



Influenza Surveillance Report

2020-2021 Season Summary

September 27, 2020-May 22, 2021

Rhode Island

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A Note on the 2020-21 Season

- Because there is so much overlap in the symptoms of COVID-19 and influenza, it is likely that influenza surveillance data will be impacted by the pandemic.
- It may be difficult to compare data from the 2020-2021 influenza season to previous seasons for this reason.
- Rhode Island COVID-19 data may be found at <https://ri-department-of-health-covid-19-data-rihealth.hub.arcgis.com/>
- National COVID-19 data can be found at: <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html>



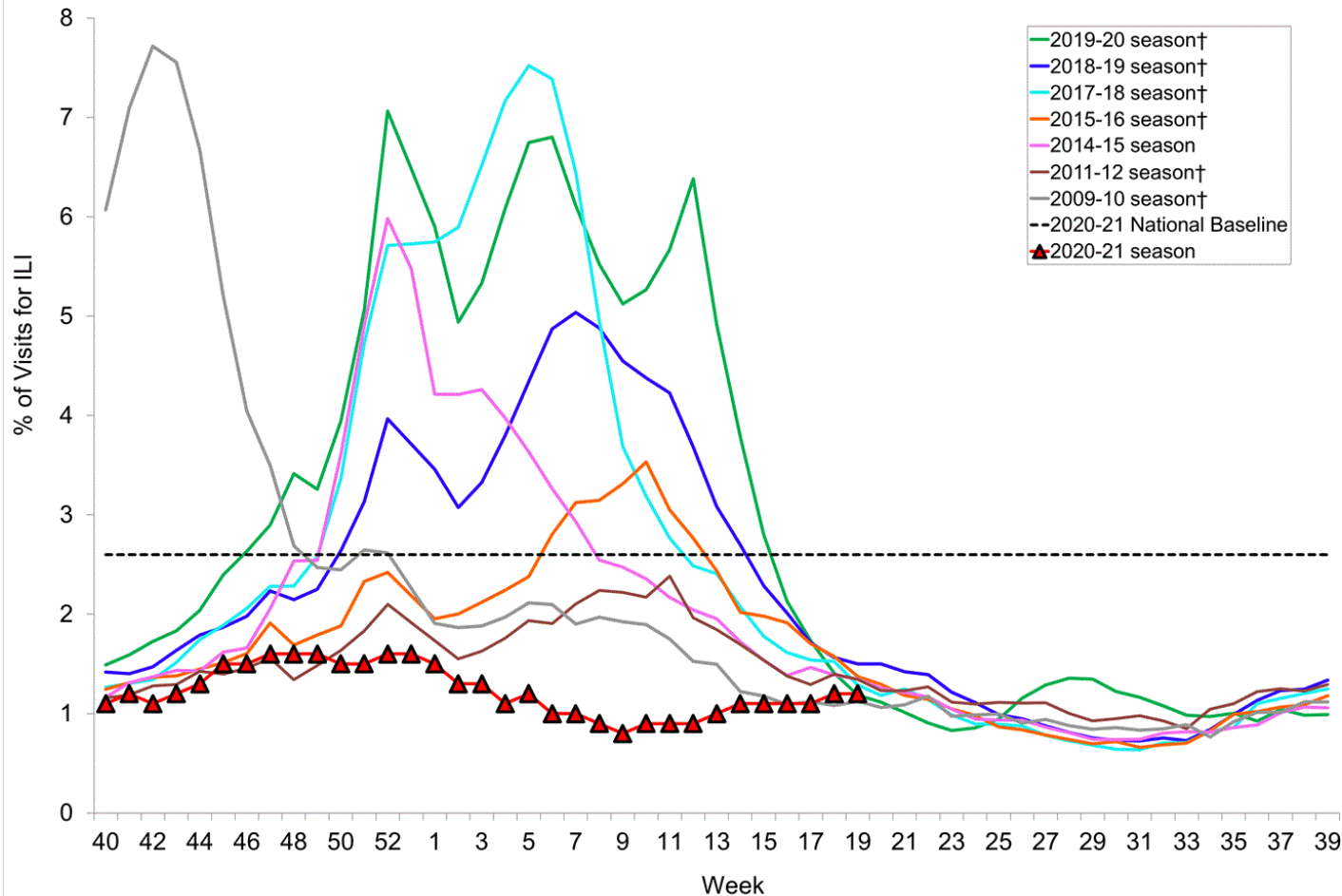
2020-2021 Influenza Season: National Summary

- The 2020-2021 flu season had unusually low activity nationally and locally.
- There was almost no influenza circulating in much of the country for most of the season.
- In the entire United States, throughout the influenza season, only 250 specimens tested by any public health laboratory were positive for influenza (out of over 480,000 tested for influenza).
- Nationally, there was one pediatric death, compared with 198 influenza-associated pediatric deaths nationally in the 2019-2020 season.

National Percentage of Influenza-Like Illness (%ILI)



Percentage of Visits for Influenza-like Illness (ILI) Reported by the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Weekly National Summary, 2020-2021 and Selected Previous Seasons



†These seasons did not have a week 53, so the week 53 value is an average of week 52 and week 1.

2020-2021 Influenza Season: Rhode Island Summary



- Rhode Island maintains a robust, multipart system that provides a comprehensive picture of influenza statewide. Each component of the surveillance system is presented in the following slides.
- The 2020-2021 season showed almost no influenza circulating in Rhode Island.
- The level of influenza-like illness (ILI) remained far below the regional baseline for the entire flu season.
- There were no influenza-associated deaths, and no influenza outbreaks at congregate living facilities.
- Although RISHL tested almost 1,300 specimens for influenza, no specimens were positive.
- Eight specimens at hospitals tested positive for influenza during the season. Two individuals were hospitalized.
- The 2020-2021 influenza season showed unprecedented low levels of influenza in Rhode Island.



U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet)

ILINet: Sentinel Provider Surveillance



- ILINet provides information on outpatient **influenza-like illness**, independent of laboratory testing.
- **Influenza-like illness**: a fever **and** a cough **and/or** a sore throat in absence of a known cause other than influenza.
- **Percent influenza-like illness (% ILI)**: the number of patients seen with ILI over the number of patients seen for any reason. Telemedicine visits were included in the counts.
- 31 community-based outpatient practices participate in ILINet.
 - Urgent cares, family practitioners, pediatricians, university health services, and pharmacy clinics
 - Data from 9 hospital emergency departments are included in this number
- Data reported weekly to CDC and RIDOH.

