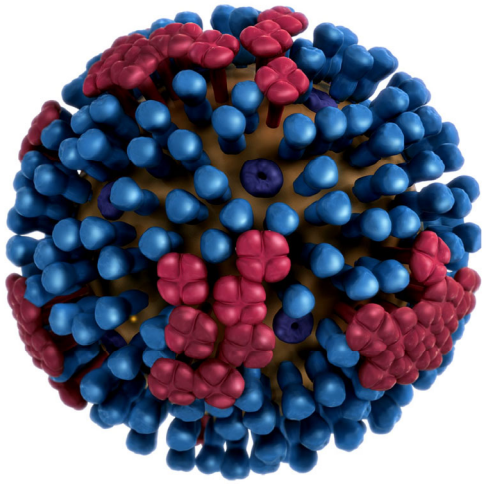
TEXAS Health and Human Services | Texas Department of State Health Services

DSHS Central Texas

Public Health Region 7 Serving You

Public Health Region 7 End of Season Influenza and ILI Surveillance Report

October 1, 2023-May 18, 2024



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2023-24 Influenza and ILI Season

Morbidity and Mortality Weekly Report (MMWR)

Week 40-Week 20

Influenza and influenza-like-illness (ILI) activity reports were submitted directly to DSHS Public Health Region 7 (PHR 7) by local health department (LHD), school (ISD), hospital, and clinic reporters distributed throughout the 30 counties in the region. Multiple methods of data collection were utilized to finalize the total aggregated respiratory illness counts within PHR 7.

This season, the majority of cases were ILI, followed by influenza A and B, respectively. Many of the influenza and ILI reports were from the ESSENCE ER/Hospitalization visits data, encrypted fax, and direct reporting from the Qualtrics influenza/ILI surveillance reporting form. Influenza A and B subtyping and lineages were not performed. However, influenza A continues to be the predominant strain for the region. ILI is a generalized term to define illnesses which have a set of symptoms similar to that of influenza and may encompass other respiratory conditions like COVID-19 and RSV.

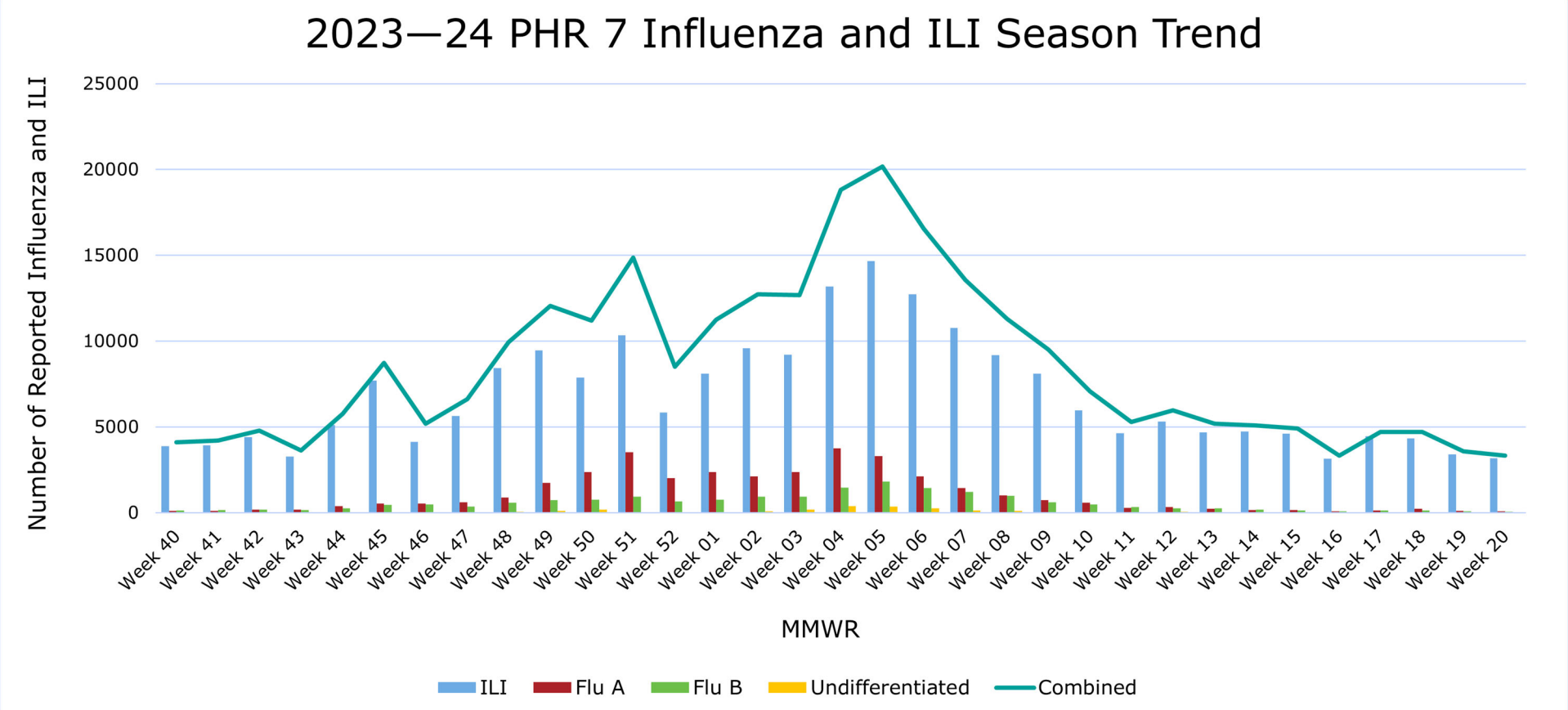
According to the CDC, the overall national vaccine effectiveness (VE) is 42%. VE is the percentage reduction of disease cases comparing the vaccinated to the unvaccinated group. You can find more on past seasons' vaccine effectiveness percentages here:

Past Seasons' Vaccine Effectiveness Estimates

PHR 7 investigated more than 10 respiratory illness outbreaks this season. There were two influenza-associated pediatric mortalities reported within the region.

