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# **RSV and Flu during the COVID-19 Pandemic**

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**Jennifer A. Shuford, MD, MPH**  
**Infectious Disease Task Force Meeting**  
**February 22, 2022**



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# Respiratory Syncytial Virus

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# Respiratory Syncytial Virus (RSV)



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- RNA virus primarily spread via respiratory droplets when a person coughs or sneezes
- Most common cause of bronchiolitis and pneumonia in children under one year of age in the US
- Infants, young children, and older adults with chronic medical conditions are at risk of severe disease from RSV
- In the US, RSV infections usually occur during the fall and winter cold and flu season

# Respiratory Syncytial Virus (RSV)

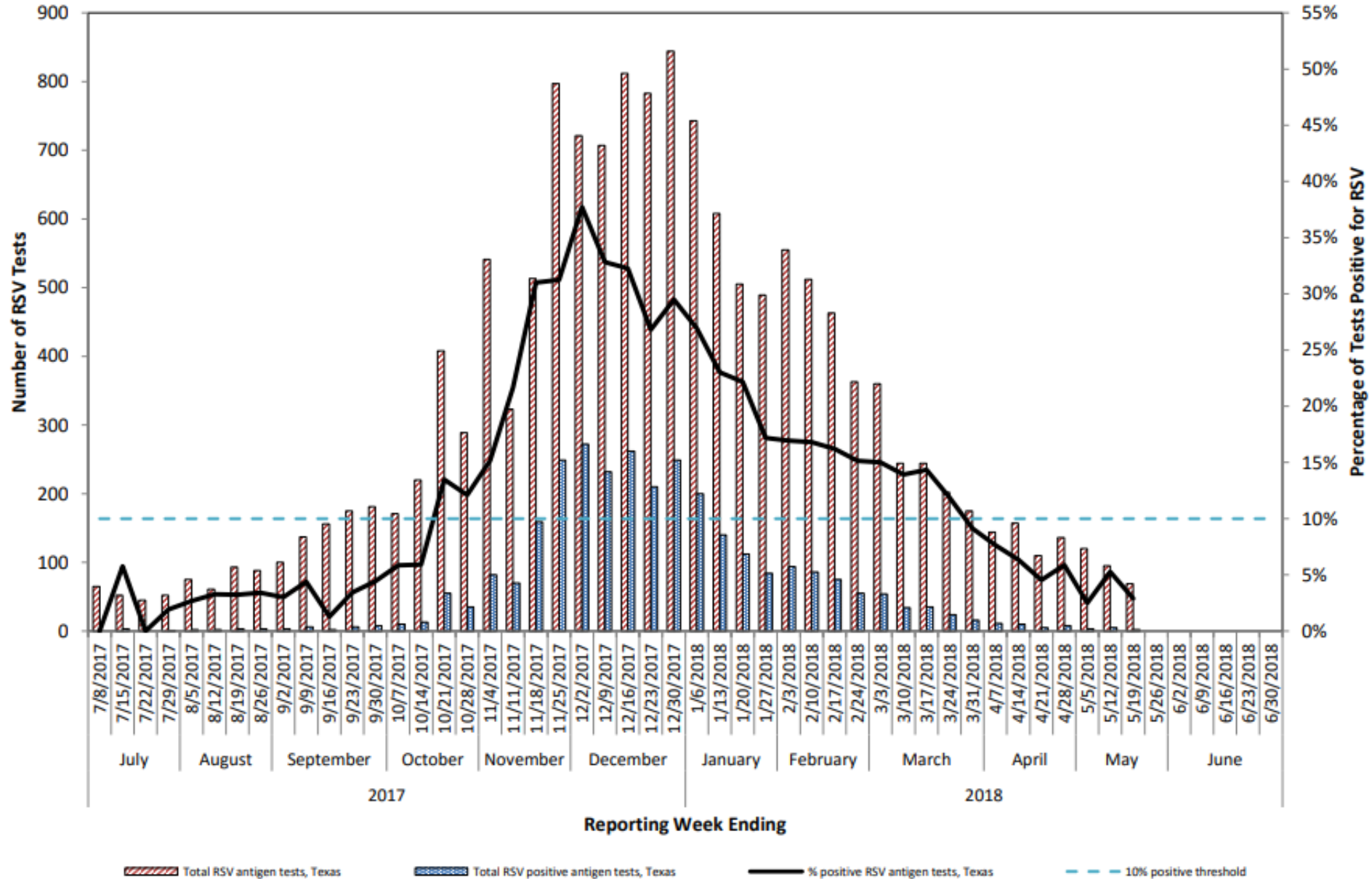


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- RSV season is defined as:
  - Antigen tests are  $\geq 10\%$  positivity and/or PCR tests are  $\geq 3\%$  positivity for two consecutive weeks
- Palivizumab (Synagis) is a monoclonal antibody infusion that can be used during RSV season to prevent RSV in high-risk children
  - costs about \$2500 a dose
  - High risk children typically require 5 (sometimes 6) doses per RSV season

## Number and Percentage of Antigen Tests Positive for Respiratory Syncytial Virus (RSV) All Texas Sites, 2017-2018 Season



The start of RSV season is the first of two consecutive weeks with  $\geq 10\%$  of tests positive, and the end is the last of two consecutive weeks with  $\geq 10\%$  of tests positive.

