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DATAWATCH

Decline In New Starts Of Psychotropic Medications During The COVID-19 Pandemic

COVID-19 interrupted delivery of mental health care in the US. During the initial course of the COVID-19 pandemic new starts of antidepressants declined by 7.5 percent, anxiolytics by 5.6 percent, and antipsychotics by 2.6 percent compared with expected levels. Our findings suggest that there is large unmet need for mental health treatment in the US due to COVID-19.

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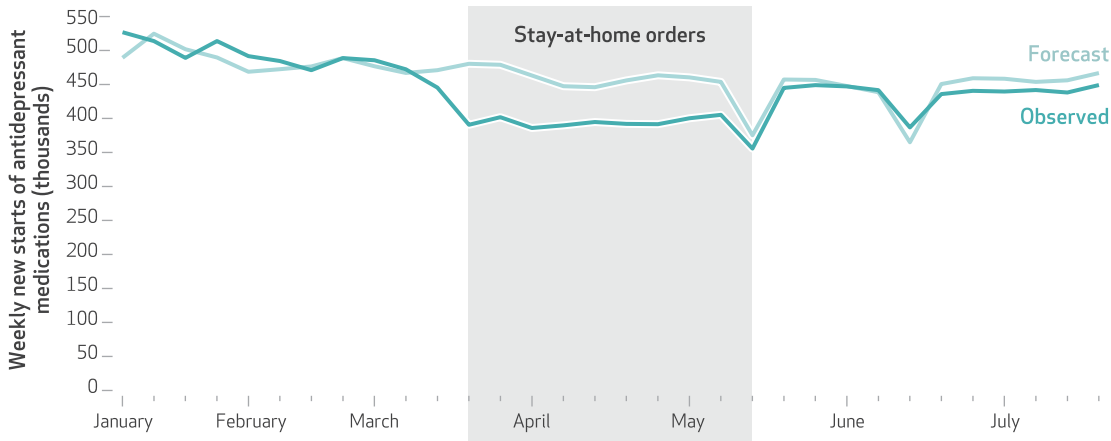
The COVID-19 pandemic and the associated economic and social shocks have resulted in a spike in mental health conditions and disrupted delivery of mental health care in the US. The prevalence of symptoms related to anxiety disorder increased from 8.1 percent in the second quarter of 2019 to 25.5 percent in June 2020 and 36.9 percent in December 2020.[1,2] The prevalence of major depressive disorder symptoms increased from 6.5 percent in the second quarter of 2019 to 24.3 percent in June 2020 and 30.2 percent in December 2020.[1,2] The pandemic also curtailed contact with health care professionals at exactly the time that stressors increased.[3] This may have limited the health care delivery system's ability to respond to the treatment needs of the population.

In this analysis we found significant declines in the provision of psychotropic prescriptions during the first five months of the pandemic. For example, there were approximately 14.4 percent (597,199) fewer new starts of antidepressants during the initial lockdown period (March–May 2020) and 2.2 percent (114,880) fewer from May to August 2020 than forecast (exhibit 1). This is consistent with reports that outpatient visits to all providers declined dramatically at the beginning of the pandemic and rebounded while still remaining below base-

EXHIBIT 1

Observed and forecast new starts of antidepressant medications, 2020



SOURCE Authors' analysis of data from IQVIA Longitudinal Prescription Data, 2020. **NOTES** Weekly new starts of antidepressant medications from January 1 to August 8. The shaded area represents an approximation of the period of stay-at-home orders (March 13–May 15, 2020). Sharp changes in the trend reflect holiday weekends, where prescriptions tend to be significantly lower than the average day.

line levels across many specialties as states lifted pandemic restrictions. This pattern was especially true for visits to behavioral health providers. Total behavioral health visits, including increases in telehealth visits, were 15 percent lower than the prepandemic baseline at the end of July 2020.[3] Beyond the direct impact of the pandemic, loss of or shifts in insurance may have played some role in disrupting access to mental health care. The Kaiser Family Foundation estimates that between March and September, 2–3 million people lost employer-sponsored health insurance, and Medicaid enrollment increased by roughly 4.3 million.[4]

