

# How Did Medication Use Patterns Change Due to COVID-19 For People with Chronic Conditions?

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# The COVID-19 Pandemic Caused Widespread Disruption and Uncertainty in Health Care Delivery

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## The impact of the COVID-19 pandemic on cancer care

[Mike Richards](#), [Michael Anderson](#), [Paul Carter](#), [Benjamin L. Ebert](#) & [Elias Mossialos](#) 

[Nature Cancer](#) **1**, 565–567 (2020) | [Cite this article](#)

Morbidity and Mortality Weekly Report

### Delay or Avoidance of Medical Care Because of COVID-19–Related Concerns — United States, June 2020

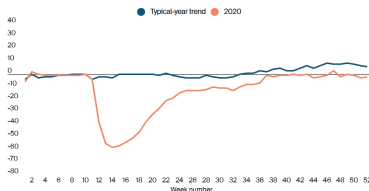
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### The Impact of the COVID-19 Pandemic on Outpatient Visits: Practices Are Adapting to the New Normal

#### AUTHORS

Ateev Mehrotra, Michael E. Chernew,  
David Linetsky, Hilary Hatch, David A. Cutler

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 (Week 10, or March 1–7, 2020). “Typical year” data from 2016 to 2019 were also calculated as a percentage change from the baseline week.

# Why Study Medication Use Patterns During COVID?

- Increasing barriers to care reduces medication adherence and leads to worse health outcomes for chronic conditions (Schechtman, et al.(2018), Gourzoulidis, et al.(2017), Happe, et al.(2014))
- For some patients, provider continuity is key to medication adherence (Brookhart, et al.(2007))
- Disruptions in healthcare negatively affect patients' abilities to manage chronic conditions and avoid adverse health effects.

**Bottom Line: Worse Health Outcomes, Higher Long-Term Health Care Costs, Inefficiency in Health Care Delivery System**

# How May the Pandemic Affect Medication Use Patterns?

Disrupting health care delivery due to the COVID-19 pandemic may:

- Improve adherence to medications
  - Patients and providers anticipate of disruptions to non-Rx care
  - More time at home
- Worsen medication adherence due to
  - Life stressors and disruptions in access to prescribers
  - Heightened sensitivity to cost-sharing (unemployment, insurance loss, financial insecurity)
- Differentially affect adherence by symptomatic condition

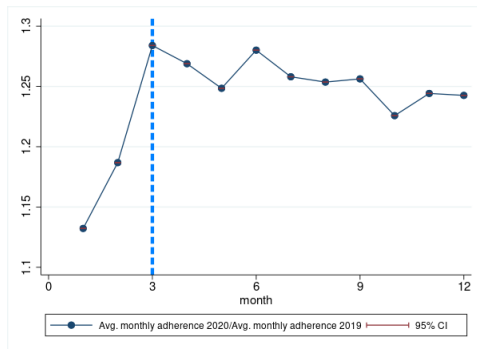
- **Data:** Large commercial database of pharmacy and ambulatory claims (2018-2020)
  - Medicare Advantage and Commercial Insurance
- **Sample Inclusion and Cohort Construction:**
  - **Control:** Enrolled Q2 2018-Q4 2019, diagnosis and at least one prescription fill in 2018
  - **Treated:** Enrolled Q2 2019-Q4 2020, diagnosis and at least 1 prescription fill in 2019
- **Outcomes:**
  - Medication Adherence (Days Supply/Days between Fills)
  - Fraction of 90-day prescriptions
  - Fraction of Mail order prescriptions
  - Medication Discontinuation

	Asthma	Diabetes	RA	COPD	HFrEF	Cholesterol
<b>Control (2019)</b>	373,415	892,949	53,945	283,898	92,418	428,558
<b>Treated (2020)</b>	408,259	958,191	57,807	315,394	104,258	456,614

# Medication Adherence Spiked at the Onset of the Shutdown

## Ratio of COPD Medication Adherence (Treated/Control)

- Adherence **INCREASED** at the beginning of the pandemic
- Adherence remained higher in 2020 compared to 2019
- Consistent (to varying degrees) across all chronic conditions



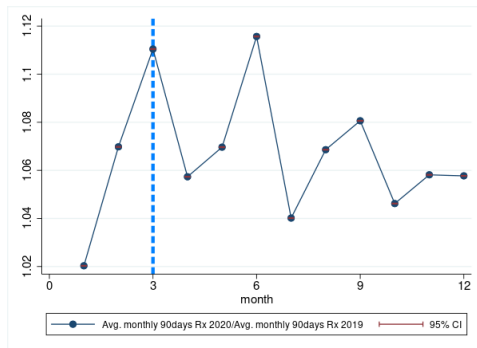
# What Is NOT Contributing to the Observed Change in Adherence?

- Health Insurance Disenrollment
  - Estimate approximately 2% of beneficiaries lost insurance during pandemic (Bundorf, et al. (2021))
  - Beneficiaries must be continuously enrolled
  - Over half the sample enrolled in Medicare Advantage plans
- Mail Order Delivery
  - Mail order deliveries **declined** during the study period

# What Is Contributing to the Observed Change in Adherence?

- Increased 90-day prescription fills in early 2020
- Attenuates throughout remainder of year
- Consistent across all chronic conditions, except RA
- Control vs Treated differences (raw):
  - Diabetes: 2.9%
  - Asthma: 7.8%
  - Cholesterol: 3.7%
  - COPD: 6.75%
  - HFrEF: 4.6%

## Ratio of 90-Day Prescription Fills (Treated vs Control)





# What Comes Next?

- Do we observe differential effects across race or payer type?
- How was in-office medication administration affected? Did patients transition to oral or subcutaneous medication administration?
- Was there a tradeoff between 90-day prescription fills and optimizing patients' treatment plans?
- Are there lessons we can learn to maximize efficiency of health care delivery?

Questions?

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Thank you for your time!