ILINet: Data Summary

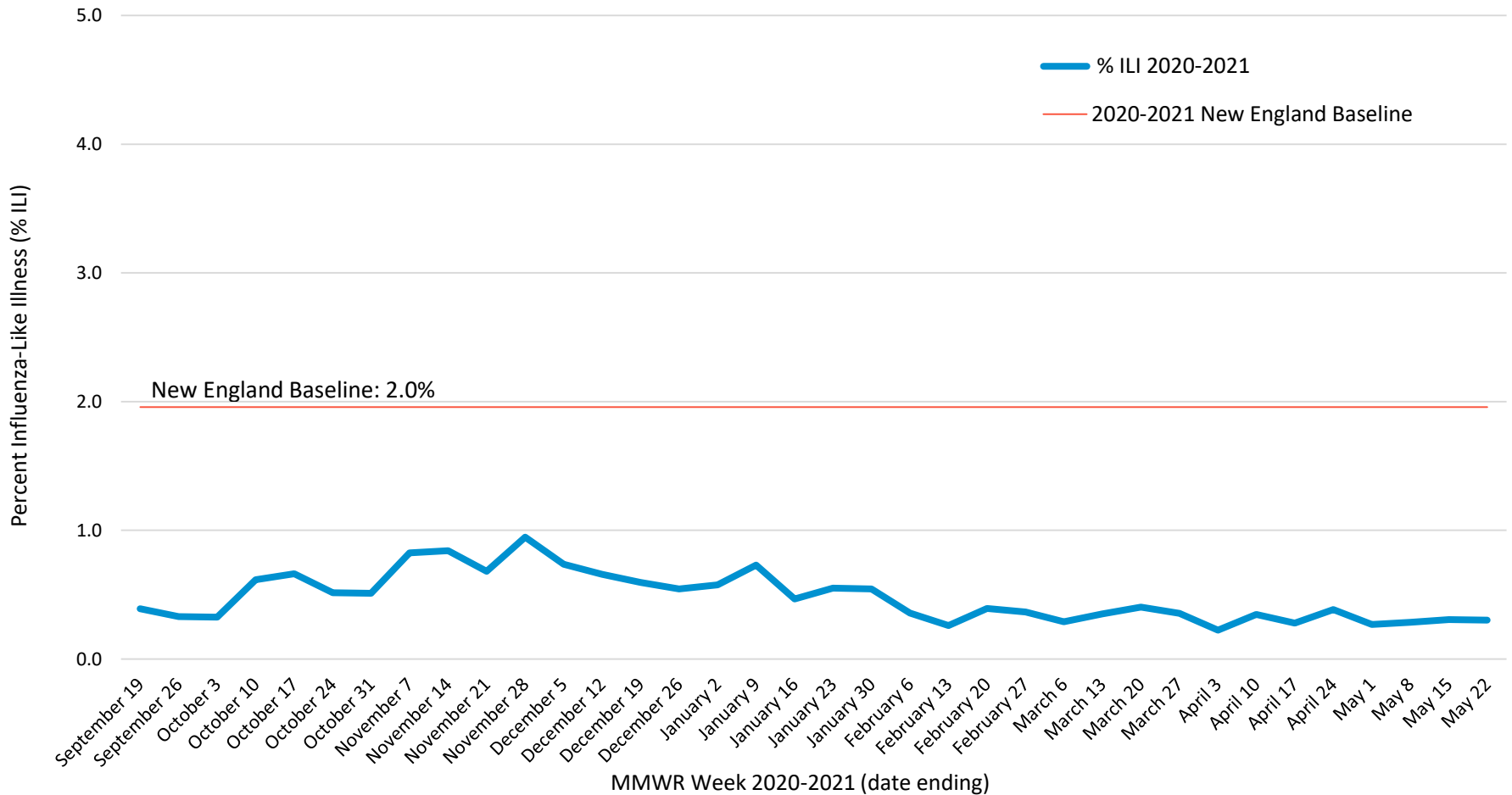


- The percentage of outpatient visits related to influenza-like illness (%ILI) remained low throughout the season, never reaching the regional baseline.
- There was no true peak of ILI, a clear contrast to previous seasons.
- Levels of ILI were low across the country throughout the 2020-2021 influenza season.
- While some COVID cases have been captured through ILINet, ILINet data neither explicitly include nor exclude those with COVID infections.

ILINet: % ILI 2020-2021 Season



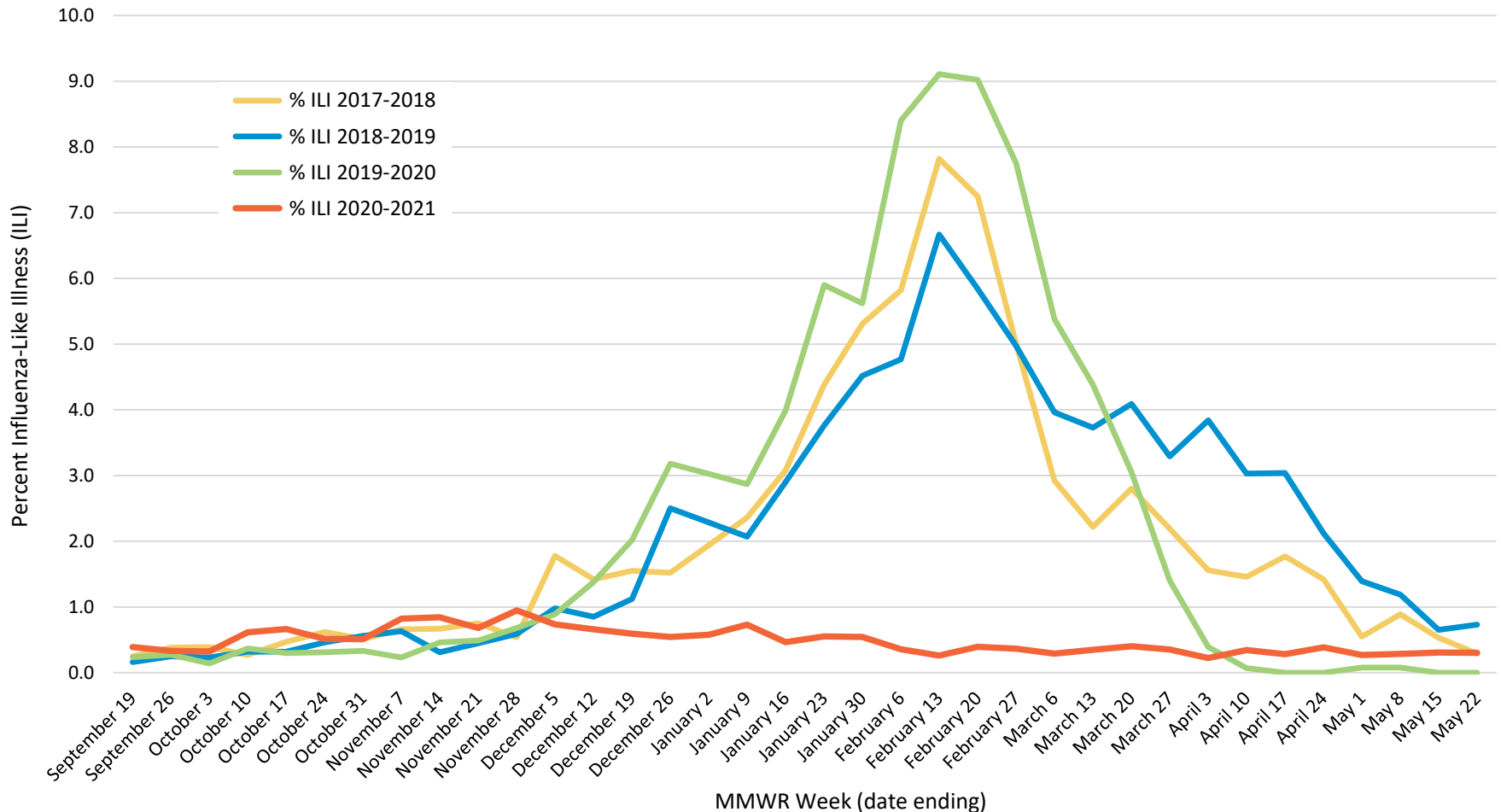
Influenza-like illness (ILI) as a percentage of all patient visits to ILINet sentinel providers, 2020-2021 influenza season, Rhode Island



ILINet: % ILI Comparison Among Seasons



Percentage of Visits for Influenza-like Illness (ILI) reported by ILINet: Rhode Island, Seasons 2017-2021

