

RSV Rebounds Off-Season, but Influenza Is Still a No-Show

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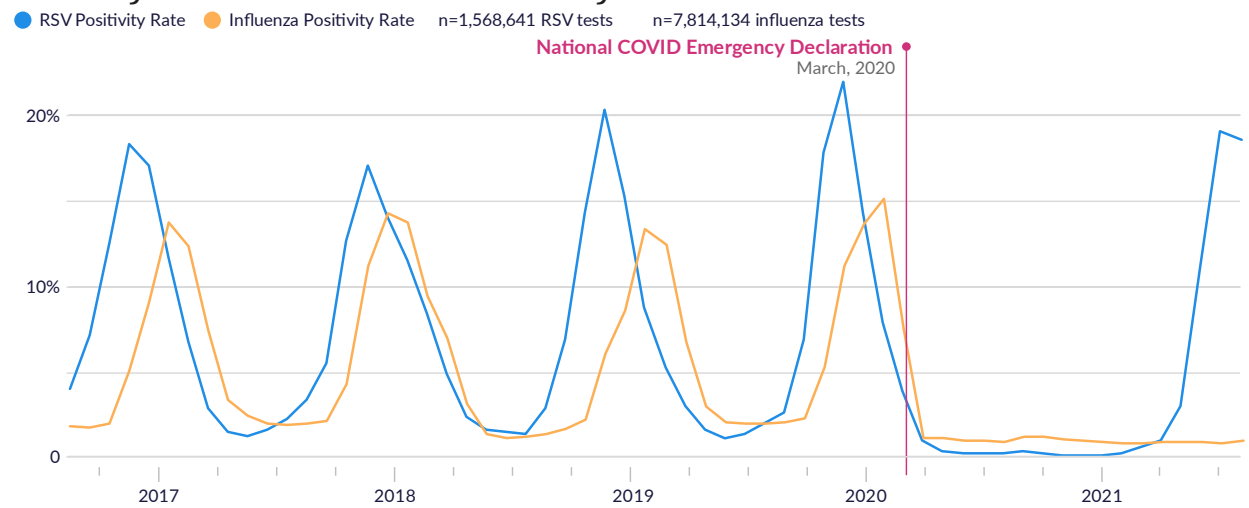
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Abstract: EHR data for RSV and influenza lab tests show influenza cases have remained low, but RSV cases rose in the spring and summer of 2021.

In May and June 2021, we reported that [RSV](#) and [seasonal influenza](#) cases dropped during the COVID-19 pandemic. Respiratory viruses other than COVID, like RSV and Influenza, were purported to increase again after measures like masking and social distancing were relaxed in the summer of 2021.¹ EHR data for positive RSV and influenza tests show that the number of RSV cases has risen sharply since May 2021 while the number of influenza cases remains uncharacteristically low.

While the number of positive RSV tests has increased, Figure 1 shows that the positivity rate is similar to past seasons, so the increase in RSV cases in 2021 does not appear to be the result of an increase in testing. We also looked at influenza test data and found that the rate of positive influenza tests remains low, also shown in Figure 1.

