

COVID-19

VIRTUAL SYMPOSIUM

The Other Side of the Coin: Deferred Care Offsets

July 22, 2020



SOCIETY OF ACTUARIES

Antitrust Compliance Guidelines

Active participation in the Society of Actuaries is an important aspect of membership. While the positive contributions of professional societies and associations are well-recognized and encouraged, association activities are vulnerable to close antitrust scrutiny. By their very nature, associations bring together industry competitors and other market participants.

The United States antitrust laws aim to protect consumers by preserving the free economy and prohibiting anti-competitive business practices; they promote competition. There are both state and federal antitrust laws, although state antitrust laws closely follow federal law. The Sherman Act, is the primary U.S. antitrust law pertaining to association activities. The Sherman Act prohibits every contract, combination or conspiracy that places an unreasonable restraint on trade. There are, however, some activities that are illegal under all circumstances, such as price fixing, market allocation and collusive bidding.

There is no safe harbor under the antitrust law for professional association activities. Therefore, association meeting participants should refrain from discussing any activity that could potentially be construed as having an anti-competitive effect. Discussions relating to product or service pricing, market allocations, membership restrictions, product standardization or other conditions on trade could arguably be perceived as a restraint on trade and may expose the SOA and its members to antitrust enforcement procedures.

While participating in all SOA in person meetings, webinars, teleconferences or side discussions, you should avoid discussing competitively sensitive information with competitors and follow these guidelines:

- **Do not** discuss prices for services or products or anything else that might affect prices
- **Do not** discuss what you or other entities plan to do in a particular geographic or product markets or with particular customers.
- **Do not** speak on behalf of the SOA or any of its committees unless specifically authorized to do so.
- **Do** leave a meeting where any anticompetitive pricing or market allocation discussion occurs.
- **Do** alert SOA staff and/or legal counsel to any concerning discussions
- **Do** consult with legal counsel before raising any matter or making a statement that may involve competitively sensitive information.

Adherence to these guidelines involves not only avoidance of antitrust violations, but avoidance of behavior which might be so construed. These guidelines only provide an overview of prohibited activities. SOA legal counsel reviews meeting agenda and materials as deemed appropriate and any discussion that departs from the formal agenda should be scrutinized carefully. Antitrust compliance is everyone's responsibility; however, please seek legal counsel if you have any questions or concerns.

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Your Panel

Carol Bazell, M.D., MPH; Milliman

Achilles Natsis, FSA, MAAA; Society of Actuaries

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Send In Questions!

- Deferred care defined
- The SOA 2021 Health Care Cost Model
- Financial Implications
- Clinical Implications
- Takeaways

Key Resources

- Kaiser Family Foundation (www.kff.org)
- Epic Health Research Network (<https://www.ehrn.org/>)
- The Commonwealth Fund (<https://www.commonwealthfund.org/>)
- Strata Decision – National Patient and Procedure Volume Tracker (<https://www.stratadecision.com/national-patient-and-procedure-volume-tracker/>)
- Cases and deaths mapped to policy decisions: <https://coronavirus.jhu.edu/data/state-timeline/new-confirmed-cases/vermont/0>)
- Summary of state actions: <https://www.nga.org/coronavirus-state-actions-all/>
- Google Mobility Reports: <https://www.google.com/covid19/mobility/>

What do we mean by deferred care?

- Reduced utilization - fewer healthcare services for a population than expected based on historical patterns
- Contributing reasons:
 - Care not needed due to pandemic-related changes (e.g., fewer accidents due to less driving)
 - Medically necessary care not sought
 - Elective/non-essential medical services cancelled or postponed
- Some deferred care may return; another portion is foregone

What are the types of deferred care ?

- Deferred Treatment
 - Driving current loss of provider revenue
 - Leading to additional deaths, both immediate and likely future
 - Can be elective or non-elective
 - Many reasons driving deferred treatment
- Deferred Prevention
 - May impact future morbidity
 - May lead to additional preventable deaths in future
 - Duration of deferral and amount of services that return influence health impact

2021 Health Care Cost Model

The Society of Actuaries (SOA) created the SOA 2021 Health Care Cost Model (model) to enable users to estimate future U.S. health care insurance costs. As with any forward-looking health care cost model, future health care costs are a function of trending costs forward in time and recognizing new levels and timing of health care costs. The COVID-19 outbreak impacting the U.S. creates many new scenarios that affect costs now and in the future. This model allows a user to consider a variety of scenarios and create inputs that can forecast the impact on the health care service system. The model will be updated periodically to reflect the latest data on both the outbreak and insurance health care costs. A user guide, user training video and model documentation guide have also been developed to support the model and are posted below. The report, Illustrative Forecasts of the Impact of COVID-19 on Health Care Costs, shows outputs of using the model.