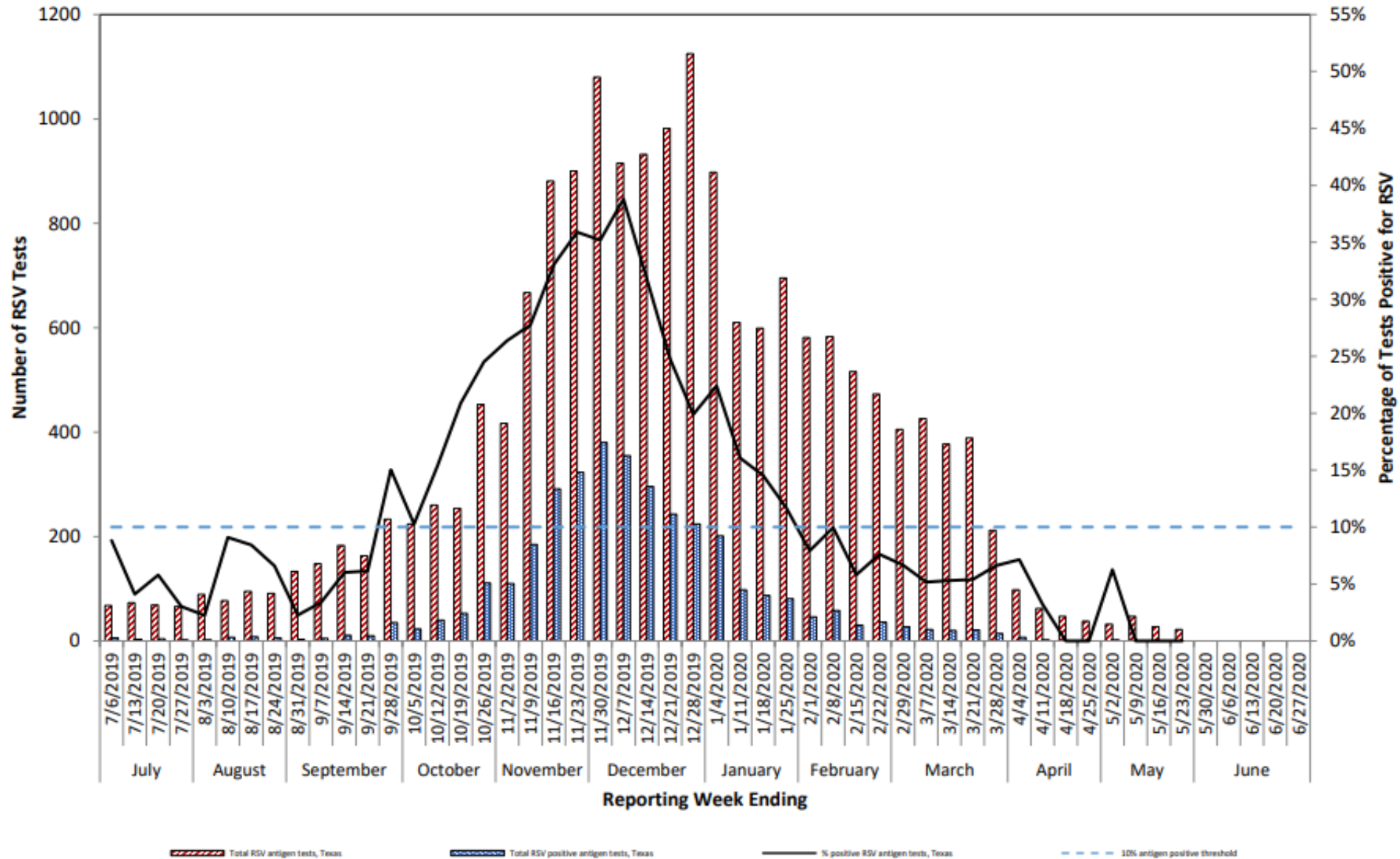


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## Number and Percentage of Antigen Tests Positive for Respiratory Syncytial Virus (RSV) All Texas Sites, 2019-2020 Season



The start of RSV season is the first of two consecutive weeks with ≥10% of tests positive, and the end is the last of two consecutive weeks with ≥10% of tests positive.



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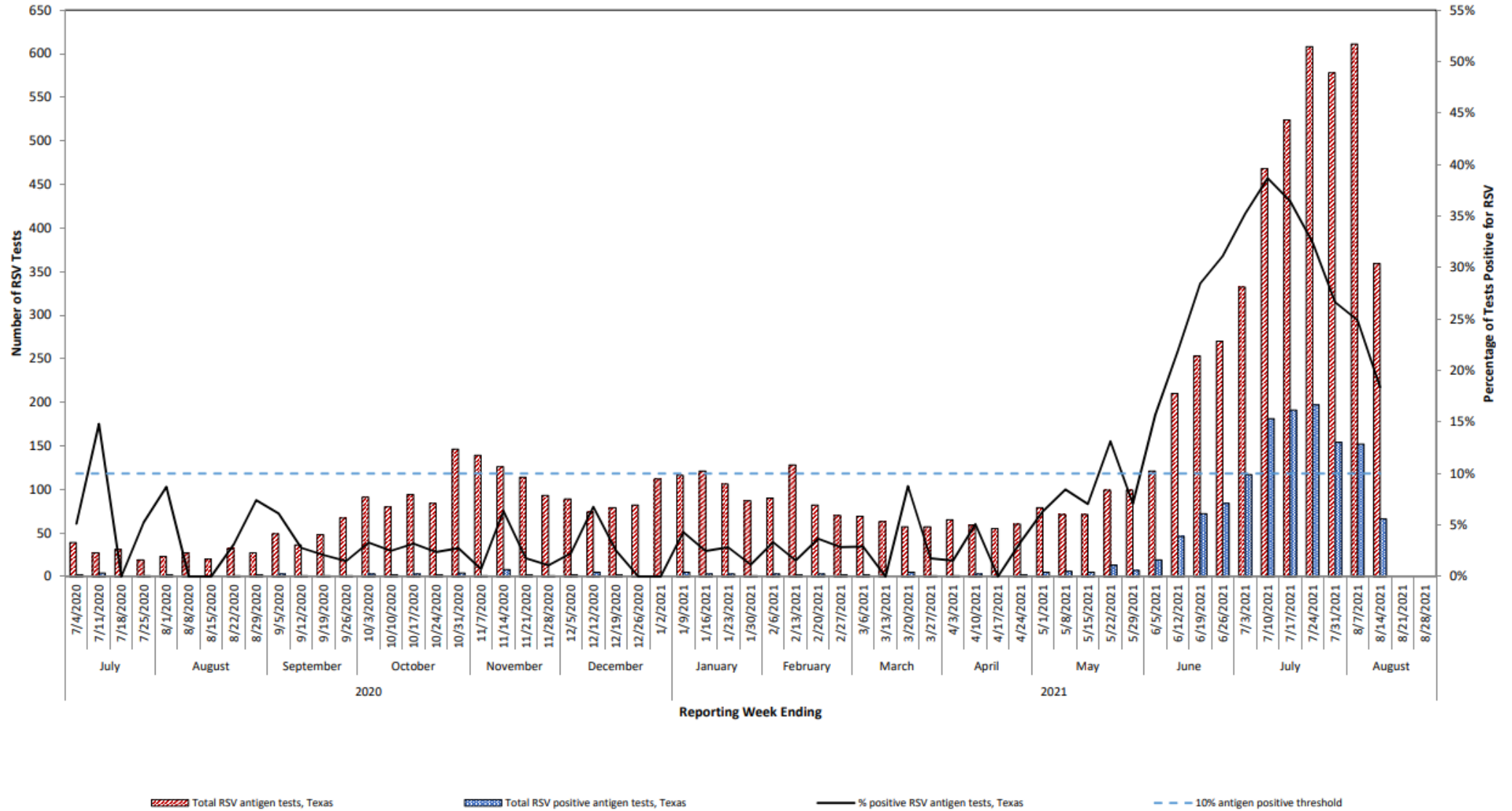
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## Number and Percentage of Antigen Tests Positive for Respiratory Syncytial Virus (RSV) All Texas Sites, 2020-2021 Season