Monthly RSV and Influenza Positivity Rates



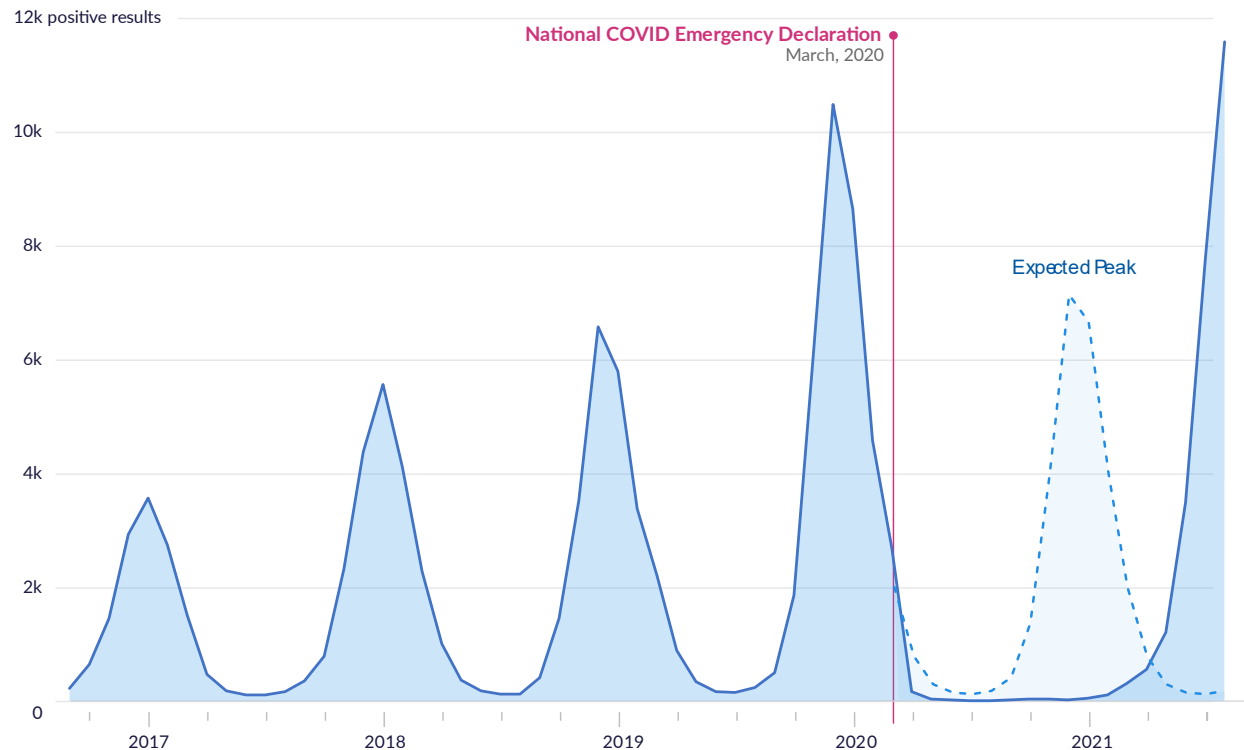
"Monthly RSV and Influenza Positivity Rates," 2021. Epic Health Research Network (EHRN.org)

Figure 1. Monthly positivity rates for RSV and influenza tests over the last five years.

The expected peak indicated by the light blue dotted area in Figure 2 shows the expected monthly averages for positive RSV lab tests based on data from the last five years. We used the monthly averages from September 2016 to February 2020 to predict the monthly averages for March 2020 to August 2021. The expected increase in late 2020 and early 2021 did not occur and has shifted to later in 2021.

Monthly Positive RSV Lab Tests

● Positive RSV Lab Tests ● Expected Positive RSV Lab Tests n=122,070 positive tests



"Average Monthly Positive RSV Lab Tests," 2021. Epic Health Research Network (EHRN.org)

Figure 2. The solid line shows the number of monthly positive RSV lab tests from September 2016 to August 2021. The dotted line shows the expected monthly averages for positive RSV lab tests for March 2020 to August 2021 based on historical trends. Seasonal increases in positive RSV lab tests can be seen each winter until late 2020/early 2021 when the increase was delayed until summer 2021. Year over year increases in counts from 2017 to 2021 are likely due to an increase in the number of patients in the dataset, not an increased incidence.

Figure 3 shows that the rate of positive influenza lab tests has remained low since we last looked at the data, showing no seasonal peak in the winter of late 2020 and early 2021. In contrast to RSV, we have not seen an off-season peak for influenza.

