

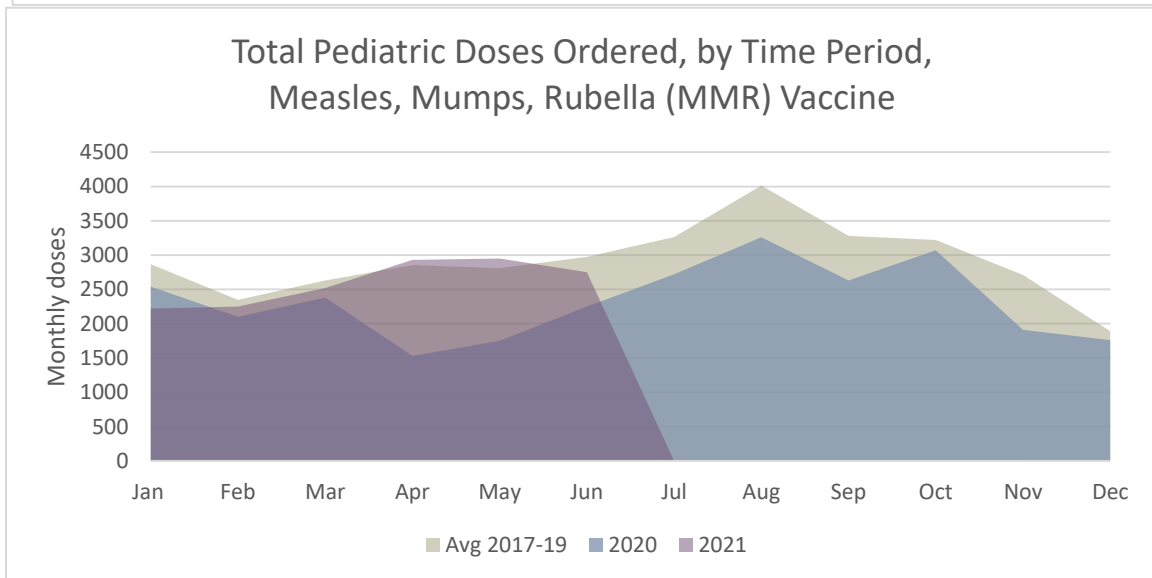
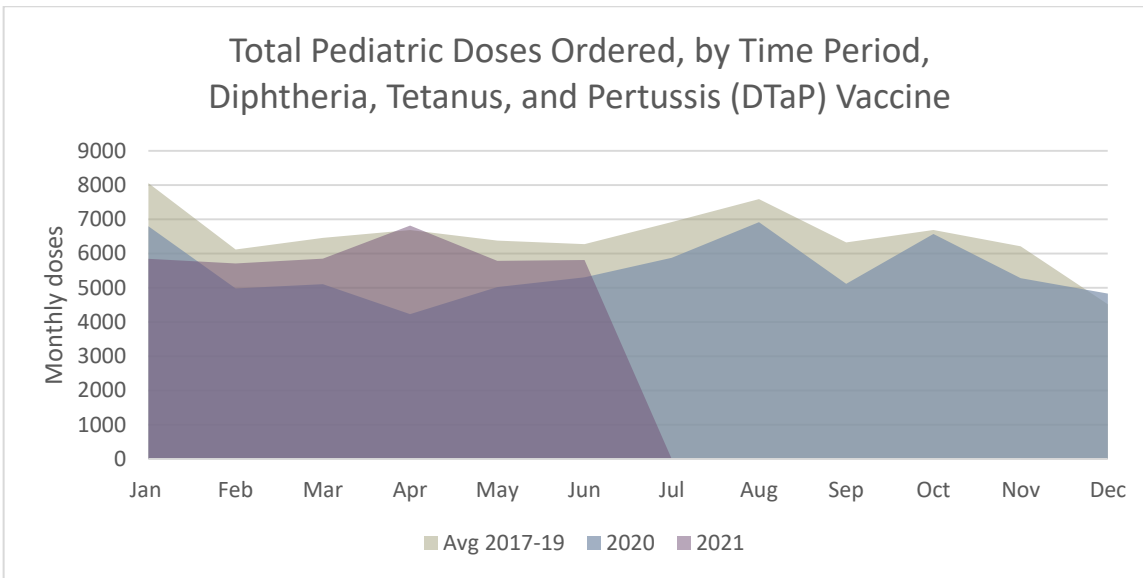
Pandemic Impact on pediatric vaccine orders