*Please note, some aspects of influenza surveillance may be affected by past COVID-19 response activities. For information about COVID-19 in Texas, please visit COVID-19 (Coronavirus Disease 2019) | Texas DSHS. For more information about the Regional Influenza Surveillance Program, please email at phr7.episurveillance@dshs.texas.gov.

Figure 1: PHR 7 Influenza and ILI Season 2023-24



For this influenza and ILI season, the combined aggregate total count (**teal line**) had multiple peaks and troughs with the highest significant increase on Week 5 (Jan. 28-Feb. 3). After Week 5, the following successive weeks had moderately decreased by Week 11 (March 10-16) and continued to gradually decrease to the end of the traditional influenza/ILI season, Week 20 (May 12-18).

The total number of reported cases vastly varied between ILI, influenza A and B, and undifferentiated influenza. However, the most common type of report was ILI (**blue bar**), which does not require a confirmed lab report, and is based on the clinical definition of a fever of 100 F or above with a cough and/or sore throat in the absence of a known cause other than influenza.

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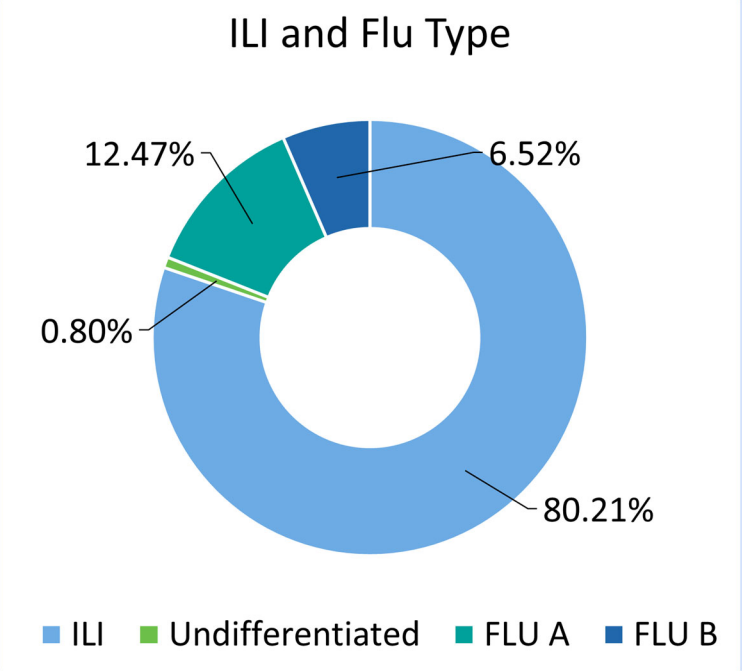
Figure 2: Percent Reported by Type



The vast majority of the reported cases were ILI with 80.21%, followed by influenza A with 12.47%, influenza B with 6.52%, and undifferentiated influenza with .80%.

The peak of the season was on Week 5 (Jan 28-Feb. 3), highlighted in purple in Figure 3 on the right. The combined total number of reported cases was **20,176**.

The breakdown between each category for Week 5 are as follows: **14,679** ILI cases, **3,306** influenza A cases, **1,824** influenza B cases, and **367** undifferentiated influenza cases.

The lowest total number of cases was on Week 20 (May 12-18), highlighted in blue in Figure 3 on the right. The combined total number reported cases was **3,327**.

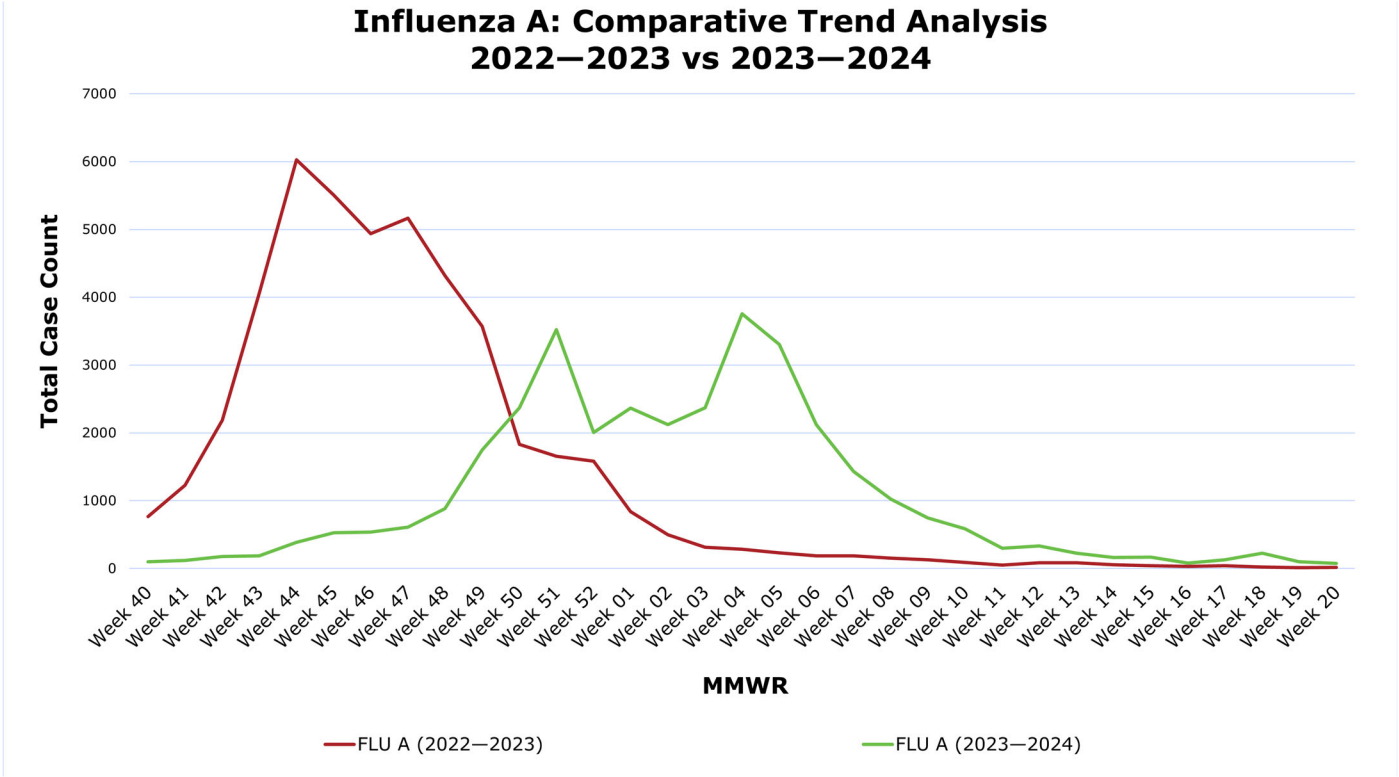
The breakdown between each categories for Week 20 are as follows: **3,172** ILI cases, **76** influenza A cases, **68** influenza B cases, and **11** cases for undifferentiated influenza.