Materials

- [Model Spreadsheet](#)
- [User Guide](#)
- [User training video](#)
- [Model Documentation Guide](#)
- [Illustrative Forecasts of the Impact of COVID-19 on Health Care Costs](#)
- [COVID-19 Return Stages: Deferral and Restarting of Health Care Services](#)

Podcast



Questions or Comments?

If you have comments or questions, please send an email to research@soa.org.



SOA COVID-19 2021 Projection Model

Input Color Codes

50%
50%

A yellow cell indicates an input parameter

A green cell indicates a parameter that is calculated by the model, and thus does not need to be specified by the user

1. Line of Business and Number of Plan Members

Medicare Advantage	Line of business
1	Number of persons in plan. Alternatively, enter "1" if you wish for outputs to appear on a per member basis.

2. Rating Area

National	Rating area: state
NA	Applicable solely to commercial plans
1.000	Rating factor for selected area

3. Forecasting Period

2020	First year of projection
2023	Project until December of this year

4. Portion of Unit Cost Borne by Insurer

0%	Vaccines (if included in scenario)
0%	Diagnostic Testing (if included in scenario)
0%	Antibody Testing (if included in scenario)

5. Monthly Adjustment Factors

Yes	Include monthly changes in membership
Yes	Include monthly changes in morbidity
Yes	Include seasonality adjustments

6. Annual Increase of Baseline Costs in the Absence of the Outbreak

	2020	2021	2022	2023
Inpatient	3.0%	3.0%	3.0%	3.0%
Outpatient	6.0%	6.0%	6.0%	6.0%
Professional	6.0%	6.0%	6.0%	6.0%
Pharmacy				

Cumulative end-of-month coronavirus cases based on Johns Hopkins University's COVID-19 data through June 30, 2020

For the selected rating area

	2020-01	2020-02	2020-03	2020-04	2020-05	2020-06
Reported	0.00%	0.00%	0.06%	0.34%	0.56%	0.80%
Unreported	0.00%	0.00%	0.06%	0.34%	0.56%	0.80%
Total	0.00%	0.00%	0.11%	0.67%	1.11%	1.60%

For the selected rating area

Reported	0.00%	0.00%	0.06%	0.34%	0.56%	0.80%
Unreported	0.00%	0.00%	0.06%	0.34%	0.56%	0.80%
Total	0.00%	0.00%	0.11%	0.67%	1.11%	1.60%

For the country as a whole

Reported	0.00%	0.00%	0.06%	0.34%	0.56%	0.80%
Unreported	0.00%	0.00%	0.06%	0.34%	0.56%	0.80%
Total	0.00%	0.00%	0.11%	0.67%	1.11%	1.60%

Unreported Cases

1.0	Number of unreported cases per each reported case
50%	Unreported (i.e. unidentified) cases as a % of total cases
50%	Reported (i.e. identified) cases as a % of total cases

Yes

Whenever the infection rate data on rows 17 and 18 above changes, automatically adjust the assumed infection rate time series on rows 48

These default trend values for each line of business are included as a reference to assist with the development of your own assumptions, which should be entered in range I

	Individual				Small Group				Large Group				Me	
	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021
Inpatient	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	3.00%	3.00%	3.00%	3.00%	1.50%	1.50%
Outpatient	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	5.00%	5.00%	5.00%	5.00%	3.50%	3.50%
Professional	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	4.00%	4.00%	4.00%	4.00%	3.50%	3.50%
Pharmacy	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	6.00%	6.00%	6.00%	6.00%	7.00%	7.00%

SOA COVID-19 2021 Projection Model

Service Category	Service Subcategory	Per Month Deferral Rates for Electives		
		Foregone %	Max Deferred %	Max Recoup %
Inpatient	Hospice	50%	20%	30%
Inpatient	Labor/Delivery/ Newborns	2%	0%	0%
Inpatient	Medical	25%	25%	30%
Inpatient	Mental Health	10%	15%	30%
Inpatient	Other Inpatient	25%	20%	30%
Inpatient	SNF	25%	25%	30%
Inpatient	Substance Use	10%	15%	30%
Inpatient	Surgical	20%	45%	30%
Outpatient	Ambulance	50%	15%	30%
Outpatient	DME	25%	20%	30%
Outpatient	Lab	25%	30%	30%
Outpatient	Radiology	25%	30%	30%
Outpatient	Other Outpatient	25%	35%	30%
Outpatient	ER	25%	35%	30%
Outpatient	Observation	25%	45%	30%
Outpatient	Surgery	25%	45%	30%