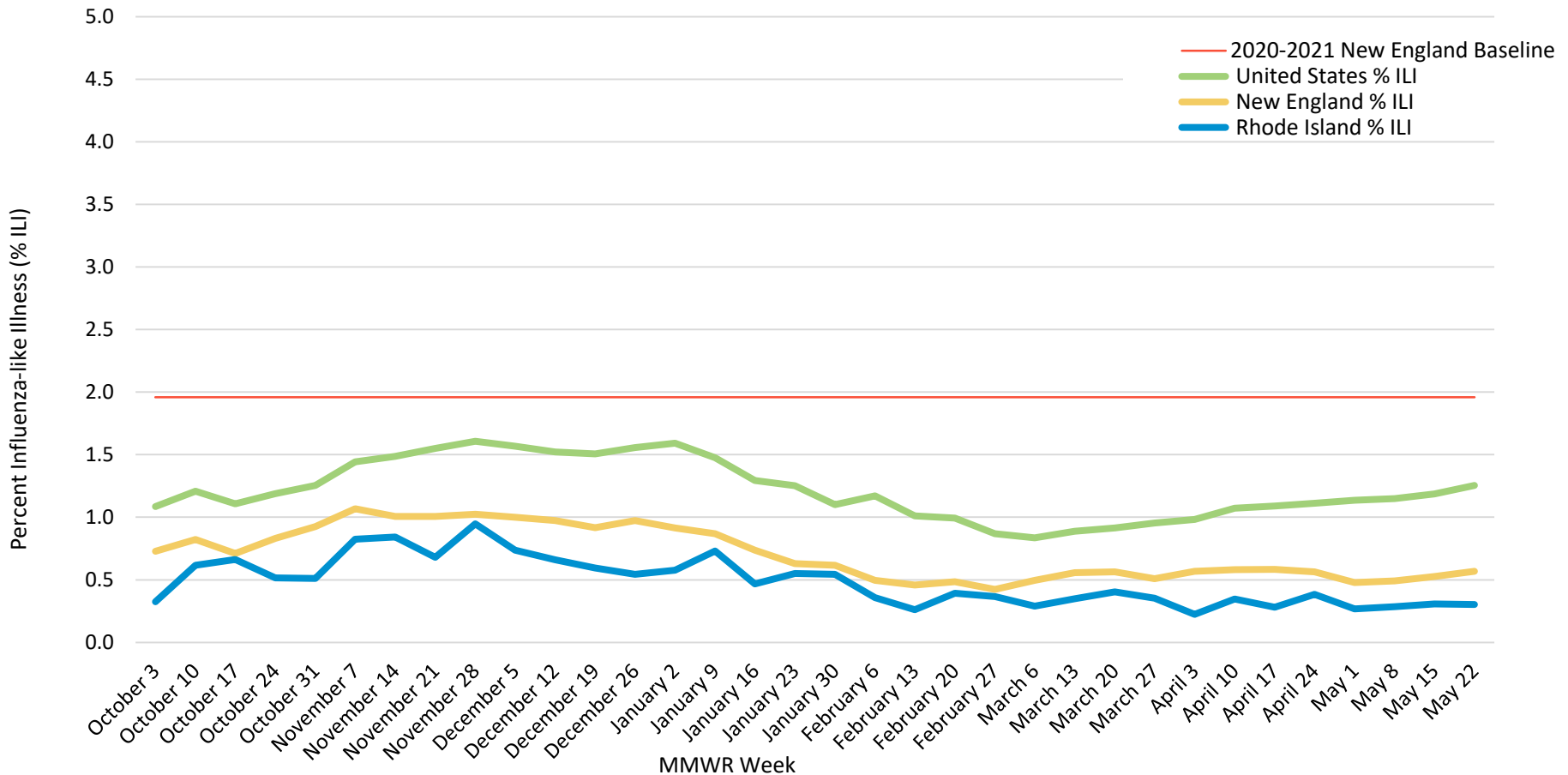


ILINet:

Comparison Among US, New England & RI



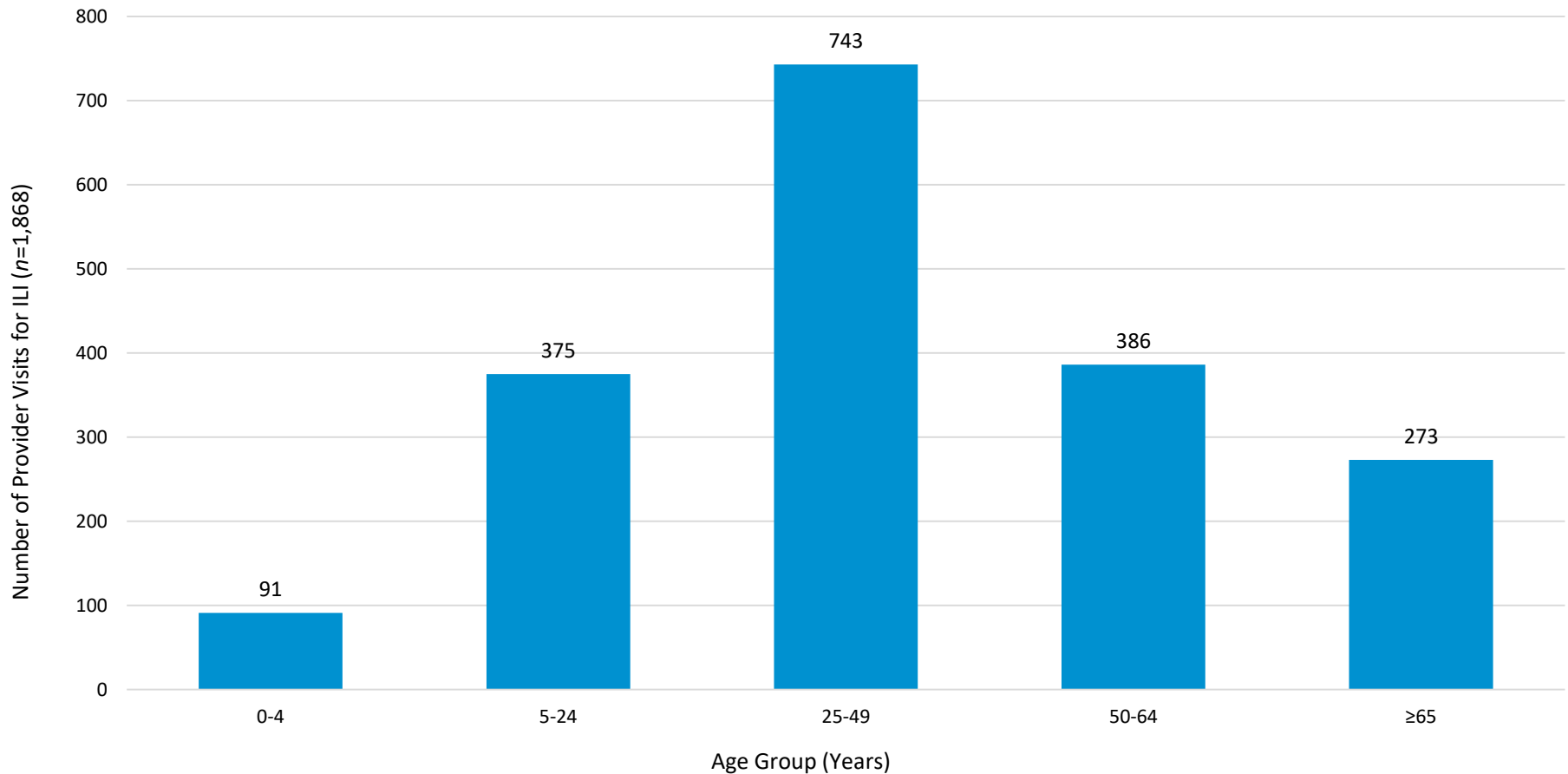
Percentage of Visits for Influenza-like Illness (ILI) reported by ILINet: Rhode Island, New England, and the United States, 2020-2021



ILINet: Age Groups



Number of visits for influenza-like illness (ILI) reported by ILINet sentinel providers in Rhode Island by age group, 2020-2021 influenza season





ILINet: Geographic Spread

- Geographic spread describes the locational range of ILI activity within a state.
- Does not measure severity of influenza activity.
- Classifies geographic spread of ILI activity into No Activity, Sporadic, Local, Regional and Widespread Activity.
- Due to the impact of COVID-19 on ILI surveillance, and the fact that the state and territorial epidemiologists report relies heavily on ILI activity, geographic spread reporting was suspended for the 2020-21 influenza season.