The largest increase (%) and decrease (%) took place from Week 43 (Oct. 22-28) to Week 44 (Oct. 29-Nov. 4) and from Week 51 (Dec. 17-23) to Week 52 (Dec. 24-30), respectively.

Figure 3: PHR 7 Influenza / ILI Season 2023-24

MMWR Week	Cases	Flu and ILI activity compared to last week?	Percentage	Difference
Week 40	4110			
Week 41	4197	Increase	2.12%	87
Week 42	4775	Increase	13.77%	578
Week 43	3627	Decrease	-24.04%	-1148
Week 44	5776	Increase	59.25%	2149
Week 45	8729	Increase	51.13%	2953
Week 46	5188	Decrease	-40.57%	-3541
Week 47	6620	Increase	27.60%	1432
Week 48	9950	Increase	50.30%	3330
Week 49	12040	Increase	21.01%	2090
Week 50	11204	Decrease	-6.94%	-836
Week 51	14858	Increase	32.61%	3654
Week 52	8519	Decrease	-42.66%	-6339
Week 01	11249	Increase	32.05%	2730
Week 02	12739	Increase	13.25%	1490
Week 03	12686	Decrease	-0.42%	-53
Week 04	18807	Increase	48.25%	6121
Week 05	20176	Increase	7.28%	1369
Week 06	16558	Decrease	-17.93%	-3618
Week 07	13563	Decrease	-18.09%	-2995
Week 08	11293	Decrease	-16.74%	-2270
Week 09	9501	Decrease	-15.87%	-1792
Week 10	7068	Decrease	-25.61%	-2433
Week 11	5287	Decrease	-25.20%	-1781
Week 12	5971	Increase	12.94%	684
Week 13	5187	Decrease	-13.13%	-784
Week 14	5085	Decrease	-1.97%	-102
Week 15	4910	Decrease	-3.44%	-175
Week 16	3335	Decrease	-32.08%	-1575
Week 17	4712	Increase	41.29%	1377
Week 18	4702	Decrease	-0.21%	-10
Week 19	3580	Decrease	-23.86%	-1122
Week 20	3327	Decrease	-7.07%	-253

Figure 4: PHR 7 Influenza A Season 2022-23 and 2023-24



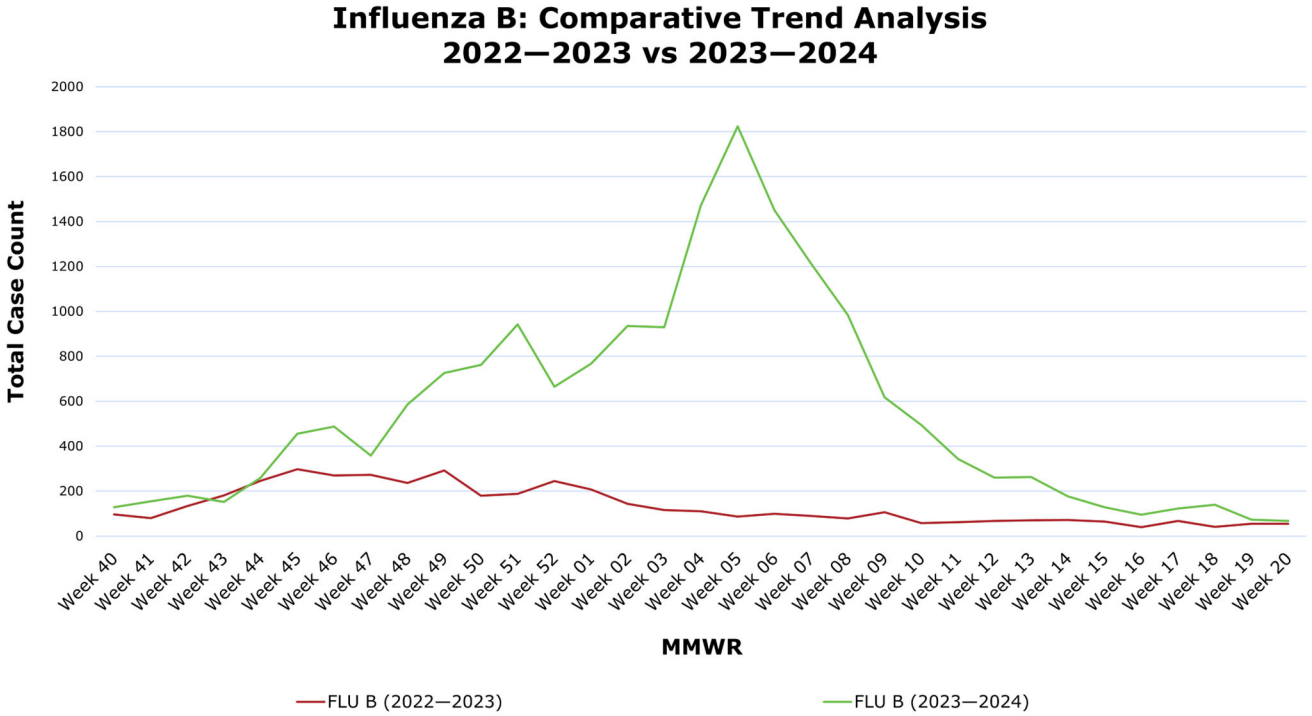
For the **2022-23** season (**red line**), flu A rapidly surged early at the start of the traditional season from Week 40 (Oct. 2-8) to Week 43 (Oct. 23-29), which peaked at Week 44 (Oct. 30-Nov. 5), followed by a decline from Week 45 (Nov. 6-12) to Week 1 (Jan. 1-7). From Week 2 (Jan. 8-14) to the end of the season, the number of reported flu A continued to gradually decrease.