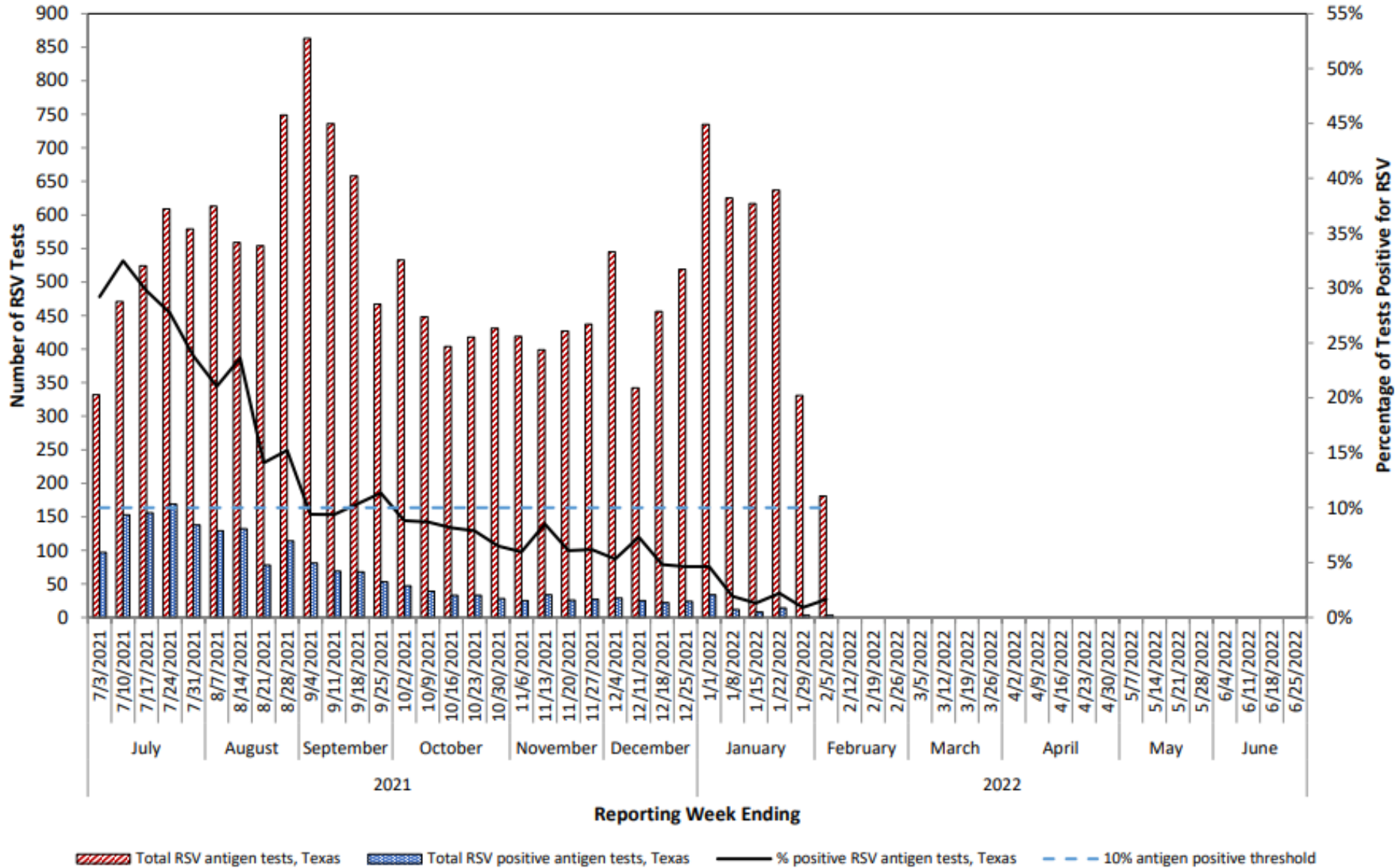


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The start of RSV season is the first of two consecutive weeks with  $\geq 10\%$  of tests positive, and the end is the last of two consecutive weeks with  $\geq 10\%$  of tests positive.

## Number and Percentage of Antigen Tests Positive for Respiratory Syncytial Virus (RSV) All Texas Sites, 2021-2022 Season



The start of RSV season is the first of two consecutive weeks with  $\geq 10\%$  of tests positive, and the end is the last of two consecutive weeks with  $\geq 10\%$  of tests positive.



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# RSV Season 2021-2022

- Inter-seasonal RSV activity differed by region
  - Started in June or July 2021
  - Ended on September 30, 2021
- Traditional RSV season
  - Started October 1, 2021
  - Ended February 1, 2022
- Continuing to monitor RSV activity



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# **Influenza**

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# Influenza



- Respiratory infection caused by the influenza virus (Influenza A and Influenza B)
- Seasonal epidemics from late fall through the spring
- ~5-20% of population may be infected in flu season
- Causes significant morbidity and mortality
- Flu is not a notifiable condition, except in the case of:
  - Flu outbreaks
  - Pediatric flu deaths
  - Novel influenza infections

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**Texas Influenza Surveillance Report**  
2021-2022 Season/2021 MMWR Week 46  
(November 14, 2021 – November 20, 2021)  
Report produced on 11/24/2021

**Summary**  
*\*Please note, some aspects of influenza surveillance may be affected by current COVID-19 response activities. For information about COVID-19 in Texas, please visit [www.dshs.texas.gov/coronavirus](https://www.dshs.texas.gov/coronavirus).*  
Compared to the previous week, the percentage of specimens testing positive for influenza reported by hospital laboratories has decreased. The percentage of patient visits due to influenza-like illness (ILI) has increased. No influenza-associated pediatric deaths were reported. No influenza-associated institutional outbreaks or school closures were reported.