Rhode Island State Health Laboratories

Rhode Island State Health Laboratories: Influenza Testing



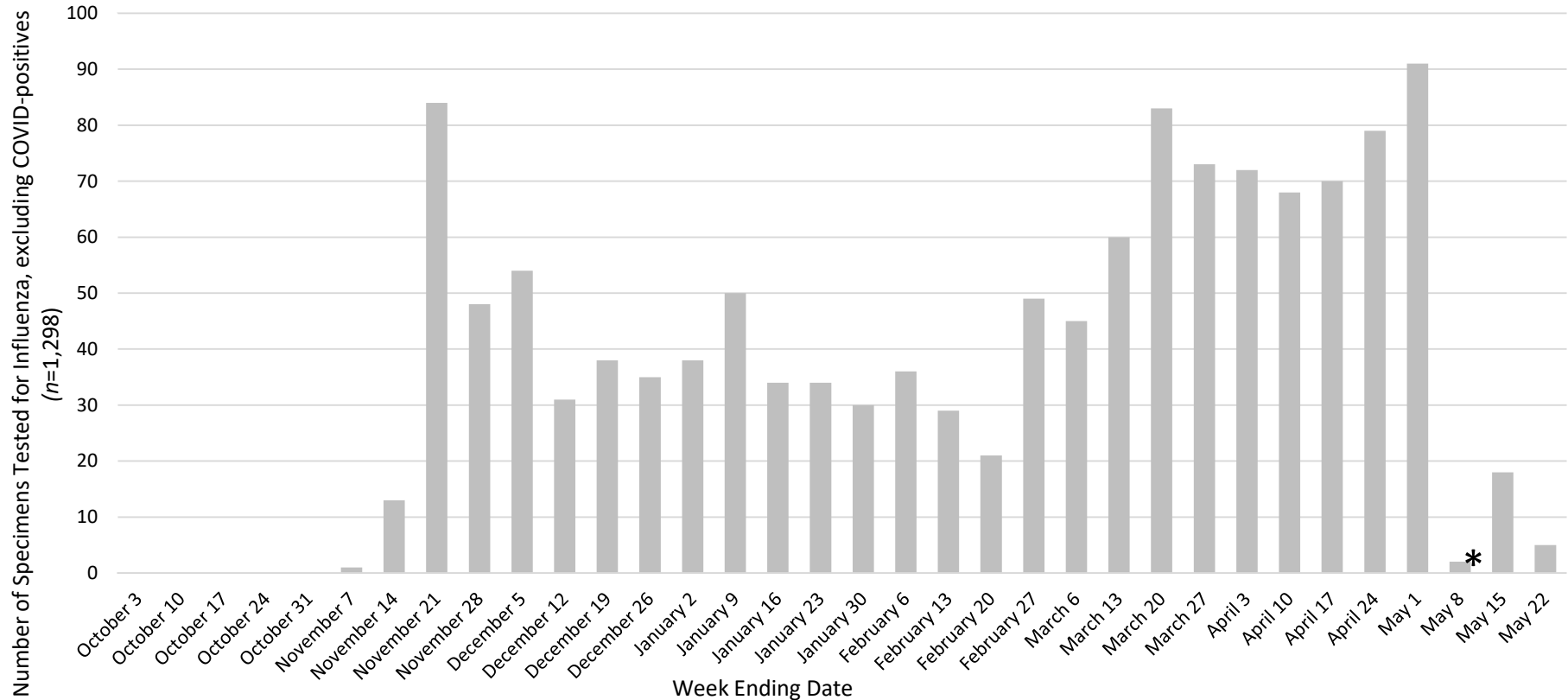
- RI State Health Laboratories (RISHL) performs molecular testing for influenza.
 - Provides important information on specific influenza strains circulating in Rhode Island.
 - Performs Influenza A subtyping and Influenza B lineage testing.
 - Helps CDC monitor antiviral susceptibility and identify novel viruses.
- Specimens are submitted by ILINet sentinel providers and congregate living facilities experiencing respiratory outbreaks.
- During the 2020-2021 season, all influenza specimens were tested for both **SARS-CoV-2 and influenza**.
 - Negative results indicate that specimens were negative for both influenza and SARS-CoV-2
- There were no influenza-positive specimens at RISHL during the 2020-21 flu season

Rhode Island State Health Laboratories: Influenza Testing, 2020-2021



Specimens Tested for Influenza at the Rhode Island State Laboratories, 2020-2021 Influenza Season

- Influenza B Yamagata
- Influenza B Victoria
- Influenza A (H3N2)
- Influenza A (H1N1) 2009
- Negative for Influenza and SARS-CoV-2



* RISHL stopped testing COVID specimens for influenza except by special request, due to low positivity



Respiratory Outbreaks in Congregate Living Settings

Respiratory Outbreaks: Congregate Living Surveillance



- Within a congregate living setting, such as a long term care facility, a **respiratory outbreak** is defined as:
 - **One lab-confirmed case of influenza**
 - or
 - **Two cases of influenza-like illness (ILI)** within 72 hours of each other
- All respiratory outbreaks are reportable to RIDOH.
- All potential influenza outbreaks are co-tested for influenza and SARS-CoV-2.
- COVID outbreaks in congregate living settings are tracked separately.
- In the 2020-2021 influenza season, there were no confirmed influenza outbreaks in congregate living settings.



Hospital Influenza Tests and Hospitalizations

All Hospital Influenza Tests: Hospital Laboratory Surveillance



- All positive influenza tests at Rhode Island's 10 acute care hospitals are reported to RIDOH.
- Includes inpatient hospitalizations and emergency department visits.
- Influenza-positive hospitalizations are presented as a subset of all hospital data.
- All hospitals test virus types (influenza A or B) and some hospitals perform influenza A subtyping (H1N1 or H3N2).

