County of Riverside Weekly Influenza Surveillance Report

2022 CDC Disease Week 13 (3/27/2022-4/2/2022), Issue 26

Influenza (flu) is a contagious respiratory illness caused by influenza viruses that infect the nose, throat, and lungs. Some people, such as older people, young children, and people with certain health conditions, are at higher risk for serious flu complications. According to CDC's Weekly Influenza Surveillance Report and CDPH's Influenza and Other Respiratory Viruses Weekly Report (Figure 1), the current influenza and influenza-like illness (ILI) activity level in Riverside County was minimal[1, 2]. Riverside County collects influenza data through a variety of sources, including CDC's Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE), California Integrated Vital Records System (Cal-IVRS), California Immunization Registry (CAIR), Riverside County Public Health Laboratory, Riverside University Health System (RUHS) and sentinel providers. This report summarizes the current influenza surveillance data in the county.

Figure 1a. National ILI Activity Level Map from CDC, Week 12

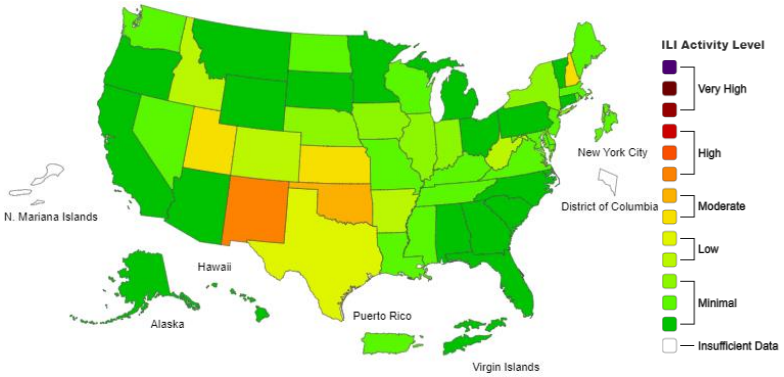
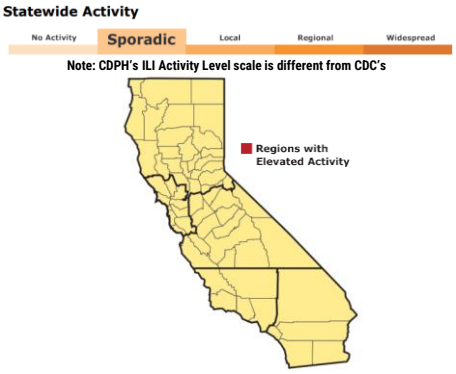


Figure 1b. State ILI Activity Level Map from CDPH, Week 12



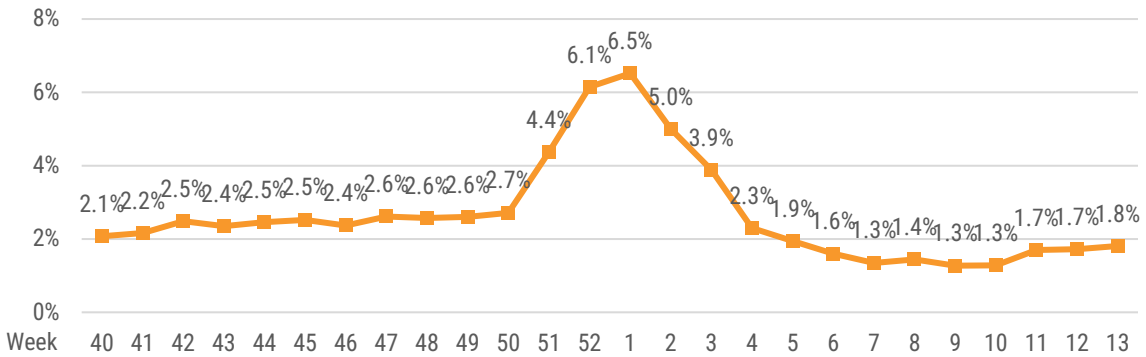
WEEK 13 Key Points at-a-glance

- Minimal ILI activity level in California
- 1.7% ➡ 1.8% ILI among emergency department visits
- 1.5% ➡ 1.9% ILI among outpatient service visits
- 0.6% cumulative positivity rate for influenza
- 11 deaths reported due to pneumonia and influenza
- 22.4% ➡ 22.5% influenza vaccination rate in residents

Emergency Department Syndromic Surveillance

Emergency department (ED) data are retrieved from ESSENCE. ILI records were captured based on discharge diagnosis. During week 13, ILI accounted for 1.8% (N=253) of all ED visits in Riverside County (Figure 2), 8 of them (3.2%) were admitted to the hospital after ED visit (Figure 3). Comparing to the previous week, ILI-related ED visits increased by 0.1% while percent of patients hospitalized after ILI-related ED visit increased by 0.3%. ILI-related ED visits occurred across all age groups (Figure 4). However, after adjustment for age[3], children aged 0-4 accounted for 64.7% of all ILI-related ED visits during this influenza season (Figure 5).