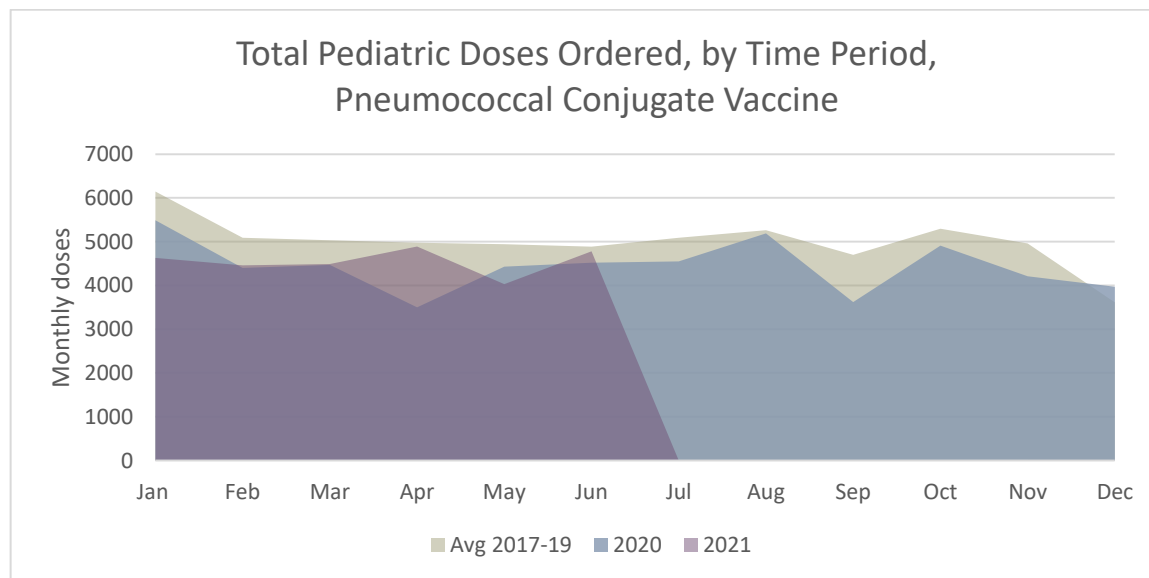
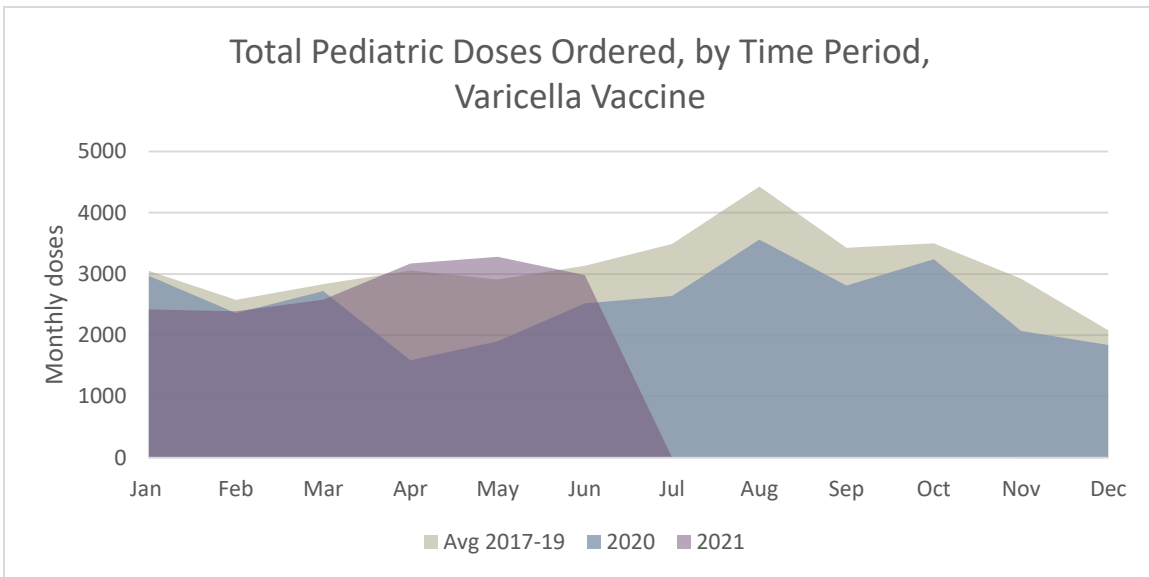
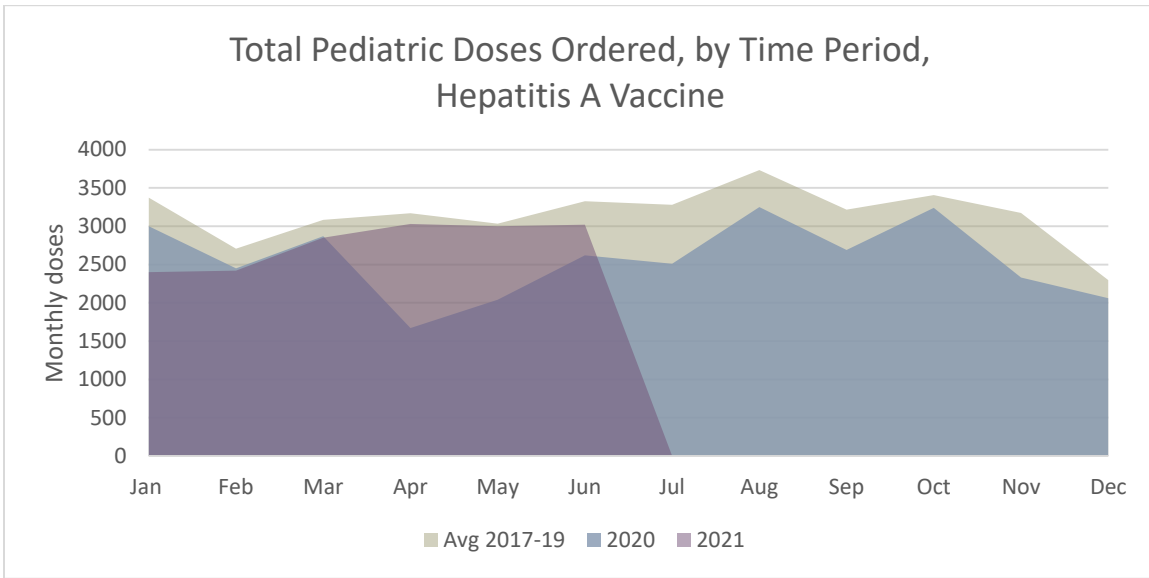
Many pediatric vaccines are ordered by the Immunization Program’s Vaccine Management team each month for the children’s health insurance plan (CHIP) and vaccines for children program (VFC). Although these orders represent only a portion of the pediatric vaccines ordered throughout the state (by private providers and others), they are a large and consistent volume and can demonstrate trends in pediatric vaccine uptake among providers and patients in these two large public assistance programs.