Service Category	Service Subcategory	Per Month Deferral Rates for Electives		
		Foregone %	Max Deferred %	Max Recoup %
Professional	Drugs	10%	20%	30%
Professional	Anesthesia	25%	35%	30%
Professional	ER	25%	35%	30%
Professional	Immunizations	10%	85%	30%
Professional	Lab/Pathology	25%	30%	30%
Professional	Office Visits	30%	35%	30%
Professional	Other Services	30%	25%	30%
Professional	Physical Medicine	25%	45%	30%
Professional	Psychiatry	10%	35%	30%
Professional	Radiology	25%	30%	30%
Professional	Surgical	25%	45%	30%
Pharmacy	COVID-19 Related	0%	0%	30%
Pharmacy	Non-COVID-19 Related	1%	1%	30%

SOA COVID-19 2021 Projection Model

7. Social Distancing Scenario

For the selected region, how would you describe the level of social distancing thus far, and what is your prediction for the future? You may use either row 41 or 42 to e

	The Past						The Future								
	2020-01	2020-02	2020-03	2020-04	2020-05	2020-06	2020-07	2020-08	2020-09	2020-10	2020-11	2020-12	2021-01	2021-02	2021-03
Level of social distancing	None	None	High	Max	Max	High	Medium	Medium	Medium	Max	Max	Max	Max	High	Medium
Translated into a model "return stage"	10	10	2	1	1	2	5	5	5	1	1	1	1	2	5

8. Infection Rate Scenario

Fill in row 48 below. Alternatively, you may calculate these values as a function of the assumed return stages by pressing this button

Calculate Infection Rates

	The Past						The Future								
	2020-01	2020-02	2020-03	2020-04	2020-05	2020-06	2020-07	2020-08	2020-09	2020-10	2020-11	2020-12	2021-01	2021-02	2021-03
New infection rate, reported + unreported	0.00%	0.00%	0.11%	0.56%	0.44%	0.50%	0.50%	0.50%	1.50%	1.50%	1.50%	1.50%	1.00%	0.50%	0.25%
New infection rate: reported (i.e. clinical cases)	0.00%	0.00%	0.06%	0.28%	0.22%	0.25%	0.25%	0.25%	0.75%	0.75%	0.75%	0.75%	0.50%	0.25%	0.12%
Cumulative reported + unreported infections	0.00%	0.00%	0.11%	0.67%	1.11%	1.60%	2.10%	2.59%	4.05%	5.49%	6.90%	8.30%	9.22%	9.67%	9.90%
Cumulative reported infections (i.e. clinical cases)	0.00%	0.00%	0.06%	0.34%	0.56%	0.80%	1.05%	1.29%	2.02%	2.74%	3.45%	4.15%	4.61%	4.84%	4.95%

Note: the new infection rate is expressed as a percentage of the uninfected population, while the cumulative infection rates are expressed as a percentage of the total population. Cumulative rates cannot decline across

9. Vaccinations and Testing

The assumptions below are expressed as a percentage of the covered population

	The Past						The Future								
	2020-01	2020-02	2020-03	2020-04	2020-05	2020-06	2020-07	2020-08	2020-09	2020-10	2020-11	2020-12	2021-01	2021-02	2021-03
Diagnostic Testing	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Antibody Testing	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Vaccinations	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Cumulative Vaccinations	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

10. Monthly Adjustment Factors

These factors are applied multiplicatively, so a value of 100% means that there is no effect, a value of 105% indicates a 5% increase, a value of 95% indicates a 5% decrease

	The Past						The Future								
	2020-01	2020-02	2020-03	2020-04	2020-05	2020-06	2020-07	2020-08	2020-09	2020-10	2020-11	2020-12	2021-01	2021-02	2021-03
Membership Volume Adjustment	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Membership Morbidity Adjustment	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Seasonality Factor	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

SOA COVID-19 2021 Projection Model

Expert Assumptions

200% Cap on Accumulated Deferred Costs as a % of Monthly Baseline Cost

The matrix below is used to translate your return stage assumptions on row 42 into parameters that affect the deferral and recoupment of non-urgent services, and future infection rates. Range F79:

Use Default Settings

		Default Settings										
Return Stage		1	2	3	4	5	6	7	8	9	10	1
Behavioral / Subst. Abuse	as % of max level	100%	90%	80%	70%	60%	50%	40%	30%	15%	0%	100%
Deferrals	as % of max level	100%	85%	75%	60%	40%	30%	10%	0%	0%	0%	100%
Recoupment	as % of max level	0%	15%	30%	45%	60%	80%	100%	100%	100%	100%	0%
Infection Rate	as % of uninfected	3.00%	1.80%	1.00%	0.80%	0.60%	0.40%	0.30%	0.20%	0.00%	0.00%	3.00%

Impact of Vaccinations on the Return Stage

101% Assume a return stage of "10" once the % of members vaccinated exceeds this specified threshold. Enter any value greater than "100%" to deactivate this feature.

Hospitalization Rates for Identified COVID Cases

note that these hospitalization rates exclude subclinical cases and mild cases that do not generate any health care costs

6.00%	Individual
6.00%	Small Group
6.00%	Large Group
6.00%	Medicaid
32.00%	Medicare Advantage

Appendix



The number of visits to ambulatory practices had declined nearly 60 percent by early April. Since that time, the numbers have rebounded substantially, though the rebound may be beginning to plateau.

Percent change in visits from baseline



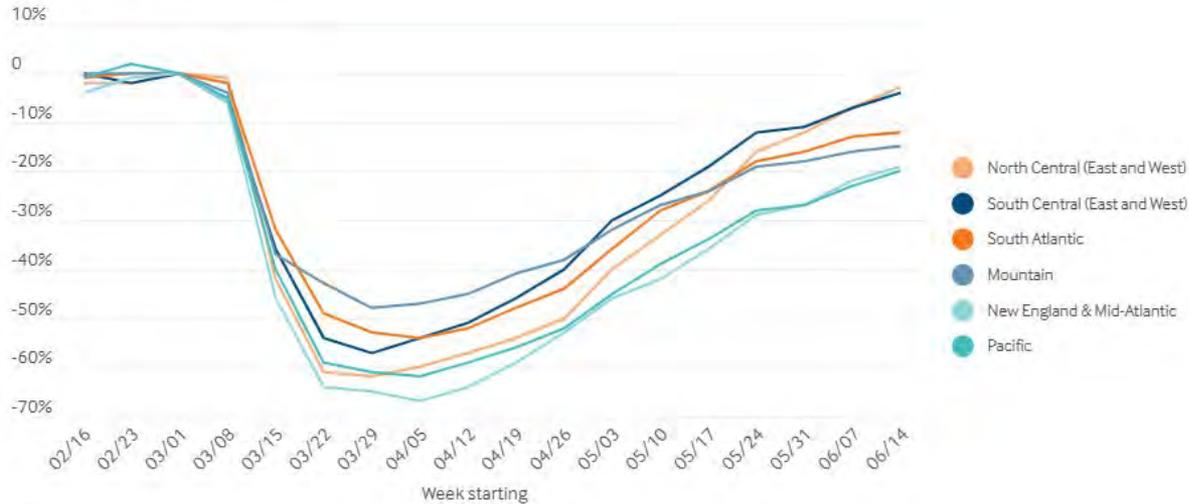
Download data

Note: Data are presented as a percentage change in the number of visits in a given week from the baseline week (March 1–7).

Source: Ateev Mehrotra et al., *The Impact of the COVID-19 Pandemic on Outpatient Visits: Practices Are Adapting to the New Normal* (Commonwealth Fund, June 2020). <https://doi.org/10.26099/2v5t-9y63>

The rebound in visits is occurring across the U.S. The initial decrease in visits was most evident in the New England, Mid-Atlantic, and Pacific regions.