All Hospital Influenza Tests: Data Summary

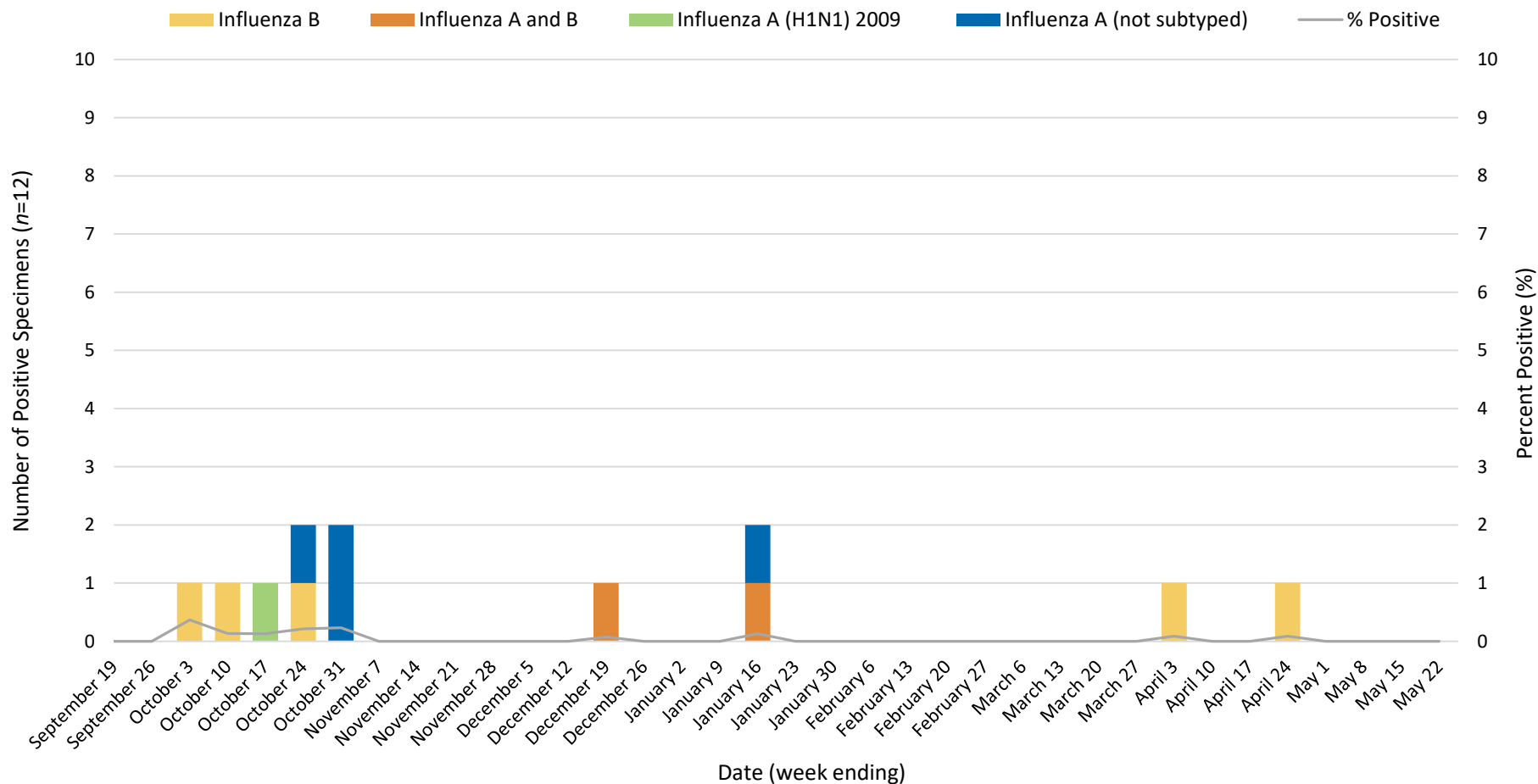


- There were only 12 positive influenza tests this season in all hospitals in Rhode Island.
- Of the 12 influenza-positive patients, 2 were hospitalized.
- In contrast, during the 2019-2020 influenza season, 6,863 specimens tested positive for influenza at hospitals in Rhode Island. During that season, 948 individuals were hospitalized for influenza.
- There were not enough positive influenza tests in Rhode Island to determine a predominant strain of influenza virus.

All Hospital Influenza Tests: Strain and MMWR Week



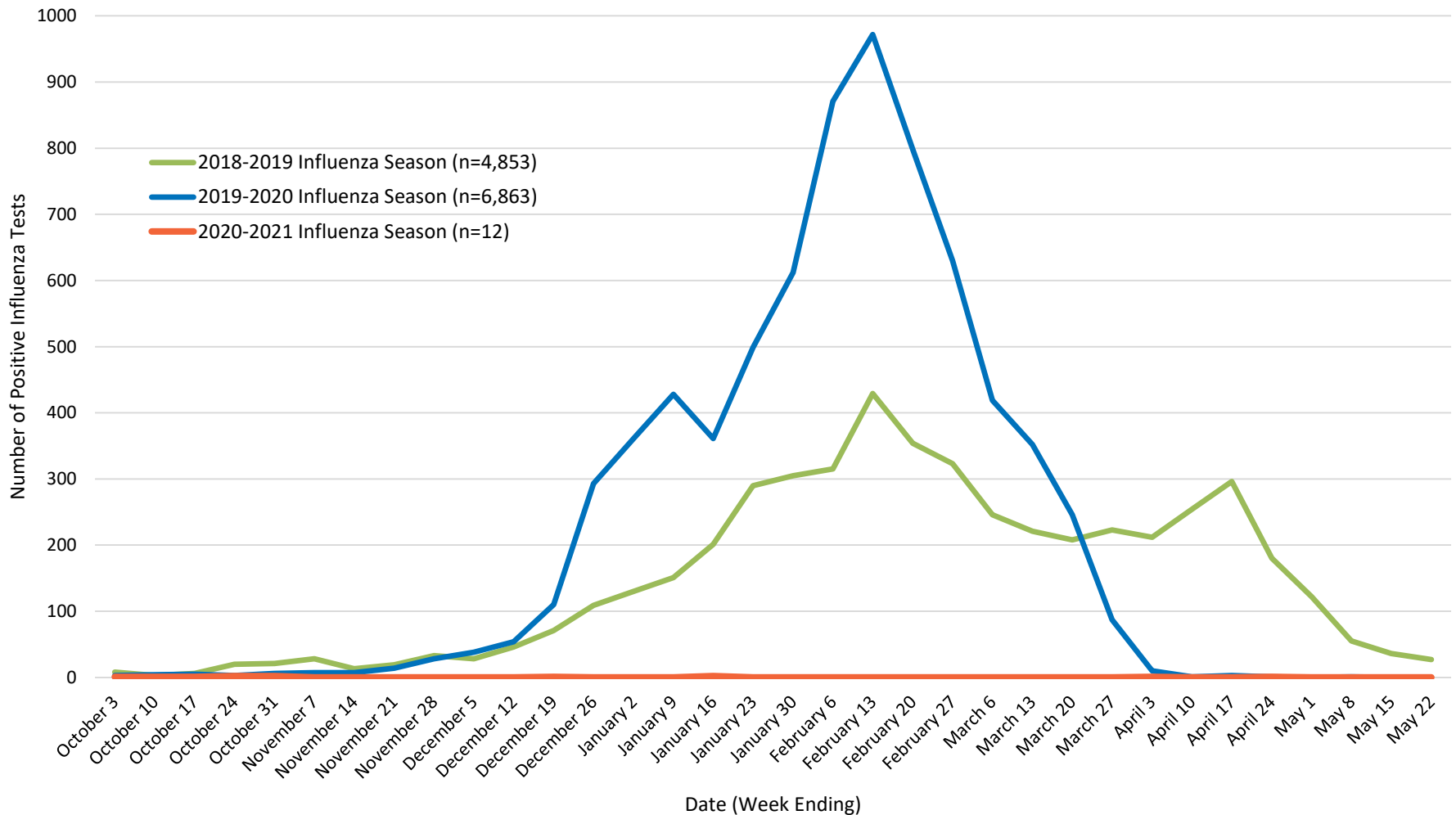
All Positive Influenza Tests by Strain and MMWR Week, Rhode Island Hospitals, 2020-2021



All Hospital Influenza Tests: Season Comparison



Positive Influenza Tests by Week, Rhode Island Hospitals, Comparison of Last 3 Influenza Seasons