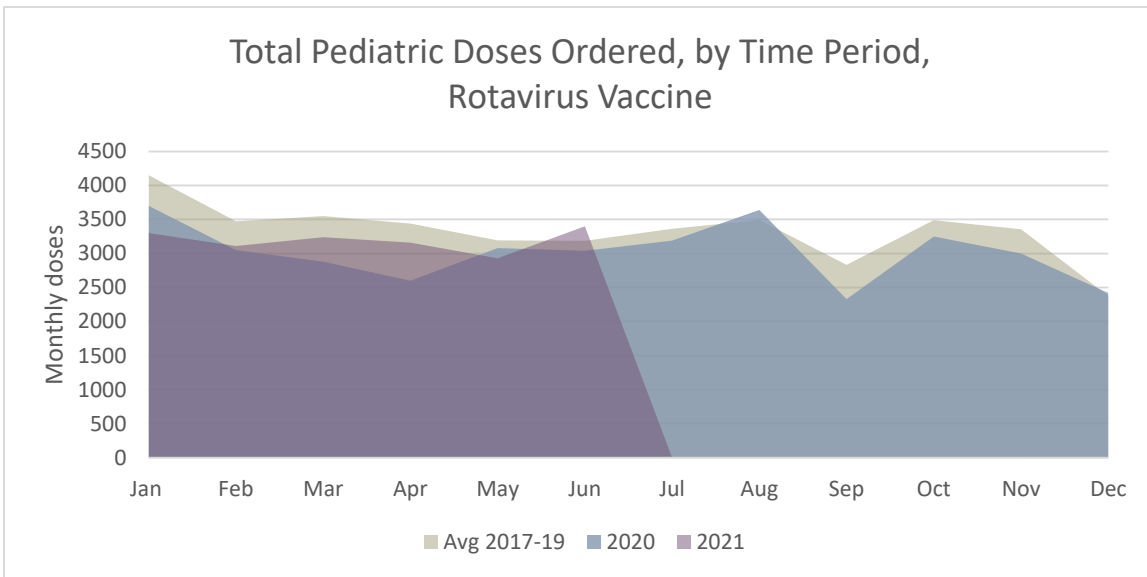
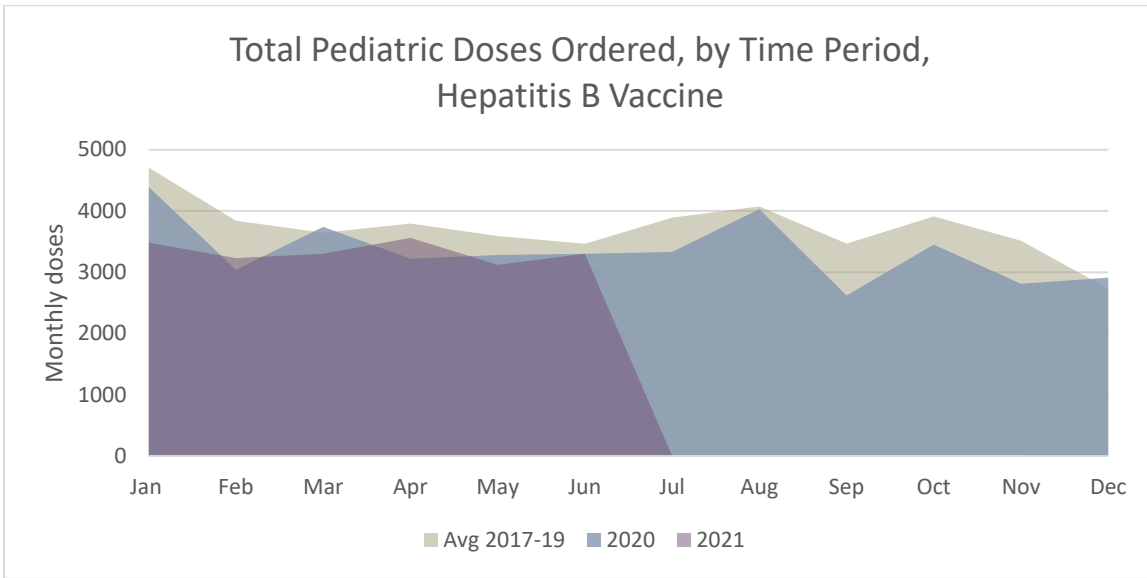
The sections below contain graphs showing the monthly order volume, by antigen type, for the average of years 2017–19, the full year 2020, and January to June 2021. The deficit in 2020 vaccine orders as compared to the average from 2017–19 is shown by the tan area of the graphs. The order data contained in these graphs is for vaccines ordered for pediatric use only.

Childhood vaccines

While all monthly order volumes for childhood vaccines ordered in 2020 were less than the average for 2017–2019, some antigen types did not demonstrate as large of a deficit (pneumococcal conjugate, hepatitis B, rotavirus) as others (DTaP, MMR, hepatitis A, varicella).

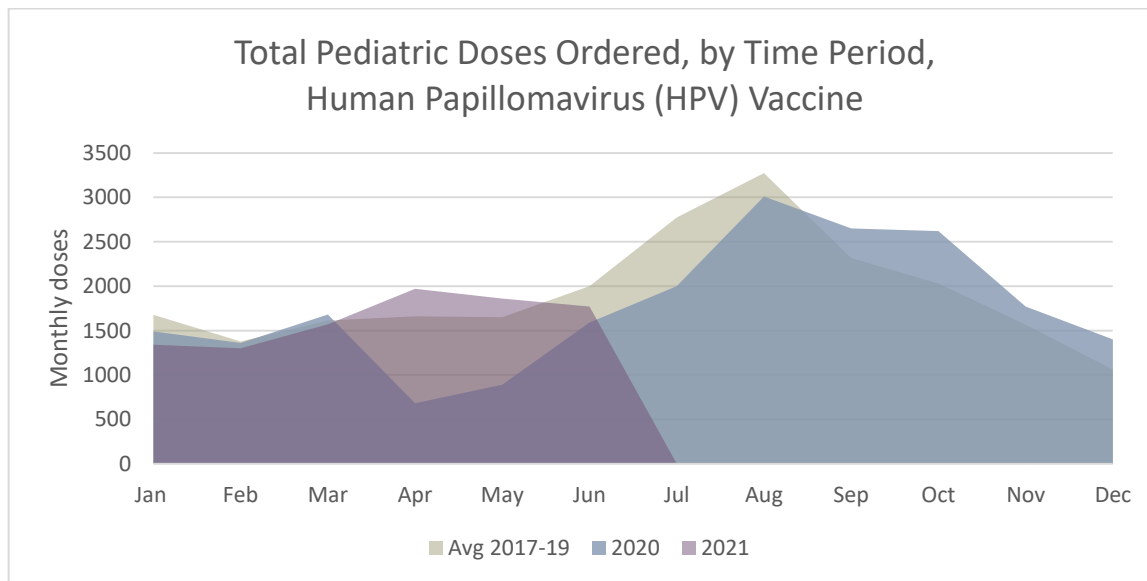
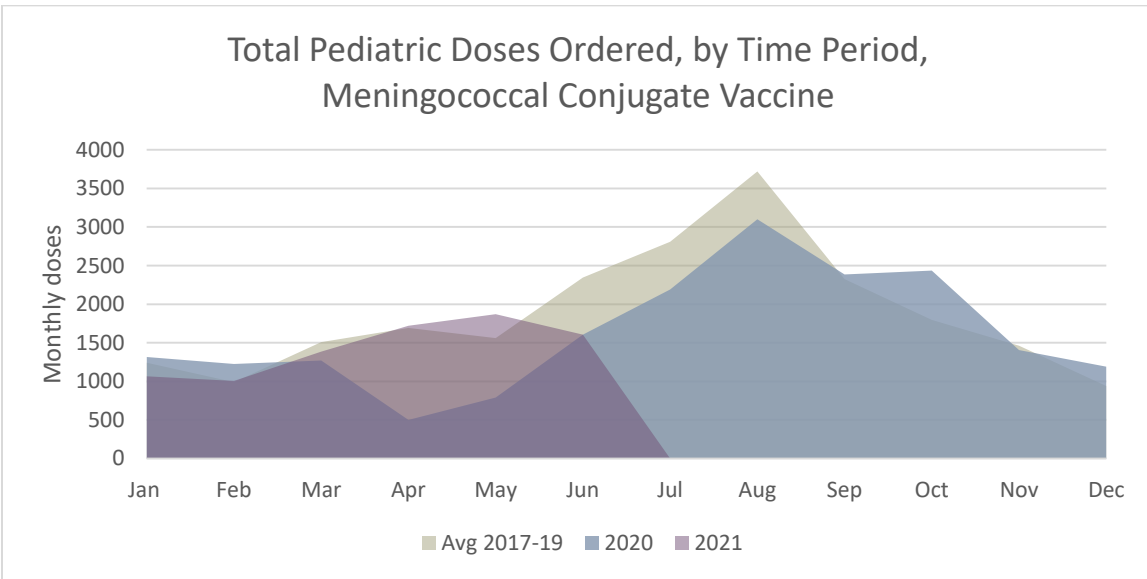
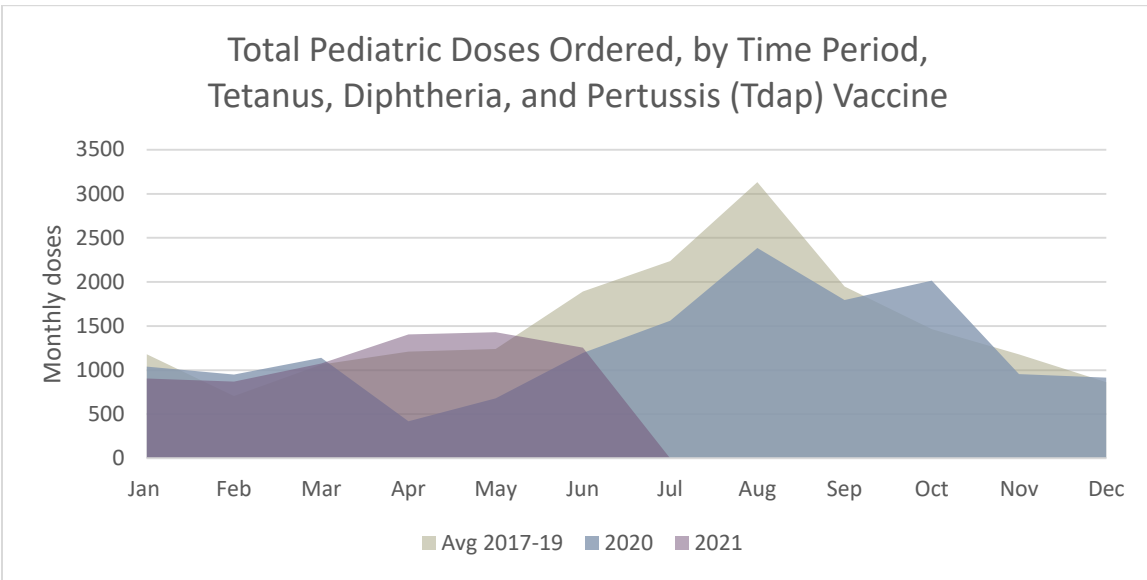