For **2023-24** season (**green line**), flu A gradually increased as the weeks went by until the first peak on Week 51 (Dec. 17-23). For Weeks 52 to 3 (Dec. 24-Jan. 20), the trend line had a series of decreases and increases until the second peak on Week 4 (Jan. 21-27). This sudden decrease is attributed to reduced flu reporting due holiday school closures and holiday travel during the winter solstice, which includes Christmas, Hanukkah, Kwanzaa, etc. After Week 4, the overall flu A activity trend gradually decreased for the rest of the traditional season.

The 2022-23 season was impacted by the aftermath of the COVID-19 pandemic and its public health response to it. The region observed a dramatic and rapid increase of flu A activity at the start of the traditional season.

For the 2023-24 season, the region observed an overall trend line shifting back to a more traditional trend pattern prior to COVID-19. A traditional season would generally observe a higher level of flu activity around late December to mid-February. In addition, when comparing to the 2022-23 season, it was also generally much lower reported flu A activity within PHR 7.

Figure 5: PHR 7 Influenza B Season 2022-23 and 2023-24



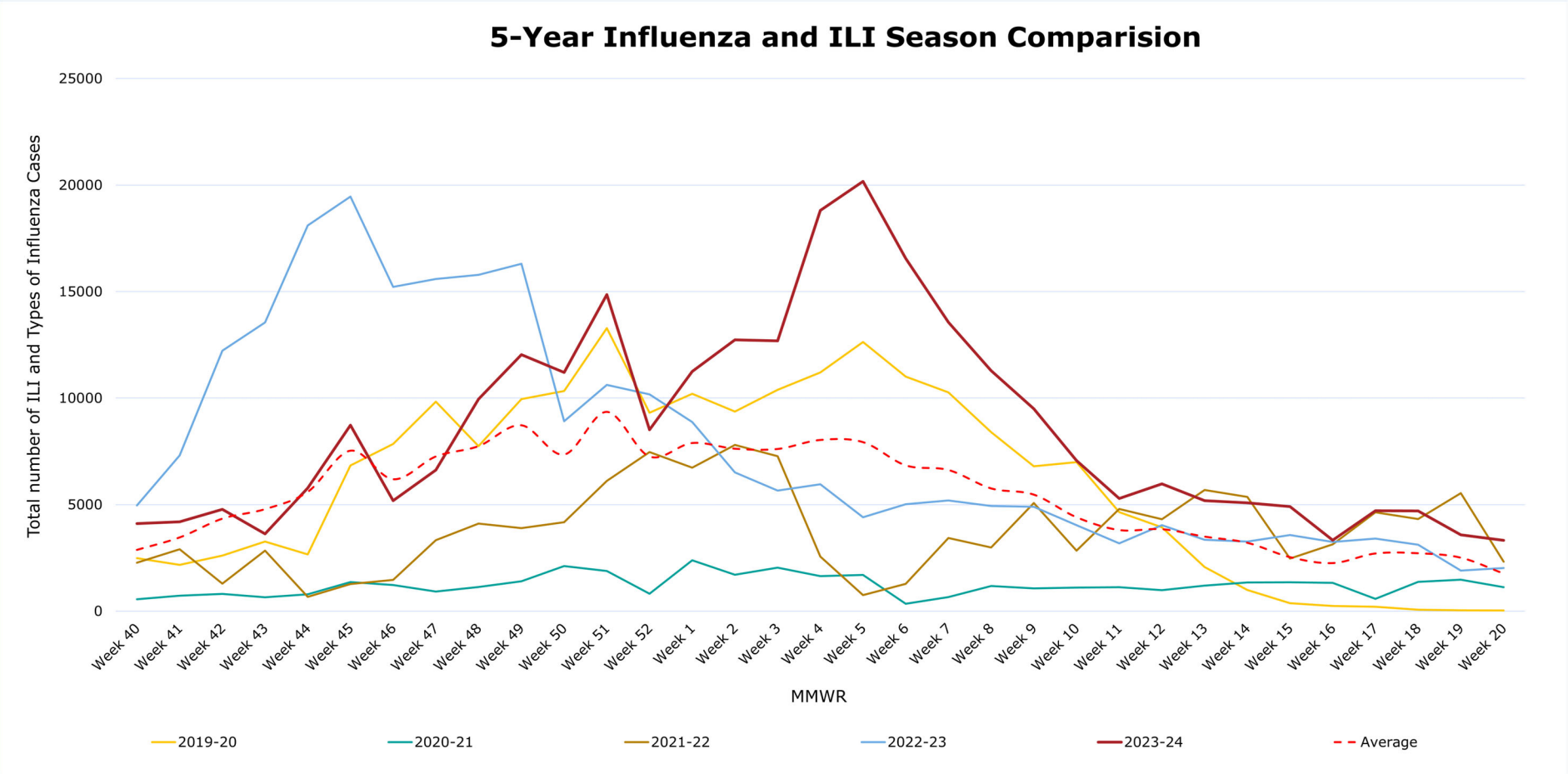
For **2022-23** (**red line**)**,** flu B had a relatively lower number of reported cases and a gradual increase compared to flu A. The gradual increase started on Week 41 (Oct. 9-15) with the highest peak on Week 45 (Nov. 6-12), followed by gradual decline until it hit the second highest peak on Week 49 (Dec. 4-10). After Week 49, the overall general trend continued to steadily decrease.