Percent change in visits from baseline



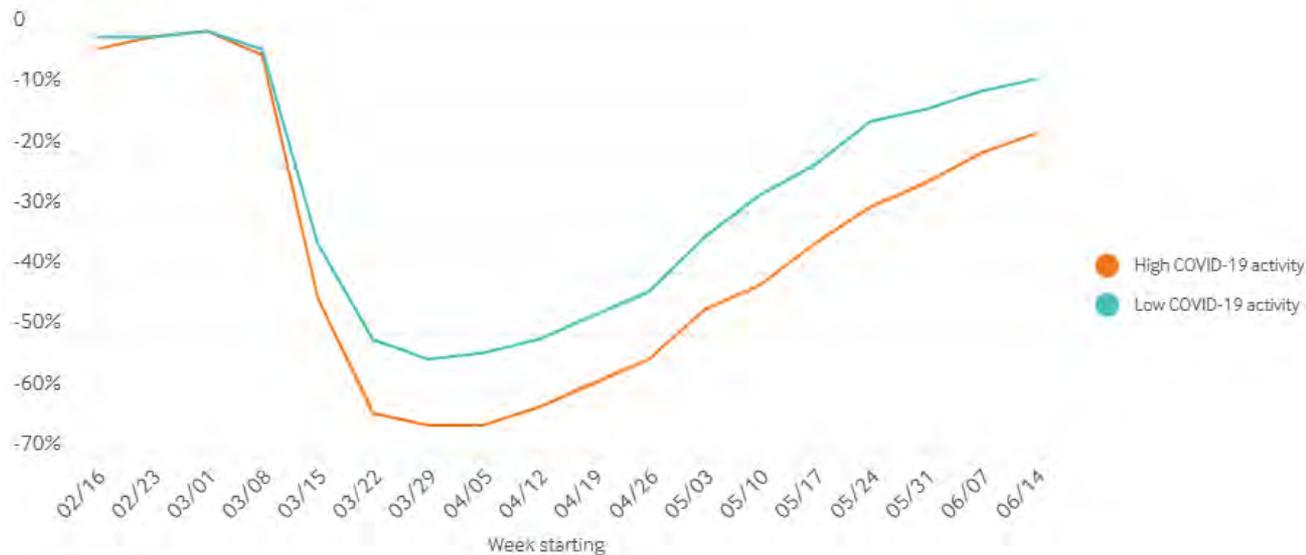
[Download data](#)

Data are presented as a percentage change in the number of visits in a given week from the baseline week (March 1–7). Distribution of states across U.S. census divisions is available at the [census website](#).

Source: Ateev Mehrotra et al., *The Impact of the COVID-19 Pandemic on Outpatient Visits: Practices Are Adapting to the New Normal* (Commonwealth Fund, June 2020). <https://doi.org/10.26099/2ySt-9y63>.

The decline in visits was greatest in those states that had an early surge in COVID-19 cases. Visits remain more depressed in these states.

Percent change in visits from baseline



 Download data

Data are presented as a percentage change in the number of visits in a given week from the baseline week (March 1–7). The states with early high COVID-19 activity were defined by [confirmed cases through April 13](#) and include New York, Colorado, Connecticut, Delaware, Illinois, Louisiana, Massachusetts, Maryland, Michigan, New Jersey, Pennsylvania, Rhode Island, Washington, and the District of Columbia. All other states are considered as having early low COVID-19 activity.

Source: Ateev Mehrotra et al., *The Impact of the COVID-19 Pandemic on Outpatient Visits: Practices Are Adapting to the New Normal* (Commonwealth Fund, June 2020). <https://doi.org/10.26099/2v5t-9y63>

Census Region	Metric	30 Day Change Compared to Same Period 2019	14 Day Change Compared to Same Period 2019
Midwest	DailyInpatientAdmissions	▼ -8.4%	▼ -7.1%
	DailyObservationVisits	▼ -3.0%	▼ -0.5%
	DailyEmergencyVisits	▼ -20.3%	▼ -17.8%
	DailyOutpatientVisits	▲ 13.4%	▲ 19.0%
Northeast	DailyInpatientAdmissions	▼ -10.9%	▼ -7.8%
	DailyObservationVisits	▼ -26.4%	▼ -20.7%
	DailyEmergencyVisits	▼ -33.5%	▼ -30.5%
	DailyOutpatientVisits	▲ 17.2%	▲ 26.2%
South	DailyInpatientAdmissions	▲ 1.8%	▲ 6.6%
	DailyObservationVisits	▼ -12.4%	▼ -13.7%
	DailyEmergencyVisits	▼ -21.8%	▼ -19.6%
	DailyOutpatientVisits	▲ 4.3%	▲ 9.1%
West	DailyInpatientAdmissions	▼ -8.0%	▼ -6.5%
	DailyObservationVisits	▼ -18.6%	▼ -17.6%
	DailyEmergencyVisits	▼ -14.0%	▼ -11.3%
	DailyOutpatientVisits	▲ 18.5%	▲ 25.0%