All Hospital Influenza Tests: Strain and Season, 2020-2021 and 2019-2020



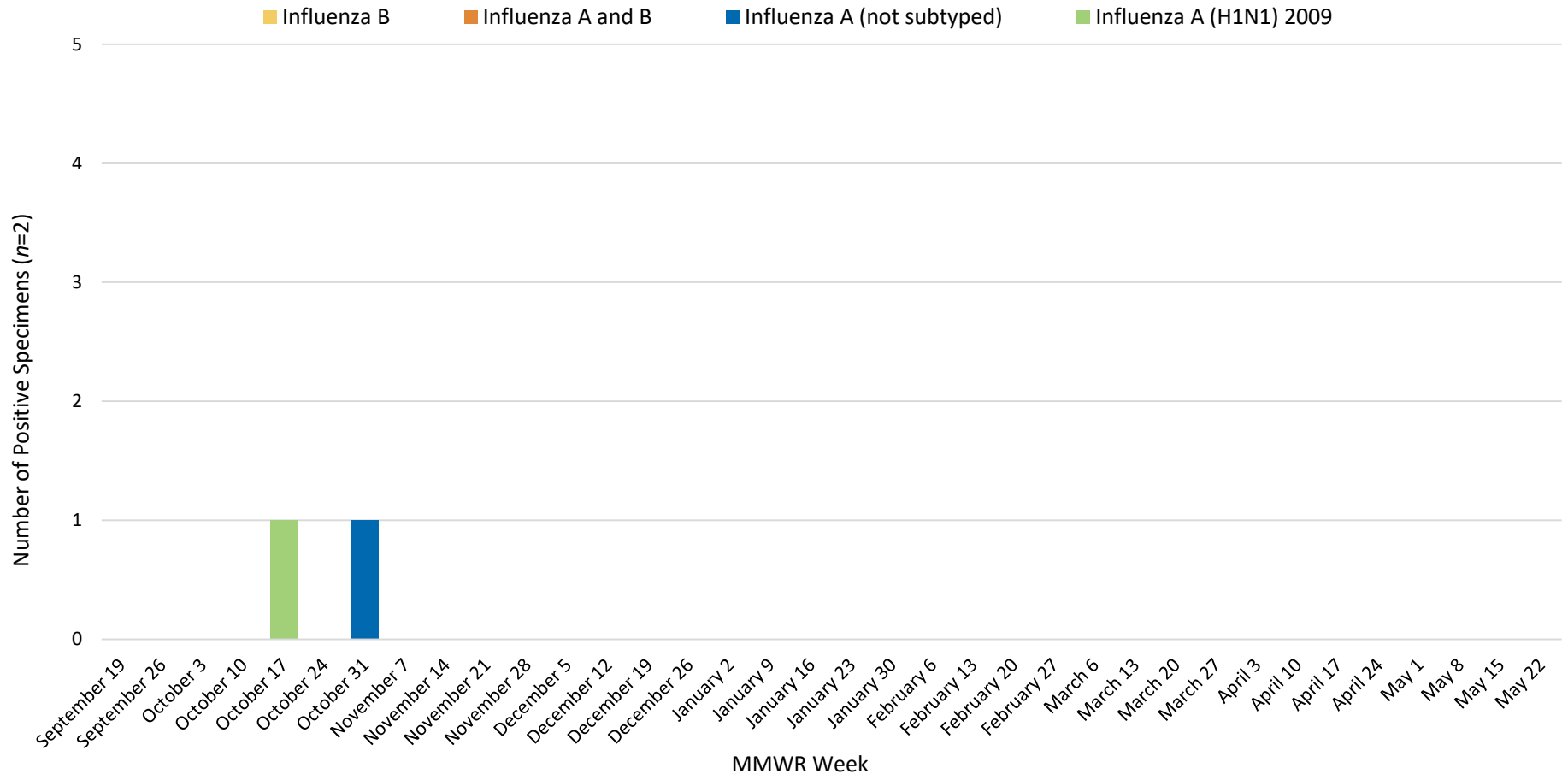
Positive influenza tests by strain, Rhode Island hospitals, comparison of 2020-2021 and 2019-2020 influenza seasons

Strain	2020-2021 (n=12)		2019-2020 (n=6,863)	
	N	%	N	%
Influenza A (not subtyped)	4	33.3%	2794	40.7%
Influenza A (H1N1) 2009	1	8.3%	525	7.6%
Influenza B	5	41.7%	3429	50.0%
Influenza A (H3N2)	0		68	1.0%
Influenza A and B	2	16.7%	24	0.3%
Influenza A, unsubtypeable	0		22	0.3%

Influenza Hospitalizations: Strain and MMWR Week



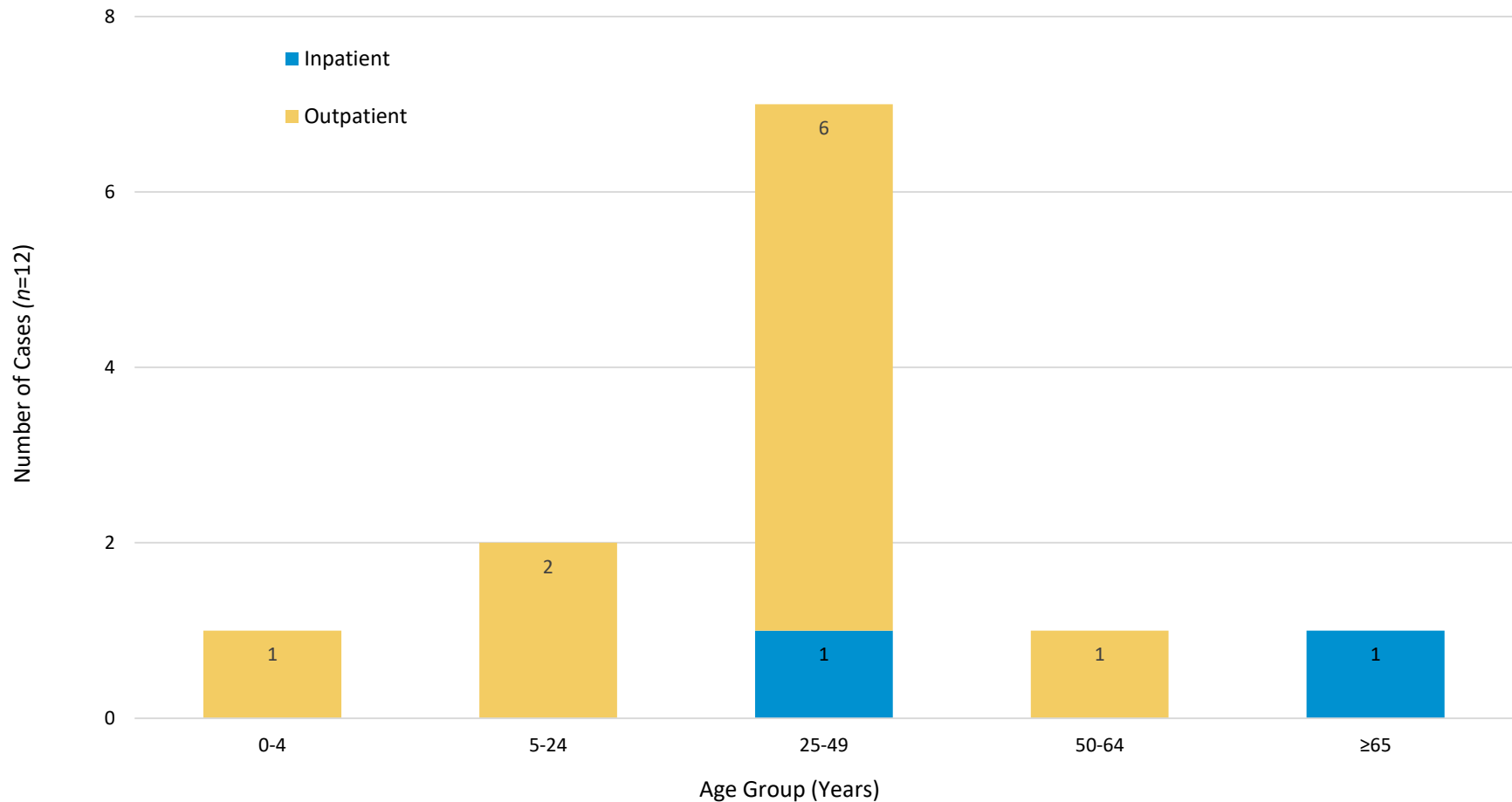
Influenza Hospitalizations by Strain and MMWR Week, Rhode Island Hospitals, 2020-2021