For the **2023-24** season (**green line**), flu B gradually increased as the weeks went by until the first minor peak on Week 46 (Nov. 12-18) before decreasing on Week 47 (Nov. 19-25). The next highest peak was on Week 51 (Dec. 17-23), the week before the Christmas holiday. After Week 51, there was reduced reporting due to the holidays, similar to flu A, which explains the decrease from Week 51 to Week 52 (Dec. 24-30). From Weeks 52 to 3 (Dec. 24-Jan. 20), the trend line had a series of decreases and increases until the second peak on Week 5 (Jan. 28-Feb. 3). After Week 5, the overall flu A activity trend decreased for the rest of the traditional season.

For the 2022-23 season, flu B seemed to be impacted by the aftermath of the COVID-19 pandemic response, but not as much as flu A. The region observed a gradual increase for the first couple of weeks and a steady decrease for the rest of the traditional season. This may in part be that flu A is historically the predominate influenza type out of the two strains and has a rather a higher mutation rate during the season.

For the 2023-24 season, similar to flu A, PHR 7 observed an overall trend line shifting back to a more traditional trend pattern prior to COVID-19. The difference when compared to this past year's flu B reporting and in 2022-23 is that flu B was almost always reported higher total aggregate count every week with the exception of Week 43 (Oct. 22-28).

Figure 6: PHR 7 Influenza and ILI Season 5-Year Comparison



The 2023-24 influenza and ILI season (n=279,329) had the most cases compared to the last four seasons and a 9.6% increase from the previous season. The total case count for each year: 198,225 cases for 2019-20, 40,113 cases for 2020-21, 125,147 cases for 2021-22, and 254,842 cases for 2022-23.

The 2023-24 season was a return to a more familiar influenza and ILI activity pattern that the region typically observes. 2022-23 season influenza and ILI activity was considered the most abnormal because the total number of reported flu and ILI cases had rapidly increased at the start of the traditional season when compared to all other years. However, both the 2020-21 and 2021-22 seasons were lower in total aggregate count than usual because of the impacts from national emergency and public health response to mitigate the then-ongoing COVID-19 pandemic.