Census Region	Metric	Change in Last 30 Days	Change in Last 14 Days
Midwest	DailyInpatientAdmissions	▲ 9.7%	▲ 1.9%
	DailyObservationVisits	▲ 23.2%	▲ 6.4%
	DailyEmergencyVisits	▲ 18.8%	▲ 4.6%
	DailyOutpatientVisits	▲ 36.5%	▼ -4.2%
Northeast	DailyInpatientAdmissions	▲ 12.1%	▲ 4.4%
	DailyObservationVisits	▲ 24.9%	▲ 16.1%
	DailyEmergencyVisits	▲ 24.6%	▲ 7.2%
	DailyOutpatientVisits	▲ 28.1%	▲ 2.0%
South	DailyInpatientAdmissions	▲ 22.1%	▲ 9.2%
	DailyObservationVisits	▲ 15.0%	▲ 2.3%
	DailyEmergencyVisits	▲ 19.4%	▲ 5.2%
	DailyOutpatientVisits	▲ 26.9%	▼ -1.0%
West	DailyInpatientAdmissions	▲ 8.9%	▲ 2.7%
	DailyObservationVisits	▲ 12.0%	▲ 3.6%
	DailyEmergencyVisits	▲ 15.2%	▲ 6.1%
	DailyOutpatientVisits	▲ 26.2%	▲ 3.9%

Source: <https://www.stratadecision.com/wp-content/uploads/2020/07/National-Patient-and-Procedure-Volume-Tracker-and-Report-Weekly-Update-July8-2020.pdf>



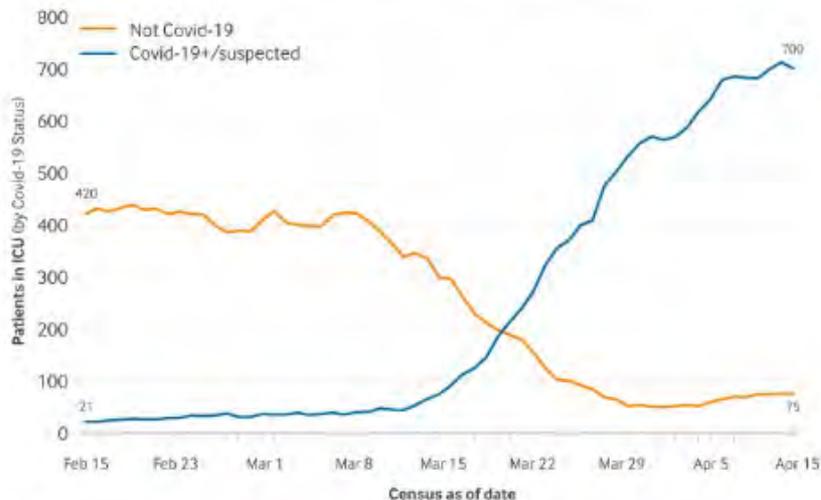
Source: <https://www.stratadecision.com/wp-content/uploads/2020/07/National-Patient-and-Procedure-Volume-Tracker-and-Report-Weekly-Update-July8-2020.pdf>

Figure 1.



ICU Census for Covid-19 and non-Covid-19 Patients, February 15 to April 15, 2020

This X-curve representation shows the decrease in non-Covid-19 ICU patients was concurrent with the rise in Covid-19 ICU patients at New York City Health + Hospitals from February 15 to April 15, 2020, by latest Covid-19 Status. The shift began in March 2020 and the gap continued into April.



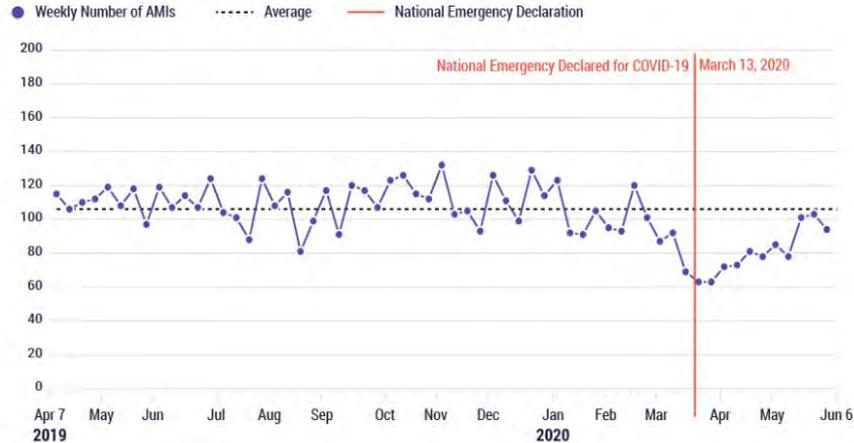
Note: Counts in the blue line from February and early March reflect patients who were in the ICU on those dates and were later found to be Covid-19 positive/suspected.

