

Modelling of endemic virus circulation in children following COVID-19 pandemic disruption

Schemata depicts the possible trajectory of seasonal outbreaks of cases of an endemic viral illness in children pre-2020 and post-2020 following COVID-19 control period with non-pharmaceutical interventions (NPIs) and alterations in societal behaviours due to the COVID-19 pandemic. Model is based on data from Baker and colleagues’ study2 and age categorisations are illustrative. COVID-19 NPIs dampen transmission of endemic viruses leading to an immunity gap in a larger, older population of susceptible children that might change the age structure of return outbreaks.
RSV Hospitalizations, RSV-Net - New York
National Influenza Data - Hospitalizations

Weekly Rate of Laboratory-Confirmed Influenza Hospitalizations among cases of all ages, 2014-15 to 2022-23, MMWR Week 01
The flu shot is a good match for this year’s circulating strains
Everyone 6 months and above should get flu shot now
Walk-in clinics have additional hours but will close Jan 31st

https://www.healthvermont.gov/disease-control/covid-19/vaccine#walkinclinic
Massachusetts COVID Wastewater Data

Biobot Data - samples submitted through 01/11/2023

DITP Viral RNA Signal by Date
Summary

- Households with young children have frequent illnesses
- Return of endemic viral respiratory illness has been difficult to predict but was expected
- RSV trending down but still circulating
- Flu A trending down but expect a Flu B bump
  - still time for everyone 6 months and older to get their flu shot
2022-2023 Season Updates

John Davy, Ph.D
Hilary Fannin, MPH
Division of Laboratory Sciences & Infectious Disease

19 January 2023
Quick COVID-19 Update

COVID-19, Identified Cases per 100K, by Age Group
Quick COVID-19 Update

COVID-19, Identified Cases per 100K, by Age Group

- 0 to 9
- 10 to 19
- 20 to 29
- 30 to 39
- 40 to 49
- 50 to 59
- 60 to 69
- 70 to 79
- 80 and older

Vermont Department of Health
Percent of Emergency Visits with COVID-Like Illness
Seven-Day Rolling Average, over Calendar Year

Source: Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE)
Quick COVID-19 Update

COVID-19 Sickness Reporting by Schools
Age <18, SY 2022-2023
Quick COVID-19 Update

Vermont Vaccination Data

People vaccinated: 496,000
79% completed primary series

Race:
- Asian: 72%
- Black or African American: 72%
- Hispanic: 73%
- Native American, Indigenous, or First Nation: 79%
- Pacific Islander: 99%
- Two or more races: 99%
- White: 78%
- Non-Hispanic White: 76%

Gender:
- Female: 82%
- Male: 77%
- Non-binary: 1%

Data notes:
- Statewide numbers and percentages are capped at 100%. To protect the identity of individuals, data is suppressed when there are fewer than six people vaccinated in a subgroup. This is shown with an asterisk (*).
- Race information is not reported for 3% of people vaccinated.
- Race/ethnicity information is not reported for 9% of people vaccinated.
- Ethnicity information is not reported for 4% of people vaccinated.
- BIPOC refers to Black, Indigenous, and people of color.
- Gender information is not reported for <0.5% of people vaccinated. The categorization of male/female for some people is based on sex assignment at birth, while for others, it is based on gender. This is due to the varying sources and ways the information is reported.
- Gender not reported may mean the provider did not collect that information, the patient did not provide it, or the provider or the patient selected a category other than male or female.
- Non-binary means a person whose gender identity is not exclusively male or female, including, but not limited to, a person whose gender identity is intersex, agender,

Seasonal Influenza Updates

- Vermont Seasonal Influenza Surveillance Updates (outbreak reporting, sentinel provider program, syndromic data)
- National Seasonal Influenza Information
- Vermont flu vaccination information
- Pediatric influenza communication – CDC EPIC
- Questions
- Resources
2022-23 Cumulative Outbreak Reporting:
www.healthvermont.gov/fluoutbreak

Click on the map for an animation of outbreak reporting during the flu season from Week 40 (week ending October 8) to Week 02 (week ending January 14).
## Influenza Surveillance Facilities by Region and District Office