We looked at the provision of psychotropic prescriptions to the US population during the COVID-19 pandemic in 2020 relative to one measure of the pre-COVID-19 norm. We used data on new prescriptions for psychotropic medications to measure the change in new starts of antidepressants, anxiolytics, and antipsychotics from March 13 to August 8, 2020. This change in new prescription starts is an indicator of whether the mental health care delivery system increased the provision of pharmacotherapy in the face of increased population need.[1,2] The expectation is that treatment would increase with measured need. Departures from that expectation serve to index the degree of disruption in the delivery of mental health care to the US population.

Study Data And Methods

We conducted a retrospective observational analysis using IQVIA Longitudinal Prescription Data collected from January 1, 2018, to August 8, 2020. The IQVIA claims represent 89 percent of all prescriptions from retail, mail, and long-term care pharmacies in the US. Claims cover prescription purchases across all payers, such as Medicare, Medicaid, employer coverage, and out-of-pocket payment. The data were provided by IQVIA to support health systems research on the indirect impacts of COVID-19.

The number of new prescription starts in a given week was defined as the total number of people who filled a psychotropic prescription in that week who did not receive a prescription for a psychotropic medicine in the same therapeutic class in the previous three months. Using this definition, we compared the observed new starts in 2020 with a forecast of new starts estimated using Prophet, a method for time series forecasting.[5] The forecast model was developed using data from before March 2020, and the final models were chosen using cross-validation.

Our primary outcome was the cumulative sum of the difference between forecast new starts in a given week and the observed number of new starts in that week. This comparison is likely an underestimate of the gap in new starts because our forecasting model did not take account of the increase in symptom prevalence.

To understand potential drivers of changes in new starts, we repeated this exercise within key subpopulations defined by age, sex, and treating clinician specialty (that is, primary care versus mental health specialty). In the online appendix we also provide comparisons to observed new starts in 2019, which can be interpreted as a lower bound on the expected number of prescriptions, given that there is no adjustment for increases in prescriptions over time.[6]

This analysis had several limitations. The estimated counterfactual level of prescriptions is based on prepandemic data and does not account for the increased incidence of symptoms associated with psychiatric disorders due to COVID-19. This likely resulted in an underestimation of the gap between new prescription starts and the optimal level of treatment needed to respond to the increased incidence. Moreover, medications are only one form of treatment, and we are unable to comment on whether or not people were more likely to substitute other forms of treatment during the pandemic. The pandemic brought a dramatic shift toward telemedicine, particularly among psychiatric specialists, and it is unclear how this affected the composition of mental health care.[7] Telehealth likely prevented even larger declines in new starts of psychotropic medications than observed. Data were only available from March through August 2020; however, during the subsequent period, the pandemic reached unprecedented levels of new cases and hospitalizations. This likely resulted in further declines in new starts of psychotropic medications beyond those observed in our data. CDC Household Pulse Survey estimates suggest that the prevalence of depression and anxiety symptoms increased during the period August 2020–February 2021 alongside unmet need for mental health treatment.[2]