Source: The authors

NEJM Catalyst (catalyst.nejm.org) © Massachusetts Medical Society

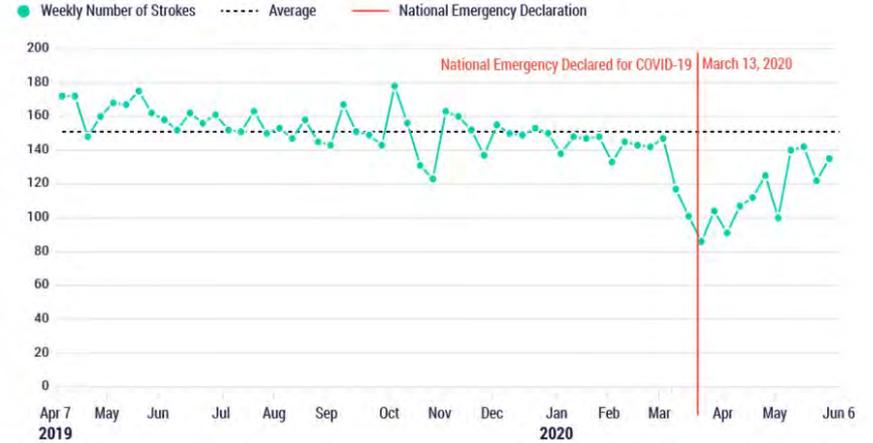
Weekly Trend in AMI Presentation

April 7, 2019 – June 6, 2020 (n=3.5 million)



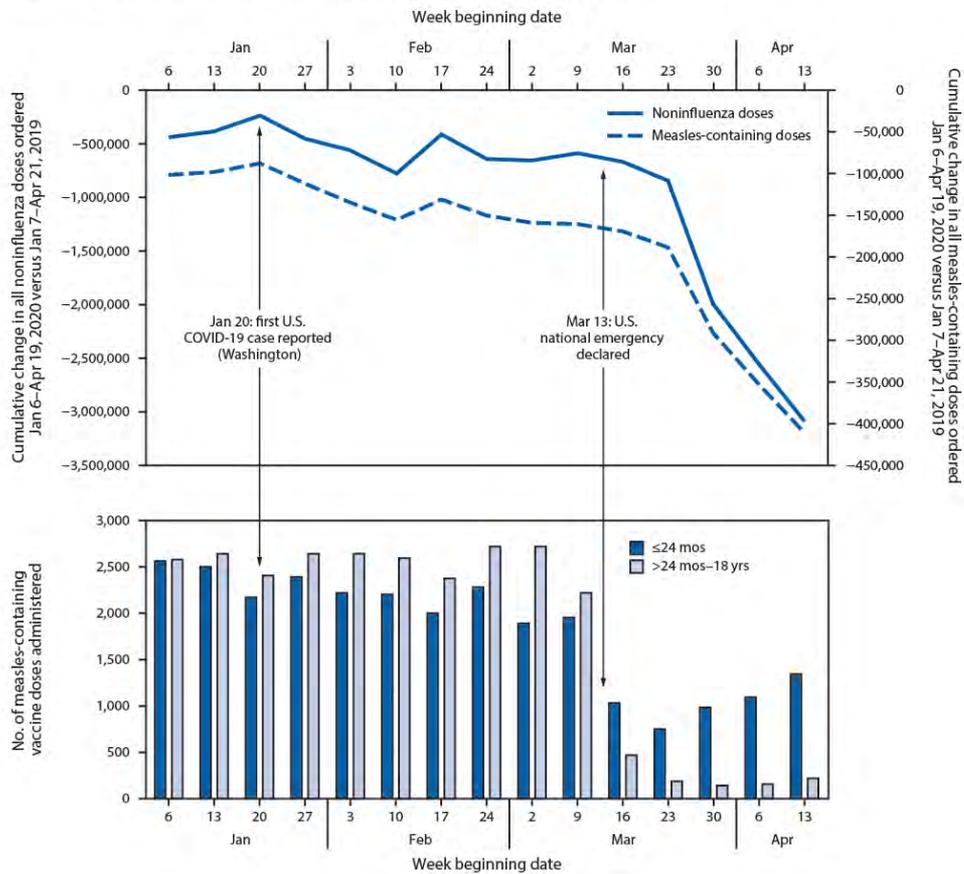
Weekly Trend in Stroke Presentation

April 7, 2019 – June 6, 2020 (n=3.5 million)