**Table 1: Summary of Texas Influenza (Flu) and Influenza-like Illness (ILI) Activity for the Current Week**

Texas Surveillance Component	Change from Previous Week	Current Week	Previous Week	Page of Report
Statewide ILINet Activity Indicator assigned by CDC (intensity of influenza-like illness)	No change	Low	Low	—
Percentage of specimens positive for influenza by hospital laboratories	▼ 0.07%	0.49%	0.56%	1
Percentage of visits due to ILI (ILINet)	▲ 0.56%	3.22%	2.66%	4
Number of regions reporting increased flu/ILI activity	▼ 4	2	6	5
Number of regions reporting decreased flu/ILI activity	No change	1	1	5
Number of variant/novel influenza infections	No cases reported	0	0	5
Number of ILI/influenza outbreaks	No cases reported	0	0	5
Number of pediatric influenza deaths	No change	0	0	6

**Laboratory Results**  
*influenza*  
*\*In response to the COVID-19, influenza testing at Texas Public Health Laboratories has significantly decreased to increase capacity for SARS-CoV-2 testing. Please note, this will affect data in Table 3 and Figure 2.*  
Hospital laboratories across Texas voluntarily report influenza tests (antigen, culture, and PCR) to the National Respiratory and Enteric Virus Surveillance System (NREVSS). Providers throughout Texas also submit specimens for influenza testing (PCR) to Texas public health laboratories, including the Texas Department of State Health Services (DSHS) state laboratory in Austin and the nine Texas Laboratory Response Network (LRN) laboratories. The results reported by Texas NREVSS participants and public health laboratories for the current week are summarized in the two tables below. Additional influenza test results (rapid tests, culture, PCR) and ILI activity were reported from providers and public health departments throughout the state (see county map at the end of this report).

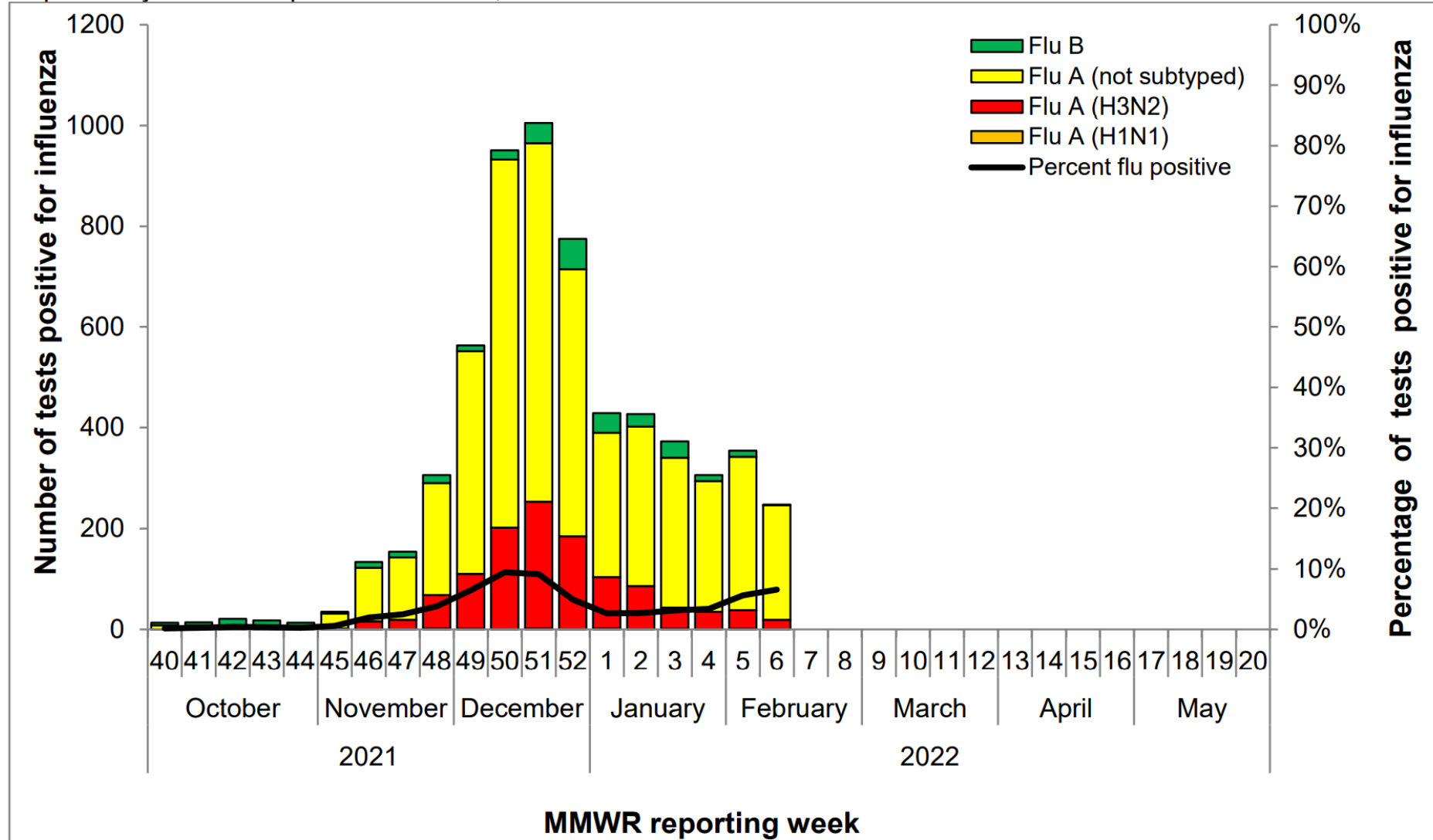
**Table 2: Influenza Testing Performed by Texas Hospital Laboratories for the Current Week**