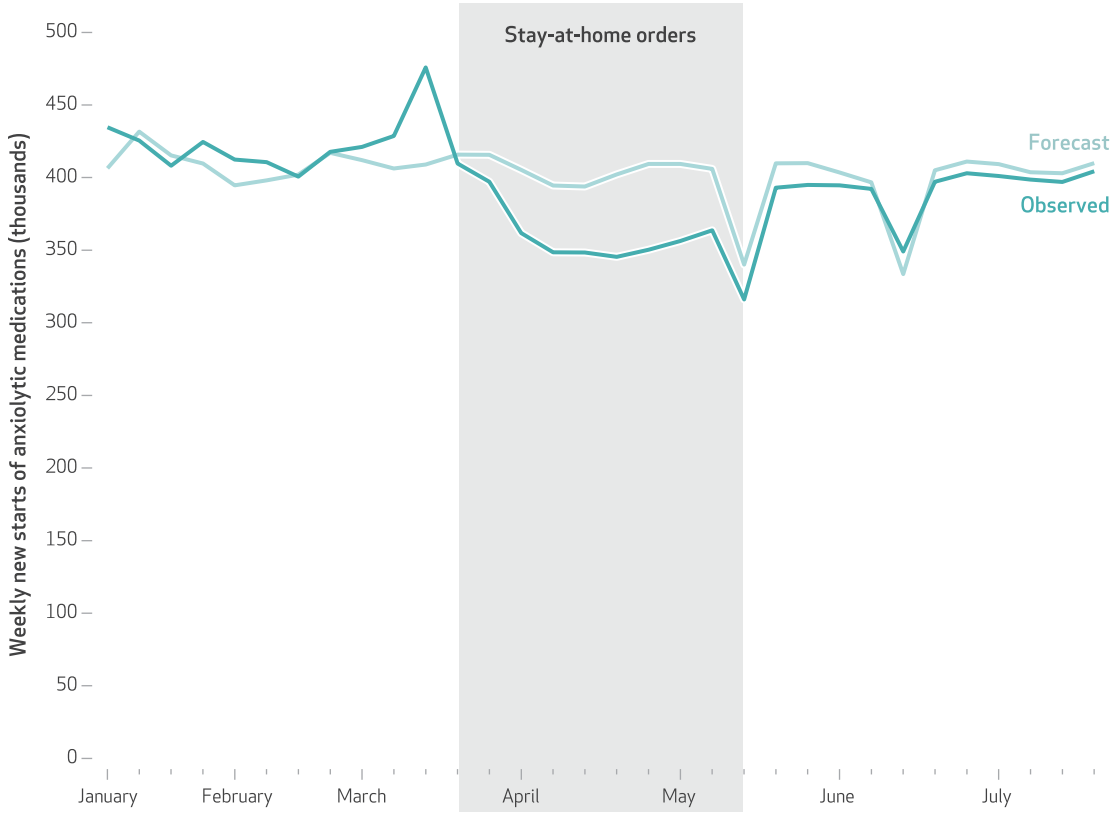
Study Results

New starts of all psychotropic medications—antidepressants, anxiolytics, and antipsychotics—fell dramatically during the initial stay-at-home order period, which began March 13, 2020, and ended in mid-to-late May 2020 for most states (exhibits 1–3).[8]

There were approximately 7.5 percent (712,079) fewer new starts of antidepressants (exhibit 4), 5.6 percent (465,610) fewer new starts of anxiolytics (exhibit 5), and 2.6 percent (47,467) fewer new starts of antipsychotics

EXHIBIT 2

Observed and forecast new starts of anxiolytic medications, 2020



SOURCE Authors' analysis of data from IQVIA Longitudinal Prescription Data, 2020. **NOTES** Weekly new starts of anxiolytic medications from January 1 to August 8. The shaded area represents an approximation of the period of stay-at-home orders (March 13–May 15, 2020). Sharp changes in the trend reflect holiday weekends, where prescriptions tend to be significantly lower than the average day.

(exhibit 6) between March 13 and August 8, 2020, compared with forecast levels. The majority of the gap in new starts accrued in March and April 2020, but despite a substantial rebound, new starts remained below both 2019 and forecast levels by the end of our sample period.

For all medications, declines in new starts were particularly pronounced for patients younger than age eighteen. Compared with the forecast, there was a 34.6 percent reduction in antidepressant, 27.3 percent reduction in anxiolytic, and 22.2 percent reduction in antipsychotic new starts in this age group. Notably, new starts for people older than age eighteen were much closer to expected levels during the May–August period compared with new starts for those younger than age eighteen.