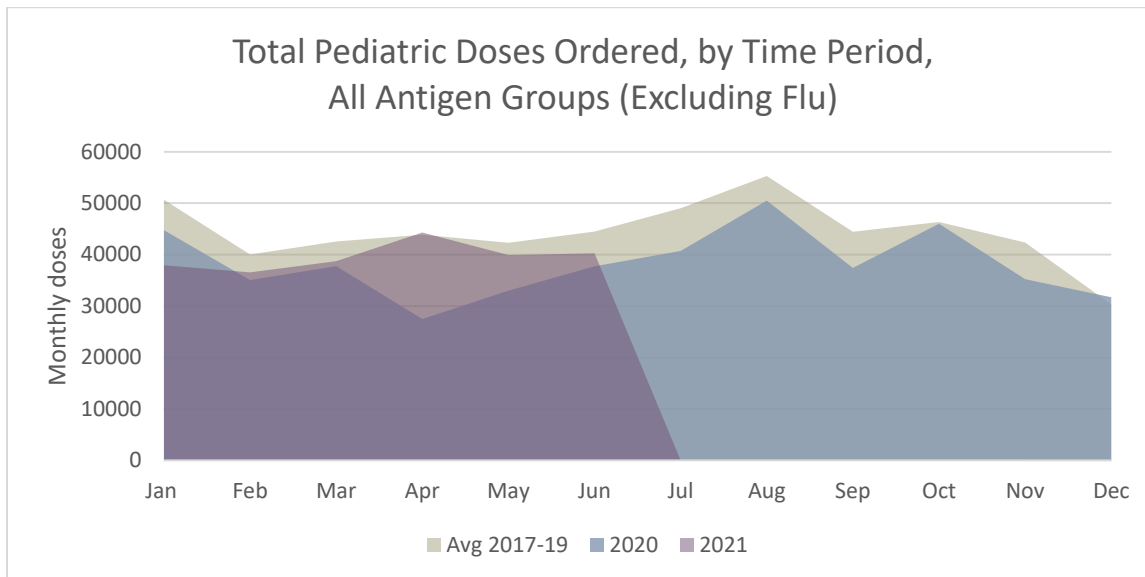
Teen vaccines

Orders volumes for teen vaccines (Tdap, meningococcal, and HPV) were down in spring 2020 but continued to climb until late summer. There was an increase in vaccines ordered for these antigen groups in October 2020 that exceeded the average 2017-19 volume for that month. This was only observed in teen vaccines and not in childhood vaccines. Order volumes for most months in January to June 2021 were similar to or exceeded monthly volumes for the average of 2017–19.



All pediatric vaccine orders

The graph below combines the order volume for all of the pediatric antigen groups except influenza vaccine. The visible portion of the tan shaded area, which displays the average monthly order volume from 2017–2019, signifies the volume of orders that did not occur in 2020 relative to that previous time period. Order volumes for the spring of 2021 increased to nearly normal order volume by April. However, they did not exceed expected order volumes and therefore did not alleviate any deficit.



The table below compares the monthly order volumes in 2020 to the same months in 2019 for each antigen group. For the full year, 2020 orders amounted to 14% fewer vaccine orders than 2019 across all antigen groups. The deficit ranged from 26% fewer in Hepatitis A vaccine to just 6% fewer for rotavirus vaccine. April 2020 had the greatest deficit with 42% fewer vaccine orders than April 2019. Several months of the year had less than a 12% ordering deficit (January, February, July through October) and December 2020 orders exceeded those of December 2019 orders by 2%, indication of a more normal ordering pattern.