All Hospital Influenza Tests: Age Group and Hospitalization Status



Positive Influenza Tests by Hospitalization Status and Age, Rhode Island Hospitals, 2020-2021



Community Partner Tests:

Lifespan Respiratory Pathogen Panel

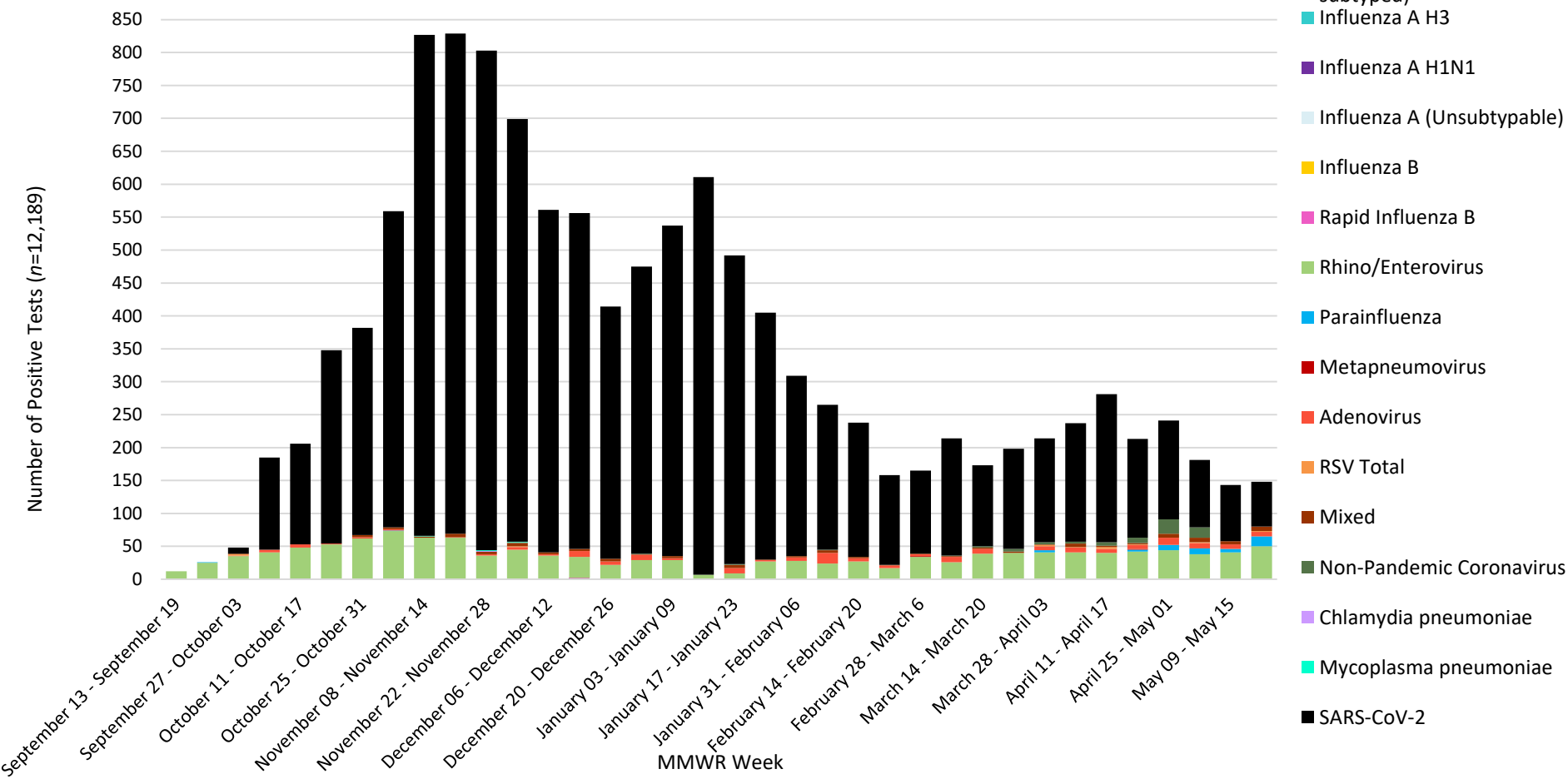


- Lifespan hospitals utilize a multi-target respiratory pathogen panel (RP2) to diagnose respiratory infections. These data are reported weekly to RIDOH.
- As of October 4, 2020, this panel includes SARS-CoV-2, and is often used as a diagnostic test when COVID infection is suspected.
- The multiple pathogens represented by this data allow RIDOH to track circulating respiratory pathogens other than influenza.

Community Partner Tests: Lifespan Respiratory Pathogen Panel Results Includes all COVID-positive tests from Lifespan



Respiratory Pathogen Panel 2 (RP2), Rapid Respiratory Test, and All COVID Test Positives
Lifespan Hospitals
September 13, 2020- May 22, 2021





Influenza-Associated Deaths



Influenza-Associated Deaths

- There were 0 influenza-associated deaths reported in the 2020-2021 influenza season.
- An influenza-associated death is defined for surveillance purposes as a death resulting from a clinically compatible illness that was confirmed to be influenza by an appropriate laboratory or rapid diagnostic test. There should be no period of complete recovery between the illness and death.
- Influenza-associated deaths became reportable by regulation in Rhode Island in 2013.
- In the 2019-2020 season, there were 20 influenza-associated deaths.