Reductions in new prescription starts tended to be greatest for males, and although there were no clear patterns across therapeutic classes, nonphysician prescribers tended to show larger declines compared with other provider types. Similar but muted patterns were observed when we compared new starts during the same period in 2020 against 2019 for the whole sample and in the majority of subgroups. Comparisons to 2019 are in the appendix.[6]

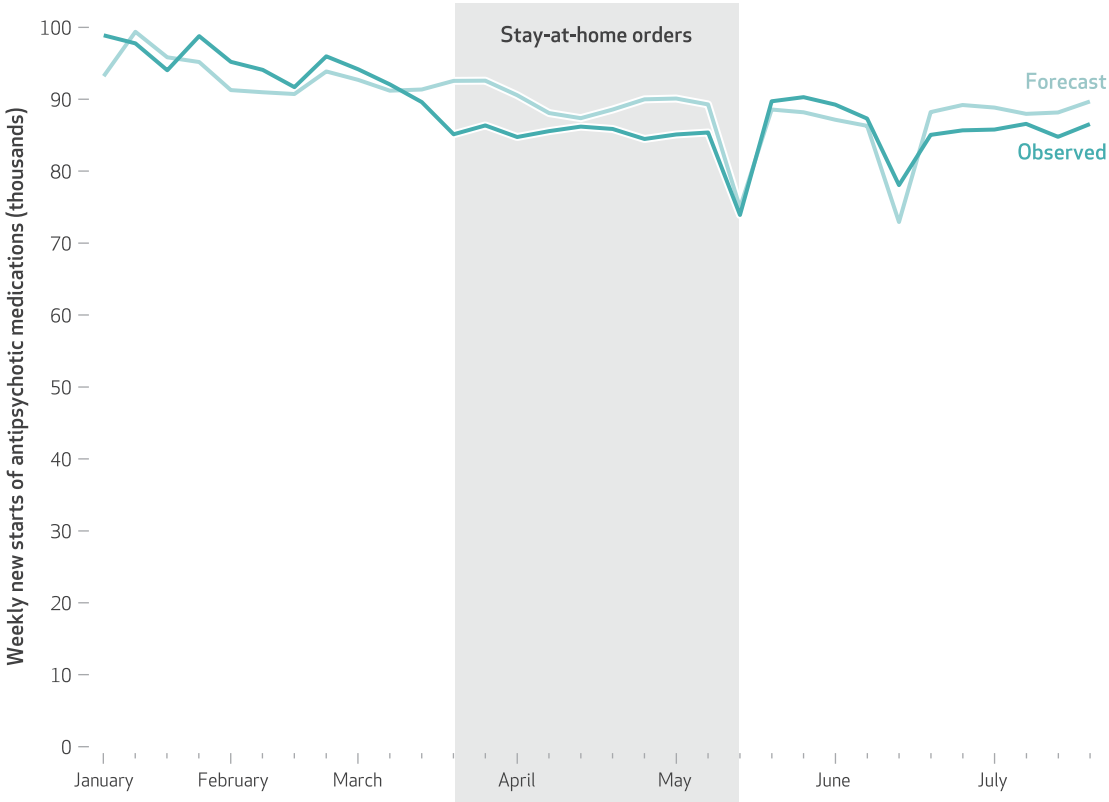
Discussion

We documented a significant decline in new starts of antidepressant, anxiolytic, and antipsychotic medications during the initial five months of the COVID-19 pandemic in 2020. There was a significant rebound in new prescription starts after the end of stay-at-home orders in March 2020; however, new starts remained below expected levels across all therapeutic classes. Decreased treatment initiation for mental illnesses could be one factor contributing to increased emergency department visits for suicide and overdose in 2020 compared with 2019.[9]