Percentage decreases in monthly pediatric vaccine orders in 2020 compared with 2019													
Vaccine Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Full year 2020
DTaP	-4%	-11%	-18%	-39%	-8%	-20%	0%	-12%	-18%	0%	-18%	7%	-12%
Hepatitis A	-9%	-2%	-5%	-49%	-29%	-23%	-17%	-6%	-17%	-9%	-32%	-9%	-18%
Hepatitis B	-1%	-16%	6%	-24%	5%	-11%	4%	-4%	-22%	-12%	-18%	0%	-8%
Hib	-4%	-12%	-12%	-34%	4%	-13%	8%	-3%	-14%	3%	-18%	5%	-8%
Polio	-5%	-9%	-15%	-38%	-6%	-22%	1%	-15%	-19%	-7%	-20%	8%	-13%
MMR	-10%	-14%	-13%	-50%	-36%	-33%	-18%	-22%	-23%	-13%	-37%	-4%	-23%
Pneumococcal	-6%	-12%	-11%	-29%	12%	-14%	5%	-2%	-11%	-3%	-15%	17%	-7%
Rotavirus	-10%	-8%	-19%	-26%	29%	-9%	13%	-5%	-5%	-1%	-9%	-2%	-6%
Varicella	-3%	-17%	-2%	-52%	-32%	-21%	-21%	-16%	-23%	-13%	-40%	-16%	-22%
HPV	-8%	-3%	3%	-56%	-45%	-22%	-24%	-10%	7%	17%	-13%	16%	-11%
TDaP	-15%	23%	16%	-61%	-50%	-39%	-28%	-23%	-23%	10%	-33%	-11%	-22%
Meningococcal	-10%	20%	-16%	-70%	-48%	-37%	-20%	-15%	-10%	13%	-22%	10%	-19%
Total All Antigen Groups	-6%	-9%	-10%	-40%	-11%	-20%	-6%	-10%	-15%	-3%	-22%	3%	-13%

Cell fill colors of pink/red signify negative percentages, green signify positive percentages. The darkness of the color indicates scale of the difference from 0%.

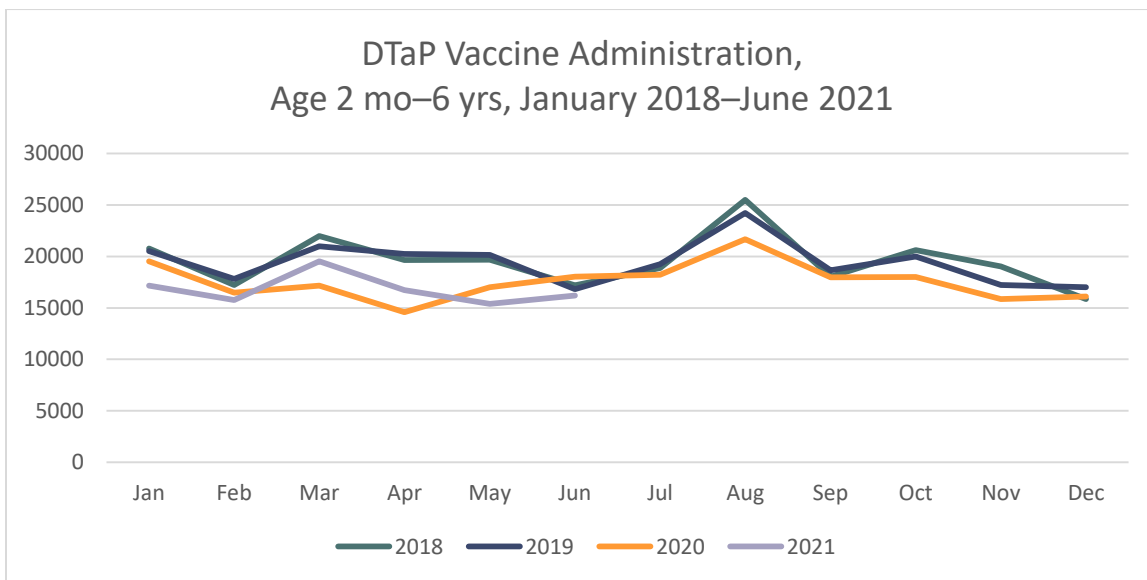
Pandemic Impact on pediatric vaccine administrations

To determine what effect the COVID-19 pandemic had on the administration of childhood and teen vaccines, monthly administration record counts for January 2018 to June 2021 were extracted from the Utah Statewide Immunization Information System (USIIS), Utah’s immunization registry, for each of the vaccine series and age groups below. Although USIIS is an excellent source of immunization data in Utah, there is no mandate that all vaccinations given in Utah or to Utah residents be recorded in USIIS. Therefore it is not currently a comprehensive account of all vaccinations in Utah and may not fully describe vaccination volumes throughout the state.

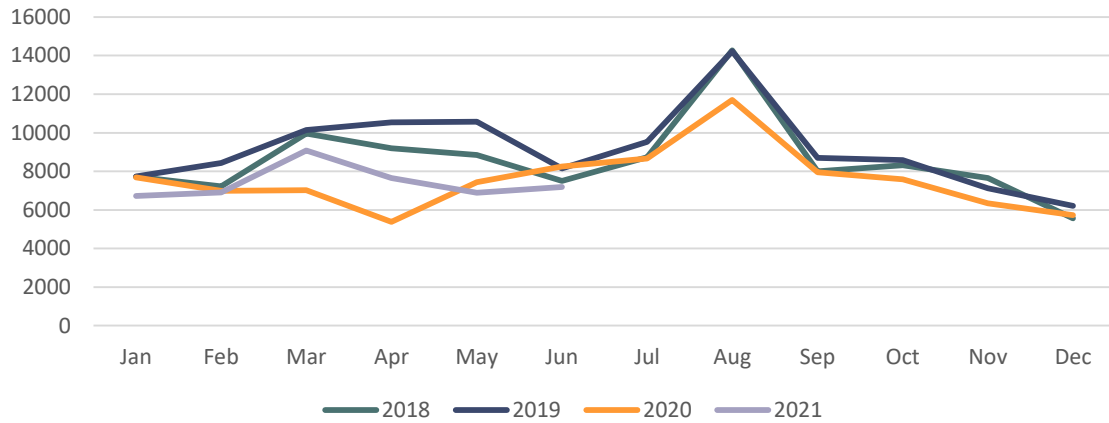
Vaccines administered January 2018 through June 2021

The graphs in this section demonstrate the general trend of 2020 monthly vaccine administrations being less than the monthly administrations in the previous two years for selected pediatric vaccines. This was true of nearly all months except June 2020 where a rebound of vaccinations, in what is otherwise a typically slow month, was observed. Presumably, this was due to catching up vaccines not administered in the spring months of March to May. For most vaccines types, 2021 administrations remained below the levels observed in 2018 and 2019 between January and June. This may indicate ongoing pandemic-related difficulties in delivery of routine vaccinations to children. Teen vaccine (Tdap, Meningococcal and HPV) administrations for 2021 appear to have returned to pre-pandemic levels.