<table>
<thead>
<tr>
<th>District Office</th>
<th>Flu Region</th>
<th>Syndromic Surveillance Facility</th>
<th>ILINet Providers</th>
<th>District Office</th>
<th>Flu Region</th>
<th>Syndromic Surveillance Facility</th>
<th>ILINet Providers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barre</td>
<td>Central</td>
<td>Central Vermont Medical Center</td>
<td>The Health Center</td>
<td>Newport</td>
<td>Northeast</td>
<td></td>
<td>NVU Lyndon Health &amp; Counseling</td>
</tr>
<tr>
<td>Bennington</td>
<td>Southwest</td>
<td>Southwestern Vermont Medical Center</td>
<td></td>
<td>Rutland</td>
<td>Southwest</td>
<td>Rutland Regional Medical Center</td>
<td></td>
</tr>
<tr>
<td>Burlington</td>
<td>Northwest</td>
<td>UVM Medical Center</td>
<td>UVM Student Health Center</td>
<td>Springfield</td>
<td>Southeast</td>
<td>Springfield Hospital</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>UVM Medical Center Walk-In Clinic</td>
<td>St. Michael’s College Student Health</td>
<td>St. Johnsbury</td>
<td>Northeast</td>
<td></td>
<td>Northeast Vermont Regional Hospital</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Champlain College Student Health Center</td>
<td>White River</td>
<td>Central</td>
<td>Central</td>
<td>White River Family Practice Mt. Ascutney Hospital</td>
</tr>
<tr>
<td>Middlebury</td>
<td>Southwest</td>
<td>Porter Medical Center</td>
<td>Rainbow Pediatrics</td>
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<tr>
<td>Morrisville</td>
<td>Northwest</td>
<td>Copley Hospital</td>
<td>Lamoille Family Medicine, Stowe</td>
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</table>
ILINet Surveillance Provider recruitment is always open!

Sentinel Flu Provider Information

Sentinel flu providers help improve flu surveillance.

What is ILINet?
ILINet is the U.S. Outpatient Influenza-like Illness (ILI) Surveillance Network. Providers across the country volunteer to send year-round ILI data to CDC. This is used in conjunction with other influenza surveillance data by Vermont and CDC to get a picture of influenza activity within the state and across the country.

Who can be a sentinel provider?
Physicians, physician assistants and nurse practitioners of any specialty and in any type of practice are eligible. Practice settings that are not eligible are elementary, middle or high school health centers and any type of institutional setting, like long-term care facilities or correctional facilities.

What is required of sentinel providers?
Sentinel providers spend a few minutes each week entering the total number of patient visits and the number of patient visits for ILI by age group (0-4, 5-24, 25-49, 50-64, and 65+) through the ILINet Internet Reporting System.

What is the case definition for ILI?
ILI is defined as fever (recorded temperature of >100°F) and cough and/or sore throat.

How does a provider become a sentinel provider?
To enroll as a sentinel provider, please e-mail the information below to Hilary Fennin at hilary.fennin@vermont.gov:

- Name
- Practice name and type
- Address, city, zip
- Telephone number
- Fax number
- Primary and secondary e-mail address

If the provider is not the primary contact for flu surveillance and someone else in the office will be submitting weekly data, please list the name and email address of that person.
Percent of total visits to emergency departments and urgent cares with patient age reported are consistently highest in patients ages 0-17 (ESSENCE).

Week 3 data submission is ongoing and likely to change by reporting on 1/27

Source: Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE)
Vermont NREVSS Data – Week 02

The National Respiratory and Enteric Virus Surveillance System (NREVSS) collects data on the number of PCR flu tests performed by participating Vermont labs and how many were positive. This helps determine flu activity in the community.

6.2% of PCR tests run this week were positive, a decrease compared to 11.95% the previous week. Of the total positive tests this week, all were influenza A. During the 2022-23 season, 16.7% of flu PCR tests reported through NREVSS have been positive.
Cumulative Rate of Laboratory-Confirmed Influenza Hospitalizations among cases of all ages, 2014-15 to 2022-23, MMWR Week 01

**In this figure, weekly rates for all seasons prior to the 2022-23 season reflect end-of-season rates. For the 2022-23 season, rates for recent hospital admissions are subject to reporting delays and are shown as a dashed line for the current season. As hospitalization data are received each week, prior case counts and rates are updated accordingly.**

Source: FluSurv-NET
https://www.cdc.gov/flu/weekly/weeklyarchives2022-2023/EIPRates01.html
National Syndromic Data – CDC
https://www.cdc.gov/flu/about/burden/preliminary-in-season-estimates.htm

CDC estimates* that, from October 1, 2022 through January 7, 2023, there have been:

- 24 – 47 million flu illnesses
- 11 – 23 million flu medical visits
- 260,000 – 560,000 flu hospitalizations
- 16,000 – 48,000 flu deaths

*Because influenza surveillance does not capture all cases of flu that occur in the U.S., CDC provides these estimated ranges to better reflect the larger burden of influenza. These estimates are calculated based on data collected through CDC’s Influenza Hospitalization Surveillance Network (FluSurv-NET) and are preliminary.
Previous season vaccination coverage

https://www.cdc.gov/flu/fluvaxview/interactive-general-population.htm
Communication tools for vaccination and flu:

https://www.cdc.gov/flu/resource-center/shareable-resources.htm
Communication tools for vaccination and flu:

Healthcare Provider Fight Flu Toolkit

https://www.cdc.gov/flu/professionals/vaccination/prepare-practice-tools.htm
CDC EPIC Presentation 11/29/22: Flu, RSV, COVID-19 and other Respiratory Threats this Fall and Winter

- Prevention steps (slide 15)
- COVID-19 and Flu vaccine advice
  - Who should get vaccines?
  - What are the vaccines?
- Signs and symptoms of viruses (slide 24)
  - Emergency warning signs for children (slide 29)
  - Testing guidance (slide 31)
- Communications Resources (side 36)

https://emergency.cdc.gov/epic/learn/2022/webinar_20221129.asp
NEW! Respiratory Virus Hospitalization Surveillance Network (RESP-NET)

The Respiratory Virus Hospitalization Surveillance Network (RESP-NET) interactive dashboard comprises data from acute care hospitals in select counties in 13 states covering more than 29 million people and include an estimated 8-10 percent of the U.S. population. (Does not include Vermont)
NEW! National Emergency Department Visits for COVID-19, Influenza, and Respiratory Syncytial Virus

https://www.cdc.gov/ncird/surveillance/respiratory-illnesses/
Shared Links

CDC EPIC Webinar: https://emergency.cdc.gov/epic/learn/2022/webinar_20221129.asp

Vermont ILI/Flu Outbreak Resources: www.healthvermont.gov/fluoutbreak


VT Dept. of Health COVID-19 and Flu Communication Toolkit: https://drive.google.com/drive/folders/1FkbsqNqbAE7b68Y8xxnA_Eliw2F-UAdL

Shared Links

CDC FluView: [https://www.cdc.gov/flu/weekly/index.htm](https://www.cdc.gov/flu/weekly/index.htm)

CDC Seasonal Flu Burden: [https://www.cdc.gov/flu/about/burden/preliminary-in-season-estimates.htm](https://www.cdc.gov/flu/about/burden/preliminary-in-season-estimates.htm)

CDC HAN Interim Guidance for Clinicians to Prioritize Antiviral Treatment of Influenza in the Setting of Reduced Availability of Oseltamivir: [https://emergency.cdc.gov/han/2022/han00482.asp](https://emergency.cdc.gov/han/2022/han00482.asp)

Resources for sourcing flu antivirals:
- [Availability of Antiviral Medications](https://www.cdc.gov/flu/weekly/index.htm)
- [FDA Drug Shortage Website with Searchable Database](https://www.cdc.gov/flu/about/burden/preliminary-in-season-estimates.htm) -- Please also note the influenza antiviral report linked on the website about halfway down the page.
Thank you!

Let’s stay in touch.

Email: hilary.fannin@vermont.gov
Web: healthvermont.gov
Social: @healthvermont
Brief Recommendations for Respiratory Illnesses

Recommendations for Respiratory Illnesses in School and Child Care

December 2022

Our shared goal is to keep children in school and child care whenever possible while ensuring optimal health and safety for children and staff. If a child or staff member is not well enough to participate, they should stay home or be sent home if already in school or care.

To promote better outcomes for the children in your community, prioritize good communication with pediatric medical homes in your area and align your sickness policies with the medical homes and Health Department recommendations.

Summary of Recommendations

<table>
<thead>
<tr>
<th></th>
<th>RSV and Flu</th>
<th>COVID-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is a test recommended?</td>
<td>No, unless a health care provider recommends it if it will change the course of treatment</td>
<td>If symptomatic, yes</td>
</tr>
<tr>
<td>How long should someone stay home?</td>
<td>Once symptoms improve and fever has resolved (without fever-reducing medication) for 24 hours, return to work or school. There is not a recommended specific time period.</td>
<td>Isolate for 5 days after a positive test or onset of symptoms. End isolation after day 5 if symptoms have improved and no fever for at least 24 hours without the use of fever-reducing medication.</td>
</tr>
<tr>
<td>Is a negative test or doctor’s note recommended to return to school or child care?</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

General Prevention and Treatment

- Everyone over the age of 6 months should be vaccinated against flu and COVID-19. Encourage families to reach out to their health care providers (and pharmacies for children ages 3 and up) to receive their vaccines.
- Most children with respiratory illness will recover with home care. Encourage families to talk to their health care provider if they have concerns.
- Encourage general prevention tips: Wash your hands often, avoid contact with others if you or they are sick, cover up coughs and sneezes, and consider wearing a mask, especially if you or people you are with are at higher risk of serious illness, or if you have recently been around someone with symptoms of COVID-19.
- For more information, visit the Centers for Disease Control and Prevention and the American Academy of Pediatrics.

Can be found on COVID-19 Guidance for Child Care and Out-of-School Programs page