There was also considerable variation in the decline of new prescription starts across subpopulations. Substantial declines in new starts were observed for people younger than age eighteen in all medication classes. Because it is estimated that more than half of school-age children

EXHIBIT 3

Observed and forecast new starts of antipsychotic medications in 2020



SOURCE Authors' analysis of data from IQVIA Longitudinal Prescription Data, 2020. **NOTES** Weekly new starts of antipsychotic medications from January 1st to August 8th. The shaded area represents an approximation of the period of stay-at-home orders (March 13–May 15, 2020). Sharp changes in the trend reflect holiday weekends, where prescriptions tend to be significantly lower than the average day.

EXHIBIT 4

Total cumulative difference in new starts of antidepressant medications for March 13–May 15, May 15–August 8, and March 13–August 8, 2020, compared with 2020 forecast levels, overall and by subgroup

	March 13–May 15		May 15–August 8		March 13–August 8	
	Number	Percent	Number	Percent	Number	Percent
Full sample	−597,199	−14.4	−114,880	−2.2	−712,079	−7.5
Age, years						
0–18	−164,218	−43.0	−131,369	−27.8	−295,587	−34.6
18–30	−68,876	−9.3	16,491	1.7	−52,385	−3.1
30–65	−210,741	−9.7	−8,996	−0.3	−219,737	−4.4
65+	−158,905	−18.6	−15,070	−1.4	−173,975	−8.9
Sex						
Male	−271,877	−18.3	−120,418	−6.3	−392,295	−11.6
Female	−317,272	−12.0	12,680	0.4	−304,592	−5.0
Provider type						
Psychiatrist/CAP	−43,092	−8.9	−15,089	−2.6	−58,182	−5.4
Family medicine	−142,756	−13.1	2,483	0.2	−140,273	−5.7
NP/PA/other[a]	−220,262	−16.9	−75,863	−4.5	−296,125	−9.9
Other physician specialist	−181,121	−14.3	−92,07	−0.6	−190,328	−6.6

SOURCE Authors' analysis of data from IQVIA Longitudinal Prescription Data, 2020. **NOTES** The cumulative difference in new starts was calculated by taking the difference in cumulative observed new starts and cumulative forecast new starts. Percent change was calculated as the percent difference in cumulative observed new starts and cumulative forecast new starts. Individual forecasts were estimated for each subgroup. CAP is child and adolescent psychiatrist. NP is nurse practitioner. PA is physician assistant. [a]Nonphysician specialist.

EXHIBIT 5

Total cumulative difference in new starts of anxiolytic medications for March 13–May 15, May 15–August 8, and March 13–August 8, 2020, compared with 2020 forecast levels, overall and by subgroup

	March 13–May 15		May 15–August 8		March 13–August 8	
	Number	Percent	Number	Percent	Number	Percent
Full sample	−371,021	−10.2	−94,589	−2.0	−465,610	−5.6
Age, years						
0–18	−100,968	−38.1	−65,308	−19.0	−166,277	−27.3
18–30	−35,776	−7.5	19,559	3.0	−16,217	−1.4
30–65	−97,690	−4.9	−39,339	−1.5	−137,029	−3.0
65+	−140,020	−15.2	−21,131	−1.8	−161,152	−7.7
Sex						
Male	−181,662	−14.6	−62,085	−3.9	−243,747	−8.6
Female	−191,465	−7.9	−34,517	−1.1	−225,982	−4.1
Provider type						
Psychiatrist/CAP	−7,177	−2.5	−13,556	−3.7	−20,733	−3.2
Family medicine	7,028	0.8	−6,407	−0.6	621	0.0
NP/PA/other[a]	−100,509	−9.5	−55,196	−3.9	−155,706	−6.3
Other physician specialist	−278,919	−18.8	−40,120	−2.1	−319,039	−9.4