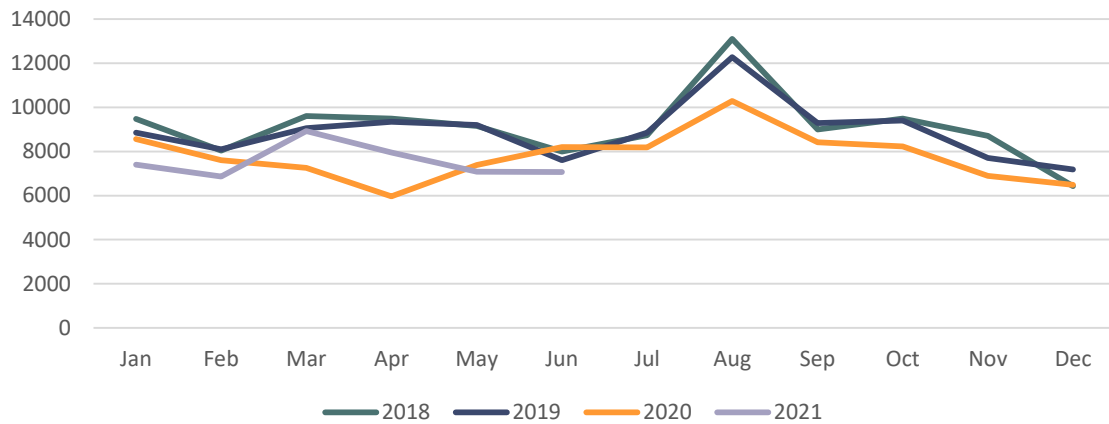
Childhood vaccines



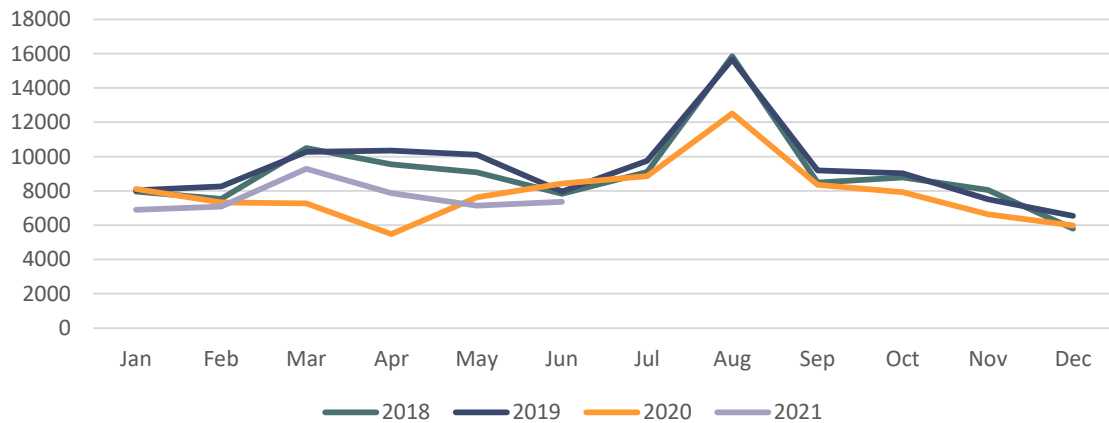
MMR Vaccine Administration,
Age 1–18 yrs, January 2018–June 2021

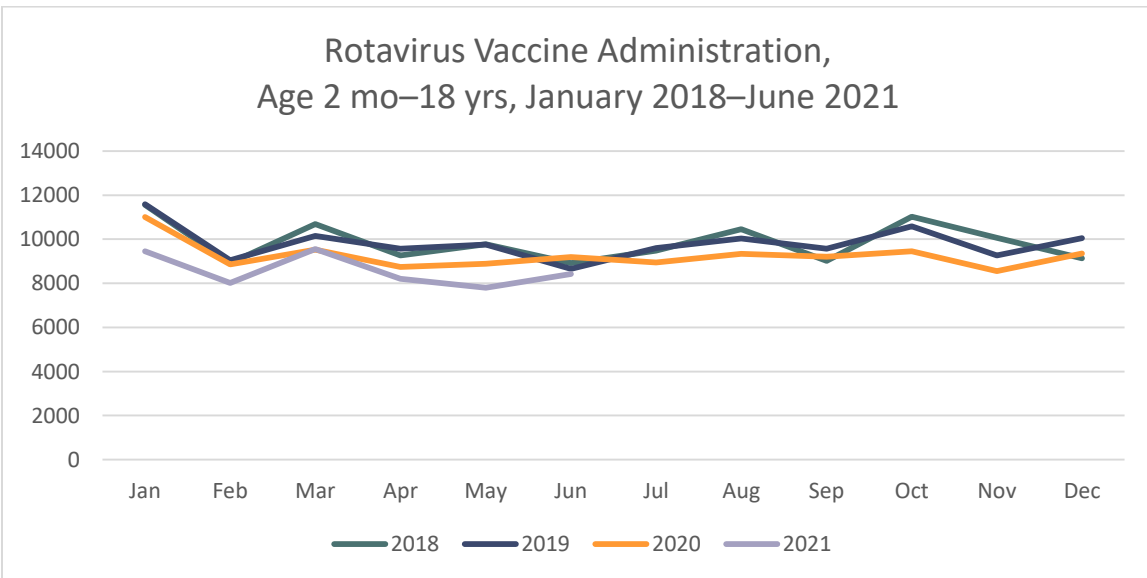
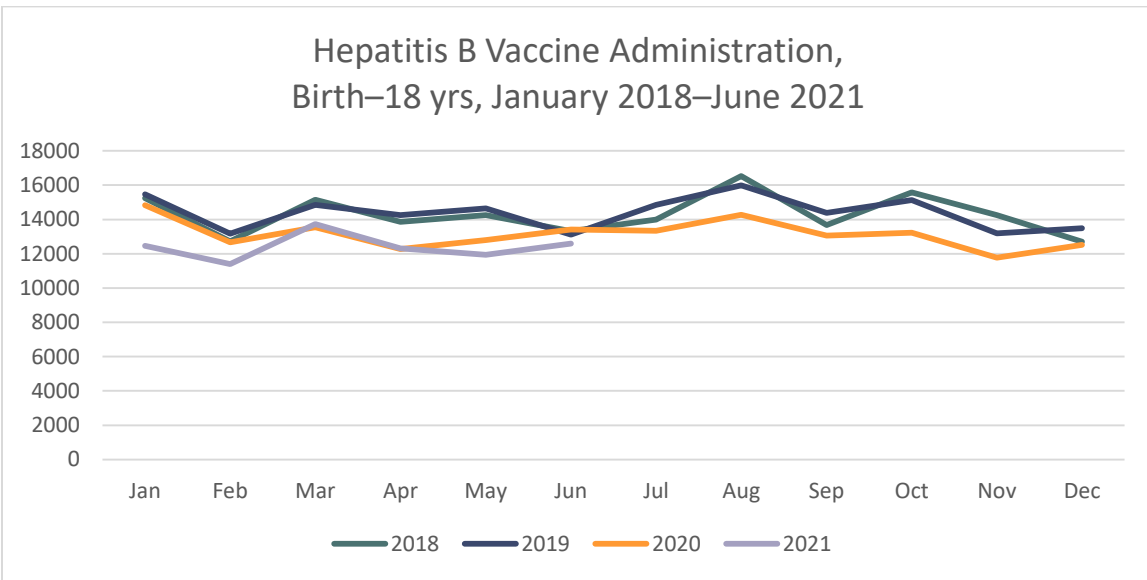
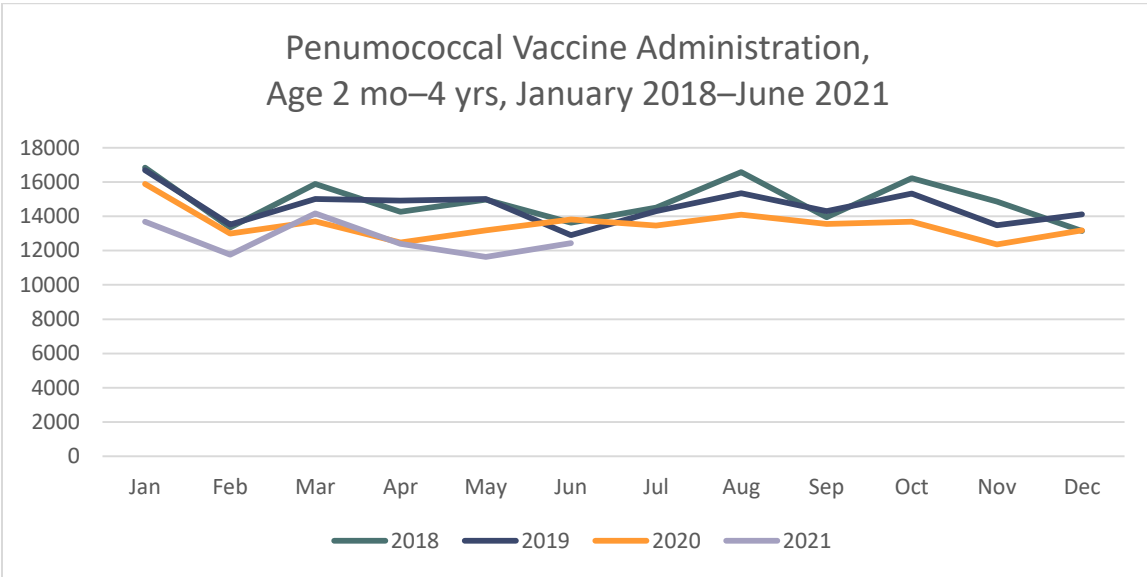