	Week 46	Season to Date Week Ending: Nov. 20, 2021
Number of labs reporting flu tests	14	
Number of specimens tested	4115	3895
Number of positive specimens (%) <sup>a</sup>	20 (0.49%)	135 (0.35%)
Percentage of total tests that were antigen detection tests	9.67%	
<b>Positive specimens by type/subtype (n (%))</b>		
<b>Influenza A</b>	<b>14 (70.00%)</b>	<b>84 (62.22%)</b>
Subtyping performed	3 (21.43%)	9 (10.71%)
A (H1N1)	0 (0.00%)	3 (33.33%)
A (H3N2)	3 (100.00%)	6 (67.67%)
78Subtyping not performed	11 (78.57%)	75 (89.29%)
<b>Influenza B</b>	<b>6 (30.00%)</b>	<b>51 (37.78%)</b>

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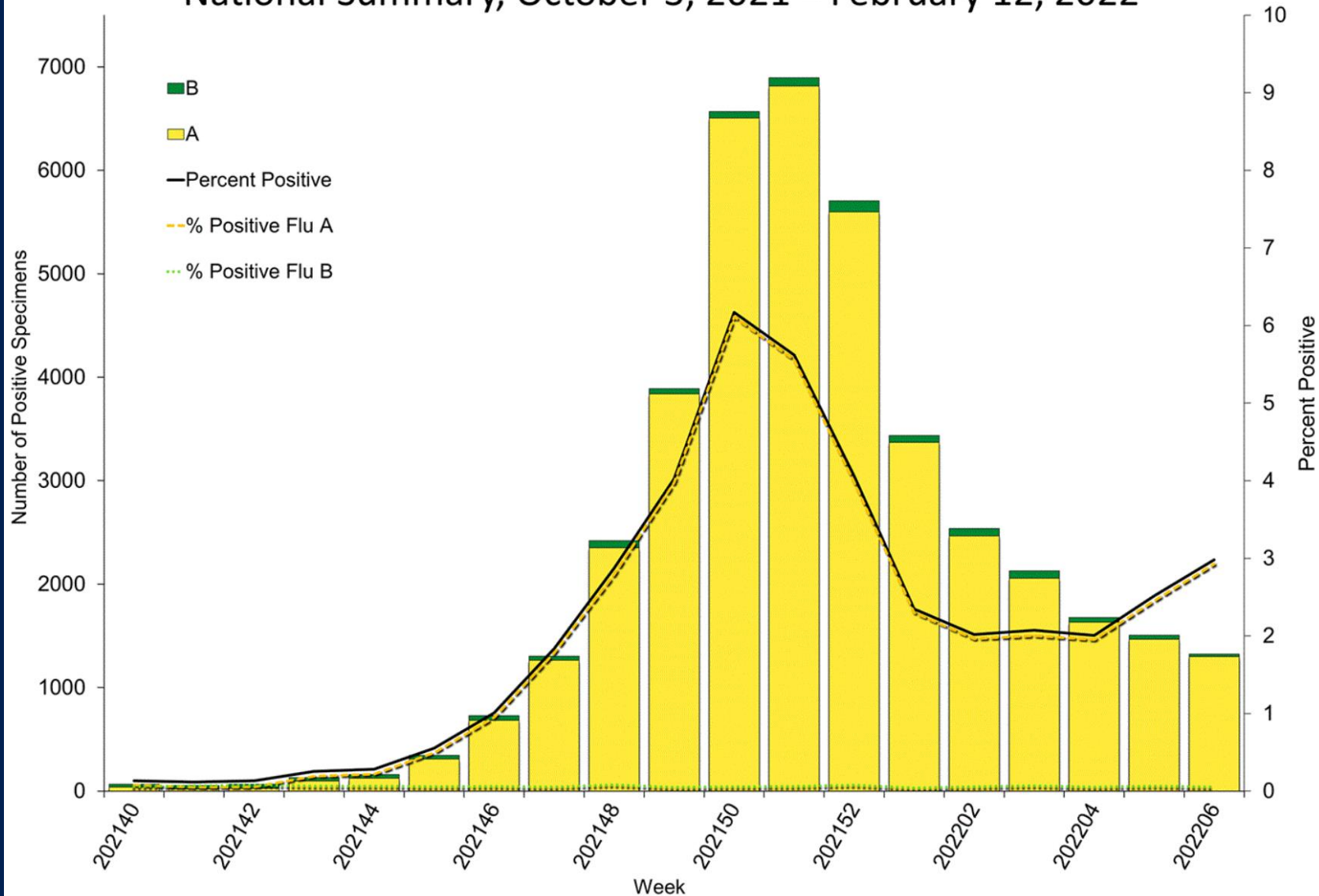
# Texas Hospital Flu Testing Results- 2021-2022

Figure 1: Number and Percentage of Tests (Antigen, Culture, PCR) Positive for Influenza by Type and Subtype Reported by Texas Hospital Laboratories, 2021-2022 Season



# US Clinical Flu Testing- 2021-2022

Influenza Positive Tests Reported to CDC by U.S. Clinical Laboratories, National Summary, October 3, 2021 – February 12, 2022



Available at: <https://www.cdc.gov/flu/weekly/index.htm>. Accessed 2/18/2022.