Figure 2. ILI-related Visits As Percentage of All ED Visits



Epidemiology & Program Evaluation
4065 County Circle Drive, Riverside, CA 92503
http://www.rivcoph.org

Figure 3. Percent of Patients Hospitalized after ILI-related ED Visit

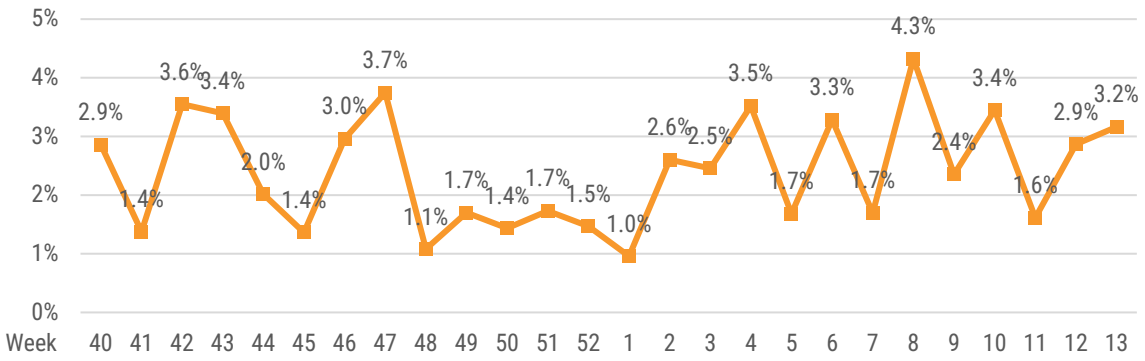


Figure 4. ILI-related ED Visits by Age Group

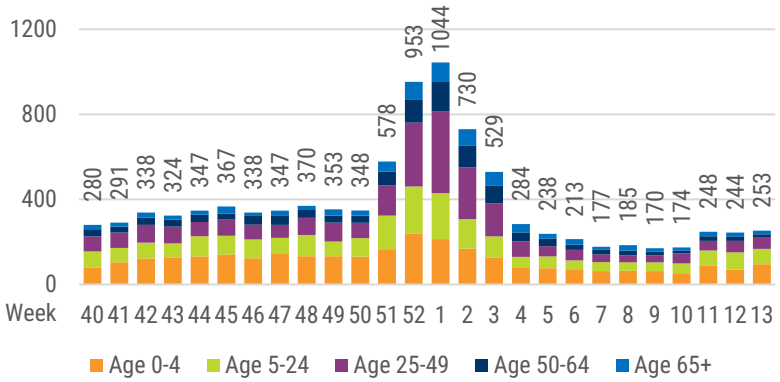
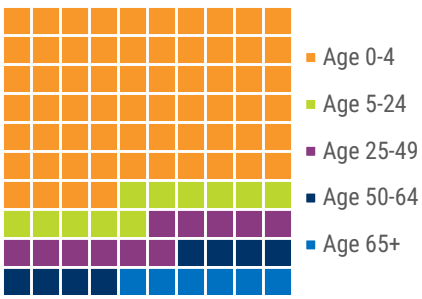


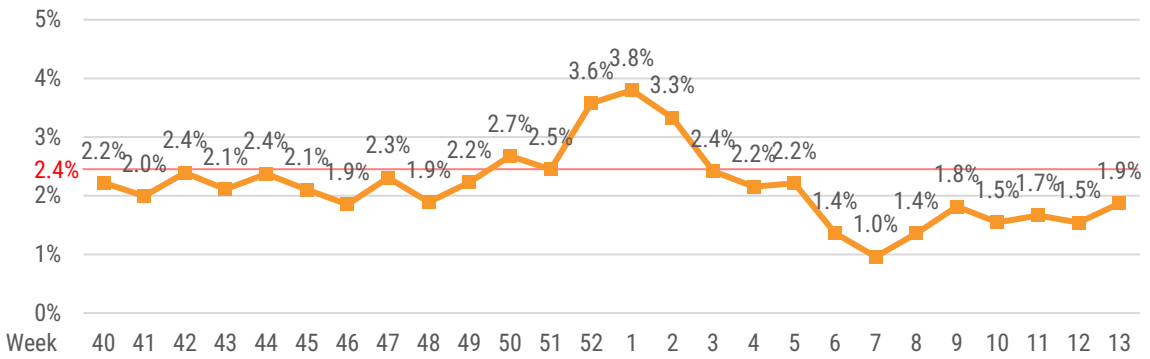
Figure 5. Age-adjusted Proportion of ILI-related ED Visits by Age Group, Weeks 40-13