Average Monthly Positive Influenza Lab Tests

Positive Influenza Lab Tests n=576,863 positive tests

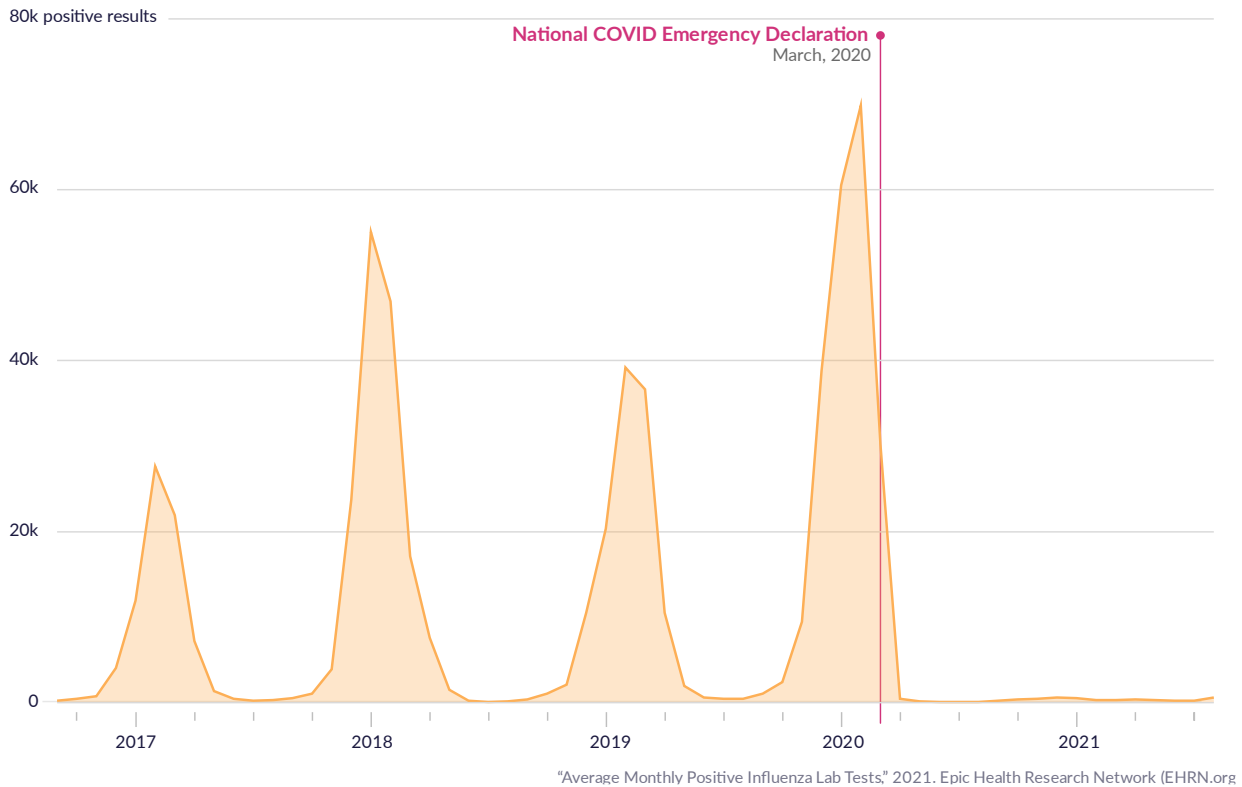


Figure 3. Average monthly positive influenza lab tests from September 2016 to August 2021. Seasonal increases in positive Influenza lab tests can be seen each winter until late 2020/early 2021, where no seasonal increase was observed.

These data come from Cosmos, a HIPAA-defined Limited Data Set of more than 120 million patients from 141 Epic organizations including 832 hospitals and 13,421 clinics, serving patients in all 50 states. This study expanded on the data collected in the two previous EHRN studies listed above.

References

1. Weinberger Opek M, Yeshayahu Y, Glatman-Freedman A, Kaufman Z, Sorek N, Brosh-Nissimov T. Delayed respiratory syncytial virus epidemic in children after relaxation of COVID-19 physical distancing measures, Ashdod, Israel, 2021. *Eurosurveillance*. 2021;26(29). doi:10.2807/1560-7917.es.2021.26.29.2100706

Data Definitions

Term	Definition
RSV Lab Test	Laboratory test with a final result that is discernably positive or negative and is mapped to one of the following LOINC codes: 14129-1, 17520-8, 30075-6, 30076-4, 31949-1, 31950-9, 32040-8, 33045-6, 40987-0, 40988-8, 49037-5, 50329-2, 55100-2, 5874-3, 5875-0, 5876-8, 5877-6, 60271-4, 68966-1, 72885-7, 76088-4, 76089-2, 77022-2, 77023-0, 77389-5, 77390-3, 80597-8, 80598-6, 82176-9, 85479-4, 88202-7, 88204-3, 88527-7, 88528-5, 88595-4, 88597-0, 88909-7, 91133-9, 91782-3, 91785-6, 91794-8, 91795-5, 92131-2, 92880-4, 92881-2, 92957-0.
Influenza Lab Test	Laboratory test with a final result that is discernably positive or negative and is mapped to one of the following LOINC codes: 40981-3, 48310-7, 44559-3, 43874-7, 46082-4, 44558-5, 80382-5, 44563-5, 44564-3, 44560-1, 31858-4, 5861-0, 31859-2, 5862-8, 5863-6, 72365-0, 72366-8, 61102-0, 72356-9, 48509-4, 38381-0, 80588-7, 49531-7, 92977-8, 82166-0, 76078-5, 34487-9, 85477-8, 22827-0, 55463-4, 33535-6, 44567-6, 72367-6, 24015-0, 6437-8, 6438-6, 62462-7, 38382-8, 44572-6, 49534-1, 43895-2, 46083-2, 80383-3, 44577-5, 44575-9, 44573-4, 5864-4, 5865-1, 31864-2, 5866-9, 5867-7, 80591-1, 49535-8, 92976-0, 82170-2, 76080-1, 40982-1, 85478-6, 6604-3