Figure 7: PHR 7 County Total Aggregate Map

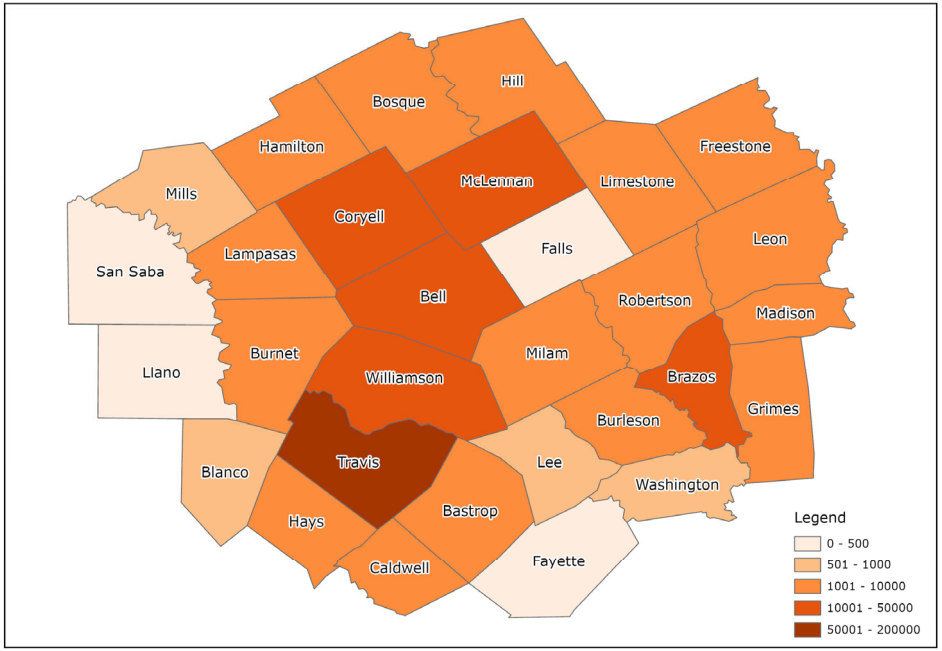


Figure 8: PHR 7 County ILI Map

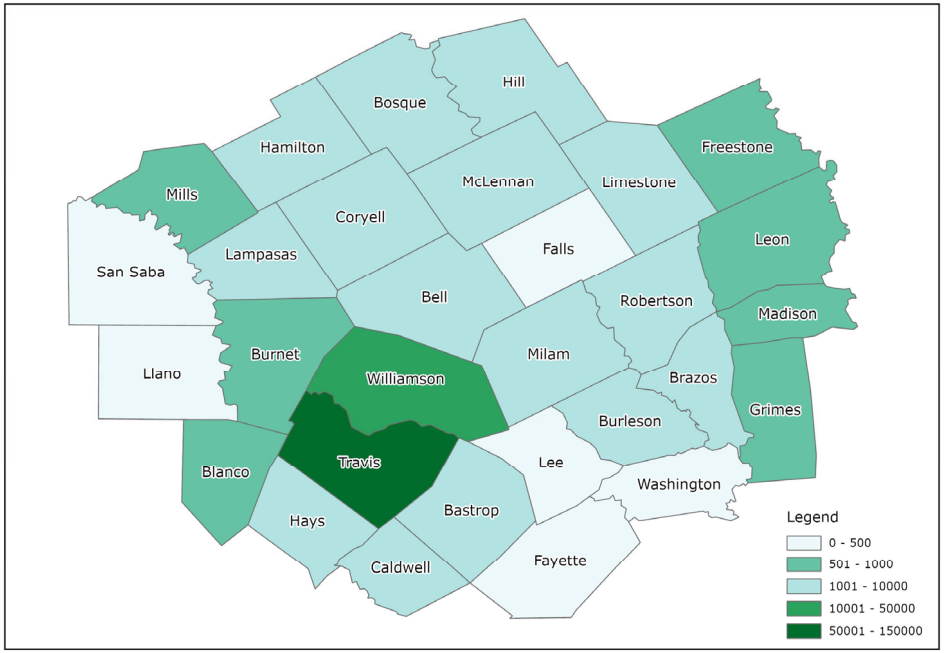


Figure 7 and Figure 8 help to visualize the breakdown of combined respiratory illness (ILI and influenza A/B virus types) and ILI activity by each county.

Figure 7 shows the total combined aggregate number of reported respiratory illness cases that were reported and collected. Travis County had the highest number of reported cases followed by Williamson, Bell, McLennan, Brazos and Coryell counties. These counties have a larger population size when compared to neighboring rural counties. Most of them are geographically situated or adjacent to the I-35 corridor, and have at least one largely populated city. Brazos County is the exception since it is not near the I-35 corridor, but has a sizable population in Bryan-College Station.

Figure 8 shows the total counts of ILI activity, with Travis County having the highest number of cases reported as shown by the darkest green color. Most of the northern and southern counties adjacent to the I-35 corridor within PHR 7 reported cases between 1,001-10,000, whereas the more rural counties from the west and east had the lowest number of reported ILI cases, with fewer than 1,000.