Outpatient Service Syndromic Surveillance

RUHS reports ILI-related outpatient visits weekly, including any face-to-face, phone and video visits. ILI records were retrieved based on visit diagnosis, which was not laboratory-confirmed. During week 13, the percentage of outpatient visits attributed to ILI was 1.9% (N=129) with an increase of 0.4% than the previous week (Figure 6). The national baseline for 2021-2022 influenza season is 2.5% and the regional baseline for California is 2.4%[4]. Similarly, ILI-related outpatients visits occurred across all age groups (Figure 7). After adjustment for age[3], children aged 0-4 accounted for 54.7% of all ILI-related outpatient visits during this influenza season (Figure 8).

Figure 6. ILI-related Visits As Percentage of All RUHS Outpatient Visits



Epidemiology & Program Evaluation
4065 County Circle Drive, Riverside, CA 92503
http://www.rivcoph.org

Figure 7. ILI-related RUHS Outpatient Visits by Age Group

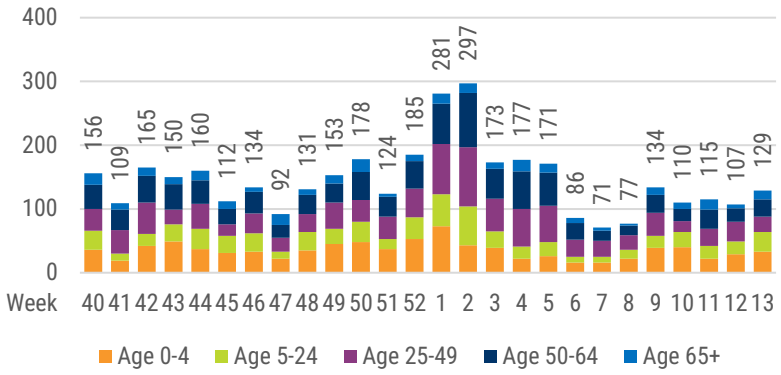
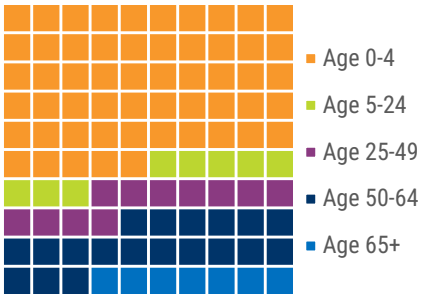


Figure 8. Age-adjusted Proportion of ILI-related RUHS Outpatient Visits by Age Group, Weeks 40-13



Virologic Surveillance

Virologic surveillance data are provided by Riverside County Public Health Laboratory, RUHS and sentinel sites where influenza tests or multiplex tests are used to detect and identify influenza as well as pathogens that are most commonly associated with respiratory infections, including SARS-CoV-2 and respiratory syncytial virus. During week 13, 235 specimens were tested and 2 of them (0.9%) were positive for influenza virus (Figure 9). Between weeks 40 and 13, the cumulative positivity rate for influenza was 0.6%, lower than the California average of 1.2% and the national average of 3.2[2, 5] (Table 1). Influenza A was the dominant strain, accounting for 89.1% of positive specimens.