Hepatitis A Vaccine Administration,
Age 1–18 yrs, January 2018–June 2021

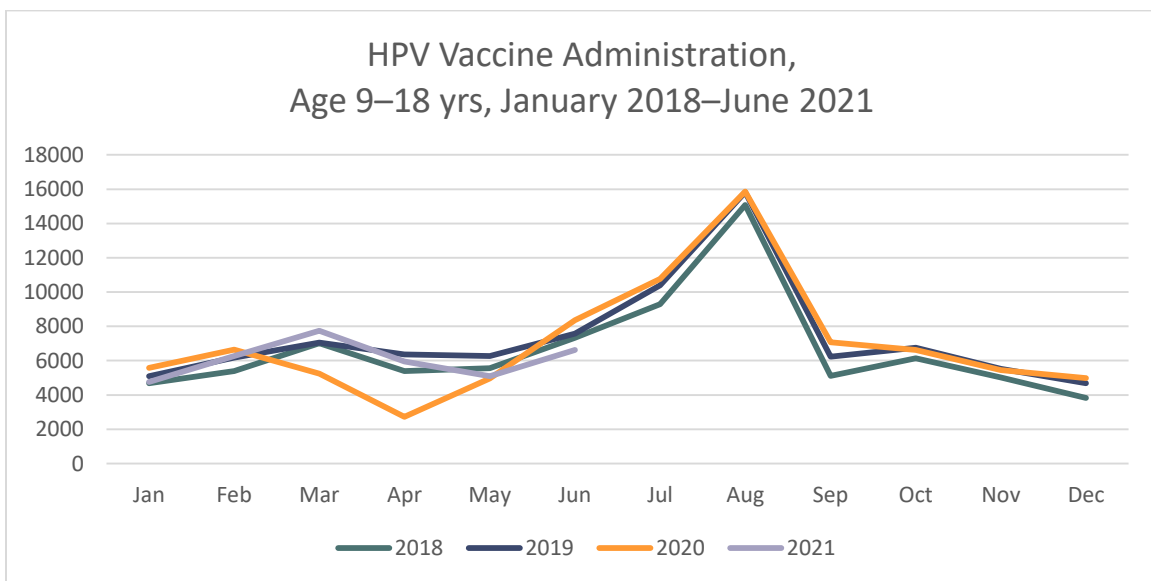
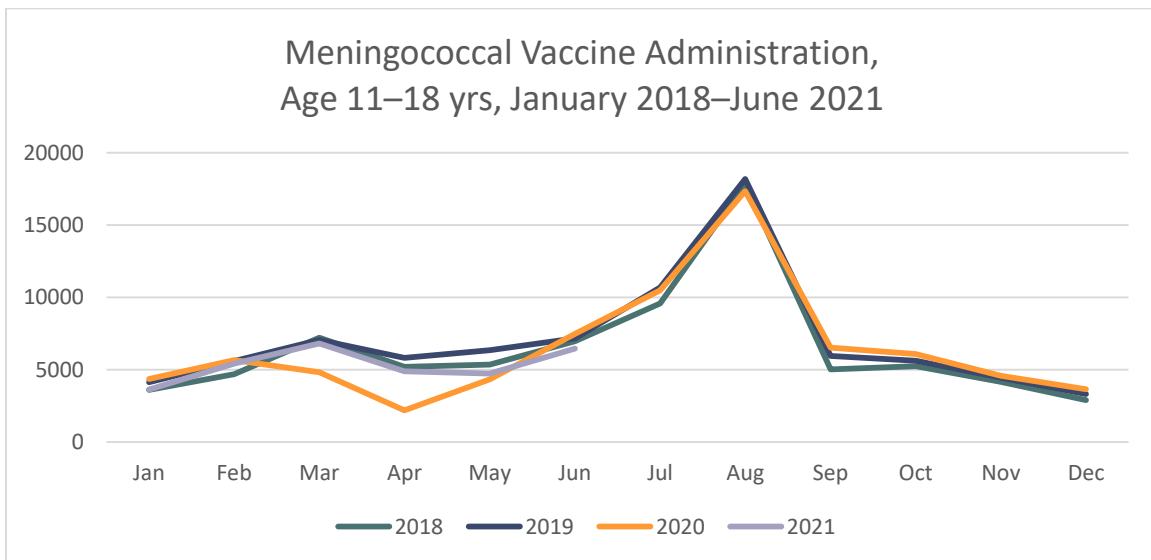
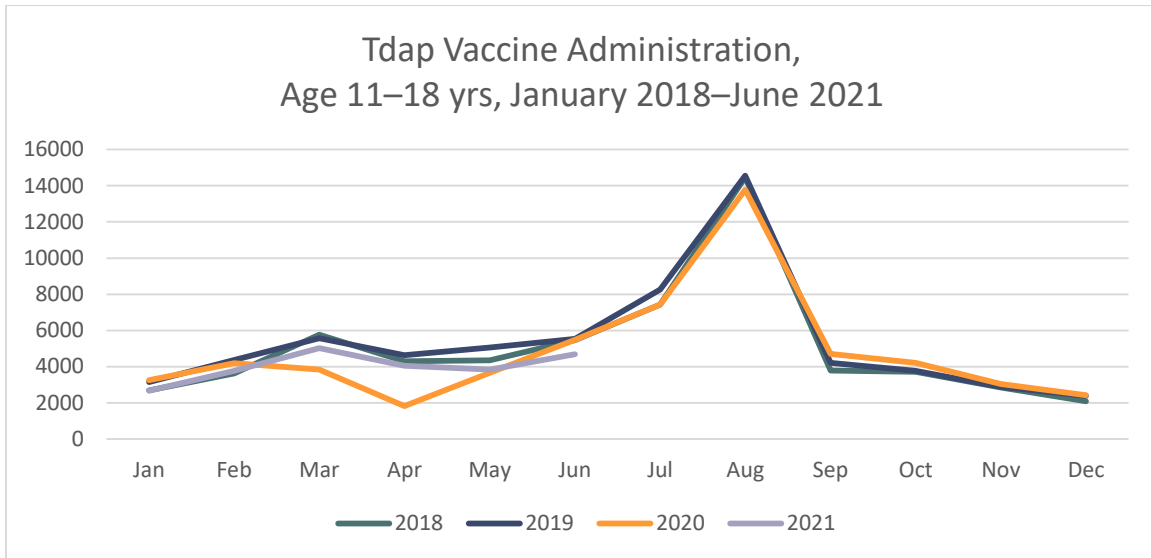