SOURCE Authors' analysis of data from IQVIA Longitudinal Prescription Data, 2020. **NOTES** The cumulative difference in new starts was calculated by taking the difference in cumulative observed new starts and cumulative forecast new starts. Percent change was calculated as the percent difference in cumulative observed new starts and cumulative forecast new starts. Individual forecasts were estimated for each subgroup. CAP is child and adolescent psychiatrist. NP is nurse practitioner. PA is physician assistant. [a]Nonphysician specialist.

who use mental health services receive some services in the school setting and that more than one-third receive those services exclusively in that setting, it is possible that school closures during the study period limited the opportunity to identify children in need of mental health care or otherwise resulted in limited access to care, especially for children from disadvantaged populations.[10] The role of school as an access point for mental health care may partially explain why

EXHIBIT 6

Total cumulative difference in new starts of antipsychotic medications for March 13–May 15, May 15–August 8, and March 13–August 8, 2020, compared to 2020 forecast, overall and by subgroup

	March 13–May 15		May 15–August 8		March 13–August 8	
	Number	Percent	Number	Percent	Number	Percent
Full sample	−40,295	−5.0	−7,172	−0.7	−47,467	−2.6
Age, years						
0–18	−25,455	−27.7	−18,274	−17.3	−43,729	−22.2
18–30	−1,318	−0.9	9,254	4.9	7,936	2.4
30–65	−7,639	−1.9	−6,994	−1.3	−14,633	−1.6
65+	−7,217	−4.3	7,272	3.4	56	0.0
Sex						
Male	−25,784	−7.2	−10,485	−2.3	−36,270	−4.4
Female	−14,047	−3.1	3,859	0.7	−10,188	−1.0
Provider type						
Psychiatrist/CAP	−16,624	−6.3	−4,317	−1.3	−20,941	−3.6
Family medicine	−5,615	−5.5	662	0.5	−4,953	−2.1
NP/PA/other[a]	−17,818	−6.3	−15,528	−4.2	−33,346	−5.1
Other physician specialist	−2,544	−1.5	8,353	3.9	5,809	1.5

SOURCE Authors' analysis of data from IQVIA Longitudinal Prescription Claims Data, 2020. **NOTES** The cumulative difference in new starts was calculated by taking the difference in cumulative observed new starts and cumulative forecast new starts. Percent change was calculated as the percent difference in cumulative observed new starts and cumulative forecast new starts. Individual forecasts were estimated for each subgroup. CAP is child and adolescent psychiatrist. NP is nurse practitioner. PA is physician assistant. [a]Nonphysician specialist.

new prescription starts remained well below expected levels for children, whereas adults experienced levels of treatment much closer to what was expected by August 2020. Declines in new starts could also be a result of fewer outpatient mental health services being accessed among children.[11] This treatment gap may be contributing to the increased share of hospital emergency department visits that were for mental health needs of children between April and October 2020.[12] This dramatic reduction in new prescription starts being provided to children and adolescents is particularly worrisome and bears further scrutiny.

Although health care use is rebounding as states ease restrictions and the number of vaccinations increases, there is still likely a large unmet need for mental health treatment in the US. Our findings suggest that numerous people have forgone or are currently forgoing psychotropic treatment for mental health conditions. Providers and policy makers must work to increase access to treatment for psychiatric disorders, in addition to addressing the underlying causes of poor mental health outcomes during the pandemic. ■

Murray B. Stein declares that in the past three years he has been a paid consultant for Acadia, Aptinyx, Bionomics, Clexio, EmpowerPharm, Epivario, GW Pharmaceuticals, Janssen, and Jazz Pharmaceuticals and receives payment for editorial work for UpToDate and the journals *Biological Psychiatry* and *Depression and Anxiety*. The authors thank the IQVIA Institute's Human Data Science Research Collaborative, which provided the data in support of research activities related to important health system issues arising in the era of COVID-19. The authors also thank Murray Aitken, Allen Campbell, and Penny Randall for their comments.

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