Figure 9. Specimens Tested for Influenza and Cumulative Positivity Rate

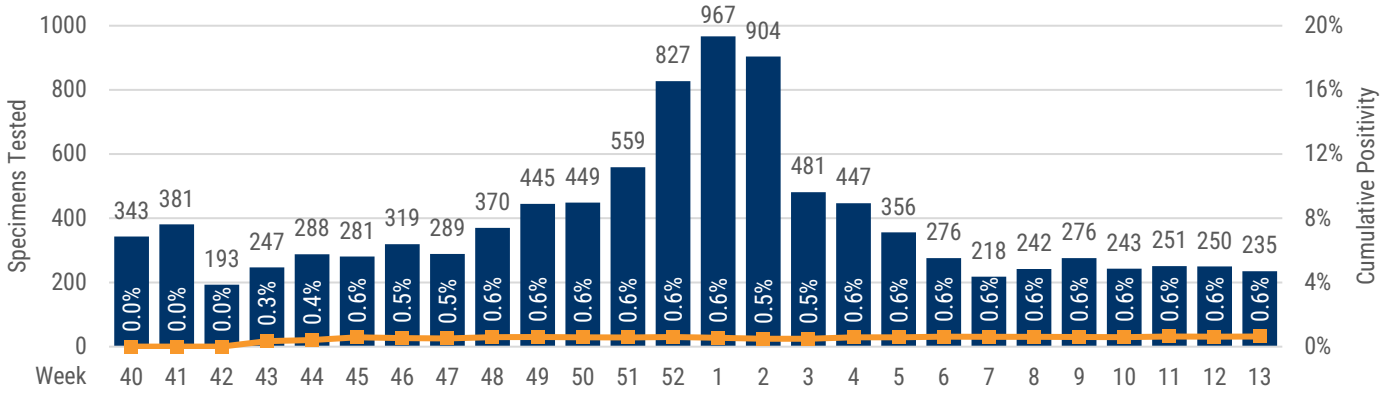


Table 1. Specimens Tested for Influenza by Type, This Week and Season to Date

	Riverside County		California[2]		Nationwide[5]	
	Week 13	Data Cumulative Since Week 40	Week 12	Data Cumulative Since Week 40	Week 12	Data Cumulative Since Week 40
Specimens Tested	235	10,137	4,273	178,419	45,280	1,940,357
Positive Specimens	2 (0.9%)	64 (0.6%)	105 (2.5%)	2,198 (1.2%)	2,947 (6.5%)	61,409 (3.2%)
Positive Specimens by Type						
Influenza A	2 (100.0%)	57 (88.7%)	105 (100.0%)	2,136 (97.2%)	2,924 (99.2%)	60,149 (97.9%)
Influenza B	0 (0%)	7 (11.3%)	0 (0%)	62 (2.8%)	23 (0.8%)	1,260 (2.1%)

Epidemiology & Program Evaluation
4065 County Circle Drive, Riverside, CA 92503
http://www.rivcoph.org

Coinfections with Influenza and Coronavirus

During the COVID-19 pandemic, Riverside County actively reviews Public Health laboratory data collected from Riverside County Public Health Laboratory, RUHS and sentinel sites in order to closely monitor coinfections with both influenza and SARS-CoV-2. An influenza and SARS-CoV-2 coinfection case is defined as a patient that tested positive for both influenza and SARS-CoV-2 simultaneously with either a multiplex test or with separate tests (PCR or antigen) within 48 hours. During the 2021-2022 influenza season, 8 coinfection cases were identified.

Influenza Vaccinations

Influenza causes millions of illnesses, hundreds of thousands of hospitalizations and tens of thousands of deaths in the United States, but less than half of Americans get an annual flu vaccine. Flu vaccine distribution generally begins in August and continues until all of the vaccines are distributed. By the end of week 13, approximately 22.5% of residents in Riverside County (N=558,284) had received a flu vaccine (Figure 10), significantly lower than the coverage estimate of 49.4% in California during the 2020-2021 influenza season[6]. Vaccination coverage was highest among people aged 65+ and lowest among people aged 25-49 (Table 2). Only 58.7% of the records had valid race and ethnicity information. Proportionately, Whites were slightly underrepresented than their counterparts (Table 3). Please note currently providers are not required to submit flu vaccine data to CAIR. Therefore, the vaccinated population may be underestimated.