Varicella Vaccine Administration,
Age 1–18 yrs, January 2018–June 2021





Teen vaccines



State of Utah *Pandemic impact on pediatric vaccine orders and administrations* 2021

The two tables below display the count difference and percentage differences in vaccine administrations in 2020 compared with the previous year.

For the vaccine types and age groups evaluated, there were approximately 160,000 fewer vaccines administrations recorded in USIIS in 2020. This included approximately 20,000 fewer vaccines of each MMR, Varicella, DTaP, and Polio. All months of the year had a deficit in administered vaccines except June. The months with the largest deficit were March–May 2020.

Count difference in 2020 administrations as compared with the same month in 2019													
Vaccine type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
MMR	-41	-1447	-3115	-5154	-3141	106	-853	-2524	-738	-997	-770	-472	-19146
VARICELLA	81	-943	-3016	-4859	-2479	468	-897	-3153	-834	-1088	-875	-561	-18156
HEP-A	-289	-501	-1797	-3391	-1810	604	-669	-1982	-863	-1180	-819	-705	-13402
DTP/DTaP/DT	-993	-1340	-3824	-5660	-3150	1217	-1004	-2543	-687	-1967	-1364	-887	-22202
POLIO	-695	-1087	-3544	-5301	-3011	942	-1051	-2588	-923	-1960	-1465	-1052	-21735
Tdap	117	-180	-1744	-2825	-1393	-59	-840	-779	503	456	165	27	-6552
HEP-B	-638	-504	-1316	-1985	-1848	299	-1509	-1724	-1337	-1908	-1431	-971	-14872
MENINGOCOCCAL	225	64	-2240	-3630	-2020	308	-196	-836	584	466	121	324	-6830
HIB	-900	-753	-1365	-2210	-1818	628	-959	-1385	-682	-1659	-1052	-946	-13101
PNEUMO PCV	-808	-537	-1311	-2448	-1843	925	-845	-1264	-735	-1653	-1126	-934	-12579
ROTAVIRUS	-575	-185	-630	-822	-878	547	-660	-698	-357	-1134	-711	-687	-6790
HPV	487	457	-1817	-3654	-1308	792	376	48	831	-136	-76	286	-3714
Grand Total	-4029	-6956	-25719	-41939	-24699	6777	-9107	-19428	-5238	-12760	-9403	-6578	-159079

Cell fill colors of pink/red signify negative percentages, green signify positive percentages.

The darkness of the color indicates scale of the difference from 0%.

The vaccine types with the greatest percentage decrease in 2020 were MMR, Varicella, and Hepatitis A. Overall there were approximately 10% fewer pediatric vaccine administrations recorded in USIIS in 2020 than in the previous year for these vaccine types and age groups. The months of March to May 2020 had the largest percentage decrease in vaccines administered.

Percentage difference in 2020 administrations as compared with the same month in 2019													
Vaccine type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
MMR	-1%	-17%	-31%	-49%	-30%	1%	-9%	-18%	-8%	-12%	-11%	-8%	-17%
VARICELLA	1%	-11%	-29%	-47%	-25%	6%	-9%	-20%	-9%	-12%	-12%	-9%	-16%
HEP-A	-3%	-6%	-20%	-36%	-20%	8%	-8%	-16%	-9%	-13%	-11%	-10%	-13%
DTP/DTaP/DT	-5%	-8%	-18%	-28%	-16%	7%	-5%	-10%	-4%	-10%	-8%	-5%	-10%
POLIO	-4%	-7%	-19%	-29%	-17%	6%	-6%	-11%	-5%	-11%	-9%	-7%	-10%
Tdap	4%	-4%	-31%	-61%	-28%	-1%	-10%	-5%	12%	12%	6%	1%	-10%
HEP-B	-4%	-4%	-9%	-14%	-13%	2%	-10%	-11%	-9%	-13%	-11%	-7%	-9%
MENINGOCOCCAL	5%	1%	-32%	-62%	-32%	4%	-2%	-5%	10%	8%	3%	10%	-8%
HIB	-5%	-6%	-9%	-16%	-13%	5%	-7%	-9%	-5%	-11%	-8%	-7%	-8%
PNEUMO PCV	-5%	-4%	-9%	-16%	-12%	7%	-6%	-8%	-5%	-11%	-8%	-7%	-7%
ROTAVIRUS	-5%	-2%	-6%	-9%	-9%	6%	-7%	-7%	-4%	-11%	-8%	-7%	-6%
HPV	10%	7%	-26%	-57%	-21%	10%	4%	0%	13%	-2%	-1%	6%	-4%
Grand Total	-3%	-6%	-18%	-30%	-18%	5%	-6%	-10%	-4%	-9%	-8%	-6%	-10%

Cell fill colors of pink/red signify negative percentages, green signify positive percentages.

The darkness of the color indicates scale of the difference from 0%.