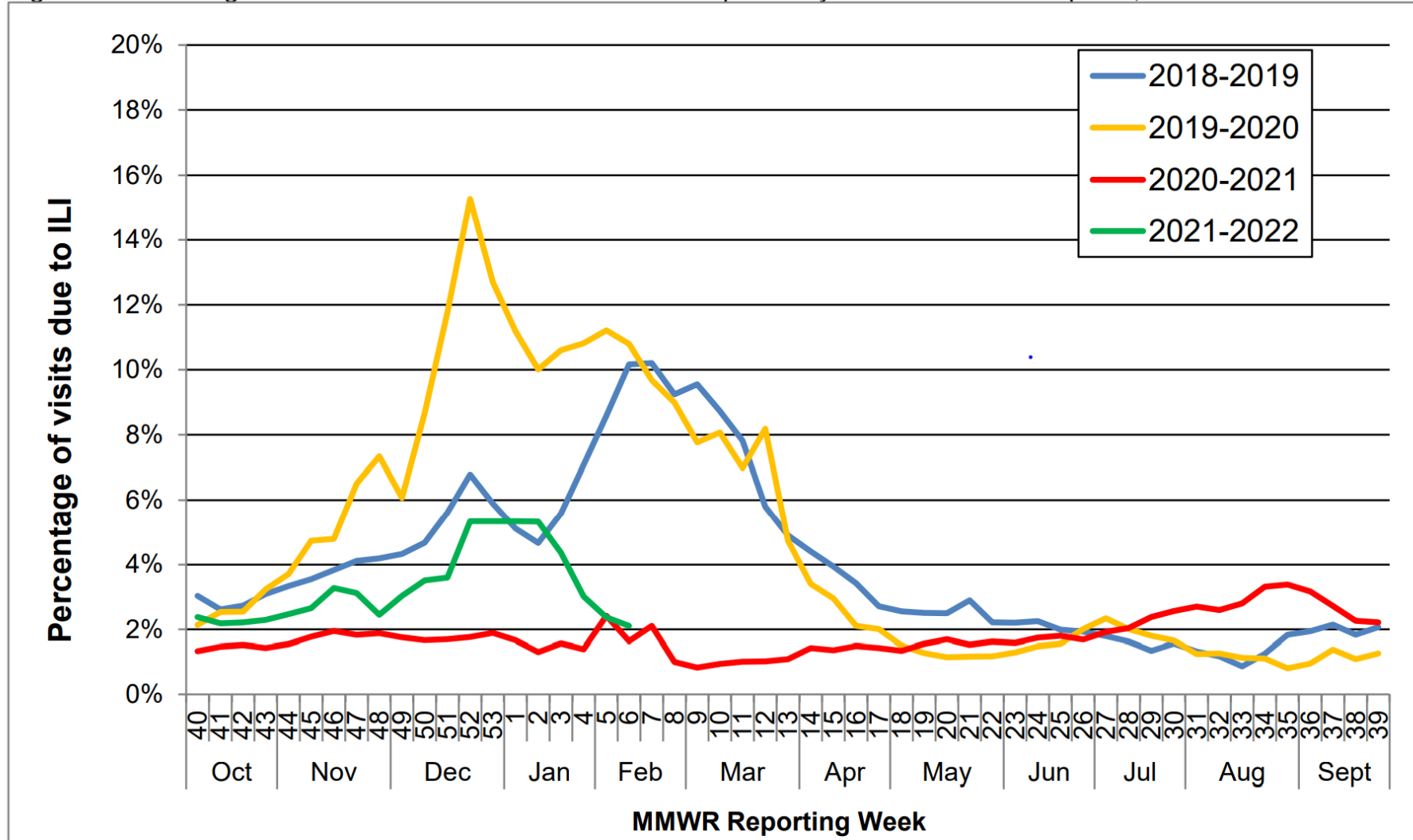
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# Texas Influenza-like Illness 2017-2022

Figure 4: Percentage of Visits Due to Influenza-like Illness Reported by Texas ILINet Participants, 2018–2022 Seasons



Note: The 2020-2021 Flu Season contains MMWR week 202053. For graphical display compatibility with seasons containing 52 weeks, average values were generated using MMWR week 52 and 1 for Seasons: 2018-2019, 2019-2020, and 2021-2022.