Figure 10. Influenza Vaccinations in Riverside County, August 2021-Present

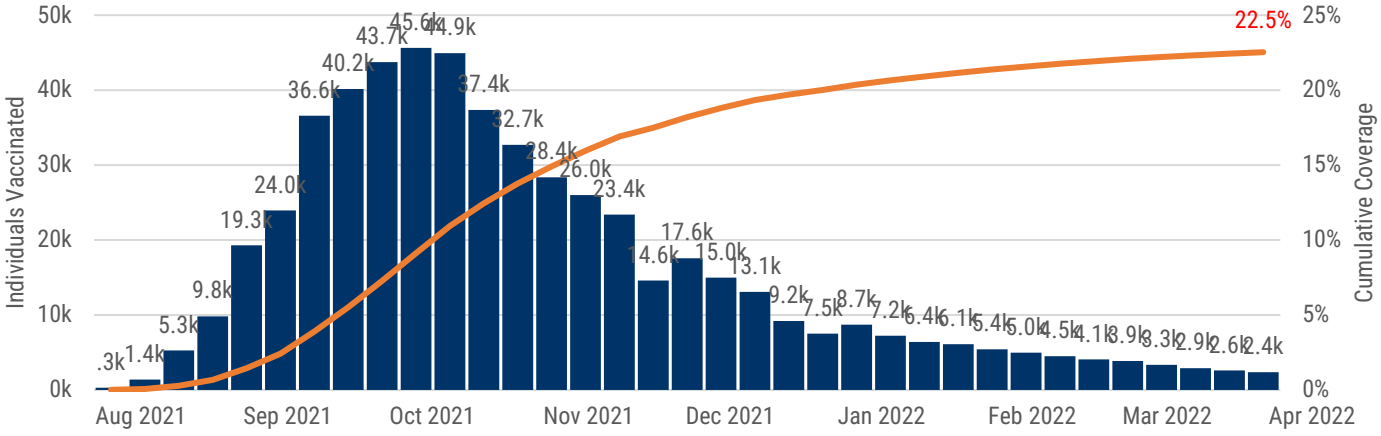


Table 2. Influenza Vaccinations by Age Group in Riverside County, August 2021-Present

	Age 0-4	Age 5-24	Age 25-49	Age 50-64	Age 65+	Total
Influenza Vaccination & Percent	35,626 (24.0%)	107,465 (15.6%)	117,235 (14.6%)	123,456 (28.1%)	174,502 (43.4%)	558,284 (22.5%)

Table 3. Influenza Vaccinations by Racial/Ethnic Group in Riverside County, August 2021-Present

	American Indian or Alaska Native	Asian	Native Hawaiian or Other Pacific Islander	Black or African American	White	Latinx
Influenza Vaccination & Proportion	1,044 (0.3%)	25,577 (7.8%)	2,419 (0.7%)	19,095 (5.8%)	116,266 (35.5%)	163,301 (49.8%)
Proportion Based on Standard Population[3]	0.5% (↓0.2%)	6.2% (↑1.6%)	0.3% (↑0.4%)	6.2% (↓0.4%)	38.3% (↓2.8%)	48.6% (↑1.2%)

Epidemiology & Program Evaluation
4065 County Circle Drive, Riverside, CA 92503
http://www.rivcoph.org

Deaths Registered with Either or Both of Pneumonia and Influenza

Pneumonia and influenza (P&I) are among the leading causes of death in the United States, accounting for over 1.7% of all deaths in 2019. During week 13, 8.9% (N=11) of deaths were due, in part, to P&I in Riverside County (Figure 11). Between weeks 40 and 13, the cumulative proportion of P&I death was 15.9%. P&I deaths in the recent weeks may be undercounted because of the 14-day death certificate processing time. Newly identified P&I deaths will be added to the according week. Overall, people aged 65+ accounted for the majority of P&I deaths in Riverside County and very few P&I deaths happened among young people aged 0-24 (Table 4).