Source: <https://ehrn.org/return-to-near-average-number-of-ed-visits-for-acute-mi-and-strokes-12-weeks-post-covid-19-emergency-declaration/>

FIGURE. Weekly changes in Vaccines for Children Program (VFC) provider orders* and Vaccine Safety Datalink (VSD) doses administered[†] for routine pediatric vaccines — United States, January 6–April 19, 2020



Source:

<https://www.cdc.gov/mmwr/volumes/69/wr/mm6919e2.htm#F1> down

Weekly Immunization Administration During COVID-19 Pandemic

Compared to Prior Years, by Patient Age Group

2020 2019 2018 2017 --- Mean Weekly Immunizations 2017-2019

Total Immunizations = 15,265,758

Under 6 Months



6-17 Months



18 Months - 6 Years



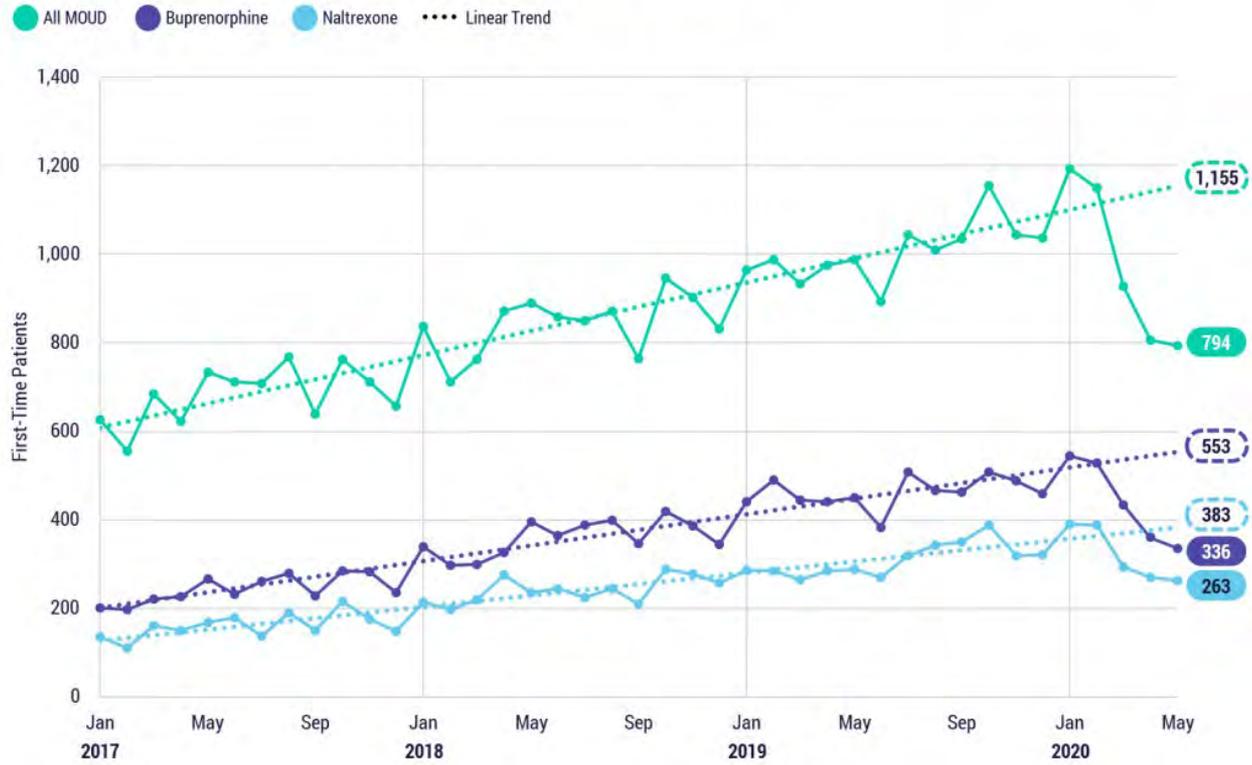
Source: <https://ehrn.org/pediatric-immunizations-drop-in-the-wake-of-covid-19/>

Cancer Screenings in the U.S.



Source: <https://ehrn.org/delays-in-preventive-cancer-screenings-during-covid-19-pandemic/>

Patients on OUD Medications for the First Time



Source: <https://ehrn.org/fewer-patients-started-on-medications-for-opioid-use-disorder-during-covid-19/>



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