Figure 9: PHR 7 Influenza A Map

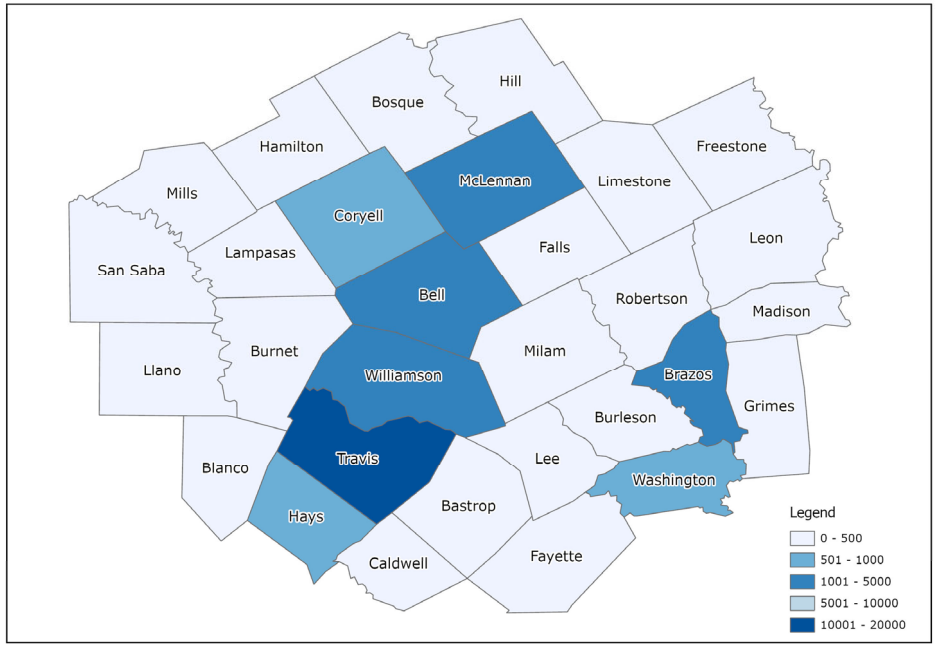


Figure 10: PHR 7 Influenza B Map

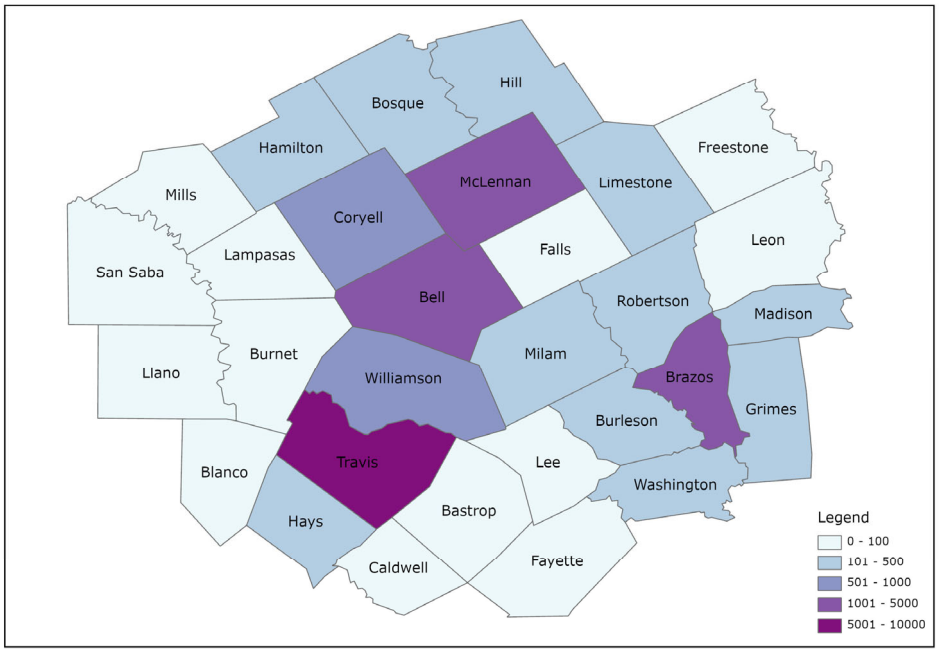


Figure 9 and Figure 10 show the breakdown of reported influenza A and B by county. Both maps show that Travis County had the highest number of cases for both influenza A and B.

For Figure 9, Williamson, Bell, McLennan and Brazos counties had between 1,001 and 5,000 reported flu A cases, whereas Coryell, Hays, and Washington counties had between 501 and 1,000 reported flu A cases. For Figure 9, Bell, McLennan, and Brazos counties had between 1,000 and 5,000 reported flu B cases, whereas Williamson and Coryell counties had 501 to 1,000 reported flu B cases.

The vast majority of flu A and B cases reported were in populous counties and also were consistent with the higher levels of ILI activity compared to the rest of the more rural neighboring counties. It is important to note that many of the highly populous counties have local health departments (LHDs), with major cities providing increased influenza surveillance reporting capabilities.

The rest of the surrounding rural counties had relatively low levels of FLU activity, which continues to be due to the nature of a sparsely populated area with limited access to medical care and testing.

Figure 11: CDC's Flu Positive Tests Reports

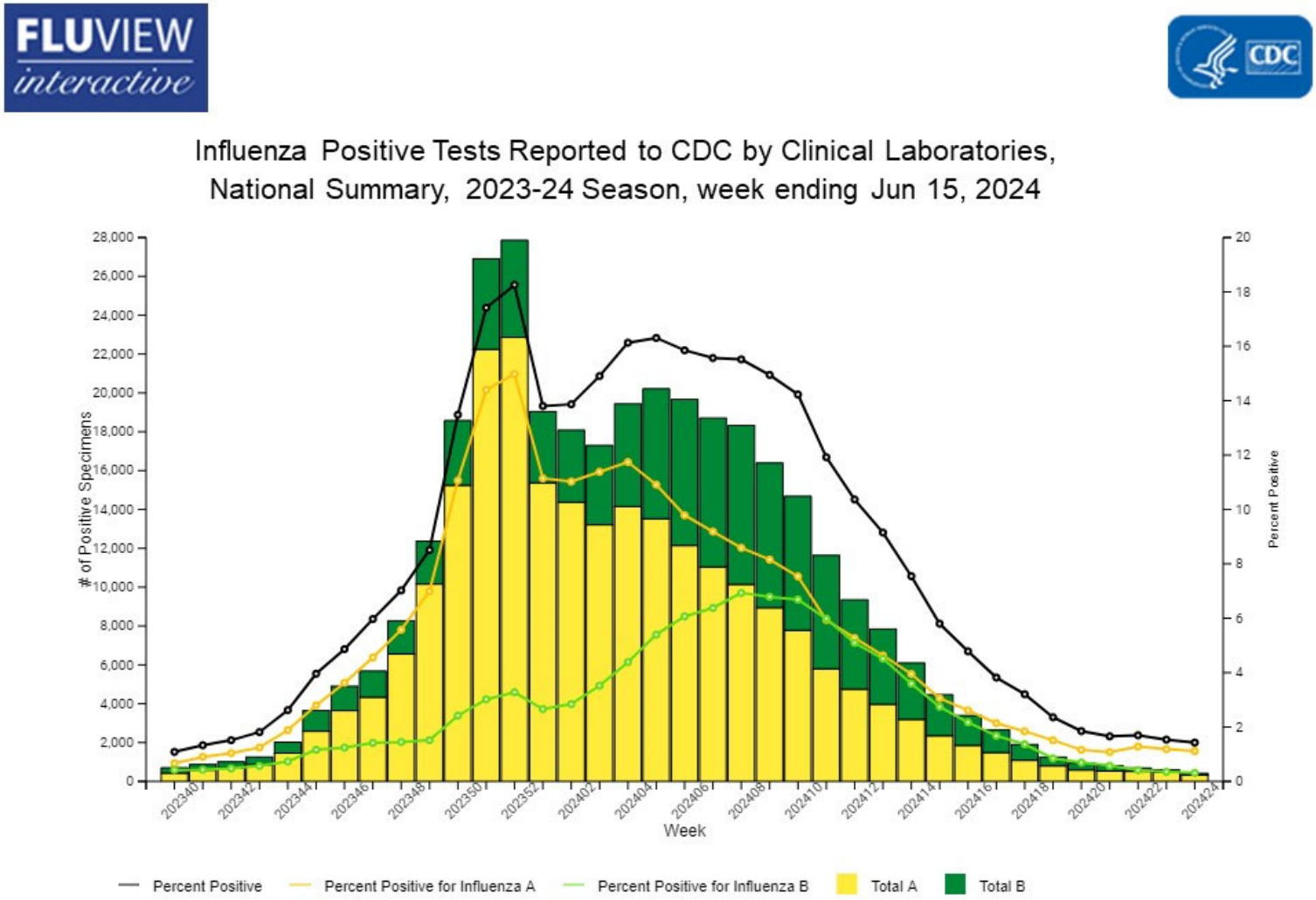


Figure 11 shows the CDC's influenza positive test reports by clinical laboratories. This epi-curve represents all of the total positive tests conducted during the 2023-24 influenza season. The lines represent the percent positive for the total, flu A and B. The vast majority of the positive tests were influenza A, which means that the within the U.S., influenza A virus was the most prevalent virus to circulate nationwide for this season. Therefore, the CDC's influenza positive test reports by clinical laboratories remains consistent with our region's and DSHS' influenza season reports. Click this link to the CDC's landing page for more information: Weekly U.S. Influenza Surveillance Report | CDC