Figure 11. Cumulative Proportion of P&I Deaths in Riverside County

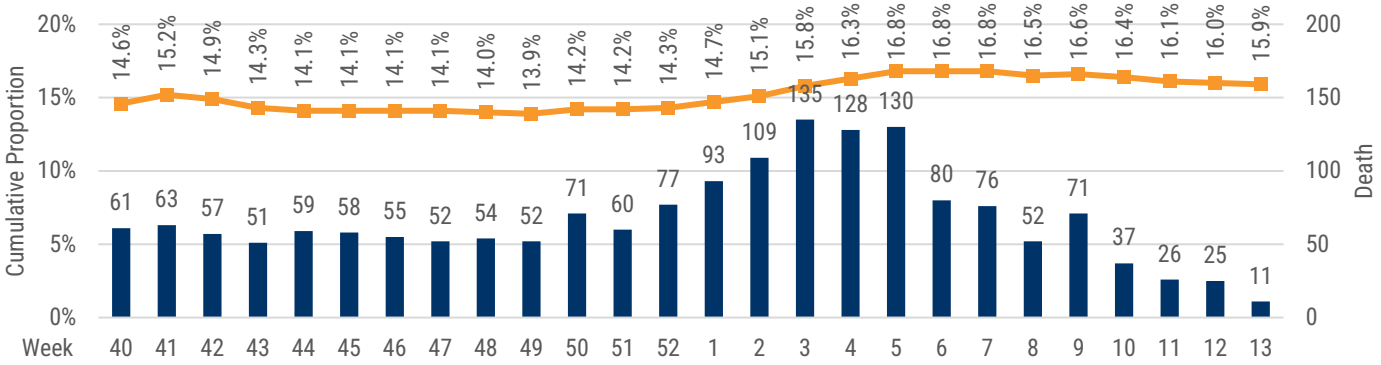


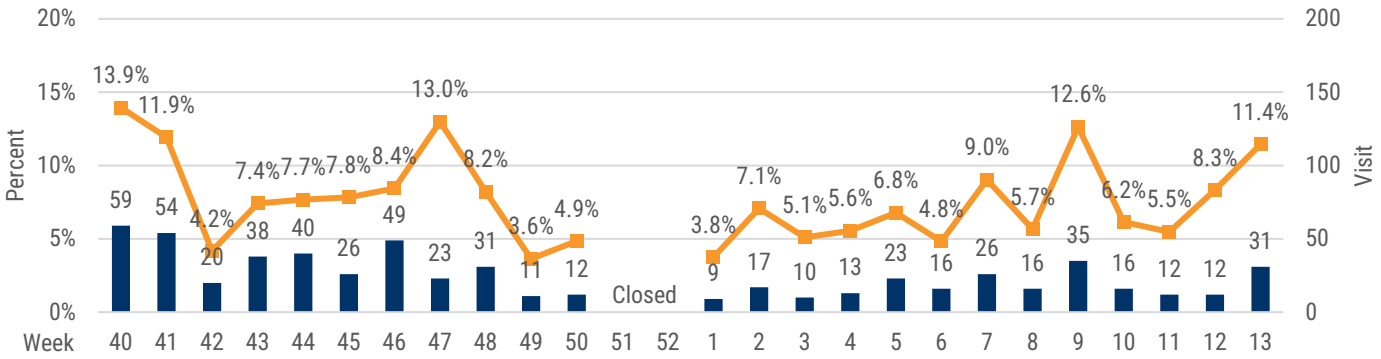
Table 4. Percent of P&I Deaths by Age Group in Riverside County, Weeks 40-13

	Age 0-4	Age 5-24	Age 25-49	Age 50-64	Age 65+	Total
P&I Death & Percent	6 (0.3%)	7 (0.4%)	133 (7.6%)	373 (21.4%)	1,224 (70.2%)	1,743

Sentinel Surveillance

Sentinel providers are recruited to facilitate a comprehensive influenza surveillance program, providing critical data for monitoring the impact of influenza and guiding prevention and control activities, vaccine strain selection, and patient care in Riverside County. During week 13, ILI accounted for 11.4% (N=12) of all sentinel site visits with an increase of 3.1% than the previous week (Figure 12). All of them were aged 5-25. Data from sentinel sites are significantly affected by their served population and the results may not be applicable to the general population.

Figure 12. ILI-related Visits As Percentage of All Sentinel Site Visits



Epidemiology & Program Evaluation
4065 County Circle Drive, Riverside, CA 92503
http://www.rivcoph.org

Public Health Recommendations

The best way to reduce risk from seasonal flu infection and its potentially serious complications is to get vaccinated annually. Flu vaccines are designed to protect against the four viruses that will be most common this influenza season and are recommended for individuals 6 months and older. Flu vaccines for the 2021-2022 influenza season are available now. COVID-19 preventive measures, such as social distancing, hand washing, and mask wearing, can also effectively prevent influenza.

References

1. Weekly US Map: Influenza Summary Update: https://www.cdc.gov/flu/weekly/usmap.htm
2. Influenza and Other Respiratory Viruses Weekly Report: https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Immunization/Influenza.aspx
3. Population estimates in Riverside County were retrieved from 2021 population estimates from California Department of Finance
4. National and regional baseline information for outpatient illness surveillance: https://www.cdc.gov/flu/weekly/overview.htm
5. U.S. Virologic Surveillance: https://www.cdc.gov/flu/weekly/index.htm#ClinicalLaboratories
6. Influenza Vaccination Coverage for Persons 6 Months and Older: https://www.cdc.gov/flu/fluvaxview/interactive-general-population.htm

Riverside University HEALTH SYSTEM Public Health
Epidemiology & Program Evaluation
4065 County Circle Drive, Riverside, CA 92503
http://www.rivcoph.org