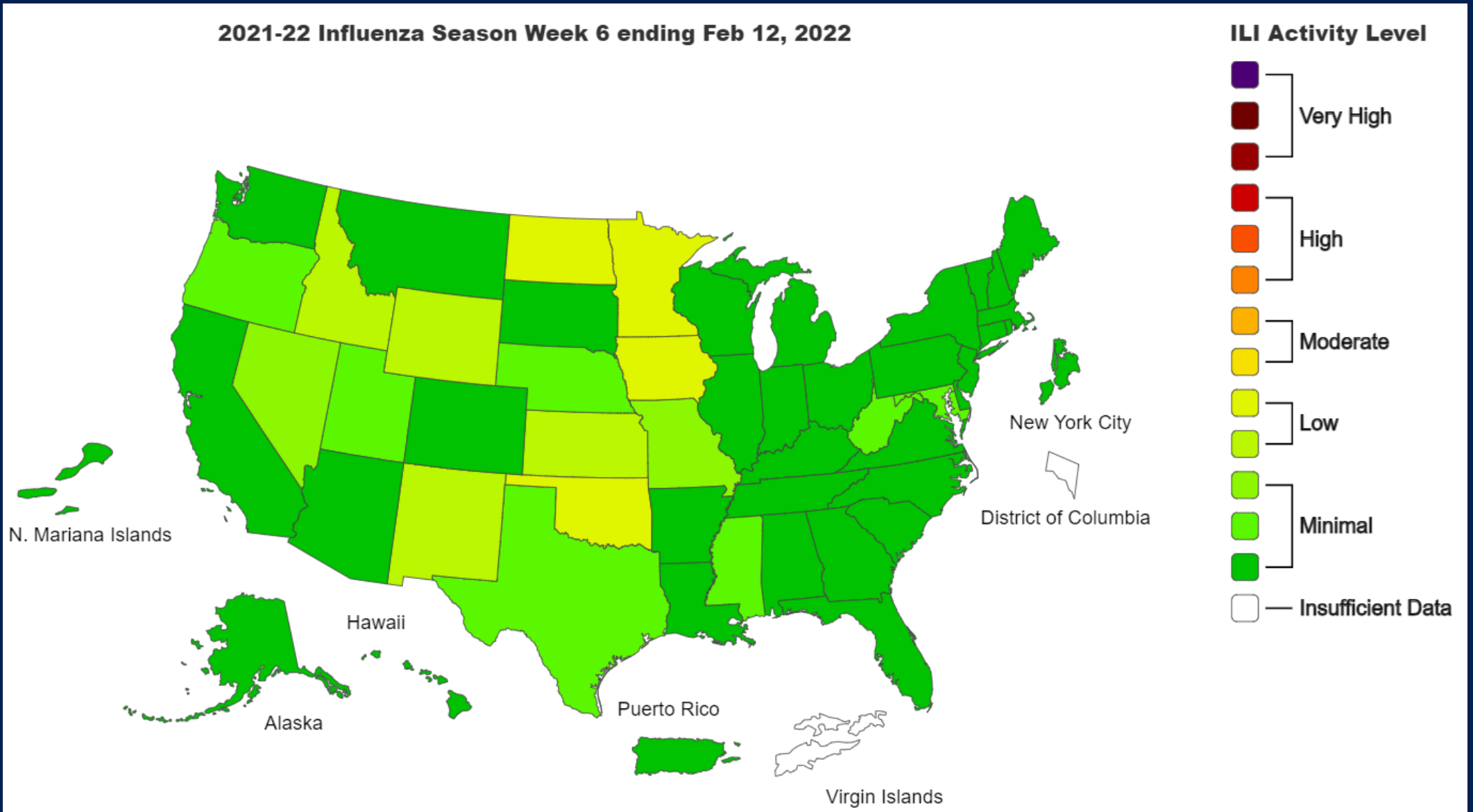


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# US Influenza-like Illness- 2/6/2022 - 2/12/2022



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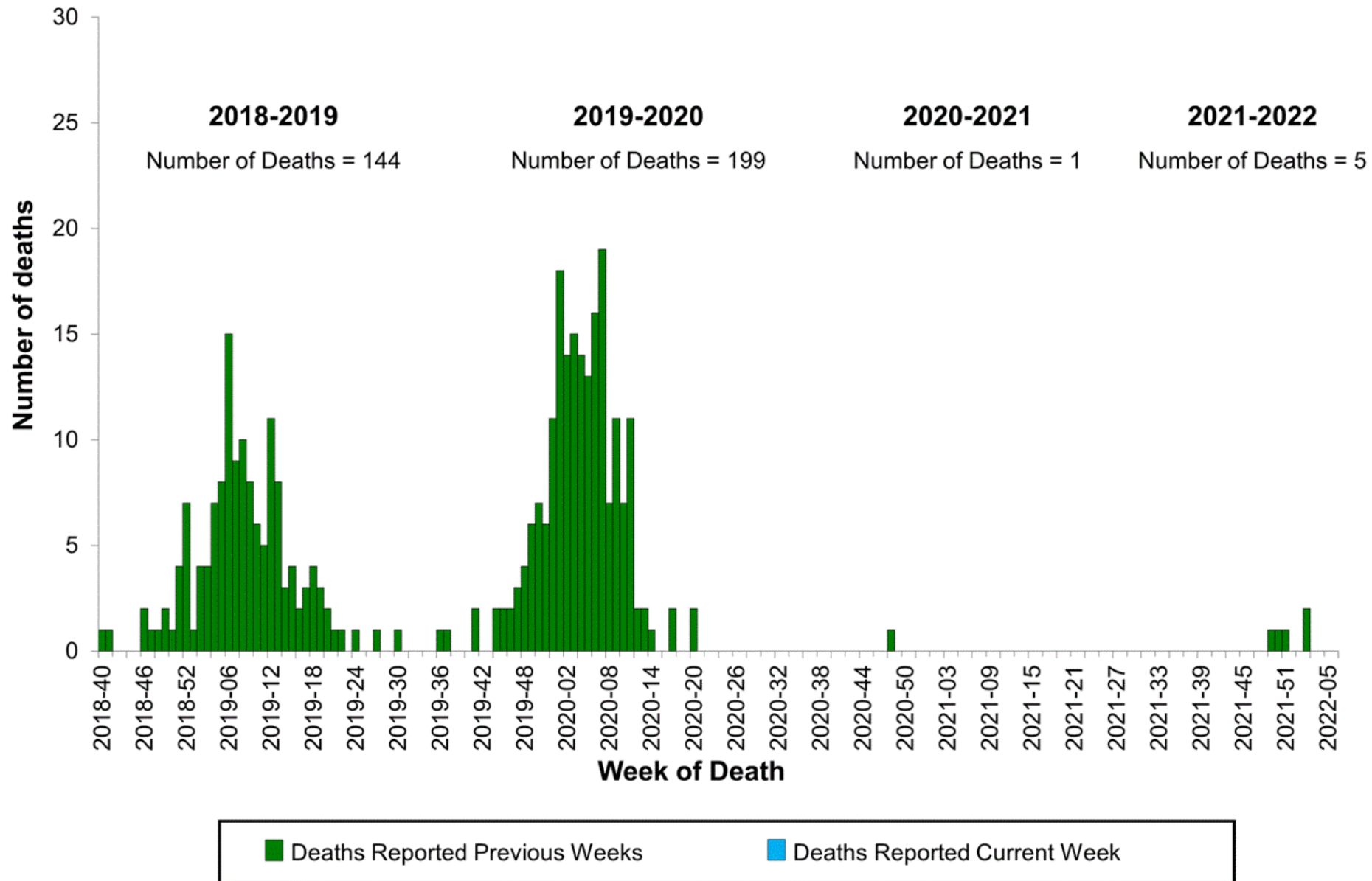
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# Influenza-Associated Pediatric Deaths

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# Influenza-Associated Pediatric Deaths by Week of Death, 2018-2019 season to 2021-2022 season