Figure 12: CDC's Weekly National Respiratory Illness Trend

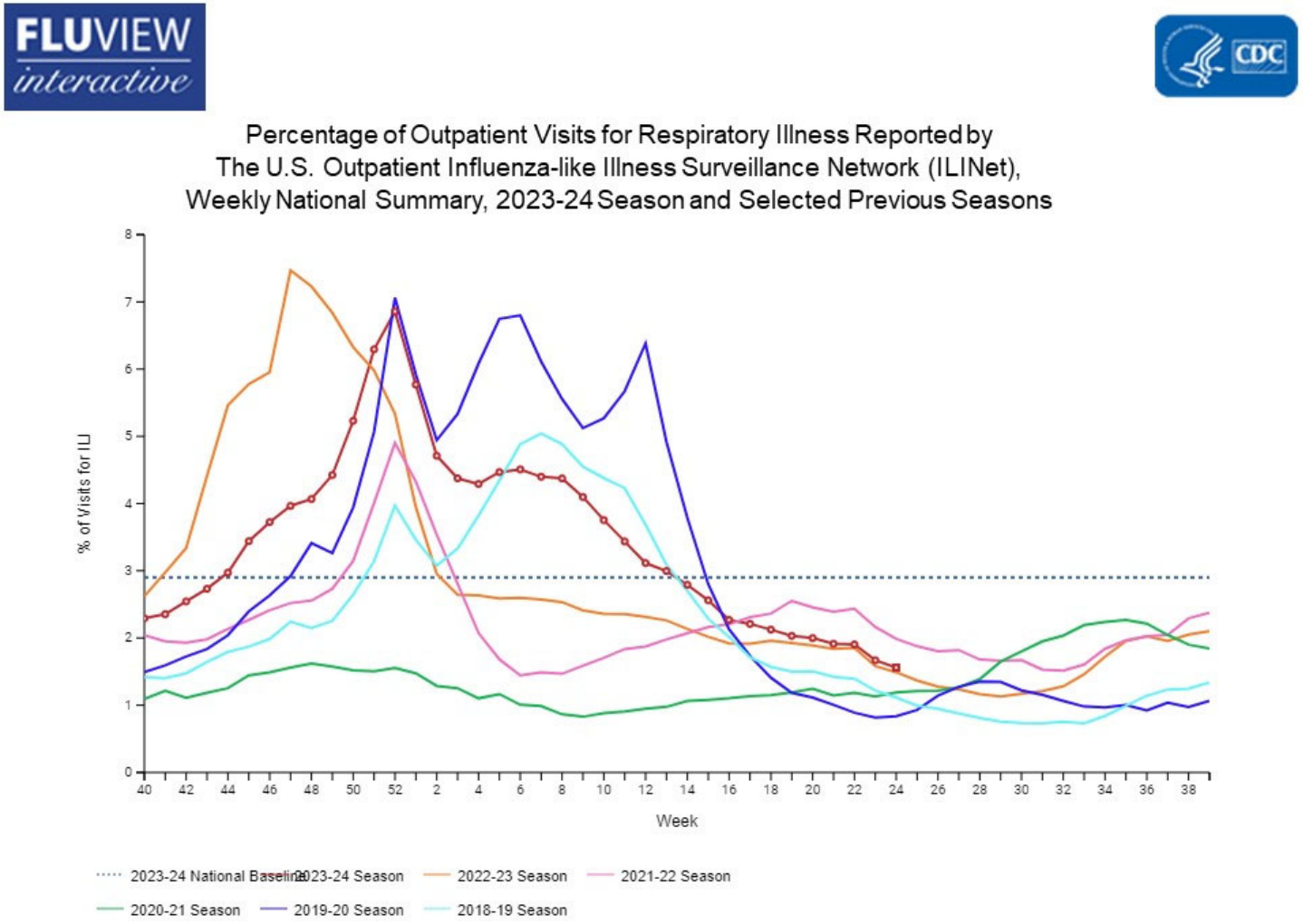


Figure 12 shows the CDC's Weekly National Respiratory Illness five-year trend lines for the percentage of outpatient visits. CDC's national baseline is around 2.9% of visits for ILI. Based on this, at the start of the influenza season, each week, the percent of visits for ILI had been above the national baseline. However, the Week 14 (March 31-April 6), the percent of visits for ILI had dipped below the estimated 2.9%. Click this link to the CDC's landing page for more information: Weekly U.S. Influenza Surveillance Report | CDC

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Please contact our office if you or any clinic/hospital infection control preventionist nurse or epidemiologist is interested in becoming a flu reporter and participating in the PHR 7 Influenza Surveillance Program.

Ways to prevent the risk of seasonal flu:

1. Get vaccinated.
2. Avoid close contact with those who are sick.
3. If sick, stay home and rest.
4. When sneezing or coughing, cover your mouth and nose with a tissue.
5. Practice proper hand=washing and other good hygiene habits and avoid contact with eyes, nose or mouth.

This coming influenza season, PHR 7 will continue to refine the respiratory illness reporting process. The primary method of respiratory illness reporting is utilizing Qualtrics XM. This is a cloud-based software platform to streamline the respiratory illness reporting process. PHR 7 will continue to receive flu reports through secure email and fax as secondary methods for flu surveillance.