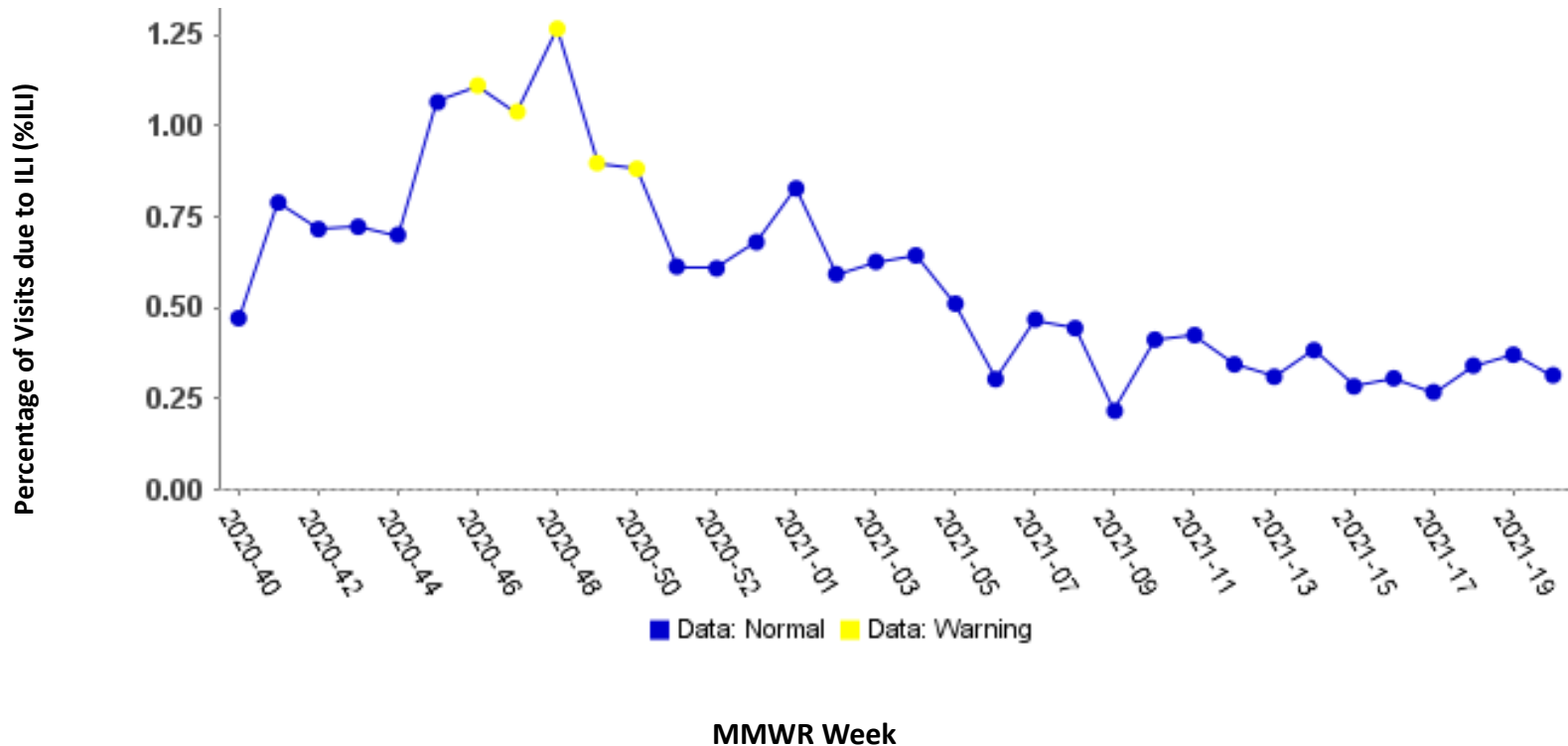
Syndromic Surveillance: ESSENCE

- RIDOH utilizes the Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE) to collect and analyze emergency room data from hospitals in the state.
- ESSENCE queries the **chief complaint and discharge diagnosis** fields for each record to determine if the visit was due to **influenza-like illness (ILI)**.
- The percentage of weekly visits due to ILI is then calculated to determine the burden of ILI in Rhode Island hospital emergency departments.
- Syndromic surveillance provides RIDOH a timely system for detecting and monitoring various health events.
- For the 2020-2021 season, ILI data are compared with COVID-like illness (CLI) data.

Syndromic Surveillance: Percentage of ED visits due to ILI



Percentage of emergency department visits due to ILI, 2020-2021, all hospitals, RI

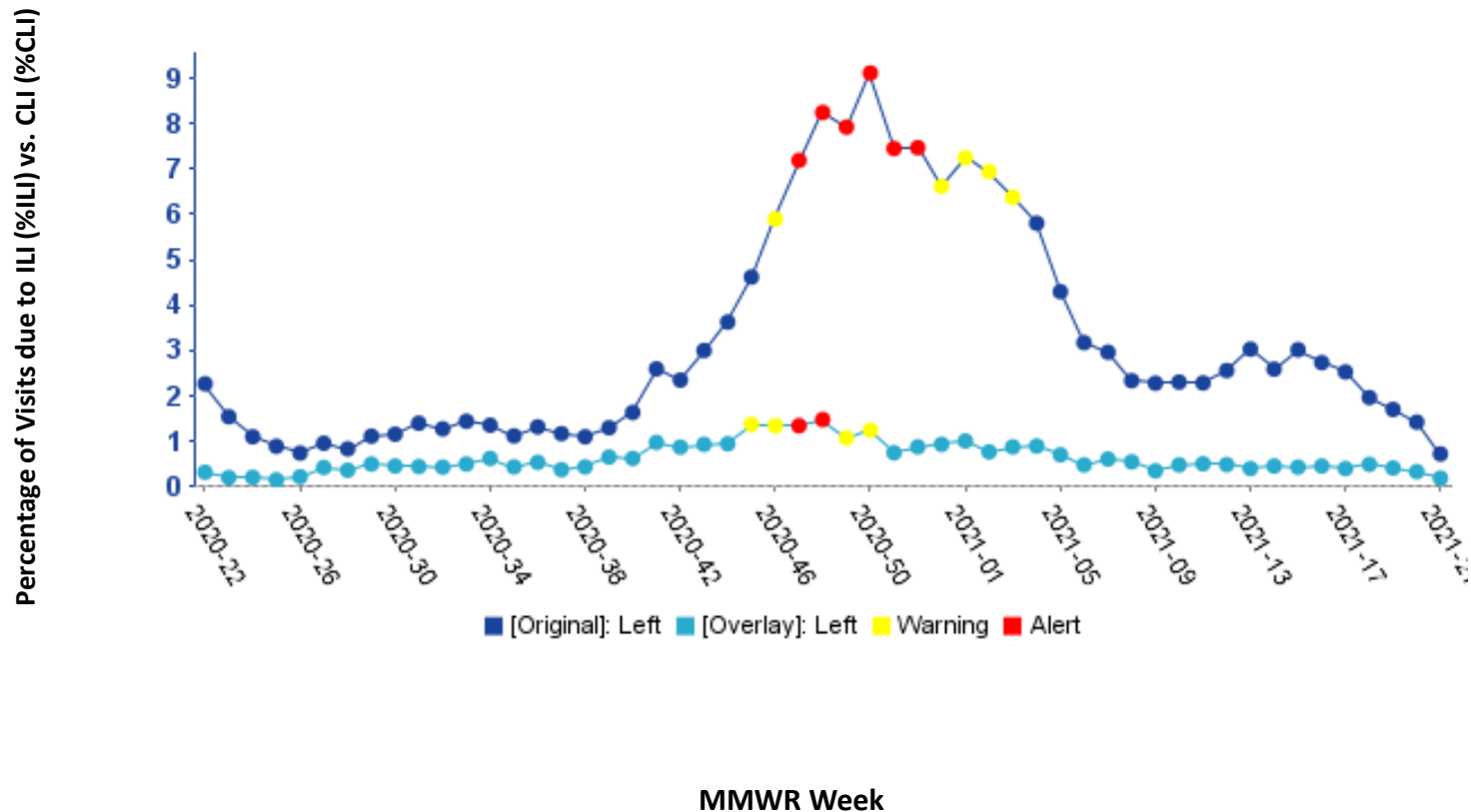


Syndromic Surveillance:

Percentage of ED visits due to COVID-like illness vs. influenza-like illness



Percentage of Emergency Department Visits Due to COVID-like illness vs. influenza-like illness





Acknowledgements

- Rhode Island's strong influenza surveillance system depends upon earnest participation by clinicians, laboratorians, administrators and staff at hospitals, laboratories, long term care facilities, universities, health care practices and urgent care. Thank you for all that you do.
- Influenza surveillance is conducted by a team in the Center for Acute Infectious Disease Epidemiology. Thank you to Diane Brady, Diann Sullivan, Karen Luther, Daniela Quilliam and Dr. Bandy for your skillful work on influenza surveillance.
- Questions can be directed to Abby Berns at the Rhode Island Department of Health (abby.berns@health.ri.gov) or by calling 401-222-2577



Methods and References

- Rhode Island real-time [influenza data](#)
- [Summary](#) of U.S. Influenza Surveillance System
- CDC's weekly [FluView](#)
- [Overview](#) of available influenza laboratory tests
- CDC [summary](#) of the 2018-2019 influenza season and composition of the 2019-2020 seasonal influenza vaccine (not available for 2019-20 or 2020-21 seasons yet)
- RIDOH [summary](#) of the 2018-2019 influenza season