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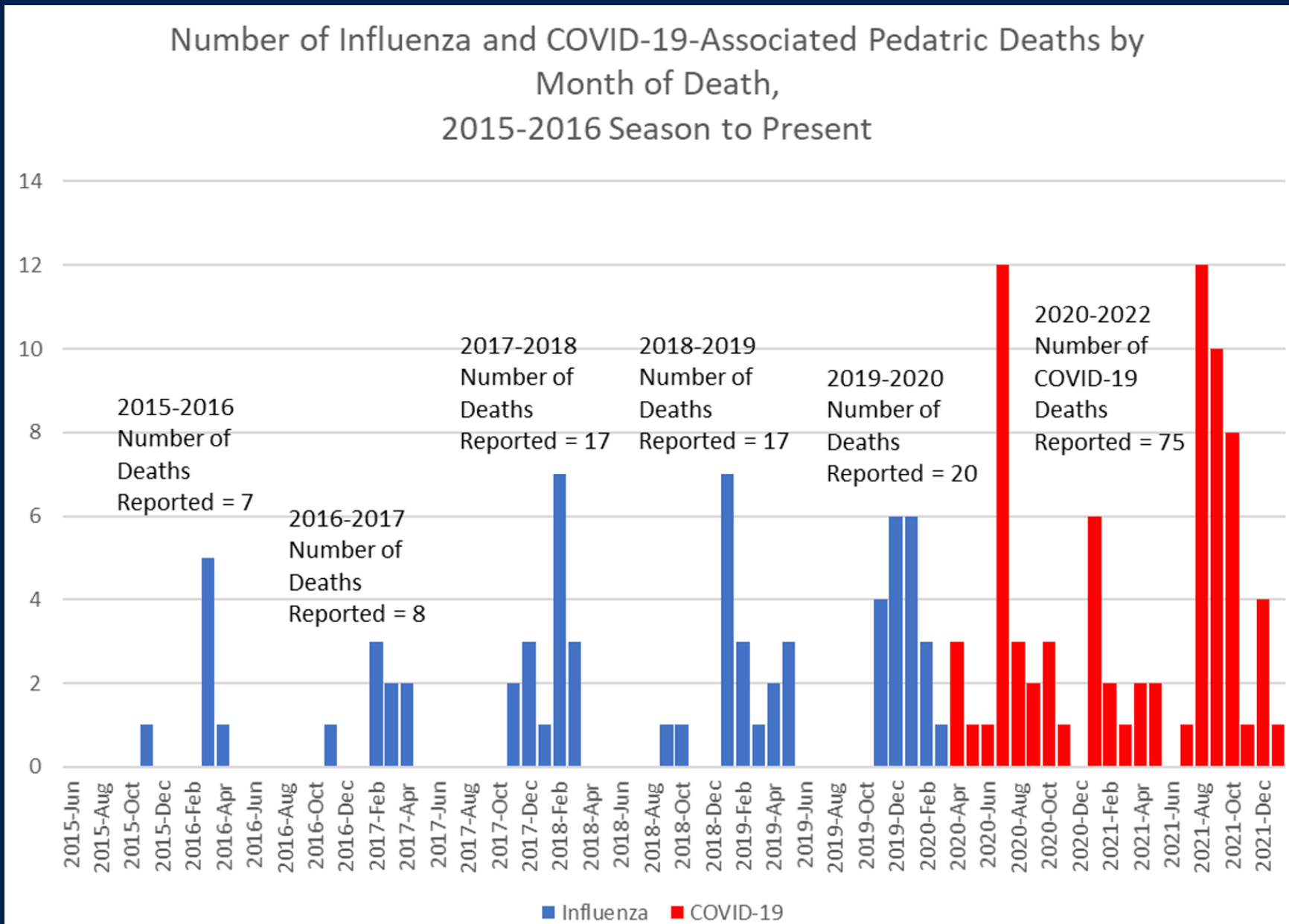
# Texas Flu and COVID-19- Associated Pediatric Deaths, 2015-2022



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# **Novel Influenza**

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# Highly Pathogenic Avian Influenza in Commercial or Backyard Flocks- US, 2022

County, State	Date Confirmed	Flock Type
Dubois County, Indiana	2/16/2022	Commercial Turkeys
Webster County, Kentucky	2/15/2022	Commercial Turkeys
Fauquier County, Virginia	2/12/2022	Backyard Mixed Species Birds (non-poultry)
Fulton County, Kentucky	2/12/2022	Commercial Broiler Chickens
Dubois County, Indiana	2/8/2022	Commercial Turkeys



Image courtesy of USDA



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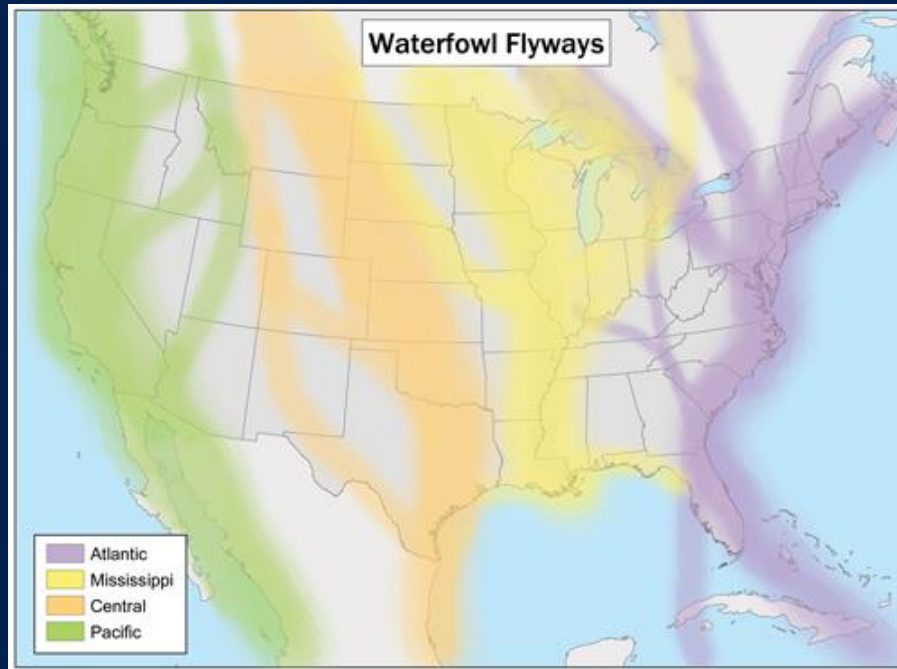
# Wild Bird Avian Influenza Surveillance- US



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- APHIS tests large numbers of wild birds in US as part of ongoing surveillance
  - Not uncommon to detect avian influenza in wild birds
  - Hundreds of HPAI H5 infections detected in Atlantic Flyway in 2022
  - Recent increased detection of HPAI EA in Europe as well
- APHIS response:
  - Increasing surveillance in other North American Flyways
  - Requesting bird owners in the US review and stay vigilant about their biosecurity practices to protect poultry and pet birds from avian influenza



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# Thank you!

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